B. A. Part II
(Discipline Specific Core) (DSC-C6)
English (Paper IV) (Semester III)
PARTITION LITERATURE (CBCS)

Course Objectives:

- To create an awareness of the partition scenario among the students
- To explain the hidden human dimensions of the partition to the students
- To elaborate on the impact of partition on society

Detailed Syllabi
June 2019 Onwards

Module I

Partition: Causes and Effects

Module II

Communal conflicts and Violence

Module III

Khushwant Singh's *A Train to Pakistan*

Module IV

Khushwant Singh's *A Train to Pakistan*

Division of Teaching: 4 Modules X 15 Periods = 60 Periods

Prescribed Text:

Singh, Khushwant. *A Train to Pakistan*. New Delhi: Ravi Dayal Publishers, 1956.

Suggested Reading:

Ritu Menon and Kamala Bhasin, 'Introduction', in *Borders and Boundaries* (New Delhi: Kali for Women, 1998).

Sukirta P. Kumar, *Narrating Partition* (Delhi: Indialog 2004).

Urvashi Butalia, *The Other Side of Silence: Voices from the Partition of India* (New Delhi: Kali for Women,2000).

More, D.R. *The Novels on the Indian Partition*, Jaipur, Shruti Publication, 2008.

Sigmund Freud, 'Mourning and Melancholia', in *The Complete Psychological Works of Sigmund Freud,* tr. James Strachey (London: Hogarth Press,1953) pp.3041-53**.**

Beniwal, Anup. *Representing Partition: History, Violence and Narration*. Delhi: Shakti Book House. 2005.

Bhalla, Alok.*Partition Dialogues: Memories of a Lost Home*. New Delhi: Oxford University Press. 2006.

Sharma, V.P. "Communalism and its Motifs in three Post Independence Novels: Khushwant Singh's *A Train to Pakistan*, Bhisham Sahni's *Tamas* and Chaman Nahal's *Azadi*," *Recent Indian English Literature.* Ed. S.D. Sharma, Karnal: Natraj Publishing House, 1998. Print.

Shyam. M. Asnani. "The Theme of Partition in the Indo-English Novel." *New Dimensions of Indian English Novel*. New Delhi: Doaba House Publication, 1988.38-50. Print.

B. A. Part II
(Discipline Specific Core) (DSC-C30)
English (Paper VI) (Semester IV)
PARTITION LITERATURE (CBCS)
Detailed Syllabi
June 2019 Onwards

Module I

Impact of Partition on Women

Module II

Home and Exile

Module III

Short Stories:

Toba Tek Singh	- Saadat Hasan Manto
The Final Solution	- Manik Bandopadhyay

Module IV

Short Stories:

Defend Yourself Against Me	- Bapsi Sidhwa
A Leaf in the Storm	- Lalithambika Antharjanam

Division of Teaching: 4 Modules X 15 Periods = 60 Periods

Short Stories Prescribed From:

Saadat Hasan Manto, "Toba Tek Singh", in *Black Margins: Manto*, tr. M. Asaduddin (New Delhi: Katha, 2003) pp. 212–20.

Manik Bandhopadhya, 'The Final Solution', tr. Rani Ray, *Mapmaking: Partition Stories from Two Bengals*, ed. Debjani Sengupta (New Delhi: Srishti, 2003) pp. 23–39.

Sidhwa, Bapsi. "Defend Yourself Against Me." in *And the World Changed: Contemporary Stories by Pakistani Women*, ed. M. Shamsie, 27–52. New York: The Feminist Press, 2008.

Lalithambika Antharjanam, "A Leaf in the Storm", tr. K. Narayana Chandran, in *Stories about the Partition of India*. ed. Alok Bhalla (New Delhi: Manohar, 2012) pp. 137–45.

Suggested Reading:

Ritu Menon and Kamala Bhasin, 'Introduction', in *Borders and Boundaries* (New Delhi: Kali for Women, 1998).

Sukirta P. Kumar, *Narrating Partition* (Delhi: Indialog 2004).

Urvashi Butalia, *The Other Side of Silence: Voices from the Partition of India* (New Delhi: Kali for Women,2000).

More, D.R. *The Novels on the Indian Partition*, Jaipur, Shruti Publication, 2008.

Sigmund Freud, 'Mourning and Melancholia', in *The Complete Psychological Works of Sigmund Freud,* tr. James Strachey (London: Hogarth Press,1953) pp.3041-53**.**
Beniwal, Anup. *Representing Partition: History, Violence and Narration.* Delhi: Shakti Book House. 2005.
Bhalla, Alok. *Partition Dialogues: Memories of a Lost Home*. New Delhi: Oxford University Press. 2006.
Sharma, V.P. "Communalism and its Motifs in three Post Independence Novels: Khushwant Singh's *A Train to Pakistan*, Bhisham Sahni's *Tamas* and Chaman Nahal's *Azadi*," *Recent Indian English Literature.* Ed. S.D. Sharma, Karnal: Natraj Publishing House, 1998. Print.
Shyam. M. Asnani. "The Theme of Partition in the Indo-English Novel." *New Dimensions of Indian English Novel.* New Delhi: Doaba House Publication, 1988.38-50. Print.

B. A. Part II
(Discipline Specific Core) (DSC-C6 and C30)
Semester III (Paper IV) and Semester IV (Paper IV)
PARTITION LITERATURE
(CBCS)
June 2019 Onwards

Pattern of Question Paper for (Paper IV) and (Paper IV)

Q.1. A) Multiple Choice Questions with four alternatives. (5)
B) Answer the following questions in one word/ phrase/sentence each. (5)
(Q.1 A and B to be set on Module III and IV)
Q.2.A) Answer the following question in about 250-300words. (10)
OR
B) Answer the following question in about 250-300words. (10)
(A and B to be set on Module I and II)
Q.3. A) Answer the following question in about 250-300words. (10)
OR
B) Answer the following question in about 250-300words. (10)
(A and B to be set on Module III and IV)
Q.4 A) Write short notes in about 100-150words each: (4 out of 6) (20)
(3 to be set on Module I and II and 3 to be set on Module III and IV)

Shivaji University, Kolhapur
B. A.III
Compulsory English
Ability Enhancement Compulsory Course (CBCS)
ENGLISH FOR COMMUNICATION
From June 2020 Onwards

Course Objectives:

- To enhance students' communication skills
- To impart employability skills to students
- To prepare students for competitive examinations
- To enable students to acquire professional skills such as media writing
- To enable students to learn manners and etiquettes required at workplace
- To enhance students' reading comprehension skills
- To create interest in English literature among students
- To inculcate human values and ethics in order to enable students' to become good citizens of the country

Course Outcomes: After the completion of the course, the students will be able to:

- Communicate in English, in oral and written modes, in their day-to-day lives as well as at workplaces.
- Face job interviews confidently and efficiently.
- Acquire soft skills required at workplaces and in real life.
- Learn group behavior and team work.
- Learn to value and respect others' opinions and views and develop democratic attitude.
- Face competitive examinations confidently and efficiently with adequate linguistic confidence.
- Acquire professional skills required in media writing such as writing editorials.
- Learn to appreciate and enjoy reading poetry and prose passages.
- Acquire human values and develop cultured outlook.

SEMESTER V AECC 5

MODULE I

A. Interview Skills

B.I Shall Return To This Bengal - Jibananda Das

MODULE II

A. Grammar for Competitive Examinations

B.The Lottery - Shirley Jackson

MODULE III

A. Writing Skills for Competitive Examinations

B.After Twenty Years - O' Henry

MODULE IV

A.The Lighthouse Keeper of Aspinwall - Henry Sienkiewicz

B.(i) Song of Youth - A. P. J. Abdul Kalam

(ii) The Orphan Girl - Henry Derezio

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Draft Syllabus

SEMESTER VI AECC 6

MODULE V

A. Group Discussion

B. The Mystic Drum - Gabriel Okara

MODULE VI

A. Note Making and Note Taking

B. Three Questions - Leo Tolstoy

MODULE VII

A. Media Writing

B. Eight Rupees - Murli Das Melwani

MODULE VII

A.The Interview -V.V. John

B. (i) Two Dead Soldiers- Jean Arasanayagam

(ii) Bora Ring - Judith Wright

***Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT**

Division of Teaching Hours 8 Modules x 15 Hours = 120 Hours

Draft Syllabus

Shivaji University, Kolhapur
B. A.III
Compulsory English
Ability Enhancement Compulsory Course (CBCS)

ENGLISH FOR COMMUNICATION

PATTERN OF QUESTION PAPER (June 2020 Onwards)

Semester V (Paper E) **Total Marks: 40**

Q. No	Sub Q.	Type of Question	Based on	Marks
Q. 1	A.	Four multiple choice questions with four alternatives to be set	Prose and Poetry	03
	B.	Answer in one word/phrase/sentence each.	Prose and Poetry	03
	C.	Two different **Vocabulary Exercises** to be set for 1 mark each	Prose and Poetry	02
Q.2	A.	Answer the following questions in 3-4 sentences each. (2 out of 3)	2 on Prose and 1 on Poetry	04
	B.	Write **Short Note** on the following in about 7-8 sentences each. (1 out of 2)	1 on Prose and 1 on Poetry	04
Q.3	--	Questions to be set on **Interview Skills (A or B)**	Module I A	08
Q.4	--	Question to be set on **Grammar for Competitive Examinations (A or B)**	Module II A	08
Q.5	--	Question to set on **Writing Skills for Competitive Examinations(A or B)**	Module III A	08

Semester VI (Paper F) **Total Marks: 40**

Q. No	Sub Q.	Type of Question	Based on	Marks
Q. 1	A.	Four multiple choice questions with four alternatives to be set	Prose and Poetry	03
	B.	Answer in one word/phrase/sentence each.	Prose and Poetry	03
	C.	Two different **Vocabulary Exercises** to be set for 1 mark each.	Prose and Poetry	02
Q.2	A.	Answer the following questions in 3-4 sentences each. (2 out of 3)	2 on Prose and 1 on Poetry	04
	B.	Write **Short Note** on the following in about 7-8 sentences each. (1 out of 2)	1 on Prose and 1 on Poetry	04
Q.3	--	Question to be set on **Group Discussion(A or B)**	Module V A	08
Q.4	--	Question to be set on **Note Making and Note Taking(A or B)**	Module VI A	08
Q.5	--	Question to set on **Media Writing(A or B)**	Module VII A	08

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III
Special English
INTRODUCTION TO LITERARY CRITICISM (CBCS)
Discipline Specific Elective
Semester V (Paper VII) (DSE- E11) & Semester VI (Paper XII) (DSE- E136)
From June 2020 onwards

Course Objectives:

- To introduce students to the major trends in literary criticism.
- To familiarize students with the major critical concepts.
- To help students to study the original contributions made in the field of literary criticism.
- To acquaint students with the various literary and critical movements.
- To train students to write critical appreciation of poetry.

Course Outcomes:

- Students are able to understand the major trends in criticism.
- Students are able to interpret critical concepts.
- Students are able to study the original contributions to literary criticism.
- Students are acquainted with literary and critical movements.
- Students are able to understand the meaning and appreciate the poems critically.

Semester V(Paper VII) (DSE- E11)	
Module I	**Introduction to Literary Criticism:** 1. Nature of Criticism 2. Function of Criticism
Module II	**Classical Criticism:** 1. The Concept of Tragedy 2. The Ideal Tragic Hero (From **Aristotle's *Poetics***)
Module III	**Neo-classical Criticism:** Dr. Samuel Johnson's *Preface to Shakespeare* (1765)
Module IV	**Literary Terms:** 1. Symbolism 2. Realism 3. Humour 4. Paradox
Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR	
Semester VI (Paper XII) (DSE- E136)	
Module V	**Romantic Criticism:** William Wordsworth's Theory of Poetic Diction (From **William Wordsworth's *Preface to Lyrical Ballads***)
Module VI	**Victorian Criticism:** Matthew Arnold's Touchstone Method (From **Matthew Arnold's *The Study of Poetry***)
Module VII	**Modern Criticism:** T S Eliot's *Tradition and Individual Talent* (1919)
Module VIII	**Practical Criticism:** Poetry
Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT	

Draft Syllabus

Division of Teaching Hours 8 Modules x 15 Hours = 120 Hours

Recommended Reading: Semester V and Semester VI

Abrams, M. H. *A Glossary of Literary Terms* (8th Edition). New Delhi: Akash Press, 2007.

Alexander, L. G. *Prose and Poetry Appreciation for Overseas Students*. London: Longman Green and Comp. Ltd., 1966.

Allex,Latter & Rachel, Teubner. *William Wordsworth's Preface to the Lyrical Ballads*. London: Macat Library, 2018.

Bliss, Perry. *A Study of Poetry*. Kindle Edition, 22 Feb., 2018.

Butcher, S. C. *Poetics.* New Delhi: Kalyani Publishers, 1978.

Bywater, Ingram. *Aristotle's Poetics*. Oxford: Atthe Clarendon Press, 1976.

Cuddon, J. A. *The Penguin Dictionary of Literary Terms and Literary Theory* (4th Edition). London and New York: Penguin, 2000.

Davis, Joseph, K. Pathea, R Broughton and Michael Wood. *Literature*. Illinois: Scott, Foresman and Comp. Glenviews, 1977.

Eliot, T.S. *The Sacred Wood – Essays on Poetry and Criticism*. (Seventh edition),1950.

Enright, D.J. & Ernst De Chickera. *English Critical Texts: 16th Century to 20th Century*.OUP, 1968.

Fyfe, Hamilton. *Aristotle's Art of Poetry*. London: OUP, 1940.

Gray, Martin. *A Dictionary of Literary Terms* (York Handbooks), Pearson Education, 2009.

Hudson, W. H. *An Introduction to the Study of Literature*. New Delhi: Atlantic, 2007.

Richards, I. A. *Practical Criticism: A Study of Literary Judgment.* New Delhi: UBS Publishers, 2002.

Scott James, R. A. *The Making of Literature*. Mumbai: Allied Publishers Pvt. Ltd., 1963.

Sherbo, Arthur(ed.). *The Yale edition of the works of Samuel Johnson*.Vol.7. New haven: Yale University Press,1968.

S. Ramaswami & V. S. Seturaman (ed.) *The English Critical Tradition: An Anthology of English Literary Criticism,* Volume 1,. New Delhi: Macmillan Publishers India Ltd. 1977/2009.

Seturaman, V. S., C. T. Indra and T. Siraman. *Practical Criticism*. Madras: Macmillan India Ltd., 1995.

Waugh, Patricia (ed.) *Literary Theory and Criticism: An Oxford Guide*. New York: Oxford University Press, 2006.

Wimsatt, W. K. and Cleanth Brooks. *Literary Criticism: A Short History*. New Delhi: Oxford and IBH Publishing Company Pvt. Ltd., 1957.

Wellek, Rene and Austin Warren. *Theory of Literature.* London: Jonathan Cape, 1949.

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III
Special English
INTRODUCTION TO LITERARY CRITICISM (CBCS)
Discipline Specific Elective
Semester V (Paper VII) (DSE- E11)
PATTERN OF QUESTION PAPER
From June 2020 onwards

Total Marks: 40

Q1. Objective type Question
A) Multiple choice questions with four alternatives. 4
B) Answer the following questions in one word/phrase/sentence each. 4
(Q1 A and B to be set on topics covering **Module I to IV**)
(At least one item to be set on each Module)
Q2. Answer the questions in about 250-300 words each.
(A or B to be set on **Module I, II, and III**) 10
Q3. Answer the questions in about 250-300 words each.
(A or B to be set on **Module I, II, and III**) 10
Q3 A. Write short notes on the following: (Any 3 out of 5) 12
(3 to be set on **Module IV** and 2 on **Module I, II, III** not covered in question 2 and 3)

B. A. Part III
Special English
INTRODUCTION TO LITERARY CRITICISM (CBCS)
Discipline Specific Elective
Semester VI (Paper XII) (DSE- E136)
PATTERN OF QUESTION PAPER
From June 2020 onwards

Total Marks: 40

Q1. Objective type Question
A) Multiple choice questions with four alternatives. 4
B) Answer the following questions in one word/phrase/sentence each. 4
(Q1. A and B to be set on topics covering **Module V to VII**)
(At least one item to be set on each Module)
. Q2. Answer in the questions 250-300 words each. 10
(A or B to be set on **Module V, VI, and VII**)
Q3. Answer the questions in about 250-300 words each. 10
(A or B to be set on **Module V, VI, and VII**)
Q4. Write critical appreciation of the given poem. 12
(with the help of points such as title, theme, content, devices, message, style, rhyme-scheme, diction, type of poem, tone, stanza-pattern, metre, etc. (**Based on Module VIII**)

EQUIVALENCE

Old Title	New Title
LITERARY CRITICISM AND LITERARY APPRECIATION	**INTRODUCTION TO LITERARY CRITICISM**

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III
Special English

ENGLISH DRAMA (CBCS)

Discipline Specific Elective
Semester V (Paper IX) ((DSE – E13) & Semester VI (Paper XIV) (DSE – E138)
From June 2020 onwards

Course Objectives:

- To make students understand different forms of drama
- To enable students to relate drama to their ideological or socio-political contexts
- To help students improve their creative and imaginative faculties through the reading of drama
- To enable students to know about various aspects of the drama

Course Outcomes:

- Students are able to understand different forms of drama.
- Students are able to relate drama to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of drama.
- Students are able to know about various aspects of the drama.

Semester V (Paper IX) ((DSE – E13)

MODULE I
Definition and Elements of Drama
MODULE II
Tragedy as a Form
MODULE III
The Importance of Being Earnest - Oscar Wilde
MODULE IV
Hamlet – William Shakespeare

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Prescribed Texts:

Wilde, Oscar. *The Importance of Being Earnest.* New Delhi: General Press, 2018.
Shakespeare, William. *Hamlet*. Penguin Books, 1980.

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Semester VI (Paper XIV) (DSE – E138)

MODULE V
Types of Drama
MODULE VI
Comedy as a Form
MODULE VII
Nagmandala – Girish Karnad
MODULE VIII
Harvest – Manjula Padmanabhan

Draft Syllabus

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods
Prescribed Texts:
Karnad, Girish. *Nagmandala.* Oxford University Press, 1990.
Padmanabhan, Manjula. *Harvest.* Delhi: Penguin, 1997.

***Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT**

Recommended Reading: Semester V and Semester VI

Aasand, Hardin L. *Stage Directions in Hamlet: New Essays and New Directions.* NJ: Fairleigh Dickinson University Press, 2003.
Babu, Munchi Sarat. *Indian Drama.* New delhi: Prestige Books, 1997.
Bhatt, S.K. *Indian English Drama: A Critical Study.* New Delhi: Sterling Publishers Pvt. Ltd., 1987.
Bloom, Harold. *The Importance of Being Earnest: Modern Critical Interpretations.* Chelsea House Pub., 1988.
Driver, T.F. *Drama and History*. New York: Columbia University Press, 1967.
Ddiya, Jaydipsinh. (ed.) *The Plays of Girish Karnad: Critical Perspectives*. New Delhi: Prestige Books, 1999.
Gargy, Balwant. *Folk Theatre of India.* Culcutta: Rupa & Co., 1991.
Gillespie, Michael Patrick. *The Importance of Being Earnest.*(Norton Critical Editions). W.W.Norton and Co., 2006.
Hibbard, G.R. (ed.) *Hamlet*. OUP: 1988.
Hirsh, James. Shakespeare and the History of Soliloquies. NJ: Farleigh Dickinson University Press, 2003.
Joshi, R.G. *Myth in Indian Drama.* Delhi: B.R. Publishing Corporation, 1984.
Kumar, Nand. *Indian English Drama: A Study in Myths*. New Delhi: Sarup and sons, 2003.
MacCary, Thomas. *Hamlet: A Guide to the Play*. London: Greenwood Press, 1988.
Martin, James. *The Meaning of the 21st Century*. New York: Riverhead Penguin, 2007.
Priestley, J.B. *The Art of the Dramatist*. London: Heinemann, 1957.
Rajkumar, K. *Socio-Political Realities in Harvest*. Purna:RHI,Mahmul, 2012.
Robertson, Ronald. *Globalization: Social Theory and Global Culture*. London: Sage, 1992.
Sen,B. *The Importance of Being Earnest.* Unique Publishers,2015.
Styan, J.L. *The Elements of Drama*. Cambridge: Cambridge University Press, 1967.
Vaidyanathan, G. *The Importance of Being Earnest.* New Delhi: Narain Publications, 2018.
Worthen, W.B. (ed.). *Anthology of Drama* (Fourth edition). London: Cengage Learning EMEA, 2004.

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III
Special English

ENGLISH DRAMA (CBCS)

Discipline Specific Elective
Semester V (Paper IX) ((DSE – E13)

PATTERN OF QUESTION PAPER **(From June 2020 onwards)**

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)
B) Answer the following questions in one word/ phrase/sentence each. (4)
(Q. 1 A and B to be set on **Module III and IV**)
Q.2. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module I and II**)
Q.3. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module III and IV**)
Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)
(Two be set on **Module I and II** and two be on **Module III and IV**)

Shivaji University, Kolhapur
B. A. Part III
Special English

ENGLISH DRAMA (CBCS)

Discipline Specific Elective
Semester VI (Paper XIV) (DSE – E138)

PATTERN OF QUESTION PAPER **(From June 2020 onwards)**

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)
B) Answer the following questions in one word/ phrase/sentence each. (4)
(Q. 1 A and B to be set on **Module VII and VIII**)
Q.2. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module V and VI**)
Q.3. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **VII and VIII**)
Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)
(Two be set on **Module V and VI** and two be on **Module VII and VIII**)

EQUIVALENCE

Old Title	New Title
Understanding Drama	**English Drama**

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III Special English
ENGLISH NOVEL (CBCS)
Discipline Specific Elective
Semester V (Paper X) ((DSE – E14) & Semester VI (Paper XV) (DSE – E139)
From June 2020 onwards

Course Objectives:

- To make students understand different forms of novel.
- To enable students to relate novels to their ideological or socio-political contexts.
- To help students to improve their creative and imaginative faculties through the reading of novels.
- To enable students to know about various aspects of the novel.

Course Outcomes:

- Students are able to understand different forms of novel.
- Students are able to relate novels to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of novels.
- Students are able to know about various aspects of the novel.

SEMESTER V (Paper X) (DSE – E14)

MODULE I

Rise and Development of the Novel

MODULE II

Aspects of the Novel

MODULE III

The Old Man and the Sea **–** Ernest Hemingway

MODULE IV

The Power and the Glory – Graham Greene

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Prescribed Texts:

Hemingway, Ernest. *The Old Man and the Sea.* New York: Simon & Schuster, 1952.

Greene, Graham. *The Power and the Glory.* New York: Time Reading Special Edition. 1940, 1962.

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

SEMESTER VI (Paper XV) (DSE – E139)

MODULE V

Historical and Psychological Novel

MODULE VI

Satirical Novel and Epistolary novel

MODULE VII

Animal Farm: A Fairy Tale - George Orwell

MODULE VIII

The Guide - R. K. Narayan

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Draft Syllabus

Prescribed Texts:

Orwell, George. *Animal Farm: A Fairy Tale*. New York: Signet Classic, 1996.

Narayan, R. K. *The Guide*. US: Viking Press, 1958.

***Note: Semester VI: 10 Marks for internal Evaluation: STUDENTS' GROUP PROJECT**

Suggested Reading: for Semester V and Semester VI

Auden,W.H. *The Enchafed Flood: The Romantic Econography of the Sea*. New York: Random, 1950.

Abrams, M. H. *A Glossary of Literary Terms* (8th Edition) New Delhi, Akash Press – 2007

Bender, Bert. *Sea Brothers: The Tradition of American Sea Fiction from Moby-Dick to the Present.* Philadelphia: University of Pennsylvania Press, 1988.

Bloom, Harold. *Ernest Hemingway's The Old Man and the Sea: Modern Critical Interpretations.*Cheasea House Publications, 2008.

Bradbury, Malcolm. *The Novel Today*. Glasgow: F. C. Paperbacks, 1982.

Brooks and Warren. *Understanding Fiction*. Prentice Hall, 1959.

Dedria, Bryfonski & Hall, Sharon. *Twentieth Century Literary Criticism: George Orwell.* Michigan: Book Tower, 1979.

Edel, Leon. *The Psychological Novel: 1900-1950*. Ludhiana: Kalyani, 1997.

Forster, E. M. *Aspects of Novel*. London. 1949.

Hynes, Samuel, ed. *Graham Greene: A Collection of Critical Essays.* New Jersy: Prentice Hall.Inc. 1973.

Jones, David P. *Graham Greene.* Edinburgh: Oliver and Boyd. 1963.

Kerala, Calling. *From Eric Blair to George Orwell, Biography*. London: Sage, 2003.

Kermode, Frank. *Sense of an Ending*. OUP, 1967.

Lall, Pamji. *Graham Greene: The Power and the Glory: A Critical Study*. New Delhi: Roma Brothers India Pvt. Ltd. 2005.

Lewis,R.w.B. & Conn, Petr J.ed. *Graham Greene: The Power and the Glory: Text and Criticism.* New York: The Viking Press, 1970.

Lubbock, Percy. *The Craft of Fiction*. London: Jonahan Cape, 1965.

Matz, Jesse. *The Modern Novel*: A Short Introduction. Oxford Blackwell, 2004.

Meyers, Jeffery. *George Orwell: The Critical Heritage*. Routledge, 1997.

Rimmon-Kennan, Shlomith. *Narrative Fiction*. London and New York: Routledge, 2005.

Roy, Ruby. *A Critical Study of R.K. Narayan's Swami and Friends and The Guide*. Delhi: Kalpaz Publications, 2015.

Rees, R. J. *Introduction to English Literature*. London: Macmillan, 1966/1968.

Singh, P.K. *The Novels of R. K. Narayan :A Critical Study*. New Delhi: Atlantic Publishers.

Stade, George, ed. *Six Contemporary British Novelists.* New York: Colombia University Press, 1976.

Subramaniam, K.S. *Graham Greene: A Study of Graham Greene's Works.* Bareilly: Prakash Book Depot, 1978.

Vinson, James, ed. *Contemporary Novelists*. London: St. James Press, 1972.

Watt, Ian.. *Rise of the Novel*. London: Penguin, 1957.

Woodcock, George. *20th Century Fiction*. London: The Macmillan Press Ltd., 1983.

Draft Syllabus

Shivaji University, Kolhapur
B. A. Part III
Special English
ENGLISH NOVEL (CBCS)
From June 2020 onwards
PATTERN OF QUESTION PAPER FOR
(Semester V Paper X DSE – E14)

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)
B) Answer the following questions in one word/ phrase/sentence each. (4)
(Q. 1 A and B to be set on **Module III and IV**)
Q.2. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module I and II**)
Q.3. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module III and IV**)
Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)
(Two be set on **Module I and II** and two be on **Module III and IV**)

PATTERN OF QUESTION PAPER FOR
(Semester VI Paper XV DSE – E139)

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)
B) Answer the following questions in one word/ phrase/sentence each. (4)
(Q. 1 A and B to be set on **Module VII and VIII**)
Q.2. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **Module V and VI**)
Q.3. Answer the following questions in about 250-300 words. (10)
(A or B to be set on **VII and VIII**)
Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)
(Two be set on **Module V and VI** and two be on **Module VII and VIII**)

EQUIVALENCE

Old Title	New Title
Understanding Novel	**English Novel**

Draft Syllabus

Shivaji University, Kolhapur

B. A.III

English Special

ENGLISH POETRY (CBCS)

Discipline Specific Elective

Semester V (Paper VIII) (DSE – E12) and Semester VI (Paper XIII) (DSE – E137)

(From June 2020 Onwards)

Course Objectives:

- To make students engaged and curious readers of poetry
- To introduce students to poetry from various cultures and traditions
- To make students understand that poetry gives intellectual, moral and linguistic pleasures
- To make students hear and read poems aloud and to memorize lines

Course Outcomes:

- Students will be able to trace the development of the poetry in English from the days of Shakespeare to the contemporary India.
- Students will be able to appreciate and analyze the poems properly.
- Students will have a fairly comprehensive view of the Western and Eastern poetic tradition and they will be able to relate it to various literary movements.
- Students will have an insight into poetry and they will be able to make a lively and interesting reading.

SEMESTER V (Paper VIII) (DSE – E12)			
MODULE NO.		**TITLE OF THE MODULE**	**NAME OF THE POET**
I.	**Topics For Background Readings:**		
	1.	Elizabethan Poetry	
	2.	Metaphysical Poetry	
	3.	Romantic Poetry	
II. Selections from Elizabethan Poetry:			
	1.	Sweet Warrior (Sonnet 57)	Edmund Spenser
	2.	Sonnet To The Moon	Sir Philip Sydney
	3.	Full Many A Glorious Morning… (Sonnet 33)	William Shakespeare
III. Selections from Metaphysical Poetry:			
	1.	The Sun Rising	John Donne
	2.	The Retreat	Henry Vaugham
	3.	The Collar	George Herbert
IV. Selections from Romantic Poetry:			
	1.	My Heart Leaps Up	William Wordsworth
	2.	The Rime of the Ancient Mariner	S. T. Coleridge
	3.	Ozymandias	P. B. Shelley
	4.	When We Two Parted	Lord Byron
***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**			

Draft Syllabus

SEMESTER VI (Paper XIII) (DSE – E137)			
MODULE NO.		**TITLE OF THE MODULE**	**NAME OF THE POET**
V. Topics For Background Readings:			
	1.	Victorian Poetry	
	2.	Modern English Poetry	
	3.	Modern Indian English Poetry	
VI. Selections from Victorian Poetry:			
	1.	The Lady Of Shallot	Alfred Lord Tennyson
	2.	My Last Duchess	Robert Browning
	3.	Love Came Down At Christmas	Christiana Rossetti
VII. Selections from Modern English Poetry:			
	1.	No Second Troy	W. B. Yeats
	2.	The Hollow Men	T. S. Eliot
	3.	Tonight I Can Write	Pablo Neruda
VIII. Selections from Modern Indian English Poetry:			
	1.	The Professor	Nissim Ezekiel
	2.	A Hot Noon in Malabar	Kamala Das
	3.	A River	A. K. Ramanujan
	4.	A Kind of Happiness	Jayanta Mahapatra
***Note: Semester VI: 10 Marks for internal Evaluation: STUDENTS' GROUP PROJECT**			

Division of Teaching Hours: 8 Modules x 15 Hours each= 120 Hours

Recommended Reading: Semester V and Semester VI

Appelbaum, Stanley. *English Romantic Poetry: An anthology*. Dover Publications Inc. 1996.
Burrow, Colin. *Metaphysical Poetry.* Penguin Classics. 2006.
Chaudhuri, Roshinka. *A History of Indian Poetry in English.* Cambridge University press. 2016.
Chaudhuri, Sukanta. *Modern Indian Literature*, New Delhi: OUP, 2004.
Courthope, W.J. *A History of English Poetry*. Vol.I Macmillan, 1995.
Craig, W.J. (ed.). *The Complete works of William Shakespeare*. Oxford: OUP., 1905.
Fenton,James. *An Introduction to English Poetry*. New York: Farrar, Strauss and Giroux, 2004.
Gardner, Martin, *The Annotated Ancient Mariner,* New York:Clarkson Potter,1965.
Harold Bloom and Lionel Trilling. (ed.) *Romantic Prose and Poetry,* New York: OUP, 1973.
Mitra, Zinia(ed.). Indian *Poetry in English:Critical Essays*. New Delhi: PHI Learning Pvt Ltd.,2012.
Naik, M.K. *A History of Indian English Literature*. Delhi, 1982.
Narasimhaiah, C.D., (ed.) *An Anthology of Commonwealth Poetry,*Delhi: Macmillan, 1990.
Negri,Paul. *English Victorian poetry.* Dover Publications Inc. 1998
Ramanan, M.G. *Modern English Poetry: A Selection.* New Delhi:Orient Blackswan,2013.
Samuel Taylor Coleridge, *Biographia Literaria,* ed. George Watson. London: Everyman, 1993.

Shivaji University, Kolhapur

B. A.III

English Special

ENGLISH POETRY (CBCS)

Discipline Specific Elective

Semester V (Paper VIII) (DSE – E12)

PATTERN OF QUESTION PAPER **From June 2020 Onwards**

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)

B) Answer the following questions in one word/ phrase/sentence each. (4)

(Q. 1 A and B to be set on **Module II, III and IV**)

Q.2. Answer the following questions in about 250-300 words. (10)

(A or B to be set on **Module I**)

Q.3. Answer the following questions in about 250-300 words. (10)

(A or B to be set on **Module II, III or IV**)

Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)

(Two be set on **Module I** and two be on **Module II, III or IV**)

Shivaji University, Kolhapur

B. A.III

English Special

ENGLISH POETRY (CBCS)

Discipline Specific Elective

Semester VI (Paper XIII) (DSE – E137)

Marks: 40

Q1. A) Four multiple choice questions with four alternatives (4)

B) Answer the following questions in one word/ phrase/sentence each. (4)

(Q. 1 A and B to be set on **Module VI, VII and VIII**)

Q.2. Answer the following questions in about 250-300 words. (10)

(A or B to be set on **Module V**)

Q.3. Answer the following questions in about 250-300 words. (10)

(A or B to be set on **VI, VII or VIII**)

Q.4. Write Short Notes in about 100-150 words each (3out of 4) (12)

(Two be set on **Module V** and two be on **Module VI, VII or VIII**)

EQUIVALENCE

Old Title	New Title
Understanding Poetry	**English Poetry**

Draft Syllabus

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester V –Paper XI (DSE - E15) & Semester VI – Paper XVI (DSE - E140)
From June 2020 onwards

LANGUAGE AND LINGUISTICS
Semester V –Paper XI (DSE -E 15)

Course Objectives:

- To orient students to the concept of communication.
- To make the students familiar with varieties of the English language.
- To acquaint students with different levels of the study of language.
- To study the basic units of grammar.

Course Outcomes:

- Students know the concept of communication.
- Students are familiar with varieties of the English language.
- Students know different levels of study of the English language.
- Students know basic units of grammar.

Semester V –Paper XI DSE - E 15

MODULE I

Language and Communication

i. Definitions and characteristics of language

ii. Human and Animal communication systems (Special reference to Hockett's 7 characteristics of language)

MODULE II

Phonology

MODULE III

Morphology

MODULE IV

Words

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Draft Syllabus

Reference Books :

Balasubramaniam, T. *A Textbook of English Phonetics for Indian Students*, Delhi: McMillan, 1981.

Bansal, R.K. & Harrison, J.B., *Spoken English*, Hyderabad: Orient Longman, 2000.

Hockett, C.F., *A Course in Modern Linguistics*, MacMillan, . 1963.

Hudson, Richard, *Sociolinguistics*,Cambridge: Cambridge University Press, 1996.

Jones, Daniel, *English Pronouncing Dictionary*, ELBS Edition.

Leech et al, *English Grammar Today: a New Introduction*, Hyderabad: McMillan, 2010.

Lyons, John, *Language and Linguistics: An Introduction*, Cambridge: Cambridge University Press, 1981.

Quirk, R., Greenbaum, S., Leech, G. &Svartvik, J., *A Comprehensive Grammar of English*, New Delhi: Pearson, 2010.

Quirk, Randolph &Greenbaum, Sidney, *A University Grammar of English*, New Delhi: Pearson, 2015.

Radford, A., Atkinson, M., Britain, D., Clahsen, H. & Spencer, A., *Linguistics: An Introduction*, Cambridge: Cambridge University Press, 1999.

Trask, R. L, *Key Concepts in Language and Linguistics*, London: Routledge, 1999.

Verma, S.K. &Krishnaswamy, N., *Modern Linguistics*, Hyderabad: Oxford University Press, 1989.

Velayudhan, S. &Mohanan, K. P., *An Introduction to the Phonetics and Structure of English*, New Delhi: Somaiya Pub. Pvt. Ltd., 1977.

Draft Syllabus

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester V –Paper XI (DSE - E15)

QUESTION PAPER PATTERN **From June 2020 onwards**

Q. 1	Objective type	
	a) Three term labels	(3)
	b) Transcription of words with primary stress	(3)
	c) Conversion of the given transcriptions into the conventional spellings	(2)
Q.2	a) Write short notes (2/3) (to be set on **Module I**)	(10)
	b) Morphological Analysis giving labels (2/4)	(4)
Q.3	a) Identification of word formation/morphological processes	(4)
	d) Identification of word classes	(4)
Q.4.	Write short notes (2/4) (2 each to be set on **Module II & IV)**	(10)

Draft Syllabus

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester VI – Paper XVI (DSE - E140)
From June 2020 onwards

Course Objectives:

- To acquaint students with structures and functions of words and phrases.
- To enable students to know and identify elements and types of clauses.
- To study Subordination and Coordination.
- To study different ways of structuring clauses.

Course Outcomes:

- Students know words and phrases.
- Students know and identify elements and types of clauses.
- Students know types of sentences.
- Students know the different ways of structuring clauses

.

Semester VI – Paper XVI (DSE - E140)

MODULE V

Phrases

MODULE VI

Clauses

MODULE VII

Subordination and Coordination

MODULE VIII

Basic and Derived Structures

i) Inversion / Fronting
ii. Negation
iii. Interrogation
iv. Exclamation
v. Omission of Certain Elements
(Relative Pronouns, Comparative Clauses, Tag Questions)
vi. Passivisation
vii. Subject Raising
viii. Style Transformation

Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT

Division of Teaching Hours: 4 Modules X 15 Periods = 60 Periods

Draft Syllabus

Reference Books :

Crystal, David, *Linguistics*, London: Penguin Books Ltd., 1974.

Hockett, C.F., *A Course in Modern Linguistics*, MacMillan, 1963.

Hudson, Richard, *Sociolinguistics*,Cambridge: Cambridge University Press, 1996.

Leech et al, *English Grammar Today: A New Introduction*, Hyderabad: McMillan, 2010.

Lyons, John, *Language and Linguistics: An Introduction*, Cambridge: Cambridge University Press, 1981.

Palmer, F. G., *Grammar*, London: Penguin Books Ltd., 1973.

Quirk, R., Greenbaum, S., Leech, G. &Svartvik, J., *A Comprehensive Grammar of English*, New Delhi: Pearson, 2010.

Quirk, Randolph &Greenbaum, Sidney, *A University Grammar of English*, New Delhi: Pearson, 2015.

Radford, A., Atkinson, M., Britain, D., Clahsen, H. & Spencer, A., *Linguistics: An Introduction*, Cambridge: Cambridge University Press,1999.

Verma, S.K. &Krishnaswamy, N., *Modern Linguistics*, Hyderabad: Oxford University Press, 1989.

Draft Syllabus

Shivaji University, Kolhapur
B.A. III
English Special
LANGUAGE AND LINGUISTICS (CBCS)
Discipline Specific Elective
Semester VI – Paper XVI (DSE - E140)

QUESTION PAPER PATTERN

From June 2020 onwards

Q. 1	a) Identify elements of clause (S, P, O, C, A)	(4/6)	(4)
	b)Transformation of sentence (to be set on **Module VIII**)	(4/6)	(4)
Q.2	a) Write short notes. (2 each to be set on **Module V & VI**)	(2/4)	(10)
	b) Give form and function labels to the underlined phrases.	(4/6)	(4)
Q.3	a) Write short notes (To be set on **Module VII**)	(2/3)	(10)
	b) Identify the subordinate clauses and state their form and function.	(4/6)	(4)
Q. 4.	Do as directed. (to be set on **Module VIII**)	(4/6)	(4)

EQUIVALENCE

OLD TITLE	NEW TITLE
THE STRUCTURE AND FUNCTION OF MODERN ENGLISH	LANGUAGE AND LINGUISTICS

Draft Syllabus

Shivaji University, Kolhapur
B. Sc. III
Compulsory English
Ability Enhancement Compulsory Course (CBCS)
ENGLISH FOR COMMUNICATION
From June 2020 Onwards

Course Objectives:

- To enhance students' communication skills
- To impart employability skills to students
- To prepare students for competitive examinations
- To enable students to acquire professional skills such as media writing
- To enable students to learn manners and etiquettes required at workplace
- To enhance students' reading comprehension skills
- To create interest in English literature among students
- To inculcate human values and ethics in order to enable them to become good citizens of the country

Course Outcomes: After the completion of the course, the students will be able to:

- Communicate in English, in oral and written modes, in their day-to-day lives as well as at workplaces.
- Face job interviews confidently and efficiently.
- Acquire soft skills required at workplaces and in real life.
- Learn group behavior and team work.
- Learn to value and respect others' opinions and views and develop democratic attitude.
- Face competitive examinations confidently and efficiently with adequate linguistic confidence.
- Acquire professional skills required in media writing such as writing editorials.
- Learn to appreciate and enjoy reading poetry and prose passages.
- Acquire human values and develop cultured outlook.

SEMESTER V AECC C

MODULE I

A. Interview Skills

B. Enterprise - Nissim Ezekiel

MODULE II

A. E-Communication

B. The Ant and the Grasshopper – W.S. Maugham

MODULE III

A. English for Competitive Examinations

B. The Look-Out Man - Nicholas Bentley

MODULE IV

A. Forgetting Our Own History - Sudha Murty

B.(i) The Butterfly – Arun Kolatkar

(ii) For Your Lanes, My Country --Faiz Ahmed Faiz

***Note: Semester V: 10 Marks for Internal Evaluation: STUDENTS' SEMINAR**

Draft Syllabus

SEMESTER VI **AECC D**

MODULE V

A. Group Discussion

B. Evolution - Alexie Sherman Alexie

MODULE VI

A. Note Making and Note Taking

B. Gateman's Gift - R. K. Narayan

MODULE VII

A. Media Writing

B. Karma - Khushwant Singh

MODULE VII

A. Bhaurao in America – P. G.Patil

B. (i) The Grass is Really Like Me- Kishwar Naheed

(ii) To Granny – Tejaswini Patil

***Note: Semester VI: 10 Marks for Internal Evaluation: STUDENTS' GROUP PROJECT**

Division of Teaching Hours 8 Modules x 15 Hours = 120 Hours

Draft Syllabus

Shivaji University, Kolhapur
B. Sc. III Compulsory English
Ability Enhancement Compulsory Course (CBCS)
ENGLISH FOR COMMUNICATION

PATTERN OF QUESTION PAPER (June 2020 Onwards)

Semester V (Paper C) **Total Marks: 40**

Q. No	Sub Q.	Type of Question	Based on	Marks
Q.1	A.	Four multiple choice questions with four alternatives to be set	Prose and Poetry	03
	B.	Answer in one word/phrase/sentence each.	Prose and Poetry	03
	C.	Two different **Vocabulary Exercises** to be set for 1 mark each	Prose and Poetry	02
Q.2	A.	Answer the following questions in 3-4 sentences each. (2 out of 3)	2 on Prose and 1 on Poetry	04
	B.	Write **Short Note** on the following in about 7-8 sentences each. (1 out of 2)	1 on Prose and 1 on Poetry	04
Q.3	--	Question to be set on **Interview Skills (A or B)**	Module I A	08
Q.4	--	Question to be set on **E-Communication(A or B)**	Module II A	08
Q.5	--	Question to set on **English for Competitive Examinations (A or B)**	Module III A	08

Semester VI (Paper D) **Total Marks: 40**

Q. No	Sub Q.	Type of Question	Based on	Marks
Q.1	A.	Four multiple choice questions with four alternatives to be set	Prose and Poetry	03
	B.	Answer in one word/phrase/sentence each.	Prose and Poetry	03
	C.	Two different **Vocabulary Exercises** to be set for 1 mark each.	Prose and Poetry	02
Q.2	A.	Answer the following questions in 3-4 sentences each. (2 out of 3)	2 on Prose and 1 on Poetry	04
	B.	Write **Short Note** on the following in about 7-8 sentences each. (1 out of 2)	1 on Prose and 1 on Poetry	04
Q.3	--	Question to be set on **Group Discussion(A or B)**	Module V A	08
Q.4	--	Question to be set on **Note Making and Note Taking(A or B)**	Module VI A	08
Q.5	--	Question to set on **Media Writing(A or B)**	Module VII A	08

Draft Syllabus

SHIVAJI UNIVERSITY, KOLHAPUR

Established: 1962

A^{++} Accredited by NAAC (2021) With CGPA 3.52

New Syllabus For

Bachelor of Arts [B. A. in Hindi]

UNDER

Faculty of Humanities

B. A. Part - I (Semester - I and II)

STRUCTURE AND SYLLABUS IN ACCORDANCE WITH

NATIONAL EDUCATION POLICY - 2020

HAVING CHOICE BASED CREDIT SYSTEM

WITH MULTIPLE ENTRY AND MULTIPLE EXIT OPTIONS

(TO BE IMPLEMENTED FROM ACADEMIC YEAR 2024-25 ONWARDS)

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1. प्रस्तावना /PREAMBLE:

हिंदी आज विश्व भाषा के शिरोमणि बन चुकी है। हिंदी के विश्वव्यापि स्वरूप पर नजर रखते हुए छात्रों को रोजगारपरक, आत्मनिर्भर और शिक्षित करना उचित है सूचना क्रांति के युग में हिंदी अंतरजाल (इंटरनेट) पर अपना अधिपत्य जमा चुकी है। हिंदी अत्यंत संपन्न और गौरवशाली भाषा है। हिंदी का साहित्य समृद्ध है। हिंदी ने साहित्य तथा समाज के बीच अपना अलग रिश्ता बनाया' है. इन समस्त बातों की ओर ध्यान रखते हुए बी. ए.भाग एक का पाठ्यक्रम प्रस्तुत है।

आज भारत को छोडकर करीब 150 देशों में हिंदी का अध्ययन-अध्यापन चलता है। प्रवासी भारतीयों के साथ विदेश स्थित स्थानीय छात्र हिंदी का अध्ययन करते हैं। हमारे छात्रों को विदेश में रोजगार के अवसर प्राप्त हो रहे हैं। हिंदी के छात्र हिंदी भाषा और साहित्य के सभी पारंपरिक स्वरूप तथा उनकी विशेषताओं एवं रचनाओं के साथ उसके अधुनातन स्वरूप से परिचित होंगे, भविष्य की सभी संभावनाओं को लेकर चलेंगे इस हेतु यह प्रस्तुत किया गया है। हिंदी के वैश्विक स्थान और उसके प्रचार-प्रसार के कारण छात्रों को रोजगार के अनेक अवसर प्राप्त होंगे।

प्राचीन काल से आज तक हिंदी साहित्य से छात्रों को परिचित करना, उसकी प्रासंगिकता और उपयोगिता की जानकारी देना, उस समय का परिवेश, प्रमुख कवि और साहित्यकार और उनकी रचनाओं का परिचय देना, उद्देश्य रहा है। हिंदी भाषा, हिंदी साहित्य का इतिहास, भाषा विज्ञान, हिंदी भाषा की समग्र जानकारी देना, हिंदी कथा और कथेत्तर साहित्य की विधाओं का परिचय तथा उसके अध्ययन के लिये समीक्षात्मक आयाम विकसित करा देना। हिंदी के विविध व्यावहारिक स्वरूप तथा प्रयोग का ज्ञान कराना भी उद्देश्य रहा है। वैद्यक, बैंक, संगणक आदि हर क्षेत्र में हिंदी ने अपना अलग स्थान निर्माण किया है। आज विश्व साहित्य की संकल्पना काफी विकसित हो चुकी है। इन सभी बातों को केंद्र में रखकर बी. ए. भाग एक हिंदी का पाठ्यक्रम प्रस्तुत है।

इस पाठयक्रम में छात्रों को हिंदी भाषा एवं साहित्य के प्रति आकृष्ट कर उनकी अभिरुचि को वृद्धिंगत कराने के उद्देश्य से अध्ययनार्थ रचनाओं का चयन किया है । जिनमें सामाजिक, राजनीतिक, सांस्कृतिक, आर्थिक एवं धार्मिक परिस्थितियों का संदर्भ मिलता है । अतः हिंदी साहित्य में नैतिकता, राष्ट्रीयता, उदारता, संस्कार, आदर्शवाद एवं परोपकार आदि मूल्यों से छात्र संस्कारित होकर उनमें समाज के प्रति संवेदनशीलता निर्माण होगी ।

2. PROGRAMME LEARNING OUTCOMES (PO)

पाठयक्रम सीखने के परिणाम

1. छात्र हिंदी कवियों से परिचित हो जाएँगे ।
2. छात्रों में हिंदी साहित्य के प्रति रुचि निर्माण होगी।
3. छात्रों में राष्ट्रप्रेम और सामाजिक प्रतिबद्धता की भावना विकसित होगी।
4. छात्र सामाजिक, राजनीतिक, सांस्कृतिक, पृष्ठाभूमि में हिंदी साहित्य का अध्ययन कर विश्लेषण करेंगे।
5. छात्रों में हिंदी कहानी साहित्य के प्रति रुचि निर्माण होंगी।
6. छात्रों को कहानी के माध्यम से विभिन्न सामाजिक विषयों की जानकारी होंगी।
7. छात्रों में राष्ट्रीय, सामाजिक एवं मानवी दृष्टिकोण विकसित होगा।
8. हिंदी साहित्य के प्रति अभिरूचि और समीक्षा-दृष्टि विकसित होगी।
9. छात्रों में रोजगार के कौशल विकसित होंगे।

3. DURATION:

The Bachelor of Arts in **Hindi** programme shall be A FULL TIME COURSE OF 3/4 YEARS - 6/8 SEMESTERS DURATION with 22 Credits per Semester. (Total Credits = 132/176)

4. ELIGIBILITY FOR ADMISSION:

The candidate who has qualified SENIOR SECONDARY SCHOOL EXAMINATION (10 + 2) OR EQUIVALENT from a recognized board/institute is eligible for admission for this course. The criteria for admission are as per the rules and regulations set from time to time by concerned departments, HEIs, university, government, and other relevant statutory authorities.

5. MEDIUM OF INSTRUCTION:

The medium of instruction shall be HINDI. The students will have AN OPTION TO WRITE ANSWER-SCRIPTS IN HINDI

6. EXAMINATION PATTERN:

The pattern of examination will be Semester End Examination with Internal Assessment/Evaluation.
NOTE: Separate passing is mandatory for both, Semester End Examination, and Internal Evaluation/Assessment. (Aannexure-I)

7. SCHEME OF TEACHING AND EXAMINATION

The scheme of teaching and examination for a program of study as approved by the Academic Council / Board of Studies. Scheme of Teaching and Examination means the scheme of teaching and examination for a program as approved by the Academic Council.

8. STRUCTURE OF PROGRAMME:

(Credit Distribution Structure for with Multiple Entry and Exit Options B.A.- I in Hindi)

COURSE CATEGORY	ABBREVIATION (Only 2 Letters)	DESCRIPTION
DSC	Mandatory (MM)	Major -Mandatory Course
	Elective (ME)	Major -Elective Course
IDC/MDC/ GEC/OE	IDC (ID)	Interdisciplinary Course
	MDC (MD)	Multi Disciplinary Course

	GEC (GE)	General Elective Course
	OE (OE)	Open Elective Course (Generic Course not from Major or Minor Category)
VSC/SEC	VSC (VS)	Vocational Skill Course
	SEC (SE)	Skill Enhancement Course
AEC/VAC/IKS	AEC (AE)	Ability Enhancement Course
	VAC (VA)	Value Added Course
	IKS (IK)	Indian Knowledge System
OJT/FP/CEP/CC/RP	OJT (OJ)	On Job Training
	FP (FP)	Field Project
	CEP (CE)	Community Engagement Project
	CC (CC)	Co-curricular Course
	RP (RP)	Research Project

Note:(Aannexure-II)

A) First Year Bachelor of Arts (B.A. - I) (UG CERTIFICATE) :

YEAR:	**B.A. - I**
SEMESTER:	**I and II**
LEVEL:	**4.5**
TOTAL CREDITS	**22 + 22 = 44**
DEGREE AWARDED:	**UG CERTIFICATE (AFTER 44 CREDITS IN TOTAL)**

A - I) B.A. -I: SEMESTER - I (TOTAL CREDITS - 22): ***(Note: Put '—' wherever 'Not Applicable')***

COURSE CATEGORY		**COURSE NAME**	**COURSE CODE**	**CREDITS**
DSC	**DSC-I**	**आधुनिक हिंदी साहित्य- I**	**BAU0325DSL20A01**	**4**
----	**DSC-I**	**(Write Name)**		**4**
---	**DSC-I**	**(Write Name)**		**4**
IDC/MDC/ GEC/OE	**Marathi/ Hindi / STD/EDU/MUSIC etc.**	**प्रयोजनमूलक हिंदी और कविताएँ**	**BAU0325OEL202A 01**	**2**

SEC	**SEC - I**	**पत्रकारिता**	**BAU0325SEL202A**	**2**
AEC/VEC/ IKS	**AEC**	**(Write Name)**		**2**
	IKS	**(Write Name) (Gener)**		**2**
OJT/FP/ CEP/CC/RP	**CC**	**(Write Name)**		**2**
			CREDITS FOR B.A. - I, SEM - I:	**22**

A -2) B.A. – I: SEMESTER - II (TOTAL CREDITS - 22): ***(Note: Put '—' wherever 'Not Applicable')***

COURSE CATEGORY		**COURSE NAME**	**COURSE CODE**	**CREDITS**
DSC	**DSC-II**	**आधुनिक हिंदी साहित्य- II**	**BAU0325DSL20A02**	**4**
---	**DSC-II**	**(Write Name)**		**4**
---	**DSC-II**	**(Write Name)**		**4**
IDC/MDC/ GEC/OE	**Marathi/ Hindi / STD/EDU/MUSIC etc.**	**प्रयोजनमूलक हिंदी और कहानियाँ**	**BAU0325OEL202A02**	**2**
SEC	**SEC - II**	**समाचार लेखन**	**BAU0325SEL202B**	**2**
AEC/VEC/ IKS	**AEC**	**(Write Name) English- P- 02**		**2**
	VEC	**(Write Name) DEGG**		**2**
OJT/FP/ CEP/CC/RP	**CEP (Major)**	**(सामुदायिक सहभागिता परियोजना)**	**BAU0325CEL202B**	**2**
			CREDITS FOR B.A. - I, SEM - II:	**22**
			CREDITS FOR B. A. - I, SEM – I AND II:	**22 + 22 = 44**

FOR EXIT OPTION AT B.A. - I:

If student wants to 'EXIT' after completion of B.A. I (SEM I and II), he/she must acquire 04 credits through SUMMER INTERNSHIP of 4 weeks (120 hours) and submit the report. After verification by concerned authority he/she will be awarded the UG CERTIFICATE. This Certificate is a pre-requisite for admission or 沣ENTRY厨n Second Year B. A. degree course.

The Nature of SUMMER INTERNSHIP:

9. COURSE CODE TABLE:

Note 1: *Add rows wherever necessary and kindly apply proper course codes. The Paper Numbers are considered as Course Numbers in New Scheme.*

Note 2: *See the instructions below to prepare the Course Codes in NEP*

***** Important instructions for preparation of Course Codes:***

1. Read the following Two Tables carefully.

2. ***Every course code is generated by using all 8 columns in sequential order****.*

3. See the example given below the following table.

BA Course Code Template							
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Program Code	**Institute Code**	**Course Category**	**Nature Of Course Code**	**Level of Course Code**	**Sr. No. of Course Code**	**Semester**	**Courses Number**
BA	U0325	Mandatory (MM) Elective (ME) Minor (MN) IDC/MDC/GEC/OE VSC/SEC AEC/VAC/IKS OJT/FP/CEP/CC/RP	L/P/T	B.A. I: 2 B.A. II: 3 B.A. III: 4 B.A. IV: 5	Example: Marathi: 01	A/B/C/D/ E/F/G/H	01/02/03/艹
Description with Example is given below							
It is UG Program. Therefore, written as BA	Shivaji University, Kolhapur Code **(Common for all)**	Pl. see **Abbreviations at the beginning of the Point 8:** Category should be given in **2 Letters** For Example: IKS is IK SEC is SE OJT is OJ	Lecture/ Practical/ Tutorial	**Common For** B.A. I (Sem I & II): **2** B.A. II (Sem III & IV): **3** B.A. III (SEM V & VI) : **4** B.A. IV (SEM VII & VIII): **5**	**Code should be given in 2 digits** (Pl. See the **Course Code List below**)	SEM I A SEM II- B SEM III C SEM IV- D SEM V E SEM VI- F SEM VII- G SEM VIII- H	Course means Paper Number **All course numbers are to be given in DOUBLE digits).** **Don耿assign number for courses where NOT mentioned. (See Structure in int 8 for All Semesters)**

Course Code List

Course Code	Name of the Course
01	Marathi
02	Hindi
03	English
04	Sanskrit (Lower)
05	Sanskrit (Higher
06	Ardhmagadhi
07	Persian
08	Urdu
09	Kannada
10	Military Science
11	NSS
12	Music
13	History
14	Sociology
15	Economics
16	Political Science

Course Code	Name of the Course
17	Philosophy
18	Psychology
19	Social Work
20	AHIC
21	Linguistics
22	Geography
23	Home Science
24	Statistics
25	Education
26	Physical Education
27	Journalism
28	Russion
29	P.G. Diploma in I.R.S.S.
30	Bhasha Proudyogiki
31	Defence Study (Entire)
32	Master of Rural Studies

Example:

BA I SEM I Marathi: (Course Code: 01)

Table Rows:	1	2	3	4	5	6	7	8
Major Mandatory:	BA	U0325	MM	L	2	01	A	01

Thus,

Course Code for Major Mandatory Course 1 is: BAU0325MML201A01

Course Code for IKS Course is: BAU0325IKL201A (No Course Number)

BA II SEM III Economics: (Course Code: 15)

Table Rows:	1	2	3	4	5	6	7	8
Major Mandatory:	BA	U0325	MM	L	3	15	C	04

Thus,

Course Code for Major Mandatory Course 4 is: BAU0325MML315C04 Course Code for Skill Enhancement Course 3 is: BAU0325SEL315C03

BA III SEM VI Sociology: (Course Code: 14)

Table Rows:	1	2	3	4	5	6	7	8
Major Mandatory:	BA	U0325	MM	L	4	14	F	12

Thus,

Course Code for Major Mandatory Course 21 is: BAU0325MML414F12

Course Code for On Job Training Course is: BAU0325OJP414F (No Course Number and instead of L we use P (Practical))

10. EQUIVALENCE OF THE PAPERS AND COURSES:

Important Note: Under NEP, Equivalence will be given on the basis of Credits acquired at each Year and Not on the basis of Course/Subject. For Example, if student acquires 44 credits or Minimum required Credits prescribed in First Year of B.A., he or she will be eligible for B.A. II and can take admission for any course irrespective of his/her courses (Major or Minor) at B.A. I.

Equivalence: B. A. I Sem- I and II

(Note: Add 汁rows殿as per course requirement and kindly apply proper course codes. The 'Papers' are considered as 'Course' in New Scheme.)

Sem No.	Paper Code	Title of Old Paper	Credit	Sem No.	Course Code	Title of New Course	Credit
I	DSC – A –II	हिंदी कविता- I	4	I	BAU0325DSL20A01	आधुनिक हिंदी साहित्य- I	4
I				I	BAU0325OEL202A01	प्रयोजनमूलक हिंदी और कविताएँ	2
I				I	BAU0325SEL202A	पत्रकारिता	2
II	DSC – A -14	हिंदी गद्य साहित्य	4	II	BAU0325DSL202B02	आधुनिक हिंदी साहित्य-II	4
II				II	BAU0325OEL202A02	प्रयोजनमूलक हिंदी और कहानियाँ	2
II				II	BAU0325SEL202B	समाचार लेखन	2
II				II	BAU0325OJL202B	Write Name	2
II				II			
II				II			
II				II			

11. Determination of CGPA, Grading and declaration of results:

Shivaji University has adopted 10-point Grading System as follows:

➢ **In each semester, marks obtained in each course (Paper) are converted to grade points:** ○ If the total marks of course are 100 and passing criteria is 40%, then use the following Table 1 for the conversion.

○ If total marks of any of the course are different than 100 (e.g. 50) and passing criterion is 40%, then marks obtained are converted to marks out of 100 as below:

$$Marks\ out\ of\ 100 = \frac{Marks\ obtained\ by\ student\ in\ that\ course}{Total\ marks\ of\ that\ course} \times 100$$

and then grade points are computed using Marks out of 100 as per Table 1.

Table 1: Conversion of Marks out of 100 to grade point

Sr. No.	Marks Range out of 100	Grade point	Letter grade
1	80-100	10	O: Outstanding
2	70-79	9	A+: Excellent
3	60-69	8	A: Very Good
4	55-59	7	B+: Good
5	50-54	6	B: Above Average
6	45-49	5	C: Average
7	40-44	4	P: Pass
8	0-39	0	F: Fail
9	Absent	0	Ab: Absent

Table 2 : Conversion of Marks out of 50 to grade point (Passing: 20)

Sr. No.	Marks Range out of 50	Grade point	Letter grade
1	40-50	10	O: Outstanding
2	35-39	9	A+: Excellent
3	30-34	8	A: Very Good
4	28-29	7	B+: Good
5	25-27	6	B: Above Average
6	23-24	5	C: Average
7	20-22	4	P: Pass
8	0-19	0	F: Fail
9	Absent	0	Ab: Absent

➢ **Computation of Semester Grade Point Average (SGPA) :**

Based on the grade points earned in each course in each semester, *Semester Grade Point Average (SGPA)* is computed as follows:

The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student in that semester and the sum of the number of credits of all the courses undergone by a student in that semester. The SGPA of the ith semester is denoted by S_i. The formula is given by

$$SGPA\ of\ semester\ i = S_i = \frac{\sum_{kj=1} c_j \times G_j}{\sum_{j=1}^{k} c_j}$$

where c_j is the number of credit of j^{th} course , G_j is the grade points earned in the j^{th} course and k be the number of courses in i^{th} semester.

➢ **Computation of Semester Grade Point Average (SGPA) :**

Based on the SGPA of each semester, Cumulative Grade Point Average (CGPA) is computed as follows:

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programmed,

$$CGPA = \frac{\sum_{mi=1} C_i \times S_i}{C_i}$$

Where C_i is the total number of credits in i^{th} semester, S_i is the SGPA of i^{th} semester and m is the number of semesters in the programme.

➢ **Based on CGPA, final letter grade is assigned as below :**

Table 3: Final Cumulative Grade Point Average (CGPA) and Final Grade for course

Sr. No.	CGPA Range	Grade	Grade Descriptions
1	9.50-10.00	O	Outstanding
2	8.86-9.49	A+	Excellent
3	7.86-8.85	A	Very Good
4	6.86-7.85	B+	Good
5	5.86-6.85	B	Above Average
6	4.86-5.85	C	Average
7	4.00-4.85	P	Pass
8	0.00-3.99	F	Fail
9	Nil	AB	Absent

Remarks :

1. B+ is equivalent to 55% marks and B is equivalent to 50 % marks. The final later grade is based on the grade points in each course of entire programme and not on marks obtained each course of entire programme.
2. The SGPA and CGPA shall be round off to two decimal points.

12. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

FOR HUMANITIES :

A) FOR FOUR CREDITS: Total Marks: 80 (Written)

***** Important Note: The Questions of Minimum 15 Marks should be asked on each Module. The Maximum marks per Module should not exceed 26 Marks.***

Examination Pattern and Nature of Examination:

प्रश्न	प्रश्नपत्र का स्वरुप	अंक
1.	समग्र पाठ्यक्रम पर दस बहुविकल्पीय प्रश्न। अ) नीचे दिए गए विकाल्पो में से सही विकल्प चुनिए। 06 अंक ब) नीचे दिए गए विकाल्पो में से सही विकल्प चुनकर रिक्त स्थानो की पूर्ती किजिए। 04 अंक	10
2.	इकाई I और II पर ससंदर्भ स्पष्टीकरण। (चार में से दो) (उत्तर सीमा 300 – 400 शब्द)	20
3.	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न। (अंतर्गत विकल्प के साथ) (उत्तर सीमा 600-800 शब्द)	20
4	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न। (अंतर्गत विकल्प के साथ) (उत्तर सीमा 600-800 शब्द)	20
5	इकाई III और I V पर टिप्पणियाँ। (तीन में से दो) (उत्तर सीमा 150 -200 शब्द)	10
	अंतर्गत मूल्यमापन परीक्षा - (मौखिक / चर्चासत्र / स्वाध्याय / यात्रा भेंट / क्षेत्रीय कार्य)	20
	कुल-	100

End Semester Theory Exam: 80 Marks

Internal Assessment:20 Marks (Based on Activities and exercises)

B) FOR TWO CREDITS: Total Marks: 40 (Written)

***** Important Note: The Questions of Minimum 10 Marks should be asked on each Module. The Maximum marks per Module should not exceed 16 Marks.***

Examination Pattern and Nature of Examination:

प्रश्न	प्रश्नपत्र का स्वरुप	अंक
1.	समग्र पाठ्यक्रम पर दस बहुविकल्पीय प्रश्न। अ) नीचे दिए गए विकाल्पो में से सही विकल्प चुनिए। 06 अंक ब) नीचे दिए गए विकाल्पो में से सही विकल्प चुनकर रिक्त स्थानो की पूर्ती किजिए। 04 अंक	10
2.	समग्र पाठयक्रम पर लघुतरी प्रश्न। (चार में से दो) (उत्तर सीमा 150-200 शब्द)	10
3.	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न। (अंतर्गत विकल्प के साथ) (उत्तर सीमा 600-800 शब्द)	20
	अंतर्गत मूल्यांकन - (मौखिक / चर्चासत्र / स्वाध्याय / यात्रा भेंट / क्षेत्रीय कार्य)	10
	कुल-	50

End Semester Theory Exam: 40 Marks

Internal Assessment: 10 Marks (Based on Activities and exercises

13: SYLLABUS

B. A. I, SEMESTER – I

Course Category: DSC- 0I

Course Name: आधुनिक हिंदी साहित्य-।

Course Number: DSC O2

Course Code: BAU0325DSL202A01

Course Credits: 4

Marks: (For 4 Credits: Semester End: 80 Internal Assessment: 20 Total Marks: 100

Course Learning Outcomes: (Write at least 4 outcomes. You may add more. Use Bloom's Taxonomy) After completion of this course learners will be able to:

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSEC)

(शैक्षिक वर्ष : 2024-25, 2025-26 तथा 2026-27)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली की मॉडल पाठ्यचर्या (NEP) के आलोक में किया गया है।

* **उद्देश्य :**

1. साहित्य आस्वादन तथा मूल्यांकन क्षमता का विकास करना।
2. कविता : आस्वादन तथा आलोचना क्षमता का विकास करना।
3. कहानी विधा का आस्वादन एवं तात्त्विक विवेचन तथा महत्त्व को समझाना।
4. हिंदी के गद्यकारों एवं कवियों से परिचित कराना।
5. उपन्यास : आस्वाद एवं तात्त्विक विवेचन क्षमता का विकास कराना।
6. हिंदी भाषा के श्रवण, पठन एवं लेखन की क्षमता का विकास करना।
7. नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण करना।
8. छात्रों की विचार क्षमता तथा कल्पनाशीलता का विकास करना।

* **अध्यापन पद्धति:**

1. व्याख्यान तथा विश्लेषण।
2. दृकश्रव्य साधनों का प्रयोग।
3. गोष्ठी, परिचर्चा एवं स्वाध्याय।
4. अतिथि विद्वानों के व्याख्यान ।

अध्ययनार्थ विषय

इकाई I (कविता) **(Hours -15, Credit -01)**

1. **जो बीत गई सो बात गई - डॉ.हरिवंश राय बच्चन**
2. **कृष्ण की चेतावनी - रामधारी सिंह 'दिनकर'**
3. **कठपुतली - आचार्य निशांतकेतु**

इकाई II (कविता) **(Hours -15, Credit -01)**

4. **शहर - जहीर कुरैशी**
5. **प्रश्न - जयप्रकाश कर्दम**
6. **रीढ - कुसुमाग्रज, (अनु. गुलजार)**

इकाई III (कहानी) **(Hours -15, Credit -01)**

7. **फर्क, ईश्वर का चेहरा, पानी की जाति – विष्णु प्रभाकर (तीन लघुकथाएँ)**
8. **दोपहर का भोजन - अमरकांत**
9. **ढाई बीघा जमीन - मृदुला सिन्हा**

इकाई I V (कहानी) **(Hours -15, Credit -01)**

10. **बुढे जीवन की एक रात - डॉ.गिरीराजशरण अग्रवाल**
11. **काला सागर - तेजेंद्र शर्मा**
12. **टूटते तटबंध - भगवानदास मोरवाल**

*** संदर्भ ग्रंथ सूची -**

1. हिंदी के आधुनिक प्रतिनिधि कवि - द्वारिकाप्रसाद सक्सेना
2. नई कविता के प्रमुख हस्ताक्षर - डॉ. संतोषकुमार तिवारी
3. आधुनिक कवि - विश्वभंर 'मानव'
4. कविता के नए प्रतिमान - डॉ. नामवर सिंह
5. समकालीन कविता : सृजनात्मक संदर्भ - डॉ. प्रकाश धुमाल
6. कवि जयप्रकाश कर्दम : एक अध्ययन - डॉ. सुनील बनसोडे
7. कहानी : स्वरूप और संवेदना - राजेंद्र याव
8. हिंदी कहानी : संरचना और संवेदना - डॉ. साधना शहा
9. हिंदी कहानी का विकास - डॉ. देवेश ठाकुर
10. समकालीन हिंदी कहानी - डॉ. पुष्पपाल सिंह
11. हिंदी कहानी का समकालीन परिदृश्य - डॉ. वेदप्रकाश अमिता
12 . कहानीकार विष्णु प्रभाकर - डॉ.हणमंत सोहनी

Videos for References:

Language	Title	URL Link
Hindi	कृष्ण की चेतावनी	https://youtu.be/juwrOKPVj5Y?si=n_CLjhZZ37ZgUm33
	जो बीत गई सो बात गई	https://youtu.be/cspi8YAoIuU?si=yHQPF7OI7oDyPmNx
	रीढ	https://youtu.be/jYS1NxInD5M?si=HjUtKPvReN9NYDz2
	बुढे जीवन की एक रात	https://youtu.be/y6H-j6hFqyo?si=Nv8sriBJVju5aAgJ
	काला सागर	https://youtu.be/J5PgzbSUsII?si=B4Z2C7MgmL8hUgGQ

B. A. I, SEMESTER – I

Course Category: OE **(Generic Course not from Major or Minor Category)**

Course Name: **प्रयोजनमूलक हिंदी और कविताएँ**

Course Number: OE02

Course Code: **BAU0325OEL202A01**

Course Credits: 2

Marks: 2 Credits: Semester End: 40 Internal Assessment: 10 Total Marks: 50

* **उद्देश्य :**

1. प्रयोजनमूलक हिंदी के प्रति छात्रों की रुचि बढाना।
2. प्रयोजनमूलक हिंदी एवं उसकी उपयोगिता से छात्रों को परिचित कराना।
3. काव्य एवं कहानी विधा का आस्वाद, विवेचन एवं महत्त्व समझाना।
4. हिंदी कवि एवं कहानीकारों तथा उनकी रचनाओं से परिचित कराना।
5. साहित्य के माध्यम से नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तिदायित्व के प्रति आस्था निर्माण करना।
6. हिंदी भाषा के श्रवण, पठन, विचार, कल्पना एवं लेखन क्षमता का छात्रों में विकास करना।

* अध्यापन पद्धतियाँ

1. व्याख्यान तथा विश्लेषण।

2. दृकश्रव्य साधनों का प्रयोग।

3. विद्वानों के व्याख्यान।

4. गोष्ठी, परिचर्चा एवं स्वाध्याय।

प्रथम सत्र - हिंदी (OE)
प्रश्नपत्र क्र. - I
प्रयोजनमूलक हिंदी और कविताएँ
(अध्ययनार्थ वर्ष : 2024-25, 2025-26, 2026-27)
पाठ्यपुस्तक - प्रयोजनमूलक हिंदी और आधुनिक हिंदी साहित्य
संपादक, हिंदी अध्ययन मंडल,
शिवाजी विश्वविद्यालय, कोल्हापुर।

इकाई - I विज्ञापन लेखन (Hours -15, Credit -01)

1. विज्ञापन का स्वरूप एवं महत्त्व
2. विज्ञापन के अंग
3. विज्ञापन के उद्देश्य
4. विज्ञापन के क्षेत्र में रोजगार के अवसर

इकाई - II कविताएँ (Hours -15, Credit -01)

1. आ: धरती कितना देती है - सुमित्रानंदन पंत
2. जीवन का झरना - आरसीप्रसाद सिंह
3. पहचान - डॉ. देवेंद्र दीपक
4. यहाँ थी वह नदी - मंगलेश डबराल

* संदर्भ ग्रंथ सूची

1. प्रयोजनमूलक हिंदी - डॉ. लक्ष्मीकांत पांडेय

2. प्रयोजनमूलक हिंदी की प्रासंगिकता एवं परिदृश्य - डॉ. सु. नागलक्ष्मी

3. प्रयोजनमूलक हिंदी - डॉ. माधव सोनटक्के

4. प्रयोजनमूलक व्यावहारिक हिंदी - ओमप्रकाश मित्तल

5. विज्ञापन कला : कल, आज और कल - यशोदा भागवत (अनु. डॉ. गोविंद गुंठे)

6. सूचना विज्ञान के बहुआयमी प्रभाव - डॉ. गोविंद गुंठे

Videos for References:

Language	Title	URL Link
Hindi	विज्ञापन लेखन	https://youtu.be/mAsqWps6pUg?si=ORvfVxgSg9EZFoYe
	आ धरती कितना देती है	https://youtu.be/vgTmD4xDUCI?si=jG8bsQLIxD5JXAjE
	जीवन का झरना	https://youtu.be/OnMpHWKd5QA?si=QDY7avuJZ_oj7r-U
	यहाँ थी वह नदी	https://youtu.be/znoQ7jbr-vE?si=eruf23CGepa32xOx

Examination Pattern and Nature of Examination:

End Semester Theory Exam: 40 Marks
Internal Assessment: 10 Marks (Based on Activities and exercises)

B. A. I, SEMESTER -I

Course Category: SEC-I

Course Name: पत्रकारिता

Course Number: SE 02

Course Code: BAU0325SEL202A

Course Credits: 2

Marks: 2 Credits: Semester End: 40 Internal Assessment: 10 Total Marks: 50

Course Learning Outcomes:

उद्देश्य :-

1) पत्रकारिता का सामान्य परिचय कराना।
2) छात्रों को पत्रकारिता का महत्त्व समझाना।
3) छात्रों को पत्रकारिता की प्रवृत्तियों से परिचित कराना।
4) पत्रकारिता की विकास यात्रा से अवगत कराना।
5) पत्रकारिता में कार्य करने की रुचि विकसित करना ।

अध्ययन पद्धति -

- **स्वाध्याय**
- **व्याख्यान, विवेचन तथा विश्लेषण ।**
- **संगोष्ठी तथा समूह चर्चा का आयोजन।**
- **अतिथियों एवं विद्वानों के व्याख्यान।**
- **दृक-श्राव्य माध्यमों का प्रयोग ।**
- **संगणक तथा इंटरनेट आदि साधनों का प्रयोग।**

Syllabus of Interpersonal Skills

Module I:	**Lectures**	**Credit**
1.1 पत्रकारिता का स्वरूप 1.2 पत्रकारिता का उद्देश्य 1.3 पत्रकारिता की विशेषताएँ	10	1
Module II:		
2.1 भारतेंदु युग की पत्रकारिता 2.2 द्विवेदी युग की पत्रकारिता	10	1

2.3 गांधी युग की पत्रकारिता		

Activities and exercises suggested for internal assessment (Any Two out of Six) (10 Hours)

संदर्भ ग्रंथ-

1) हिंदी पत्रकारिता, - डॉ. रत्नाकर पांडेय
2) हिंदी पत्रकारिता की ऐतिहासिक भूमिका,- रीना भारद्वाज
3) पत्रकारिता के मूल सिद्धांत, - नवीन चंद्रगुप्त
4) पत्रकारिता के विविध रूप एवं सिद्धांत,- प्रियंका वाधवा

Videos for References:

Language	Title	URL Link
हिंदी	पत्रकारिता का स्वरूप	https://youtu.be/Oqsyqo1Txsw?si=9TOUxAfiiMJlIv60
	पत्रकारिता की विशेषताएँ	https://youtu.be/Izyy0HxXhyw?si=bmJQkGZhMvpDzhso
	भारतेंदु युग की पत्रकारिता	https://youtu.be/oYoXWd39Saw?si=qhSKkazNsynIHKY2
	गांधी युग की पत्रकारिता	https://youtu.be/zWeXGIYHHXA?si=Ztdl4uobRCzUhqD2

Examination Pattern and Nature of Examination:

End Semester Theory Exam: 40 Marks
Internal Assessment: 10 Marks (Based on Activities and exercises

B. A. I, SEMESTER -II

Course Category: DSC - II

Course Name: आधुनिक हिंदी साहित्य- II

Course Number: DSC 02

Course Code: BAU0325DSL202B02

Course Credits: 04

Marks: (For 4 Credits: Semester End: 80 Internal Assessment: 20 Total Marks: 100

Course Learning Outcomes:

* **उद्देश्य :**

1. साहित्य आस्वादन तथा मूल्यांकन क्षमता का विकास करना।
2. कविता : आस्वादन तथा आलोचना क्षमता का विकास करना।
3. कहानी विधा का आस्वादन एवं तात्विक विवेचन तथा महत्त्व को समझाना।
4. हिंदी के गद्यकारों एवं कवियों से परिचित कराना।
5. उपन्यास : आस्वाद एवं तात्विक विवेचन क्षमता का विकास कराना।
6. हिंदी भाषा के श्रवण, पठन एवं लेखन की क्षमता का विकास करना।
7. नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण करना।
8. छात्रों की विचार क्षमता तथा कल्पनाशीलता का विकास करना।

* **अध्यापन पद्धति:**

1. व्याख्यान तथा विश्लेषण।
2. दृकश्रव्य साधनों का प्रयोग।
3. गोष्ठी, परिचर्चा एवं स्वाध्याय।
4. अतिथि विद्वानों के व्याख्यान।

द्वितीय सत्र - हिंदी (विशेष ऐच्छिक)

आधुनिक हिंदी साहित्य- II

पाठ्यपुस्तक : डार्क हॉर्स (उपन्यास) - नीलोत्पल मृणाल

हिंदी युग्म सी 31 सेक्टर -20 नोएडा (उ.प्र.) प्रकाशन-2015

अध्ययनार्थ विषय

इकाई - I 1.उपन्यास का अर्थ एवं स्वरूप । **(Hours -15, Credit -01)**

2.नीलोत्पल मृणाल का व्यक्तित्व एवं कृतित्व ।

इकाई - II 1. 'डार्क हॉर्स ' उपन्यास की कथावस्तु। **(Hours - 15, Credit - 01)**

2. 'डार्क हॉर्स' उपन्यास के शीर्षक की सार्थकता।

3. 'डार्क हॉर्स' उपन्यास में चित्रित समस्याएँ।

इकाई - III 1.'डार्क हॉर्स' उपन्यास में पात्र एवं चरित्र-चित्रण। **(Hours -15, Credit -01)**

2.'डार्क हॉर्स' उपन्यास के कथोपकथन।

3.'डार्क हॉर्स' उपन्यास के देश-काल तथा वातावरण ।

इकाई - IV 1.'डार्क हॉर्स' उपन्यास की भाषा-शैली । **(Hours -15, Credit -01)**

2. 'डार्क हॉर्स' उपन्यास के उद्देश्य ।

* संदर्भ ग्रंथ सूची

1. हिंदी उपन्यास : उद्भव और विकास - डॉ. सुरेश सिन्हा
2. उपन्यास स्थिति और गति - डॉ. चंद्रकांत बांदिवडेकर
3. https://g.co/kgs/iKwk82v
4. https://www.aapnabihar.com/2017/07/exclusive-interview-of-nilotpal-mrinal/

Videos for References:

Language	Title	URL Link
Hindi	डार्क हॉर्से उपन्यास की कथावस्तु	https://youtu.be/3qKYToBhxak?si=iyd2RqLdPi4cSXqQ
	डार्क हॉर्स उपन्यास का सारांश	https://youtu.be/mXCrbRJGd2o?si=fA_20wyxuL9Etxm
	डार्क हॉर्स उपन्यास की समीक्षा	https://youtu.be/p-jBVLXixto?si=yG4_TfbmnKI54J70

B. A. I, SEMESTER – II

Course Category: OE (Generic Course not from Major or Minor Category)

Course Name: प्रयोजनमूलक हिंदी और कहानियाँ

Course Number: OE02

Course Code: BAU0325OEL202A02

Course Credits: 2

Marks: 2 Credits: Semester End: 40 Internal Assessment: 10 Total Marks: 50

*** उद्देश्य**

1. प्रयोजनमूलक हिंदी के प्रति छात्रों की रुचि बढाना।
2. प्रयोजनमूलक हिंदी एवं उसकी उपयोगिता से छात्रों को परिचित कराना।
3. काव्य एवं कहानी विधा का आस्वाद, विवेचन एवं महत्त्व समझाना।
4. हिंदी कवि एवं कहानीकारों तथा उनकी रचनाओं से परिचित कराना।
5. साहित्य के माध्यम से नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तिदायित्व के प्रति आस्था निर्माण करना।
6. हिंदी भाषा के श्रवण, पठन, विचार, कल्पना एवं लेखन क्षमता का छात्रों में विकास करना।

*** अध्यापन पद्धतियाँ**

1. व्याख्यान तथा विश्लेषण
2. दृकश्रव्य साधनों का प्रयोग
3. विद्वानों के व्याख्यान
4. गोष्ठी, परिचर्चा एवं स्वाध्याय

द्वितीय सत्र - हिंदी (OE)

प्रश्नपत्र क्र. - II

प्रयोजनमूलक हिंदी और कहानियाँ

(अध्ययनार्थ वर्ष : 2024-25, 2025-26, 2026-27)

पाठ्यपुस्तक - प्रयोजनमूलक हिंदी और आधुनिक हिंदी साहित्य
संपादक, हिंदी अध्ययन मंडल,
शिवाजी विश्वविद्यालय, कोल्हापुर।

इकाई - I साक्षात्कार लेखन (Hours -15, Credit -01)

1. साक्षात्कार का स्वरूप
2. साक्षात्कार - प्रविधि
3. साक्षात्कार का महत्त्व
4. साक्षात्कार के उद्देश्य

इकाई - III कहानियाँ (Hours -15, Credit -01)

1. समय - यशपाल
2. सुख - काशीनाथ सिंह
3. छोटा किसान - जयनंदन
4. चुभता हुआ घोंसला - दामोदर खडसे

* संदर्भ ग्रंथ सूची

1. कविता के नए प्रतिमान - डॉ. नामवर सिंह
2. नई कविता के प्रमुख हस्ताक्षर - डॉ. संतोषकुमार तिवारी
3. हिंदी के आधुनिक प्रतिनिधि कवि - द्वारिका प्रसाद सक्सेना
4. कहानी : स्वरूप और संवेदना - राजेंद्र यादव
5. समकालीन हिंदी कहानी - डॉ. पुष्पलाल सिंह
6. हिंदी कहानी का समकालीन परिदृश्य - डॉ. वेदप्रकाश अमिताभ
7. दामोदर खडसे का सृजन संसार - डॉ. महिपति शिवदास

Videos for References:

Language	Title	URL Link
हिंदी	साक्षात्कार का महत्त्व	https://youtu.be/IBQWT9fydt4?si=WqpB_vu6iV2KYgdM
	साक्षात्कार का स्वरूप	https://youtu.be/6nq0-scdqgM?si=15lx-oCgQSutvWTw
	समय	https://youtu.be/PYJaBBRZa1o?si=tOqEKrJXN3GKFtrm

B. A. I, SEMESTER – II

Course Category: SEC-II

Course Name: समाचार लेखन

Course Number: SE02

Course Code:BAU0325SEL202B

Course Credits: 2

Marks: 2 Credits: Semester End: 40 Internal Assessment: 10 Total Marks: 50

Course Learning Outcomes: After completion of this course, learners are able to:

उद्देश्य :-
1) समाचार का स्वरूप, तत्त्व एवं प्रकारों का अध्ययन कराना।
2) छात्रों को समाचार संकलन के विविध क्षेत्रों से परिचित कराना।
3) समाचार लेखन निर्मिति की प्रक्रिया का बोध कराना।
4) समाचार संपादन के विभिन्न अंगों से परिचित कराना।
5) संपादकीय पृष्ठ की रचना से परिचित कराना।

अध्ययन पद्धति -

- स्वाध्याय
- व्याख्यान, विवेचन तथा विश्लेषण
- संगोष्ठी तथा समूह चर्चा का आयोजन
- अतिथियों एवं विद्वानों के व्याख्यान
- दृक-श्राव्य माध्यमों का प्रयोग
- संगणक तथा इंटरनेट आदि साधनों का प्रयोग

Syllabus of Interpersonal Skills

Module I: समाचार लेखन	**Lectures**	**Credit**
1.1 समाचार का स्वरूप 1.2 समाचार के मूल तत्त्व 1.3 समाचार का महत्त्व 1.4 समाचार संकलन के स्रोत	10	1
Module II: समाचार लेखन		
2.1 महाविद्यालयीन समारोह 2.2 प्राकृतिक आपदा 2.3 सामाजिक समारोह 2.4 क्रीडा समाचार	10	1

Activities and exercises suggested for internal assessment (Any Two out of Six) (10 Hours)

अंतर्गत मूल्यामापन 10 अंक (मौखिक / चर्चासत्र / स्वाध्याय / यात्रा भेंट / क्षेत्रीय कार्य)

संदर्भ ग्रंथ -

1) समाचार लेखन, - अपूर्व कुलश्रेष्ठ
2) मीडिया लेखन, - रूपचंद्र गौतम
3) हिंदी पत्रकारिता का स्वरूप, - डॉ. यू. सी. गुप्ता
4) समाचार लेखन और वेब पत्रकारिता,- अपूर्व कुलश्रेष्ठ
5) हिंदी पत्रकारिता, सिद्धांत और स्वरूप,- सविता चड्ढा
6) पत्रकारिता एवं संपादन कला, - एन.सी. पंत
7) समाचार संपादन, - रामशरण जोशी

Videos for References:

Language	Title	URL Link
हिंदी	समाचार का स्वरूप	https://youtu.be/3pdSPObuu70?si=PuSYZPpClMw_6-XH
	समाचार के मूल तत्व	https://youtu.be/pAyzMC0sRt8?si=3GCf_05SbAs8Yjz7
	समाचार संकलन के स्रोत	https://youtu.be/Yda8LOc_cJk?si=ymxUUOIFW60BV3wf
	प्राकृतिक आपदा	https://youtu.be/Kl0zMdPETLE?si=jwsJADVAyCoUpZDi

Examination Pattern and Nature of Examination:

End Semester Theory Exam: 40 Marks

Internal Assessment: 10 Marks (Based on Activities and exercises)

B. A. I, SEMESTER - II

Course Category: CC/**CEP**

Course Name: सामुदायिक सहभागिता परियोजना

Course Number: Course Code: BAU0325CEL202B

Course Credits: 2

Marks: 2 Credits: Semester End: 40 Internal Assessment: 10 Total Marks: 50

Course Learning Outcomes:

1 छात्रों की सामुदायिक सहभागिता बढ़ेगी।

2 छात्रों में सामाजिक प्रतिबद्धता को लेकर बढ़ावा मिलेगा।

3 छात्र सामाजिक प्रश्नों से परिचित होकर उनके वृत्तांत लेखन से अवगत होंगे।

4 महापुरुषों के एवं साहित्यकारों के सामाजिक योगदान से छात्र अवगत होंगे।

5. छात्र संस्कृति संवर्धन करने वाले संस्थाओं से परिचित होंगे।

6 क्षेत्रीय परंपरा एवं संस्कृति की छात्रों को जानकारी मिलेगी।

7.क्षेत्रीय समाज जीवन, बोली, भाषा एवं साहित्यिक परंपरा से परिचित होंगे।

Syllabus of Interpersonal Skills

Module I: सामाजिक प्रतिबद्धता	**Lectures**	**Credit**
1.सामाजिक प्रतिबद्धता का अर्थ, स्वरूप एवं आवश्यकता। 2.सामाजिक प्रतिबद्धता के विभिन्न क्षेत्र तथा छात्रों की भूमिका। 3. जनसमूह में प्रचलित हिंदी भाषा तथा उसका प्रयोग, जनसमूह की हिंदी भाषा के प्रयोग संबंधी समस्याएँ। 4.समाज के विभिन्न प्रश्नों का वृत्तांpत लेखन एवं प्रस्तुतीकरण।	10	1

Module II: सामाजिक एवं सांस्कृतिक गतिविधियों में सहभाग		
1. साहित्य सम्मेलन, काव्य सम्मेलन, नुक्कड नाटक, सूत्रसंचालन आदि। 2. सामूहिक पठन, ग्रंथ परीक्षण, सिनेमा परीक्षण, ग्रंथालय भेंट आदि। 3. महापुरुष एवं साहित्यकारों की जयंती तथा स्मृति दिन, राष्ट्रीय पर्व एवं त्यौहार में सक्रिय सहभागिता। 4.भाषा, साहित्य, संस्कृति के संवर्धन करने वाले व्यक्ति एवं संस्थाओं की जानकारी तथा अध्ययन।	10	1

Activities and exercises suggested for internal assessment (Any Two out of Six) (10 Hours)

*** संदर्भ ग्रंथ सूची**

1., सामाजिक प्रतिबध्दता और साहित्य, नमन प्रकाशन,आग्रा - डॉ. जगन्नाथ दीक्षित

2. कार्य शिक्षा गांधीजी की नई तालीम एंव सामुदायिक सहभागिता - डॉ.गिरीश पचौरी/ डॉ. प्रीति अग्रवाल,

Videos for References:

Language	Title	URL Link
Hindi	सामाजिक मूल्य	https://youtu.be/ph1GyAQoPCs?feature=shared
	सामुदायिक सहभागिता	https://youtu.be/LP2Ox0r2NOI?feature=shared

Examination Pattern and Nature of Examination:

1.मूल्यांकन - 40 अंक.

2.वृत्तांत लेखन एंव प्रस्तुतिकरण - 10 अंक

कुल - 50 अंक

B) TEMPLATE FOR FIELD PROJECT:

Type: Field Project

Course Name: (Example: Field Project)

Course Number: (Example: FP 卄

Course Code:

Course Credits: (Example: 4)

Marks: Field Project Report duly signed by Internal Supervisor:	60
External Assessment (Viva Voce) by university appointed Internal and External Examiners	40
Total Marks:	**100**

If Course Credits: (Example: 2)

Marks: Field Project Report duly signed by Internal Supervisor :	30
External Assessment (Viva Voce) by University appointed Internal and External Examiners	20
Total Marks:	**50**

Course Learning Outcomes: (Write at least 4 outcomes. You may add more. Use Bloom叔 Taxonomy)

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-
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Instructions for teachers and students while doing Field Project:

1. Selection of Field project should be related to the mandatory or elective courses in the concerned subject.
2. Field project should be FORMALLY ASSIGNED (In Written Form) by concerned teacher.
3. Field Project should be based on field work to be carried out by the student.
4. Submission of Field Project Report duly signed and certified by concerned teacher/guide is A PRE-REQUISITE FOR APPEARING TO VIVA-VOCE EXAMINATION.
5. TWO COPIES of Field Project Report in BOUND FORMAT should be submitted before Viva-Voce. One copy will be kept by department and the other will be returned to student.

Important Notes for Teachers:

1. Prepare an Appropriate Format of PERMISSION LETTER to be given to student to do the Field Project under the guidance of a concerned teacher.

2. Prepare an Appropriate Format for Writing the Field Report. **Kindly see that the First Page and Certificate Page is common for all students. In the remaining part, try to maintain uniformity.**

C) TEMPLATE FOR INTERNSHIP (ON JOB TRAINING) AND RESEARCH INTERNSHIP:

INTERNSHIP COURSE GUIDELINES IN

UGC FRAMED CURRICULUM AND CREDIT FRAMEWORK FOR

UNDERGRADUATE PROGRAMMES (CCFUP) AS PER NEW NEP 2020

HIGHLIGHTS FROM THE INDIA SKILL REPORT (ISR), 2022

- Youth employability has improved to 46.2 % in 2021 from 45.97% till 2020.
- Female employability is higher (51.44%) than males (45.97%) for 2021-22.
- Highest employability rating at about 60.62% in commerce domain.
- 88.6% of graduates are looking for internship opportunities.
- India employers like to hire employees having at least a year of working experience.
- In India, there are many platforms which offer internships e.g. Internshala, Lets Intern, Killer Launch, Hello Intern etc. (Note: Internshala launched an initiative called the Grand Summer Internship Fair , which offers more than 23000 internship opportunities to people from all educational backgrounds)

OBJECTIVES OF INTERNSHIP:

1. Integration of workshop with workplace:

- To align and integrate Academic Workshop Training / Classroom Learning Activity lab initiatives Research lab finding/learnings with outcomes of the workplace (Organisation / Enterprise / Start-ups / Corporate / Farmlands / Artists in any domain / Artisans / Gig workers / Non-government organisations (NGOs) / Research & Development Organisations / Higher education institutions (HEIs) etc.

2. Understanding of the world of work:

- To provide students with an opportunity to improve their understanding of the experiences, challenges, and opportunities of the real world of work
- To help students to set their expectations and behaviour in accordance with the demands, culture, and values of current and emerging jobs.

3. Physical and Hybrid Model Learning:

- To broaden learning opportunities blended with a Mentor or Research Expert by combining physical and digital modes of learning.

4. Developing research aptitude:

- To create and facilitate conditions that allow students in their quest for knowledge, its discovery, learn-understand-sharpen research acumen
- To get familiarise with analytical tools/techniques with appropriate usage, research methodologies and data analysis
- To prepare manuscripts, identify appropriate journals
- To become aware of patent and intellectual property rights and their application in solving research/complex/real-life problems.

- To cultivate researcher integrity and ethical behaviour

5. Exposure in emerging technologies:

- To provide exposure to emerging technologies/ automation and how it can support, facilitate, improve and reinforce work processes/culture/ job roles/art and craft, including the traditional areas of art-craft/ heritage skills, agriculture, etc.

6. Enhance entrepreneurial capabilities:

- To understand how organisations / enterprises are formed for sustainable progress
- To strengthen start-ups culture and entrepreneurial capabilities among students and encourage them to become job creators.

7. Development of decision-making and teamwork skills:

- To facilitate the development of problem-solving and decision-making skills
- To enable teamwork & collaboration culture
- To promote research for academic and professional developments.

8. Cultivate a sense of Social Imagery and Citizenship Responsibility:

- To develop a sense of social imagery (issues) and philanthropic versatility among students
- To facilitate an attitude towards citizenship responsibility.

9. Stimulate collaborative influence:

- To promote HEIs collaboration, industryacademia partnership will be developed to provide collaborative internships, apprenticeships, and research opportunities to the students in the predefined areas of importance which will lead institutions, universities, organisations, academicians, and students to collaborate on how to learn with one another.

10. Enhancing professional competency:

- The internship should not only focus on employability or research capabilities; there is also a need for professional principles, ethics, values, and integrity which will enable them to gain perspective, practice, develop as competency and perform professional tasks in the way that the employment market demands.

INTERNSHIP CATEGORIES:

The undergraduate internships would be classified into two types:

1. Internship for enhancing the Employability:

Recent graduates are lacking knowledge, practical skills, and experience which are mandatory requirements demanded by employers for recruitment. Graduates face many difficulties after graduation to enrol in the workforce due to lack in knowledge, practical skills, and experience which are mandatory requirements demanded by employers.

Employability refers to the certain attributes of an individual that enable him/her to perform any job opportunity in line with the set standards of performance to meet expectations for the expected job. Students need to develop such competencies which reduce the obstacles as job seekers and also increase their potential as job providers.

The internship programs should be well conceptualized and interactive for building following crucial competencies:

- Development of project and its execution
- Decision-making
- Confidence development
- Working/coordinating in a team
- Creative and critical thinking and problem-solving
- Ethical values
- Professional development
- Understand government/local bodies world of work
- Reference of resource persons in the field
- Development of online/ simulation-based module for a virtual research internship

- Understanding the nuances of building a deep-technology start-up
- Study certain entrepreneurs,
- Study of the enterprises, farmers, artisans, artists, performers, expert individuals etc.

2. Internship for developing the Research Aptitude:

Research aptitude refers to the attribute of inquiry/investigation, analysis and interpretations in a scientific and objective method that facilitates to uncover facts and present an individual viewpoint in an organised manner.

Research internship aims at providing hands-on training to work on research tools, techniques, methodologies, equipment, policy framework and various other aspects in pursuing quality research.

The research internship programs should be well conceptualized and interactive for building following crucial competencies:

- Ideation and conceptualization of a research question/problem
- Learning about new tools and handling of equipment
- Experimentation and collection of data
- Simulations and development of models
- Preparation and presentation of reports

INTERNSHIP STRUCTURE FOR HEI

An internship provides learning experiences and an opportunity to acquiring new skills. The HEIs should provide a structured robust mechanism for internship programmes.

The important components incorporated in the mechanism are as follows:

1. Each HEI should create Apex Research and Development (R&D) Cell under which Discipline-specific Research and Development (R&D) Cells are created across diverse discipline for smooth coordination and functioning of internships. The Co-ordinators for all units should be appointed.

2. Each R & D unit should have a Nodal Officer who is responsible for developing need and demand-led internship path with well-defined objectives and outcomes. These Nodal Officers have to explore, reach out to, and sign a Memorandum of Understanding (MOU) with local businesses, research organisations, HEIs, Expert Professional, Renowned persons etc. as this will aid in training, research, employment, and start-ups.

3. To define verticals, HEIs must undertake a survey in the local market to understand the needs of companies/organizations/consultancy and the expectations of students.

HEI should provide many options to students while choosing a sector, making registration and undergoing an internship/research internship.

Following is an indicative list. You may add as per your insights about surroundings.

- Trade and Agriculture Area (For Instance, Internships in agriculture, and related domains like farm internships, agriculture research internships, agri-business internships can be considered as an opportunity by undergraduate students enrolled in HEIs. The agriculture sector needs to be considered by HEIs for the internship in rural regions. The HEIs/Universities at their level can explore National Qualification Register and check the possible job roles across sectors for exploring the internship areas (https://nqr.gov.in/). However, the
- Economy & Banking Financial Services and Insurance Area
- Logistics, Automotive & Capital Goods Area
- Fast Moving Consumer Goods & Retail Area
- Information Technology/Information Technology enabled Services & Electronics Area
- Handcraft, Art, Design & Music Area
- Healthcare & Life Science Area
- Sports, Wellness and Physical Education Area

- Tourism & Hospitality Area
- Digitisation & Emerging Technologies (Internet of Things/Artificial Intelligence/Machine Learning/Deep Learning/Augmented Reality/Virtual Reality, etc.) Area
- Humanitarian, Public Policy and Legal Service Area
- Communication Area
- Art (aa types) , Literature, Entertainment
- Mass Media
- Language
- Education Area
- Sustainable development Area
- Environment Area
- Commerce, Medium and Small-Scale Industries Area

4. During internship, student would be attached to an internship supervisor (IS), and Mentor preferably from the same HEI for a specified duration and conduct a time-bound internship project. The HEI (parent Institute) and the Internship Providing Organization (IPO) would play important roles in facilitating the smooth conduct of the internship.

Projects in the form of case study assignment (at individual, group, institute, organization, social level) can also be assigned to the students or group of students (Few examples: law, management, social works, counselling, sports, literature, performing art and many more).

A provision of group internship/joint research project may also be considered for handling the chunk of students in a particular domain by HEIs. The group can be identified for a particular theme assigned to a particular industry or HEI supervised by an internship supervisor and mentor.

The internship can be linked to the outcomes of value-added/skill development/ability enhancement courses. HEIs may have both backward and forward integrations.

Backward integrations: It indicates courses designed as prerequisites for internship.

Forward integrations: Developing a list of projects along with a list of mentors from which student can pick projects

5. HEI should design a Digital Portal where experts, agencies, industries, organisations, mentors, faculty members will register themselves. The information of all these resource persons will be open and visible to students. HEI should give application facility to students and also provide the application programming interface (API) integration, so that when a central portal is available, integration can be made.

6. HEIs can also look upon cluster models where institutions (2-3) can club or make a memorandum of understanding (MoU) for internships, the information of same need to be mentioned on the portal of HEIs and student may be willing to opt any and choose the mentor physically or digitally or any mentor outside also at national or international level.

7. There must be a mechanism for the orientation of teachers/ training of trainers/faculty development programs and it should serve as a prerequisite for the HEIs offering the internships in the programme. In the case of the 4-year program, the policy needs to be framed for students who have an interest in research right from the beginning at the undergraduate level.

8. Students can choose industry mentor from HEIs/ research organizations/industrial R&D labs/Universities/ other national repute institutions / organizations / industries / emergency professional / NGOs / local government officials/ outside India experts working at the international level/social networking sites (e.g., LinkedIn). The same portal can be developed at HEI/University level. A centrally managed Internship Portal would help in arranging the internship by the HEIs for the students. The portal will provide information regarding various internship opportunities like Internshala, etc

9. Certain experienced people superannuated as research scientists, academics, industry professionals, farmers, entrepreneurs, local artisans and other experts, etc. can get registered on a portal as mentors from various

disciplines. HEIs may network with local administration and identify areas where students can work on assignments or projects that will give them exposure to social issues in the form of projects.

10. The students can make use of summer & winter breaks for internship so that their academic credits do not get affected in terms of attendance and other assignments.

INTERNSHIP MECHANISM IN HEI

Figure 1: Operational Structure of Internship

HEIs should develop a roadmap for the smooth functioning of the internship programme through

(i) Research and Development Cell at the HEIs

(ii) Office of the nodal officer

(iii) Internship portals and about roles and responsibilities of interns, supervisors and mentors
(iv) A list of projects

(v) HEI and internship providing organisation may decide about Internship on mutually agreed terms and conditions. Internship outcomes should have been incorporated in developing a perspective among the candidates or students towards a profession and their ability to deconstruct a job role and to become job-ready as soon as they enter into a job or a profession.

a) Students will apply for research internships on their own or through the mentor of their parent HEI by registering at the internship portal. The HEI should ensure that such a student has an appropriate orientation for research through research ability enhancement courses as a part of the curriculum.

b) Interns will be selected by host organizations based on their selection criteria. The host organization will arrange to inform the potential intern through the portal itself or through the mail and will ask for confirmation or for acceptance.

c) If a student fails to get an internship in physical mode, then the host institute should have a provision for digital or group internship.

d) On receipt of an offer of internship, the student will arrange to consult the internship supervisor, obtain due permission from the parent institution and join the concerned host organization for an internship as per the suggested schedule.

e) The student may undergo an internship in the supervisor殿 lab/ working space at the host organization. During the period of internship, the parent HEI through the internship supervisor and mentor, will arrange to keep track of the activities and performance of students as interns at the host organization, based on periodic reports submitted by students.

f) On completion of Internship, intern will prepare internship report and get it endorsed by mentor.

ROLES OF IMPORTANT AUTHORITIES WORKING FOR INTERNSHIP:

A) Role of Internship Providing Organisation (Outside HEI)

- Internship Providing Organisation (IPO) is any organisation, HEI, philanthropy, farmer, government organisation, R&D institutions, research labs, artisans, enterprises, institution/person of eminence/cooperatives/corporates providing an opportunity to the student for Internship during the programme
- Internship providing organisation will connect with a nodal officer to look into the matter of facilitating the interns on arrival with registration, identity cards/ library cards/ internet subscription/ any other specific requirements, accommodation, etc.
- The mentor from internship providing organisation needs to provide time-to-time guidance to the candidate to have exposure to the research environment and employability market.

B) Role of Mentor (Inside/Outside HEI)

- A Mentor is an empanelled individual professional identified by the HEI or by students himself/herself through their network. The mentor should be identified and his/her concurrence should be conveyed to the internship supervisor.
- He/she will be providing expertise/professional/research guidance to the student during the internship. The mentors will also facilitate networking with other subject matter experts/professionals, which will enhance the internship experience and learning of the intern.
- They shall be making the timely evaluation of a student and provide him completion certification/report for submission in HEI.
- The mentor needs to provide guidance to the students digitally or physically throughout the internship duration.
- The mentor needs to check and validate the performance of students fortnightly and after the completion of the internship, issue the certificate/report for submission in HEI.
- The mentor must ensure the learning of competencies with research orientation among the students during the internship duration.
- HEIs may integrate the job assigned to faculty with workload assessment.

C) Role of Nodal Officer (Inside HEI)

- Nodal Officer will be appointed by the Vice Chancellor/Director/Principal/Head of the Department of HEI.
- Internship Programme will be fully organised, executed and monitored by the R&D cell of HEI through a Nodal Officer
- Nodal officer will reach out to other HEIs, Creative and Expert individuals in any field related to different subjects, research organisations, research labs, corporates, industry, local administrative offices, heads of certain government offices like labour, municipal, hospital, tourism, public relations, finance, agriculture, social welfare, etc. to seek the opportunity of an internship for the institution.
- (Example: the students can participate with local government in processes of census, surveys and elections and other schemes with proper mentoring mechanisms).
- The nodal officer must connect with the organisation/individuals and make MOUs so as to facilitate the students for an internship during the course.
- The nodal officer must ensure the registration of students, internship supervisors, mentors and internship providing organisation in the portal
- The nodal officer may take care of the interns during their stay and address their problems, if any.

D) Role of Internship Supervisor (Inside HEI)

- Internship Supervisor will be appointed by the Vice Chancellor/Director/Principal/Head of the Department of HEI
- Internship Supervisor will be nominated at the start of the academic year for each batch.
- Internship Supervisor will monitor, supervise, and evaluate the student during the internship duration.
- Internship Supervisor from the host institute should monitor the regularity of the intern at his/her workplace. Students should preferably inform the Internship Supervisor at least one day prior to availing leave during the internship except for emergency.
- At the end of the internship, the Internship Supervisor will ensure issuing of completion certificates to the intern.
- Internship offered by the organisation should be followed by one project report and the assessment on the evaluation can be judged based on the innovativeness of that particular project, presentation and attendance by HEIs.

DURATION AND SLOTS FOR INTERNSHIP IN CURRICULUM

Each undergraduate student may complete an internship of 2-4 credits during after the 4th semester of the UG degree programme focussing on Hands-on Training/Short
Research Project. However, the student who has to go for a 4-year UG degree (Honours with Research) programme will be required to choose courses as given Table 1 during the 8th semester.

Table 1: Activities, Suggested Duration along with a corresponding number of credits of Internship Programme:

Sr. No.	Courses	Suggested Schedule	Duration	Suggested Activities	Credits
1	• 3-year UG degree • 4-year UG degree (Honours) • 4-year UG Degree (Honours with Research)	After (4th) Semester	60 -120 hours	• Hands-on Training/Short Research Project • Seminar attendance • Read assigned journals to prepare for seminars • Study certain entrepreneurs • Social projects • Study of the enterprises/ farmers/Creative or Expert individual in any field related to your subjects	02-04
2	4-year UG Degree (Honours with Research)	8th Semester	One Semester	• HEI may adopt courses related to Research Methodology, Research Tools and Techniques, Research Ability Enhancement and Policy Framework • Dissertation/Thesis/Project Work/ Research project	08 12

Note: In a 4-year UG degree (Honours) students not undertaking research may do 3 courses for 12 credits in lieu of a research project/dissertation as specified in CCFUP Document.

INSTITUTIONS OR INDIVIDUALS TO BE CHOSEN FOR INTERNSHIPS:

- Government or private organizations
- Higher education institutions
- Universities
- Research and development labs/Research organisations/Centres involved in research/Individual Researcher
- Non-government organisations
- Enterprises
- Centres involved in research-innovativeness-entrepreneurship
- Business organizations
- Local industry
- Artists/Writers/Dramatist/Poet/Actors and any expert related to the subject area.
- Crafts people
- Any competent individual in domain of life where student will get an opportunity to actively seek experiential learning for his/her professional growth in liking areas.

ACADEMIC CREDENTIALS & MONITORING OF INTERNSHIP

A. Internship (On field/On job Training or Experiential Learning):

A minimum of 2-4 credits, out of the required minimum 132/176 credits, of a 3-year UG degree/4-year UG degree (Honours)/4-year UG degree (Honours with Research) can be assigned for Internship as per the National Higher Education Qualifications Framework (NHEQF) and Curriculum and Credit Framework for Undergraduate Programme (CCFUP).

An internship of 60 to 120 hours duration after the 4th semester will be mandatory for the students enrolled in UG degree programmes. For an internship, 1 credit of Internship means 2 hour engagement per week. Accordingly, in a semester of 15 weeks duration, 1 credit in this course is equivalent to 30 hours of engagement in a semester.

B. Research Project/Dissertations/Thesis/Project work

For the 4-year UG degree programme (Honours with Research), engagement of students in the dissertations/research project during the entire 7th & 8th semester of (4+8=12) credits will be considered as a mandatory component for the award of the degree.

The dissertation/research project/thesis work should involve 360 hours duration during the semesters and it will be mandatory for the students enrolled in UG degree programmes (Honours with Research)

The students need to essentially submit the research project/dissertations/thesis/project work to the allotted mentor. The submission of the report with the conduction of viva will also be a component for the successful evaluation of the dissertation/research project/thesis/Project work.

C. Competencies to be developed during Research Internships:

3-year UG degree, 4-year UG degree (Honours) and 4-year degree (Honours with Research) programme will be operating strictly adhering to NEP-2020, NHEQF and CCFUP provisions.

Based on the higher education qualification level descriptors for Level-5.5 and Level-6 some of the competencies with research orientation should be attained by the students by studying the courses under the Research Ability Enhancement Courses (RAEC) and by undertaking the research internship project.

Following competencies will be expected to be acquired by student:

- The students should be well-versed with the techniques and methods of research that would support knowledge creation.
- The students should have an understanding of complex problem statements and the ability to develop solutions for real-life problems.
- The students will possess a good comprehension ability to interpret the oral and written communications in research papers, and present own interpretations.
- The students will be able to communicate technical information, research findings to the peers.
- The students will be made aware of the research ethics, professional accountability, conduct and will be able to practice the research ethics and appropriate skills in in his/her own research work.
- The student will be able to enhance academic productivity by developing writing and reading skills and can make contributions towards social and economic issues from their research in future.
- The research intern can possess an attitude and skill of adaptability and flexibility for new challenges at organisational and individual level with a mindset of teamwork and c

EVALUATION OF INTERNSHIP:

On the Job Internship (OJT)	Research Internship
1. The evaluation of the internship will be carried out at the following stages: **Stage 1:** The interns will be evaluated by research internship supervisor based on their efforts and research output. **Stage 2:** At HEI, the intern will be evaluated through a seminar presentation or viva voce on his work, by a duly constituted expert committee (One Internal (Internship Supervisor) and One external), on the following suggestive aspects. a. Activity logbook (***Prepare it before starting of the internship with Day and Date, Time period, Nature of activity/work done/ experiential learning/responsibility carried out etc and Signature of Student, Mentor & Internship Supervisor. It will be carried out by student throughout the period of internship and be filled regularly***) and evaluation report of Internship Supervisor b. Format of presentation and the quality of the intern殿 report c. Acquisition of skill sets by the intern d. Originality and any innovative contribution e. Significance of research outcomes f. Attendance	1.Activity logbook (***Prepare it before starting of the internship with Day and Date, Time period, Nature of work done and Signature of Student, Mentor & Internship Supervisor. It should be like progress report and must be submitted by student periodically. The span of period should be decided at the start of the internship by Internship Supervisor)*** 2.The research project report shall have an undertaking from the student and a certificate from the research supervisor/mentor/advisor for originality of the work, stating that there is no plagiarism and that the work has not been submitted for the award of any other degree/diploma in the same Institution or any other Institution. 3.Internship offered by the organisation should be followed by one project report and the assessment on evaluation can be judged based on a. Innovativeness of Research b. Presentation and c. Viva-Voce 4.The viva-voce examination shall include both internal and external examiner. The HEIs need to follow their examination structure for the conduction of the examination.

***** On the basis of the above guidelines develop the syllabus for On The Job Internship (Training) and Research Internship***

I) Syllabus format for On the Job Training/ Internship (OJ)

Type: On Job Internship (Training) (OJ)

Course Name:

Course Number:

Course Code:

Course Credits: 4

Marks: On Job Training Report/ Research Internship duly signed by Internal Supervisor : 60

External Assessment (Viva Voce) by University appointed Internal and External Examiners 40

Total Marks: 100

If Course Credits: 2

Marks: On Job Training Report/ Research Internship duly signed by Internal Supervisor : 30

External Assessment (Viva Voce) by University appointed Internal and External Examiners 20

Total Marks: 50

Course Learning Outcomes: (Write at least 4 outcomes. You may add more. Use Bloom's Taxonomy)

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Instructions for teachers and students while doing On-the-Job Training:

1. Selection of Institute/Organization/Consultant/Professional etc. should be based on the areas in the mandatory or elective courses in the concerned subject.

2. The Institute/Organization/Consultant/Professional etc. under whom the Training/Internship/ Apprenticeship is expected, should be FORMALLY ASSIGNED (In Written Form) by concerned teacher to every student.

3. Submission of On-the-Job-Training Report duly signed and certified by concerned teacher/guide is A PRE-REQUISITE FOR APPEARING TO VIVA-VOCE EXAMINATION.

4. TWO COPIES of On-the-Job-Training Report in BOUND FORMAT should be submitted before Viva-Voce. One copy will be kept by department and the remaining will be returned to student.

Important Notes for Teachers:

1. Prepare a Draft Letter for getting permission from the appropriate authority within the Institute/Organization or from Consultant/Professional etc. for the On-the-Job-Training/Internship/ Apprenticeship

2. Prepare an Appropriate Format for Writing the On-the-Job Training Report. **Kindly see that the First Page and Certificate Page is common for all students. In the remaining part, try to maintain uniformity.**

For Example:

Psychology:

The On-the-Job Training Report format may be as follows:

Student's Name: ----------

Name Of the College: ----------

Class: ----------Semester: ----------

Subject: ----------Seat Number: ----------

Year ----------Duration of Internship: ----------

Internship Site/ Name of the Institution: ----------

Institute Supervisor's Name: ----------

College Teacher who supervised: ----------

Introduction:

This section should provide the area of interest, its importance in contemporary world, the reasons for choosing this area as well as the institution/organization/consultant/professional etc. .

Description of the organization:

This section should provide a brief overview of the organization where the internship will take place, including its mission, goals, and services and experience.

Duties and responsibilities:

This section should describe the specific tasks and responsibilities the student had during the internship, as well as any notable projects or activities they were involved in.

Reflection on learning outcomes and accomplishments:

This section should highlight the key learning and accomplishments the student achieved during the internship (skills, knowledge, attitude etc.). The student is expected to provide an in-depth reflection on the overall growth and impact of training.

Areas for improvement:

This section should address areas for improvement the student seen by himself/herself during the internship. He/she should reflect on how to overcome these challenges or plan strategies for improvement.

Conclusion:

This section should summarize the key takeaways from the internship experience.

Appendices:

This section should include following documents:

- Formal permission letter by Concerned Teacher/Guide sent to concerned Institution/Organization/Professional/Consultant etc.
- Formal Acceptance Letter by Institution/Organization/Professional/Consultant etc. for Training.
- Activity Log Book (which may contain Attendance sheet with Day, Date, Time, Number of Hours, Brief description of Training/ Learning activities, Responsibilites taken, Signature of Institutional Authority, Signature of Concerned Teacher).

- Google Tagged photos of showing Attendance as well as Doing Work
- Compliance Certificate with remarks duly signed by Institutional Authority
- Other supporting material

II) Syllabus format for Research Internship/Dissertation (RP)

Type: Research Internship/Dissertation (RP)

Course Name:

Course Number:

Course Code:

Course Credits: 8

Marks: Research Internship report duly signed by Internal Supervisor: 120

External Assessment (Viva Voce) by University appointed Internal and External Examiners 80

Total Marks: (8 Credits are there because it is Research Degree) 200

If Course Credits: 4

Marks: Research Internship report duly signed by Internal Supervisor: 60

External Assessment (Viva Voce) by University appointed Internal and External Examiners 40

Total Marks: (4 Credits are there because it is Research Degree) 100

Course Learning Outcomes: (Write at least 4 outcomes. You may add more. Use Bloom的 Taxonomy)

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Instructions for teachers and students while doing Research Internship:

1. Selection of Institute/Organization/Consultant/Professional etc. should be based on the areas in the mandatory or elective courses in the concerned subject.

2. The Institute/Organization/Consultant/Professional etc. under whom the Internship is expected, should be FORMALLY ASSIGNED (In Written Form) by concerned teacher to every student.

3. Submission of Research Report/Dissertation duly signed and certified by concerned teacher/guide is A PRE-REQUISITE FOR APPEARING TO VIVA-VOCE EXAMINATION.

4. TWO COPIES of Research Report/Dissertation in BOUND FORMAT should be submitted before Viva-Voce. One copy will be kept by department and the remaining will be returned to student.

Important Notes for Teachers:

1. Prepare a Draft Letter for getting permission from the appropriate authority within the Institute/Organization or from Consultant/Professional etc. for the Research Report/Dissertation

2. Prepare an Appropriate Format for Writing Research Report/Dissertation. **Kindly see that the First Page and Certificate Page is common for all students. In the remaining part, try to maintain uniformity.**

3. Kindly prepare the format which is similar to the format used by Ph. D. students during thesis writing.

4. Kindly note that looking for plagiarism, international standard/style of presentation, certificate for originality etc. are essentially the responsibility of concerned teacher or supervisor.

(Annexur-I)

B. A. Programme Structure for Level 4.5 of B.A. - I - Semester I

Sr. No.	Teaching Scheme: Theory (TH)				Teaching Scheme: Practical	Examination Scheme: Semester-end Examination (SEE)			Examination Scheme: Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	DS I	4	4	4	If applicable	3	80	28	Assignment	20	07
2.	---	4	4	4		3	80	28		20	07
3.	IDC/MDC/ GEC/OE	4 (2+2)	4 (2+2)	4 (2+2)		2 2	40 40	14 14		10 10	04 04
4.	----	2	2	2		2	40	14		10	04
5.	SEC - I	2	2	2		2	40	14		10	04
6.	AEC	2	2	2		2	40	14		10	04
7.	VAC	2	2	2		2	40	14		10	04
8.	IKS (Generic)	2	2	2		2	40	14		10	04
Total		22	22	22		---	440	---		110	---
										SEE + IA = 440+110= 550	

B. A. Programme Structure for Level 4.5 of B. A. - I Semester - II

Sr. No.	Teaching Scheme: Theory (TH)				Teaching Scheme: Practical	Examination Scheme: Semester-end Examination (SEE)			Examination Scheme: Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	DS II	4	4	4	If applicable	3	80	28	Assignment	20	7
2.		4	4	4		3	80	28		20	7
3.	IDC/MDC/ GEC/OE	4 (2+2)	4 (2+2)	4 (2+2)		2 2	40 40	14 14		10 10	04 04
4.	----	2	2	2		2	40	14		10	04
5.	SEC - II	2	2	2		2	40	14		10	04
6.	AEC	2	2	2		2	40	14		10	04
7.	CEP (Major)	2	2	2		2	40	14		10	04
8.	CC	2	2	2		2	10	4		40	14
Total		22	22	22		---	410	---		140	---
										SEE + IA = 410+140= 550	

B. A. Programme Structure for Level 5.0 of B. A. - II - Semester - III

Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM III	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - IV	4	4	4		3	80	28		20	7
3.	MN III	4	4	4		3	80	28		20	7
4.	IDC/MDC/ GEC/OE	2	2	2		2	40	14		10	04
5.	SEC - III	2	2	2		2	40	14		10	04
6.	SEC - IV	2	2	2		2	40	14		10	04
7.	AEC	2	2	2		2	40	14		10	04
8.	IKS (Specific)	2	2	2		2	40	14		10	04
Total		22	22	22		---	440	---		110	---
										SEE + IA = 440+110= 550	

B. A. Programme Structure for Level 5.0 of B. A. - II - Semester - IV

Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM V	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - VI	4	4	4		3	80	28		20	7
3.	MN IV	4	4	4		3	80	28		20	7
4.	IDC/MDC/ GEC/OE	2	2	2		2	40	14		10	04
5.	SEC V	2	2	2		2	40	14		10	04
6.	SEC VI (Major)	2	2	2		2	40	14		10	04
7.	AEC	2	2	2		2	40	14		10	04
8.	VAC	2	2	2		2	40	14		10	04
Total		22	22	22		---	440	---		110	---
										SEE + IA = 440+110= 550	

B. A. Programme Structure for Level 5.5 of B. A. - III - Semester - V

Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM VII	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - VIII	4	4	4		3	80	28		20	7
3.	MM IX	4	4	4		3	80	28		20	7
4.	ME - I	4	4	4		3	80	28		20	7
5.	MN - V	4	4	4		3	80	28		20	7
6.	OJT	--	2	2		Report	30	11	VIVA	20	7
Total		22	22	22		---	430	---		110	---
										SEE + IA = 430+120= 550	

B. A. Programme Structure for Level 5.5 of B. A. - III - Semester - VI											
Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM X	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - XI	4	4	4		3	80	28		20	7
3.	MM XII	4	4	4		3	80	28		20	7
4.	ME - II	4	4	4		3	80	28		20	7
5.	MN - VI	4	4	4		3	80	28		20	7
6.	FP	--	2	2		Report	20	7	VIVA	30	11
Total		22	22	22		---	420	---		130	---
										SEE + IA = 420+130= 550	

B. A. Programme Structure for Level 6.0 of B. A. - IV - Semester - VII (WITH HONOURS)											
Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM XIII	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - XIV	4	4	4		3	80	28		20	7
3.	MM XV	4	4	4		3	80	28		20	7
4.	MM XVI	2	2	2		2	40	14		10	4
5.	ME - III	4	4	4		3	80	28		20	7
6.	RM	4	4	4		3	80	28		20	7
Total		22	22	22		---	440	---		110	---
										SEE + IA = 440+110= 550	

B. A. Programme Structure for Level 6.0 of B. A. - IV Semester - VIII (WITH HONOURS)											
Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM XVII	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - XVIII	4	4	4		3	80	28		20	7
3.	MM XIX	4	4	4		3	80	28		20	7
4.	MM XX	2	2	2		2	40	14		10	4
5.	ME - IV	4	4	4		3	80	28		20	7
6.	OJT	--	4	4	4	Report	60	14	VIVA	40	21
Total		18	22	22	04	---	420	---		130	---
										SEE + IA = 420+130= 550	

OR

B. A. Programme Structure for Level 6.0 of B. A. - IV - Semester - VII (WITH RESEARCH)											
Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM XIII	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - XIV	4	4	4		3	80	28		20	7
3.	MM XV	2	2	2		2	40	14		10	4
4.	ME - III	4	4	4		3	80	28		20	7
5.	RM	4	4	4		3	80	28		20	7
6.	RP	--	4	4	4	Report	60	21	VIVA	40	14
Total		18	22	22	4	---	420	---		130	---
										SEE + IA = 420+130= 550	

B. A. Programme Structure for Level 6.0 of B. A. - IV - Semester - VIII (WITH RESEARCH)											
Teaching Scheme						Examination Scheme					
Sr. No.	Theory (TH)				Practical (PR)	Semester-end Examination (SEE)			Internal Assessment (IA)		
	Course Type	No. of Lectures	Hours	Credits	---	Paper Hours	Max	Min	Internal	Max	Min
1.	MM XVI	4	4	4	If applicable	3	80	28	Assignment	20	7
2.	MM - XVII	4	4	4		3	80	28		20	7
3.	MM XVIII	2	2	2		2	40	14		10	4
4.	ME - IV	4	4	4		3	80	28		20	7
5.	RP	--	8	8	8	Report	120	28	VIVA	80	42
Total		14	22	22	8	---	400	---		150	---
										SEE + IA = 400+150= 550	

SHIVAJI UNIVERSITY, KOLHAPUR

NEP-2020 (2.0): Credit Framework for UG (BA) Programmes under Faculty of HUMANITIES

SEM (Level)	COURSES			OE	VSC/ SEC	AEC/ VEC / IKS	OJT/FP/CEP/ CC/RP	Total Credits	Degree/Cum. Cr. MEME
	Course-1	Course-2	Course-3						
SEM I (4.5)	DSC-I (4)	DSC-I (4)	DSC-I (4)	OE-1 (2)	SEC-I(2)	AEC - ENG - I (2) IKS Generic(2)	CC(2)	22	UG Certificates 44
SEM II (4.5)	DSC-II (4)	DSC-II (4)	DSC-II (4)	OE-2 (2)	SEC-II(2)	AEC – ENG – II(2) VEC – DEC (2)	CEP (2)	22	
Credits	4+4=8	4+4=8	4+4=8	2+2=4	2+2=4	4+4=8	2+2=4	44	Exit Option: 4 credit Skill/NSQF/Internship
	MAJOR		MINOR						
	MAJOR	ELECTIVE							
SEM III (5.0)	MAJOR -III (4) MAJOR –IV(4)	-	MINOR- (4)	OE-3 (2)	VSC- I (2) SEC III (02)	AEC - ENG - III (2) IKS Specific (2)	-	22	UG Diploma 88
SEM IV (5.0)	MAJOR -V (4) MAJOR -VI (4)	-	MINOR- (4)	OE-4 (2)	VSC- II (2) SEC IV (02)	AEC - ENG - IV (2) VEC - EVS (2)	-	22	
Credits	8+8=16		4+4=8	2+2=4	4+4=8	4+4=8	-	44	Exit Option: 4 credit Skill/NSQF/Internship
SEM V (5.5)	MAJOR -VII (4) MAJOR -VIII(4) MAJOR -IX (2)	MAJOR-EL-1 (4)	MINOR- (4)	OE-5 (2)	-	-	FP – (02)	22	UG Degree 132
SEM VI (5.5)	MAJOR -X (4) MAJOR –XI (4) MAJOR –XII(2)	MAJOR-EL-II (4)	MINOR- (4)	-	-	-	OJT - (04)	22	
Credits	10+10=20	4+4=08	4+4=08	2+0=2	-	-	2+4=6	44	
Total Credits	8+16+20+8+8		8+8+8	4+4+2	4+8	8+8	4+6		
	60		24	10	12	16	10	132	

SEM VII (6.0)	Major-XIII (4) Major-XIV (4) Major-XV (4) Major-XVI (2)	Major E-III (4)	RM (4)	--	--	--	--	22	Four Year Bachelor Degree (Honours) 176
SEM VIII (6.0)	Major-XVII (4) Major-XVIII (4) Major-XIX (4) Major-XX (2)	Major E-IV (4)	--	--	--	--	OJT (4)	22	
Credits	28	8	4	--	--	--	4	44	
	4+4+4+2+4+4 +4+2= 28	4+4=8	4						
Total Credits	96		28	10	12	16	14	176	
SEM VII (6.0)	Major-XIII (4) Major-XIV (4) Major-XV (2)	Major E-III (4)	RM (4)	--	--	--	RP-I (4)	22	Four Year Bachelor Degree (Research) 176
SEM VIII (6.0)	Major-XVI (4) Major-XVII (4) Major-XVIII (2)	Major E-IV (4)	--	--	--	--	RP-II (8)	22	
Credits	20	8	4	--	--	--	12	44	
Total Credits	88		28	10	12	16	22	176	

Note:

- University may decide to offer maximum of three subjects (Courses) in the first year. The student may select one subject out of combination of three subjects (Courses), (which a student has chosen in the first year) as a **MAJOR** subject (Course) and one subject (Course) as **MINOR** Subject in the second year. Thereby it is inferred that the remaining third subject (Course) shall stand discontinued.
- **DSC: Discipline Specific Course**
- **MAJOR:** Mandatory /Elective
- **MINOR:** Course may be from different disciplines of same faculty of DSC Major
- **OE (Open Elective):** Elective courses/Open Elective to be chosen compulsorily from faculty other than that of the Major.
- **VSC/ SEC: Vocational Skill Courses (MAJOR related)/ Skill Enhancement Courses**
- **AEC/ VEC / IKS**: Ability Enhancement Courses (English, Modern Indian Language)/Value Education Courses (Sem. II - Democracy, Elections & Indian Constitution, (DEC) Sem. IV – Environmental Studies (EVS)/ Indian Knowledge System (Generic & Specific))
- **OJT/FP/RP/CEP/CC:** On-Job Training (Internship/Apprenticeship) / Field Project (Major related)/ Research Projects (Major related) Community Engagement **(Major related)/ Co-Curricular courses(CC)** such as Health & Wellness, Yoga Education, Sport, and Fitness, Cultural activities, NSS/NCC and Fine /applied/visual/performing Arts / Vivek Vahini etc

Estd. 1962
"A++" Accredited by NAAC (2021)
With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004, MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१—२६०९०९४

Ref. No./SU/BOS/Humanities/541 Date :19/07/2023

To,
The Principal,
All Concerenced Affiliated Colleges/Institutions,
Shivaji University, Kolhapur

Subject : Regarding syllabi of B. A. Part II (sem. III & IV) degree programme under the Faculty of Humanities as per National Education Policy, 2020 (NEP)

Sir/Madam,

With reference to the subject mentioned above I am directed to inform you that the University authorities have accepted and granted approval to the revised syllabi, equivalence and nature of question paper of B. A. Part II (Sem. III & IV) under the Faculty of Humanities as per National Education Policy, 2020. (NEP)

English (Comp.)	English (Opt.)	Linguistics (I.D.S.)	Sanskrit	Kannada
Business Administration	Marathi	Ardhamagadhi	Hindi	Urdu
S.P. & Comm. Corresp.	Sociology	Political Science	Psychology	Economics
Industrial Psychology	Geography	Human Development	Philosophy	History
Defence Study (Entire)				

This syllabi shall be implemented from the academic year 2023-24 onwards . A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in (Online Syllabus).

For students of Distance Education this syllabi be implemented from the academic yerar 2023-24.

You are therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully

Encl : As above

(Dr. S. M. Kubal)
Dy. Registrar

Copy to, For Information and necessary action.

Dean, Faculty of Humanities.	Computer Center/I. T. Cell.
Chairman, B.O.S./Ad-hoc oard under faculty of Humanities.	Eligibility Section.
Director, Board of Examinations & Evaluation	P. G. Seminar Section.
Appointment Section A & B	Distance Education Section.
B. A. Exam. Section.	Affiliation Section (T. 1 & T 2)
P. G. Admission Section.	

SHIVAJI UNIVERSITY, KOLHAPUR

Estd. 1962

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Faculty of Humanities

CHOICE BASED CREDIT SYSTEM

Revised Syllabus in accordance with NEP, 2020

Syllabus for

B. A. Part II (Sem III & IV)

Hindi (Opt.)

(Revised Syllabus to be implemented from June, 2023 onwards)

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) हिंदी (ऐच्छिक)

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र- III, प्रश्नपत्र क्रमांक- III आधुनिक हिंदी गद्य साहित्य - I

शैक्षिक वर्ष 2023 -24 से प्रारंभ

(शैक्षिक वर्ष 2023-24, 2024-25, 2025-26)

(नवीन पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

उद्देश्य –

- कहानी साहित्य का स्वरूप , तत्त्व एवं प्रकारों का अध्ययन कराना I
- कथेतर साहित्य का अध्ययन कराना I
- कथा और कथेत्तर साहित्य का वर्तमान प्रासंगिकता के साथ अध्ययन कराना I

अध्यापन पद्धति –

- व्याख्यान एवं विश्लेषण I
- संपादकों एवं विद्वानों से साक्षात्कार I
- चर्चा एवं संगोष्ठी I
- आई. सी. टी. का प्रयोग I
- उदाहरण द्वारा पुष्टि एवं अतिथियों के व्याख्यान I
- स्वाध्याय / परियोजना I
- हिंदी के विविध विधाओं तथा विमर्शों का परिचय I

पाठ्य पुस्तक – 'साहित्य विविधा' - संपादक , हिंदी अध्ययन मंडल, शिवाजी विश्वविद्यालय कोल्हापुर ,

Credit

इकाई I कहानी साहित्य – **1**

1. एक टोकरी भरी मिट्टी - माधवराव सप्रे
2. दूध का दाम - प्रेमचंद
3. पोस्टमैन - शैलेश मटियानी

इकाई II कहानी साहित्य - **1**

4. अपना रास्ता लो बाबा - काशिनाथ सिंह
5. जाँच अभी जारी है - ममता कालिया
6. दास्ताने कबुतर - कुसूम अंसल

इकाई III कथेत्तर साहित्य – (व्यंग्य) 1

7. बहानेबाजी - भदंत आनंद कौसल्यायन
8. जैसे उनके दिन फिरे - हरिशंकर परसाई
9. जिसके हम मामा है - शरद जोशी

इकाई IV कथेत्तर साहित्य - 1

10.लल्लू कब लौटेगौ ? (रेखाचित्र) - बनारसीदास चतुर्वेदी
11.बाजार दर्शन (निबंध) - जैनेन्द्र कुमार
12.हम हशमत -भीष्म सहानी (संस्मरण) - कृष्णा सोबती

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पीय प्रश्न	10
प्रश्न 2	इकाई I और II पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	इकाई III और IV पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
*	अंतर्गत मूल्यमापन परीक्षा – **Group Activity**	10

संदर्भ ग्रंथ सूची -

1. मानसरोवर भाग - 2 - प्रेमचंद, राजकमल प्रकाशन, दिल्ली ।
2. अपना रास्ता लो बाबा - काशिनाथ सिंह, नेशनल बुक ट्रस्ट , इंडिया ,नई दिल्ली।
3. कथा साहित्य के प्रतिमान - डॉ.रोहिताश्व, अमन प्रकाशन, कानपुर।
4. जाँच अभी जरी है - ममता कालिया, लोकभारती प्रकाशन, प्रयागराज।
5. शैलेश मटियानी की इक्यवान कहानियाँ – शैलेश मटियानी, विभोर प्रकाशन इलाहाबाद।
6. माधवराव सप्रे की कहानियाँ (1982 ई.स.) – देवीप्रसाद वर्मा, हिंदुस्तानी एकेडमी इलाहाबाद।
7. माधवराव सप्रे : प्रतिनिधि संकलन - सं. मैनेजर पांडेय , नेशनल बुक ट्रस्ट नई दिल्ली।
8. संकलित कहानियाँ - कुसुम अंसल, राष्ट्रीय पुस्तक न्यास , भारत ।

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) हिंदी (ऐच्छिक)

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र- IV,प्रश्नपत्र क्रमांक- V, आधुनिक हिंदी गद्य साहित्य - II

शैक्षिक वर्ष 2023 -24 से प्रारंभ

(शैक्षिक वर्ष- 2023 -24, 2024- 25, 2025-26)

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(New Syllabus : Semester, Credit & NEP 2020 System

उद्देश्य –

- नाटक साहित्य का स्वरूप , तत्त्व एवं प्रकारों का अध्ययन कराना।
- नाटक और रंगमंचीयता ।
- नाटक साहित्य का वर्तमान प्रासंगिकता के साथ अध्ययन कराना।

अध्यापन पद्धति –

- व्याख्यान विश्लेषण।
- संपादकों तथा विद्वानों से साक्षात्कार।
- चर्चा एवं संगोष्ठी।
- आई. सी. टी. का प्रयोग।

पाठ्यपुस्तक – 1.'लडाई ' - सर्वेश्वर दयाल सक्सेना, किताबघर प्रकाशन, नई दिल्ली।

2. 'अब गरीबी हटाव '- सर्वेश्वर दयाल सक्सेना, किताब घर प्रकाशन,नई दिल्ली ।

Credit

- इकाई I - **1**
  1. सर्वेश्वर दयाल सक्सेना का जीवन परिचय ।
  2. सर्वेश्वर दयाल सक्सेना का व्यक्तित्व ।
  3. सर्वेश्वर दयाल सक्सेना का कृतित्व ।
  4. नाटककार सर्वेश्वर दयाल सक्सेना ।
- इकाई II - **1**
  5. 'लडाई' नाटक की कथा वस्तु।
  6. 'लडाई' पात्र और चरित्र चित्रण एवं संवाद ।

7. 'लडाई' देश काल तथा वातावरण, अभिनेयता एवं भाषा शैली ।

- इकाई III - 1

8. 'अब गरीबी हटाव' नाटक की कथावस्तु।
9. 'अब गरीबी हटाव' पात्र और चित्रण एवं संवाद।
10. 'अब गरीबी हटाव' देश काल वातावरण , अभिनेयता एवं भाषा शैली।

- इकाई I V - 1

11. 'लडाई ' एवं 'अब गरीबी हटाव' नाटकों में चित्रित समसामायिकता।
12. 'लडाई' एवं 'अब गरीबी हटाव' नाटकों की शीर्षक सार्थकता एवं उद्देश्य।
13. 'लडाई' एवं 'अब गरीबी हटाव' नाटकों में चित्रित समस्याएँ ।

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पीय प्रश्न	10
प्रश्न 2	इकाई II और III पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	इकाई I और IV पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
*	अंतर्गत मूल्यमापन परीक्षा – Group study/Oral Examination	10

संदर्भ ग्रंथ –

1.संपूर्ण गद्य रचनाएँ खंड दो–सर्वेश्वर दयाल सक्सेना, किताबघर प्रकाशन, नई दिल्ली

2.सर्वेश्वर दयाल सक्सेना व्यक्तित्व कृतित्व– डॉ.कल्पना अग्रवाल, किताबघर प्रकाशन दिल्ली।

3.नाट्य प्रस्तुति एक परिचय - रमेश राजहंस, राधाकृष्ण प्रकाशन, दिल्ली।

4.नाटक के रंगमंचीय प्रतिमान – डॉ.वशिष्ट त्रिपाठी, जगत्रम एंड सन्स दिल्ली।

5.सर्वेश्वर दयाल सक्सेना के नाटक एक नवीन मूल्यांकन-डॉ.संग्राम शिंदे, साहित्य सागर प्रकाशन, कानपुर।

6.नाटककार सर्वेश्वर दयाल सक्सेना – डॉ.संग्राम शिंदे, साहित्य सागर प्रकाशन,कानपुर।

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) हिंदी (ऐच्छिक)

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र- III,प्रश्नपत्र क्रमांक- IV, मध्यकालीन एवं आधुनिक हिंदी काव्य

शैक्षिक वर्ष 2023 -24 से प्रारंभ

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(New Syllabus : Semester, Credit & NEP 2020 System

उद्देश्य –

- छात्रों की हिंदी साहित्य के प्रति रुचि बढाना तथा छात्रों को साहित्य की विविध विधाओं से परिचित कराना।
- छात्रों को मध्यकालीन हिंदी कवियों से परिचित कराना ।
- छात्रों में नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण करना।

अध्यापन पद्धति –

- व्याख्यान विश्लेषण।
- सस्वर काव्य पाठ, प्रकट वाचन, संवाद ।
- ग्रंथालयों के माध्यम से संबधित लेखकों , कवियों की मौलिक कृतियों से छात्रों को परिचित कराना ।
- दृक श्रव्य साधनों / माध्यमों का प्रयोग ।
- पाठ्य पुस्तक – 'हिंदी काव्यधारा ' संपादक , हिंदी अध्ययन मंडल, शिवाजी विश्वविद्यालय, कोल्हापुर

पाठ्य विषय –

1. पठित दोहों एवं पदों की सटीक व्याख्या करना।
2. मध्यकालीन संत कवियों का कार्य उजागर करना।
3. आधुनिक कविता के सामाजिक संदर्भ स्पष्ट करना।
4. आधुनिक कविता का समीक्षात्मक विश्लेषण करना।

Credit

इकाई I मध्यकालीन काव्य - 1

1. नामदेव के पद - 03
2. कबीर के दोहे - 10
3. मीरा के पद – 03

इकाई II मध्यकालीन काव्य - 1

4. रहीम के दोहे - 10
5. बिहारी के दोहे - 10
6. भूषण के पद - 03

इकाई III आधुनिक कविता - 1

7. द्रुत झरो - सुमित्रानंदन पंत
8. तीनों बंदर बापू के - नागार्जुन
9. औरत - चंद्रकांत देवताले

इकाई I V आधुनिक कविता - 1

10. वह अनजान आदमी - अभिमन्यू अनंत
11. सूरज पाना है - परशुराम शुक्ल
12. उतनी दूर मत ब्याहना बाबा - निर्मला पुतुल

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पीय प्रश्न	10
प्रश्न 2	इकाई I और II मध्यकालीन हिंदी काव्य पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	इकाई III और I V आधुनिक कविता पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	समग्र पाठ्यक्रम पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
*	अंतर्गत मूल्यमापन परीक्षा – Group Activity	10

संदर्भ ग्रंथ –

1. समकालीन कवयित्रियों के काव्य में स्त्री स्वर – डॉ. वर्षा सहदेव, ए.बी.एस. बुक्स दिल्ली I
2. संत नामदेव और हिंदी पद साहित्य - डॉ.रामचंद्र मिश्र, शैलेन्द्र साहित्य सदन, फरुखाबाद I
3. मराठी संतो की हिदी वाणी - आनंद प्रकाश दीक्षित , पंचशील प्रकाशन , जयपूर I
4. नामदेव - माधव गोपाळ देशमुख , साहिल प्रकाशन नई दिल्ली I
5. कबीर और बाबा अवतार सिंह - डॉ.विजय शर्मा, संत निरंकारी मंडल, दिल्ली I
6. मीराबाई की पदावली - परशुराम चतुर्वेदी , हिंदी साहित्य संमेलन , प्रयाग I
7. सूरज पाना है - परशुराम शुक्ल , सन्मार्ग प्रकाशन , दिल्ली I
8. तीनों बंदर बापू के नागार्जुन रचना संचयन – राजेश जोशी, साहित्य अकादमी, नई दिल्ली I
9. नगाडे की तरह बजते शब्द – निर्मला पुतुल भारतीय ज्ञानपीठ प्रकाशन , दिल्ली I
10. कविराज भूषण विचरित श्री शिवा बावनी और छत्रसाल दशक - गोवरधनदास लक्ष्मीदास ठक्कर , कल्पतरू छापखाना , मुंबई I

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) हिंदी (ऐच्छिक)

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र- IV, प्रश्नपत्र क्रमांक- VI, आधुनिक हिंदी काव्य

शैक्षिक वर्ष 2023 -24 से प्रारंभ

(शैक्षिक वर्ष 2023 -24, 2024- 25, 2025-26)

(नवीन पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System

उददेश –

- छात्रों को हिंदी कवियों से परिचित कराना।
- छात्रों को हिंदी भाषा के श्रवण, पठन एवं लेखन की क्षमता को विकसित कराना ।
- छात्रों में नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण करना।
- छात्रों को हिंदी साहित्य के प्रति रुचि बढाना तथा छात्रों को साहित्य की विविध विधाओं से परिचित कराना।

अध्यापन पद्धति –

- व्याख्यान विश्लेषण।
- सस्वर काव्य पाठ, प्रकट वाचन, संवाद ।
- ग्रंथालयों के माध्यम से संबधित लेखकों, कवियों की मौलिक कृतियों से छात्रों को परिचित कराना ।
- दृक श्रव्य साधनों / माध्यमों का प्रयोग ।
- पाठ्य पुस्तक – 'संशय की एक रात ' नरेश मेहता , लोकभारती प्रकाशन इलाहाबाद ।

पाठ्य विषय –

1. खंडकाव्य से परिचित कराना ।
2. पात्रों की चारित्रिक विशेषताओं को समझाना ।
3. आधुनिक बोध से अवगत कराना।
4. खंडकाव्य का तात्त्विक विवेचन ।

Credit

इकाई I **1**

1. नरेश मेहता का जीवन परिचय ।
2. नरेश मेहता का व्यक्तित्व ।
3. नरेश मेहता का कृतित्व।

इकाई II **1**

1. 'संशय की एक रात' खंडकाव्य का कथानक ।
2. 'संशय की एक रात' खंडकाव्य में चरित्र चित्रण ।
3. 'संशय की एक रात' खंडकाव्य में चित्रित वर्णन ।

इकाई III **1**

1. 'संशय की एक रात' खंडकाव्य में रस ।
2. 'संशय की एक रात' खंडकाव्य की भाषा एवं शैली ।
3. 'संशय की एक रात' खंडकाव्य का उद्देश्य ।

इकाई I V **1**

1. 'संशय की एक रात' खंडकाव्य की प्रासंगिकता ।
2. 'संशय की एक रात' खंडकाव्य की शीर्षक सार्थकता ।
3. 'संशय की एक रात' खंडकाव्य में चित्रित समस्याएँ ।

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	खंडकाव्य पर दस बहुविकल्पीय प्रश्न	10
प्रश्न 2	समग्र पाठ्यक्रम पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	इकाई I और III पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	इकाई II और I V पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
*	अंतर्गत मूल्यमापन परीक्षा – Case Study/Oral Examination	10

संदर्भ ग्रंथ –

1. संशय की एक रात - नरेश मेहता , लोकभारती प्रकाशन , इलाहाबाद।
2. मेहता महिमा , उत्सव पुरुष - श्री. नरेश मेहता, भारतीय ज्ञानपीठ, नई दिल्ली।
3. समीक्षा : वर्तमान संदर्भ में संशय की एक रात – डॉ.नूतन पाण्डेय , केंद्रीय हिंदी निदेशालय नई दिल्ली।

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) I.D.S

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र –III, प्रश्नपत्र क्रमांक- I, प्रयोजन मूलक हिंदी - I

शैक्षिक वर्ष 2023 -24 से प्रारंभ

(शैक्षिक वर्ष- 2023 -24, 2024- 25, 2025-26)

(नवीन पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System

उद्देश्य –

- हिंदी के व्यावहारिक पक्ष से परिचित कराना ।
- वाणिज्यिक व्यवहार में हिंदी भाषा को विकसित कराना ।
- हिंदी में कार्य करने की रुचि विकसित कराना ।
- रोजगारोन्मुख शिक्षा प्रदान करना ।
- कार्यालय और व्यवसाय में हिंदी प्रयोग का कौशल विकास विकसित कराना ।

अध्ययनार्थ विषय -

Credit

इकाई I - कार्यालयीन पत्राचार – 1

1. नौकरी के लिए आवेदन पत्र।
2. पदाधिकारियों के नाम पत्र।
3. छुट्टी के लिए प्रार्थना पत्र।
4. परिपत्र

इकाई II - अनुवाद : सैद्धांतिक पक्ष – 1

1. अनुवाद की परिभाषा ।
2. अनुवाद का स्वरूप ।
3. अनुवाद की उपयोगिता ।
4. अनुवादक के गुण ।

इकाई III युनिकोड - 1

1. युनिकोड का परिचय ।
2. युनिकोड की विशेषताएँ ।
3. युनिकोड का वर्तमान महत्त्व एवं लाभ ।
4. देवनागरी युनिकोड ।

इकाई IV मुद्रित संचार माध्यमों का सामान्य परिचय - 1

1. **दै.**समाचार पत्र 2. पत्र – पत्रिकाएँ 3. विज्ञापन लेखन
4 . रेडियो समाचार लेखन
5.खेल समाचार लेखन

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	**समग्र पाठ्य क्रम पर दस बहुविकल्पीय प्रश्न**	**10**
प्रश्न 2	**इकाई I पर पत्रलेखन (3 में से 2)**	**10**
प्रश्न 3	**इकाई III पर लघुत्तरी प्रश्न (3 में से 2)**	**10**
प्रश्न 4	**इकाई II और IV पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)**	**10**
*	**अंतर्गत मूल्यमापन परीक्षा – गृहकार्य (Home assignment)**	**10**

संदर्भ ग्रंथ –

1. हिंदी और उसका व्यवहार - डॉ,व्ही.के.मोरे, फडके प्रकाशन, कोल्हापुर ।
2. पत्रकारिता के सिद्धांत - डॉ.रमेशचंद्र त्रिपाठी , नमन प्रकाशन , नई दिल्ली ।
3. प्रयोजनमूलक हिंदी - डॉ.विनोद गोदरे , वाणी प्रकाशन , नई दिल्ली ।
4. आधुनिक जनसंचार और हिंदी - प्रो.हरीमोहन, तक्षशिला प्रकाशन, नई दिल्ली ।
5. प्रयोजन मूलक हिंदी व्याकरण एवं पत्रलेखन - डॉ.बापूराव देसाई , विनय प्रकाशन कानपुर ।
6. रोजगारोन्मुख हिंदी - डॉ.गणेश ठाकूर , विजय प्रकाशन , कानपुर ।
7. हिंदी भाषा में रोजगार के अवसर – श्री.विलास पाटील, ए.बी.एस.पब्लिकेशन वाराणसी ।
8. संचार माध्यम लेखन – गौरीशंकर रैणा, वाणी प्रकाशन, दिल्ली ।
9. hi.m.wikipedia.org
10. https://hi.m.wikipedia.org
11. युनिकोड – विकिपीडिया

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

द्वितीय वर्ष (मानव्यशास्त्र विद्या शाखा) I.D.S

DISCIPLINE SPECIFIC ELECTIVE COURSE

सत्र –IV, प्रश्नपत्र क्रमांक- II प्रयोजनमूलक हिंदी- II

शैक्षिक वर्ष 2023 -24 से प्रारंभ

(शैक्षिक वर्ष 2023 -24, 2024-25, 2025-26)

(नवीन पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System

उद्देश्य –

- हिंदी के व्यावहारिक पक्ष से परिचित कराना ।
- वाणिज्यिक व्यवहार में हिंदी भाषा को प्रज्वलित कराना ।
- हिंदी में कार्य करने की रुचि विकसित कराना ।
- रोजगारोन्मुख शिक्षा प्रदान करना ।
- कार्यालय और व्यवसाय में हिंदी प्रयोग का कौशल विकास विकसित करना ।

अध्ययनार्थ विषय -

Credit

इकाई I - वाणिज्य पत्राचार - 1

1. पुछताछ के पत्र
2. क्रयादेश के पत्र
3. संदर्भ के पत्र
4. शिकायती पत्र

इकाई II वृत्तांत लेखन - 1

1. महाविद्यालयीन समारोह का वृत्तांत लेखन।
2. सामाजिक समारोह का वृत्तांत लेखन।
3. प्राकृतिक आपदाओं का वृत्तांत लेखन।
4. दुर्घटनाओं का वृत्तांत लेखन।

इकाई III ई -बैकिंग प्रणाली 1

1. फोन पे (Phone Pay)
2. गुगल पे (Google Pay)
3. पे. टीएम (Paytm)
4. रुपे (Rupay)

इकाई I V इलेक्ट्रॉनिक संचार माध्यम का सामान्य परिचय I 1

1. **रेडिओ 2. दूरदर्शन 3. टेलीकॉफ्रेंस 4. डाक्यू मेंटरी का सामान्य परिचय**

प्रश्नपत्र का स्वरूप तथा अंक विभाजन

		अंक
प्रश्न 1	समग्र पाठ्य क्रम पर दस बहुविकल्पीय प्रश्न	10
प्रश्न 2	इकाई I पर पत्रलेखन (3 में से 2)	10
प्रश्न 3	इकाई III पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	इकाई II और I V पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
*	अंतर्गत मूल्यमापन परीक्षा – युनिट टेस्ट	10

संदर्भ ग्रंथ –

1. https://www.rupay.co.in
2. https://www.paytm.com
3. https://en.wikipedia.org/wiki /
4. https://g.co/kgs/fzQSnR
5. हिंदी और उसका व्यवहार - डॉ,व्ही.के.मोरे, फडके प्रकाशन, कोल्हापूर I
6. पत्रकारिता के सिद्धांत - डॉ.रमेशचंद्र त्रिपाठी , नमन प्रकाशन , नई दिल्ली I
7. अनुवाद चिंतन - डॉ.अर्जुन चव्हाण , अमन प्रकाशन , कानपुर I
8. प्रयोजानमूलक हिंदी - डॉ.विनोद गोदरे , वाणी प्रकाशन , नई दिल्ली I
9. आधुनिक जनसंचार और हिंदी - प्रो.हरीमोहन, तक्षशिला प्रकाशन, नई दिल्ली I
10. प्रयोजन मूलक हिंदी विविध परिदृश्य -डॉ. रमेशचंद्र त्रिपाठी,विनय प्रकाशन, कानपुर I
11. प्रयोजन मूलक हिंदी विविध परिदृश्य – विकास पाटील , विनय प्रकाशन, कानपुर I

शिवाजी विश्वविद्यालय, कोल्हापूर

D.S.F.C.

बी.ए. भाग 2 (हिंदी)

N.E.P.

शैक्षिक वर्ष 2023 -24 पासून सुरु होणाऱ्या सुधारित अभ्यासक्रम समकक्षता

अ.क्र .	जुना अभ्यासक्रम	नवीन अभ्यासक्रम
1	तीसरे सत्र अभ्यासपत्रिका क्रमांक 3 अस्मितामूलक विमर्श और हिंदी गद्य साहित्य	तीसरे सत्र अभ्यासपत्रिका क्रमांक 3 आधुनिक हिंदी गद्य साहित्य
2	तीसरे सत्र अभ्यासपत्रिका क्रमांक 4 हिंदी संतकाव्य तथा राष्ट्रीय काव्य	तीसरे सत्र अभ्यासपत्रिका क्रमांक 4 मध्यकालीन एवं आधुनिक हिंदी काव्य
3	चौथे सत्र अभ्यासपत्रिका क्रमांक 5 हिंदी में रोजगार के अवसर	चौथे सत्र अभ्यासपत्रिका क्रमांक 5 आधुनिक हिंदी गद्य साहित्य
4	चौथे सत्र अभ्यासपत्रिका क्रमांक 6 अस्मितामूलक विमर्श और हिंदी पद्य साहित्य	चौथे सत्र अभ्यासपत्रिका क्रमांक 6 आधुनिक हिंदी काव्य
5	प्रश्नपत्र – 1, 2 I.D.S. प्रयोजनमूलक हिंदी	प्रश्नपत्र – 1, 2 I.D.S. प्रयोजनमूलक हिंदी

SHIVAJI UNIVERSITY, KOLHAPUR

Established: 1962

A^{++} Accredited by NAAC (2021) With CGPA 3.52

Faculty of Humanities

CHOICE BASED CREDIT SYSTEM

CBSC Syllabus (Revised) MEME with in accordance with NEP, 2020

Syllabus for

B. A. Part III (Sem V & VI)

Hindi

Discipline Specific Core (DSC)

(Revised Syllabus to be implemented from June, 2024 onwards)

B. A. Part III (Sem V & VI) Hindi (DSC) Course Structure from June, 2024

Equivalence Table

B. A. III (Sem- V)

Paper No.	Paper title of Old Syllabus	Paper No.	Paper title of New Syllabus
प्रश्नपत्र - VII (DSE-E6)	विधा विशेष का अध्ययन	प्रश्नपत्र - VII (DSE-E6)	विधा विशेष का अध्ययन
प्रश्नपत्र - VIII (DSE-E7)	साहित्यशास्त्र	प्रश्नपत्र - VIII (DSE-E7)	साहित्यशास्त्र
प्रश्नपत्र - IX (DSE-E8)	हिंदी साहित्य का इतिहास	प्रश्नपत्र - IX (DSE-E8)	हिंदी साहित्य का इतिहास
प्रश्नपत्र - X (DSE-E9)	प्रयोजनमूलक हिंदी	प्रश्नपत्र - X (DSE-E9)	प्रयोजनमूलक हिंदी
प्रश्नपत्र - XI (DSE-E10)	भाषा विज्ञान और हिंदी भाषा	प्रश्नपत्र - XI (DSE-E10)	भाषा विज्ञान और हिंदी भाषा

B. A. III (Sem- VI)

Paper No.	Paper title of Old Syllabus	Paper No.	Paper title of New Syllabus
प्रश्नपत्र - XII (DSE-E132)	**विधा विशेष का अध्ययन**	**प्रश्नपत्र - XII** (DSE-E132)	**विधा विशेष का अध्ययन**
प्रश्नपत्र - XIII (DSE-E133)	**साहित्यशास्त्र और हिंदी आलोचना**	**प्रश्नपत्र - XIII** (DSE-E133)	**साहित्यशास्त्र और हिंदी आलोचना ।**
प्रश्नपत्र - XIV (DSE-E134)	**हिंदी साहित्य का इतिहास**	**प्रश्नपत्र - XIV** (DSE-E134)	**हिंदी साहित्य का इतिहास**
प्रश्नपत्र - XV (DSE-E135)	**प्रयोजनमूलक हिंदी**	**प्रश्नपत्र - XV** (DSE-E135)	**प्रयोजनमूलक हिंदी**
प्रश्नपत्र - XVI (DSE-E136)	**भाषा विज्ञान और हिंदी भाषा**	**प्रश्नपत्र - XVI** (DSE-E136)	**: भाषा विज्ञान और हिंदी भाषा**

शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र - V, प्रश्नपत्र - VII

विधा विशेष का अध्ययन

शैक्षिक वर्ष जून 2024 - 2025 से प्रारंभ

(शैक्षिक वर्ष :- 2024-25, 2025-26, 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम :-

उद्देश्य :-

- लंबी कहानी के तात्त्विक स्वरूप का परिचय देना।
- कहानीकार का जीवन-परिचय, व्यक्तित्त्व एवं कृतित्त्व से परिचित कराना।
- रचना विशेष का महत्त्व समझने एवं मूल्यांकन करने की क्षमता बढ़ाना।
- रचना के आस्वादन एवं समीक्षा की क्षमता विकसित कराना।
- पाठ्यक्रम में निर्धारित लंबी कहानी की प्रासंगिकता से अवगत कराना।

पाठ्यपुस्तक–
'मोहनदास' (लंबी कहानी) – उदय प्रकाश
वाणी प्रकाशन, 4695, 21-ए, दरियागंज, नई दिल्ली-110002।

अध्ययनार्थ विषय - **Credit**

इकाई I उदय प्रकाश का जीवन परिचय, व्यक्तित्त्व, कृतित्त्व एवं कहानीकार उदय प्रकाश का सामान्य परिचय।

इकाई II 'मोहनदास' : कथावस्तु एवं शीर्षक की सार्थकता। 1

इकाई III 'मोहनदास' : पात्र एवं चरित्र-चित्रण तथा संवाद। 1

इकाई IV 'मोहनदास' : देशकाल तथा वातावरण, भाषा शैली, उद्देश्य एवं समस्याएँ। 1

प्रश्नपत्र का स्वरूप एवं अंक विभाजन **कुल अंक - 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	पूरे पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	'मोहनदास' पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	'मोहनदास' एवं 'उदय प्रकाश: व्यक्तित्त्व एवं कृतित्त्व' पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	'मोहनदास' पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी / चर्चासत्र / स्वाध्याय / यात्रा भेंट /क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची -

- उदय प्रकाश कृत 'मोहनदास' : समीक्षात्मक अनुशीलन - डॉ. धर्मेन्द्र प्रताप सिंह, चिंतन प्रकाशन, दिल्ली – 110002।
- समकालीन कहानीकार उदय प्रकाश - डॉ. देवकीनंदन महाजन, विद्या प्रकाशन, हंस गुजैनी, कानपुर-22।
- नई कहानी की भूमिका - कमलेश्वर, शब्दकार, 159, गुरू अंगद नगर (वेस्ट), दिल्ली – 92।
- कहानी: स्वरूप और संवेदना - राजेन्द्र यादव, नेशनल पब्लिशिंग हाऊस, 2/32, अंसारी रोड, दरियागंज, नई दिल्ली - 110002।
- समकालीन हिन्दी कहानी बदलते जीवन-संदर्भ - शैलजा, वाणी प्रकाशन, नई दिल्ली।
- कहानी के नये प्रतिमान - कुमार कृष्ण, वाणी प्रकाशन, नई दिल्ली।
- कहानी की रचना प्रक्रिया - परमानन्द श्रीवास्तव, लोकभारती प्रकाशन, इलाहाबाद।
- उदय प्रकाश: सृजन और चिंतन - डॉ. वाइखोम चींखैडानबा, चिंतन प्रकाशन, कानपुर।
- ड़िबिया में धूप: उदय प्रकाश - एक अध्ययन - शंभु गुप्त, वाणी प्रकाशन, नई दिल्ली।
- उत्तर आधुनिकता और उदय प्रकाश का साहित्य - डॉ. सुरेश पटेल, चिंतन प्रकाशन, कानपुर।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी.ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र - VI, प्रश्नपत्र - XII

विधा विशेष का अध्ययन

शैक्षिक वर्ष जून 2024 - 2025 से प्रारंभ

(शैक्षिक वर्ष :- 2024-25, 2025-26, 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम :-

उद्देश्य:

1. आत्मकथा विधा प्रकार के तात्त्विक स्वरूप का परिचय कराना।
2. रूपनारायण सोनकर की बहुमुखी प्रतिभा से परिचित कराना।
3. रूपनारायण सोनकर के साहित्य से परिचित कराना।
4. रूपनारायण सोनकर की विचार धारा से परिचित कराना।
5. रूपनारायण सोनकर के निर्धारित ग्रंथ का सूक्ष्म आलोचनात्मक अध्ययन कराना।
6. लेखक के आत्मकथाकार के रूप में साहित्यिक स्थान को निर्धारित कराना।

पाठ्यपुस्तक :-

नागफनी (आत्मकथा) - रूपनारायण सोनकर

शिल्पायन प्रकाशन, 10295, लेन नं. 1, वैस्ट गोरखपार्क, शाहदरा, दिल्ली - 110032।

अध्ययनार्थ विषय - **Credit**

इकाई I रूपनारायण सोनकर का जीवन परिचय, व्यक्तित्त्व एवं कृतित्त्व का परिचय। 1

इकाई II 'नागफनी' – वस्तुवर्णन एवं शीर्षक की सार्थकता। 1

इकाई III 'नागफनी' - पात्र एवं चरित्र चित्रण, देशकाल और वातावरण। 1

इकाई IV 'नागफनी'- भाषा शैली, उद्देश्य एवं समस्याएँ। 1

प्रश्नपत्र का स्वरूप एवं अंक विभाजन **कुल अंक - 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	पूरे पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	'नागफनी' पर ससंदर्भ स्पष्टीकरण (3 में से 2)	10
प्रश्न 3	'नागफनी' एवं 'रूपनारायण सोनकर : व्यक्तित्त्व एवं कृतित्त्व' पर लघुत्तरी प्रश्न (3 में से 2)	10
प्रश्न 4	'नागफनी' पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी / चर्चासत्र / स्वाध्याय / यात्रा भेंट / क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची-

- दलित चेतना की पहचान – डॉ. सूर्यनारायण रणसुभे,वाणी प्रकाशन, दिल्ली।
- दलित साहित्य का सौंदर्य दर्शन – शरणकुमार लिंबाले,वाणी प्रकाशन, दिल्ली।
- दलित साहित्य का सौंदर्यशास्त्र - ओमप्रकाश वाल्मीकि, राजकमल प्रकाशन, 1-बी, नेताजी सुभाष मार्ग, दरियागंज, नई दिल्ली - 110002।
- दलित विमर्श और हिंदी साहित्य - दीपक कुमार पाण्डेय, राजकमल प्रकाशन, 1-बी, नेताजी सुभाष मार्ग, दरियागंज, नई दिल्ली - 110002।
- हिंदी दलित साहित्य: संवेदना और विमर्श - पी. एन. सिंह, राजकमल प्रकाशन, 1-बी, नेताजी सुभाष मार्ग, दरियागंज, नई दिल्ली – 110002।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र – V , प्रश्नपत्र - VIII

साहित्यशास्त्र

शैक्षिक वर्ष - जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- 2024-2025, 2025-2026 तथा 2026-2027)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP - 2020) के आलोक में किया गया है |

पाठ्यक्रम -

उद्देश्य :-

1) साहित्य निर्माण की प्रक्रिया से परिचित कराना।
2) साहित्य / काव्य के विभिन्न अंगों का सामान्य परिचय कराना।
3) साहित्य / काव्य की नवीन विधाओं से परिचित कराना।
4) साहित्य समीक्षा की दृष्टि विकसित कराना।

अध्ययनार्थ विषय :-

	Credit
इकाई - I काव्य / साहित्य - स्वरूप, तत्त्व, भारतीय प्रयोजन।	1
इकाई - II शब्दशक्ति, काव्य गुण, काव्य दोष।	1
इकाई – III रस - स्वरूप, रस के अंग, रस के भेद।	1

इकाई - IV अलंकार - 1

शब्दालंकार - अनुप्रास, यमक, श्लेष, वक्रोक्ति।

अर्थालंकार - उपमा, रूपक, उत्प्रेक्षा, दृष्टांत।

(केवल लक्षण एवं उदाहरण अपेक्षित)

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - कुल अंक- 40

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न।	10
प्रश्न 2	इकाई II पर लघुत्तरी प्रश्न। (3 में से 2)	10
प्रश्न 3	इकाई IV पर टिप्पणियाँ (3 में से 2)	10
प्रश्न 4	इकाई I और III पर दीर्घोत्तरी प्रश्न। (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी, चर्चासत्र, स्वाध्याय, यात्रा भेंट/ क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची -

1) काव्यशास्त्र - भगीरथ मिश्र, विश्वविद्यालय प्रकाशन, वाराणसी।

2) शास्त्रीय समीक्षा के सिद्धात - डॉ. गोविंद त्रिगुणायत, भारती साहित्य मंदिर, दिल्ली।

3) काव्य के रूप - बाबू गुलाबराय, आत्माराम एंड सन्स प्रकाशन, वाराणसी।

4) भारतीय काव्यशास्त्र के सिद्धांत - डॉ. कृष्णदेव झारी, अशोक प्रकाशन, दिल्ली।

5) रस सिद्धांत - स्वरुप विश्लेषण - डॉ. आनंदप्रकाश दीक्षित, राजकमल प्रकाशन, दरियागंज, नई दिल्ली।

6) भारतीय साहित्यशास्त्र – डॉ. बलदेव उपाध्याय, नंदकिशोर एंड सन्स, वाराणसी।

7) भारतीय काव्यशास्त्र की भूमिका – डॉ. योगेंद्र प्रताप सिंह, लोकभारती प्रकाशन, इलाहाबादा।

8) भारतीय काव्यशास्त्र की भूमिका डॉ. नगेंद्र, ओरिएंटल बुक डिपो, दिल्ली।

9) रस- अलंकार - पिंगल - डॉ. शंभुनाथ पांडेय, विनोद पुस्तक मंदिर, आगरा।

10) साहित्य सिद्धांत एवं समीक्षा - प्रा. कृ. ज. वेदपाठक, पडके प्रकाशन, कोल्हापुर।

11) अलंकार पारिजात – नरोत्तमदास स्वामी, अरिहंत प्रकाशन, दिल्ली।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र – VI , प्रश्नपत्र - XIII

साहित्यशास्त्र और हिंदी आलोचना

शैक्षिक वर्ष- जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- 2024-2025, 2025-2026 तथा 2026-2027)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP - 2020) के आलोक में किया गया है |

पाठ्यक्रम :-

उद्देश्य :-

1) साहित्य निर्माण की प्रक्रिया से परिचित कराना।
2) साहित्य / काव्य के विभिन्न अंगों का सामान्य परिचय कराना।
3) साहित्य / काव्य की नवीन विधाओं से परिचित कराना।
4) साहित्य समीक्षा की दृष्टि विकसित कराना।
5) हिंदी आलोचना की विविध प्रणालियों का ज्ञान प्राप्त कराना।

अध्ययनार्थ विषय :- **Credit**

इकाई - I **महाकाव्य -** स्वरूप, भारतीय तत्त्व। 1
प्रगीत / गीतिकाव्य - स्वरूप, तत्त्व।
गजल - स्वरूप, प्रमुख अंग।

इकाई - II **उपन्यास -** स्वरूप एवं प्रकार।
(सामाजिक, ऐतिहासिक, घटना-प्रधान, चरित्र-प्रधान) 1
नाटक - स्वरूप एवं पाश्चात्य तत्त्व।
व्यंग्य - स्वरूप एवं तत्त्व।

इकाई - III संस्मरण - स्वरूप एवं विशेषताएँ। 1

साक्षात्कार - स्वरूप एवं विशेषताएँ।

रिपोर्ताज - स्वरूप एवं विशेषताएँ।

इकाई - IV आलोचना का स्वरूप। 1

आलोचक के गुण।

आलोचना के प्रकार -

1) समाजशास्त्रीय आलोचना।
2) निर्णयात्मक आलोचना।
3) तुलनात्मक आलोचना।
4) ऐतिहासिक आलोचना।

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक- 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न।	10
प्रश्न 2	इकाई II पर लघुत्तरी प्रश्न। (3 में से 2)	10
प्रश्न 3	इकाई IV पर टिप्पणियाँ। (3 में से 2)	10
प्रश्न 4	इकाई I और III पर दीर्घोत्तरी प्रश्न। (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी, चर्चासत्र, स्वाध्याय, यात्रा भेंट/ क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची -

1) भारतीय काव्यशास्त्र के सिद्धांत - डॉ. कृष्णदेव झारी, अशोक प्रकाशन, दिल्ली।

2) भारतीय एवं पाश्चात्य काव्य सिद्धांत - डॉ. गणपतिचंद्र गुप्त, लोकभारती प्रकाशन, इलाहाबाद।

3) भारतीय साहित्यशास्त्र – डॉ. बलदेव उपाध्याय, नंदकिशोर एंड सन्स, वाराणसी।

4) भारतीय एवं पाश्चात्य साहित्यशास्त्र - डॉ. देवीशरण रस्तोगी, राजहंस प्रकाशन मंदिर, मेरठ ।

5) भारतीय काव्यशास्त्र की भूमिका – डॉ. योगेंद्र प्रताप सिंह, लोकभारती प्रकाशन, इलाहाबादा।

6) हिंदी आलोचना का सैद्धांतिक आधार - कृष्णदत्त पालीवाल, वाणी प्रकाशन, दिल्ली।

7) साहित्य सिद्धांत एवं समीक्षा - प्रा. कृ. ज. वेदपाठक, पडके प्रकाशन, कोल्हापुर।

8) हिंदी आलोचना के बीज शब्द - डॉ. बच्चन सिंह, वाणी प्रकाशन, दिल्ली।

9) भारतीय एवं पाश्चात्य काव्यशास्त्र की पहचान – प्रो. हरिमोहन, वाणी प्रकाशन, दिल्ली।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

शैक्षिक वर्ष 2024 – 2025 से प्रारंभ

हिंदी विशेष बी. ए. – 3 (कला)

सत्र- V, प्रश्नपत्र - IX

DESCIPLINE SPECEFIC ELECTIVE COURSE

हिंदी साहित्य का इतिहास

(शैक्षिक वर्ष :- 2024 – 2025, 2025 – 2026, 2026 – 2027)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी 2020 प्रणाली)

(New Syllabus: Semester, Credit & 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP- 2020) के आलोक में किया गया है |

उद्देश्य:-

1) हिंदी साहित्य के इतिहास का परिचय देना |
2) हिंदी साहित्य के काल-विभाजन का परिचय देना |
3) हिंदी साहित्य को समृद्ध करनेवाले साहित्याकारों से परिचित कराना |
4) हिंदी साहित्य के विभिन्न काव्यधारा के विशेषता का परिचय देना |
5) हिंदी साहित्य के अधुनातन प्रवृत्तियों का ज्ञान देना |
6) हिंदी साहित्य के प्रति रुचि बढाना |

अध्ययनार्थ विषय :- **Credit**

इकाई I आदिकाल 1

1) आदिकाल का नामकरण ।
2) आदिकालीन परिस्थितियाँ – राजनीतिक और साहित्यिक ।
3) आदिकालीन प्रातिनिधिक रचनाकारों का सामान्य परिचय – अमीर खुसरो, विद्यापति ।

इकाई II भक्तिकाल

1) भक्तिकालीन परिस्थितियाँ - राजनीतिक और साहित्यिक ।
2) भक्तिकाल की प्रमुख भक्ति काव्यधाराओं की विशेषताएँ -
   अ) निर्गुण भक्तिधारा की विशेषताएँ ।
   ब) सगुण भक्तिधारा की विशेषताएँ ।
3) प्रातिनिधिक रचनाकारों का सामान्य परिचय – नामदेव , दादू दयाल, कुंभनदास, मीरा ।

इकाई III निर्गुण भक्तिधारा और प्रातिनिधिक कवि। 1

1) ज्ञानाश्रयी शाखा की विशेषताएँ।

2) कबीर: व्यक्तित्त्व एवं कृतित्त्व।

3) प्रेमाश्रयी शाखा की विशेषताएँ।

4) जायसी : व्यक्तित्त्व एवं कृतित्त्व।

इकाई IV सगुण भक्तिधारा और प्रातिनिधिक कवि। 1

1) राम भक्तिधारा की विशेषताएँ।

2) तुलसीदास : व्यक्तित्त्व एवं कृतित्त्व।

3) कृष्ण भक्तिधारा की विशेषताएँ।

4) सूरदास: व्यक्तित्त्व एवं कृतित्त्व।

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक- 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	इकाई I पर लघुत्तरी प्रश्न (तीन में से दो)	10 `
प्रश्न 3	इकाई II टिप्पणियां (तीन में से दो)	10
प्रश्न 4	इकाई III और IV पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ	10
	अंतर्गत मूल्यांकन (मौखिक/चर्चा सत्र/स्वाध्याय/यात्रा भेंट/क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची:-

1) 'हिंदी साहित्य का इतिहास' - शुक्ल रामचंद्र, नागरी प्रचारण सभा, वाराणसी, संस्करण – 2045 संवत।

2) 'हिंदी साहित्य का इतिहास' - डॉ. शील ईश्वरदत्त, गरिमा प्रकाशन, 132 शिवराम कृपा, मथुर पार्क, बसंत बिहार , कानपुर – 12 प्र. सं. 2007।

3) 'हिंदी साहित्य का इतिहास' - डॉ. नगेंद्र, नेशनल पब्लिशिंग हाऊस, 2135, अन्सारी रोड दरियागंज, नई दिल्ली-110002, प्र. सं. 2006।

4) 'हिंदी साहित्य का इतिहास'- डॉ. सिंह बच्चन, नया संशोधित परिवर्धित संस्करण, 2006।

5) 'हिंदी साहित्य का उद्भव और विकास' - द्विवेदी हजारी प्रसाद, राजकमल प्रकाशन, नई दिल्ली, पटना, मूल प्रकाशन – 1952, नई आवृत्ती- 1982।

6) 'साहित्य में गद्य की नई विविध विधाएं' - डॉ. कैलाशचंद भाटिया, रचना भाटिया, तक्षशिला प्रकाशन, नई दिल्ली, प्र. सं. 1996।

7) हिंदी साहित्य: युग और प्रवृत्तियां - डॉ. शर्मा शिवकुमार, अशोक प्रकाशन, दिल्ली।

8) दलित साहित्य का सौदर्य शास्त्र - ओमप्रकाश वाल्मीकि, राधाकृष्ण प्रकाशन, 2001।

9) दलित साहित्य का सौदर्य शास्त्र - डॉ. लिंबाले शरदकुमार, लोकचेतना प्रकाशन, 2016।

10 भारतीय स्त्री विमर्श - नीरजा माधव, सामायिक प्रकाशन, 20 23।

11) साहित्य समाज में उभरता किन्नर विमर्श - डॉ. अग्रवाल भारती, नालंदा प्रकाशन, 2019।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

शैक्षिक वर्ष 2024 – 2025 से प्रारंभ

हिंदी विशेष बी. ए. – 3 (कला)

सत्र - VI, प्रश्नपत्र - XIV

DESCIPLINE SPECEFIC ELECTIVE COURSE (DSE- E 133)

हिंदी साहित्य का इतिहास

(शैक्षिक वर्ष :- 2024 – 2025,2025 – 2026, 2026 – 2027)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी 2020 प्रणाली)

(New Syllabus: Semester, Credit & 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP- 2020) के आलोक में किया गया है |

उद्देश्य :-

1) हिंदी साहित्य के इतिहास का परिचय देना |
2) हिंदी साहित्य के कालविभाजन का परिचय देना |
3) हिंदी साहित्य को समृद्ध करनेवाले साहित्याकारों से परिचित कराना |
4) हिंदी गद्य साहित्य की विकास यात्रा का ज्ञान देना |
5) हिंदी साहित्य के विभिन्न काव्यधाराओं की विशेषताओं का परिचय देना |
6) हिंदी साहित्य के अधुनातन प्रवृत्तियों का ज्ञान देना |
7) हिंदी साहित्य के प्रति रुचि बढाना |

अध्ययनार्थ विषय :- **Credit**

इकाई I रीतिकाल । 1

1) रीतिकाल का नामकरण ।
2) रीतिकालीन परिस्थितियाँ – राजनीतिक और साहित्यिक ।
3) रीतिबद्ध काव्यधारा: सामान्य परिचय, प्रमुख कवि - केशवदास एवं देव ।
   रीतिसिद्ध काव्यधारा: सामान्य परिचय, प्रमुख कवि - बिहारी एवं सेनापति ।
   रीतिमुक्त काव्यधारा: सामान्य परिचय, प्रमुख कवि - घनानंद एवं आलम ।

इकाई II आधुनिक काल की काव्यधारा । 1

1) आधुनिककालीन परिस्थितियाँ - राजनीतिक और साहित्यिक ।
2) आधुनिक काल की काव्यधाराओं की विशेषताएँ ।
   अ) भारतेंदु युगीन काव्य की विशेषताएँ ।
   ब) छायावादी काव्य की विशेषताएँ ।
   क) प्रगतिवादी काव्य की विशेषताएँ ।

इकाई III आधुनिक गद्य विधाओं का विकास। 1

1) हिंदी कहानी साहित्य: उद्भव और विकास।

2) हिंदी नाटक साहित्य: उद्भव और विकास।

3) हिंदी आत्मकथा साहित्य: उद्भव और विकास।

इकाई IV आधुनिक साहित्य के अधुनातन आयाम। 1

1) दलित विमर्श का सामान्य परिचय।

2) स्त्री विमर्श का सामान्य परिचय।

3) किन्नर विमर्श का सामान्य परिचय।

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक- 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	इकाई I पर लघुत्तरी प्रश्न (तीन में से दो)	10 `
प्रश्न 3	इकाई II टिप्पणियाँ (तीन में से दो)	10
प्रश्न 4	इकाई III और IV पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ	10
	अंतर्गत मूल्यांकन (मौखिक/चर्चा सत्र/स्वाध्याय/यात्रा भेंट/क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची:-

1) 'हिंदी साहित्य का इतिहास' - शुक्ल रामचंद्र, नागरी प्रचारण सभा, वाराणसी, संस्करण – 2045 संवत।

2) 'हिंदी साहित्य का इतिहास' - डॉ. शील ईश्वरदत्त, गरिमा प्रकाशन, 132 शिवराम कृपा, मथुर पार्क, बसंत बिहार , कानपुर – 12 प्र. सं. 2007।

3) 'हिंदी साहित्य का इतिहास' - डॉ. नगेंद्र, नेशनल पब्लिशिंग हाऊस, 2135, अन्सारी रोड दरियागंज, नई दिल्ली-110002, प्र. सं. 2006।

4) 'हिंदी साहित्य का इतिहास'- डॉ. सिंह बच्चन, नया संशोधित परिवर्धित संस्करण, 2006।

5) 'हिंदी साहित्य का उद्भव और विकास' - द्विवेदी हजारी प्रसाद, राजकमल प्रकाशन, नई दिल्ली, पटना, मूल प्रकाशन – 1952, नई आवृत्ती- 1982।

6) 'साहित्य में गद्य की नई विविध विधाएं' - डॉ. कैलाशचंद भाटिया, रचना भाटिया, तक्षशिला प्रकाशन, नई दिल्ली, प्र. सं. 1996।

7) हिंदी साहित्य: युग और प्रवृत्तियां - डॉ. शर्मा शिवकुमार, अशोक प्रकाशन, दिल्ली।

8) भारतीय स्त्री विमर्श - नीरजा माधव, सामायिक प्रकाशन, 20 23।

9) साहित्य समाज में उभरता किन्नर विमर्श - डॉ. अग्रवाल भारती, नालंदा प्रकाशन, 2019।

10) हिंदी दलित साहित्य - मोहनदास नैमिशराय, साहित्य अकादमी, 2018।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र – V, प्रश्नपत्र - X

प्रयोजनमूलक हिंदी

शैक्षिक वर्ष जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- जून 2024-2025, 2025-26, तथा 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी.2020 प्रणाली)

(New Syllabus: Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम :-

उद्देश्य :-

1. छात्रों को प्रयोजनमूलक हिंदी के विविध रूपों की जानकारी देना।
2. रोजगारोन्मुख शिक्षा एवं कौशल प्रदान कराना।
3. पारिभाषिक शब्दावली से परिचित कराना।
4. हिंदी भाषा का विशुद्ध लेखन कौशल विकसित कराना।
5. प्रिंट मीडिया, इलेक्ट्रॉनिक मीडिया और सोशल मीडिया के लिए लेखन की क्षमता का विकास कराना।
6. हिंदी भाषा के माध्यम से रोजगार के अवसरों से अवगत कराना।

अध्ययनार्थ विषय -

इकाई I पारिभाषिक शब्दावली **Credit-1**

दैनिक व्यवहार में प्रयुक्त अंग्रेजी शब्दों के हिंदी पर्यायवाची रूप (परिशिष्ट में दिए हुए 'अ' तथा 'ब' विभाग के 50 शब्द)

इकाई II **Credit-1**

1. प्रयोजनमूलक हिंदी की अवधारणा।
2. प्रयोजनमूलक हिंदी : प्रयुक्तियाँ।
   i) कार्यालयी प्रयुक्ति।
   ii) वाणिज्यिक प्रयुक्ति।
   iii) वैज्ञानिक एवं तकनीकी प्रयुक्ति।

इकाई III हिंदी भाषा और रोजगार के अवसर
Credit-1

1. दूरदर्शन के क्षेत्र में रोजगार।
2. सिनेमा के क्षेत्र में रोजगार।
3. पत्रकारिता के क्षेत्र में रोजगार।
4. विज्ञापन के क्षेत्र में रोजगार।

इकाई IV समाचार लेखन **Credit-1**

1. महाविद्यालयीन समारोह का समाचार लेखन।
2. सामाजिक समारोह का समाचार लेखन।
3. प्राकृतिक आपदाओं का समाचार लेखन।
4. दुर्घटनाओं का समाचार लेखन।

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक- 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	इकाई I दस बहुविकल्पी प्रश्न (पारिभाषिक शब्दावली पर)	10
प्रश्न 2	इकाई II पर लघुत्तरी प्रश्न (तीन में से दो)	10
प्रश्न 3	इकाई III पर टिप्पणियाँ (तीन में से दो)	10
प्रश्न 4	इकाई IV पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ))	10
	अंतर्गत मूल्यांकन (मौखिकी /चर्चा सत्र/ स्वाध्याय/ यात्रा भेंट / क्षेत्रीय कार्य)	**10**

परिशिष्ट (अ)

पारिभाषिक शब्दावली

अ० क्र०	दैनिक व्यवहार में प्रयुक्त अंग्रेजी शब्द	हिंदी पर्यायवाची रूप
1	Abstract	सार संक्षेप
2	Agenda	कार्यसूची
3	Cabinet	मंत्रिमंडल
4	Daily Diary	दैनंदिनी
5	Eco-friendly	पर्यावरण-अनुकूल
6	Face Value	अंकित मूल्य
7	Gender	लिंग
8	Hall-Mark	विशेषता, प्रमाण चिहन
9	Ideal	आदर्श
10	Jobless	बेरोजगार
11	Keeper	रक्षक
12	land ford	भू-स्वामी, मकान मालिक
13	Maintenance	अनुरक्षण, रखरखाव
14	Nominate	नामित करना
15	Oath	शपथ
16	Pact	समझौता
17	Qualify	अर्हता प्राप्त करना
18	Radiology	विकिरण विज्ञान
19	Safe and Secure	सुरक्षित और संरक्षित
20	Tubulisation	तालिका बनाना
21	Ultimate	चरम, सर्वोच्य, अंतिम
22	Vague	धुंधला, अस्पष्ट
23	Wage Board	वेतन बोर्ड
24	Xerox Copy	छाया प्रति
25	Yardstick	मानदंड, मापदंड

परिशिष्ट (ब)

अ० क्र०	जनसंचार माध्यम संबंधी शब्द	हिंदी पर्यायवाची रूप
1	Abstract Bulletin	संक्षिप्त समाचार
2	Advertisement	विज्ञापन
3	Announcer	निवेदक
4	Artistic	कलात्मक
5	Audio-Visual	दृक श्राव्य
6	Audience	श्रोता
7	Biographer	जीवनीकार
8	Bulletin	विज्ञप्ति
9	Blank Paper	अमुद्रित पृष्ठ
10	Caption	शीर्षक
11	Cartoon	व्यंग्यचित्र
12	Choreography	नृत्य रचना
13	Commentator	समालोचक
14	Communication	संचार
15	Composing	अक्षरयोजन
16	Creation	सृजन
17	Director	निदेशक
18	Information Technology	सूचना तंत्रज्ञान
19	Interview	साक्षात्कार
20	Journalist	पत्रकार
21	Journal	पत्रिका
22	Source Language	स्रोत भाषा
23	Stenographer	आशुलिपिक
24	Translation	अनुवाद
25	Weekly	साप्ताहिक

संदर्भ ग्रंथ सूची -

1 प्रयोजनमूलक हिंदी- डॉ. विनोद गोदरे, वाणी प्रकाशन, नई दिल्ली।

2 प्रयोजनामूलक हिंदी- विविध परिदृश्य- डॉ. रमेशचंद्र त्रिपाठी, अलका प्रकाशन, कानपुर।

3 टेलीविजन पटकथा लेखन - विनोद तिवारी, परिहंस प्रकाशन,, दिल्ली।

4 पत्रकारिता के नए परिप्रेक्ष्य - राजकिशोर, वाणी प्रकाशन, दिल्ली।

5. जनसंचार और पत्रकारिता- विविध आयाम- डॉ. ओमप्रकाश शर्मा, निराली प्रकाशन, पुणे।

6. मीडिया कालीन हिंदी: स्वरूप एवं संभावनाएँ- डॉ. अर्जुन चव्हाण, राधाकृष्ण प्रकाशन, नई दिल्ली।

7. प्रयोजनमूलक हिंदी की नयी भूमिका- डॉ. कैलाशनाथ पाण्डेय, लोकभारती प्रकाशन, नई दिल्ली।

8. मीडिया लेखन: सिद्धांत और व्यवहार - डॉ. चंद्रप्रकाश मिश्र, संजय प्रकाशन, दिल्ली।

9. जनसंचार माध्यम : भाषा और साहित्य - डॉ. सुधीश पचौरी , नटराज प्रकाशन, दिल्ली।

10. हिंदी भाषा में रोजगार के अवसर- प्रा. विकास पाटील, ए.बी.एस. पब्लिकेशन वाराणसी।

11. मीडिया में कैरियर- पी.के. आर्य, ग्रंथ अकादमी, नई दिल्ली।

12. प्रयोजनमूलक हिंदी, 'साहित्य सरोवर' - डॉ. श्रीमती आशा मोहन, साहित्य सरोवर प्रकाशन, आगरा।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र – VI, प्रश्नपत्र - XV

प्रयोजनमूलक हिंदी

शैक्षिक वर्ष जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- जून 2024-2025, 2025-26, तथा 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम :-

उद्देश्य :-

1. हिंदी भाषा में माध्यम लेखन कौशल का विकास करना।
2. माध्यम लेखन के प्रति आलोचनात्मक दृष्टि का विकास करना।
3. संभाषण कौशल विकसित करना।
4. अनुवाद के सैद्धांतिक एवं व्यावहारिक पक्षों का ज्ञान देना।
5. हिंदी भाषा के माध्यम से रोजगार के अवसरों से अवगत कराना।
6. मौलिक लेखन की ओर रूझान बढ़ाना।

अध्ययनार्थ विषय -

इकाई I पारिभाषिक वाक्यांश एवं संक्षेपण। **Credit-1**

दैनिक व्यवहार में प्रयुक्त अंग्रेजी वाक्यांश के हिंदी पर्यायवाची रूप एवं संक्षेपण। (परिशिष्ट में दिए हुए 'क' तथा 'ड' विभाग पर)

इकाई II माध्यम लेखन - **Credit-1**

1. दूरदर्शन धारावाहिक लेखन।
2. पटकथा लेखन।
3. डाक्यूमेंटरी।
4. वेब सीरीज।

इकाई III संभाषण कला - **Credit-1**

1. संभाषण का अर्थ एवं स्वरूप।
2. संभाषण कला के प्रमुख तत्त्व - भाषा ज्ञान, मानक उच्चारण, सटीक प्रस्तुति, अंतराल, ध्वनि, वेग, लहजा।
3. संभाषण कला के विभिन्न रूप - उद्घोषणा, समालोचना, सूत्रसंचालन।

इकाई IV अनुवाद - **Credit-1**

1. अनुवाद का स्वरूप और परिभाषा।
2. अनुवाद के क्षेत्र।
3. अनुवादक के गुण।
4. प्रकृति के आधार पर अनुवाद के प्रकार। (शब्दानुवाद, भावानुवाद, व्याख्यानुवाद, आदर्श अनुवाद)

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक - 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	इकाई I दस बहुविकल्पी प्रश्न (पारिभाषिक शब्दावली पर)	10
प्रश्न 2	इकाई II पर लघुत्तरी प्रश्न (तीन में से दो)	10
प्रश्न 3	इकाई III पर टिप्पणियाँ (तीन में से दो)	10
प्रश्न 4	इकाई IV पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ))	10
	अंतर्गत मूल्यांकन (मौखिकी / चर्चा सत्र / स्वाध्याय/ यात्रा भेंट / क्षेत्रीय कार्य)	**10**

परिशिष्ट (क)

अंग्रेजी के हिंदी वाक्यांश

अ० क्र०	**अंग्रेजी शब्द**	**हिंदी वाक्यांश**
1.	above given	ऊपर दिया हुआ
2.	accepted for payment	भुगतान के लिए स्वीकृत
3.	carry out	पालन करना
4.	dispense with	अलग करना
5.	ex-parte judgment	एकपक्षीय निर्णय
6.	for comments	टिप्पणी के लिए
7.	funds not available	निधि उपलब्ध नहीं है
8.	his request be acceded to	उसकी प्रार्थना स्वीकार की जाए
9.	in course of discussion	चर्चा के दौरान
10.	joining Report	कार्यारंभ रिपोर्ट
11.	keep pending	इसे रोके रखें
12.	leave on medical ground	चिकित्सा आधार पर छुट्टी
13.	may be permitted	अनुमति दी जाए
14.	Needs no comments	टिप्पणी की आवश्यकता नहीं
15.	Not satisfactory	संतोषजनक नहीं है
16.	on medical grounds	अस्वस्थ होने के कारण
17.	paid, bill has been	बिल का भुगतान हो गया है
18.	proposal was welcomed	प्रस्ताव का स्वागत किया गया
19.	put up for verification	सत्यापन के लिए प्रस्तुत करें
20.	respectfully beg to say	सादर निवेदन है
21.	selection has taken place	चयन हो गया है
22.	steps may be taken	कार्रवाई की जाए
23.	this is to certify	प्रमाणित किया जाता है
24.	under consideration	विचाराधीन
25.	with immediate effect	तुरंत, तत्काल

परिशिष्ट (ड)

संक्षेपण लेखन

अ० क्र०	वाक्य खंड	शब्द
1	जिसके आने की तिथि मालूम नहीं है	अतिथि
2	जिसके समान कोई दूसरा नहीं है	अद्वितीय
3	हृदय को फाडनेवाला	हृदयविदारक
4	दूसरों के काम में दखल देना	हस्तक्षेप
5	स्वेच्छा से सेवा करनेवाला	स्वयंसेवक
6	जिसका कोई शत्रु नहीं जनमा है	अजातशत्रु
7	जो बिना वेतन के काम करता है	अवैतनिक
8	बिना बुलाए आना	अनाहूत
9	किसी देश का मूल निवासी	आदिवासी
10	लक्षणों के आधार पर रोग की पहचान	निदान
11	जो कहा न जा सके	अकथनीय
12	जो बहुत व्यर्थ बोलता है	वाचाल
13	जो दिन में एक बार भोजन करता है	एकाहारी
14	जो आग्रह सत्य पर आधारित हो	सत्याग्रह
15	जो देखने में प्रिय लगे	प्रियदर्शी
16	बहुत सी भाषाओं को बोलनेवाला	बहुभाषाभाषी
17	जो लोक में संभव न हो	अलौकिक
18	शक्ति के अनुसार	यथाशक्ति
19	क्षण भर में नष्ट होनेवाला	क्षणभंगुर
20	कम बोलनेवाला	मितभाषी
21	ऐसे स्थान पर रहना जहाँ कोई पता न पा सके	अज्ञातवास
22	दूसरे के स्थान पर गुजर करनेवाला	उपजीवी
23	एक ही पर श्रद्धा रखनेवाला	एकनिष्ठ
24	प्राचीन काल से संबंधी	पुरातत्त्व
25	जिससे हानि की आशंका न हो	निरापद

संदर्भ ग्रंथ सूची -

1 मीडिया लेखन: सिद्धांत और व्यवहार - डॉ. चंद्रप्रकाश मिश्र, संजय प्रकाशन, दिल्ली।

2 जनसंचार माध्यम : भाषा और साहित्य - डॉ. सुधीश पचौरी , नटराज प्रकाशन, दिल्ली।

3 पटकथा लेखन एक परिचय - मनोहर श्याम जोशी, राधाकृष्ण प्रकाशन, दिल्ली।

4 टेलीविजन पटकथा लेखन - विनोद तिवारी, परिहंस प्रकाशन,, दिल्ली।

5 पत्रकारिता के नए परिप्रेक्ष्य - राजकिशोर, वाणी प्रकाशन, दिल्ली।

6. जनसंचार और पत्रकारिता- विविध आयाम- डॉ. ओमप्रकाश शर्मा, निराली प्रकाशन, पुणे।

7. मीडिया कालीन हिंदी: स्वरूप एवं संभावनाएँ- डॉ. अर्जुन चव्हाण, राधाकृष्ण प्रकाशन, नई दिल्ली।

8. प्रयोजनमूलक हिंदी की नयी भूमिका- डॉ. कैलाशनाथ पाण्डेय, लोकभारती प्रकाशन, नई दिल्ली।

9. प्रयोजनमूलक हिंदी- डॉ. विनोद गोदरे, वाणी प्रकाशन, नई दिल्ली।

10. प्रयोजनामूलक हिंदी- विविध परिदृश्य- डॉ. रमेशचंद्र त्रिपाठी, अलका प्रकाशन, कानपुर।

11. हिंदी भाषा में रोजगार के अवसर- प्रा. विकास पाटील, ए.बी.एस. पब्लिकेशन वाराणसी।

13. मीडिया में कैरियर- पी.के. आर्य, ग्रंथ अकादमी, नई दिल्ली।

14. प्रयोजनमूलक हिंदी, 'साहित्य सरोवर' - डॉ. श्रीमती आशा मोहन, साहित्य सरोवर प्रकाशन, आगरा।

10. मीडिया : एक अंतर्यात्रा- डॉ. स्मिता मिश्र, मंजुली प्रकाशन, नई दिल्ली।

11 कामकाजी हिंदी – डॉ॰ कैलाशचंद्र भाटिया, तक्षशिला प्रकाशन, दरियागंज, नई दिल्ली -110002।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र - V, प्रश्नपत्र - XI
भाषा विज्ञान और हिंदी भाषा
शैक्षिक वर्ष जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- जून 2024-2025, 2025-26, तथा 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम -

उद्देश्य :

- भाषा के विविध रूपों का परिचय करना |
- भाषा विज्ञान का सामान्य परिचय करना |
- हिंदी भाषा एवं लिपि के उद्भव और विकास का परिचय करना |
- भाषा की शुद्धता के प्रति छात्रों को जागृत करना |
- मानक हिंदी वर्तनी और व्याकरण से छात्रों को परिचित कराना |

अध्ययनार्थ विषय :- **Credit**

इकाई I 1

1. भाषा की परिभाषाएँ |
2. भाषा की विशेषताएँ |
3. भाषा की उत्पत्ति एवं तत्संबंधी विविध वाद :
   दैवी उत्पत्ति वाद, इंगित सिद्धांत,अनुकरण सिद्धांत तथा समन्वित सिद्धांत |

इकाई II 1

1. भाषा की परिवर्तनशीलता के कारण |
2. भाषा के विविध रूप- बोली, साहित्यिक भाषा और परिनिष्ठित भाषा |
3. बोली और भाषा में अंतर |

इकाई III 1

1. हिंदी भाषा का उद्भव और विकास |
2. हिंदी भाषा का शब्द समूह |
3. राजभाषा और संपर्क भाषा |

इकाई IV 1

1. हिंदी की विविध बोलियाँ - अवधी, खड़ी बोली, मारवाडी, गढवाली |
2. लिपि विकास का सामान्य परिचय |
3. देवनागरी लिपि की वैज्ञानिकता |

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक - 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	इकाई III पर लघुत्तरी प्रश्न(3 में से 2)	10
प्रश्न 3	इकाई IV पर टिप्पणियाँ(3 में से 2)	10
प्रश्न 4	इकाई I और II पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी, चर्चासत्र, स्वाध्याय, यात्रा भेंट/ क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची -

1. भाषाविज्ञान - डॉ. भोलानाथ तिवारी, किताब महल प्रकाशन, इलाहाबाद, संस्करण 2005 |
2. भाषाविज्ञान के सिद्धांत – डॉ. ओमप्रकाश शर्मा, निराली प्रकाशन, पुणे- 05 |
3. भाषाविज्ञान – डॉ. श्रीमाल नेमीचन्द्र, श्रुती प्रकाशन जयपुर, 2010 |
4. हिंदी भाषा और नागरी लिपि - डॉ. भोलानाथ तिवारी, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
5. आधुनिक भाषाविज्ञान के सिद्धांत– डॉ. रामकिशोर, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
6. हिंदी भाषा का इतिहास - डॉ. भोलानाथ तिवारी, वाणी प्रकाशन दिल्ली, संस्करण 2007
7. भाषा एवं भाषाविज्ञान – डॉ. जैन महावीर सरन, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
8. भाषाविज्ञान एवं हिंदी भाषा - डॉ. गंगासहाय प्रेमी, डॉ. त्रिलोक नाथ श्रीवास्तव, साहित्य सरोवर प्रकाशन, प्रभू नगर, आगरा -01 |

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र - VI, प्रश्नपत्र - XVI
भाषा विज्ञान और हिंदी भाषा

शैक्षिक वर्ष जून 2024-2025 से प्रारंभ

(शैक्षिक वर्ष :- जून 2024-2025, 2025-26, तथा 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन.ई.पी.2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

पाठ्यक्रम -

उद्देश्य :

- भाषा के विविध रूपों का परिचय करना |
- भाषा विज्ञान का सामान्य परिचय करना |
- हिंदी भाषा एवं लिपि के उद्भव और विकास का परिचय करना |
- भाषा की शुद्धता के प्रति छात्रों को जागृत करना |
- मानक हिंदी वर्तनी और व्याकरण से छात्रों को परिचित कराना |

अध्ययनार्थ विषय :- **Credit**

इकाई I 1

1. भाषाविज्ञान – अर्थ, परिभाषाएँ, स्वरूप।
2. भाषाविज्ञान के अध्ययन का महत्त्व।
3. भाषाविज्ञान की वैज्ञानिकता।

इकाई II 1

1. भाषाविज्ञान के प्रधान अंगो का परिचय -
   ध्वनिविज्ञान, शब्दविज्ञान, पदविज्ञान, वाक्यविज्ञान, अर्थविज्ञान, प्रोक्तिविज्ञान।

इकाई III 1

भाषाविज्ञान का अन्य ज्ञान - विज्ञानों से संबंध -

1. भाषाविज्ञान और साहित्य।
2. भाषाविज्ञान और व्याकरण।
3. भाषाविज्ञान और समाज भाषाविज्ञान।
4. भाषाविज्ञान और इतिहास।
5. भाषाविज्ञान और मनोविज्ञान।

इकाई IV 1

1. वाग्यंत्र का सामान्य परिचय –
   स्वर, व्यंजन, उच्चारण स्थान का परिचय।
2. मानक वर्तनी के नियम।

प्रश्नपत्र का स्वरूप एवं अंक विभाजन - **कुल अंक - 40**

प्रश्न क्र.	**प्रश्नपत्र का स्वरूप**	**अंक**
प्रश्न 1	समग्र पाठ्यक्रम पर दस बहुविकल्पी प्रश्न	10
प्रश्न 2	इकाई II पर लघुत्तरी प्रश्न(3 में से 2)	10
प्रश्न 3	इकाई IV पर टिप्पणियाँ(3 में से 2)	10
प्रश्न 4	इकाई I और III पर दीर्घोत्तरी प्रश्न (अंतर्गत विकल्प के साथ)	10
	अंतर्गत मूल्यांकन (मौखिकी, चर्चासत्र, स्वाध्याय, यात्रा भेंट/ क्षेत्रीय कार्य)	**10**

संदर्भ ग्रंथ सूची -

1. भाषाविज्ञान - डॉ. भोलानाथ तिवारी, किताब महल प्रकाशन, इलाहाबाद, संस्करण 2005 |
2. भाषाविज्ञान के सिद्धांत – डॉ. ओमप्रकाश शर्मा, निराली प्रकाशन, पुणे- 05 |
3. भाषाविज्ञान – डॉ. श्रीमाल नेमीचन्द्र, श्रुती प्रकाशन जयपुर, 2010 |
4. हिंदी भाषा और नागरी लिपि - डॉ. भोलानाथ तिवारी, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
5. आधुनिक भाषाविज्ञान के सिद्धांत– डॉ. रामकिशोर, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
6. हिंदी भाषा का इतिहास - डॉ. भोलानाथ तिवारी, वाणी प्रकाशन दिल्ली, संस्करण 2007
7. भाषा एवं भाषाविज्ञान – डॉ. जैन महावीर सरन, लोकभारती प्रकाशन इलाहाबाद, संस्करण 1992 |
8. भाषाविज्ञान एवं हिंदी भाषा - डॉ. गंगासहाय प्रेमी, डॉ. त्रिलोक नाथ श्रीवास्तव, साहित्य सरोवर प्रकाशन, प्रभू नगर, आगरा -01

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

SKILL ENHANCEMENT COURSE

सत्र - V

साक्षात्कार की तैयारी - I

शैक्षिक वर्ष जून 2024 - 2025 से प्रारंभ

(शैक्षिक वर्ष - 2024-25, 2025-26, 2026-27)

(नया पाठ्यक्रम: सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP 2020) के आलोक में किया गया है।

पाठ्यक्रम -

उद्देश्य:

1. 'साक्षात्कार' विधा के स्वरूप से परिचय कराना।
2. 'साक्षात्कार' के महत्त्व एवं उसके प्रकारों से अवगत कराना।
3. 'साक्षात्कार' की तैयारी के विभिन्न चरणों पर प्रकाश ड़ालना।
4. 'साक्षात्कार' संबंधी प्रश्नावली निर्माण, साक्षात्कार लेना तथा रिकार्डिंग आदि अन्य महत्त्वपूर्ण मद्दों से परिचित कराना।
5. वर्तमान समय में 'साक्षात्कार' के महत्त्व एवं उसकी प्रासंगिकता से अवगत कराना।

अध्ययनार्थ विषय -

इकाई I 'साक्षात्कार' का स्वरूप, महत्त्व एवं प्रकार

1. 'साक्षात्कार' का स्वरूप
2. 'साक्षात्कार' का महत्त्व
3. 'साक्षात्कार' के प्रकार - 1) व्यक्ति आधारित साक्षात्कार
   2) विषय आधारित साक्षात्कार

इकाई II 'साक्षात्कार' की तैयारी एवं प्रश्नावली का निर्माण

1. 'साक्षात्कार' की तैयारी - व्यक्ति का निर्धारण, पूर्वानुमति
2. प्रश्नावली का निर्माण - 1) प्रश्नों का लेखन
   2) मुख्य बातें
   3) आरम्भिक प्रश्न

प्रश्नपत्र का स्वरूप एवं अंक विभाजन **कुल अंक - 50**

प्रश्नपत्र का स्वरूप	**अंक**
पूरे पाठ्यक्रम पर 25 बहुविकल्पी प्रश्न	50

संदर्भ ग्रंथ सूची –

1. संवाद चलता रहे - कृपाशंकर चौबे।
2. साक्षात्कार की तैयारी - कर्नल डॉ. प्रदीप के. वैद्य।
3. इंटरव्यू में सफल कैसे हो? - पी. के. आर्य।
4. साक्षात्कार: संभावना और यथार्थ - पंकज मिश्र 'अटल'।
5. साक्षात्कार कैसे हो तैयार - शहरोज।
6. साक्षात्कार: तकनीक एवं विधियाँ - डॉ. एस्. श्रीकांत।
7. साक्षात्कार विधा - साहित्य और पत्रकारिता में नया आयाम - मनोहर बन्सवाल।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

SKILL ENHANCEMENT COURSE

सत्र - VI

साक्षात्कार की तैयारी - II

शैक्षिक वर्ष जून 2024 - 2025 से प्रारंभ

(शैक्षिक वर्ष - 2024-25, 2025-26, 2026-27)

(नया पाठ्यक्रम: सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP 2020) के आलोक में किया गया है।

पाठ्यक्रम -

उद्देश्य:

1. 'साक्षात्कार' विधा के स्वरूप से परिचय कराना।
2. 'साक्षात्कार' के महत्त्व एवं उसके प्रकारों से अवगत कराना।
3. 'साक्षात्कार' की तैयारी के विभिन्न चरणों पर प्रकाश ड़ालना।
4. 'साक्षात्कार' संबंधी प्रश्नावली निर्माण, साक्षात्कार लेना तथा रिकार्डिंग आदि अन्य महत्त्वपूर्ण मद्दों से परिचित कराना।
5. वर्तमान समय में 'साक्षात्कार' के महत्त्व एवं उसकी प्रासंगिकता से अवगत कराना।

अध्ययनार्थ विषय -

इकाई I 'साक्षात्कार' लेने की प्रविधि

1. सहज मनस्थिति
2. तादात्म्य
3. आरम्भिक चरण का महत्त्व
4. अन्य जरूरी बातें

इकाई II 'साक्षात्कार' का रिकार्डिंग

1. स्मरण शक्ति
2. नोट लेना
3. टेप रिकार्डर का प्रयोग
4. अन्य रिकार्डिंग के साधन

प्रश्नपत्र का स्वरूप एवं अंक विभाजन **कुल अंक - 50**

प्रश्नपत्र का स्वरूप	**अंक**
पूरे पाठ्यक्रम पर 25 बहुविकल्पी प्रश्न	50

संदर्भ ग्रंथ सूची –

1. संवाद चलता रहे - कृपाशंकर चौबे।
2. साक्षात्कार की तैयारी - कर्नल डॉ. प्रदीप के. वैद्य।
3. इंटरव्यू में सफल कैसे हो? - पी. के. आर्य।
4. साक्षात्कार: संभावना और यथार्थ - पंकज मिश्र 'अटल'।
5. साक्षात्कार कैसे हो तैयार - शहरोज।
6. साक्षात्कार: तकनीक एवं विधियाँ - डॉ. एस्. श्रीकांत।
7. साक्षात्कार विधा - साहित्य और पत्रकारिता में नया आयाम - मनोहर बन्सवाल।

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शिवाजी विश्वविद्यालय, कोल्हापुर

हिंदी अध्ययन मंडल

हिंदी विशेष बी. ए. - 3 (कला)

DISCIPLINE SPECIFIC ELECTIVE COURSES

सत्र -V, VI

शैक्षिक वर्ष जून 2024 - 2025 से प्रारंभ

(शैक्षिक वर्ष - 2024-25, 2025-26, 2026-27)

(नया पाठ्यक्रम : सत्र परीक्षा श्रेणी तथा एन. ई. पी. 2020 प्रणाली)

(New Syllabus : Semester, Credit & NEP 2020 System)

प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली के मॉडल पाठ्यक्रम (NEP-2020) के आलोक में किया गया है।

अध्यापन पद्धति :-

- स्वाध्याय।
- व्याख्यान, विवेचन तथा विश्लेषण।
- संगोष्ठी तथा समूह चर्चा का आयोजन।
- अतिथियों एवं विद्वानों के व्याख्यान।
- दृक-श्राव्य माध्यमों का प्रयोग।
- संगणक तथा इंटरनेट आदि साधनों का प्रयोग।

(सत्र V, VI की परीक्षा में पाँच प्रश्नपत्र 50 अंकों के होंगे, जिसमें 40 अंक प्रश्नपत्र के और 10 अंक अंतर्गत मूल्यांकन के लिए हैं। जिस में सेमिनार, मौखिकी, परियोजना (प्रोजेक्ट), गृहकार्य आदि में से एक देना अनिवार्य है।)

SHIVAJI UNIVERSITY, KOLHAPUR

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Accredided by NAAC 'A' Grade

Revised Syllabus for

Bachelor of Arts

B.A. Part-III - MARATHI

CHOICE BASED CREDIT SYSTEM

(Syllabus will be implemented from June, 2020)

शिवाजी विद्यापीठ, कोल्हापूर
SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ (मराठी) : B.A. Part-III (Marathi)

अभ्यासक्रम : Syllabus

Introduced from June 2020 onwards

समकक्षता / Equivalence

		जुना अभ्यासक्रम		नवा अभ्यासक्रम
सत्र क्र. Sem.	अभ्यास-पत्रिका क्र. Paper No.	अभ्यासपत्रिकेचे नाव	अभ्यास-पत्रिका क्र. Paper No.	अभ्यासपत्रिकेचे नाव
V	VII	काव्यशास्त्र	VII	साहित्यविचार
V	VIII	भाषाविज्ञान आणि मराठी भाषा	VIII	मराठी भाषा व भाषाविज्ञान
V	IX	मराठी वाङ्मयाचा इतिहास	IX	मध्ययुगीन मराठी वाङ्मयाचा इतिहास (प्रारंभ ते इ.स.१५००)
V	X	मराठी भाषा : उपयोजन आणि सर्जन	X	मराठी भाषा व अर्थार्जनाच्या संधी
V	XI	वाङ्मयप्रवाहांचे अध्ययन (ग्रामीण साहित्य)	XI	वाङ्मयप्रवाहाचे अध्ययन : मध्ययुगीन
VI	XII	काव्यशास्त्र	XII	साहित्यविचार
VI	XIII	भाषाविज्ञान आणि मराठी भाषा	XIII	मराठी भाषा व भाषाविज्ञान
VI	XIV	मराठी वाङ्मयाचा इतिहास	XIV	मध्ययुगीन मराठी वाङ्मयाचा इतिहास (इ.स.१५०० ते १८००)
VI	XV	मराठी भाषा : उपयोजन आणि सर्जन	XV	मराठी भाषा व अर्थार्जनाच्या संधी
VI	XVI	वाङ्मयप्रवाहांचे अध्ययन (दलित साहित्य)	XVI	वाङ्मयप्रकाराचे अध्ययन : ललित गद्य (व्यक्तिचित्रे)

सूचना : १. सत्र पाच (V) साठी विद्यापीठाने प्रत्येक अभ्यासपत्रिकेनुरूप अंतर्गत मूल्यमापनासाठी १० गुणांसाठी सेमिनार सुचविला आहे. सदर सेमिनारसाठी त्या त्या अभ्यासपत्रिकेच्या अभ्यासक्रमानंतर सेमिनार विषय दिले आहेत. त्यापैकी एका विषयावर प्रत्येक विद्यार्थ्याने सादरीकरण करणे आवश्यक आहे. त्यामध्ये विषयानुसार उद्दिष्टे, प्रास्ताविक, विषयविवेचन, निष्कर्ष आणि संदर्भ या सूत्रानुरूप सादरीकरण गरजेचे आहे. ज्या विषयावर सेमिनार दिला आहे त्याची टिपणे विद्यार्थी व संबंधित विषय शिकविणाऱ्या शिक्षकाच्या स्वाक्षरीसह महाविद्यालयाच्या विभागात जतन करून ठेवणे आवश्यक आहे.

२. सत्र सहा (VI) साठी विद्यापीठाने प्रत्येक अभ्यासपत्रिकेनुरूप अंतर्गत मूल्यमापनासाठी १० गुणांचा गटप्रकल्प (Group Project) सूचविला आहे. सदर गटप्रकल्पासाठी त्या त्या अभ्यासपत्रिकेच्या अभ्यासक्रमानंतर गटप्रकल्प विषय सुचविले आहेत. त्यापैकी एका विषयावर गटप्रकल्प सादर करणे आवश्यक. गटप्रकल्प तयार करताना शीर्षक, उद्दिष्टे, प्रास्ताविक, गहीतके, विषयाचे महत्त्व, विषयविवेचन, निष्कर्ष आणि संदर्भ या क्रमाने गटप्रकल्प तयार करावा. एका गटप्रकल्पासाठी कमाल ५ विद्यार्थी मर्यादा असावी. ज्या विषयावर गटप्रकल्प तयार केला आहे; त्यावर गटप्रकल्पकांची व संबंधित विषय शिकविणाऱ्या शिक्षकांची स्वाक्षरी घेऊन सदर प्रकल्प विभागात जतन करून ठेवावेत.

३. सेमिनार व गटप्रकल्पसंदर्भात विषयाची निवड करताना विद्यापीठाने सूचित केलेल्या विषयाबरोबर त्या त्या अभ्यासपत्रिकेनुरूप आणखी काही नावीन्यपूर्ण विषयांची निवड करण्यास स्वातंत्र्य दिले आहे.

शिवाजी विद्यापीठ, कोल्हापूर

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मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

Structure of Programme

Revised syllabus B. A. Part III (MARATHI)

Introduced from June 2020 onwards

Sr.No.	सत्र क्र. Sem.	अभ्यासपत्रिकेचे नाव	अभ्यास–पत्रिका क्र. Paper No.	Worklaod	Credits	Total Credits	Theory Marks	Term work/ Seminar
1	V	साहित्यविचार	VII	4 lectures/ week	4	20	40	10
2	V	मराठी भाषा व भाषाविज्ञान	VIII	4 lectures/ week	4		40	10
3	V	मध्ययुगीन मराठी वाङ्मयाचा इतिहास (प्रारंभ ते इ.स.१५००)	IX	4 lectures/ week	4		40	10
4	V	मराठी भाषा व अर्थार्जनाच्या संधी	X	4 lectures/ week	4		40	10
5	V	वाङ्मयप्रवाहाचे अध्ययन : मध्ययुगीन	XI	4 lectures/ week	4		40	10
Sr.No.	सत्र क्र. Sem.	अभ्यासपत्रिकेचे नाव	अभ्यास–पत्रिका क्र. Paper No.	Worklaod	Credits	Total Credits	Theory Marks	Term work/ Group project
6	VI	साहित्यविचार	XII	4 lectures/ week	4	20	40	10
7	VI	मराठी भाषा व भाषाविज्ञान	XIII	4 lectures/ week	4		40	10
8	VI	मध्ययुगीन मराठी वाङ्मयाचा इतिहास (इ.स.१५०० ते १८००)	XIV	4 lectures/ week	4		40	10
9	VI	मराठी भाषा व अर्थार्जनाच्या संधी	XV	4 lectures/ week	4		40	10
10	VI	वाङ्मयप्रकाराचे अध्ययन : ललितगद्य (व्यक्तिचित्रे)	XVI	4 lectures/ week	4		40	10

शिवाजी विद्यापीठ, कोल्हापूर

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Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-५ : Semister No. V : अभ्यासपत्रिका क्र. VII

Discipline Specific Elective (DSE-E1)

विद्याशाखीय विशेष निवड (DSE-E1)

साहित्यविचार

उद्दिष्टे :

१. पौर्वात्य, पाश्चात्त्य व आधुनिक भारतीय साहित्यशास्त्राचे स्वरूप समजून घेणे.

२. ललित व ललितेतर साहित्याचे स्वरूप समजून घेणे.

३. साहित्य प्रयोजनांचे आकलन करून घेणे.

४. साहित्याची निर्मितिप्रक्रिया आणि त्याचे स्वरूप आकलन करून घेणे.

५. भाषेतील अलंकार समजून घेणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	साहित्याचे स्वरूप ■ साहित्याच्या व्याख्या ● **पौर्वात्य** – भामह, मम्मट, आनंदवर्धन, विश्वनाथ **पाश्चात्त्य** – वर्डस्वर्थ,कोर्ट्होप,मॅथ्यू अर्नोल्ड, कार्लाइल ● **आधुनिक** – विनोबा भावे, अ. वा. कुलकर्णी, गंगाधर गाडगीळ, वि. ना. ढवळे, ■ ललित व ललितेतर साहित्य ■ ललित साहित्यातून व्यक्त होणाऱ्या अनुभवांचे विशेष– संवेदनात्मकता, भावनात्मकता, वैचारिकता, सेंद्रियता, सूचकता, विशिष्टता, विश्वात्मकता	१५	१

विभाग २ **Module 2**	**साहित्याचे प्रयोजन** ● प्रयोजन म्हणजे काय ? ● प्रयोजन आणि परिणाम यातील फरक ■ **साहित्याची प्रयोजने :** १) यश किंवा कीर्ती २) व्यवहारज्ञान ३) आनंद ४) उद्‌बोधन ५) आत्माविष्कार ६) जिज्ञासापूर्ती ७) जीवनानुभूती ८) इच्छापूर्ती अथवा स्वप्नरंजन ९) पलायनवाद (Escapism)	१५	१
घटक ३ **Module 3**	**साहित्यनिर्मितीची कारणे** ● साहित्यनिर्मितीचे स्वरूप ● साहित्यनिर्मितीची कारणे १) प्रतिभा – स्वरूप व वैशिष्ट्ये (प्रतिभाव्यापार, प्रतिभेचे अलौकिकत्व, अपूर्वनिर्मितिक्षम प्रतिभा, प्रतिभा ही वेडाची बहीण) २) बहुश्रुतता ३) अभ्यास ४) भावनात्मकता ५) संवेदनशीलता ६) उत्प्रेक्षा ७) चमत्कृती ८) स्वास्थ्य (शारीरिक, मानसिक) ९) साहित्यिकाचा जीवनविषयक दृष्टिकोण	१५	१
घटक ४ **Module 4**	**अलंकार** १) अतिशयोक्ती २) स्वभावोक्ती ३) दृष्टान्त ४) उपमा ५) अनुप्रास ६) रूपक (व्याख्या, स्वरूप आणि उदाहरणे अपेक्षित)	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	अलंकार (चार पैकी दोन)	१० गुण

सूचना :

१. विभाग चार वर वस्तुनिष्ठ प्रश्न असणार नाहीत.

२. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

सेमिनार विषय :

- विविध साहित्य प्रवाहातील कोणत्याही एका साहित्यकृतीचे किंवा अनुवादित साहित्यकृतीचे परीक्षण करून सादरीकरण करणे.
- कोणत्याही भाषेतील एका चित्रपट वा नाटकाचे परीक्षण करून सादरीकरण करणे.

मूलभूत वाचन :

१. जोग, रा. श्री. — *अभिनव काव्यप्रकाश,* व्हीनस प्रकाशन, पुणे, आवृत्ती ७ वी, १९७५

२. गाडगीळ, स. रा. — *काव्यशास्त्रप्रदीप,* व्हीनस प्रकाशन, पुणे, आवृत्ती ४ थी, जानेवारी, १९९३

३. गोविलकर, लीला — *भारतीय साहित्यविचार,* स्नेहवर्धन, पुणे, २००३

४. वाळंबे, मो. रा. — *सुगम मराठी व्याकरण,* नितीन प्रकाशन, पुणे

५. देशपांडे, अ. ना. (संपा.) — *विनोबांची साहित्यदृष्टी,* परमधाम प्रकाशन, पवनार, वर्धा, १९७५

६. कुलकर्णी, अ. वा. — *साहित्यविचार,* प्रतिमा प्रकाशन, पुणे, आ.दु. १९९७

७. गाडगीळ, गंगाधर — *खडक आणि पाणी,* पॉप्युलर प्रकाशन, मुंबई, १९६०.

८. ढवळे, वि. ना. — *साहित्याचे तत्त्वज्ञान,* कॉन्टिनेन्टल प्रकाशन, पुणे

पूरक वाचन :

१. उपासे, शिवशंकर — *काव्यशास्त्र परिचय,* फडके प्रकाशन, कोल्हापूर, २०१३

२. कंगले, र. पं. — *प्राचीन काव्यशास्त्र,* मौज प्रकाशन, मुंबई, १९७४

३. देशमुख, मा. गो. — *मराठीचे साहित्यशास्त्र,* (ज्ञानेश्वर ते रामदास)

४. डॉ. नगेंद्र (अनुवादक : शैलजा करंदीकर) — *भारतीय काव्यशास्त्राचे मूळ प्रश्न,* सुविचार, नागपूर, पुणे, १९६७

संदर्भ ग्रंथ :

१. जाधव, उदय — *काव्यशास्त्र : आकलन आणि आस्वाद,* लोकपाल पब्लिकेशन, औरंगाबाद प्रथमावृत्ती, ५ सप्टेंबर, २०१३

२. पुंडे, दत्तात्रय व तावरे, स्नेहल (संपा.) — *साहित्य विचार,* स्नेहवर्धन प्रकाशन, पुणे, प्रथमावृत्ती, फेब्रुवारी, १९९५

३. पाटील, म. सु. — *भारतीयांचा साहित्यविचार,* चेतश्री प्रकाशन, अमळनेर

४. वासमकर, वि. दा. — *मराठीतील कलावादी समीक्षा,* अक्षरदीप प्रकाशन, कोल्हापूर, आ. प. २०१८

५. करंदीकर, गो. वि. — *ॲरिस्टॉटलचे काव्यशास्त्र,* पॉप्युलर प्रकाशन, मुंबई

६. जाधव, मा. मा. — अक्षरगाथा (मराठी साहित्यविचार विशेषांक) मासिक, नांदेड, एप्रिल, २०१४

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मराठी अभ्यास मंडळ

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Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-५ : Semister No. 5 : अभ्यासपत्रिका क्र. VIII

Discipline Specific Elective (DSE-E2)

विद्याशाखीय विशेष निवड (DSE-E2)

मराठी भाषा व भाषाविज्ञान

उद्दिष्टे :

१. भाषोत्पत्तीचा अभ्यास करणे.

२. भाषाविज्ञानाचा परिचय करून घेणे.

३. भाषाविज्ञान आणि मराठी भाषा यांचा सहसंबंध जाणून घेणे.

४. स्वनविचार, रूपविचार व वाक्यविचारांचा परिचय करून घेणे.

५. मराठी भाषेविषयी विद्यार्थ्यांची आवड विकसित करणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	भाषोत्पत्ती विचार ● भाषेची उत्पत्ती – ईश्वरनिर्मित, राजनिर्मित, समाजनिर्मित ● भाषेच्या उत्पत्तीच्या उपपत्ती/सिद्धांत १. इंगित (Gesture) २. मुखाभिनय (Oral Gesture) ३. अनुकरण (Bow-Bow) ४. रणन (Ding Dong) ५. भावनाभिव्यक्ती (Pooh-Pooh) ६. श्रमपरिहार (Yo-he-Yo) ७. प्रेमगानमूलक (Sing-Song) ८. संपर्क (Contact) ९. क्रीडासक्ती (Play-Way) १०. समन्वय उपपत्ती/सिद्धांत	१५	१
विभाग २ Module II	भाषेचे स्वरूप, व्याख्या आणि वैशिष्ट्ये ● भाषा म्हणजे काय ? ● भाषेच्या व्याख्या : कृ. पां. कुलकर्णी, ना. गो. कालेलकर, श्री. न. गजेंद्रगडकर ● भाषेचे स्वरूप : समाजव्यवहाराचे साधन, ध्वनिमाध्यमता, प्रतीकात्मकता, संकेतबद्धता, भाषा – एक पद्धती, भाषा मानवी आहे. ● सी. एफ. हॉकेटने सांगितलेली भाषेची सात वैशिष्ट्ये दुहेरीपण, निर्मितिक्षमता, कार्यकारण संबंधाचा अभाव, यादृच्छिकता, अदलाबदलीची शक्यता, विशिष्टीकरण, स्थलकालातीतता, सांस्कृतिक संक्रमण या शिवाय – सामाजिक संस्था, अर्जित भाषा, परिवर्तनशीलता, रैखिकता इ. वैशिष्ट्यांचा विचार	१५	१

विभाग ३ **Module III**	स्वनिम व रूपिम विचार (स्थूल परिचय) अ. स्वनिम विचार १. स्वन २. स्वनिम ३. स्वनांतर (संकल्पना,स्वरूप,प्रकार) ब. रूपिम विचार १. रूप २. रूपिम ३. रूपिकांतर (संकल्पना,स्वरूप,प्रकार)	१५	१
विभाग ४ **Module IV**	वाक्यविचार ● पदबंध व वाक्याचे स्वरूप ● वाक्याचे प्रकार केवलवाक्य व त्याचे प्रकार, मिश्रवाक्य व त्याचे प्रकार, संयुक्त वाक्य व त्याचे प्रकार, वाक्याचे पृथक्करण	१५	१

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना :

१. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

सेमिनार विषय :

१. स्वन–स्वनिम, रूप–रूपिम पैकी कोणत्याही एका घटकाच्या अनुषंगाने प्रात्यक्षिकांसह सादरीकरण अपेक्षित.

२. कोणत्याही एका साहित्यकृतीच्या निवडक भागातील वाक्यांचे प्रकार, पृथक्करण, विश्लेषणासह सादरीकरण अपेक्षित.

मूलभूत वाचन :

१. जोशी, प्र. न. — *सुबोध भाषाशास्त्र,* स्नेहवर्धन प्रकाशन, पुणे

२. गवळी, अनिल — *भाषाविज्ञान आणि मराठी भाषा,* हिरण्यकेशी प्रकाशन, कोल्हापूर

३. धोंगडे, रमेश — *भाषा आणि भाषाविज्ञान,* दिलीपराज प्रकाशन, पुणे

४. कानडे, मु. श्री. (संपा.) — *मराठीचा भाषिक अभ्यास,* स्नेहवर्धन प्रकाशन, पुणे

५. गजेंद्रगडकर, श्री. न. — *भाषा आणि भाषाशास्त्र,* व्हीनस प्रकाशन, पुणे

६. हिरेमठ, राजशेखर — *मराठी व्याकरण परिचय,* मेहता पब्लिशिंग हाऊस, पुणे

७. Hocket C.F. — A course in Modern Linguistics, Oxford, New York, 1958

पूरक वाचन :

१. कुलकर्णी, कृ. पां. — *मराठी भाषा : उद्‌गम आणि विकास,* मेहता पब्लिशिंग हाऊस, पुणे

२. मालशे, मिलिंद — *आधुनिक भाषाविज्ञान : सिद्धांत आणि उपयोजन,* लोकवाङ्‌मयगृह,मुंबई

३. कुलकर्णी, सुलक्षणा व कुबेर, वसंत — *भाषाविज्ञान परिचय,* फडके प्रकाशन, कोल्हापूर

४. दामले, मो. के. — *शास्त्रीय मराठी व्याकरण,* दामोदर सावळाराम आणि मंडळी, पुणे

संदर्भ ग्रंथ :

१. मालशे, पुंडे, सोमण (संपा.) — *भाषाविज्ञानपरिचय,* पद्मगंधा प्रकाशन, पुणे

२. पुंडे, द. दि. — *सुलभ भाषाविज्ञान,* स्नेहवर्धन प्रकाशन, पुणे

३. कदम, महेंद्र — *मराठीचे वर्णनात्मक भाषाविज्ञान,* स्नेहवर्धन प्रकाशन, पुणे

४. काळे, कल्याण/सोमण, अंजली (संपा.) — *आधुनिक भाषाविज्ञान,* प्रतिमा प्रकाशन, पुणे

५. पाटील, व्ही. एन. — *सुलभ भाषाविज्ञान व मराठी व्याकरण,* प्रशांत पब्लिकेशन्स, जळगाव, आ.दु. २, २०१६

६. भांड, बाबा व मगर, राजेंद्र — *भाषा आणि साहित्य, माझी भूमिका : सयाजीराव गायकवाड,* महाराजा सयाजीराव गायकवाड संशोधन व प्रशिक्षण संस्था, औरंगाबाद,२०२०

७. लामतुरे, प्रज्ञा — *ग्रामीण बोलीभाषेचे वैभव,* संस्कृती प्रकाशन, पुणे, २०१२

८. जाधव, मा. मा. (संपा.) — *अक्षरगाथा* (मराठी भाषा विशेषांक), मासिक, नांदेड, ऑक्टोबर, २०१३

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Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-५ : Semister No. 5 : अभ्यासपत्रिका क्र. IX

Discipline Specific Elective (DSE-E3)

विद्याशाखीय विशेष निवड (DSE-E3)

मध्ययुगीन मराठी वाङ्मयाचा इतिहास (प्रारंभ ते इ.स.१५००)

उद्दिष्टे :

१. मध्ययुगीन मराठी वाङ्मयाचा कालिक अभ्यास करणे.

२. मध्ययुगीन मराठी वाङ्मयाचा स्थूल परिचय करून घेणे.

३. मध्ययुगीन मराठी वाङ्मयाचे स्वरूप, वैशिष्ट्ये अभ्यासणे.

४. मध्ययुगीन मराठी वाङ्मयातील महत्त्वाचे ग्रंथकार आणि ग्रंथ यांचा स्थूल परिचय करून घेणे.

५. मध्ययुगीन मराठी वाङ्मयाच्या गद्य, पद्य रचनेचे विशेष अभ्यासणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	**■ मराठी वाङ्मयाचा प्रारंभकाळ ते इ.स. १२०० पर्यंत** अ) विवेकसिंधूपूर्वकालीन रचना कुवलयमाला, मानसोल्लास, राजमतिप्रबोध, अमरनाथ संवाद, गोरक्षगीता इ. ब) मराठीतील आद्य ग्रंथकार मुकुंदराज यांची रचना विवेकसिंधू, पवनविजय, परमामृत क) मराठीतील आद्य कवयित्री महदंबा यांची रचना धवळे (पूर्वार्ध व उत्तरार्ध), मातृकी रुक्मिणीस्वयंवर	१५	१
विभाग २ Module II	**■ इ. स. १२०० ते १३०० (स्थूल कालखंड)** अ) महानुभावीय गद्य वाङ्मय म्हाइंभट – लीळाचरित्र, श्री. गोविंदप्रभूचरित्र व इतर रचना केसोबास – सूत्रपाठ, दृष्टांतपाठ, स्मृतिस्थळ	१५	१

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग २ Module II	ब) महानुभावीय पद्य वाङ्मय **सातीग्रंथ** (ग्रंथ व ग्रंथकार स्थूल परिचय) नरेंद्र – रुक्मिणी स्वयंवर भास्करभट्ट बोरीकर – शिशुपालवध, उद्धवगीता किंवा एकादशस्कंध दामोदर पंडित – वछाहरण पंडित विश्वनाथ – ज्ञानप्रबोध रवळोव्यास – सह्याद्रिवर्णन नारायणपंडित – श्री ऋद्धिपूरवर्णन	१५	१
विभाग ३ Module III	इ. स. १३०० ते १४०० (स्थूल कालखंड) अ) ज्ञानेश्वरांचे वाङ्मयीन कार्य ज्ञानेश्वरी, अमृतानुभव, चांगदेवपासष्टी, हरिपाठाचे अभंग व इतर रचना ब) नामदेवांची अभंगरचना क) सावता माळी, गोरोबा कुंभार, मुक्ताबाई, सेना महाराज, नरहरी सोनार, चोखामेळा, जनाबाई, कान्होपात्रा यांच्या रचना	१५	१
विभाग ४ Module IV	इ. स. १४०० ते १५०० (स्थूल कालखंड) अ) अन्य संप्रदायातील प्रमुख ग्रंथकार आणि त्यांची ग्रंथरचना सत्यमालनाथ, चोंभा (नाथ संप्रदाय) शांतलिंग आणि मन्मथशिवलिंग (लिंगायत संप्रदाय) गुणकीर्ती व जिनदासनामा (जैन मराठी कवी) नृसिंह सरस्वती आणि दासोपंत (दत्त संप्रदाय) अज्ञानसिद्ध व बहिराजातवेद (नागेश संप्रदाय) शेख महंमद आणि हुसेन अंबरखान (मुस्लीम मराठी कवी) फादर स्टिफन्स, फादर क्रुवा (ख्रिस्ती मराठी कवी)	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना :

१. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

सेमिनार विषय :

१) मध्ययुगीन मराठी वाङ्मयातील कोणत्याही एका ग्रंथकाराच्या रचना विशेषावर सादरीकरण.

२) कोणत्याही एका संत कवीच्या काव्यातील सामाजिकतेवर सादरीकरण.

३) कोणत्याही एका संत कवयित्रीच्या कवितेतील आत्मनिष्ठा यावर आधारित सादरीकरण.

मूलभूत वाचन :

१. नसिराबादकर, ल. रा. — *प्राचीन मराठी वाङ्मयाचा इतिहास,* फडके प्रकाशन, कोल्हापूर

२. पठाण, यू. म. — *महानुभाव साहित्य संशोधन खंड १,* मराठवाडा विद्यापीठ प्रकाशन, औरंगाबाद

३. देशपांडे, अ. ना. — *प्राचीन मराठी वाङ्मयाचा इतिहास खंड १ ते ४*

४. पांगारकर, ल. रा. — *प्राचीन मराठी वाङ्मयाचा इतिहास खंड १ ते ३,* महाराष्ट्र साहित्य परिषद प्रकाशन, पुणे

५. पसारकर, शे. दे. — *वेलू गेला गगनावरी,* सुविद्या प्रकाशन, सोलापूर

पूरक वाचन :

१. शेणोलीकर, ह. श्री. — *प्राचीन मराठी वाङ्मयाचे स्वरूप,* व्हीनस प्रकाशन, पुणे

२. पांगारकर, ल. रा. — *मराठी वाङ्मयाचा इतिहास खंड १ व २,*

३. तुळपुळे, शं. गो. — *मराठी वाङ्मयाचा इतिहास,* महाराष्ट्र साहित्य परिषद, पुणे

४. मांडवकर, भाऊ — *संत नामदेव दर्शन,* सेवा प्रकाशन, अमरावती

५. इनामदार, हे. वि. (संपा.) — *संत नामदेव काव्यसंभार आणि संत परिवार*

६. उपासे, शिवशंकर — *महाराष्ट्र भूषण सहा संत साहित्यिक,* फडके प्रकाशन, कोल्हापूर, २०१२

७. उपासे, शिवशंकर (संपा.) — *शांतलिंगकृत कर्णहंस,* प्रका. शरण संस्कृती अध्ययन केंद्र, सिद्ध संस्थान मठ, निडसोसी, ता. हुक्केरी, जि. बेळगाव

८. पसारकर, शे. दे. (संपा.) — *श्री मन्मथशिवलिंगकृत परमरहस्य,* शैवभारती शोध प्रतिष्ठान, वाराणसी, २००१

९. केळुसकर, कृष्णराव — *संत तुकाराम,* साकेत प्रकाशन, औरंगाबाद

१०. फाटक, न. र. — *श्री एकनाथ : वाङ्मय आणि कार्य,* मौज प्रकाशन गृह, मुंबई

११. परमार्ग सेवक श्री बाळकृष्णशास्त्री महानुभाव — *महानुभावपंथ,* प. पू. मधुकरशास्त्री कवीश्वर, पंचकमिटी संस्थान, श्री देवदेवेश्वर, माहूर, आ. आठवी, २०१४

संदर्भ ग्रंथ :

१. देऊळगावकर, चंद्रकांत (संपा.) — मन्मथस्वामी व्यक्ती आणि वाङ्मय, प्रका. शैवभारती शोध प्रतिष्ठान, जंगमवाडी मठ, वाराणसी

१. पाटील, तानाजी — *संत साहित्यातील सामाजिकता,* विश्वकर्मा पब्लिकेशन, पुणे

२. सुंठणकर, बा. र. — *महाराष्ट्रीय संतमंडळीचे ऐतिहासिक कार्य,* बेळगाव

३. सरदार, गं. बा. — *संत वाङ्मयाची सामाजिक फलश्रुती,* म. सा. प. पुणे

४. जाधव, रा. ग. — *आनंदाचा डोह,* प्राज्ञ पाठशाळा मंडळ, वाई

५. जाधव, रा. ग. — *वागर्थ,* प्रतिमा प्रकाशन, पुणे

६. कामत, अशोक व बडवे, सतीश (संपा.) — *संत नामदेवविषयक अभ्यास,* आळंदी

७. देशमुख, उषा — *मांदियाळी,* माया प्रकाशन, नागपूर

८. पाटील, सदाशिव — *तुकाराम आणि कबीर,* दर्या प्रकाशन, पुणे

९. घोणसे, शामा — *वीरशैवांचे मराठी–हिंदी वाङ्मय : एक अभ्यास,* शैवभारती शोध प्रतिष्ठान, जंगमवाडी मठ, वाराणसी

१०. प्रियोळकर, अ. का. — *मुसलमानांची जुनी मराठी कविता*

११. ढेरे, रा. चिं. — *मुसलमान मराठी संतकवी,* पद्मगंधा प्रकाशन, पुणे

१२. पठाण, यू. म. — *मुसलमान (सुफी) संतांचे मराठी साहित्य*

१३. मोरजे, गंगाधर — *मराठी ख्रिस्ती वाङ्मय, फादर स्टिफन्स ते १९६०,* अहमदनगर

१४. उपाध्ये, बाबुराव — *संत गोरा कुंभार : वाङ्मय दर्शन,* स्नेहवर्धन प्रकाशन, पुणे

१५. इलेंकर, सुहासिनी — *संत कवी आणि कवयित्री : एक अनुबंध,* स्नेहवर्धन प्रकाशन, पुणे

१६. अक्कोळे, सुभाषचंद्र — *प्राचीन मराठी जैन साहित्य,* सुविचार प्रकाशन, नागपूर

१७. पाटंगणकर, विद्यासागर — *मराठी संत कवयित्रींचा इतिहास,* साहित्य अकादमी, नवी दिल्ली

१८. होनमाने, धनंजय — *तंजावरची मराठी कीर्तनपरंपरा,* स्नेहवर्धन, पुणे, २०१७

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-५ : Semister No. V : अभ्यासपत्रिका क्र. X

Discipline Specific Elective (DSE-E4)

विद्याशाखीय विशेष निवड (DSE-E4)

मराठी भाषा व अर्थार्जनाच्या संधी

पाठ्यपुस्तक : मराठी भाषा व अर्थार्जनाच्या संधी (संपादन)

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर

उद्दिष्टे :

१. सर्जनशील लेखनप्रक्रिया समजून घेणे.

२. वैचारिक लेखनाचे स्वरूप अभ्यासणे.

३. शोधनिबंध व प्रकल्पलेखन कौशल्य समजून घेणे.

४. आंतरजालावरील मराठी लेखनपद्धती अभ्यासणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	सर्जनशील लेखन ■ सर्जनशील लेखन – संकल्पना व स्वरूप ● कथा – संकल्पना, स्वरूप ● कथेचे घटक ● प्रात्यक्षिकासह कथालेखन	१५	१
विभाग २ Module II	वैचारिक लेखन ● वैचारिक लेखन : संकल्पना व स्वरूप ● वैचारिक लेखनाची पद्धत ● वैचारिक लेखनाचे प्रकार ● प्रात्यक्षिकासह वैचारिक लेखन	१५	१

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग ३ Module III	**शोधनिबंध व प्रकल्पलेखन (स्थूल परिचय)** ● संशोधन : संकल्पना, स्वरूप, महत्त्व ● संशोधनपर लेखनप्रकार परिचय १. शोधनिबंध – स्वरूप व पद्धती २. संशोधन प्रकल्प – स्वरूप व पद्धती ३. प्रबंधिका ४. प्रबंध ● संशोधनपर लेखनाची पथ्ये व भाषा	१५	१
विभाग ४ Module IV	**आंतरजालावरील (Internet) मराठी** ● आंतरजालावरील मराठीविषयक लेखनाचे स्वरूप ● नोंदी लेखन, विश्वकोश, विकिपीडिया इ. ● आंतरजालावरील मराठी संकेतस्थळांचा परिचय १. राज्य मराठी विकास संस्था २. महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ ३. भाषा संचालनालय ४. मराठी भाषा विभाग, महाराष्ट्र शासन ५. मराठी साहित्य परिषद, पुणे ६. विश्वकोश मंडळ ७. इतर संकेतस्थळे – साहित्य अकादमी, नॅशनल बुक ट्रस्ट, भारतीय भाषा संस्थान, म्हैसूर इ. ● प्रात्यक्षिकासह आंतरजालावर मराठीविषयक लेखन	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना : १. प्रश्न क्र. ४ मध्ये ४ पैकी २ प्रश्न उपयोजनावर आधारित असतील.

२. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

सेमिनार विषय :

१. भाषा, साहित्य, संस्कृती व माध्यमविषयक कोणत्याही एका विषयावर शोधनिबंधाचे सादरीकरण करणे.

मूलभूत वाचन :

१. जोशी, सुधा — *कथा संकल्पना आणि समीक्षा,* मौज प्रकाशन, मुंबई, २००२

२. सारंग, विलास — *सर्जनशोध आणि लिहिता लेखक,* मौज प्रकाशन, मुंबई

३. मालशे, मिलिंद (संपा.) — *शोधनिबंधाची लेखनपद्धती* (सुधारित आवृत्ती) लोकवाङ्मय गृह, मुंबई

४. पाटील, आनंद — *सृजनात्मक लेखन,* पद्मगंधा प्रकाशन, पुणे, २००९

५. काळे, कल्याण, पुंडे, द. दि. — *व्यावहारिक मराठी,* निराली प्रकाशन, पुणे, २००७

६. वेलणकर, जयंत — *प्रबंध कसा लिहावा,* साहित्य प्रसारक केंद्र, नागपूर

७. कऱ्हाडे, सदा — *संशोधन : सिद्धांत आणि पद्धती,* लोकवाङ्मय गृह, मुंबई

८. चुनेकर, सु. रा. व पठारे, रंगनाथ (संपा.) — *संशोधन स्वरूप आणि पद्धती,* शि. प्र. संस्था, संगमनेर

९. वरखेडे, रमेश नारायण व वरखेडे, मंगला रमेश — *संशोधनाचे पद्धतिशास्त्र,* ॐग्रामण्ये इन्स्टिट्यूट ऑफ एज्युकेशन, एक्सलन्स, पुणे

१०.रोकडे, सुहास — *संगणक व माहिती तंत्रज्ञान,* नाथे प्रकाशन, पुणे

पूरक वाचन :

१. नसिराबादकर, ल. रा. — *व्यावहारिक मराठी,* फडके प्रकाशन, कोल्हापूर

२. रेगे, मे. पुं. (संपा.) — *नवभारत* (मासिक), व्यावहारिक मराठी विशेषांक, प्राज्ञ पाठशाळा मंडळ, वाई, ऑगस्ट–सप्टेंबर, १९८१

३. गवस, राजन; शिंदे, अरुण व पाटील, गोमटेश्वर — *भाषिक सर्जन आणि उपयोजन,* दर्या प्रकाशन, पुणे, २०१२

४. गोविलकर, लीला पाटणकर, जयश्री — *व्यावहारिक मराठी,* स्नेहवर्धन पब्लिशिंग हाऊस, पुणे, २००७

५. शेख, यास्मिन — *मराठी लेखन मार्गदर्शिका,* राज्य मराठी विकास संस्था व शुभदा सारस्वत प्रकाशन, पुणे, १९९९/सुधारित तिसरी आवृत्ती, राज्य मराठी विकास संस्था, मुंबई, डिसें.२०१७

६. शिकारपूरकर, दीपक — *दिव्यांगमित्र संगणक,* उत्कर्ष प्रकाशन, पुणे

७. शेख, यास्मिन — मराठी हस्तलेखन कोश, दुसरी आवृत्ती, हर्मिस प्रकाशन, पुणे, २०१५

संदर्भ ग्रंथ :

१. तौर, पृथ्वीराज — *मराठी भाषिक कौशल्ये विकास,* अथर्व पब्लिकेशन्स, धुळे, २०१८

२. जोशी, प्रभाकर व वले, वासुदेव — *उपयोजित मराठी भाग १,* प्रशांत पब्लिकेशन्स, जळगाव, २०१७

३. सारंग, विलास — *सर्जनशोध आणि लिहिता लेखक,* मौज प्रकाशन, मुंबई

४. पाटील, आनंद — *सृजनात्मक लेखन,* पद्मगंधा प्रकाशन, पुणे

५. लोखंडे, शशिकांत — *नवी जाणीव,* लोकवाङ्मय गृह, मुंबई, २०१२

६. गवळी, अनिल — *मराठी भाषा : आज आणि उद्या,* दर्या प्रकाशन, पुणे, २०१८

७. गवळी, अनिल व मोरे, नंदकुमार — *भाषासंवाद,* सायन पब्लिकेशन, पुणे, २०१३

८. कांबळे, विनोद — *सर्जननोंदी,* वाचनकट्टा प्रकाशन, प्रा. लि., कोल्हापूर, २०१९

९. वरखेडे, मंगला — प्रकल्प अभ्यास, नाशिक

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-५ : Semister No. V : अभ्यासपत्रिका क्र. XI

Discipline Specific Elective (DSE-E5)

विद्याशाखीय विशेष निवड (DSE-E5)

वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन

पाठ्यपुस्तक : दृष्टांतपाठ-निवडक दृष्टांत (संपादन)
शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर

उद्दिष्टे :

१. मध्ययुगीन महाराष्ट्र व महानुभाव पंथ यांचा परिचय करून घेणे.
२. महानुभाव वाङ्मयाच्या प्रेरणा व स्वरूप समजून घेणे.
३. महानुभावीय ग्रंथकार केसोबास यांचा परिचय करून घेणे.
४. दृष्टांतपाठातील आशयस्वरूप व अभिव्यक्ती विशेष अभ्यासणे.
५. दृष्टांतपाठातील भाषिक वैभवाचा परिचय करून घेणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	● मध्ययुगीन महाराष्ट्र आणि महानुभावीय गद्याच्या प्रेरणा व स्वरूप ● महानुभाव गद्य ग्रंथकार केसोबास यांचा परिचय ● दृष्टांतपाठाचे स्वरूप	१५	१
विभाग २ Module II	■ दृष्टांतपाठातील आशयसूत्रे ● सामाजिकता ● सांस्कृतिकता ● प्रादेशिकता ● पंथीय निष्ठा ● तत्त्वज्ञान व मूल्यविचार	१५	१
विभाग ३ Module III	■ दृष्टांतपाठातील अभिव्यक्ती विशेष ● निवेदन/कथनशैली ● व्यक्तिचित्रणे ● घटना, प्रसंगवर्णने ● प्रतिमा व प्रतीके ● रचनाविशेष	१५	१
विभाग ४ Module IV	■ दृष्टांतपाठातील भाषावैभव ● शब्दसौष्ठव ● अल्पाक्षरत्व ● सुलभ रचनाविशेष ● म्हणी,वाक्प्रचार,उखाणे ● अलंकार वैभव ● व्याकरणिक विशेष	१५	१

❊ प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी ❊

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना : १. विभाग एकवर वस्तुनिष्ठ प्रश्न असणार नाहीत.

२. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

सेमिनार विषय :

मध्ययुगीन मराठी वाङ्मयातील कोणत्याही एका साहित्यकृतिआधारे सामाजिक, सांस्कृतिक, मूल्यविचार, भाषाविशेष इत्यादींपैकी कोणत्याही एका विषयानुषंगाने सादरीकरण करणे.

मूलभूत वाचन :

१. तुळपुळे, शं. गो. (संपा.) *दृष्टांतपाठ, केशिराज संकलित,* व्हीनस प्रकाशन, पुणे

२. कोलते, वि. भि. *महानुभाव तत्त्वज्ञान,* अरुण प्रकाशन, मलकापूर

३. कोलते, वि. भि. *महानुभाव आचारधर्म,* अरुण प्रकाशन, मलकापूर

४. राजनकर, सुहास *दृष्टांतपाठ : अन्वय आणि चिकित्सा,* ऋचा प्रकाशन, नागपूर

५. कुंदप, कोमल कन्हैया *चक्रधर निरुपन दृष्टांतपाठ विवेचन,* सातारा

पूरक वाचन :

१. पठाण, यू. म. *महानुभाव साहित्य संशोधन खंड १,* मराठवाडा विद्यापीठ प्रकाशन, औरंगाबाद

२. पंजाबी, माधव (संपा.) *श्री. च. पाणी व्यासकृत दृष्टांत अन्वय व्याख्यान*

३. आवलगावकर, रमेश *महानुभावांची अन्वयस्थळे,* चंद्रकांत प्रकाशन, पुणे

४. ढेरे, रा. चिं. *प्राचीन मराठीच्या नवधारा,* मोघे प्रकाशन, कोल्हापूर

संदर्भ ग्रंथ :

१. पानसे, मु. ग. *यादवकालीन महाराष्ट्र,* मुंबई मराठी ग्रंथ संग्रहालय, मुंबई

२. बोरगांवकर, वसंत *प्राचीन मराठी चरित्रलेखन,* कॉन्टिनेन्टल प्रकाशन, पुणे

३. तुळपुळे, शं. गो. *यादवकालीन मराठी भाषा,* व्हीनस प्रकाशन, पुणे

४. देशमुख, उषा *मराठी साहित्याचे आदिबंध,* लोकवाङ्मयगृह, मुंबई

५. ढेरे, रा. चिं. *महाराष्ट्राचा देव्हारा,* विश्वकर्मा साहित्यालय, पुणे

६. पाठक, अरुणचंद्र *स्थानपोथी : एक पुरातत्वीय अभ्यास,* म.रा.साहित्य संस्कृती मंडळ, मुंबई

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-६ : Semister No. 6 : अभ्यासपत्रिका क्र. XII

Discipline Specific Elective (DSE-E126)

विद्याशाखीय विशेष निवड (DSE-E126)

साहित्यविचार

उद्दिष्टे :

१. शब्दशक्तींचे आकलन करून घेणे.

२. साहित्यातील रसाचे स्वरूप व रसप्रक्रिया समजून घेणे.

३. निर्मितीच्या आनंदाची मीमांसा करणे.

४. व्यवहार भाषा, शास्त्रभाषा आणि साहित्यभाषा यांतील भेद समजून घेणे.

५. साहित्यभाषेचे आकलन करून घेणे.

६. भाषेतील छंद व वृत्ते यांचा अभ्यास करणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	शब्दशक्ती ■ शब्दशक्ती म्हणजे काय ? १) **अभिधा**–व्याखा, स्वरूप व प्रकार (योग, रूढी, योगरूढी) २) **लक्षणा** – व्याख्या, स्वरूप ● लक्षणेस आवश्यक गोष्टी अ) मुख्यार्थबाध ब) मुख्यार्थ–लक्ष्यार्थ संबंध क) रूढी व प्रयोजन ● लक्षणेचे महत्त्व ३) **व्यंजना** – व्याख्या, स्वरूप ● व्यंजनेचे मुख्य दोन प्रकार अ) शाब्दी व्यंजना ब) आर्थी व्यंजना ● व्यंजनेचे साहित्यातील महत्त्व	१५	१

विभाग २ **Module 2**	**अ) रसविचार** ● रस म्हणजे काय ? ● स्थायिभाव व रस ● भरताचे रससूत्र **ब) काव्यानंदमीमांसा** ● काव्यानंदमीमांसा म्हणजे काय ? ● कवीचा आनंद १) क्रीडानंद २) निर्मितीचा आनंद ३) आत्माविष्कारानंद ● रसिकाचा आनंद १) ज्ञानानंद २) जिज्ञासापूर्ती ३) पुनःप्रत्ययाचा आनंद ● करुणरसानंद १) केवलानंदवाद २) विरेचन (कॅथार्सिस)	१५	१
घटक ३ **Module 3**	**साहित्याची भाषा** १) व्यवहारभाषा, शास्त्रभाषा व साहित्यभाषा : साम्यभेद २) साहित्याचे माध्यम भाषा ३) साहित्य भाषेचे सौंदर्य ४) साहित्य भाषेची विविधता	१५	१
घटक ४ **Module IV**	**छंद व वृत्ते** अ) छंद – १) ओवी २) अभंग ३) मुक्तच्छंद ब) वृत्ते – १) भुजंगप्रयात २) वसंततिलका ३) दिंडी (व्याख्या, स्वरूप व उदाहरणे अपेक्षित)	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	छंद व वृत्ते (चार पैकी दोन)	१० गुण

सूचना :

१. विभाग चार वर वस्तुनिष्ठ प्रश्न असणार नाहीत.

२. गटप्रकल्पासाठी अंतर्गत मूल्यमापनाकरिता प्रती विद्यार्थ्यास दहा गुण आहेत.

गटप्रकल्प विषय : साहित्यनिर्मितिप्रक्रिया संदर्भात कोणत्याही एका साहित्यिकाची मुलाखत घेणे.

मूलभूत वाचन :

१. जोग, रा. श्री. — *अभिनव काव्यप्रकाश,* व्हीनस प्रकाशन, पुणे, आवृत्ती ७ वी, जानेवारी, १९७५

२. गाडगीळ, स. रा. — *काव्यशास्त्रप्रदीप,* व्हीनस प्रकाशन, पुणे, आवृत्ती ४ थी, जानेवारी, १९९३

३. वाटवे, के. ना. — *रसविमर्श,* नवीन किताबखाना, पुणे, १९४२

४. वाळंबे, मो. रा. — *सुगम मराठी व्याकरण लेखन,* नितीन प्रकाशन, पुणे

५. नेमाडे, भालचंद्र — *साहित्याची भाषा,* साकेत प्रकाशन, औरंगाबाद, आ. दु. १९९८

पूरक वाचन :

१. जोशी, पं. महादेवशास्त्री — *सुलभ काव्याशास्त्र,* एस. जगन्नाथ आणि कं., पुणे

२. उपासे, शिवशंकर — *काव्यशास्त्र परिचय,* फडके प्रकाशन, कोल्हापूर, २०१३

३. जाधव, उदय — *काव्यशास्त्र : आकलन आणि आस्वाद,* लोकपाल पब्लिकेशन, औरंगाबाद, प्रथमावृत्ती, ५ सप्टेंबर २०१३

४. शिरवाडकर, के. रं. — *साहित्यवेध,* मेहता पब्लिशिंग हाऊस, पुणे, प्रथमावृत्ती, जानेवारी, १९९८

संदर्भ ग्रंथ :

१. कुरुंदकर, नरहर — *रससूत्र,* इंद्रायणी साहित्य, पुणे.

२. सोनार, ब. लु. — *भारतीय साहित्य विचार,* प्रज्ञा, अमळनेर, १९८८

३. मोरे, मोरेश्वर सखाराम — *मराठी व्याकरण,* चित्रशाळा, पुणे, १९७०

४. वासमकर, वि. दा. — *मराठीतील कलावादी समीक्षा,* अक्षरदीप प्रकाशन, कोल्हापूर, आ. प. २०१८

५. तुकदेव, रोहिणी — *ओवी छंद : रूप आणि आविष्कार,* प्रतिमा प्रकाशन, पुणे

६. हिरेमठ, राजशेखर — *मराठी व्याकरण परिचय,* मेहता पब्लिशिंग हाऊस, पुणे, १९८८

७. जाधव, मा. मा. — *अक्षरगाथा* (मराठी साहित्यविचार विशेषांक), मासिक, नांदडे, एप्रिल, २०१४

शिवाजी विद्यापीठ, कोल्हापूर

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Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-६ : Semister No. 6 : अभ्यासपत्रिका क्र. XIII

Discipline Specific Elective (DSE-E127)

विद्याशाखीय विशेष निवड (DSE-E127)

मराठी भाषा व भाषाविज्ञान

उद्दिष्टे :

१. मराठी भाषेची वर्णव्यवस्था समजून घेणे.

२. ध्वनी व अर्थपरिवर्तनाची कारणे व प्रकार यांची माहिती करून घेणे.

३. प्रमाणभाषेचे स्वरूप व विशेष अभ्यासणे.

४. बोलींचे स्वरूप व विशेष समजून घेणे.

५. मराठी भाषेबद्दलची विद्यार्थ्यांची आवड विकसित करणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	मराठीची वर्णमाला ● ध्वनी व वर्ण, मराठीची वर्णमाला, पारंपरिक स्वर व त्यांचे वर्गीकरण ● स्वरांचे ध्वनिशास्त्रदृष्ट्या व उच्चारण स्थानानुसार विश्लेषण ● स्वरांचे प्रकार हस्व, दीर्घ, सिद्ध, साधित, सजातीय, विजातीय ● मराठीची स्वर संख्या (पारंपरिक व नवीन) ● मराठीतील व्यंजन विचार ● व्यंजनांचे प्रकार १. स्पर्श व्यंजने २. कठोर व मृदू व्यंजने ३. अल्पप्राण व महाप्राण ४. अनुनासिके ५. तालव्य व्यंजने ६. अंतःस्थ व्यंजने ७. उष्म व्यंजने ८. संयुक्त व्यंजने ९. मूर्धन्य ● मराठीची व्यंजन संख्या (पारंपरिक व नवीन) ● मराठीची वर्ण संख्या निश्चितीकरण	१५	१

विभाग २ **Module II**	मराठीचे ध्वनिपरिवर्तन ● भाषेची उच्चारप्रक्रिया ● ध्वनिपरिवर्तन म्हणजे काय? ● व्याख्या आणि विशेष निरपवाद, नियमित, अज्ञेय, सार्वत्रिक ध्वनिपरिवर्तन ● कारणे जित – जेते संबंध, भिन्न भाषिक संबंध, आळस, अनुकरणाची अपूर्णता, वागेंद्रियातील दोष, श्रवणेंद्रियातील दोष, उच्चारशीघ्रता, अज्ञान, आघात, उच्चारसौकर्य, आहार, भौगोलिकता, वर्गसिद्धान्त, लोकभ्रम, सादृश्यता ● प्रकार अंत्यस्वनलोप, एकस्वनीकरण, आद्यस्वनागम, मध्यस्वनागम, अंत्यस्वनागम, सान्निध परिणाम, समानस्वनलोप, विसदृशीकरण, घोषीकरण, अघोषीकरण, मात्राभेद, सदृशता, अतिशुद्धी, दुष्प्रयोग, स्वनविपर्यय ● ध्वनिपरिवर्तनाचा मराठी भाषेवरील परिणाम	१५	१
विभाग ३ **Module III**	मराठीचे अर्थपरिवर्तन ● अर्थपरिवर्तन म्हणजे काय ? ● व्याख्या आणि स्वरूप अर्थ म्हणजे निर्देश, प्रतिमा, संकल्पना व विचार ● अर्थपरिवर्तनाची कारणे साम्यतत्त्व, रूपक – लक्षणाजन्य शब्द, बदलते समाजजीवन, अशुभतापरिहार, ग्राम्यतापरिहार, अतिशयोक्ती, शब्दसिद्धी, अतिपरिचयातून सभ्यता, अत्यादरदर्शन, सांस्कृतिक आदान ● अर्थपरिवर्तनाचे प्रकार – अर्थविस्तार, अर्थसंकोच, अर्थप्रशस्ती, अर्थच्युती, अर्थापकर्ष, अर्थान्तर, अर्थभ्रंश, अर्थादेश, अर्थभेद, अर्थसार ● अर्थपरिवर्तनाचा मराठी भाषेवरील परिणाम	१५	१
विभाग ४ **Module IV**	प्रमाण मराठी भाषा आणि तिच्या बोली ● प्रमाण मराठी : संकल्पना, स्वरूप, विशेष ● बोली : संकल्पना, स्वरूप, विशेष ● मराठीच्या बोली : अहिराणी, वऱ्हाडी, चंदगडी, मालवणी या निवडक बोलींचे स्वरूप व विशेष	१५	१

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना : १. विभाग एकवर वस्तुनिष्ठ प्रश्न असणार नाही.

२. अंतर्गत मूल्यमापनाकरिता सेमिनारसाठी दहा गुण आहेत.

गटप्रकल्प विषय :

१. आपल्या परिसरातील कौटुंबिक, सांस्कृतिक, कृषिविषयक, औद्योगिक क्षेत्रात जी बोलीभाषा बोलली जाते त्या बोलीभाषेतील शब्द, वाक्य, वाक्प्रचार, म्हणी, उखाणे यांचे संकलन आणि विश्लेषणासह गटप्रकल्प अपेक्षित.

२. आपल्या परिसरातील लोककथा, लोकगीते यांचे संकलन करून त्यातील भाषिक विशेषांच्या विश्लेषणावर आधारित गटप्रकल्प अपेक्षित.

मूलभूत वाचन :

१. कुलकर्णी, कृ. पां. — *मराठी भाषा : उद्‌गम आणि विकास,* मेहता पब्लिशिंग हाऊस, पुणे

२. कानडे, मु. श्री. (संपा.) — *मराठीचा भाषिक अभ्यास,* स्नेहवर्धन प्रकाशन, पुणे

३. गजेंद्रगडकर श्री. न. — *भाषा आणि भाषाशास्त्र,* व्हीनस प्रकाशन, पुणे

४. कुलकर्णी कृ. पां. — *शब्द : उद्‌गम आणि विकास*

५. जोगळेकर गं. ना. — *अभिनव भाषाविज्ञान,* सुविचार प्रकाशन, पुणे

६. जोशी, प्र. न. — *सुबोध भाषाशास्त्र,* स्नेहवर्धन प्रकाशन, पुणे

७. दामले, मो. के. — *शास्त्रीय मराठी व्याकरण,* दामोदर सावळाराम आणि मंडळी, पुणे

८. कालेलकर, ना. गो. — *ध्वनिविचार,* मौज प्रकाशन, मुंबई

९. पोतदार, अनुराधा — *मराठीचा अर्थविचार,* पुणे विद्यापीठ प्रकाशन, पुणे

१०. कालेलकर, ना. गो. — *भाषा आणि संस्कृती,* मौज प्रकाशनगृह, मुंबई

११. देवी, गणेश व जाखडे, अरुण (संपा.) — *भारतीय भाषेचे लोकसर्वेक्षण,* पद्मगंधा प्रकाशन, पुणे

पूरक वाचन :

१. हिरेमठ, राजशेखर — *मराठी व्याकरण परिचय,* मेहता पब्लिशिंग हाऊस, पुणे

२. गवळी, अनिल — *भाषाविज्ञान आणि मराठी भाषा,* हिरण्यकेशी प्रकाशन, कोल्हापूर

३. कुलकर्णी, सुलक्षणा व कुबेर, वसंत — *भाषाविज्ञान परिचय,* फडके प्रकाशन, कोल्हापूर

संदर्भ ग्रंथ :

१. पुंडे, द. दि. — *सुलभ भाषाविज्ञान,* स्नेहवर्धन प्रकाशन, पुणे

२. कदम, महेंद्र — *मराठीचे वर्णनात्मक भाषाविज्ञान,* स्नेहवर्धन प्रकाशन, पुणे

३. कालेलकर, ना. गो. — *भाषा, इतिहास आणि भूगोल,* मौज मुंबई

४. शेख, यास्मिन — *मराठी लेखन मार्गदर्शिका,* राज्य मराठी विकास संस्था, मुंबई

५. हिरेमठ, राजशेखर — *मराठी व्याकरण परिचय,* मेहता पब्लिशिंग हाऊस, पुणे

६. लामतुरे, प्रज्ञा — *ग्रामीण बोलीभाषेचे वैभव,* संस्कृती प्रकाशन, पुणे

७. जंबाले, विठ्ठल — *ग्रामीण कादंबरी : मराठवाडी बोलीचे स्वरूप,* चिन्मय प्रकाशन, औरंगाबाद

८. पाटील, व्ही. एन. — *सुलभ भाषाविज्ञान,* प्रशांत पब्लिकेशन्स, जळगाव, २०१६

९. भांड, बाबा व मगर, राजेंद्र — *भाषा आणि साहित्य : माझी भूमिका : सयाजीराव गायकवाड,* महाराजा सयाजीराव गायकवाड संशोधन व प्रशिक्षण संस्था, औरंगाबाद

१०. केळकर, तन्मय (अनु.) — *पंजाबच्या भाषा आणि लिपीची समस्या : शहीद भगतसिंग,* प्रका. भाषाविकास संशोधन संस्था, कोल्हापूर

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-६ : Semister No. 6 : अभ्यासपत्रिका क्र. XIV

Discipline Specific Elective (DSE-E128)

विद्याशाखीय विशेष निवड (DSE-E128)

मध्ययुगीन मराठी वाङ्मयाचा इतिहास (इ.स.१५०० ते इ.स.१८००)

उद्दिष्टे :

१. मध्ययुगीन मराठी वाङ्मयाचा कालिक अभ्यास करणे.

२. मध्ययुगीन मराठी वाङ्मयाचा स्थूल परिचय करून घेणे.

३. पंडित कवी व त्यांची रचना यांचा परिचय करून घेणे.

४. बखर वाङ्मय आणि शाहिरी वाङ्मय यांचे स्वरूप, विशेष अभ्यासणे.

५. मध्ययुगीन मराठी गद्य, पद्य रचनेचे विशेष अभ्यासणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	इ. स. १५०० ते इ.स. १६०० एकनाथांची साहित्य संपदा चतु:श्लोकी भागवत, एकनाथी भागवत, भावार्थ रामायण, गवळणी, भारुडे इत्यादी रचना	१५	१
विभाग २ Module II	इ. स. १६०० ते इ. स. १७०० (स्थूल कालखंड) अ) तुकारामांची अभंगरचना ब) रामदासांची ग्रंथरचना करुणाष्टके, रामायणे, मनाचे श्लोक, दासबोध, स्फुट प्रकरणे	१५	१
विभाग ३ Module III	इ. स. १६०० ते इ. स. १८०० (स्थूल कालखंड) निवडक पंडित कवींच्या काव्याचा अभ्यास १) मुक्तेश्वर २) वामन पंडित ३) रघुनाथ पंडित ४) श्रीधर ५) मोरोपंत	१५	१
विभाग ४ Module IV	इ. स. १५०० ते इ.स. १८०० (स्थूल कालखंड) अ) बखर वाङ्मय शिवपूर्वकालीन बखरी, शिवकालीन बखरी, पेशवेकालीन बखरी-स्वरूप, विशेष ब) शाहिरी वाङ्मय (लावणी व पोवाडा) १) अनंत फंदी २) परशराम ३) राम जोशी ४) प्रभाकर ५) होनाजी बाळा	१५	१

❊ प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी ❊

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना : १. गटप्रकल्पासाठी अंतर्गत मूल्यमापनाकरिता प्रती विद्यार्थ्यास दहा गुण आहेत.

गटप्रकल्प विषय :

❊ आपल्या परिसरातील कोणत्याही ग्रंथालयातील किंवा ग्रंथालयाबाहेरील मध्ययुगीन मराठी ग्रंथकार आणि ग्रंथ यांची सूची तयार करावी.

❊ मध्ययुगीन मराठी वाङ्मयातील निवडक शब्दांचा शब्दसंग्रह करणे आणि त्यांचे वर्गीकरण व विश्लेषण करणे.

मूलभूत वाचन :

१. नसिराबादकर, ल. रा. — *प्राचीन मराठी वाङ्मयाचा इतिहास,* फडके प्रकाशन, कोल्हापूर

२. देशपांडे, अ. ना. — *प्राचीन मराठी वाङ्मयाचा इतिहास खंड १ ते ४,* व्हीनस प्रकाशन, पुणे

३. पांगारकर, ल. रा. — *प्राचीन मराठी वाङ्मयाचा इतिहास खंड १ ते ३,*महाराष्ट्र साहित्य परिषद,पुणे

४. मंचरकर, र. बा. — *धर्म संप्रदाय आणि मध्ययुगीन मराठी वाङ्मय,* प्रतिमा प्रकाशन, पुणे

५. गवळी, अनिल — *सर्वात्मभावी तुकाराम,* सायन पब्लिकेशन प्रा. लि. पुणे

६. सपकाळे, प्रकाश — *संत तुकाराम,* प्रशांत पब्लिकेशन्स, जळगाव

७. वाटवे, के. ना. (संपा.) — *प्राचीन मराठी पंडिती काव्य.*

८. फाटक, न. र. — *श्री एकनाथ वाङ्मय दर्शन आणि कार्य,* मौज प्रकाशन गृह, मुंबई

९. सरदेशमुख, त्र्यं. वि. — *रामदास : प्रतिमा आणि बोध,* अस्मिता प्रकाशन, पुणे

१०. हेरवाडकर, र. वि. — *मराठी बखर,* व्हीनस प्रकाशन, पुणे

११. अदवंत, म. ना. — *पैंजण,* साहित्य प्रसार केंद्र, नागपूर

१२. सहस्त्रबुद्धे, म. ना. — *मराठी शाहिरी वाङ्मय,* ठोकळ प्रकाशन, पुणे

१३. खरात, महेश (संपा.) — *लोकसाहित्य : जीवन आणि संस्कृती,*(प्रा.विश्वनाथ शिंदे गौरवग्रंथ), सायन पब्लिकेशन, पुणे

पूरक वाचन :

१. तुळपुळे, शं. गो. (संपा.) — *मध्ययुगीन मराठी वाङ्मयाचा इतिहास,* म. सा. प., पुणे

२. तुळपुळे , शं. गो. (संपा.) — *मराठी वाङ्मयाचा इतिहास,* महाराष्ट्र साहित्य परिषद, पुणे

३. उपासे, शिवशंकर — *मराठी काव्यातील शिवदैवत दर्शन, आख्यानकाव्य व स्फुटकाव्य : १३ ते १८ वे शतक,* शैवभारती शोध प्रतिष्ठान, जंगमवाडी मठ, वाराणसी

४. पाटील, तानाजी — *संत साहित्यातील सामाजिकता,* विश्वकर्मा प्रकाशन, पुणे

५. हेरवाडकर, र. वि. — *मराठी बखर*

संदर्भ ग्रंथ :

१. बडवे, सतीश — *मध्ययुगीन साहित्याविषयी,* मीरा, औरंगाबाद

२. फाटक, न. र. — *श्री. रामदास, वाङ्मय आणि कार्य*

३. माटे, श्री. म. — *संत, पंत आणि तंत,* ठोकळ प्रकाशन, पुणे

४. होनमाने, धनंजय — *तंजावरची मराठी कीर्तनपरंपरा,* स्नेहवर्धन, पुणे

५. होनमाने, धनंजय — *पंत प्रतिनिधींची कीर्तनाख्याने,* दर्या प्रकाशन, पुणे

६. ग्रामोपाध्ये, गं. ब. — *मराठी बखर गद्य,* व्हीनस बुक स्टॉल, पुणे

७. शिंदे, विश्वनाथ — *शाहिरी वाङ्मयाच्या धारा,* प्रतिमा प्रकाशन, पुणे

७. केळकर, य. न. — *मराठी शाहीर आणि शाहिरी वाङ्मय,* पुणे विद्यापीठ, पुणे

९. मोरजे, गंगाधर — *मऱ्हाटी लावणी वाङ्मय,* मोघे प्रकाशन, कोल्हापूर

१०. वर्दे, श्री. म. — *मराठी कवितेचा उष:काल किंवा मराठी शाहीर,*मुंबई मराठी साहित्य संघ,मुंबई

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-६ : Semister No. 6 : अभ्यासपत्रिका क्र. XV

Discipline Specific Elective (DSE-E129)

विद्याशाखीय विशेष निवड (DSE-E129)

मराठी भाषा व अर्थार्जनाच्या संधी

पाठ्यपुस्तक : मराठी भाषा व अर्थार्जनाच्या संधी (संपादन)
शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर

उद्दिष्टे :

१. प्रसारमाध्यमांतील अर्थार्जनाच्या संधी आणि भाषिक कौशल्ये यांचा परिचय करून घेणे.
२. स्पर्धा परीक्षांमध्ये मराठी भाषा विषयाचे महत्त्व समजून घेणे.
३. उद्योग व सेवा क्षेत्रात मराठी भाषेद्वारे अर्थार्जनप्राप्ती संदर्भात ज्ञान संपादन करणे.
४. मुद्रित शोधनाची पद्धत अभ्यासणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	**प्रसारमाध्यमांतील अर्थार्जनाच्या संधी व भाषिक कौशल्ये** ■ मुद्रित माध्यमे (Print Media) १. संपादन २. स्तंभलेखन ३. जाहिरात लेखन ४. शब्दांकन (नावीण्यपूर्ण उपक्रम, व्यक्तींचे अनुभव व मानपत्र) ■ आकाशवाणी १. निवेदन २. संहिता लेखन (कृषी, महिला व शैक्षणिक विषयक) ३. बातमी लेखन ■ चित्रवाणी १. निवेदन २. संहिता लेखन (साहित्य, युवा व मनोरंजन विषयक) ३. बातमी लेखन	१५	१

विभाग २ **Module II**	उद्योग व सेवाक्षेत्रातील अर्थार्जनाच्या संधी व भाषिक कौशल्ये ■ उद्योग व सेवाक्षेत्र आणि मराठी भाषा ■ उद्योग व सेवाक्षेत्रातील अर्थार्जन संधी – १. विपणन (Marketing) साठी संवाद कौशल्ये २. ग्राहक सेवा केंद्र (Call Centers) ३. अनुवाद ४. मराठी टंकलेखन, युनिकोड व पीपीटी (Power Point Presentation) परिचय	१५	१
विभाग ३ **Module III**	मुद्रितशोधन १. मुद्रितशोधन : संकल्पना, स्वरूप, प्रकार व महत्त्व २. महाराष्ट्र शासनाचे प्रमाणलेखनविषयक १८ नियम, अपवाद, उदाहरणे, विरामचिन्हे ३. मुद्रित शोधनाची पद्धत : सांकेतिक खुणा, त्याचे स्पष्टीकरण, पहिले वाचन व पुढील मुद्रितशोधन, संगणकीय मुद्रितशोधन ४. मुद्रितशोधनाचे प्रात्यक्षिक कार्य :वर्तमानपत्र, नियतकालिक, ग्रंथ, छापील मजकूर, लेख इ.	१५	१
विभाग ४ **Module IV**	स्पर्धा परीक्षांसाठी मराठी १. स्पर्धा परीक्षांचे स्वरूप : सरळसेवा, कम्बाईन, राज्यसेवा, संघ लोकसेवा आयोग २. स्पर्धा परीक्षांमधील मराठीचे स्वरूप : अभ्यासक्रम परिचय ३. स्पर्धा परीक्षेसाठी कौशल्ये : वाचन, नोट्स (टिपणे), लेखन, हस्ताक्षर, वेळेचे व्यवस्थापन, गटचर्चा,संदर्भ साहित्य ४. मुलाखतीची पूर्वतयारी व तंत्रे (मुलाखत कशी द्यावी)	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना : १. गटप्रकल्पासाठी अंतर्गत मूल्यमापनाकरिता प्रती विद्यार्थ्यास दहा गुण आहेत.

गटप्रकल्प विषय :

१. राष्ट्रीय, शैक्षणिक, सांस्कृतिक, सामाजिक, कृषी, आरोग्य, भाषा व साहित्य क्षेत्रातील ताज्या घडामोडी यापैकी एका विषयावर आकाशवाणी किंवा चित्रवाणीसाठी संहितालेखन.

२. उद्योग व सेवाक्षेत्रे आणि प्रसारमाध्यमे यांना भेटी देऊन तेथील भाषिक उपयोजनावर आधारित प्रकल्प तयार करणे.

मूलभूत वाचन :

१. काणे, पुष्पा — *नभोवाणी कार्यक्रम : तंत्र आणि मंत्र,* इंडिया बुक कंपनी, पुणे

२. भागवत, यशोदा — *बोलका कॅमेरा,* मौज प्रकाशन, पुणे

३. राजाध्यक्ष, विजया (संपा.) — *मराठी वाङ्मय कोश,* साहित्य आणि संस्कृती मंडळ, मुंबई

४. मोरे, सदानंद व लिंबाळे, शरणकुमार — *प्रबोधनपर वैचारिक वाङ्मय,* य. च. म. मु. विद्यापीठ, नाशिक

५. रेगे, मे. पुं. व इतर — *मराठी विचारवंत आणि आपण,* मौज प्रकाशन गृह, मुंबई

६. शेख, यास्मिन — *मराठी लेखन मार्गदर्शिका,* राज्य मराठी विकास संस्था, मुंबई

७. फडके, अरुण — *मराठी लेखन–कोश,* अंकुर प्रकाशन, ठाणे

८. धायगुडे, य. ए. — *मुद्रितशोधन,* दि पूना प्रेस ओनर्स असो. लि. पुणे

९. खोपकर, अरुण — *चित्रव्यूह,* लोकवाङ्मय गृह, प्रकाशन, मुंबई

१०. वरखेडे, रमेश — *सायबर संस्कृती,* इन्स्टिट्यूट ऑफ नॉलेज इंजिनिअरिंग, नाशिक

११. कांबळे, अमर — *स्पर्धा परीक्षेला सामोरे जाताना,* निर्मिती संवाद प्रकाशन, कोल्हापूर

१२. कांबळे, अमर — *मुलाखत कौशल्य,* निर्मिती संवाद प्रकाशन, कोल्हापूर

पूरक वाचन :

१. कुंभार, प्रकाश — *उपयोजित भाषाविज्ञान आणि प्रसारमाध्यमे,* अक्षरदालन, कोल्हापूर

२. जोशी, प्रभाकर — *उपयोजित मराठी,* प्रशांत पब्लिकेशन्स, जळगाव

३. तौर, पृथ्वीराज — *मराठी भाषिक कौशल्ये विकास,* अथर्व पब्लिकेशन्स, धुळे

४. फडके, अरुण — *शुद्धलेखन मार्गप्रदीप,* अंकुर प्रकाशन, ठाणे

५. दीक्षित, विजय — *चित्रपट : एक कला,* रेणुका प्रकाशन, नाशिक

६. इनामदार, एस. डी. — *माध्यम,* एस. डी. प्रकाशन, पुणे

संदर्भ ग्रंथ :

१. देशपांडे, वि. भा. व जोगळेकर, सुषमा (संपा.) — *मराठी कलाभिरुची,* कॉन्टिनेन्टल प्रकाशन, पुणे

२. पचिंद्रे, श्रीराम — *मुलाखत आणि शब्दांकन,* अनुबंध प्रकाशन, पुणे

३. ढोले, विश्राम — *प्रसारमाध्यमे आणि प्रयोगकला,* लोकवाङ्मय गृह, मुंबई

४. शिंदे, अरुण — *सत्यशोधकीय नियतकालिके,* कृष्णा संशोधन व विकास अकादमी,मंगळवेढा

५. जोशी, प्रभाकर व वले, वासुदेव — *उपयोजित मराठी,* प्रशांत पब्लिकेशन्स, जळगाव

६. रेगे, मे. पुं. (संपा.) — *नवभारत (मासिक),* व्यावहारिक मराठी विशेषांक, प्राज्ञ पाठशाळा मंडळ, वाई (ऑगस्ट–सप्टेंबर १९८१)

७. भालके, रामचंद्र व इतर — *प्रबोधनपर साहित्य : स्वरूप आणि संकल्पना,* य.च.म.मु. विद्यापीठ, नाशिक

८. चपळगावकर, नरेंद्र — *मराठीतील वैचारिक साहित्य : लेखक आणि समाज,* नवभारत, जून २०१६ वर्ष २९, अंक ९

९. चौसाळकर, अशोक — *विचारवंत आणि समाज,* युनिक ॲकॅडमी, पुणे

१०. गावडे, गोपाळ — *मामा वरेरकर : प्रयोगाची नांदी,* मनोकामना प्रकाशन, इस्लामपूर, २०१७

११. कांबळे, विनोद — *सर्जननोंदी,* वाचनकट्टा प्रकाशन, प्रा. लि., कोल्हापूर, २०१९

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

मराठी अभ्यास मंडळ

Board of Studies in Marathi

पसंतीवर आधारित श्रेयांक पद्धती

Choice Based Credit System

बी.ए. भाग-३ : B.A. Part-III

अभ्यासक्रम : Syllabus

June, 2020 onward

सत्र-६ : Semister No. 6 : अभ्यासपत्रिका क्र. XVI

Discipline Specific Elective (DSE-E-130)

विद्याशाखीय विशेष निवड (DSE-E-130)

वाङ्मय प्रकाराचे अध्ययन : ललित गद्य (व्यक्तिचित्रे)

पाठ्यपुस्तक : मुलखावेगळी माणसं (संपादन)

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर

उद्दिष्टे :

१. ललित गद्य वाङ्मयप्रकाराचे स्वरूप अभ्यासणे.

२. व्यक्तिचित्र संकल्पना व स्वरूप समजून घेणे.

३. प्रवाहानुरूप मराठीतील व्यक्तिचित्रांचे स्वरूप अभ्यासणे.

४. 'मुलखावेगळी माणसं'मधील व्यक्तिविशेषांचे आकलन करून घेणे.

५. 'मुलखावेगळी माणसं'मधील शैक्षणिक,सामाजिक,सांस्कृतिक,राजकीय पर्यावरण आणि कौटुंबिक भावविश्व अभ्यासणे.

६. 'मुलखावेगळी माणसं'मधील ग्रामीण व उपेक्षितांच्या जीवनाचे आकलन करून घेणे.

७. 'मुलखावेगळी माणसं'मधील अभिव्यक्ती, निवेदनशैली व भाषाविशेष अभ्यासणे.

अभ्यासक्रम

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	ललित गद्य : संकल्पना व स्वरूप व्यक्तिचित्रे : संकल्पना, स्वरूप/वैशिष्ट्ये आणि वाटचाल व्यक्तिचित्र लेखनासाठी आवश्यक गुण	१५	१
विभाग २ Module II	१. रामा मैलकुली – व्यंकटेश माडगूळकर २. मृत्यूचे चुंबन घेणारा महाकवी – प्र. के. अत्रे ३. निळू मांग – अण्णाभाऊ साठे ४. मोरणी – विभावरी शिरूरकर	१५	१
विभाग ३ Module III	५. जमीला जावद – हमीद दलवाई ६. यंकटअण्णा – व. वा. बोधे ७. दगडूमामा – उत्तम कांबळे ८. मुंबईचा चित्रकार – अरुण खोपकर	१५	१
विभाग ४ Module IV	९. हीरा – इंद्रजित भालेराव १०. बाबा मास्तर – दि. बा. पाटील ११. दादासाहेब वस्ताद – सयाजीराजे मोकाशी १२. डोकेवाला संशोधक : दादाजी रामजी खोब्रागडे – व्ही.एन.शिंदे	१५	१

* प्रश्नपत्रिकेचे स्वरूप व गुणविभागणी *

Pattern of Question Paper

एकूण गुण – ४० : Total Marks-40

प्रश्न १	योग्य पर्याय निवडा	०५ गुण
प्रश्न २	अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न	१५ गुण
प्रश्न ३	अंतर्गत विकल्पासह लघूत्तरी प्रश्न (तीन पैकी दोन)	१० गुण
प्रश्न ४	टिपा लिहा (चार पैकी दोन)	१० गुण

सूचना :

१. विभाग एक वर वस्तुनिष्ठ प्रश्न असणार नाहीत.

२. गटप्रकल्पासाठी अंतर्गत मूल्यमापनाकरिता प्रती विद्यार्थ्यास दहा गुण आहेत.

गटप्रकल्प विषय :

आपल्या परिसरातील शैक्षणिक, सामाजिक, सांस्कृतिक, कला, क्रीडा, आरोग्य, राजकीय इत्यादी समाजजीवनाच्या कोणत्याही क्षेत्रातील व्यक्तींची व्यक्तिचित्रे लिखित स्वरूपात प्रती प्रकल्पनुरूप ५ (किमान एका प्रकल्पकास एक नुसार) तयार करून ती एकत्रित जमा करावीत.

मूलभूत वाचन :

१. वास्कर, आनंद (संपा.) — *वाङ्मयप्रकार संकल्पना (डॉ.विजय निंबाळकर गौरवग्रंथ),* अन्वय प्रकाशन,पुणे

२. चौघुले, वि. शं. — *मुक्तगद्य : संकल्पना आणि उपयोजन,* मॅजेस्टिक प्रकाशन, मुंबई, २००८

३. शिंदे, रणधीर — *ललित गद्य ते मुक्तगद्य (लेख),* दै. महाराष्ट्र टाईम्स, २९–१२–२०१३

४. मालशे, मिलिंद — *साहित्य प्रकाराची संकल्पना (लेख),* साहित्य : अध्यापन आणि प्रकार, (संपा.) श्री. पु. भागवत, सुधीर रसाळ, मौज प्रकाशन, मुंबई, १९८७

५. हातकणंगलेकर, जहागीरदार, पवार, गो. मा. — *मराठी साहित्य : प्रेरणा आणि स्वरूप,* पॉप्युलर प्रकाशन, मुंबई, १९८६

६. पुरोहित, के. ज. — *लघुनिबंध,* साहित्य अकादमी, नवी दिल्ली

पूरक वाचन :

१. माडगूळकर, व्यंकटेश — *माणदेशी माणसं,* मेहता पब्लिशिंग हाऊस, पुणे, पुनर्मुद्रण, २०१८

२. अत्रे, प्र. के. — *मृत्यूचे चुंबन घेणारा महाकवी : साने गुरूजी,* पार्श्व पब्लिकेशन, कोल्हापूर,१९६२

३. साठे, अण्णाभाऊ — *बरबाद्या कंजारी,* श्रमिक प्रतिष्ठान, कोल्हापूर, लोकावृत्ती, २०१०

४. शिरूरकर, विभावरी — *दोघांचे विश्व आणि इतर काही कथा,* कॉन्टिनेन्टल प्रकाशन, पुणे, १९५७

५. दलवाई, हमीद — *जमीला जावद आणि इतर कथा,* साधना प्रकाशन, पुणे, २०१६

६. बोधे, व. वा. — *गावाकडची माणसं,* अक्षरबंध प्रकाशन, पुणे, २००७

७. कांबळे, उत्तम — *कावळे आणि माणसं,* मनोविकास प्रकाशन, पुणे, आ.दु., २०१०

८. खोपकर, अरुण — *चित्रव्यूह,* लोकवाङ्मय गृह, मुंबई

९. भालेराव, इंद्रजित — *गाई घरा आल्या,* प्रतिभास प्रकाशन, परभणी

१०. पाटील, दि. बा. — *भली माणसं,* मनोकामना प्रकाशन, इस्लामपूर, २०१३

११. मोकाशी, सयाजीराजे — *पंधरा ऑगस्ट,* मुक्तरंग प्रकाशन, लातूर, २०१६

१२. शिंदे, व्ही. एन. — *हिरव्या बोटांचे किमयागार,* तेजस प्रकाशन, कोल्हापूर, २०१९

संदर्भ ग्रंथ :

१. जोशी, प्र. न. — *मराठी वाङ्मयाचा विवेचक इतिहास,* अर्वाचीन काळ (१८०० ते १९८०), स्नेहवर्धन प्रकाशन, पुणे

२. भागवत, श्री. पु. — *साहित्य अध्यापन आणि प्रकार (प्रा. वा. ल. कुलकर्णी गौरवग्रंथ),* मौज प्रकाशन गृह, मुंबई

शिवाजी विद्यापीठ, कोल्हापूर

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अभ्यासक्रम : Syllabus

June, 2019 onward

मराठी अभ्यास मंडळ

Board of Studies in Marathi

Choice Based Credit System

सत्र-३ : Semister No. III

Discipline Specific Core Course (DSC-C1) Marathi Paper No.III

विद्याशाखीय विशेष गाभा (DSC-C1) (अभ्यासपत्रिका - ३)

साहित्यकृती : काय डेंजर वारा सुटलाय! (नाटक)

जयंत पवार, पॉप्युलर प्रकाशन, मुंबई, २०११

: मराठी भाषिक कौशल्ये

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर, २०१९

उद्दिष्ट्ये:

१. नाटक या वाङ्मय प्रकाराचे आकलन करून घेणे.

२. समकालीन नाटकातून नाटककाराच्या समकालाचे प्रतिबिंब कशाप्रकारे प्रकट होते याचा अभ्यास करणे.

३. नाट्याभ्यासाद्वारे प्रयोगरूप नाटक व नाट्यक्षेत्रातील ज्ञानसंपादनास चालना देणे.

४. नाट्याभ्यासातून सभ्यता, संस्कृती, राष्ट्रीय एकात्मता व बंधुता वाढीस लावणे.

५. विद्यार्थ्यांमध्ये संवादलेखन कौशल्ये विकसित करणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	काय डेंजर वारा सुटलाय! – आशयसूत्रे	१५	१
विभाग २ Module II	काय डेंजर वारा सुटलाय! – पात्रे, घटनाप्रसंग, संवाद व संघर्षाचे स्वरूप	१५	१
विभाग ३ Module III	काय डेंजर वारा सुटलाय! – नाट्यविशेष व भाषाविशेष	१५	१
विभाग ४ Module IV	उपयोजित मराठी – संवाद लेखन • संवाद : स्वरूप आणि व्याख्या • संवाद कौशल्यासाठी आवश्यक बाबी • संवादाचे प्रकार • उदाहरणदाखल कथानकावर संवादलेखन	१५	१

मूलभूत वाचन :

१. कदम–जांगडा, नीलिमा — लेख– 'अंतर्बाह्य हादरवणारा वारा' दै. वृत्तमाणूस, मुंबई, १४/८/२०१०

२. करमकर, दीपेश — लेख– 'जागतिकीकरणाचा डेंजर वारा' आपला परममित्र (दिवाळी अंक) नोव्हें.,डिसेंबर, २०१२

३. बागले, प्रभाकर — लेख– 'काय डेंजर वारा सुटलाय–एक विचार' साहित्य आणि सांस्कृतिक संवेदन, शब्दालय प्रकाशन, श्रीरामपूर.

४. जोशी, संजय भास्कर — लेख– 'लक्षवेधी पुस्तके – काय डेंजर वारा सुटलाय' ललित, सप्टें., २०११

५. पवार, जयंत — लेख– 'एका गुंत्याचा गुंताडा' साधना, पुणे, १२ जाने., २०१३

६. आठलेकर, मंगल — लेख– 'खूप मोठं अवसान गोळा करावं लागतं' साधना, पुणे, १२ जाने., २०१३

७. गमरे, गौतम बा. — लेख– 'काय डेंजर वारा सुटलाय' रंगवाचा (मासिक), फेब्रु., २०१७

८. गुप्ते, विश्राम — लेख– 'काय डेंजर वारा सुटलाय–बोलकी हिंसा' परिवर्तन (त्रैमासिक), मुंबई, एप्रिल, मे, जून, २०१२

९. नाडकर्णी, कमलाकर — लेख– 'काय डेंजर वारा सुटलाय' दै. आपलं महानगर, मुंबई, २० ऑगस्ट,२०१०

पूरक वाचन :

१०. धांडे, चंद्रकांत — मराठी नाट्यसमीक्षेचा इतिहास, परिमल प्रकाशन, औरंगाबाद

११. कुलकर्णी, व. दि. — नाटक : रंगाविष्कार आणि रंगास्वाद, पद्मगंधा प्रकशन, पुणे

१२. शिंदे,विश्वनाथ व स्मार्त,हिमांशू — मराठी नाटक आणि रंगभूमी, प्रतिमा प्रकाशन, पुणे, २००८

१३. कुलकर्णी, द. भि. — नाटक : स्वरूप आणि समीक्षा, पद्मगंधा प्रकाशन, पुणे

१४. भावे, पुष्पा — रंग नाटकाचे, राजहंस प्रकाशन, मुंबई

१५. गावडे, गोपाळ — मामा वरेरकर : प्रयोगाची नांदी, मनोकामना प्रकाशन, इस्लामपूर, २०१७

१६. भगत, दत्ता — मराठी नाटक आणि रंगभूमीचा इतिहास:आरंभ ते १९९० पर्यंत, प्रकाशक महाराष्ट्र राज्य साहित्य, संस्कृती मंडळ, २०१९

१७. कानडे, मु. श्री. — मराठी रंगभूमीची १२५ वर्षे : नाट्यविषयक ठळक नोंदी, स्नेहवर्धन पब्लिशिंग हाऊस पुणे, २०१०

१८. घोरपडे, अक्षय — संवाद आणि लेखन कौशल्ये, प्रशांत पब्लिकेशन, जळगांव, २०१९

१९. तौर, पृथ्वीराज (संपा.) — मराठी भाषिक कौशल्ये विकास, अथर्व पब्लिकेशन, धुळे, २०१८

२०. जोशी,प्रभाकर व वले,वासुदेव — उपयोजित मराठी भाग १, प्रशांत पब्लिकेशन, जळगांव, २०१७

२१. जोशी, प्रभाकर — उपयोजित मराठी, प्रशांत पब्लिकेशन, जळगांव, २०१७

* प्रश्नपत्रिकेचे स्वरूप *

Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (तीन पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वर लघुत्तरी प्रश्न (चार पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

शिवाजी विद्यापीठ, कोल्हापूर

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अभ्यासक्रम : Syllabus

June, 2019 onward

मराठी अभ्यास मंडळ

Board of Studies in Marathi

Choice Based Credit System

सत्र-३ : Semister No. III

Discipline Specific Core Course (DSC-C2) Marathi Paper No. IV

विद्याशाखीय विशेष गाभा (DSC-C2) (अभ्यासपत्रिका - ४)

पाठ्यपुस्तक : काव्यगंध

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर, २०१९

: मराठी भाषिक कौशल्ये

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर, २०१९

उद्दिष्ट्ये:

१. मराठी काव्यपरंपरा व प्रवाहांची ओळख करून घेणे.

२. मराठी काव्यातून प्रकट होणारे माणूस आणि समाज यातील परस्पर संबंध शोधणे.

३. कवितेच्या कलात्मक आकृतीबंधाचे मोल अभ्यासणे.

४. काव्यप्रवाहानुरूप काव्यलेखनाचे विशेष अभ्यासणे.

५. प्रात्यक्षिकाद्वारे काव्यलेखन कौशल्ये रुजविणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	केशवसुत- १. अंत्यजाच्या मुलाचा पहिला प्रश्न २. नवा शिपाई (सामाजिक) ३. तुतारी ४. मजुरावर उपासमारीची पाळी ५. गोफण केली छान! वसंत बापट- १. फुंकर २. जपावयाला शिकली होतीस ३. आज (प्रेमविषयक) अचानक ४. नाजुक रुपडे ५. विस्मृती	१५	१
विभाग २ Module II	नारायण सुर्वे- १. दोन दिवस २. माझी आई ३. गिरणीची लावणी (श्रमविषयक) ४. पोष्टर ५. नेहरू गेले त्या वेळची गोष्ट वसंत आबाजी डहाके- १. त्या संध्याकाळी समुद्र २. आख्यान (महानगरीय) ३. खेळ ४. पुतळे ५. वास्तववाद	१५	१
विभाग ३ Module III	अजीम नवाज राही- १. दुष्काळ : काही संदर्भ (वंचितांची कविता) २. जातीय दंगल : बारा भानगडींची तेरा वळणे ३. सुरक्षेची हमी देणारा कळपवाद! ४. मोडतोडीतून डागडुजीची भाषा शिकताना ५. मोहल्ला, पक्षी आणि कातरवेळ कल्पना दुधाळ- १. बाय आणि गाय २. झुलत्या फांदीला (कृषी जाणीव) ३. घोषणा ४. खस्ता ५. धग असतेच आसपास	१५	१
विभाग ४ Module IV	उपयोजित मराठी - काव्यनिर्मिती प्रक्रिया १. प्रसंगावर २. घटनेवर ३. चित्रावर ४. अनुभवावर	१५	१

मूलभूत वाचनः

१. पंडित, भ. श्री. (संपा.)	समग्र केशवसुत, व्हीनस प्रकाशन, पुणे
२. क्षीरसागर, शकुंतला	संपूर्ण केशवसुत, पॉप्युलर प्रकाशन, मुंबई, २००१
३. बापट, वसंत	सेतू, पॉप्युलर प्रकाशन, मुंबई, पुनर्मुद्रण, २००४
४. कुसुमाग्रज (संपा.)	निवडक नारायण सुर्वे, लोकवाङ्मयगृह, मुंबई, १९९४
५. सुर्वे, नारायण	माझे विद्यापीठ, पॉप्युलर प्रकाशन, मुंबई, आवृत्ती २ री, २००५
६. डहाके, वसंत आबाजी	शुभवर्तमान, मौज प्रकाशन, मुंबई, १९९७
७. डहाके, वसंत आबाजी	शुनःशेप, लोकवाङ्मयगृह, मुंबई, १९९६
८. डहाके, वसंत आबाजी	चित्रलिपी, लोकवाङ्मयगृह, मुंबई, २००६
९. राही, अजीम नवाज	व्यवहाराचा काळा घोडा, मुक्तछंद प्रकाशन, नागपूर, २००४
१०. राही, अजीम नवाज	कल्लोळातला एकांत, अक्षरमानव प्रकाशन, पुणे, २०१२
११. राही, अजीम नवाज	वर्तमानाचा वतनदार, लोकवाङ्मयगृह, मुंबई, २०१७
१२. दुधाळ, कल्पना	सिझर कर म्हणतेय माती, हर्मिस प्रकाशन, पुणे
१३. दुधाळ, कल्पना	धग असतेच आसपास, लोकवाङ्मयगृह, मुंबई
१४. कदम, महेंद्र	लेख–कल्पना दुधाळ यांचं शेतीशास्त्र, साप्ता. विवेक, ५ मार्च, २०१८
१५. धसकटे, सुशील	मुलाखत–कल्पना दुधाळ यांची मुलाखत, अक्षरनामा, १२ जाने., २०१८
१६. शर्मा, नीला	लेख–कल्पना व वास्तवादरम्यानचा पूल ठरलेली कविता, दै.सकाळ, ८ मार्च,२०१८
१७. कदम, महेंद्र	लेख–कल्पना दुधाळ यांच्या कवितेची शैली,कवितेची शैली,अक्षरवाङ्मय, पुणे,२०१९
१८. शानेदिवान, राजेखान	भारतीय मुसलमानःवर्तमान आणि भविष्य, अक्षरदालन प्रकाशन, कोल्हापूर
१९. कुलकर्णी, अंजली	लेख–वर्तमानाचा स्वशोध, दै. लोकसत्ता, पुणे १५ एप्रिल, २०१८
२०. चांदवडकर, तुषार	लेख–वर्तमानाचा वतनदार, दै.सकाळ, रविवार पुरवणी, २९ एप्रिल, २०१८

पूरक वाचनः

२१. सानप, किशोर	युगांतराची कविता, ग्रंथाली प्रकाशन, मुंबई
२२. पी. विठ्ठल	मराठी कविताःसमकालीन परिदृश्य, कैलाश पब्लिकेशन्स, औरंगाबाद,२०१९
२९. रसाळ, सुधीर	काही मराठी कवी : जाणिवा आणि शैली, प्रतिमा प्रकाशन, पुणे, १९९६
३०. सुर्वे, कृष्णाबाई नारायण	मास्तरांची सावली, डिंपल प्रकाशन, मुंबई

प्रश्नपत्रिकेचे स्वरूप

Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (चार पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वर लघुत्तरी प्रश्न (चार पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

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अभ्यासक्रम : Syllabus

June, 2019 onward

मराठी अभ्यास मंडळ

Board of Studies in Marathi

Choice Based Credit System

सत्र-४ : Semister No. IV

Discipline Specific Core Course (DSC-C25) Marathi Paper No. V

विद्याशाखीय विशेष गाभा (DSC-C25) (अभ्यासपत्रिका - ५)

साहित्यकृती : माती, पंख आणि आकाश (आत्मचरित्र)

ज्ञानेश्वर मुळे, मनोविकास प्रकाशन, पुणे, आवृत्ती अकरावी, २०१७

: मराठी भाषिक कौशल्ये

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर, २०१९

उद्दिष्ट्ये:

१. आत्मचरित्र या वाङ्मयप्रकाराची ओळख करून घेणे.

२. इतर वाङ्मयप्रकार आणि आत्मचरित्र यातील अभिव्यक्ती रूपांचा अभ्यास करणे.

३. आत्मचरित्रकाराच्या व्यक्तिमत्त्वाची जडण-घडण आणि त्याचा समकाल समजून घेणे.

४. वेगवेगळ्या भारतीय प्रांतातील व परदेशातील जीवनदर्शन समजून घेणे.

५. आत्मवृत्तपर लेखन कौशल्ये विकसित करणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	माती, पंख आणि आकाश – जीवनानुभवाचे स्वरूप	१५	१
विभाग २ Module II	माती, पंख आणि आकाश – शैक्षणिक, सामाजिक आणि सांस्कृतिक पर्यावरण	१५	१
विभाग ३ Module III	माती, पंख आणि आकाश – वाङ्मयीन गुणविशेष	१५	१
विभाग ४ Module IV	उपयोजित मराठी – आत्मवृत्तलेखनाचे स्वरूप १. आत्मकथन/स्वकथन २. प्रवास वर्णन ३. रोजनिशी	१५	१

मूलभूत वाचनः

१. हातकणंगलेकर, म.द. लेख–अंतःकरणाचा ठाव घेणारे वेगळ्या धाटणीचे आत्मकथन,दै.सकाळ,१ मार्च,१९९८

२. खाडिलकर, मीना लेख–वेगळ्या घाटाचे आत्मचरित्र, दै. तरुण भारत, २६ जुलै, १९९८

३. लोकापुरे, राजू लेख–माती, पंख आणि आकाश, दै. महासत्ता, ३० ऑगस्ट, १९९८

४. लाटकर, मानसी लेख–माती,पंख आणि आकाश, दै. लोकसत्ता, लोकरंग, ६ सप्टें., १९९८

५. कोटीभस्कर, मधुमालती लेख–ललितरम्य शैलीतील आत्मचरित्र, दै. पुढारी, ३१ जाने., १९९९.

६. महांबरे, गंगाधर लेख–मातीतून घेतलेल्या आकाशभरारीची सुरस, सफल आत्मकहाणी, दै.सकाळ,४ जुलै, १९९९

पूरक वाचनः

८. जोशी, अ. म. चरित्र–आत्मचरित्र, स्नेहवर्धन प्रकाशन, पुणे

९. भोसले, नारायण अविस्मरणीय चरित्र – आत्मचरित्रे, अथर्व पब्लिकेशन, जळगाव

१०. हस्तक, उषा मराठीतील आत्मचरित्रात्मक लेखन, स्नेहवर्धन प्रकाशन, पुणे

११. शानेदिवान, राजेखान खाली जमीन वर आकाश – एक विमर्ष, शब्दवेल प्रकाशन, कोल्हापूर, २००८

१२. काळसेकर, सतीश वाचणाऱ्याची रोजनिशी, लोकवाङ्मयगृह, मुंबई

प्रश्नपत्रिकेचे स्वरूप
Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (तीन पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

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Board of Studies in Marathi

Choice Based Credit System

सत्र-४ : Semister No. IV

Discipline Specific Core Course (DSC-C26) Marathi Paper No. 6

विद्याशाखीय विशेष गाभा (DSC-C26) (अभ्यासपत्रिका - ६)

साहित्यकृती : जुगाड (कादंबरी)

किरण गुरव, दर्या प्रकाशन, पुणे, २०१८

: मराठी भाषिक कौशल्ये

शिवाजी विद्यापीठ प्रकाशन, कोल्हापूर, २०१९

उद्दिष्ट्ये:

१. कादंबरी वाङ्मयप्रकाराची ओळख करून घेणे.

२. समकालीन कादंबरीतील नव्या अवकाशाचा शोध घेणे व आधुनिकतेमधील अंतर्विरोध समजून घेणे.

३. मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. कादंबरीलेखनाचे विशेष अभ्यासणे.

५. वृत्तांतलेखन कौशल्ये रुजविणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	जुगाड – आशयसूत्रे	१५	१
विभाग २ Module II	जुगाड – घटना, प्रसंग आणि व्यक्तिरेखांचे स्वरूप व पर्यावरण	१५	१
विभाग ३ Module III	जुगाड – वाङ्मयीन विशेष	१५	१
विभाग ४ Module IV	उपयोजित मराठी – वृत्तांतलेखन : • वृत्तांतलेखनाचे स्वरूप • वृत्तांतलेखनाचे घटक आणि वैशिष्ट्ये • वृत्तांतलेखकाच्या अंगी आवश्यक गुण • साहित्य/संशोधन/शैक्षणिक स्थळास अभ्यास सहलीद्वारे प्रत्यक्ष भेट देऊन त्यावर आधारित वृत्तांतलेखनाचा सराव करवून घेणे	१५	१

मूलभूत वाचनः

१. थोरात, हरिश्चंद्र — लेख– 'आधुनिकतेला सामोरे जाणारे जुगाड' मुक्तशब्द (मासिक), फेब्रु.२०१९

२. खरे, नंदा — लेख– 'उद्योगविश्वावर क्ष किरण' दै. लोकसत्ता, रविवार पुरवणी, २०/१/२०१९

३. मुनघाटे, प्रमोद — लेख– तरुण पिढीची होरपळ, दै. महाराष्ट्र टाईम्स, रविवार संवाद, १०/२/२०१९

पूरक वाचनः

४. बांदिवडेकर, चंद्रकांत — मराठी कादंबरीचा इतिहास, मेहता पब्लिशिंग हाऊस, पुणे, दु.आ., १९९६

५. बांदिवडेकर, चंद्रकांत — मराठी कादंबरी चिंतन आणि समीक्षा, मेहता पब्लिशिंग हाऊस, पुणे, दु.आ., १९९६

६. डहाके, वसंत आबाजी — दृश्यकला आणि साहित्य, लोकवाङ्मयगृह, मुंबई, २०१३

७. यादव, आनंद — साहित्याची निर्मितीप्रक्रिया, मेहता पब्लिशिंग हाऊस, पुणे, तिसरी आ.,२००२

८. पाटील, आनंद — सृजनात्मक लेखन, पद्मगंधा प्रकाशन, पुणे, २००५

९. इनामदार–साने, रेखा — अस्तित्ववाद आणि मराठी कादंबरी, राजहंस प्रकाशन, पुणे, २००४

१०. शेलार, सुधाकर — मराठी साहित्य : काही लेखनबंध, स्वरूप प्रकाशन, औरंगाबाद, २०१३

११. पाटील, म. सु. — साहित्याचे सामाजिक व सांस्कृतिक अनुबंध, शब्दालय प्रकाशन, श्रीरामपूर,२००१

१२. थोरात, हरिश्चंद्र — कादंबरीविषयी, पद्मगंधा प्रकाशन, पुणे

१३. थोरात, हरिश्चंद्र — कादंबरी एक साहित्य प्रकार, शब्द प्रकाशन, मुंबई

१४. टापरे, पंडित — कादंबरी : संवाद, शब्द प्रकाशन, मुंबई

१५. खोले, विलास — गेल्या अर्धशतकातील कादंबरी, लोकवाङ्मयगृह, मुंबई

१६. मोहिते, गणेश — समकालीन मराठी कादंबरी, जनशक्ती वाचक चळवळ, औरंगाबाद

प्रश्नपत्रिकेचे स्वरूप

Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (चार पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (चार पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

बी.ए. भाग-२ : B.A. Part-II

अभ्यासक्रम : Syllabus

June, 2019 onward

मराठी अभ्यास मंडळ

Board of Studies in Marathi

Choice Based Credit System

सत्र-३ : Semister No. III

Inter Desciplinary Studies (IDS-1) Marathi Paper No. 1

साहित्यकृती : कर्मवीर भाऊराव पाटील (चरित्र)

ए.व्ही.मॅथ्यू, प्रकाशक-सचिव, रयत शिक्षण संस्था,सातारा

(सदर ग्रंथाचा पहिला खंड पृ.क्र. १ ते २९३ पर्यंत अभ्यासक्रमासाठी ग्राह्य असेल)

उद्दिष्ट्ये:

१. मराठीतील चरित्रात्मक वाङ्मयाचा परिचय करून घेणे.

२. चरित्रात्मक वाङ्मयातील चरित्र नायकाच्या व्यक्तित्वाचे पैलू अभ्यासणे.

३. चरित्रात्मक वाङ्मयातून सामाजिक, शैक्षणिक आणि सांस्कृतिक जीवनाची पार्श्वभूमी समजून घेणे.

४. चरित्रात्मक वाङ्मयाधारे राष्ट्रीय एकात्मता आणि मानवी मूल्यांविषयी जाणीव निर्माण करणे.

५. जाहिरात लेखनाची कौशल्ये विकसित करणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	कर्मवीर भाऊराव पाटील यांच्या व्यक्तिमत्त्वाची जडणघडण व व्यक्तित्त्वाचे पैलू	१५	१
विभाग २ Module II	कर्मवीर भाऊराव पाटील यांचे कार्य	१५	१
विभाग ३ Module III	कर्मवीर भाऊराव पाटील या चरित्र ग्रंथातील वाङ्मयीन विशेष	१५	१
विभाग ४ Module IV	उपयोजित मराठी – जाहिरात लेखन १. वृत्तपत्रासाठी जाहिरात लेखन २. आकाशवाणीवरील जाहिरात लेखन ३. चित्रवाणीवरील जाहिरात लेखन	१५	१

मूलभूत वाचनः

१. पाटील, अजित — माणसातील देव, प्रकाशक–मॅकमिलन इंडिया लिमिटेड, पुणे

२. पाटील, अजित — कर्मविरायण, प्रकाशक– सचिव, रयत शिक्षण संस्था, सातारा

३. पवार, बा. ग. — कर्मवीर भाऊराव पाटील, मातृभूमी प्रकाशन, पुणे

४. भोसले, द. ता. — कर्मवीर भाऊराव पाटील,

५. जाधव, रमेश — कर्मवीर भाऊराव पाटील,

६. तोडमल, ह. कि. — कर्मवीर पाटील,

७. पाटील, पी. जी. — कर्मवीरोपनिषद् अर्थात कर्मवीर भाऊराव पाटील यांच्या आठवणी,

८. पाटील, विमल — वटवृक्ष,

९. पाटणे, संभाजीराव — त्यागमूर्ती कर्मवीर भाऊराव,

पूरक वाचनः

११. जोशी, अ. म. — चरित्र–आत्मचरित्र, स्नेहवर्धन प्रकाशन, पुणे

१२. भोसले, नारायण — अविस्मरणीय चरित्र – आत्मचरित्रे, अथर्व पब्लिकेशन, जळगांव

१३. नसिराबादकर, ल. रा. — व्यवहारोपयोगी मराठी, फडके प्रकाशन, कोल्हापूर, १९९४

१४. घोरपडे, अक्षय — संवाद आणि लेखन कौशल्ये, प्रशांत पब्लिकेशन, जळगांव, २०१९

१५. तौर, पृथ्वीराज (संपा.) — मराठी भाषिक कौशल्ये विकास, अथर्व पब्लिकेशन, धुळे, २०१८

१६. जोशी,प्रभाकर व वले, वासुदेव — उपयोजित मराठी भाग १, प्रशांत पब्लिकेशन, जळगांव, २०१७

१७. जोशी, प्रभाकर — उपयोजित मराठी, प्रशांत पब्लिकेशन, जळगांव, २०१७

१८. कुंभार, प्रकाश — उपयोजित भाषाविज्ञान आणि प्रसारमाध्यमे, अक्षरदालन, कोल्हापूर, २०१८

प्रश्नपत्रिकेचे स्वरूप
Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (चार पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

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मराठी अभ्यास मंडळ

Board of Studies in Marathi

Choice Based Credit System

सत्र-४ : Semister No. IV

Inter Desciplinary Studies (IDS-2) Marathi Paper No. 2

साहित्यकृती : आटपाटनगरीच्या कथा (कथासंग्रह)

द.ता. भोसले, ग्रंथाली प्रकाशन, मुंबई, २०१८

उद्दिष्ट्ये:

१. मराठी कथा वाङ्मयाचा उगम, विकास व स्वरूप अभ्यासणे.

२. लोककथेचे रचनाविशेष आणि आजची प्रयोगशील कथा यांचा परस्पर अनुबंध अभ्यासणे.

३. वर्तमानातील प्रश्न लोककथांचे तंत्र व आविष्कार पद्धतीद्वारे कसे मांडले जातात याचा अभ्यास करणे.

४. मुलाखतलेखन तंत्र विकसित करणे.

अ. क्र. Sr. No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	आटपाटनगरीच्या कथा – आशयसूत्रे	१५	१
विभाग २ Module II	आटपाटनगरीच्या कथा – मिथकातून उलगडणारे समकालीन वास्तव	१५	१
विभाग ३ Module III	आटपाटनगरीच्या कथा – वाङ्मयीन विशेष	१५	१
विभाग ४ Module IV	उपयोजित मराठी – मुलाखतलेखन तंत्र १. मुलाखतीची पूर्वतयारी २. वृत्तपत्रासाठी मुलाखतलेखन ३. आकाशवाणीवरील मुलाखत ४. दूरचित्रवाणीवरील मुलाखत	१५	१

मूलभूत वाचनः

१. पंचभाई, विनोद	लेख–एक विलक्षण कलाकृतीःआटपाटनगरीच्या कथा,चपराक (मासिक), सप्टेंबर,२०१५
२. जवंजाळ, सुनिल	लेख–जगण्याला श्रीमंत करणाऱ्या विचारांची संपत्ती म्हणजे आटपाटनगरीच्या कथा, दै.एकमत, ७ फेब्रु. २०१६
३. काळे, चांगदेव	ग्रंथपरिचय, शब्दरुची (मासिक), सप्टें., २०१५
४. कदम, महेंद्र	लेख–आटपाटनगरीच्या कथा, म.सा.प. पुणे, ऑक्टों., २०१८

पूरक वाचनः

५. जोशी, सुधा	कथा : संकल्पना आणि समीक्षा, मौज प्रकाशन, मुंबई
६. जाधव, रा. ग.	मराठीतील कथारूपे, स्नेहवर्धन पब्लिशिंग हाऊस, पुणे, १९९९
७. ऐनापुरे, जी. के.	मराठी कथा : मूल्य आणि ऱ्हास, ललित पब्लिकेशन, मुंबई, २०१८
८. बेंडखळे, अशोक	मराठी कथा : परंपरा आणि नवता (अक्षरयात्रा), राजा प्रकाशन, मुंबई
९. हातकणंगलेकर, म. द.	मराठी कथा : रूप आणि परिसर, श्रीविद्या प्रकाशन, पुणे
१०. टापरे, पंडित	कथा : रूप आणि आस्वाद, नीहारा प्रकाशन, पुणे
११. नसिराबादकर, ल. रा.	व्यवहारोपयोगी मराठी, फडके प्रकाशन, कोल्हापूर, १९९४
१२. घोरपडे, अक्षय	संवाद आणि लेखन कौशल्ये, प्रशांत पब्लिकेशन, जळगांव, २०१९
१३. तौर, पृथ्वीराज (संपा.)	मराठी भाषिक कौशल्ये विकास, अथर्व पब्लिकेशन, धुळे, २०१८
१४. जोशी,प्रभाकर व वले,वासुदेव	उपयोजित मराठी भाग १, प्रशांत पब्लिकेशन, जळगांव, २०१७
१५. जोशी, प्रभाकर	उपयोजित मराठी, प्रशांत पब्लिकेशन, जळगांव, २०१७
१६. कुंभार, प्रकाश	उपयोजित भाषाविज्ञान आणि प्रसारमाध्यमे, अक्षरदालन, कोल्हापूर, २०१८
१७. बागडे, जयप्रकाश	मुलाखत तंत्र व मंत्र, साकेत प्रकाशन, औरंगाबाद

प्रश्नपत्रिकेचे स्वरूप

Pattern of Question Paper

एकूण गुण – ५० : Total Marks-50

प्रश्न १	योग्य पर्याय निवडा	१० गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	१० गुण
प्रश्न ४	विभाग ३ वर थोडक्यात उत्तरे द्या (चार पैकी दोन)	१० गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	१० गुण

टीप : प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १, २ व ३ वर असतील.

SHIVAJI UNIVERSITY, KOLHAPUR

Accredided by NAAC 'A++' Grade

CHOICE BASED CREDIT SYSTEM WITH

MULTIPLE ENTRY AND MULTIPLE EXIT OPTIONS IN THE UNDERGRADUATE DEGREE PROGRAMMES

(Regulations in accordance with National Education Policy 2020 to be implemented from Academic Year 2022-23 onwards)

समकक्षता

		जुना अभ्यासक्रम		नवा अभ्यासक्रम
सत्र क्र. Sem.	**अभ्यास पत्रिका क्र.** Paper No.	**अभ्यासपत्रिकेचे नाव**	**अभ्यास पत्रिका क्र.** Paper No.	**अभ्यासपत्रिकेचे नाव**
I	I	शब्दसंहिता	I	शब्दसंहिता
II	II	शब्दसंहिता	II	शब्दसंहिता
I	I	अक्षरबंध	I	अक्षरबंध
II	II	अक्षरबंध	II	अक्षरबंध

शिवाजी विद्यापीठ, कोल्हापूर

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बी.ए.१/बी.कॉम.१ : B.A. I/B.Com I

अभ्यासक्रम : Syllabus

June 2022 onward

Board of Studies in Marathi

C. B. C. S. with M.E. & M. E. in accordance with N.E.P. - 2020

Generic Elective Core (GEC-1) : Marathi (Course - A)

अनुषंगिक निवड (GEC-1) : मराठी (अभ्यासपत्रिका - अ)

सत्र १ : Semester - I

पाठ्यपुस्तक - शब्दसंहिता

१. **नापास मुलांची गोष्ट (निवडक लेख)**
संपा. अरुण शेवते, ऋतुरंग प्रकाशन, मुंबई.

२. **व्यक्तिमत्त्व विकास आणि भाषा**

उद्दिष्टे :

१. विद्यार्थ्यांची मराठी भाषा आणि साहित्याविषयी अभिरूची विकसित करणे.
२. मराठी साहित्य परंपरा, लेखक, कवी यांचा परिचय करून देणे.
३. विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यांविषयी जाणीव निर्माण करणे.
४. विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करून घेणे.
५. निबंधलेखनाच्या माध्यमातून भाषा उपयोजनाची कौशल्ये विकसित करणे.

अ.क्र. Sr.No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	१) निवड - यशवंतराव चव्हाण २) वाटेवरच्या सावल्या - कुसुमाग्रज ३) पन्नास पैकी शून्य मार्कस् - शांताबाई शेळके	१५	१
विभाग २ Module II	४) शब्दांचे मोल - चंद्रशेखर धर्माधिकारी ५) संगमनेरचे दिवस - दया पवार व्यक्तिविशेष लेख : ६) संकल्प सिद्धीला नेणारा महापुरुष : डॉ. बापूजी साळुंखे - बळवंत देशमुख	१५	१
विभाग ३ Module III	• व्यक्तिमत्त्व संकल्पना • व्यक्तिमत्त्व विकासासाठी आवश्यक घटक • व्यक्तिमत्त्व विकासात भाषेचे महत्त्व	१५	१
विभाग ४ Module IV	• भाषिक कौशल्ये(श्रवण, वाचन, भाषण आणि लेखन कौशल्ये) • कार्यक्रमाचे संयोजन - स्वागत, प्रास्ताविक, परिचय, मनोगत, आभार, सूत्रसंचलन आणि कार्यक्रमाचे फलकलेखन	१५	१

संदर्भ ग्रंथसूची:

अ.क्र.	ग्रंथाचे नांव	लेखक / संपादक	प्रकाशन
१	बदलते मराठी साहित्य व संस्कृती	संपा. विलास रणसुभे	श्रमिक प्रतिष्ठान, कोल्हापूर
२	शिक्षण महर्षी डॉ. बापूजी साळुंखे	संपा. सुरेश पाटील, तुकाराम पाटील	पारख प्रकाशन, बेळगांव
३	निळी पहाट	रा. ग. जाधव	सुरेश एजन्सी, पुणे
४	साहित्यसंवाद	वि. शं. चौघुले	प्रतिमा प्रकाशन, पुणे
५	मराठी साहित्यातील स्पंदने	गो. म. कुलकर्णी	सुपर्ण प्रकाशन, पुणे
६	साहित्यातील विचारधारा	के. रं. शिरवाडकर	पद्मगंधा प्रकाशन, पुणे
७	चिंतनाच्या वाटा	निर्मलकुमार फडकुले	मेहता पब्लिशिंग हाऊस, पुणे
८	साहित्य समजून घेताना	दत्ता भगत	मीरा बुक्स अॅण्ड पब्लिकेशन, औरंगाबाद
९	साहित्य : मूल्य आणि मूल्यांकन	निशिकांत ठकार	सुविधा प्रकाशन, सोलापूर
१०	साहित्य, भाषा आणि समाज	मिलिंद बोकिल	मौज प्रकाशन, मुंबई
११	व्यावहारिक मराठी	ल.रा. नसिराबादकर	फडके प्रकाशन, कोल्हापूर
१२	भाषिक सर्जन आणि उपयोजन	राजन गवस, अरुण शिंदे, गोमटेश्वर पाटील	दर्या प्रकाशन, पुणे
१३	व्यावहारिक मराठी	स्नेहल तावरे	स्नेहवर्धन प्रकाशन, पुणे
१४	सूत्रसंचलन : एक प्रयत्नसाध्य कला	श्यामसुंदर मिरजकर	नागनालंदा प्रकाशन, इस्लामपूर

प्रश्नपत्रिकेचे स्वरूप
Pattern of Question Paper

एकूण गुण – ४० : Total Marks – 40

प्रश्न १	योग्य पर्याय निवडा	८ गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ४	विभाग ३ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	८ गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (चार पैकी दोन)	८ गुण

टीप : १) प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १ व २ वरील असतील.

२) अंतर्गत मूल्यमापनासाठी १० गुणांसाठी प्रस्तुत अभ्यासपत्रिकानुषंगाने गृहपाठ असेल.

३) या सत्रात प्रत्येक विद्यार्थ्याने Skill Enhancement Course (SEC) पुढील लिंकवर जावून पूर्ण करणे बंधनकारक राहील.
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४) या सत्रात प्रत्येक विद्यार्थ्याने बहाही अकादमी, पाचगणी यांचा Value Based Course पूर्ण करणे बंधनकारक.

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

बी.ए.१/बी.कॉम.१ : B.A. I/B.Com I

अभ्यासक्रम : Syllabus

June 2022 onward

Board of Studies in Marathi
C. B. C. S. with M.E. & M. E. in accordance with N.E.P. - 2020

Generic Elective Core (GEC-2) : Marathi (Course - B)

अनुषंगिक निवड (GEC-2) : मराठी (अभ्यासपत्रिका - ब)

सत्र २ : Semester - II

पाठ्यपुस्तक - शब्दसंहिता

अ.क्र. Sr.No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	१. संत नामदेव १) पतितपावन २) पंढरीस जावे २. अनंत फंदी १) जमाना आला उफराटा २) हे मुर्खा खूण तर्का ३. महात्मा फुले १) मानवांचा धर्म एक २) धीर ४. बालकवी १) फुलराणी २) अप्सरांचे गाणे	१५	१
विभाग २ Module II	५. विंदा करंदीकर १) माझ्या मना बन दगड २) झपताल ६. वाहरू सोनवणे १) गोधड २) चळवळ म्हणजे ७. प्रज्ञा दया पवार १) माणसासारखा माणूस असूनही २) आग आणि फुफाटा ८. एकनाथ पाटील १) शहर एक उदास पोकळी २) शोधयात्रा	१५	१
विभाग ३ Module III	• निबंधाचे स्वरूप, व्याप्ती • निबंधाचे घटक • निबंधाचे प्रकार • निबंधाची वैशिष्ट्ये	१५	१
विभाग ४ Module IV	• निंबध लेखन (प्रात्यक्षिकासह वर्गात सराव करून घेणे)	१५	१

संदर्भ ग्रंथसूची :

अ.क्र.	ग्रंथाचे नांव	लेखक / संपादक	प्रकाशन
१	नामदेव गाथा	ह. श्री. शेणोलीकर	साहित्य अकदमी, नवी दिल्ली
२	अनंत फंदी यांच्या कविता व लावण्या	संपा. मधुकर मोंढे	पद्मगंधा प्रकाशन, पुणे
३	महात्मा फुले समग्र वाङ्मय	संपा. धनंजय कीर व इतर	महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुबंई
४	समग्र बालकवी	संपा. नंदा आपटे	पॉप्युलर प्रकाशन, मुंबई
५	संहिता	संपा. मंगेश पाडगावकर	कॉन्टिनेन्टल प्रकाशन, पुणे
६	गोधड	वाहरु सोनवणे	रविराज प्रकाशन, पुणे
७	मी भिडवू पाहतेय समग्राशी डोळा	प्रज्ञा पवार	ग्रंथाली, मुंबई
८	खुंट्यांवर टांगलेली दु:खं	एकनाथ पाटील	पॉप्युलर प्रकाशन, मुंबई.
९	संत नामदेव	हे. वि. इनामदार	केसरी प्रकाशन, पुणे
१०	संत नामदेव : समाजशास्त्रीय अभ्यास	श्यामसुंदर मिरजकर	नागनालंदा प्रकाशन, पुणे
११	मराठी शाहिरी वाङ्मयाचे स्वरूप	चंद्रकांत व्यवहारे	विश्वभारती प्रकाशन, नागपूर
१२	मराठी साहित्य प्रेरणा व स्वरूप	संपा. गो. मा. पवार, म.द. हातकणंगलेकर	पॉप्युलर प्रकाशन, मुंबई
१३	साहित्य अध्यापन व प्रकार	संपा. श्री. पु. भागवत व इतर	पॉप्युलर प्रकाशन, मुंबई
१४	मराठी कविता आणि आधुनिकता	यशवंत मनोहर	सुगावा प्रकाशन, पुणे
१५	आदिवासी साहित्य आणि संस्कृती	भुजंग मेश्राम	लोकवाङ्मय गृह, मुंबई
१६	आदिवार्ता (वाहरू सोनवणे विशेषांक)	संपा. दिपककुमार वळवी, उमाकांत वळवी	शिवकमल प्रकाशन, कोल्हापूर
१७	वाहरू सोनवणे : व्यक्तीपासून समष्टीपर्यंतचा सम्यक प्रवास	संपा. प्रशांत नागावकर	सम्यक विद्रोही प्रबोधन प्रकाशन, कोल्हापूर
१८	वर्तमान पिढीचे संदर्भ	संपा. चंद्रकांत पोतदार	द.म.सा.प्रकाशन, कोल्हापूर
१९	काव्याची भूषणे	म.वा. धोंड	पद्मगंधा प्रकाशन, पुणे
२०	मराठी कवितेच्या नव्या दिशा	महेंद्र भवरे	लोकवाङ्मय गृह, मुंबई
२१	आदिवासी साहित्य	अमर कांबळे	निर्मिती प्रकाशन, कोल्हापूर
२२	मराठी निबंध	रा. ग. जाधव	कॉन्टिनेन्टल प्रकाशन, पुणे
२३	मरठी निबंध : उद्गम आणि विकास	गिरीश मोरे	स्वरूप प्रकाशन, औरंगाबाद

प्रश्नपत्रिका स्वरूप

Pattern of Question Paper

एकूण गुण – ४० : Total Marks – 40

प्रश्न १	योग्य पर्याय निवडा	८ गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ४	विभाग ३ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	८ गुण
प्रश्न ५	विभाग ४ वरील निबंधलेखन (चार पैकी एक)	८ गुण

टीप : १) प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १ व २ वरील असतील.

२) अंतर्गत मूल्यमापनासाठी १० गुणांसाठी प्रस्तुत अभ्यासपत्रिकानुषंगाने घटक चाचणी असेल.

३)) या सत्रात प्रत्येक विद्यार्थ्याने Skill Enhancement Course (SEC) पुढील लिंकवर जावून पूर्ण करणे बंधनकारक राहील.

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शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

बी.ए.१ : B.A. I

अभ्यासक्रम : Syllabus

June 2022 onward

Board of Studies in Marathi
C. B. C. S. with M.E. & M. E. in accordance with N.E.P. - 2020
Discipline Specific Core (DSC-A1) : Marathi (Course - I)
विद्याशाखीय विशेष गाभा (DSC-A1) : मराठी (अभ्यासपत्रिका - १)

सत्र १ : Semester - I

पाठ्यपुस्तक - अक्षरबंध

१. कथा – निवडक भास्कर चंदनशिव – लाल चिखल (निवडक कथा)

संपा. इंद्रजित भालेराव, लोकवाङ्मय गृह, मंबई.

२. चित्रपट : आस्वाद प्रक्रिया

उद्दिष्टे :

१. विद्यार्थ्यांची मराठी भाषा आणि साहित्याविषयी अभिरूची विकसित करणे.

२. मराठी साहित्य परंपरा, लेखक, कवी यांचा परिचय करून देणे.

३. विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करून घेणे.

५. चित्रपट आणि प्रसारमाध्यमे यांच्या लेखन आणि उपयोजनाच्या आकलनाचा अवकाश वाढविणे.

अ.क्र. Sr.No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	कथा – निवडक भास्कर चंदनशिव उमाळं जांभळढव्ह तडा	१५	१
विभाग २ Module II	वासना लाल चिखल पाणी	१५	१
विभाग ३ Module III	चित्रपट म्हणजे काय? चित्रपट : एक दृक श्राव्य माध्यम चित्रपट : माध्यमांतर दिग्दर्शकाचा दृष्टिकोन छायाचित्रण	१५	१
विभाग ४	चित्रपटाची कथा – पटकथा – संवाद	१५	१

Module IV	चित्रपटाचे संगीत – गीत अभिनय ध्वनी – प्रकाशयोजना – वेशभुषा संकलन – संपादन चित्रपटाचा आश्वाद		

संदर्भ ग्रंथसूची :

अ.क्र.	ग्रंथाचे नांव	लेखक / संपादक	प्रकाशन
१	मराठी कथा : रूप आणि परिसर	म. द. हातकणंगलेकर	सुपर्ण प्रकाशन, पुणे
२	भास्कर चंदनशिव यांची कथा आणि स्वरूप	सुनील चंदनशिवे	शब्दाली प्रकाशन, पुणे
३	कथाकार भास्कर चंदनशिव	मथू सावंत	सुविधा प्रकाशन, सोलापूर
४	मराठी साहित्य : आकलन आणि आस्वाद	विश्वनाथ शिंदे	शब्दालय प्रकाशन, श्रीरामपूर
५	माती आणि नाती	भास्कर चंदनशिव	निर्मल प्रकाशन, नांदेड
६	ग्रामीण साहित्य आणि संस्कृती	मोहन पाटील	स्वरूप प्रकाशन, औरंगाबाद
७	शूटिंग	श्री. दा. पानवलकर	मौज प्रकाशन, मंबई
८	सय	सई परांजपे	पॉप्युलर प्रकाशन, मुंबई
९	लमाण	डॉ. श्रीराम लागू	पॉप्युलर प्रकाशन, मुंबई
१०	सामना (चित्रपटाची पटकथा)	विजय तेंडूलकर	नीलकंठ प्रकाशन, पुणे
११	चौकटीबाहेरचा सिनेमा	गणेश मतकरी	पॉप्युलर प्रकाशन, मुंबई
१२	चलतचित्र	अरुण खोपकर	राजहंस प्रकाशन, पुणे
१३	अभिनयाचे प्राथमिक सहा पाठ	सदाशिव अमरापूरकर, विनायक दातेगावकर	लोकवाङमयगृह प्रकाशन, मुंबई.

प्रश्नपत्रिका स्वरूप

Pattern of Question Paper

एकूण गुण – ४० : Total Marks – 40

प्रश्न १	योग्य पर्याय निवडा	८ गुण
प्रश्न २	विभाग १ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ३	विभाग २ वरील अंतर्गत विकल्पासह दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ४	विभाग ३ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	८ गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (चार पैकी दोन)	८ गुण

टीप : १) प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १ व २ वरील असतील.

२) अंतर्गत मूल्यमापनासाठी १० गुणांसाठी प्रस्तुत अभ्यासपत्रिकानुषंगाने गृहपाठ असेल.

३) या सत्रात प्रत्येक विद्यार्थ्याने Skill Enhancement Course (SEC) पुढील लिंकवर जावून पूर्ण करणे बंधनकारक राहील.

https://drive.google.com/file/d/176Vwvx4SC2ONrt69XADruzI2qnfBPI_o/view?usp=sharing

४) या सत्रात प्रत्येक विद्यार्थ्याने बहाही अकादमी, पाचगणी यांचा Value Based Course पूर्ण करणे बंधनकारक.

शिवाजी विद्यापीठ, कोल्हापूर

SHIVAJI UNIVERSITY, KOLHAPUR

बी.ए.१ : B.A. I

अभ्यासक्रम : Syllabus

June 2022 onward

Board of Studies in Marathi
C. B. C. S. with M.E. & M. E. in accordance with N.E.P. - 2020
Discipline Specific Core (DSC-A13) : Marathi (Course - II)
विद्याशाखीय विशेष गाभा (DSC-A13) : मराठी (अभ्यासपत्रिका - २)

सत्र २ : Semester - II

पाठ्यपुस्तक - अक्षरबंध

१. **कविता : ... बाकी सर्व ठीक आहे** - लोकनाथ यशवंत (निवडक कविता)

प्रकाशक - समुद्र पब्लिकेशन, नागपूर

२. **वृत्तपत्रीय व स्पर्धा परीक्षेसाठी लेखन**

अ.क्र. Sr.No.	घटक Topic	अध्यापन तासिका Teaching Hours	श्रेयांक Credit
विभाग १ Module I	...बाकी सर्व ठीक आहे - लोकनाथ यशवंत (निवडक कविता) १) जीवाचा आटापिटा २) मुख्यप्रवाह ३) एका वृक्षाची गोष्ट ४) राग ५) जीवन सुंदर आहे ६) भविष्य ७) तडजोड ८) पर्सनल मुलाखत	१५	१
विभाग २ Module II	९) गौडबंगाल १०) पर्यावरण ११) सोन्याचा दात १२) मांजर १३) स्पर्श १४) युद्ध असे सुरू होते १५) जन्म आईचा १६) शेतमजूर	१५	१
विभाग ३ Module III	वृत्तपत्रीय लेखन ● बातमी ● अग्रलेख ● वाचकांचा पत्रव्यवहार ● नाटक/चित्रपट परीक्षण	१५	१

विभाग ४ Module IV	**उपयोजित व स्पर्धा परीक्षेसाठी लेखन** अ) पत्रलेखन : पत्रलेखनाचे स्वरूप व प्रकार, पत्रलेखनाचे बदलते स्वरूप – ई. पत्रव्यवहार, प्रात्यक्षिकासह पत्रलेखन ब) आकलन : • आकलनाचे स्वरूप • उताऱ्याचे आकलन • कवितेचे आकलन • प्रात्यक्षिकासह उतारा व कवितेवरील आकलन	१५	१

संदर्भ ग्रंथसूची :

अ.क्र.	ग्रंथाचे नांव	लेखक/संपादक	प्रकाशन
१	दलित साहित्याची वैचारिक पार्श्वभूमी	जनार्दन वाघमारे	स्वरुप प्रकाशन, औरंगाबाद
२	दलित साहित्य : एक अभ्यास	संपा. अर्जुन डांगळे	सुगावा प्रकाशन, पुणे
३	दलित कवितेचे नवे प्रवाह	महेंद्र भवरे	शब्दालय प्रकाशन, श्रीरामपूर
४	दलित कविता व दलित साहित्याचे सौंदर्यशास्त्र	म. सु. पाटील	पद्मगंधा प्रकाशन, पुणे
५	बदलते मराठी साहित्य व संस्कृती	संपा. विलास रणसुभे	श्रमिक प्रतिष्ठान, कोल्हापूर
६	साहित्य, भाषा आणि समाज	मिलिंद बोकिल	मौज प्रकाशन, मुंबई
७	मराठी कविता : आकलन आणि आस्वाद	नागनाथ कोत्तापल्ले	स्वरूप प्रकाशन, औरंगाबाद
८	आंबेडकरी साहित्य : स्थिती आणि स्थित्यंतरे	भगवान ठाकूर	आकांक्षा प्रकाशन, पुणे
९	सदाचार अर्थात नैतिक मूल्यांचे शिक्षण	संपा.रघुनाथ केंगार, दादासाहेब यादव	क्रांतिबा प्रकाशन, कराड
१०	व्यावहारिक मराठी	संपा. सयाजीराजे मोकाशी, रंजना नेमाडे	नागनालंदा प्रकाशन, इस्लामपूर
११	भाषिक सर्जन व उपयोजन	राजन गवस, अरूण शिंदे, गोमटेश्वर पाटील	दर्या प्रकाशन, पुणे
१२	व्यावहारिक मराठी	स्नेहल तावरे	स्नेहवर्धन प्रकाशन, पुणे
१३	प्रबोधनाची निवडक पत्रे	डॉ. श्यामसुंदर मिरजकर	नागनालंदा प्रकाशन, इस्लामपूर

प्रश्नपत्रिका स्वरूप

Pattern of Question Paper

एकूण गुण – ४० : Total Marks – 40

प्रश्न १	योग्य पर्याय निवडा	८ गुण
प्रश्न २	विभाग १ वरील दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ३	विभाग २ वरील दीर्घोत्तरी प्रश्न (दोन पैकी एक)	८ गुण
प्रश्न ४	विभाग ३ वरील लघुत्तरी प्रश्न (तीन पैकी दोन)	८ गुण
प्रश्न ५	विभाग ४ वरील लघुत्तरी प्रश्न (चार पैकी दोन)	८ गुण

टीप : १) प्रश्न क्र. १ मधील वस्तुनिष्ठ प्रश्न विभाग १ व २ वरील असतील.

२) अंतर्गत मूल्यमापनासाठी १० गुणांसाठी प्रस्तुत अभ्यासपत्रिकानुषंगाने घटक चाचणी असेल.

३) या सत्रात प्रत्येक विद्यार्थ्याने Skill Enhancement Course (SEC) पुढील लिंकवर जावून पूर्ण करणे बंधनकारक राहील.

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SHIVAJI UNIVERSITY, KOLHAPUR - 416 004,
MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१–२६०९०९४

Estd. 1962
"A++" Accredited by NAAC (2021)
With CGPA 3.52

जा.क्र./शिवाजी वि./अ.मं./राज्यशास्त्र/८१ दि.२२/११/२०२२

प्रति,

मा. प्राचार्य/संचालक,
सर्व संलग्नित महाविद्यालये/मान्यताप्राप्त संस्था,
शिवाजी विद्यापीठ, कोल्हापूर

विषय : बी. ए. भाग १ राज्यशास्त्र कोर्सच्या अभ्यासक्रमाबाबत...
संदर्भ : या कार्यालयाचे पत्र क्र.३३२ दि.१९/०९/२०२२.

महोदय,

उपरोक्त संदर्भिय विषयास अनुसरुन आपणास आदेशान्वये कळविण्यात येते की, शैक्षणिक वर्ष २०२२–२३ पासून लागू करण्यात आलेल्या **बी. ए. भाग १ राज्यशास्त्र कोर्सच्या** अभ्यासक्रमामध्ये किरकोळ दुरुस्ती करण्यात आलेली आहे. सोबत सदर अभ्यासक्रमाची प्रत जोडली आहे. तसेच विद्यापीठाच्या www.unishivaji.ac.in (Online Syllabus) या संकेतस्थळावर ठेवण्यात आला आहे.

सदर अभ्यासक्रम सर्व संबंधित विद्यार्थी व शिक्षकांच्या निदर्शनास आणून द्यावी ही विनंती.

कळावे,

आपला विश्वासू,

उपकुलसचिव

सोबत : अभ्यासक्रमाची प्रत.

प्रत : १. अधिष्ठाता, मानवविज्ञान विद्याशाखा.
२. समन्वयक, राज्यशास्त्र अभ्यास मंडळ.
३. संचालक, परीक्षा व मुल्यमापन मंडळ कार्यालयास.
४. परिक्षक नियुक्ती ए व बी विभागास.
५. बी. ए. परीक्षा विभागास.
६. संगणक केंद्र/आय. टी. सेल विभागास.
७. दूरस्थ व ऑनलाईन शिक्षण विभाग.
माहितीसाठी व पुढील कार्यवाहीसाठी.

Shivaji University, Kolhapur

Accredited By NAAC with 'A++' Grade
CHOICE BASED CREDIT SYSTEM

Revised Syllabus in accordance with NEP, 2020

B.A. Part - I

POLITICAL SCIENCE

(Revised Syllabus to be implemented from June, 2022 onwards)

Political Science

Course Structure (B.A.I)

B.A. Part - I: Political Science

Sr. No	Semester	Paper No.	Title of the Paper
1	**I**	I	Introduction to Political Science
2	**II**	II	Indian Constitution

,

EQUIVALENCE

Political Science
B.A.I
Political Science
From June, 2022 Onwards

Sr. No.	Semester	Paper No. Title of the Paper Old	Equivalence Paper No. Title of the Course (New)
1	**I**	**I--Introduction to Political Science**	**I--Introduction to Political Science**
2	**II**	**II--Indian Constitution**	**II--Indian Constitution**

Revised Syllabus for
B. A. Part I Semester I (CBCS)
Political Science
From June, 2022 Onwards
Paper I--- Introduction to Political Science
Credit : 04

Preamble:

This is an introductory paper deals with basic concepts in Political Science. It also emphasizes on disciplines, sub disciplines in Political Science as well as organs of State and types of Democracy etc. The course will be useful for students to understand human values such as liberty, equality, Justice etc.

Course Outcomes: The student will able to

CO – 1 Acquire domain Knowledge
CO – 2 Understand importance of Political Science
CO – 3 Understand sub disciplines of Political Science
CO – 4 Understand Concept of State and Democracy
CO – 5 Understand Key Concepts of Political Science

Unit	Topic	Periods
Unit 1	**Unit 1 - Introduction to Political Science** 1.1 Meaning, Definition, Nature, and Scope 1.2 Difference Between Political Science and Politics 1.3 Importance of Political Science	**15**
Unit 2	**Unit 2- Introduction to Sub-disciplines of Political Science** 2.1 Political Theory: Meaning, Nature and Scope 2.2 Public Administration: Meaning, Nature and Scope 2.3 International Politics: Meaning, Nature and Scope	**15**
Unit 3	**Unit 3- State and Democracy** 3.1 State : Meaning, Definition, Organs of State 3.2 Democracy: Meaning, Types(Direct and Indirect or Representative Democracy), Features of Democracy 3.3 Challenges before Democracy	**15**
Unit 4	**Unit 4- Key Concepts in Political Science** 4.1 Liberty: Meaning, and Types 4.2 Equality: Meaning, and Types 4.3 Justice: Meaning, and Types	**15**

Reference Books:

1. Bhargav and Acharya, 2015, Political Theory An Introduction, New Delhi, Pearson
2. Kapoor A.C., (1997), Principles of Political Science, Premier Publication
3. Goodwin Barbara, 2004, Using Political Ideas, Chichester, John Wiley & Sons.
4. Hampton Jean, 1998, Political Philosophy, New Delhi, Oxford University Press.
5. Kulkarni Mangesh (ed.), 2011, Interdisciplinary Perspectives in Political Theory, New
6. Knowles Dudley, 2001, Political Philosophy, London, Routledge.

7. Pierson Christopher, 2004, The Modern State, London, Routledge.
8. Gokhale, B.K., (1964), Political Science, A.R.Sheth & Co.,Mumbai Publication.
9. भार्गव आणि आचार्य (२०१५), राजकीय सिंद्धांत परिचय, नवी दिल्ली, पिअर्सन पब्लिकेशन
10. भोळे, भा. ल., (२०१४), राजकीय सिद्धांत आणि विश्लेषण, नागपूर, पिंपळापुरे प्रकाशन
11. जाधव तुकाराम (२०१२), राजकीय सिद्धांत परिचय, पुणे, के सागर पब्लिकेशन
12. **शिंदे**, **ज. रा. प्रा. ए. डी. शेळके**, (**१९९१**), **राजकीय सिद्धांत**, **कैलास प्रकाशन**,
13. **गर्दे**, **दि.का.**, **बाचल वि.मा.**, (**१९७९**) **आधुनिक राजकीय विश्लेषण**, **कॉन्टिनेन्टल प्रकाशन**
14. **घांगरेकर**, **चि. ग.**, (1991) **आधुनिक राजकीय विश्लेषण**, **विद्या प्रकाशन**, **रुईकर रोड**, **नागपूर**

Journals: Studies in Indian Politics, Economic and Political Weekly (EPW), समाजवादी प्रबोधन पत्रिका, कोल्हापूर, नवभारत, साधना

Additional Readings: Wikipedia, Marathi Vishwakosh

Revised Syllabus for
B. A. Part I Semester II (CBCS)
Political Science
June, 2022 onwards
Paper II --Indian Constitution
Credit : 04

Preamble:

The Indian Constitution is largest written constitution in the world. This paper significantly opens up understanding of the Constitution and the Institutions in their historical and contemporary context. The paper emphasizes on development and making of Indian Constitution. This Course aims to explain Philosophy, Rights and Government machinery in the Indian Constitution.

Course Outcomes:

CO1- The students will get knowledge about making and philosophy of Indian Constitution
CO2- The students will become aware about Fundamental Rights
CO3 - The students will become aware about Directive Principles and Fundamental Duties
CO4- The students will understand about working of Legislature, Executive and Judiciary
CO5- The students will understand about working and role of Judiciary

Unit	Topic	Periods
Unit 1	**Unit 1 Making of Indian Constitution** **1.1** Historical Background of Indian Constitution –Major Acts of 1909,1919, 1935 **1.2**: Cabinet Mission **1.3** Constituent Assembly **1.4** Basic Features of Indian Constitution	**15**
Unit 2	**Unit 2: Philosophy of Indian Constitution** **2.1** Preamble **2.2** Fundamental Rights **2.3** Directive Principles of State Policy **2.4** Fundamental Duties	**15**
Unit 3	**Unit 3: Legislature and Executive** **3.1** LokSabha : Composition, Powers &Functions **3.2** RajyaSabha : Composition, Powers & Functions **3.3** Prime Minister and Council of Ministers: Powers & Functions **3.4** President : Election, Powers & Functions	**15**
Unit 4	**Unit 4 : Judiciary** **4.1** Supreme Court: Composition, Powers and Functions **4.2** Judicial Review **4.3** Independence of Judiciary	**15**

Reference Books:

1. Abbas H. Kumar,2011, Indian Government & Politics Pearson, New Delhi
2. Austin Granville, (2001), The Indian Constitution-Cornerstone of a Nation, Oxford, New Delhi.
3. Basu D.D.,2018,Introduction to the Constitution of India, 23rdEdition,LexisNexis,Nagpur
4. Chandhoke N. Priyadarshi, 2011,Contemporary India Pearson New Delhi
5. Gupta, D.C.(1994) Indian Government and Politics, Vikas ,New Delhi.
6. Josh P.L.,& Dave, (1991), BharatiyShashanaaniPrashan, Vidya, Nagpur.
7. M. Laxmikanth ,2016,Indian Polity,5th Edition, McGraw Hill Education, New Delhi
8. साठे, सत्यरंजन, (२००२), भारताच्या राज्यघटनेची पन्नास वर्षे, कॉन्टिनेन्टल, पुणे
9. भोळे, देशपांडे (1974) भारताचे शासन व राजकारण, पायल प्रकाशन, नागपूर
10. भोळे भा. ल., (2015), भारतीय गणराज्याचे शासन व राजकारण, पिंपळापुरे प्रकाशन, नागपुर,
11. नवलगुंदकर एस.एन., (1977), भारतीय शासन व राजकारण, नरेंद्र प्रकाशन पुणे
12. घारे, पा.श्री., (1973) भारतीय प्रशासन, महाराष्ट्र विद्यापीठ ग्रंथ निर्मिती मंडळ
13. जोशी, प.ल., (1991), डॉ.दवे, भारतीय शासन व प्रशासन, विद्या प्रकाशन नागपूर
14. चौधरी, रमेश, (1977), भारतीय प्रशासनाची रूपरेषा, राधेय प्रकाशन नागपूर
15. जाधव तुकाराम व शिरपूरकर महेश , (2015),भारतीय राज्यघटना व घटनात्मक प्रक्रिया, भाग 1 आणि भाग २ , पुणे,दि युनिक अकाडमी

Journals: Studies in Indian Politics, Economic and Political Weekly (EPW), समाजवादी प्रबोधन पत्रिका, कोल्हापूर, नवभारत, साधना

Additional Readings: Wikipedia, Marathi Vishwakosh

NATURE OF QUESTION PAPER AND SCHEME OF MARKING
B.A. Part- I (Semester-I) Examination ----------
Political Science

Paper No. -------- Title ----------

Sub code ------- Day & Date : Time: Total Marks : 40

Instructions
1. All questions are Compulsory
2. Figures to right indicates full marks

Q. 1. Complete the following sentences by choosing correct alternatives (MCQ) 05
1.
2.
3.
4.
5.

Q. 2. Write short notes (any three out of five) 15
A.
B.
C.
D.
E.

Q. 3. Write detail answers on any two of the following 20
A.
B.
C.

Internal Evaluation --- 10 Marks

B.A.-I Semester-I - Home Assignment

B.A.-I Semester-II – Unit Test

****

SHIVAJI UNIVERSITY, KOLHAPUR.

' A' Reaccredited By NAAC

Revised Syllabus for Bachelor of Arts (CBCS)

B. A. in Political Science

Faculty of Humanities B.A. Part – III

(Sem. V and VI)

Syllabus to be implemented from June, 2020

Shivaji University, Kolhapur

Revised Syllabus from June, 2020

Bachelor of Arts Part III – Political Science - Sem – V and VI

1) **Title**: Subject: Political Science (Paper No. 7 to 11) Optional under the Faculty of Arts.

2) **Year of Implementation**: Revised Syllabus will be implemented from June 2020 onwards.

3) **Duration:** The course shall be a full time course. The duration of course shall be three years.

4) **Pattern**: Pattern of examination will be Semester.

5) **Eligibility For Admission**: As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

6) **Medium of Instruction**: The medium of instruction shall be English or Marathi

7) **Equivalence In Accordance With Titles And Content Of Papers**: For Revised Syllabus As follows:

SEMESTER V

Sr No	Paper No	Title of Old Paper	Paper No	Title of New Paper
1	VII	Modern Government	VII	Political Theory
2	VIII	Public Administration	VIII	Public Administration
3	IX	International Politics	IX	International Politics
4	X	Constitution of United States of America	X	Comparative Politics
5	XI	Classical Western Political Thought	XI	Western Political Thought I

SEMESTER VI

Sr No	Paper No	Title of Old Paper	Paper No	Title of New Paper
1	XII	Modern Political Concepts	XII	Modern Political Concepts
2	XIII	Administrative Thinkers	XIII	Politics and Movements in Maharashtra
3	XIV	Foreign Policy of India	XIV	Foreign Policy of India
4	XV	Constitution of China and Sweden	XV	Comparative Government (With special reference to UK & USA)
5	XVI	Modern Western Political Thought	XVI	Western Political Thought II

Structure of Course

Revised syllabus of B.A. Part III (Political Science) From June, 2020

Semester	Paper No.	Title of the Paper	Theory Marks	Term work
Sem V	Paper VII	Political Theory	**40**	**10**
	Paper VIII	Public Administration	**40**	**10**
	Paper IX	International Politics	**40**	**10**
	Paper X	Comparative Politics	**40**	**10**
	Paper XI	Western Political Thought I	**40**	**10**
Sem-VI	Paper XII	Modern Political Concepts	**40**	**10**
	Paper XIII	Politics and Movements in Maharashtra	**40**	**10**
	Paper XIV	Foreign Policy of India	**40**	**10**
	Paper XV	Comparative Government (With special reference to UK & USA)	**40**	**10**
	Paper XVI	Western Political Thought II	**40**	**10**

Revised Syllabus B.A. III- Political Science (CBCS) From June 2020

Semester - V Paper No. VII DSE E-76

Title: Political Theory

Course Outcome:

1) Getting basic knowledge of Political Theory
2) Understanding of approaches to Political Theory
3) Knowing Behavioural movement in Political Science
4) Acquiring knowledge about concepts of Power, Authority and Legitimacy

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1:** Political Theory. a. Nature and scope of Political Theory. b. Political Philosophy and Political Theory c. Decline, Resurgence and Importance of Political Theory.	15	01
2.	**Unit 2:** Approaches to Political Theory a) Normative Approach b) Empirical Approach	15	01
3.	**Unit 3:** Behaviouralism & Post Behaviouralism a) Behavioral Approach—Meaning, Characteristics & Evaluation b) Post Behavioral Approach –Meaning, Characteristics & Evaluation	15	01
4.	**Unit 4**: Concepts in Political Theory a) 1)Political Power—Meaning, &Types, 2)Theories of Political Power—Psycho-Analytical Theory, Sociological Theory, Liberal Democratic Theory, Marxian Theory b) Authority –Meaning & Types c)Legitimacy –Meaning , Basis of Legitimacy	15	01

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2) Ernest Barkar, Principles of Social & Political Theory, Oxford, 1976
3) Ashirvadam & Misra, Political Theory, S Chand, Delhi 2004.
4) Dr. A.H. Doctor, Issues in Political Theory
5) Lass let Peter & Runciman W.C.(ed) Philosophy, Politics & Society, (3rd Series) Oxford, Blackwell, 1976
6) Mac Iver, Modern State, OUP, 1926
7) Verma S.P. Modern Political Theory, Vikas, Delhi, 1913
8) Carnoy, State and Political Theory, Princeton, 1984
9) Strauss L. What is political Philosophy & other essays, Glencoe, Free Press, 1959.
10) A Brecht, Political Theory-Foundations of 20th century Political Theory, Bombay, 1965.
11) David Held, Political Theory & Modern State, Polity, 1984.
12) Cresingay D. and Minogue (Ed) Contemporary Political Thinkers, Methuan, London, 1975.
13) Quinton A (Ed) Political Philosophy, Oxford, 1967.
14) Bena and Peters Social Principles & Democratic State, George Alien & Unwin, 1959
15) Einstein Mathew, Kenny Micheal,(ED) Political Ideologies: A Reader & Guide OUP; 2005

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18) भोळे भास्कर ,राजकीय सिद्धांत आणि विश्लेषण, श्रीविद्या, नागपूर,२००४

19) देव विजय आणि इतर , राजकीय संकल्पना आणि सिद्धांत, डायमंड ,पुणे, २०१५

Semester - 5 Paper No. VIII DSE E-77
Title: Public Administration

Course Outcome:

1) Acquiring information about various concepts in Public Administration.
2) Getting knowledge about Organization, its Bases, Principles and Units.
3) Getting acquainted with the budgetary process in India.
4) Understanding the interface between citizens and Public Administration; and other agencies in society and Public Administration.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Introduction to Public Administration** a) Meaning, Nature and Scope b) Politics and Administration Dichotomy c) Evolution of the Discipline and its Present Status	15	01
2.	**Unit 2: Organization** a) Meaning and Bases of Organization b) Principles of Organization c) Units of Organization	15	01
3.	**Unit 3: Financial Administration:** a) Meaning and definition of Budget b) Budgetary Process in India c) Parliamentary Control of the Budget in India.	15	01
4.	**Unit 4: Accountability and Control** a) Concepts of Accountability and Control b) Legislative, Executive and Judicial Control over Public Administration c) Citizen and Administration d) Citizen's Charter, Role of: Media, Interests Groups, Voluntary Organizations, and Civil Society.	15	01

Recommended Books

1. Dr.Sharma M. P. : Public Administration in theory and practice, Kitab Mahal, Allahabad.
2. Dr.Avasthi A.; Dr.Maheshwari S., Public Administration, Lakshmi Narain Agrawal,Agra.6
3. Basu R.,Public Administration - Concept and Theories, Sterling Publisher Pvt.Ltd.,New Delhi.
4. White L. D. : Introduction to the study of public administration
5. Bhattacharya M., Restructuring of Public Administration, Jawahar Publishers, New Delhi.
6. Laxmikanth M, Public Administration, McGraw Hill Education (India) Private Limited, Chennai.
7. Prof. Fadia B. L. and Fadia K, Public Administration in India, Sahitya Bhawan, Agra.

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9 गर्दे दि.का. लोकप्रशासन तत्व व तंत्र, नागपूर ,1980

10 इनामदार एन.आर.लोकप्रशासन, महाराष्ट्र विद्यापीठ ग्रंथ निर्मिती मंडळ ,नागपूर,1975

11 माहेश्वरी श्रीराम, भारतीय प्रशासन ,(अनुवाद : साधना कुलकर्णी), ओरिएन्ट लॉंगमन,हैद्राबाद,2002

12 काणे प.सि.,लोक्प्रशासनाचे सिद्धांत ,विद्या प्रकाशन,नागपूर
13 भोगले शांताराम ,लोकप्रशासन सिद्धांत व कार्यपद्धती ,कैलाश ,औरंगाबाद
14 दर्शनकार अर्जुन, लोकप्रशासन, कैलाश ,औरंगाबाद

Semester – V - Paper No. IX DSE E-78
Title: International Politics

Course Outcome :

1) Getting acquainted with the concepts and dimension of International Politics.
2) To understand main theories of International Politics.
3) To know the working of international and regional organizations and the new world order that emerged after the end of cold war.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit – 1. Nature of International Politics** a) Meaning, Nature and Scope of International Politics b) Theories of International Politics: Idealist and Realist.	15	01
2.	**Unit – 2. National Power :** a)Meaning of National Power b) Elements of National Power.	15	01
3.	**Unit – 3. Diplomacy :** a)Meaning of Diplomacy, b)Kinds and Functions of Diplomacy.	15	01
4.	**Unit – 4. New World Order :** a) Post Cold-War International Order b) Regional Organizations: European Union, ASIAN c) Economic Organizations: WTO and BRICS	15	01

Recommended Books:

1. Vinoy Kumar Malhotra - International Relation (New Delhi: Anmol Publication 1999)
2. Joshna Goldstein - International Relation (New York: Longman, 2003)
3. Hans Morgenthau - Politics Among Nation (New York: Alfred Knopf, 1985)

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10 वराडकर र.घ., आंतरराष्ट्रीय संबंध आणि राजकारण, विद्या,नागपूर

Semester – V Paper No. X DSE E-79
Title : Comparative Politics

Course Outcome:

1) Students will be familiar with basic theory of comparative politics
2) Students be able to understand constitutionalism, federalism.
3) Students shall understand party system and pressure groups and its functioning.
4) Students shall understand classification of political parties and pressure groups.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit – 1. Comparative Politics** a) Meaning, Nature and Scope of Comparative Politics b) Structural Functional Approach to the study of Comparative Politics c) System Approach to the study of Comparative Politics d) Marxian Approach to the study of Comparative Politics	15	01
2.	**Unit – 2. Constitutionalism** a) Meaning and Definition Constitutionalism b) Constitutionalism in United Kingdom c) Constitutionalism in United States of America	15	01
3.	**Unit – 3. Federalism** a) Meaning and Nature federalism b) Essential Conditions of Federation c) Challenges before Federation	15	01
4.	**Unit – 4. Political Party and Pressure Groups** a) Meaning and types of Political Party b) Meaning and Classification of Pressure Groups c) Role of Political Parties and Pressure Groups	15	01

Recommended Books:

1. Harry Eckstein & David E. Apter- Comparative Politics, A Reader (New York, The Free Press, 1969.
2. J Blondel- An Introduction to comparative Government, London, 1969.
3. Herman Finer- The theory and Practice of Modern Government, Mathuen and Company, London 1969
4. S. R Maheshweri – Comparative Government and Politics ,Laxmi Narayan Agrwal, Agra, 1983
5. V.N Khanna– Major Political Systems, Chand and Chand company , Delhi
6. J.C Johari – Comparative Politics, sterling Delhi.
7. VidyaBhushan – Comparative Politics , Atlantic Publication and Distributers.
8. H,Denis Derbyshire, Ian Derbyshire – Political system of the world, Alied Publishers.Ltd.
9. D. Deol – Comparative Government and Poltics, sterling Publisher Pvt. Ltd
10. V.D. Mahajan- Select Modern Government, S Chand &Co.Ltd, New Delhi

11 लोटे रा.ज, तुलनात्मक शासन आणि राजकारण ,पिंपळापुरे ,नागपूर, 2015
12 गांधीजी राय ,तुलनात्मक शासन एवं राजनीती,भारती भवन पब्लिशर, 2017
13 जोहरी जे.सी.. तुलनात्मक राजनीती,स्टर्लिंग ,2008
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15 बिस्वाल तपन, तुलनात्मक राजनीती-संस्थाए और प्रक्रियाए,द ओरिएन्ट ब्लाकस्वान, 2016
16 गर्ग सुषमा,तुलनात्मक शासन एवं राजनीती,अग्रवाल प्रकाशन ,2012
17 देशपांडे म.द., शासन राज्यपद्धती तौलनिक विचार,महाराष्ट्र विद्यापीठ ग्रंथ निर्मिती
18 घांगरेकर चि.ग.तुलनात्मक शासन आणि राजकारण

19 शास्त्री चंद्रशेखर ,प्रमुख देशांची शासन प्रणाली ,पायल,नागपूर
20 देशमुख अलका ,तौलनिक शासन आणि राजनीती,नाथ,नागपूर
21देवगावकर रा.गो.आधुनिक राजकीय व्यवस्था, साईनाथ नागपूर

Semester – V, Paper No. XI DSE E-80

Title of the Paper: Western Political Thought – I

Course Outcome :

1) Students will get acquainted with the western tradition from Plato to Rousseau.
2) Students will understand the evolution of western Political idea.
3) Students will be able to study historical aspects of western state and society.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit – 1. Plato**	15	01
2.	**Unit – 2. Aristotle**	15	01
3.	**Unit – 3. Machiavelli**	15	01
4.	**Unit – 4. Rousseau**	15	01

Recommended Books:

1) Francis W. Coker - Recent Political Thought, The world Press Pvt. Ltd.
2) George H. Sabine - A History of Political theory, George G. Harrap&comoany Ltd. London.
3) C.L. Wayper - Political thought, S.T. Pauls, Honce Warwick lane London, Ec. 4
4) V.D. Mahajan & R.R. Seth, Recent Political Thought, Premier Publishing Co, Delhi.
5) William Ebenstiein, Great Political Thinkers – Plato To the present Modern Political thought, The great Issues, IInd Edition, Oxford & IBH Publishing company.
6) Radhey Sham Chourasia, History of western Political thought – Volume I & II
7) Suda J.P., History of Political Thought,K.Nath, Meerut ,Vol. 1 to 3 ,Reprint,2017

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9 भोळे भा.ल., भारतीय आणि पाश्चिमात्य राजकीय विचार, पिंपळापुरे, नागपूर
10 गर्दे दि.का., पाश्चिमात्य राजकीय विचार प्रवाह, महाराष्ट्र राज्य ग्रंथ निर्मिती , पुणे
11 डोळे ना.य.,राजकीय विचारांचा इतिहास,कॉनंटीनेटल,पुणे
12 कुलकर्णी सुधाकर ,निवडक राजकीय विचारवंत, विद्याभारती ,लातूर

B. A. Part III – Political Science - Semester – VI

Semester VI, Paper No. XII DSE E- 201

Title of the Paper: Modern Political Concepts

Course Outcome

1. Student will know modern concepts such as Feminism, Multiculturalism, Environmentalism and Civil Society etc.
2. This will enable students to have comprehensive idea of contemporary scenario in political science.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit – 1. : Feminism** I. Meaning, Origin and Development of Feminism. II. Characteristic of Feminism III. Theories of Feminism	15	01
2.	**Unit – 2. Multiculturalism** I. Meaning and Development of Multiculturalism II. Will Kymlicka's theory of Multiculturalism III. Nationalism and Multiculturalism	15	01
3.	**Unit – 3. Environmentalism** I. Origin and Causes of Environmentalism II. Characteristics of Environmentalism III. International Efforts for protection of Environment IV. Global Warming	15	01
4.	**Unit – 4. Civil Society** I. Meaning and Development of Civil Society II. Civil Society—Liberalism and Political Economy III. Locke, Hegel, Marx and Antonio Gramsci on Civil Society IV. Post Colonialism and Civil Society	15	01

Recommended Books:

1 Kymlika Will, Multicultural Citizenship :Liberal Theory of Minority Rights,Clarendon Press, 1995

2 Kymlika Will, Contemporary Political Philosophy, Oxford,2001

3. Bhargava Rajeev and Acharya Ashok, Political Theory : An Introduction, 1st. Edition, Pearson, New Delhi,2008

4 राठी शुभांगी डी.आधुनिक राजकीय विचारप्रणाली, अथर्व,धुळे, 2014

5 भार्गव राजीव ,आचार्य अशोक, (संपा.)राजकीय सिद्धांत परिचय (अनुवाद:हेमंतखानझोडे) पिअर्सन ,नवी दिल्ली, 2011

6 खेडेकर दिगंबर ,राजकीय सिद्धांतातील मुलभूत संकल्पना, चिन्मय ,औरंगाबाद,2009

7 भागवत वंदना ,संदर्भासहित स्त्रीवाद

8 भागवत विद्युत , स्त्रीवादी सामाजिक विचार : सहा महत्वाच्या विचारवंत स्त्रियांचा परिचय,डायमंड,पुणे,2008

Semester VI Paper N0. XIII DSE E- 202

Title of the Paper: Politics and Movements in Maharashtra

Course Outcome :

1)Student will know the Political System of Maharashtra.
2)They will understand the process of formation of Maharashtra State
3)Student will know the movements, pressure groups and political parties in Maharashtra.
4)This will provide comprehensive idea of contemporary politics of Maharashtra.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit -1 Samyukta Maharashtra** a. Movement of Samyukta Maharashtra and formation of Maharashtra State b. Developments in Politics of Maharashtra after1960 c. The Politics of Regional Imbalance – Cooperative Sector and Economy	15	01
2.	**Unit – 2 Organization of State Government** a. Executive: Governor, Chief Minister and Council of Ministers – Composition, Powers and Functions b. Legislature: Legislative Assembly and Legislative Council- Composition, Powers and Functions.	15	01
3.	**Unit – 3. Politics of Maharashtra** a. Major Political Parties in Maharashtra b. Regional Parties in Maharashtra c. Coalition Politics	15	01
4.	**Unit – 4. Political and Social Movements in Maharashtra** a. Peasant Movements b. Dalit Movements c. Superstition Eradication Movements d.Student Movements	15	01

References:

1- Usha Thakkar and Mangesh Kulkarni (Ed.) Politics in Maharashtra
2- M.S.A. Rao/Francis Frankel (Ed.) Politics in Maharashtra – Vol 2. Oxford Uni. Press, 1990.
3 Murugkar Lata, Dalit Panther Movement in Maharashtra :A Sociological Appraisal,South Asia Books,1991
4 Shah Ghanshyam, Social Movements in India,sage,1991
5 जैन अशोक ,महाराष्ट्राचे शासन आणि राजकारण, सेठ ,मुंबई ,1998
6 पळशीकर सुहास आणि बिरमल नितीन,महाराष्ट्राचे राजकारण,प्रतिमा,पुणे ,2005
7 पळशीकर सुहास आणि कुलकर्णी सुहास,महाराष्ट्रातील सत्तासंघर्ष,समकालीन प्रकाशन,पुणे ,2007
8 भोळे भा.ल., यशवंतराव चव्हाण विचार व राजकारण, साकेत,औरंगाबाद,2007

9 जाधव तुकाराम आणि इतर (संपादक), महाराष्ट्राचे राजकारण नव्या वळणावर? ,युनिक अकाडेमी, 2015
10 काळे भगवानराव, संयुक्त महाराष्ट्र:काल आणि आज ,1998
11 फडके य.दि.व्यक्ती आणि विचार, श्रीविद्या, पुणे
12 सुमंत यशवंत आन डी.डी.पुंडे (संपा.) महाराष्ट्रातील जातीव्यवस्थात्मक विचार,प्रतिमा ,पुणे
13 व्होरा राजेंद्र (संपा.) परंपरा आणि आधुनिकता, प्रतिमा ,पुणे
14 भोळे भा.ल., बेडकिहाळ किशोर (संपा.) बदलता महाराष्ट्र, आंबेडकर अकादमी,सातारा,2003
15 चौसाळकर अशोक , कॉ.श्रीपाद अमृत डांगे,कॉ.गोविंद पानसरे अमृत महोत्सव समिती,कोल्हापूर,2011

Semester VI Paper No. XIV DSE E- 203

Title: Foreign Policy of India

Course Otcome:

1. Student will understand, 'what is Foreign Policy and what are the objectives of Foreign Policy.
2. This will provide comprehensive idea of foundation of Indian Foreign Policy
3. Student will come to know India's relation with super powers and neighboring countries.
4. It will bring attention of the students towards the current national and international political situation and foreign policy.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Foreign Policy** a) Meaning and Objectives of Foreign Policy. b) Determinants and Basic Principles of Indian Foreign Policy	15	01
2.	**Unit – 2. India and Global Powers** a) India – US Relations b) India – USSR and Russia Relations c) India – China Relations	15	01
3.	**Unit – 3. India's Relations with her Neighbors** a)India – Pakistan b)India – Bangladesh c)India – Shrilanka	15	01
4.	**Unit – 4. Continuity and Change in India's Foreign Policy** a) Foreign Policy of India in Cold War Era b) Foreign Policy of India in Post Cold War Era	15	01

Recommended Books :

1. Vinoy Kumar Malhotra - International Relation (New Delhi: Anmol Publication 1999)
2. Joshna Goldstein - International Relation (New York: Longman, 2003)
3. Hans Morgenthau - Politics Among Nation (New York: Alfred Knopf, 1985)

4 देवळाणकर शैलेंद्र,आंतरराष्ट्रीय संबंध, विद्या,औरंगाबाद,2005

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6 फादिया बी.एल. आंतरराष्ट्रीय राजनीती, साहित्यभवन, आग्रा,2004

7 लोटे रा.ज, आंतरराष्ट्रीय संबंध,पिंपळापुरे ,नागपूर, 2018

8 पाटील वा.भा., आंतरराष्ट्रीय संबंध,प्रशांत,जळगाव,

9 तोडकर बी.डी.., आंतरराष्ट्रीय संबंध—महत्वाच्या संकल्पना ,डायमंड ,पुणे ,2012

10 वराडकर र.घ., आंतरराष्ट्रीय संबंध आणि राजकारण, विद्या,नागपूर

11 देवळाणकर शैलेंद्र,समकालीन जागतिक राजकारण व भारताचे परराष्ट्र धोरण,क्रोनिकॅल,2012

12 देवळाणकर शैलेंद्र,भारत व जग,सकाळ,पुणे, 2014

13 देवळाणकर शैलेंद्र,भारताचे परराष्ट्र धोरण :सातत्य व स्थित्यंतर ,प्रतिमा पुणे, 2007

Semester VI Paper No XV DSE E- 204

Title: Comparative Government (With special reference to UK & USA)

Course Outcome:

1. To familiarizes students with composition, functions, and law making process of legislative bodies in UK and USA.
2. To introduce the students with execution process of laws in UK and USA
3. To introduce the Judicial System in UK and USA and procedure of adjudication
4. Students will understand the role of Pressure Groups in the Politics of UK and USA.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Legislature** a) Parliament of UK- Composition, Powers and Functions b) Congress of USA- Composition, Powers and Functions	15	01
2.	**Unit – 2 Executive** a) King, Prime Minister and Council of Minister in UK b) The President, Vice President, and Secretaries in USA	15	01
3.	**Unit – Judiciary** a) House of Lords and Supreme Court of Judicature in UK b) Supreme Court of USA- Composition, Powers and Functions	15	01
4.	**Unit – 4 Political Party and Pressure Group** a) Political Party system in UK- Conservative Party and Labour Party b) Political Party System in USA- Democratic and Republican Party c) Pressure Groups in UK and USA	15	01

Recommended Books :

1. **Harry Eckstein & David E. Apter-** Comparative Politics, A Reader (New York, The Free Press, 1969.
2. **J Blondel-** An Introduction to comparative Government, London, 1969.
3. **V.D. Mahajan-** Select Modern Government, S Chand &Co.Ltd, New Delhi
4. **Herman Finer-** The theory and Practice of Modern Government, Mathuen and Company, London 1969
5. **S. R Maheshwari** – Comparative Government and Politics ,Laxmi Narayan Agrwal, Agra, 1983
6. **V.N Khanna –** Major Political Systems, Chand and Chand company , Delhi
7. **J.C Johari –** Comparative Politics, sterling Delhi.
8. **Vidya Bhushan –** Comparative Politics , Atlantic Publication and Distributers.
9. **H,Denis Derbyshire, Ian Derbyshire –** Political system of the world, Alied Publishers.Ltd.
10. **D. Deol –** Comparative Government and Poltics, sterling Publisher Pvt. Ltd

11 लोटे रा.ज, तुलनात्मक शासन आणि राजकारण ,पिंपळापुरे ,नागपूर, 2015

12 गांधीजी राय ,तुलनात्मक शासन एवं राजनीती,भारती भवन पब्लिशर, 2017

13 जोहरी जे.सी.. तुलनात्मक राजनीती,स्टर्लिंग ,2008

14 गाबा ओमप्रकाश, तुलनात्मक राजनीती कि रूपरेखा, मयूर बुक्स, 2018

15 बिस्वाल तपन, तुलनात्मक राजनीती-संस्थाए और प्रक्रियाए,द ओरिएन्ट ब्लाकस्वान, 2016
16 गर्ग सुषमा,तुलनात्मक शासन एवं राजनीती,अग्रवाल प्रकाशन ,2012
17 देशपांडे म.द., शासन राज्यपद्धती तौलनिक विचार,महाराष्ट्र विद्यापीठ ग्रंथ निर्मिती
18 घांगरेकर चि.ग.तुलनात्मक शासन आणि राजकारण
19 शास्त्री चंद्रशेखर ,प्रमुख देशांची शासन प्रणाली ,पायल,नागपूर
20 देशमुख अलका ,तौलनिक शासन आणि राजनीती,नाथ,नागपूर
21देवगावकर रा.गो.आधुनिक राजकीय व्यवस्था, साईनाथ नागपूर

Semester VI Paper No. XVI DSE E- 205

Title:Western Political Thought- II

Course Outcome:

1. The students will understand Political views of J. S. Mill, Karl Marx, Gramsci & Hannah Arendt
2. The students will get acquinted with various aspects of state and society with western perspective.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: J.S. Mill**	15	01
2.	**Unit – 2 Karl Marx**	15	01
3.	**Unit 3 – Antonio Gramsci**	15	01
4.	**Unit – 4 Hannah Arendt**	15	01

Re commended Books :

1) Francis W. Coker - Recent Political Thought, The world Press Pvt. Ltd.

2) George H. Sabine - A History of Political theory, George G. Harrap & comoany Ltd. London.

3) C.L. Wayper - Political thought, S.T. Pauls, Honce Warwick lane London, Ec. 4

4) V.D. Mahajan & R.R. Seth, Recent Political Thought, Premier Publishing Co, Delhi.

5) William Ebenstiein, Great Political Thinkers – Plato To the present Modern Political thought, The great Issues, IInd Edition, Oxford & IBH Publishing company.

6) Radhey Sham Chourasia, History of western Political thought – Volume I & II

7) Suda J.P., History of Political Thought, K.Nath, Meerut ,Vol. 1 to 3 ,Reprint,2017

8) Steve Buckler Hannah Arendt and Political Theory : Challenging the tradition, Edinburg University Press, 2011

9) Murray Forsyth and Muurice Keens- Soper The Political Classics : Green to Dworkin, OUP, 1996

10) Weisman Tama , Hannah Arendt and Karl Marx : On Totalitarianism and the Tradition of Western Political Thought

11 Buttigieg Joseph, (Ed.) Antonio Gramsci –Prision Notebooks, Columbia University Press,2011

12 Arendt Hannah, The Origins of Totalitarianism, Schocken Books,1951

13 शृंगारपुरे अरविंद, भारतीय तथा पाश्चिमात्य राजकीय विचार,मंगेश,नागपूर

14 भोळे भा.ल., भारतीय आणि पाश्चिमात्य राजकीय विचार, पिंपळापुरे, नागपूर

15 गर्दे दि.का., पाश्चिमात्य राजकीय विचार प्रवाह, महाराष्ट्र राज्य ग्रंथ निर्मिती , पुणे

16 डोळे ना.य.,राजकीय विचारांचा इतिहास,कॉनंटीनेटल,पुणे

17 कुलकर्णी सुधाकर ,निवडक राजकीय विचारवंत, विद्याभारती ,लातूर

18 देव विजय आणि इतर , पाश्च्यात्य राजकीय विचारवंत, डायमंड,पुणे,2012

19 चौसाळकर अशोक ,मार्क्सवाद –उत्तरमार्क्सवाद,प्रतिमा,पुणे,2010

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SHIVAJI UNIVERSITY, KOLHAPUR

Revised Syllabus For

Bachelor of Arts (B. A. POLITICAL SCIENCE)

Faculty of Humanities B. A. Part - II (Sem. III and IV)

CBCS based Syllabus to be implemented from June 2019 onwards.

Equivalence Table

Paper	Old Syllabus		New Syllabus
B.A. Part- II Semester III			
Paper-III	Basic Concepts in Political Science	**DSC D7 Paper-III**	Political Process in India
Paper-IV	Ancient Indian Political Thought	**DSC D8 Paper-IV**	Indian Political Thought Part -I
IDS Paper-I	Public Administration	**CGE Paper I**	Public Administration
Paper	**Old Syllabus**		**New Syllabus**
B.A. Part- II Semester IV			
Paper-V	Local Self Government and Movements in Maharashtra	**DSC D35 Paper-V**	Local Self Government in Maharashtra
Paper-VI	Modern Indian Political Thought	**DSC D36 Paper-VI**	Indian Political Thought Part -II
IDS Paper-II	Public Administration	**CGE Paper II**	Public Administration

Course Structure for B.A.II Political Science

B.A.II

Sr. No.	Semester	Name of the Course	Discipline Specific Elective
1.	III	Political Process in India - III	Political Science Course - III
		Indian Political Thought Part I - IV	Political Science Course - IV
		Public Administration - I	Compulsory Generic Elective - I
2.	IV	Local Self Government in Maharashtra - V	Political Science Course - V
		Indian Political Thought Part II - VI	Political Science Course - VI
		Public Administration - II	Compulsory Generic Elective - II

CHOICE BASED CREDIT SYSTEM
SYLLABI AND READING LIST
B.A.II Political Science
Semester III
Discipline Specific Course (D7)
DSC (D7) Paper-III Political Process in India

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Indian Federalism** a) Nature & Characteristics of Indian Federalism b) Centre-State Relations : Legislative, Administrative, Financial c) Changing nature of federal System	15	01
2.	**Unit 2: Electoral Process in India** a) Election Commission : Composition and Functions b) Review of Selected General Election1952, 1977, 1989, 2014 c) Electoral Reforms - Corruption and Criminalization of Electoral Politics	15	01
3.	**Unit 3: Party System of India** a) Nature and Changing Pattern of Party System b) Selected National Political Parties: Indian National Congress, Bhartiya Janata Party, Communist Parties (CPM, CPI),Bahujan Samajwadi Party(BSP) c) Rise and Role of Regional Parties	15	01
4.	**Unit 4: Issues in Indian Politics** a) Caste and Politics of Identity b) Religion and Politics of Communalism c) Regionalism & Challenges before Development	15	01

References

1) Basu D. D., Introduction to Indian Constitution, Lexis Nexis (Pub.)
2) Laxmikanth M., Indian Polity, Mc Graw Hill Education, New Delhi.
3) Dasarathy Bhuyan, 2016, Political Process in India, Cattack Kitab Mandal
4) Appadorai, A. (2005). *The Substance of Politics*. N. Delhi: 2005.
5) Austin, Granville (1966). *Indian Constitution: A Cornerstone of a Nation*. N. Delhi: OUP.
6) Bandyopadhyay, Sekhar (2004). *From Plassey to Partition and After: A History of Modern India.* N. Delhi: Orient BlackSwan.
7) Badrinarayan (2011). *The Making of The Dalit Public in North India: Uttar Pradesh 1950*- Present. N. Delhi: OUP.
8) Chatterjee, Parth (2010). *Empire and Nation. Essential Writings (1985-2005)*. N. Delhi:Permanent Black.
9) Constituent Assembly Debates, Volumes I, II, and III. (Available in ILU Library).
10) Dhavan, Rajeev (2008). *Reserved! How Parliament Debated Reservations* 1995-2007. N. Delhi: Rupa & Company.
11) Ganguly, Sumit, Larry Diamond & Marc F. Plattner (eds.). (2007). *The State of India's Democracy*. Baltimore: The John Hopkins University Press.
12) Guaba, O.P. (2008). *An Introduction to Political Theory*. N. Delhi: Macmillan India Limited.Fourth Edition.
13) Gudavathy, Ajay. (2013). *Politics of Post-Civil Society: Contemporary History of Political Movements in India*. N. Delhi: Sage.
14) Guru, Gopal & Sundar Surakkai. (2006). *The Cracked Mirror*. N. Delhi: OUP.
15) Hasan, Zoya, E. Shridharan & R. Sudarshan (eds.) (2002). *India's Living Constitution: Ideas,*
16) भोले भा. ल., भारताचे गणराज्याचे शासन,
17) जोशी प. ल. भारतीय संविधान शासन आणि राजकारण, विद्या प्रकाशन नागपुर
18) बी. बी. पाटील & उर्मिला चव्हाण, भारतातील राजकीय प्रक्रिया , फडके प्रकाशन, कोल्हापूर.

CHOICE BASED CREDIT SYSTEM
B.A.II Political Science
Semester III
Discipline Specific Course (D8)
DSC (D8) Paper-IV Indian Political Thought Part -I

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Kautilya** a) Nature of State - Saptang Theory b) King and His Administration, Council of Ministers c) Mandal Theory & Shadgunya Theory	15	01
2.	**Unit 2: Mahatma Phule** a) Theory of State – Concept of Balirajya b) Religion – Critique on Brahmanism c) Satyashodhak Samaj & it's Revolutionary Thought	15	01
3.	**Unit 3: Justice M. G. Ranade** a) Political Liberalism b) Thoughts on Social Reforms c) Economic Ideas	15	01
4.	**Unit 4: B. G. Tilak** a) Cultural Nationalism b) Concept on Swarajya (Four Fold Program) c) Right to Resist (Pratiyogita Sahakarita	15	01

Reference Books:

- Altekar A.S., State and Government in India, Motilal Banarasidas , Delhi,1958
- Chakrabarty Bidyut & Pandey R.K., Modern Indian Thought, Sage, 2009
- Deshpande G.P. (ed.), *'Introduction', Selected Writings of Jotirao Phule* , Leftword: New Delhi,2002
- Jayswal K.P. Hindu Polity: A Constitutional History of India in Hindu Times, Butterwort, Calcutta, 1924
- Kangale R.P. , Arthshastra of Kautilya , Motilal Banarasidas , Delhi,1965
- Omvedt Gail, Dalit Visions: *The Anti Caste Movement and the Construction of an Indian Identity,* Orient Longman Pvt. Ltd., 2006

- Pantham Thomas & Deutsch (ed.), Political Thought in Modern India,Sage, 1986
- Singh, M.P., Indian Political Thought- Themes and Thinkers, Pearson, New Delhi,2011
- Verma V.P., Studies in Hindu political Thought and its Metaphysical Foundations , Delhi,1954
- कीर धनंजय, महात्मा फुले समग्र वाडमय, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई १९८८
- चौसाळकर अशोक, प्राचीन भारतीय राजकीय विचार: प्रवाह व अंत:प्रवाह, प्रतिमा प्रकाशन, पुणे,२०११.
- डोळे ना. य., भारतीय राजकीय विचारवंत , विद्या पब्लिशर्स , औरंगाबाद,१९९९
- भोळे भा.ल., आधुनिक भारतीय राजकीय विचार ,पिंपलापुरे, नागपूर ,२००३
- चव्हाण, रा. ना., महात्मा फुले यांचा शोध व बोध, चव्हाण प्रतिष्ठान पुणे.
- चव्हाण, रा. ना., महात्मा फुले यांचे नवदर्शन – एक तौलनिक अभ्यास, चव्हाण प्रतिष्ठान पुणे.
- चव्हाण, रा. ना., महात्मा फुले, सत्यशोधक समाज, चव्हाण प्रतिष्ठान पुणे.
- चव्हाण, रा. ना., महात्मा जोतीराव फुलेकृत सार्वजनिक सत्यधर्म (पुस्तक सार)
- बाचल वि. मा. भारतीय राजकीय विचारवंत, के सागर पब्लिकेशन्स, 2006.
- काणे प. सी., राजकीय सिद्धांत आणि राजकीय विचार, पिंपळापुरे आणि कंपनी पब्लिशर्स, नागपूर, २०००.
- बी. बी. पाटील & उर्मिला चव्हाण, आधुनिक भारतीय राजकीय विचार , फडके प्रकाशन, कोल्हापूर

CHOICE BASED CREDIT SYSTEM
B.A.II Political Science
Semester III
Compulsory Generic Elective - I
CGE Paper-I Public Administration

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Public Administration** a) Meaning, Definition and Nature b) Scope and Importance c) Public Administration and Private Administration	15	01
2.	**Unit 2: Organization** a) Meaning, Definition and Bases b) Principles : Hierarchy, Coordination, Span of Control, Centralization and Decentralization c) Units: Line and Staff.	15	01
3.	**Unit 3: Public Corporations** a) Meaning and Characteristics b) Control over Public Corporations c) Challenges of Privatization	15	01
4.	**Unit 4: Changing Perspectives in Public Administration** a) Development Administration b) Public Choice Approach c) New Public Management	15	01

Recommended Books

1. Dr.Sharma M. P. : Public Administration in theory and practice, Kitab Mahal, Allahabad.
2. Dr.Avasthi A.; Dr.Maheshwari S., Public Administration, Lakshmi Narain Agrawal,Agra.6
3. Basu R.,Public Administration - Concept and Theories, Sterling Publisher Pvt.Ltd.,New Delhi.

4. White L. D. : Introduction to the study of public administration
5. Bhattacharya M., Restructuring of Public Administration,
Jawahar Publishers, New Delhi.
6 इनामदार ना. र., लोकप्रशासन
7. गर्दे दि. का., लोकप्रशासन तत्त्व व तंत्र
8. प्रा. बी. बी. पाटीलए लोकप्रशासन, फडके प्रकाशन, कोल्हापूर.
9. व्हा. भा. पाटील, लोकप्रशासन,
10. डॉ. पारस बोरा, प्रा. शाम शिरसाट, लोकप्रशासनशास्त्र, ज्ञानसमिधा पब्लिशिंग वर्ल्ड, औरंगाबाद.

CHOICE BASED CREDIT SYSTEM
B.A.II Political Science
Semester IV
Discipline Specific Course (D35)
DSC (D35) Paper-V Local Self Government in Maharashtra

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Historical Background of Local Self Government** a) Community Development Program b) Balawantrai Mehata Committee c) Vasantrao Naik, L. N. Bongirwar, P. B. Patil Committee	15	01
2.	**Unit 2: Rural Local Self Government** a) Gram Panchayat b) Panchayat Samiti c) Zilla Parishad	15	01
3.	**Unit 3: Urban Local Self Government** a) Municipal Council b) Municipal Corporation	15	01
4.	**Unit 4: Constitutional Amendments & Challenges** a) 73rd Constitutional Amendment Importance & Features b) 74th Constitutional Amendment Importance & Features c) Challenges before local self Government	15	01

Reference Books:

- **Maheshwari S.R. - Local Government in India, 2004**
- **Gadkari S.S. - Organization of the State Government in Maharashtra, 1965**
- **Bhat K.S. - Panchayat Raj Administration in Maharashtra, 1974**
- **Government of Maharashtra - Maharashtra Zilla Parishads and Panchayats Act.1961**
- **Government of Maharashtra – Municipal Act,1965**
- **पाटील पी. बी., पंचायत राज्याकडून ग्राम स्वराज्याकडे, समाजवादी प्रबोधिनी, इचलकरंजी**
- **शिरसाठ शाम, भारतीय स्थानिक स्वशासन, विद्या बुक्स, औरंगाबाद, २०१०**

- **पाटील शिवाजी आणि लोंढे प्रदीप, महाराष्ट्रातील पंचायतराज व पोलीस प्रशासन, प्ररूप प्रकाशन, कोल्हापूर,२०१६**
- **यमलवाड वसंत, महाराष्ट्रातील, कल्पना प्रकाशन, नांदेड १९९९**
- **एखेलीकर रमेश, भारतीय स्थानिक स्वराज्य संस्था, विद्या बुक्स, १९९९.**
- बी. बी. पाटील & उर्मिला चव्हाण, **महाराष्ट्रातील स्थानिक स्वराज्य संस्था** आणि चळवळी, फडके प्रकाशन, कोल्हापूर

CHOICE BASED CREDIT SYSTEM
B.A.II Political Science
Semester IV
Discipline Specific Course (D36)
DSC (D36) Paper-VI Indian Political Thought Part -II

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: M. K. Gandhi** a) Satya, Ahimsa, Satyagraha b) Concept of Swaraj – Ramrajya & Trusteeship c) Theory of Gandhi's concept of Religion	15	01
2.	**Unit 2: Jawaharlal Nehru** a) Democratic Socialism b) Composite Nationalism & Secularism c) Panchsheel & Non-Alignment	15	01
3.	**Unit 3: Dr. B. R. Ambedkar** a) Critique of Caste System b) Social and Parliamentary Democracy c) State Socialism	15	01
4.	**Unit 4: M. N. Roy** a) Views on Marxism b) Radical Democracy c) New Humanism	15	01

Reference Books:

- Singh, M.P., Indian Political Thought- Themes and Thinkers, Pearson, New Delhi,2011
- Chakrabarty Bidyut & Pandey R.K., Modern Indian Political Thought, Sage, 2009
- Pantham Thomas & Deutsch (ed.), Political Thought in Modern India,Sage, 1986
- चौसाळकर अशोक, आधुनिक भारतीय राजकीय विचार: प्रवाह आणि अंत: प्रवाह , प्रतिमा प्रकाशन, पुणे,२०१४
- भोळे भा.ल., आधुनिक भारतीय राजकीय विचार ,पिंपलापुरे, नागपूर ,२००३
- डोळे ना. य., भारतीय राजकीय विचारवंत , विद्या पब्लिशर्स , औरंगाबाद,१९९९

- सुखटणकर, भा.र.,नवमानवतावाद, तारकुंडे प्रकाशन, मुंबई,१९४७
- सुमंत यशवंत, महात्मा गांधी : काही अलक्षित पैलू , साधना प्रकाशन, पुणे, २०१५
- बाचल वि. मा. भारतीय राजकीय विचारवंत, के सागर पब्लिकेशन्स, 2006.
- काणे प. सी., राजकीय सिद्धांत आणि राजकीय विचार, पिंपळापुरे आणि कंपनी पब्लिशर्स, नागपूर, २०००.
- चव्हाण, रा. ना., डॉ. बाबासाहेब आंबेडकर यांचा शोध व बोध, चव्हाण प्रतिष्ठान पुणे.
- चव्हाण, रा. ना., डॉ. बाबासाहेब आंबेडकर दलित चळवळ एक मागोवा, चव्हाण प्रतिष्ठान पुणे.
- बी. बी. पाटील & उर्मिला चव्हाण, आधुनिक भारतीय राजकीय विचार, फडके प्रकाशन, कोल्हापूर

CHOICE BASED CREDIT SYSTEM
B.A.II Political Science
Semester IV
Compulsory Generic Elective - II
CGE Paper-II Public Administration

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	**Unit 1: Personnel Administration** a) Meaning, Definitions and Importance b) Recruitment, Training and Promotion c) Political Neutrality of Civil Servants	15	01
2.	**Unit 2: Financial Administration in India** a) Meaning, Definitions and Importance of Budget b) Preparation, Enactment and Execution of the Budget c) Financial committees – Public Accounts Committee, Estimates Committee, Public Undertakings Committee.	15	01
3.	**Unit 3: Delegated Legislation** a) Meaning, Definition and Causes of its growth b) Merits and Demerits d) Safeguards against Delegated Legislation	15	01
4.	**Unit 4: New Trends in Public Administration** a) E-Governance b) Right to Information c) Peoples participation	15	01

Recommended Books

1. Dr.Sharma M. P. : Public Administration in theory and practice, Kitab Mahal, Allahabad.
2. Dr.Avasthi A.; Dr.Maheshwari S., Public Administration, Lakshmi Narain Agrawal,Agra.6
3. Basu R.,Public Administration - Concept and Theories, Sterling Publisher Pvt.Ltd.,New Delhi.
4. White L. D. : Introduction to the study of public administration
5. Bhattacharya M., Restructuring of Public Administration, Jawahar Publishers, New Delhi.
6. इनामदार ना. र., लोकप्रशासन
7. गर्दे दि. का. लोकप्रशासन तत्त्व व तंत्र
8. प्रा. बी. बी. पाटील लोकप्रशासन, फडके प्रकाशन, कोल्हापूर.
9. व्हा. भा. पाटील, लोकप्रशासन,
10. डॉ. पारस बोरा, प्रा. शाम शिरसाट, लोकप्रशासनशास्त्र, ज्ञानसमिधा पब्लिशिंग वर्ल्ड, औरंगाबाद.

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004,
MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्याससमंडळे विभाग – ०२३१—२६०९०९४

Estd. 1962
"A++" Accredited by NAAC (2021)
With CGPA 3.52

Ref. No./SU/BOS/Humanities/ 332 Date :19/09/2022

To,

The Principal,
All Concerenced Affiliated Colleges/Institutions,
Shivaji University, Kolhapur

Subject : Regarding syllabi of B. A. Part I (sem. I & II) degree programme under the Faculty of Humanities as per National Education Policy, 2020 (NEP)

Sir/Madam,

With reference to the subject mentioned above I am directed to inform you that the University authorities have accepted and granted approval to the revised syllabi, equivalence and nature of question paper of B. A. Part I (Sem. I & II) under the Faculty of Humanities as per National Education Policy, 2020. (NEP)

Compulosry Subject		Optional Subject		
English	Hindi	Marathi.	Hindi	English
Kannada	Urdu	Sanskrit (L)	Sanskrit (H)	Urdu
Sanskrit	Marathi	Ardhamagadhi	Linguistics	Kannada
Ardhamagadhi	Scientific Method	Sociology	Philosophy	Economics
S. T. D.		Political Science	Psychology	History
Additional English		N.C.C. (Military Science)	N. S. S.	Defence Study (Entire)
		Geography		

This syllabi shall be implemented from the academic year 2022-23 onwards . A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in (Online Syllabus).

The question paper on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October/November 2022 & March/ April, 2023. These chances are available for repeater students, if any.

For students of Distance Education this syllabi be implemented from the academic yerar 2022-23.

You are therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully

Encl : As above

Dy. Registrar

Copy to, For Information and necessary action.

Dean, Faculty of Humanities.	Computer Center/I. T. Cell.
Co-Ordinetar, B.O.S./Ad-hoc Board under faculty of Humanities.	Eligibility Section.
Director, Board of Examinations & Evaluation	P. G. Seminar Section.
Appointment Section A & B	Distance Education Section.
B. A. Exam. Section.	Affiliation Section (T. 1 & T 2)
P. G. Admission Section.	

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited 'A' By NAAC

Revised Draft Syllabus For

B.A.PART - I
SEM - I & II (SOCIOLOGY)

Syllabus to be implemented from 2022-2023 onwards.

Draft Syllabus
B.A. PART – I SEM – I
DSC-B2, SOCIOLOGY – I (50 Marks 4 Credits)
INTRODUCTION TO SOCIOLOGY PAPER - I

Module-I The Nature of Sociology:

A) Sociology : Definition and subject matter of sociology

B) Origin and Development of Sociology : A Brief outline

C) Importance of Sociology

Module –II Basic Concepts in Sociology:

A) Social Interaction : Meaning and Types

B) Society : a) Meaning and Characteristics of Human society
b) Types of Society

Module -III Social Institution:

A) Social Institution : Meaning & Characteristics

B) Importance of Social Institutions

C) Social Institutions and their Functions (Family, Marriage, Religion, Education)

Module –IV Social Groups:

A) Social Groups - Meaning and Characteristics

B) Bases of Classification of Social Groups

C) Primary and Secondary Groups

Books Recommended :

Brom, Leonard and Selznick Phillp : Sociology, Raw, Peterson and company, New York, 1957

Chinoy, Ely : Society - An Introduction to sociology, Random House, 1961.

David Dressler and Wills, W.M. : Sociology - The study of Human Interaction, Alfred A Knof, New York, 1976.

Davis, Knigsley : Human Society, Macmillan, New York, 1948.

Harlambos, M. and R.M. Heald : Sociology - Themes and perspectives, OxfordUniversity Press, New Delhi, 1994.

Horton and Hunt : Sociology, MacGraw Hill, Tokyo, 1976.

Inkeles Alex : What is Sociology? : Intlewood Cliffs, Inc., prentice Hall, New Delhi 1964

Johnson, Harry M : Society - An Introductory Analysis, Mac Millan & Co. Ltd., London, 1965.

Rawat, H. K. : Sociology, Rawat Publications Jaipur, 2007.

Tischler, H.L. Whitten, Phillip & Hunter, David E.K. : Introduction to sociology, Holt, Rinehart and Winston, 1983.

Salunkhe, Sarjero : Samajshstrateel Mulbhoot Sankapana, (in Marathi), Narendra Publication, Appa Balawant Chowk, Pune, 2006

Jadav, Ramesh : Samajshastra (in Marathi) , C.Jamanadas and Co. Mumbai, 1988.

Sangave, Vilas : Samajshastra (in Marathi), Popular Prakashan, Mumbai.

Nadgonde, Gurunath : Samajshastra chi Multatve (in Marathi), Continental Prakashan, Pune.

Bhandarkar, P.L. and Vaidaya N.S. : Samajshastriya Siddhant, Maharashtra GranthNirmiti Mandal., Nagpur, 1986.

Equivalence

Sr. No.	Title of old paper	Title of New paper
1)	Introduction to Sociology Sem.- I Paper- I	Introduction To Sociology Sem.- I Paper- I

B.A.PART – I SEM – II
DSC-B16, SOCIOLOGY – II (50 Marks 4 Credits)
PRINCIPLES OF SOCIOLOGY PAPER - II

Module –I Culture

A) Culture –Meaning and characteristics
B) Elements of Culture
C) Importance of Culture

Module –II Socialization

A) Meaning and Stages in the Process of Socialization
B) Agencies of Socialization
C) Importance of Socialization

Module –III Social Control

A) Social Control : Meaning and Nature
B) Functions of Social Control
C) Types of Social Control

Module –IV Social Change

A) Social Change : Meaning and characteristics
B) Factors of Social Change
C) Obstacles of Social Change

Books Recommended :

Brom, Leonard and Selznick Phillp : Sociology, Raw, Peterson and company, New York, 1957

Chinoy, Ely : Society - An Introduction to sociology, Random House, 1961.

David Dressler and Wills, W.M. : Sociology - The study of Human Interaction, Alfred A Knof, New York, 1976.

Davis, Knigsley : Human Society, Macmillan, New York, 1948.

Harlambos, M. and R.M. Heald : Sociology - Themes and perspectives, OxfordUniversity Press, New Delhi, 1994.

Horton and Hunt : Sociology, MacGraw Hill, Tokyo, 1976.

Inkeles Alex : What is Sociology? : Intlewood Cliffs, Inc., prentice Hall, New Delhi 1964

Johnson, Harry M : Society - An Introductory Analysis, Mac Millan & Co. Ltd., London, 1965.

MacIver and Page : Society - An Introductory Analysis, Mac Millan & Co.Ltd., London, 1965.

Rawat, H. K. : Sociology, Rawat Publications Jaipur, 2007.

Tischler, H.L. Whitten, Phillip & Hunter, David E.K. : Introduction to Sociology, Holt, Rinehart and Winston, 1983.

Salunkhe, Sarjero : Samajshstrateel Mulbhoot Sankapana, (in Marathi), Narendra Publication, Appa Balawant Chowk, Pune, 2006

Jadav, Ramesh : Samajshastra (in Marathi) , C.Jamanadas and Co. Mumbai, 1988.

Sangave, Vilas : Samajshastra (in Marathi), Popular Prakashan, Mumbai.

Nadgonde, Gurunath : Samajshastra chi Multatve (in Marathi), Continental Prakashan,

Pune.

Bhandarkar, P.L. and Vaidaya N.S. : Samajshastriya Siddhant, Maharashtra GranthNirmiti Mandal, Nagpur, 1986.

Equivalence

Sr. No.	Title of old paper	Title of New paper
1)	Applied Sociology Sem.- II – Paper- II	Principles Of Sociology Sem.- II – Paper- II

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With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004, MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१—२६०९०९४

जा.क्र./शिवाजी वि./अ.मं./भूगोल/६८ दि.१०/११/२०२२

प्रति,

मा. प्राचार्य/संचालक,
सर्व संलग्नित महाविद्यालये/मान्यताप्राप्त संस्था,
शिवाजी विद्यापीठ, कोल्हापूर

विषय : बी. ए. भाग १ एस. टी. डी. विषयाच्या अभ्यासक्रमाबाबत..
संदर्भ : या कार्यालयाचे पत्र क्र.३३२ दि.१९/०९/२०२२.

महोदय,

उपरोक्त संदर्भिय विषयास अनुसरुन आपणास आदेशान्वये कळविण्यात येते की, शैक्षणिक वर्ष २०२२—२३ पासून लागू करण्यात आलेल्या **बी. ए. भाग १ एस. टी. डी. विषयाच्या** अभ्यासक्रमामध्ये किरकोळ दुरुस्ती करण्यात आलेली आहे. सोबत सदर अभ्यासक्रमाची प्रत जोडली आहे. तसेच विद्यापीठाच्या www.unishivaji.ac.in (Online Syllabus) या संकेतस्थळावर ठेवण्यात आला आहे.

सदर अभ्यासक्रम सर्व संबंधित विद्यार्थी व शिक्षकांच्या निदर्शनास आणून द्यावी ही विनंती.

कळावे,

आपला विश्वासू,

उपकुलसचिव

सोबत : अभ्यासक्रमाची प्रत.

प्रत : १. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा.
२. समन्वयक, भूगोल अभ्यास मंडळ.
३. संचालक, परीक्षा व मुल्यमापन मंडळ कार्यालयास.
४. परिक्षक नियुक्ती ए व बी विभागास.
५. बी. ए. परीक्षा विभागास.
६. संगणक केंद्र/आय. टी. सेल विभागास.
७. दूरस्थ व ऑनलाईन शिक्षण विभाग.

माहितीसाठी व पुढील कार्यवाहीसाठी.

SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B. A. Part - I

Science, Technology and Development (S.T.D.)

(Syllabus to be implemented from June, 2022 onwards)

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with Learning Outcomes-Based Curriculum Framework (LOCF) of National Education Policy (NEP) 2020

for B. A. Part - I Degree (Basic/Honours)

w.e.f. Academic Year 2022-23 and onwards

PREAMBLE

This paper is specially designed to cater to foundation building of the students by imparting knowledge about the science, technology and development. STD students of B. A. Part-I can bitterly understand all latest concepts in Science, Technology and Development in brief but in adequate manner. The objective of this course is to introduce the latest concepts in Science, Technology and Development, specifically fundamental concepts in scientific thinking, contribution of eminent scientists, non-conventional power resources of India, human health, disaster management, communication and information technology, space and ocean research, defense and agriculture.

ELIGIBILITY FOR ADMISSION

Candidates who have passed any PUC Science, Commerce, Arts examinations in Maharashtra State or any other States in India with equal qualifications are eligible for admission to the course.

DURATION OF THE COURSE

The duration of the B.A./B.Sc. Geography Program shall extend over 8 semesters (four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

MEDIUM OF INSTRUCTION:

The medium of instruction shall be Marathi and English.

PROGRAM OUTCOMES

GENERAL OBJECTIVES OF THE COURSE

1) To study the fundamental concepts of science, technology and development.

2) To study the contribution of eminent scientist in the development of science and technology.

3) To study non-conventional power resources of India.

4) To study impact of science and technology on human health.

5) To study various types of disasters and its management.

6) To study means of communication and information technology.

7) To study science technology in space and ocean research.

8) To study space technology in India's defence and agriculture.

COURSE OUTCOMES

1) Student should be able to understand in-depth about the concepts of science, technology and development.

2) Students should be able to understand contribution of eminent scientists in the development of science and technology.

3) Students should be able to study non-conventional power resources in the country.

4) Students should understand impact of science and technology on human health.

5) Students should understand types of disasters and its management.

6) Students should understand means of communication and information technology.

7) Students should be able to understand science technology in space and ocean research.

8) Students should understand technology in India's defence and agriculture.

SCHEME OF EXAMINATION:-

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks (as applicable to the course)
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers on any two (20)

Internal Evaluation 10 Mark

B.A.-I Semester-I - Home Assignment / Unit Test / Case Study

B.A.-I Semester-II – Home Assignment **/** Unit Test / Case Study

Generic Elective for B. A. Part – I Semester I

Science Technology and Development (STD)

(THEORY)

Title of the Course: Science, Technology and Development **Code:** CGE-1B

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Classes per week
04	60	04

Semester – I

	No. of Lectures	Credits
Module–I Introduction to Science and Technology	**15**	**01**

1.1 Science and Technology: Definitions, Nature and Scope

1.2 Fundamental Concepts in Scientific Thinking

1.3 Stages in the Study of Science Observation, Experiment, Analysis, Result and Hypothesis.

1.4 Science and Superstitions

1.5 Development of Science and Technology

1.6 Impact of Science and Technology on Society

Module-II Contribution of Eminent Scientist in the Development of Science and Technology	**15**	**01**

2.1 Louis Pasteur

2.2 Albert Einstein

2.3 Thomas Alva Edison

2.4 Dr. Homi Bhabha

2.5 Dr. M. S. Swaminathan

2.6 Dr. A. P. J. Abdul Kalam

Module–III Non-Conventional Power Resources of India	**15**	**01**

3.1 Resource: Concept and Importance

3.2 Classification of Resources

3.3 Non-Conventional Power Resources

3.3.1 Solar Energy

3.3.2 Wind Energy

3.3.3 Nuclear Energy

3.3.4 Bio Energy

3.3.5 Geo –Thermal Energy

3.3.6 Tidal Energy

Module–IV Science, Technology and Human Health 15 01

4.1 Impact of Science and Technology on Human Health

4.2 Human Blood–Blood Groups, Importance of Matching Blood Groups in Human Health

4.3 Addiction Social Problems, types, Causes, Effects and Solution

4.4 AIDS–A Challenge before World, Facts, Figures, Causes, Effects, Treatment, Social Outlook.

4.5 Need of Cleanliness: Swachh Bharat Abhiyan

Reference Books

1. Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.
3. Encyclopedia of Computer Science and Technology (Facts on File Science Library) – Import, 15 Jan 2009
4. Encyclopedia of Space Science and Technology, Wiley Online Library.
5. Indian Ocean Research Volumes: Geopolitical Orientations, Regionalism and Security in the Indian Ocean (Routledge Revivals), Dennis Rumley, Sanjay Chaturvedi (Editor) 2015
6. Disaster Management in India, Kadambari Sharma and Chiranjeev Avinash, Jnanda Prakashan, 2010.
7. Bagila A.V. (Ed) Science and Society, Lavani Publication House, 1972.
8. Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.
9. Butle J.A.V, Science and Human Life, Pergamon Press, London. (Year)
10. Encyclopaedia Britannica.
11. Flower W.S, The Development of Scientific Method, Pergamon Press, London, 1962.

मराठी पुस्तके

1. विज्ञानाचा समाज धारणेवरील परिणाम - दीक्षित कमलाकर, समाज प्रबोधन संस्था
2. शास्त्रीय विचार पद्धती - अ.भि. शहा, समाज प्रबोधन संस्था
3. जीवनाभिमुख विज्ञान - शिवाजी विद्यापीठ प्रकाशन

4. वैज्ञानिक अभ्यासाची गाथा - शिवाजी विद्यापीठ प्रकाशन
5. विज्ञान, तंत्रज्ञान आणि प्रगती - डॉ.पवार जयसिंगराव, प्रा. सूर्यवंशी निशांत फडके प्रकाशन कोल्हापूर
6. विज्ञान, तंत्रज्ञान आणि प्रगती - प्रा. पाटील हरिश्चंद्र, प्रा. घस्ते अनिल , प्रा. पाटील अरुण, प्रा. माने देशमुख रामराजे, निराली प्रकाशन, पुणे
7. मराठी विश्वकोश

Websites:

e-PG Pathshala: https://epgp.inflibnet.ac.in/

MOOCS - NPTEL: https://nptel.ac.in/

MOOCS - SWAYAM: https://swayam.gov.in/

National Digital Library of India: https://ndl.iitkgp.ac.in/

Shivaji University Library (E-Resources): http://www.unishivaji.ac.in/library/E-Resources

Generic Elective for B. A. Part – I Semester II

Science Technology and Development (STD)

(THEORY)

Title of the Course: Science, Technology and Development **Code:** CGE-2B

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Classes per week
04	60	04

Semester – II

	No. of Lectures	Credits
Module-I Disaster Management	**15**	**01**
1.1 Disaster: Concept and Types		
1.2 Earthquake		
1.3 Flood		
1.4 Drought		
1.5 Fire		
1.6 Accident		
1.7 Crowd		
Module–II Means of Communication and Information Technology	**15**	**01**
2.1 A Brief History of Communication		
2.2 Origin, Development and Importance of Computer		
2.3 Computer Network		
2.4 Internet		
2.5 Computer Viruses		
2.6 Information Technology		
Module–III Science and Technology in Space, Defense and Ocean Research	**15**	**01**
3.1 Artificial Satellite –Types and Usages		
3.2 Indian Space Research Organization		
3.3 Introduction of: a) Geographical Information System (GIS)		
b) Global Navigation Satellite System (GNSS)		
3.4 Science and Technology in National Defense		
3.5 Defense Research and Development Organization(DRDO)		
3.6 Importance of Ocean Study		
3.7 National Institute of Oceanography		

Module–IV Science and Technology in Agriculture **15** **01**

4.1 Introduction to Agriculture

4.2 Modern Tools and Techniques in Agriculture

4.3 Fertilizer: Chemical and Bio Fertilizers

4.4 Issues and Challenges in Modern Agriculture

4.5 Sustainable Agriculture

Reference Books

1. Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.

3. Encyclopedia of Computer Science and Technology (Facts on File Science Library) – Import, 15 Jan 2009

4. Encyclopedia of Space Science and Technology, Wiley Online Library.

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7. Bagila A.V. (Ed) Science and Society, Lavani Publication House, 1972.

8. Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.

9. Butle J.A.V, Science and Human Life, Pergamon Press, London. (Year)

10. Encyclopaedia Britannica.

11. Flower W.S, The Development of Scientific Method, Pergamon Press, London, 1962.

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2. शास्त्रीय विचार पद्धती - अ.भि. शहा, समाज प्रबोधन संस्था
3. जीवनाभिमुख विज्ञान - शिवाजी विद्यापीठ प्रकाशन
4. वैज्ञानिक अभ्यासाची गाथा - शिवाजी विद्यापीठ प्रकाशन
5. विज्ञान, तंत्रज्ञान आणि प्रगती - डॉ.पवार जयसिंगराव, प्रा. सूर्यवंशी निशांत फडके प्रकाशन कोल्हापूर
6. विज्ञान, तंत्रज्ञान आणि प्रगती - प्रा. पाटील हरिश्चंद्र, प्रा. घस्ते अनिल , प्रा. पाटील अरुण, प्रा. माने देशमुख रामराजे, निराली प्रकाशन, पुणे
7. मराठी विश्वकोश

Websites:

e-PG Pathshala: https://epgp.inflibnet.ac.in/

MOOCS - NPTEL: https://nptel.ac.in/

MOOCS - SWAYAM: https://swayam.gov.in/

National Digital Library of India: https://ndl.iitkgp.ac.in/

Shivaji University Library (E-Resources): http://www.unishivaji.ac.in/library/E-Resources

-Notice-

All the concern faculties and departments of the concern course is hereby informed that following changes are made in the previous syllabus of B. A. Part-I Science, Technology and Development (STD) and the corrected syllabus of same course is as above to be implemented from June, 2022 onwards.

Do needful changes according to following:

Old / Previous	New or Revised
Semester I Module – III Non-Conventional Power Resources of India 15 01 3.1 Resource: Concept and Importance 3.2 Types of Power Resource 3.3 Non-Conventional Power Resources 3.3.1 Solar Energy 3.3.2 Wind Energy 3.3.3 Hydel Power Energy 3.3.4 Nuclear Energy 3.3.5 Bio Energy 3.3.6 Geo-Thermal Energy 3.3.7 Tidal Energy 3.4 Carbon Credit	**Semester I** Module – III Non-Conventional Power Resources of India 15 01 3.1 Resource: Concept and Importance 3.2 Classification of Resources 3.3 Types of Power Resource 3.4 Non-Conventional Power Resources 3.4.1 Solar Energy 3.4.2 Wind Energy 3.4.3 Nuclear Energy 3.4.4 Bio Energy 3.4.5 Geo-Thermal Energy 3.4.6 Tidal Energy
Semester II **Module – III Science Technology in Space and Ocean Research 15 01** 3.1 Artificial Satellite – Types and Usages 3.2 Indian Space Research Organisation 3.3 Introduction of: a) Geographical Information System (GIS) b) Global Navigation Satellite System (GNSS)	**Semester II** **Module – III Science and Technology in Space, Defense and Ocean Research 15 01** 3.1 Artificial Satellite – Types and Usages 3.2 Indian Space Research Organization 3.3 Introduction of: a) Geographical Information System (GIS) b) Global Navigation

3.4 Importance of Ocean Study 3.5 National Institute of Oceanography **Module – IV Science Technology in India's Defence and Agriculture 15 01** 4.1 Science Technology in National Defence 4.2 Defence Research and Development Organization (DRDO) 4.3 New Technology in Irrigation System 4.4 Chemical and Bio Fertilizers 4.5 Modern equipment's in agriculture 4.6 Plant Protection Methods	Satellite System (GNSS) 3.4 Science Technology in National Defense 3.5 Defense Research and Development Organization (DRDO) 3.6 Importance of Ocean Study 3.7 National Institute of Oceanography **Module – IV Science and Technology in Agriculture 15 01** 4.1 Introduction to Agriculture 4.2 Modern Tools and Techniques in Agriculture 4.3 Fertilizer: Chemical and Bio Fertilizers 4.4 Issues and Challenges in Modern Agriculture 4.5 Sustainable Agriculture

Estd. 1962
"A++" Accredited by NAAC (2021)
With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004, MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१—२६०९०९४

Ref. No./SU/BOS/Humanities/541 Date :19/07/2023

To,
The Principal,
All Concerenced Affiliated Colleges/Institutions,
Shivaji University, Kolhapur

Subject : Regarding syllabi of B. A. Part II (sem. III & IV) degree programme under the Faculty of Humanities as per National Education Policy, 2020 (NEP)

Sir/Madam,

With reference to the subject mentioned above I am directed to inform you that the University authorities have accepted and granted approval to the revised syllabi, equivalence and nature of question paper of B. A. Part II (Sem. III & IV) under the Faculty of Humanities as per National Education Policy, 2020. (NEP)

English (Comp.)	English (Opt.)	Linguistics (I.D.S.)	Sanskrit	Kannada
Business Administration	Marathi	Ardhamagadhi	Hindi	Urdu
S.P. & Comm. Corresp.	Sociology	Political Science	Psychology	Economics
Industrial Psychology	Geography	Human Development	Philosophy	History
Defence Study (Entire)				

This syllabi shall be implemented from the academic year 2023-24 onwards . A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in (Online Syllabus).

For students of Distance Education this syllabi be implemented from the academic yerar 2023-24.

You are therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully

Encl : As above

(Dr. S. M. Kubal)
Dy. Registrar

Copy to, For Information and necessary action.

Dean, Faculty of Humanities.	Computer Center/I. T. Cell.
Chairman, B.O.S./Ad-hoc oard under faculty of Humanities.	Eligibility Section.
Director, Board of Examinations & Evaluation	P. G. Seminar Section.
Appointment Section A & B	Distance Education Section.
B. A. Exam. Section.	Affiliation Section (T. 1 & T 2)
P. G. Admission Section.	

Estd. 1962

Accredited by with NAAC 'A++' Grade

Faculty of Humanities

CHOICE BASED CREDIT SYSTEM

Revised Syllabus in accordance with NEP, 2020

Syllabus for

B. A. Part II (Sem III & IV)

Sociology

Rural Development (IDS) &

Social Ecology (IDS)

(Revised Syllabus to be implemented from June, 2023 onwards)

B. A. Part- II (Semester- III & IV) Sociology Course Structure
From June 2023
Equivalence Table

B. A. Part- II (Sem- III)

Paper No.	Paper title of Old Syllabus	Paper No.	Paper title of New Syllabus
DSC- D 3 Paper No. III	Social Issues in India	DSC – III Paper No. III	Social Issues in India
DSC- D 4 Paper No. IV	Social Movement in India	DSC – IV Paper No. IV	Social Movement
CGE Paper – I	Introduction to Rural Development	IDS – I	Introduction to Rural Development
CGE Paper – I	Social Ecology	IDS – I	Social Ecology

B. A. Part- II (Sem- IV)

Paper No.	Paper title of Old Syllabus	Paper No.	Paper title of New Syllabus
DSC- D 31 Paper No. V	Gender and Violence	DSC – V Paper No. V	Gender and Violence
DSC- D 32 Paper No. VI	Sociology of Health	DSC – VI Paper No. VI	Sociology of Health
CGE Paper – II	Rural Development in India	IDS – II	Rural Development in India
CGE Paper – II	Social Ecology	IDS – II	Social Ecology

Shivaji University, Kolhapur

SYLLABUS - Choice Based Credit System

B.A. Part – II – DSC – III

Semester - III, Paper No. III - Social Issues in India

Sociology Course - 3, June 2023 onwards

This course introduces students a sociological study of social issues. This paper aims to draw attention of the students for to need to study socio-cultural, economic and legal issues in India.

Course Objective-

1. To introduce social issues to the students.
2. To make able the students to identify the social issues.
3. To make understand socio-cultural issues.
4. To imbibe the remedies for socio-cultural, economic and legal issues.

Course Outcomes-

1. Students get well acquainted with social issues.
2. The students learn how to identify the causes of the social issues.
3. The students learn to understand the remedies for socio, cultural, economic and legal issues.

	Topic	Teaching Hours	Credits
Model - I	**Social Issues** A) Nature of Social Issues B) Classification of Social Issues C) Need for study for Social Issues	**15**	**1**
Model - II	**Socio-Cultural Issues** A) Communalism : Meaning, Causes and Remedies B) Female-Foeticide : Meaning, Causes and Remedies	**15**	**1**

Model - III	**Socio-Economic Issues** A) Poverty : Meaning, Causes and Remedies B) Unemployment : Meaning and Remedies	**15**	**1**
Model - IV	**Socio-Legal Issues** A) Human Rights : History, Fundamental Rights in Indian Constitution B) Cyber Crime : Meaning, Causes and Remedies	**15**	**1**

Reference Books-

1. जी. एल. शर्मा: सामाजिक मुद्दे, 2017, रावत पब्लिकेशन, जयपूर.
2. राम आहुजा: सामाजिक समस्या, 2000, रावत पब्लिकेशन, जयपूर.
3. राम आहुजा: सोशल प्रोब्लेम्स इन इंडिया, 2014, रावत पब्लिकेशन, जयपूर.
4. भार्गव नरेश: वैश्विकरण: समकालीन परीपेक्ष्य, 2014, रावत पब्लिकेशन, जयपूर.
5. राजविवेक एस. : समकालीन भारतीय मुद्दे (समस्या एवं समाधान), 2013-14 सिव्हील सर्विसेस, टाईम्स न्यू दिल्ली
6. रावत हरिकृष्ण, उच्चतर समाजशास्त्र विश्वकोश, 2014, रावत पब्लिकेशन, जयपूर.

Equivalence of B.A.II Sociology

Sr. No.	Title of Old Paper	Title of New Paper
1.	Sem-III, Paper No. III Social Issues in India	Sem-III, Paper No. III Social Issues in India

Shivaji University, Kolhapur

SYLLABUS - Choice Based Credit System

B.A. Part – II – DSC – IV

Semester - III, Paper No. IV - Social Movement

Sociology Course - 4, June 2023 onwards

This paper aims to draw attention to the variety of ideas and debates about India. Further, it critically engages with the multiple socio-political forces and ideologies which shape the terrain of the nation.

Course Objective-

1. To make understand the social movements.
2. To make able the students to find the problems of social movements.
3. To give knowledge about peasant, *dalit* and tribal movement in depth.

Course Outcomes-

1. Students will get the outline of the social movement.
2. Students get well acquainted with the problems of social movement.
3. The students get aware with engagement of socio-political forces and ideologies.

	Topic	Teaching Hours	Credits
Model - I	**Social Movement** A) Meaning and Characteristics of Social Movement B) Elements of Social Movements C) Importance of Social Movement.	**15**	**1**
Model - II	**Peasant Movement** A) Peasant Problems in India B) Major peasant Movement in Maharashtra C) Impact of Peasant Movement	**15**	**1**

Model - III	**Dalit Movement** A) Dalit Problems in India B) Major Dalit Movement in Maharashtra C) Impact of Dalit Movement	**15**	**1**
Model - IV	**Tribal Movement** A) Tribal Problems in India B) Major Tribal Movement in Maharashtra C) Impact of Tribal Movement	**15**	**1**

Reference Books:

1. Gandhi and Ambedkar, Ambedkar, B. R., 1971 [1936], Annihilation ofCaste, Jullunder: Bheem Patrika
2. Dalit Politics, Shah, G., 2001, Dalit Identity and Politics, New Delhi:Sage Publications, Pp.17-43
3. Mobility and Change, Srinivas, M.N., 1956, 'A Note on Sanskritizationand Westernization', The Far Eastern Quarterly, 15(4), Pp. 481-496
4. Women's Movement : Menon, N., (ed.) 1999, Gender and Politics inIndia, Delhi: Oxford University Press, pp.342-369.
5. Peasant Movements : Pouchepadass, J., 1980, 'Peasant Classes in Twentieth Century Agrarian Movements in India', in E. Hobsbawm (ed.)Peasants in History, Delhi: Oxford University Press, Pp.136-155
6. भारतातील दलित समाज : सुखदेव थोरात, 2009, सेज पब्लिकेशन, न्यू दिल्ली
7. समाजशास्त्रातील मुलभूत संकल्पना: सर्जेराव साळुंखे, निराली प्रकाशन, पुणे.
8. भारतातील सामाजिक चळवळी: घनश्याम शहा, 2014 सेज पब्लिकेशन, न्यू दिल्ली.
9. सामाजिक चळवळी आणि सरकार: घनश्याम शहा, अनुवाद - योगिनी वेंगुर्लेकर, 2009, डायमंड पब्लिकेशन, पुणे.
10. भारतातील सामाजिक चळवळी: खंडेरावजी एस. साळुंखे, 2018, निर्मिती संवाद, कोल्हापूर.

Equivalence of B.A.II Sociology

Sr. No.	Title of Old Paper	Title of New Paper
1.	Sem-III, Paper No. IV Social Movement in India	Sem-III, Paper No. IV Social Movement

Shivaji University, Kolhapur

SYLLABUS - Choice Based Credit System

B. A. Part – II - DSC – V

Semester - IV, Paper No. V - Gender and Violence

Sociology Course - 5, June 2023 onwards

Gendered violence is routine and spectacular, structural as well as situated. This course attempts to provide an understanding of the logic of that violence, awareness of its most common forms and tries to equip the students with a sociologically informed basis for making pragmatic, ethical and effective choices while resisting or intervening in the context of gendered violence.

Course Objective-

1. To provide an understanding of the logic of violence.
2. To make aware the students about domestic violence.
3. To make aware the students about nature of violence against women.
4. To make an outline before the students about women's harassment at work place.

Course Outcomes-

1. The students get well acquainted with the variety of violence against women.
2. The students will come to know causes and remedies for the violence.
3. The students learn diverse types of women's harassment at workplace.

	Topic	Teaching Hours	Credits
Module – I	**Gender and Violence** A) Meaning of Gender B) Nature of Gender Violence C)Major Gender Issues.	**15**	**1**
Module – ll	**Domestic Violence** A) Meaning of Domestic Violence B) Dowry : Causes and Remedies C) Divorce : Causes and Remedies	**15**	**1**

Module – lll	**Violence Against Women** A) Nature of Violence Against Women a) Tribal Women b) Rural Women c) Urban Women B) Remedies on Violence Against Women a) Welfare Remedies b) Legal Remedies	**15**	**1**
Module – IV	**Womens' Harassment at workplace** A) Nature of Womens' Harassment B) Types of Womens' Harassment C) Remedies and Vishakha Guidelines Acts, 2013	**15**	**1**

References:

1. Kimmel, Michael S. The Gendered Society. New York: Oxford University Press, 2011. Chapter 13. Gender of Violence, Pp. 381-407
2. Wies, Jennifer R. Anthropology at the Front Lines of Gender-Based Violence.
3. Nashville, Tenn.: Vanderbilt Univ. Press, 2011. Chapter 1. Ethnographic Notes from the Frontlines of Gender Based Violence, Pp. 1-18
4. Kannabiran, Vasanth and Kalpana Kannabiran, Caste and Gender: Understanding Dynamics of Power and Violence, Economic and Political Weekly, Vol. 26, No. 37 (Sep. 14, 1991), pp. 2130-2133.
5. Irudayam, Aloysius, Jayshree P Mangubhai, and Joel G Lee. Dalit Women Speak Out. Chapters. 1, 3, 4, 13 and 14.
6. Karlekar, Malavika. Domestic Violence, Economic and Political Weekly, Vol. 33, No. 27 (Jul. 4-10, 1998), pp. 1741-1751
7. Agnes, Flavia, 'My Story, Our Story: Building Broken Lives' Mumbai: Majlis. 1984.
8. Chowdhry, Prem. Enforcing Cultural Codes: Gender and Violence in Northern India, Economic and Political Weekly, Vol. 32, No. 19 (May 10-16, 1997), pp.

1019-1028

9. Wood, E. J. 'Variation in Sexual Violence during War'. Politics & Society 34.3 (2006): 307-342.
10. Butalia, Urvashi. The Other Side of Silence. Durham, NC: Duke University Press, 2000. Chapter 4, Pp. 104 - 171
11. MacKinnon, Catharine A. Only Words. Cambridge, Mass.: Harvard University Press, 1993. Chapter II Racial and Sexual Harassment. Pp. 43– 68.
12. Tejani, Sheba. Sexual Harassment at the Workplace: Emerging Problems and Debates, Economic and Political Weekly, Vol. 39, No. 41 (Oct. 9-15, 2004), pp. 4491-4494
13. Box, Steven. Power, Crime, and Mystification. London: Routledge, 1989. Chapter 4. Rape and Sexual Assaults on Women Pp. 120 - 165
14. Scully, Diana and Joseph Marolla. "Riding the Bull at Gilley's": Convicted Rapists Describe the Rewards of Rape, Social Problems, Vol. 32, No. 3 (Feb., 1985), pp. 251- 263
15. Menon, Nivedita. Recovering Subversion: Feminist Politics beyond the Law. Ranikhet: Permanent Black. 2004. Chapter 3. Sexual Violence: Escaping the Body. Pp. 106 - 156
16. Omvedt, Gail, Violence Against Women: New Movements and New Theories in India. Delhi: Kali for Women, 1990. Pp. 1-40
17. Das, Veena & Kim Turcot DiFruscia. Listening to Voices: An Interview with Veena Das, Altérités, vol. 7, no 1, 2010 : 136-145.
18. Naquvi, Farah. This Thing called Justice: Engaging Laws on Violence against Women In India, in Bishakha Dutta (ed.), Nine Degrees of Justice: New Perspectives on Violence Against Women in India. Delhi: Zuban, 2010.
19. Wall, Liz. 'Gender equality and violence against women what's the connection?' The Australian Center for the study of Sexual Assault Research Summary. 2014.
20. Welchman, Lynn, and Sara Hossain. "Honour". London: Zed Books, 2005. Chapter 2. 'Crimes of Honour': Value and Meaning Pp. 42-64

21. Loy, Pamela Hewitt, and Lea P. Stewart. 'The Extent and Effects of the Sexual Harassment of Working Women'. Sociological Focus 17.1 (1984): 31-43.

22. Pickup, Francine, Ending Violence against Women: A Challenge for Development and Humanitarian Work, London: Oxfam, 2001. Chapter 5. Direct support to the survivors of violence & Chapter 8. Challenging the State.

23. United Nations Division for the Advancement of Women, 'Good Practices in Legislation on Violence against Women' 2008. Part III, Framework for Legislation on Violence against Women.

24. Puri, Jyoti. 'Sodomy, Civil Liberties, and the Indian Penal Code' in Chatterji, Angana P, and Lubna Nazir Chaudhry. Contesting Nation. Delhi: Zuban. Pp. 100-132.

25. जी. एल. शर्मा: सामाजिक मुद्दे, 2016, रावत पब्लिकेशन, जयपूर.

26. रचना सुचिन्मयी: समसामायिक - राजनितीक मुद्दे, 2016, रावत पब्लिकेशन, जयपूर.

Equivalence of B.A.II Sociology

Sr. No.	Title of Old Paper	Title of New Paper
1.	Sem- IV, Paper No. V Gender and Violence	Sem- IV, Paper No. V Gender and Violence

Shivaji University, Kolhapur

SYLLABUS - Choice Based Credit System

B. A. Part – II - DSC – VI

Semester - IV, Paper No. VI - Sociology of Health

Sociology Course - 6, June 2023 onwards

The course introduces students to the sociology of health, illness and medical practice by highlighting the significance of socio-cultural dimensions in the construction of illness and medical knowledge. Theoretical perspectives examine the dynamics shaping these constructions. Negotiations of health and illness are explored through ethnographies.

Course Objective-

1. To introduce the students to the sociology of health, illness and medical practices.
2. To make understood the students about major diseases in India.
3. To explore health and life style among the students.
4. To make aware the students about health policies in India.

Course Outcomes-

1. Students get understood the sociology of health and major diseases in India.
2. Students learn health remedies, modern life style impacted on human health.
3. Students get aware with public health policies in India.

	Topic	Teaching Hours	Credits
Model - I	**Introduction to Sociology of Health** A) Meaning and Nature of Sociology of Health B) Subject Matter of Sociology of Health C) Importance of Sociology of Health	**15**	**1**

Model - II	**Major Diseases in India** A) Diabetes - Causes and Remedies B) Heart Diseases - Causes and Remedies C) Cancer - Causes and Remedies	**15**	**1**
Model - III	**Lifestyle and Health** A) Traditional Lifestyle and Health B) Modern Lifestyle and Health C) Remedies on Health Problems	**15**	**1**
Model - IV	**Health Policy in India** A) Health Policy for Children and Women B) Health Policy for Old Age C) Health Policy for People Below Poverty Line (BPL)	**15**	**1**

Reference Books:

1. Turner, Bryan, S. (1995) Medical Power and Social Knowledge. London, Sage, Chapters 1 and 2 and 3. Pages (1-54).
2. Boorse, Christopher (1999) On the distinction between Disease and Illness. In (eds.) James Lindermann Nelson and Hilde Lindermann Nelson, Meaning and Medicine: A Reader in the Philosophy of Healthcare, New York: Routledge. (Pages 16-27)
3. Kleinman, Arthur (1988) The Illness Narratives: Suffering, Healing and the Human Condition. New York : Basic Books Inc. Publishers. Chapter (Pages 3-30).
4. Fruend, Peter E.S., McGuire, Meredith B. and Podthurst, Linda S. (2003) Health, Illness and the Social Body, New Jersey: Prentice Hall. Chapter 9 (Pages 195-223)
5. Morgan, Lynn. Morgan (1987) Dependency Theory and the Political Economy of Health: An Anthropological Critique. Medical Anthropology Quarterly, New Series, Vol.1, No.2 (June, 1987) pp. 131-154.
6. Talcott Parsons (1951) The Social System, London: Routledge & Kegan Paul

Ltd. Chapter 10, (Pages 428-479).

7. Foucault, Michel (1994) The Birth of the Clinic: An Archaeology ofMedical Perception, New York: Vintage Books. Chapter-1 and Conclusion. (Pages 3-20 and 194-199).
8. Turner, Bryan, S. (1995) Medical Power and Social Knowledge, London: Sage. Chapter 5. (Pages.86-108).
9. Patel, Tulsi (2012) Global Standards in Childbirth Practices. In (eds.) V. Sujatha and Leena Abraham Medical Pluralism in Contemporary India. New Delhi: Orient BlackSwan. (Pages 232-254).
10. Evans- Pritchard, E.E. (2010) The Notion of Witchcraft ExplainsUnfortunate Events. In (eds.) Byron J.Good, Micheal M. J. Fischer, Sarah S. Willen and Mary-Jo Del Vecchio Good A Reader in Medical Anthropology : Theoretical Trajectories , Emergent Realities, Oxford : Wiley- Blackwell, Chapter-2 (Pages 18-25).
11. Baer, Hans A., Singer, Merrill and Susser, Ida (1994) Medical Anthropology and the World System, Westport: Praeger. Chapters 10 and 11 (Pages 307-348)
12. Gould, Harold A. (I965) Modern Medicine and Folk Cognition in Rural India in Human Organization, No. 24. pp. 201- 208.
13. Leslie, Charles (1976) Asian Medical Systems: A Comparative Study, London: University of California Press, Introduction. (Pages 1-12) .
14. Inhorn, Marcia (2000). Defining Women's health: Lessons from a Dozen Ethnographies, Medical Anthropology Quarterly, Vol. 20(3): 345-378.
15. Nichter, Mark and Mimi Nichter (1996) Popular Perceptions of Medicine: A South Indian Case Study. In Anthropology and International Health. Amsterdam : OPA. Chapter7 (Pages 203-237)
16. Das, Veena, R.K. Das and Lester Coutinho (2000) Disease Control and Immunization: A Sociological Enquiry. In Economic and Political Weekly, Feb. 19-26. Pages 625-632.
17. Qadeer, Imrana (2011) Public Health In India, Delhi: Danish Publishers, Part III, (Pages 221-252).
18. Good, Byron (1994) Medicine, Rationality and Experience: An Anthropological Perspective. Cambridge: Cambridge University Press. Chapter 6. (Pages 135- 165).

19. Annandale, Ellen (1988) The Sociology of Health and Medicine,Cambridge: Polity Press.
20. Banerji, Debabar (1984) The Political Economy of Western Medicine in Third World Countries. In (ed.) John McKinlay Issues in the Political Economy of Healthcare. New York: Tavistock.

Equivalence of B.A.II Sociology

Sr. No.	Title of Old Paper	Title of New Paper
1.	Sem-IV, Paper No.VI Sociology of Health	Sem-IV, Paper No.VI Sociology of Health

Shivaji University, Kolhapur

SYLLABUS- Choice Based Credit System

B. A. II (I.D.S.)

Semester - III Paper No. I - Introduction to Rural Development

Rural Development (I.D.S.) Course, June 2023 onwards

Course Objective-

1. To understand the importance of rural development.
2. To create the rural development awareness.
3. To provide information regarding government agencies and NGO's.
4. To make students aware with co-operatives in rural development.

Course Outcomes-

1. Students learn to problems of rural society.
2. Students get well acquainted with role of government agencies and NGO's.
3. Students understand how to relate their own life with rural life.

	Topic	Teaching Hours	Credits
Model - I	**Concept of Rural Development** A) Nature B) Characteristics C) Objectives	**15**	**1**
Model - II	**Role of Government Agencies and NGO's** A) Government Agencies : Zilla Parishad, Panchayat Samiti and Grampanchayat B) NGO's	**15**	**1**
Model - III	**Rural Social Problems** A) Poverty B) Problem of Indebtedness C) Problem of Agriculture Labour	**15**	**1**

Model - IV	**Impact of Stigs Education and Co-operative in Rural Development** A) Self Help Groups B) Education C) Co-operatives	**15**	**1**

Reference Books :

1. Desai A.R. : Rural Sociology in India, Popular prakashan, Mumbai 1997.
2. Desai Vasant : Rural Development programme and strategies - Vol. I toVI, Himalaya Publishing House, Mumbai, 1988.
3. Dube S.C. : Indian Village
4. Dube S.C. : India's Changing Villages, Allied Publishers Pvt. Ltd., Mumbai 1967.
5. Baviskar B.S. : Politics of Development, Oxford University Press.
6. पंडीत नलिनी : जागतिकीकरण आणि भारत, लोकवाड.मय , मुंबई.
7. योजना: महाराष्ट्र शासन, मुंबई.
8. लोकराज्य : महाराष्ट्र शासन, मुंबई.
9. कुरुक्षेत्र : भारत सरकार, नवी दिल्ली.
10. खंडागळे चंद्रकांत : ग्रामीण समाजशास्त्र , प्रकाशिका सौ. मायादेवी खंडागळे, सांगली, 2005
11. कट्यारसिंह - अनिल शिशोदिया (२०१६), ग्रामीण विकास, सेज पब्लिकेशन, न्यू दिल्ली

Shivaji University, Kolhapur

SYLLABUS- Choice Based Credit System

B. A. II (I.D.S.)

Semester - IV Paper No. II - Rural Development in India

Rural Development (I.D.S.) Course, June 2023 onwards

Course Objective-

1. To provide information about globalization and its impact on agriculture.
2. To make able the students to identify the problems and remedies of rural development.
3. To introduce the students the government and rural development programmes.
4. To make aware the students the contribution of Jawaharlal Nehru and Yashwantrao Chavan in rural development.

Course Outcomes-

1. Students learn government and rural development programmes.
2. Students understand globalization and its impact on agriculture.
3. Students get well acquainted with the remedies in rural development.

	Topic	Teaching Hours	Credits
Model – I	**Government and Rural Development Programmes** A) Mahatma Gandhi National Rural Employment Guarantee Act. B) Education and Adult Education. C) Health and Sanitation with Nirmal Gram in Maharashtra.	**15**	**1**

Model – II	**Role of Jawaharlal Nehru and Yashwantrao Chavan in Rural Development** A) Jawaharlal Nehru: Thoughts and Contribution B) Yashwantrao Chavan: Thoughts and Contribution.	**15**	**1**
Model – III	**Globalization and its impact on Agriculture** A) Meaning and Scope B) Advantage and Disadvantages.	**15**	**1**
Model – IV	**Remedies of Rural Development** A) Remedies at Rural Development level. B) Uses of Income Distribution C) Concept of Rural Poverty and it's Remedies.	**15**	**1**

Reference Books:

1. Desai A.R. : Rural Sociology in India, Popular prakashan, Mumbai 1997.
2. Desai Vasant : Rural Development programme and strategies - Vol. I toVI, Himalaya Publishing House, Mumbai, 1988.
3. Dube S.C. : Indian Village
4. Dube S.C. : India's Changing Villages, Allied Publishers Pvt. Ltd., Mumbai 1967.
5. Baviskar B.S. : Politics of Development, Oxford University Press.
6. पंडीत नलिनी : जागतिकीकरण आणि भारत, लोकवाड.मय , मुंबई.
7. योजना: महाराष्ट्र शासन, मुंबई.
8. लोकराज्य : महाराष्ट्र शासन, मुंबई.
9. कुरुक्षेत्र : भारत सरकार, नवी दिल्ली.
10. खंडागळे चंद्रकांत : ग्रामीण समाजशास्त्र , प्रकाशिका सौ. मायादेवी खंडागळे,

सांगली, 2005

11. कट्यारसिंह - अनिल शिशोदिया (२०१६), ग्रामीण विकास, सेज पब्लिकेशन, न्यू दिल्ली

Equivalence of B.A.II Rural Development (I.D.S.)

Sr. No.	B.A.II (Old)	B.A.II (New)
1	Sem. III Paper No. I Introduction to Rural Development	Sem. III Paper No. I Introduction to Rural Development
2	Sem. IV Paper No. II Rural Development in India	Sem. IV Paper No. II Rural Development in India

Shivaji University, Kolhapur

SYLLABUS- Choice Based Credit System

B. A. II (I.D.S.)

Semester – III Paper – I SOCIAL ECOLOGY

Implemented from June, 2023 onwards

Course Objectives-

1. To understand the importance of social ecology.
2. To create the environmental awareness.
3. To control and try to ride over the environmental problems , facing present generation.

Course Outcomes-

1. Students get understood the importance of social ecology and biodiversity.
2. Students get knowledge about different kinds of environmental pollution.
3. Students get well acquainted with environmental ethics.

	Topic	Teaching Hours	Credits
Unit - 1	**Social Ecology** A) Subject Matter of Social Ecology B) Ecosystem C) Importance of Social Ecology	**15**	**1**
Unit - 2	**Biodiversity and its Conservation** A) Meaning of Biodiversity B) Threats to Biodiversity C) Conservation of Biodiversity	**15**	**1**
Unit - 3	**Environmental Pollution** A) Water Pollution B) Air Pollution C) Noise Pollution	**15**	**1**

Unit - 4	**Environmental Ethics** A) Meaning of Environmental Ethics B) Need of Environmental Ethics C) People's Participation and Protection of Environment.	**15**	**1**

Reference Books:

1. Marten Gerald G 'Human Ecology'-Basic concepts for sustainable development, Earthscan Publication London, 2001.
2. Mukherji Radhakamal 'A study in social ecology' Popular Prakashan Bombay.
3. Dunlap Riley E and Michelson William 'Handbook of environmental Sociology' Rawat Publication, Jaipur 2008.
4. Agarwal S.K. 'Environmental scenario for 21st century' A P H publishing corporation New Delhi, 2003.
5. Swarup R., Mishra S., Jauhari V.P. 'Encyclopaedia of Ecology environment and pollution control An introduction to man his environment Mittal Publications, New Delhi, 1992.
6. प्रा. प्रकाश सावंत, 'पर्यावरण अभ्यास', फडके प्रकाशन, कोल्हापूर, 2005.

Shivaji University, Kolhapur

SYLLABUS- Choice Based Credit System

B. A. II (I.D.S.)

Semester – IV Paper – II SOCIAL ECOLOGY

Implemented from June, 2023 onwards

Course Objectives-

1. To understand the importance of human ecology.
2. To create environmental awareness among the students.
3. To make aware the students about environmental movements.
4. To able the student to identify the problems of global warming.

Course Outcomes-

1. Students learn how to tackle the environmental problems.
2. The students get acquainted with the nature of human ecology.
3. Students get understood types and role of environmental movements.

	Topic	Teaching Hours	Credits
Unit - 1	**Human Ecology** A) Subject Matter of Human Ecology B) Population Growth and Degradation of Environment. C) Relationships Between Man and his Environment	**15**	**1**
Unit - 2	**Types of Human Settlement** A) Tribal Settlement B) Rural Settlement C) Urban Settlement.	**15**	**1**
Unit - 3	**Problem of Global Warming** A) Meaning of Global Warming B) Causes of Global Warming C) Measures to Control Global Warming	**15**	**1**

Unit - 4	**Environmental Movements** A) Types of Environmental Movements. B) Role of NGO's in Protection of Environment. C) Environmental Protection Act's	**15**	**1**

Reference Books:

1. Marten Gerald G 'Human Ecology'-Basic concepts for sustainable development, Earthscan Publication London, 2001.
2. Mukherji Radhakamal 'A study in social ecology' Popular Prakashan Bombay.
3. Dunlap Riley E and Michelson William 'Handbook of environmental Sociology' Rawat Publication, Jaipur 2008.
4. Agarwal S.K. 'Environmental scenario for 21st century' A P H publishing corporation New Delhi, 2003.
5. Swarup R., Mishra S., Jauhari V.P. 'Encyclopaedia of Ecology environment and pollution control An introduction to man his environment Mittal Publications, New Delhi, 1992.
6. प्रा. प्रकाश सावंत, 'पर्यावरण अभ्यास', फडके प्रकाशन, कोल्हापूर, 2005

Equivalence of B.A.II Social Ecology (I.D.S.)

Sr. No.	Title of Old Paper	Title of New Paper
1	Sem-III Paper – I Social Ecology	Sem-III Paper - I Social Ecology
2	Sem-IV Paper – II Social Ecology	Sem-IV Paper - II Social Ecology

NATURE OF QUESTION PAPER AND SCHEME OF MARKING

B. A. Part- II (Semester- III & IV) Examination _____

Sociology Paper _____

Title - _____

Sub Code- _____

Day & Date: Time: Total Marks : 40

Instruction: 1. All questions are compulsory

2. Figure to right indicate full marks.

……

Q. 1 Complete the following sentences by choosing correct alternatives. (05)

1.

2.

3.

4.

5.

Q. 2 Write short notes (Any three) (15)

A)

B)

C)

D)

E)

Q. 3 Write detail answer on any one of the following. (10)

A)

B)

Q, 4 Write detail answer on any one of the following. (10)

A)

B)

Internal Evaluation (10 Marks)

B. A. II Semester III	Group Activity (Field visit, Study tour, Group discussion on Social Issues etc.)
B. A. II Semester IV	Case Study / Oral Examination

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.A. Part-III

Sociology

Syllabus to be implemented from

June, 2020 onwards.

Shivaji University, Kolhapur.

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – V, DSE – E66 SOCIOLOGY – VII

WESTERN SOCIOLOGICAL THINKERS

(June, 2020 onwards)

A)Course Objectives

Objective of teaching sociological Thinkers to undergraduate students is to enable them to apply theory to their own everyday life experiences.

This requires that students develop their sociological imagination and the capacity to read

each situation sociologically and then to think about it theoretically.

To this end, it is imperative that sociological theory courses demonstrate the applicability of theory to students.

B) Course Learning Outcomes:

1. Understanding the grand foundational themes of sociology.

2. Application of theories and concepts from classical sociological theories to develop intellectual openness and curiosity.

3. Appreciation of the classical concepts and theories to develop awareness of the limits of current knowledge.

C) Course Content:

Module	Topic and Sub-Topic	Teaching Hours	Credits
Module -I	**AUGUSTE COMTE** A) Law of Three Stages B) Concept of Positivism. C) Social Statics and Social Dynamics.	**15**	**1**
Module -II	**KARL MARX** A) Dialectical Materialism B) Theory of Class Conflict C) Theory of Alienation	**15**	**1**

Module -III	**EMILE DURKHEIM** A) The Study of Social Facts B) Theory of Division of Labour C) Theory of Suicide	**15**	**1**
Module -IV	**MAX WEBER** A) The Ideal Type B) Theory of Social Action C) Types of Authority.	**15**	**1**

D) Teaching Learning Process:

1. The students are encouraged to read the original texts and the teacher often participates in the reading process. Thereby the teacher engages in active, rather than passive, pedagogy.

2. It is important that the classroom sessions, initiated either by the student or the teacher, would encourage teamwork and draw students towards learning, yet there are other means

available now which add to that. The use of digital/ICT generated techniques (audio-visual

aids).

E) Assessment Methods:

1. Class assignments/term papers, theme(s) of which are chosen following teacher student discussion, is one of the ways of assessing the subject and writing skill of the students.

2. Tutorial discussion oral presentations and viva-voce, short individual/team led field studies/projects and seminars/workshops are other modes of assessment. These are included in the Internal Assessment (IA) system.

3. Mid-semester examination is another mode of assessment. Here again, the topic(s) on which the students are to be examined are chosen through teacher-student consultation. Mid-semester examination tests the students on the grasp of the topic(s) in particular and the discipline in general.

4. The end-semester examination is conducted by the university and the student is tested and evaluated on the basis of the entire paper (syllabus). S/he is expected to have a full knowledge of the paper and prescribed readings.

NOTE: Visit to University Library

F) REFERENCES:

1. Abraham Francis Modern sociological Theory, Delhi Oxford University press,1982
2. Abraham Francis 'Sociological Thought', Madras Macmillan,1991
3. Aron Raymond Main Currents In Sociological Thought,Vol.I & II
4. Coser A.Lewis 'Masters of Sociological Thought' Rawat publications Jaipur 1996
5. Delaney Tim 'Contemporary Social Theory,Investigation and Application'
6. Haralambos & Holborn Sociology : Themes and Perspectives Published by Harper Collins Publishers Ltd.London W6 8JB 2008
7. Ritzer George Classical Sociological Theory, 4th edition,Nework, Mc-grawhill publication. 1996.

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – V, DSE – E67 SOCIOLOGY– VIII

METHODS OF SOCIAL RESEARCH (Part-I)

(June, 2020 onwards**)**

A) Course Objective:

1. The course is a general introduction to the methodologies of sociological research. It will provide the student with elementary knowledge of the complexities and philosophical underpinnings of research.

B) Course Learning Outcomes:

1. Students are introduced to the concept of conducting research, which is inclusive of formulating research designs, methods and analysis of data. Some knowledge of elementary statistics is also provided to the students to acquaint them with quantification of data.

2. The thrust of the course is on empirical reasoning, understanding and analysis of social reality, which is integral to the concepts of quantitative research. Students learn to differentiate between qualitative and quantitative aspects of research in terms of collection and subsequent analysis of data.

3. Through the competing theoretical perspectives and methodologies, students are able to understand that social reality is multi-faceted, heterogeneous and dynamic in nature.

4. By imparting the knowledge of theory and praxis of research, students are prepared to arrive at a critical understanding of the course. It also equips them with necessary skills for employment in any social research organization.

C) Course Content:

Module	Topic and Sub- Topic	Teaching Hours	Credits
Module-1	**Introduction to social Research** a. Philosophy of social science b. Meaning and objectives of social research c. Scientific Steps in Social Research d. Relation between theory and fact	15	01
Module -2	**Research Design** a. Meaning and Nature of Research Design b. Explorative c. Descriptive **d.** Experimental	15	01
Module -3	**Basic Elements of Social Research** a. Concepts-meaning and characteristics		

	b. Variable- meaning and Types **c.** Hypothesis- meaning and Sources	15	01
Module -4	**Modes of Enquiry** a. Quantitative Research : meaning and characteristics **b.** Qualitative Research: meaning and characteristics **c.** Importance of Quantitative and Qualitative Reaserch	15	01

D) Teaching - learning process:

a. A research methods course will require a robust class room discussion on various aspects of the course leading to a clearer understanding of concepts and research methods and the production of knowledge.

b. Interactive classroom sessions contribute to the development of group skills including listening, brainstorming, communicating and negotiating with peers.

E) Assessment Methods: Assessment for this course will be based on written assignments, projects, project designs and presentations.

NOTE: Organise One Day Workshop on Research Methodology

F) Reference Book :

Durkheim, E. 1958, The Rules of Sociological Method, New York: The Free Press

Weber, Max. 1949, The Methodology of the Social Sciences, New York: The Free Press

Radcliffe□Brown, A.R. 1958, Methods in Social Anthropology, Delhi: Asia Publishing Corporation

Beiteille, A. 2002, Sociology: Essays on Approach and Method, New Delhi

Goode, W. E. and P. K. Hatt. 1952. Methods in Social Research. New York: McGraw Hill.

Srinivas, M.N. et al 2002(reprint), The Fieldworker and the Field:Problems and Challenges in Sociological Investigation, New Delhi

Bryman, Alan. 2004, Quantity and Quality in Social Research,New York: Routledge

Merton, R.K. 1972, Social Theory & Social Structure, Delhi: Arvind Publishing House

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – V, DSE – E68 SOCIOLOGY – IX

POLITICAL SOCIOLOGY

(June, 2020 onwards)

A) Course Objective:

This course aims to acquaint the students with the major concepts, theoretical approaches and perspectives of political sociology. It seeks to prepare the students to apply these concepts and approaches to the understanding of the nature of the political processes and institutions in India. The course also exposes the students to the emerging perspective on the polity-society relationship in contemporary times.

B) Course Learning Outcomes:

1. An ability to comprehend the embeddedness of political and the social in each other.

2. Familiarity with different theoretical and conceptual issues in political sociology and a capacity to use them to grasp political phenomena in a cross-cultural and comparative perspective

3. Be able to understand and appreciate the diversity of ways in which politics operates historically and spatially to generate a more expansive notion of the realm of the political.

4. Be able to understand the relationship between state and society in shaping politics in India both historically and analytically.

5. Be able to generate hypotheses and research questions within the theoretical perspectives and ethnographic contexts in political sociology.

C)Course Content:

	Topic and Sub- Topic	**Teaching Hours**	**Credits**
Module - I	**Nature of Political Sociology** A) Definition and Subject Matter of Political Sociology B) Emergence of Political Sociology C) Importance of Political Sociology	15	1

Module - II	**Basic Concepts in Political Sociology** A) Power: Meaning and Nature B) State: Meaning and Nature C) Civil Society: Meaning and Nature	15	1
Module - III	**Study of Perspectives to Political Sociology** A) Perspectives on Power: Weberian, Marxist and Ambedkarian B) Perspectives on State: Liberal, Pluralist, Power-elite, Post-modernist	15	1
Module - IV	**Political parties in India** A) Political parties: characteristics and social composition. B) Pressure groups and Interest groups: characteristics and political significance. C) Major Political Parties and Their Principles	15	1

D) Teaching-Learning Process:

Teaching learning process in this paper has to be interactive and reflective as majority of students are more often disinterested in questions concerning the political. Teachers should encourage students to read the daily newspaper and peruse electronic journals which would animate the conceptual and analytical aspects of the course with real socio-political events from the students' immediate contexts. Use of audio-visual resources, mainly documentaries will be made an integral part of learning in this course.

E) Assessment Methods:

Assessment in this paper will be in the form of written assignments, book reviews, film reviews, class presentations, projects, and class test.

F) Keywords:

Power, Authority, Resistance, Politics, Elite, State, Democracy, Citizenship, Rights, Para-Political Systems, Post-Colonialism

NOTE: 1) Visit to Vidhansabha / Vidhanparishad

2) Visit to any Gram Sachivalaya / Corporation

G) Reference Book(s)

1. Bendix, R. and S. M. Lipset (Eds.). *Class, Status and Power*. London: RKP, 1966.
2. Bhargava, R. *Secularism and its Critics*. New Delhi: OUP, 1999.
3. Bottomore, T. *Elites and Society.* Harmondsworth: Penguin, 1966.
4. Chakravarty, A. *Contradiction and Change.* Delhi: OUP, 1975.
5. Dahl, R. *Who Governs?* New Haven: Yale University P, 1961.
6. Desai, A.R. *State and Society in India: Essays in Dissent*. Bombay: Popular Publication, 2000
7. Gerth, H.H. and C.W. Mills (Eds.). *From Max Weber: Essays in Sociology*. London: RKP, 1948.
8. Key, V.O. *Politics, Parties and Pressure Groups.* NY: Crowell, 1964.
9. Kohli, A. *India's Democracy: An Analysis of Changing State-Society Relations*. Princeton: Princeton University P, 1990.
10. Kohli, A. *The State and Poverty in India: The Politics of Reform.* Cambridge: Cambridge University P, 1999.
11. Kothari, R. *Caste in Indian Politics*. Delhi: Orient Blackswan, 2008.
12. Laclau, E. *Politics and Ideology in Marxist Theory*. London: Verso, 2012.
13. Miller, D. *On Nationality*. Oxford: Clarendon Press, 1995.
14. Mills, C.W. *The Power Elite*. NY: OUP, 2000.
15. Nash, K. *Contemporary Political Sociology*. Massachusetts: Blackwell Publishers, 2000.
16. Robinson, M. S. *Local Politics: the Law of the Fishes.* Delhi: OUP, 1988.
17. Runciman, W.G. *Social Science and Political Theory.* Cambridge: CUP, 1969.
18. Taylor, G. *The New Political Sociology: Power, Ideology and Identity in an Age of Complexity.* London: Palgrave Macmillan, 2010.
19. Vora, R. and S. Palshikar (Ed.) *Indian Democracy*, Delhi: Sage, 2004.
20. Weber, M. *Economy and Society*. Berkeley: University of California P, 1978.

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – V, DSE – E69 - SOCIOLOGY – X

HUMAN RIGHTS

(June 2020 onwards)

A) OBJECTIVES:-

1.To Provide the conceptual understanding about the human rights.
2. To understand the nature and role of Human Rights in India.
3. To understand violation of Human Rights in India.

B) Course Learning Outcomes:

After completion of program students will able to-

1)Conceptual understanding about the Human Rights
2)Identify issues and problems relating to the realization of human rights
3)Understand the nature & role of human rights in India
4) Contribute to the resolution of human rights issues and problems
5)Educate the society about the human rights and duties in order to create responsible citizenry

C) Course Content:

	Topic and Sub- Topic	Teaching Hours	Credits
Model - I	**HUMAN RIGHTS** A) Meaning and Characteristics of Human Rights B) History of Human Rights in India (Ancient Period to After Independent Period) C) Perspectives of Human Rights. (Sociological Perspective and Modern Perspectives -Jeromi J.Shestoak)	15	1
Model - II	**UNITED NATIONS ORGANIZATIONS AND HUMAN RIGHTS** A)Universal Declaration of Human Rights,1948 B)International Covenant on Economic ,Social and cultural Rights,1966 C) International Covenant on civil and Political Rights,1966	15	1
Model - III	**HUMAN RIGHTS IN INDIA** A)Indian Constitutions and Human Rights B) National Human Rights Commission in India (Structure and Role) C) Function of National Scheduled Castes and Scheduled Tribe commission in India	15	1
Model - IV	**VIOLATION OF HUMAN RIGHTS IN INDIA** A)Human Trafficking B)Mob Lynching C)Honor Killing	15	1

D) Teaching-Learning Process:

Teaching learning process in this paper has to be interactive and reflective as majority of students are more often disinterested in questions concerning the human rights. Teachers should encourage students to read the daily newspaper and peruse electronic journals which would animate the conceptual and analytical aspects of the course with real sociological Perspective events from the students' immediate contexts. Use of audio-visual resources, mainly documentaries will be made an integral part of learning in this course.

E) Assessment Methods:

Assessment in this paper will be in the form of written assignments, book reviews, film reviews, class presentations, projects, and class test, Seminar .

F) Keywords:

Human Rights, Castes ,Tribe ,Political Rights, Violation ,Human Trafficking
Moab Lynching, Honor Killing

S

NOTE: 1) Visit to Old Age Home, Orphanage, etc

G) REFFRENCE :

Anthony M.J	**Social action through courts ,ISI ,New Delhi ,1997.**
Bhatia K.L	**Law and social change Towards 21st Century, Deep and Deep ,New Delhi ,1994**
Bose A.B	**Social Security for the old myth and reality ,Center for Public& Governance Institute of applied Manpower Research by Concept Pub. Company .New Delhi,2006**
Crampton Helen M.	**Social welfare :Institution and Process,Random and Keiser Keneth K. House Inc ,New York,1970**
	Social Policy and Social Development in India
Kulkarni P.D	**Social Policy and social Development in India,ASSWI,Madras,1979**
Pathak s.	**Social;An Evolutionary and Development Perspective,Welfare McMillan ,Delhi,1981.**
Patil	**The Economics of Social Welfare in India, Somayya, Bombay,1978**
कोतापल्ले लक्ष्मण	**भारतातील सामाजिक कल्याण, प्रशासन आणि समाज कार्य, विद्या प्रकाशन, औरंगाबाद**
जी.एल.शर्मा	**सामाजिक मुद्दे, रावत पब्लिकेशन्स, २०१५**
य.च.म.मु.वि.नाशिक	**मानवी हक्क आणि भारतीय राज्यघटना**
य.च.म.मु.वि.नाशिक	**मानवी हक्क आणि अंमलबजावणी यंत्रणा**

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – V, DSE – E70 SOCIOLOGY – XI

SOCIOLOGY OF RELIGION

(June, 2020 onwards)

A) COURSE OBJECTIVE

1. This course exposes students to the distinctiveness of the sociological approach to the study of religion.
2. The individual and the group encounter religion and/or religious phenomenon in myriad ways be it through custom, ritual, beliefs or other practices. Students will be familiarized with the basic theoretical and methodological perspectives on the study of religion and also exposed to ethnographic texts on various aspects of religious phenomenon.
3. The last section of the course touches upon some aspects of religion in contemporary times such as secularization and multiculturalism.

B) COURSE LEARNING OUTCOMES:

1. Students will be acquainted with representative texts that symbolize the development of knowledge in the field of Sociology of Religion. They will be able to identify different theories, approaches and concepts that make up the study of religion, distinguish between them and also use terms specific to the field in specific context.
2. Students will be able to make a link between texts and paraphrase their arguments and use these to communicate their ideas in research papers, projects and presentations.
3. By encompassing contemporary developments the course enables students to think about linkages between religion and society at various levels.

C) Course Content:

Module	Topic and Sub-Topic	Teaching Hours	Credits
Module -I	**Understanding Religion** A) Sociology of Religion: Meaning , Scope and Subject matter B) Religion : Definition and Characteristics C) Basic Concepts in Religion 1) Belief and Rituals 2) The Sacred and Profane	15	1
Module -II	**Perspectives to Study of Religion** A) Perspectives of Religion: Durkheim and Weber B) Perspectives of Religion in India: Mahatma Phule and Dr. B. R. Ambedkar	15	1

Module -III	**Religions in India** A) Hinduism, Islam B) Buddhism, Christianity C)Jainism, Sikhism D) Satya Dharma and Shiv Dharm	15	1
Module -IV	**Religion and Social Change** A) Socio- Religious Movements B) Religion and Violence C) Religion and Commercialization D) Secularism and National Integration	15	1

D)Teaching -Learning Process:

Teaching learning process in this paper has to be interactive and reflective. Teacher should encourage students to utilize print and electronic media for acquiring knowledge regarding recent status and trends of religion.

E) Assessment Methods:

Assessment in this paper will be from of written assignments, seminars and class test.

F)Key Words;

Religious Belief, Rituals, Scared, Profane, Magic, Violence, Secularism, National Integration.

NOTE: Visit to Any Religious place and Understand its Structure and Functioning

G)Reference Books

1. Baird, Robert D. "Religion in Modern India". Manohav, Delhi,1995.
2. Madan, T.N.(Ed), Religion in India", Oxford University Press, New Delhi,1992.
3.Muzumdar, H.T. "India's Religious Heritage", Allied New Delhi, 1996.
4. Roberts, Keith A. "Religion in Sociological Perspective", Donsey Press, New Delhi, 1984.
5.Prabhu, Pandharinath H. "Hindu Social organization: A Study in Socio-Psychological and ideological Foundations", Popular Prakashan, Bombay, 1963.
6. Dsouza, Leela. "Sociology of Religion".
7.Pias, Richard. "Sociology of Religion".
8. Salve, R.N. "Buddhism and Education", Shruti, Jaipur, 2008.
9.**डॉ. विधाधार पुंडलिक** ." **धर्माचे समाजशास्त्र**" **कॉनटीनेटल प्रकाशन २००३**,
10.**डॉ. प्रदीप आगलावे** . " **समाज्शास्त्र संकल्पना आणि सिंद्धांत** " **साईनाथ प्रकाशन नागपूर २००९**
11.**डॉ. दा . धो . काचोळे** . " **भारतीय समाजरचना** " **कैलाश प्रकाशन औरंगाबाद १९९८**
12.**डॉ. बी . एम .कऱ्हाडे** " **समाजशास्त्र मुलभूत संकल्पना** "**पिंपळापुरे प्रकाशन , नागपूर २०११**
13.**मंगला आठलेकर** "**धर्म आणि हिंसा** "**राजहंस प्रकाशन पुणे २०१७**
14.**डॉ. ज्योती डोईफोडे** " **भारतीय समाज** "**विद्या प्रकाशन औरंगाबाद**

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – VI, DSE – E191 SOCIOLOGY – XII

INDIAN SOCIOLOGICAL THINKERS

(June 2020 onwards)

A) Course Objectives

Objective of teaching Indian Sociological Thinkers to undergraduate students is to enable them to apply theory to their own Indian Social life experiences. This requires that students develop their sociological imagination and the capacity to read each situation sociologically and then to think about it theoretically. To this end, it is imperative that sociological theory courses demonstrate the

applicability of theory to students.

B) Learning Outcomes:

1. Understanding the characteristics and dynamics of the social world, and how postclassical

sociologists attempt to understand the social world.

2. Appreciating the relevance and limits of the contemporary theories or theoretical

approaches to make sense of social reality.

3. Understanding the basic methodological approaches of the thinkers, through some

original texts and their role in building sociological knowledge.

C) Course Content:

Module	Topic and Sub-Topic	Teaching Hours	Credits
Module -I	**G.S.GHURYE** A) Ideas on National Unity and Interaction B) Study on Caste C) Study on Indian Tribes	**15**	**1**
Module -II	**A.R.DESAI** A) Study of Village Structure in India B) Study of Indian Nationalism C) Analysis of Indian Society through Marxian Perspective	**15**	**1**

Module -III	**M. N. SRINIVAS** A) Concept of Sanskritization B) Concept of Westernization C) Concept of Dominant Caste	**15**	**1**
Module -IV	**IRAWATI KARVE** A) Concept of Kinship Relations B) Hindu Culture: An Interpretation C) Views on Maharashtra	**15**	**1**

D)Teaching learning process:

The students are encouraged to read the original texts and the teacher often participates in the reading process. Thereby the teacher engages in active, rather than passive, pedagogy.

It is important that the classroom sessions, initiated either by the student or the teacher, would encourage teamwork or draw students towards learning, yet there are other means available now which add to that. The use of digital/ICT generated techniques (audio-visual aids).

E)Assessment Methods:

1. Class assignments/term papers, theme(s) of which are chosen following teacherstudent discussion, is one of the ways of assessing the subject and writing skill of the students.

2. Tutorial discussion oral presentations and viva-voce, short individual/team led field studies/projects and seminars/workshops are other modes of assessment. These are included in the Internal Assessment (IA) system.

3. Mid-semester examination is another mode of assessment. Here again, the topic(s) on which the students are to be examined are chosen through teacher-student consultation. Mid-semester examination tests the students on the grasp of the topic(s) in particular and the discipline ingeneral.

4. The end-semester examination is conducted by the university and the student is tested and evaluated on the basis of the entire paper (syllabus). S/he is expected to have a full knowledge of the paper and prescribed readings.

NOTE: Visit to University Library

F) REFERENCES:

1. Nagala B.K. ‘Indian Sociological Thought’ ‘

2. V.S.Upadhyay and Gaya Pandey ‘History of Anthropological Thought’

3. Narendra K. Singh ‘Theory and Ideology in Indian Sociology’

4. T. K. Ommen andP.N. Mukharjee ‘Indian Society: Reflections and Introspections’

5. A.R. Desai ‘Social Background Of Indian Nationalism’

6. A.R. Desai ‘Rural India In Transition’

7. T. N. Madan ‘Western Sociologists on Indian Society’

8. Yogendra Singh ‘Indian Sociology : Social Conditioning and Emerging Concerns’

9. S.K. Pramanik ‘Sociology of G.S. Ghurye’

10. Devdas Pillai ‘Indian Sociology Through Ghurye : A Dictionary’

11. A.R. Momin ‘The Legacy Of G.S. Ghurye’

12. M.N. Srinivas ‘Social Change In Modern India’

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – VI, DSE – E192 SOCIOLOGY – XIII

METHODS OF SOCIAL RESEARCH (Part-II)

(June, 2020 onwards)

A) Course Objectives

1. The course provides an introductory, yet comprehensive engagement with social research.
2. Through theoretical and practical knowledge students are acquainted with the different stages of the research process like creation of research design, methods of data collection and analysis.
3. The imparted knowledge and training will enable students to develop a sound understanding of both quantitative and qualitative research.

B) Course Learning Outcomes:

1. Students are introduced to the concept of conducting research, which is inclusive of formulating research designs, methods and analysis of data. Some knowledge of elementary statistics is also provided to the students to acquaint them with quantification of data.
2. The thrust of the course is on empirical reasoning, understanding and analysis of social reality, which is integral to the concepts of quantitative research. Students learn to differentiate between qualitative and quantitative aspects of research in terms of collection and subsequent analysis of data.
3. Through the competing theoretical perspectives and methodologies, students are able to understand that social reality is multi-faceted, heterogeneous and dynamic in nature.
4. By imparting the knowledge of theory and praxis of research, students are prepared to arrive at a critical understanding of the course. It also equips them with necessary skills for employment in any social research organization.
3. Periodic tests/mid-semester examination of the covered syllabus is also undertaken by the students during the academic session. End-semester examination is conducted by the University of Shivaji.

C) **Course Content:**

Module	Topic and Sub- Topic	Teaching Hours	Credits
Module -1	**Sampling and Data collection** a. Meaning and Purpose of Sampling b. Types of sampling c. Advantages and Limitation of Sampling d. Primary and secondary Data collection	15	01
Module -2	**Observation** a. Observation: Meaning and characteristics b. Types of Observation c. Advantages and limitations of observation	15	01

Module -3	**Interview and Questionnaire** a. Interview-meaning and Types b. Advantages and limitations of interview **c.** Questionnaire- meaning and Types **d.** Advantages and limitations of Questionnaire	15	01
Module -4	**Data Analysis and Report Writing** a. Use of computer in data analysis b. Statistical methods c. Report Writing	15	01

D) Teaching-Learning Process:

1. Classroom lectures interlink the sociological theories previously taught with the methods and techniques of data collection. Students are encouraged to construct questionnaires and conduct interviews, use technology like online surveys to develop practical research skills.
2. The use of statistics enables the students to understand both qualitative and quantitative aspects of social research.
3. Alternative pedagogical techniques like outdoor learning through field trips and research projects, audio-visual technology in classrooms provides them with both research related knowledge and experience.

E) Assessment Methods:

1. Tutorials are given regularly to students after the completion of a topic. The objective is to assess the understanding of the student regarding the covered topic.
2. Students are expected to submit individual/team project reports, along with making oral presentations of the same in class.

NOTE: Organise Guest Lecture/Seminar on Social Research Methodology

F)Books for References:

Ahuja Ram: Research Methods, Rawat Publication, Jaipur 2015

Ghosh B.N.: Scientific Methods and Social Research, Sterling Publishers, New Delhi,1982

Kothari C.R.: Research methodology: Methods and Techniques, Wiely Eastern, New Delhi, 1992

Lal Das D.K: Designs of social Research, Rawat Publication, Jaipur,2008

Young P.V.: Scientific Social Surveys and Research, Prentice -Hall of India, New Delhi, Fourth edition fifteen Reprint,2003

संदर्भा साठी ग्रंथ (मराठी)

आगलावे प्रदीप : संशोधन पद्धती: शास्त्र व तंत्रे, विद्या प्रकाशन, नागपूर

घाटोळेरा.ना.: सामाजशास्त्रीयसंशोधन -पद्धती आणि तत्त्वे, मंगेश प्रकाशन नागपूर,

बोधनकर सुधीर : सामाजिक संशोधन पद्धती,साईनाथ प्रकाशन,नागपूर

रानडे पुष्पा : प्राथमिक सांखिकी आणि संसोधन पद्धती,डायमंड प्रकाशन, पुणे, २०१५

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – VI, DSE – E193 SOCIOLOGY – XIV

SOCIAL ANTHROPOLOGY

(June, 2020 onwards)

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1. To provide the conceptual understanding about anthropology

2. To understand the social aspects of tribal's in India.

	Topic	Teaching Hours	Credits
Model - I	**INTRODUCTION TO SOCIAL ANTHROPOLOGY** A) Social Anthropology: Meaning and Characteristics B) Relation Between Social Anthropology and Sociology C) Field work Method and its Characteristics D) Importance of Social Anthropology	**15**	**1**
Model – II	**TRIBAL SOCIETY IN INDIA** A) Tribal Society : meaning and Characteristics B) Social life : Family ,and Marriage - Characteristics C) Economic Life : Characteristics D) Religious Life : Beliefs and practices	**15**	**1**
Model – III	**TRIBAL PROBLEMS** A) Poverty and Indebtedness B) Land Alienation C) Illiteracy and Exploitation D) Religious Crisis	**15**	**1**
Model - IV	**Tribal Community in Maharashtra: Pardhi** A) Socio-Cultural life : Tradition and Change B) Economic life : Tradition and Change C) Religious life : Tradition and Change D) Social Movements for Development of Pardhi Community	**15**	**1**

NOTE: Visit to Any Tribal and Nomadic Tribe Community

REFERENCE:-

Vidyarthi L.P. Tribal Culture of India, Concept Publishers,New Delhi, 1976.
E.E. Evans Pritchard Social Anthropology and Other Essays, The free Press, NewYork, 4962.
Mujumdar D.N. andMadam T.N An Introduction to Social Anthropology, Asia Publishing House,Bombay,1973.
संगवे विलास सामाजिक मानवशास्त्र, पॉप्युलर प्रकाशन, मुंबई, १९६९.
नाडगोंडे गुरूनाथ भारतीय आदिवासी, कॉन्टीनेंटल प्रकाशन, पुणे, १९९८.
संगवे विलास आदिवासींचे सामाजिक जीवन ए पॉप्युलर प्रकाशन, मुंबई
K. S. Tribal Situation in India, Indian Institute of Advanced Study, Simla, 1972.
S.L. Doshi & P. C.Jain
Social Anthropology Rawat Publicaiton, 2001.
Mane Lximan ,Vimuktayan ,Yashvantrav chavan prtishthan,Satara 1994(Marathi)
Prabhune Girish,Pardhi,Rajhans Prakashan,pune.2006 (Marathi)

Pawar Deepak,Pardhi Samajache Antrang,
Shree Sainath Prakashan,Nagapur.2014(Marathi)
Chavan Ramnath,Bhatakya vimukantanchi Jatpanchayat,Deshmukh ani company Pune.2006(Marathi)

Journals:

i) हाकारा (Hakara)
ii) Social Change (New Delhi)
iii) Man in India (Ranchi)
iv) Tribal research bulletin (Marathi and English)
Tribal Research Institute Pune.
v) Human Ecology : Journal of manenvironmental relationship Kamlaraj,
Enterprises Delhi.
Ritzer George Sociological Theory, Tata Mcgraw Hill, 1996
Morrison, Ken Marx,
Durkheim, Weber
Formation of Modern Social Thoughts,Sage london 1995.

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – VI, DSE – E194 SOCIOLOGY – XV

RURAL SOCIOLOGY

(June, 2020 onwards)

A) Course Objectives:

1. To communicate Agriculture as the foundational material practices at the heart of the formation of social collectivities and make sense of South Asian societies agrarian formations.
2. To familiarize students with rural situation past and present with the help of necessary theories and categories.
3. To make sense of rural communities, their structure, transformation and trials and tribulations in modern world.
4. To introduce students to the rich legacy of theoretical and empirical work in rural sociology and its continued relevance.

A) Course Learning Outcomes:

1. An empathy for and ability to engage rural communities as living societies and understand grasp they condition as human condition.
2. An appreciation of rural world and familiarity with the trajectory of theoretical conversation on rural issues and their social, political and policy implications.
3. An understating of emerging as well as enduring issues of concern in Indian rural society
4. To be ready for a range of academic and professional roles that may require a knowledge of rural societies.

C) Course Content:

Module	Topic and Sub- Topic	Teaching Hours	Credits
Module -1	**Introduction to Rural Sociology** A) Meaning of Rural Sociology B) Origin, Scope and Subject Matter of Rural Sociology C) Importance of Rural Sociology with the reference of India	**15**	**01**
Module-2	**Indian Rural Community** A) Village studies in India B) Classification of Indian Villages C)Changing Nature of Rural Community in India	**15**	**01**

Module -3	**Social Institutions in Rural Society** A) Marriage, Family and kinship Institution B) Caste and Balutedari C)Political life : structure and change	**15**	**01**
Module-4	**Changing Indian Agrarian Society** A) Rural Cooperative and Rural Industry B)Markets, Land Reforms and Green Revolution C)The Agrarian Issues	**15**	**01**

D) Teaching Learning Process:

The teaching learning for this course involves lectures, tutorial conversations around contemporary issues of concern for agrarian societies and extensive usage of imaginative literature and films that makes the lived world of peasantry and rural communities come alive to the students.

E) Assessment Methods:

Recommended evaluation would be an assignment that tests the conceptual grasp of the students and a project that prompts students to engage in research about a historical or contemporarily rural issue.

NOTE: Visit to village and Grampanchayat and Understand its Structure and Rural Development Programs

F) References:(English)

BeteilleAndre: Caste, Class and Power, Oxford University press, (India),New Delhi, (2012).

Beteille Andre: 'The Study of Agrarian Systems: An Anthropological Approach', from Marxism and Class Analysis, New Delhi: Oxford. 2007.

Bandopadhyay :'Reflections on Land Reform in India since Independence' from T. V. Satyamurthy (Ed.) Industry and Agriculture in India Since Independence, Delhi: Oxford University Press.

Desai A.R.: Rural Sociology in India Popular Prakashan, Bombai,(1969 reprint 2009) .

Dhanagare, D. N.: 'Green Revolution and Social Inequalities in Rural India' from, Economic and Political Weekly, Vol. 22, No. 19/21, Annual Number (May, 1987),

Dube SC: Indian Village, Routledge,New York, (Second edition 2018)

Mukherjee Ramkrishna: The Dynamics of a Rural Society, Akademie -Verlag, Berlin, (1957)

OOmmen T.K.: Green Revolution and AgarinConflicts, Economics and Political weekly, Vol.-6,Issue-26(1971)

Shah, A.M.: Changes in the Indian Family: An Examination of Some Assumptions', in The Family in India: Critical Essays, New Delhi: Orient Longman (1998)

Srinivas M.N.: India: Social Structure, Hindustan Publishing Corporation, Delhi (1980)

मराठी ग्रंथ

जयपूर(२००९).

REVISED SYLLABUS OF B. A. III SOCIOLOGY

Choice Based Credit System (CBCS)

Semester – VI, DSE – E195 SOCIOLOGY – XVI

URBAN SOCIOLOGY

(June,2020 onwards)

A)Course Objectives:

1. Urbanization is an important aspect of modern society. This course is will provide an Exposure to key theoretical perspectives for understanding urban phenomena in historical and contemporary contexts.

2. It also reflects on vital concerns of urban living while narrating the subjective experiences of urban communities. With case studies from India and other parts of the world this course will help students understand and relate to the complexities of urban living.

3. The course seeks to evolve critical thinking and develop a policy perspective on the urban.

B)Course Learning Outcomes:

1. To appreciate the significance of the city and the process of urbanization and its Consequences across the globe, through cross disciplinary texts and ethnographic studies.

2. To understand the urban in the historical as well as modern contexts - the idea of Urbanism and urban space and the intersections in these of institutions, processes and Identities. This is to be achieved by exposing students to critical theoretical debates which help them to gain a deeper understanding of city life and urban environment which can Also help them understand their own social environment better.

3. To learn about key urban processes such as migration, displacement and urban slums, as

Well as critical contemporary issues such as resettlement and rehabilitation and also engage in issues of public policy, urban transformation and change. Knowledge of such Themes will help students pursue further studies in academic areas such as development and also engage in research on public policy, urban transformation and change.

4. To develop critical thinking and a reflective perspective through exposure to multicultural Thought; to enhance disciplinary knowledge, research-related skills and develop a problem-solving competence.

C) Course Content:

Module	**Topic and Sub- Topic**	**Teaching Hours**	**Credits**
Module I	Introduction to Urban Sociology A) Definition, Meaning & Nature of Urban Sociology. B) Subject Matter of Urban Sociology. C) Importance of the Study of Urban Sociology	15	01
Module II	Major Concepts in Urban Sociology. A)Urban Community. B)Urbanism. C)Rural- Urban differences- continuum	15	01
Module III	Process of Urbanization A) Meaning and Nature of Urbanization	15	01

	B) Causes of Urbanization. C) Consequences of Urbanization		
Module IV	Urban Social Structure. A) Urban Family : Characteristics and Change B) Urban Social stratification: Caste & Class. C) Urban Occupations: Characteristics and Change	15	01

D) Teaching Learning Process:

The sociology of the urban is simultaneously theoretical and yet deeply experiential.The teachinglearning for this course necessarily has to be deliberative, drawing from the multicultural exposure to city living. There will be an emphasis on blended learning supported by debates anddiscussions. Classroom lecturesshall be supplemented by power point presentations and film screenings onvarious contemporary urban issues. Invited lectures by policy makers, activists,practitioners and other stake holders would be integral to the curriculum. Students wouldbe encouraged to set out into the field to grasp issues with greater clarity. City walks will be encouraged to enrich the experiential understanding of the urban. Learning would also involve a multi-disciplinary perspective, collaborating with other social sciences that engage with the urban as well as the disciplines of urban planning and architecture, in order to enhance problem solving and critical thinking ability.

E) Assessment Methods:

Assessment for this paper would be in the form of tests, written assignments, projects' reportsand presentations.

F) Key Words:

Urban, Urbanism, Urbanisation, City, Migration, Settlement, Space, Ecology.

NOTE: 1) Visit to any Slum Area in City and Understand their Problems

2) Visit to any City and Observe its Ecosystem

G) References:-

1. Wilson R.A & Schlutz David : Urban Sociology, Prentice Hall, England, 1978

2. Rao M.S.A. : Urban Sociology in India, Orient Longman New Delhi, 1974.

3. D Souza Alfred : The Indian city: Poverty Ecology and Urban Development, Manohar, New Delhi,1978.

4. Dube K.K. and Singh A.K. : Urban Environment in India, Inter India, New Delhi 1980.

5. Mitra, Ashok et.al. : Indian cities, abhinav, New Delhi,1980.

6. Berge E.E. : Urban Sociology, Free Press, New York,1962

7. Bose, Ashish : Studies in India's Urbanisation, Tata McGraw Hill, New Delhi,1973

8. Singh Pramod : Ecology and Urban India, Vol.II Ashish, New Delhi, 1987.

9. Urban Sociology : Rajendra K. Sharma Atlantic Publishers & Distributers, New Delhi,1997

10. Urbanization : Concept & Growth: A.K. Shrivastava, H.K.Publishers and Distribtors, New Delhi,1989

B.A. Sociology Outcome

Sociology is the most contemporary and versatile of the Social Sciences. It trains students to grasp social structures, understand social processes map the dynamics of social change, decipher social interactions and make sense of individual and collective experiences in their social, historical and cultural context. Sociology is at once critical and constructive; conceptual and applied; theoretical and empirical. It is a science that cohabits comfortably with literary flair, speculative sensibility, historical imagination and statistical rigour. It is incessantly reflexive about its methods, demanding about its research techniques and standards of evidence. Sociology is ever so subtle about the conceptual distinctions it draws and zealous about its disciplinary boundaries and identity. At the same time, sociology is the most open and interdisciplinary of social sciences. The Pursuit of sociology is a systematic effort at recovering, mapping and making sense of our kaleidoscopic collective self under the sign of modernity. It is both historical and comparative. Sociology as an academic discipline is committed to the ideal of generating public knowledge and fostering public reason. It embodies best of enlightenment virtues: scientific reason, tolerance of diversity, humanistic empathy and celebration of democratic ideals. It is the science of our times.

Teaching Learning Process

Multiple pedagogic techniques are used in imparting the knowledge both within and outside the classrooms. Listed below are some such techniques:

- Lectures
- Tutorials
- Power-point presentations
- Project work
- Documentary Films on relevant topics
- Debates, Discussions, Quiz
- Talks /workshops

- Interaction with experts
- Academic festivals
- Classics and other sociologically meaningful films
- Excursions and walks within the city
- Visit to the museums
- Outstation study tours ….. Survey designs
- Internships

A note on Assessment Methods

Besides the formal system of University exams held at the end of each semester as well as mid-semester and class tests that are held regularly, the students are also assessed on the basis of the following:

- Written assignments
- Projects Reports
- Presentations
- Participation in class discussions
- Ability to think critically and creatively to solve the problems
- Application of classroom concepts during fieldwork
- Reflexive Thinking
- Engagement with peers
- Participation in extra and co-curricular activities
- Critical assessment of Films /Books etc.

A note on career trajectories for Sociology Graduates and (for) Prospective employers:

Students with a grounding in Sociology have contributed immensely to the following
fields :

- Academics
- Bureaucracy
- Social Work
- Law
- Journalism both print and visual
- Management
- Policy Making
- Developmental Issues
- Designing and Conducting surveys
- Human Resource Development
- Competitive Examinations
- Advocacy
- Performing Arts
- Research in contemporary issues of Gender, Development, Health, Urban Studies,
  Criminology etc.

Shivaji University, Kolhapur

Accredited By NAAC with 'A' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B.A. Part - I

Economics

(Syllabus to be implemented from June, 2022 onwards.)

Choice Based Credit System
B.A. Part - I
Economics Course – 1
June 2022 onwards
Indian Economy - I

Preamble :

This paper intends to acquaint the students with various dimensions of, as also the challenges, confronting the Indian economy. It endeavors to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy and the major challenges faced by it.

Course Outcome:

1. Acquaint the students with Structure of the Indian economy and changes taking place therein.
2. Understanding population Problem of Indian Economy
3. Awareness regarding challenges before the Indian economy.
4. Able to formulate the strategy for economic development

Semester - I	Teaching Hours	Credits
Module – I Economic Development Since Independence	**15**	**01**
1.1 Major Features of the Indian Economy at Independence		
1.2 Structural Changes in Indian Economy		
1.3 Indian Economy and Inclusive growth		
1.4 Sustainable Development		
Module – II Demographic status of India	**15**	**01**
2.1 Size and Causes of growth of population India		
2.2 Broad features of Indian Population		
2.3 Impact of population growth on Economic development		
2.4 Population Policy 2000		
Module – III Challenges before Indian Economy - I	**15**	**01**
3.1 Poverty - Meaning and Types		
3.2 Poverty - Causes and measures		
3.3 Unemployment - Meaning and Types		

3.4 Unemployment - Causes and Measures

Module – IV Challenges before Indian Economy - II **15** **01**

4.1 Economic Inequality- Nature, Causes & Remedies

4.2 Social Inequality – Nature, Causes & Remedies

4.3 Regional Imbalance – Nature, Causes & Remedies

4.4 Human Development Index – Concept, Indicators and Trends

REFERENCE BOOKS

1. Puri V.K., Misra S.K. (Latest Edition) Indian Economy, Himalaya Publishing House, Mumbai.
2. Agrawal A.N. (Latest Edition) Indian Economy, New Age International Publishers, New Delhi.
3. Datt and K.P.M. Sundharam, (Latest Edition) Indian Economy, S.Chand and Company Ltd., New Delhi.
4. Chatterjee and Mani N. (2012-13), Economic Survey of India its states, New Century Publications, New Delhi.
5. Desai Mutalik and Bhalerao Nirmal (Latest Edition) Bharatiya Arthvyavasta, Nirali Prakashan, Pune.(In Marathi Language)
6. Dr.Wavare and Dr. Ghatage (2010), Bharatiya Arthvyavasta, Nirali Prakashan, Pune.(In Marathi Language)
7. India 2014-15.
8. Handbook of Indian Statistics - 2015.
9. Economic Survey of India - Various issues
10. World Development Report - Various issues

B.A.-I
Economics Course – 2
June 2018 onwards
Indian Economy - II

Preamble:

This paper intends to acquaint the students with various dimensions of, as also the challenges, confronting the Indian economy. It endeavors to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy and the major challenges faced by it.

Course Outcomes:

1. Acquaint with the policies and performance of major sectors in Indian Economy.
2. Understanding the nature, scope, challenges and opportunities of economic reforms.
3. Awareness regarding causes of agrarian distress and remedies.
4. Understanding policy reforms regarding the industry and service sector.

Semester – II	Teaching Hours	Credits
Module – I Policies and Performance in Agriculture	**15**	**01**
1.1 Changing role of agriculture in Indian Economy		
1.2 Agricultural productivity: concepts, causes of low agricultural productivity and its measures.		
1.3 Green Revolution: Causes, Success and failure, Need of 2nd Green Revolution.		
1.4 Agricultural Pricing and Procurement		
Module - II Policies and Performance in Industry	**15**	**01**
2.1 Need of Industrialization		
2.2 Industrial Policy since 1991		
2.3 Problems and prospects of Cottage and Small scale Industries		
2.4 Foreign Investment Policies since 1991		
Module – III Service Sector in India	**15**	**01**
3.1 Growing importance of service sector		
3.2 Significance of Banks, financial Institutions and Insurance		
3.3 Importance of IT, Transport, Communication.		
3.4 Importance of Tourism.		
Module – IV Economic Reforms	**15**	**01**

4.1 Liberalization: Concept, Implementation and Impact on Indian Economy.

4.2 Privatization: Concept, Implementation and Impact on Indian Economy.

4.3 Globalization: Concept, Implementation and Impact on Indian Economy.

4.4 Recent export promotion policy.

REFERENCE BOOKS

1. Puri V.K., Misra S.K.(Latest Edition) Indian Economy, Himalaya Publishing House, Mumbai.
2. Agrawal A.N. (Latest Edition) Indian Economy, New Age International Publishers, New Delhi.
3. Datt and K.P.M.Sundharam, (Latest Edition) Indian Economy, S.Chand and Company Ltd., New Delhi.
4. Chatterjee and Mani N. (2012-13), Economic Survey of India its states, New Century Publications, New Delhi.
5. Desai Mutalik and Bhalerao Nirmal (Latest Edition) Bharatiya Arthvyavasta, Nirali Prakashan, Pune.(In Marathi Language)
6. Dr. Wavare and Dr. Ghatage (2010), Bharatiya Arthvyavasta, Nirali Prakashan, Pune.(In Marathi Language)
7. India 2014-15.
8. Handbook of Indian Statistics - 2015.
9. Economic Survey of India - Various issues 10. World Development Report - Various issues

NATURE OF QUESTION PAPER AND SCHEME OF MARKING

B.A. Part- I (Semester-I) Examination ----------

Economics Paper ------

Title ----------

Sub code -------

Day & Date : **Time:** **Total Marks : 40**

Instructions 1. All questions are Compulsory
2. Figures to right indicates full marks
3. Draw neat diagram wherever necessary

Q 1 Complete the following sentences by choosing correct alternatives **(05)**

1.
2.
3.
4.
5.

Q 2 Write short notes (any three) **(15)**

A.
B.
C.
D.
E.

Q 3 Write detail answers on any two of the following **(20)**

A.
B.
C.

Internal Evaluation 10 Mark

B.A.-I Semester-I - Home Assignment

B.A.-I Semester-II – Unit Test

Shivaji University ,Kolhapur
Revised Syllabus of B.A. Part II
Semester III
Labour Welfare
(I.D.S. Paper No.I)
From June 2019

Preamble : Labour Welfare is one of the Important branches of Economics . Labour is being considered as most important productive factor in economy. The study of labour welfare helps in understanding the labour welfare and problems, searching policy means to maximize the labour welfare. The students will understand nature, scope and problems associated with labour welfare with special reference to India.

Unit I : Introduction to Labour Welfare. (15 Lectures)

1.1 Definition and Meaning.
1.2 Nature and Scope
1.3 Objectives of Labour Welfare

1.4 Difference between labour Welfare and Social work

Unit II : Issues in Labour Welfare (15 Lectures)

2.1. Importance of Labour Welfare

2.2. Classification of Labour Problems.

2.3. Problems of Child Labour

2.4. Problems of Female Labour.

Unit III : International Labour Organization (ILO) and India. (15 Lectures)

3.1. Objectives, Structure and Governance of ILO

3.2. Achievements of ILO – Conventions, Resolutions

3.3. International Labour Standards

3.4. ILO and Indian Labour Welfare – Youth Development Policy of HRD

Unit IV : Trade Union and Labour Welfare (15 Lectures)

4.1. Definition, Meaning and Objectives of Trade Union.
4.2. Importance and Functions of Trade Union.
4.3. Role of Trade Union in Labour Welfare.
4.4. Problems of Trade Union Movement.

Reference Books

1. Kannapon, S.C, (1993), Employment Problems and Urban Labour Markets in Development Economy, Vol-I &II, Macmillan, London
2. Papola, T.S and Sharma A.N. 9Eds) (1999), Gender and Employment in India, Vikas Publishing House, New Delhi
3. Deshpande L.K and Sandesara J.C (Eds), (1970), Wage Policy and wages determination in India, Bombay University Press, Bombay
4. Memoria, C.B. (1966), Labour Problems and Social Welfare in India, Kitab Mahal, Allahabad
5. Punekar, S.D. (1978), LAbour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, Bombay
6. Singh, V.B. (Ed), Industrial Labour in India, Population Prakashan, Bombay
7. Misra, L (2000), Child Labour in India, Oxford University Press, New Delhi
8. Riveros L, (1990), Labour Market Policies and Labour Market Reforms in Socialist Economics, World Bank, Washington D.C
9. Indian Society for Labour Economics (ISLE) journals
10. Dr. T. N. Bhagoliwala : Economics of Labour and Industrial Relations, Sahitya publication, Agra.
11. Government of India : India Labour year Book, (Ministry of Labour)
12. Yoder Dale : Labour economic and Labour Problems
13. Pant S.C: Indian Labour Problems.
14. Sacheva and Gupta : Labour and Social welfare AjantaPrakashan Delhi.
15. Indian Journal of Labour Economics
16. Indian Journal of Human Resources
17. NSSO Reports on Employment and Unemployment

Shivaji University ,Kolhapur
Revised Syllabus of B.A. Part II
Semester IV
Labour Welfare (**I.D.S. Paper No.II)**
From June 2019

Preamble : Labour Welfare is one of the Important branches of Economics . Labour is being considered as most important productive factor in economy. The study of labour welfare helps in understanding the labour welfare and problems, searching policy means to maximize the labour welfare. The students will understand nature, scope and problems associated with labour welfare with special reference to India.

Unit I :Labour Efficiency (15 Lectures)

1.1 Concept and Meaning of Labour Efficiency
1.2. Determinants of Social Security
1.3. Measurementof Labour Efficiency
1.4. Measures to Improve Labour Efficiency

Unit II . Social Security (15. Lectures)

2.1. Meaning & Objectives of Social Security
2.2. Need for Social Security
2.3. Components of Social Security
2.4. Social Insurance, Social Assistance and Social Security.

Unit III . Labour Welfare Programmes in India (15Lectures)

3.1. Brief Review of Labour Welfare Programmes

3.2. New Economic Policy after 1991and Labour Welfare.

3.3. Labour Welfare Problems of Organized Sector

3.4. Labour Welfare Problems of UnorganizedSector.

Unit 4. Social Security Legislations in India (15Lectures)

4.1. Genesis of Social Security legislation in India

4.2 Workers Compensation Act 1923.

4.3. Employees Provident Fund Act 1952.

4.4 Child Labour (Prohibition & Regulation) Act 1986 - Maternity Benefit Act 1961 - New amendment 2017

Reference Books

1. Kannapon, S.C, (1993), Employment Problems and Urban Labour Markets in Development Economy, Vol-I &II, Macmillan, London
2. Papola, T.S and Sharma A.N. 9Eds) (1999), Gender and Employment in India, Vikas Publishing House, New Delhi
3. Deshpande L.K and Sandesara J.C (Eds), (1970), Wage Policy and wages determination in India, Bombay University Press, Bombay
4. Memoria, C.B. (1966), Labour Problems and Social Welfare in India, Kitab Mahal, Allahabad
5. Punekar, S.D. (1978), Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, Bombay
6. Singh, V.B. (Ed), Industrial Labour in India, Population Prakashan, Bombay
7. Misra, L (2000), Child Labour in India, Oxford University Press, New Delhi
8. Riveros L, (1990), Labour Market Policies and Labour Market Reforms in Socialist Economics, World Bank, Washington D.C
9. Indian Society for Labour Economics (ISLE) journals
10. Dr. T. N. Bhagoliwala: Economics of Labour and Industrial Relations, Sahitya publication, Agra.
11. Government of India : India Labour year Book, (Ministry of Labour)
12. Yoder Dale : Labour economic and Labour Problems
13. Pant S.C: Indian Labour Problems.
14. Sacheva and Gupta: Labour and Social welfare Ajanta Prakashan Delhi.
15. Indian Journal of Labour Economics
16. Indian Journal of Human Resources

SHIVAJI UNIVERSITY, KOLHAPUR

REVISED SYLLABUS OF B.A. PART II

Principles of Co-operation

Course – I GE (IDS)

To be introduced from June 2019

Semester III

PREAMBLE:

The objective of this paper is to create awareness about the working of co-operatives in Rural and Urban area. The Co-operative movement has been considered as the third important sector in the economy followed by private and public sector. The principles of co-operation and the values of the co-operative institutions need to be studied in Indian Context**.**

UNIT I: INTRODUCTION OF CO-OPERATION (15 Lectures)

1.1 Meaning and Definition of Co-operation
1.2 Features and Importance of Co-operation
1.3 Principles of Co-operation- Development and Manchester Co-operative Principles
1.4 International Co-operative Alliance (ICA) – Organization and Functions

UNIT II: CO-OPERATION AS A FORM OF ORGANIZATION (15 Lectures)

2.1: Capitalism – Features, Merits and Demerits

2.2: Socialism – Features, Merits and Demerits

2.3: Co-operation – A Golden mean between Capitalism and Socialism

2.4: Role of Co-operation in Mixed Economy

UNITIII: ROLE OF STATE IN CO-OPERATION (15 Lectures)

3.1: Role of State in the development of Co-operative movement

3.2: Co-operative Judicial System

3.3: Role of Co-operative Registrar

3.4: Effects of Globalization in Co-operative Movement

UNITIV: CO-OPERATIVE AUDIT (15 Lectures)

4.1: Meaning and Need of Cooperative Audit

4.2: Need and Types of Co-operative Audit

4.3: Role of Co-operative Auditor

4.4: Merits and Demerits of Co-operative Audit System

REFERENCES:

1. Bedi R.D – Theory, history and practice of Co-operation. Loyal Book Depot, Meerut
2. Datta and Sundaram – Indian Economy, S. Chand and Company, New Delhi
3. Dr. C. N. Sontakki – Co-operative Development, Sheth Publication Mumbai
4. Hajela T. N – Principles, Problems and Practice of Co-operation, ShivalalAgarwal Publication, Agra
5. Mathur B.S – Co-operation in India, SahityaBhavan, Agra
6. Mukhi H. R. –Co-operation in India and Abroad, R. B. Publications
7. Dr. Memoria C.B &Saksena R. D – Co-operation in India, KitabMahal Allahabad
8. Karve D.G – Co-operative Principles and Substance
9. Kamat G. S – Principles, Practice and Management of Co-operation

SHIVAJI UNIVERSITY, KOLHAPUR

REVISED SYLLABUS OF B.A. PART II

CO-OPERATIVES IN INDIA

Course – II GE (IDS)

From June 2019

Semester IV

PREAMBLE:

The objective of this paper is to create awareness about the working of co-operatives on Rural and Urban area. The Co-operative movement has been considered as the third important sector in the economy followed by private and public sector. The principles of co-operation and the values of the co-operative institutions need to be studied in Indian Context**.**

UNIT I: CO-OPERATIVE CREDIT IN INDIA (15 Lectures)

1.1: Primary Agricultural Credit Co-operative Societies - Functions, Importance and Problems

1.2: District Central Co-operative Banks- Functions, Importance and Problems

1.3: State Co-operative Bank – Functions, Importance and Problems

1.4: Urban Co-operative Banks – Functions, Problems and Remedies

UNIT II: CO-OPERATIVE MARKETING IN INDIA (15 Lectures)

2.1: Need and Importance

2.2: Structure of Co-operative Marketing

2.3: Problems and Remedies of Co-operative Marketing

2.4: NAFED – Objectives and Functions

UNITIII: CO-OPERATIVE PROCESSING SOCIETIES ININDIA (15 Lectures)

3.1: Role of Co-operative processing societies in rural Development

3.2: Sugar Co-operatives - Problems and Remedies

3.3: Dairy Co-operatives - Problems and Remedies

3.4: Women Empowerment through Co-Operative Processing

UNITIV: ROLE OF NATIONAL INSTITUTIONS IN CO-OPERATION (15 Lectures)

4.1: National Bank for Agricultural and Rural Development (NABARD)

4.2: National Co-operative Development Corporation (NCDC)

4.3: National Co-operative Union of India (NCUI)

4.4: 97th Constitutional Amendment and main changes in Maharashtra Co-operative Societies Act

REFERENCES:

1. Bedi R.D – Theory, history and practice of Co-operation. Loyal Book Depot, Meerut
2. Datta and Sundaram – Indian Economy, S. Chand and Company, New Delhi
3. Dr. C. N. Sontakki – Co-operative Development, Sheth Publication Mumbai
4. Hajela T. N – Principles, Problems and Practice of Co-operation, ShivalalAgarwal Publication, Agra
5. Mathur B.S – Co-operation in India, SahityaBhavan, Agra
6. Mukhi H. R. –Co-operation in India and Abroad, R. B. Publications
7. Dr. Memoria C.B &Saksena R. D – Co-operation in India, KitabMahal Allahabad
8. Karve D.G – Co-operative Principles and Substance
9. Kamat G. S – Principles, Practice and Management of Co-operation
10. Singh L.P – Co-operative Marketing
11. SahakarJagat – Various Issues

Shivaji University, Kolhapur

Revised Syllabus of B.A. II

To be introduced from June, 2019

Money and Banking Paper No. - IV

(Semester III)

Preamble:

To create the awareness among the students and Job Prospects in Banks and Financial Sector. Clear understanding of the operation of banks and financial institutions to the students with practical inputs.

Unit I: Introduction to Banking **15 Lectures**

1.1 Meaning and Functions of Commercial Banks

1.2 Types of Banks - Public, Private, Foreign and Cooperative

1.3 Principles and Investment Policy of Commercial Banks - Balance Sheet of banks

1.4 Processes of Credit Creation and its Limitations

Unit II: Practical Banking **15 Lectures**

2.1 Types and features of Bank Accounts

2.2 Opening, KYC, Operating and Closing of an Account

2.3 Banker's and Customer's Rights and Obligations

2.4 Negotiable Instruments: Main Features

Unit III: Reserve Bank of India **15 Lectures**

3.1 History and Organizational Structure

3.2 Functions of RBI - Traditional and Developmental

3.3 Monetary Policy - Meaning and Objectives

3.4 Instruments of Credit Control

Unit IV: Banking Practices in India **15 Lectures**

4.1 Bank Ombudsman Scheme- Meaning, Power and Duties

4.2 Meaning, Process and Importance of Credit (Loan) Appraisal

4.3 Advantages and Disadvantages of Bank Mergers

4.4 Meaning, Causes and Remedies of NPA

Suggested Additional Readings:

1. Bhole L.M. (2009), Financial Institutions and Market, Tata McGraw Hill, New Delhi
2. BhasinNitin(2010), Financial Institutions and Financial Markets in India :Functioning and Reforms. New Century Publications, New Delhi
3. Berg Braam van den (2015),Understanding Financial Markets & Instruments, Academy of Financial Market, https://eagletraders.com/books/afm/afm4.php
4. Cade, Eddie (1998) Managing Banking Risks, Woodhead Publishing Ltd., in association with The Chartered Institute of Bankers, England.
5. Gupta, L.C (1997),Stock Exchange Trading in India; Society for Capital Market Research and Development
6. Sethi Jyotsna and Bhatia Nishwan (2003),Elements of Banking and Insurance, Prentice Hall of India,New Delhi
7. National Stock Exchange (2015), Securities Market (Basic) Module, NCFM, National Stock Exchange of India Limited
8. Joshi Vasant C. and Joshi Vinay V (1998), Managing Indian Banks: The Challenges Ahead, Response Books, New Delhi.
9. Vasant Desai, "Bank and Institutional Management", Himalaya Publishing House.
10. Dr. P. K. Srivastava, "Banking Theory and Practices", Himalaya Publishing House
11. GordenNatrajan “Banking Theory law and practices” Himalaya publishing Houses.
12. M.Y. Khan, “Indian Financial System”, Tata McGraw Hill.

Shivaji University, Kolhapur

Revised Syllabus of B.A. II

To be introduced from June, 2019

Banks and Financial Markets Paper No. - VI

(Semester- IV)

Preamble:

To create the awareness among the students and Job Prospects in Banks and Financial Sector. Clear understanding of the operation of banks and financial institutions to the students with practical inputs.

Unit I: Financial System in India **15 Lectures**

1.1 Structure and Importance of Financial System

1.2 Features and Structure of Money Market in India

1.3 Features and Structure of Capital Market in India and Role of SEBI

1.4 Functions of Stock Market in India

Unit II: Indian Financial Institutions **15 Lectures**

2.1 Non-Bank Financial Institutions: Concept and Growth

2.1Loan companies in India, Functioning and problem

2.3 Functions of EXIM Bank

2.4 Mutual Funds: Meaning, Types and Importance

Unit III: Banking Reform **15 Lectures**

3.1 Recommendation of the Narasimham Committee (1991)

3.2 Recommendation of the Narasimham Committee (1998)

3.3 Foreign Direct Investment in Banking

3.4 Concept of Payment Bank and Small Finance Bank

Unit IV: E-Banking Service **15 Lectures**

4.1 E-Banking – Meaning, Features and Types

4.2 Features of Credit and Debit card

4.3 NEFT and RTGS, Cheque Truncation System

4.4 Cyber Crimes in Banking – Meaning, Types and Precaution

Suggested Additional Readings:

1. Bhole L.M. (2009), Financial Institutions and Market, Tata McGraw Hill, New Delhi
2. BhasinNitin(2010), Financial Institutions and Financial Markets in India: Functioning and Reforms. New Century Publications, New Delhi
3. Berg Braam van den (2015),Understanding Financial Markets & Instruments, Academy of Financial Market, https://eagletraders.com/books/afm/afm4.php
4. Cade, Eddie (1998) Managing Banking Risks, Wood head Publishing Ltd., in association with The Chartered Institute of Bankers, England.
5. Gupta, L.C (1997),Stock Exchange Trading in India; Society for Capital Market Research and Development
6. Sethi Jyotsna and Bhatia Nishwan (2003),Elements of Banking and Insurance, Prentice Hall of India,New Delhi
7. National Stock Exchange (2015), Securities Market (Basic) Module, NCFM, National Stock Exchange of India Limited
8. Joshi Vasant C. and Joshi Vinay V (1998), Managing Indian Banks: The Challenges Ahead, Response Books, New Delhi.
9. Vasant Desai, "Bank and Institutional Management", Himalaya Publishing House.
10. Dr. P. K. Srivastava, "Banking Theory and Practices", Himalaya Publishing House
11. Gorden Natarajan “Banking Theory law and practices” Himalaya publishing Houses.
12. M.Y. Khan, “Indian Financial System”, Tata McGraw Hill.
13. Reserve Bank of India,Report on Trend and progress of Banking in India.

Shivaji University Kolhapur

B.A. Part II Economics

Macro Economics -I (Paper-III) (Sem-III)

Preamble: The purpose of teaching this paper is to introduce the basic primary and analytically important concepts, theories and policies in the working of the economy to the learners. It attempts to enable the students to apply various concepts in the process of policy making, planning of measures to ensure and achieve the fundamental objectives of macroeconomic policy.

Unit 1: Introduction to Macro Economics (Periods -15)

1.1 Meaning, Definitions, Nature and Scope

1.2 Difference between Micro and Macro Economics

1.3 Importance and Limitations

1.4 Macro Economic Variables

Unit 2: National Income (Periods -15)

2.1 Meaning and Definitions

2.2 Different concepts: GDP, GNP ,NNP, GDP at market prices and at factor cost, Per Capita Income, Personal Income, Disposable Income.

2.3 Methods of Measuring National Income: Product, Income and Expenditure.

2.4 Difficulties in the measurement of National Income, Importance of National Income Data.

Unit 3: Money and Value of Money (Periods -15)

3.1 Definitions and Functions of Money.

3.2 Value of Money: Quantity Theory of Money - Transaction Approach, Cash Balance Approach.

3.3 Index Number: Meaning and Types, Construction of Simple and Weighted Index Numbers.

3.4 Importance of Index Number.

Unit 4: Output and Employment (Periods -15)

4.1 Say's Law of Market.

4.2 Keynesian Theory of Employment.

4.3 Consumption Function: Average Propensity to Consume (APC), Marginal Propensity to Consume (MPC), Factors affecting Consumption function.

4.4 Investment Function, Concept of Multiplier.

Reference Books:

1.Jhingan M.L., Macro Economic Theory, Vrinda Publication, Delhi.

2.Mithani D.M., Monetary Theory, Vota and Company, Mumbai.

3.Mithani D.M., Macro Economics, Himalaya Publishing House.

4.Dewett K.K., Modern Economic Theory, S. Chand & Co., Ltd., New Delhi.

5.Ackley G, Macro Economics: Theory and Policy, Macmillan, New York.

6.keynes J.M., General Theory of Employment, Interest and Money, Macmillan and Co. London.

7.Seth M.L., An Introduction to Keynesian Economics, Lakshmi Narain Agarwal, Agra.

8.Fisher Irving, The purchasing power of money, Macmillan New York.

9.Shaprio Edward, Macro Economic Analysis, Galgotia Publication's New Delhi.

10. Dwivedi D. N (2017) Macro Economics – Theory and Policy; Mc Graw Hill Education

11. Ahuja H. L (2017) Advanced Economic Theory; S. Chand & Company, New Delhi

12. Ahuja H. L (2016) Macro Economics Theory and Practices; S. Chand & Company, New Delhi.

13.प्रा. रामदेशमुख, आधुनिकस्थूलअर्थशास्त्र, विद्याप्रकाशननागपूर.

14.जी. एन. झामरे, स्थूलअर्थशास्त्र, पिंपळापुरेअँडकंपनीपब्लिशर्सनागपूर.

15. पाटील जे. एफ. (२०१४) साकलिक अर्थशास्त्रब, फडके प्रकाशन, कोल्हापूर.

Shivaji Universi**t**y **Kolhapur**

B.A. Part II Economics

Macro Economics - II (Paper-V) (Sem - IV)

Preamble: Macro Economics is aggregative economics which examines the interrelations among the various aggregates. Macro Economics is not only scientific method of analyses, but also a body of empirical economic knowledge. This paper equips the students to understand the basic theoretical framework underling in the field of macro economics.

Unit :1 Inflation (Periods -15)

1.1 Meaning, Definitions and Types
1.2 Causes of Inflation
1.3 Effects of Inflation
1.4 Remedies of Controlling Inflation

Unit :2 Trade Cycles (Periods -15)

2.1 Meaning and Features.

2.2 Phases of Trade Cycles.

2.3 Theories of Trade Cycles: Hawtrey, Schumpeter.

2.4 Control of Trade Cycles.

Unit :3 Public Finance – I (Periods -15)

3.1 Meaning, Nature and Scope.

3.2 Principle of Maximum Social Advantage.

3.3 Taxation: Direct and Indirect Taxes-Meaning, Merits and Demerits.

3:4 Budget: Budgetary process

Unit: 4 Public Finance-II (Periods -15)

4.1 Public Expenditure: Meaning and Causes of growth of Public Expenditure.

4.2 Public Debt: Meaning, Sources and Effects.

4.3 Deficit Financing: Meaning, types and Methods.

4.4 Fiscal Policy: Meaning, Objectives and Instruments.

Reference Books:

1.Jhingan M.L., Macro Economics Theory,Vrinda Publication, Delhi.

2.Mithani D.M., Monetary Theory,Vota and Company, Mumbai.

3.Mithani D.M., Macro Economics, Himalaya Publishing House.

4.Dewett K.K., Modern Economic Theory,S.Chand & Co., Ltd., New Delhi.

5.Ackley G, Macro Economics: Theory and Policy, Macmillan, New York.

6.keynes J.M., General Theory of Employment, Interest and money, Macmillan and Co.London.

7.Seth M.L., An Introduction to Keynesian Economics, Lakshmi Narain Agarwal,Agra.

8.Fisher Irving, The purchasing power of money, Macmillan New York.

9.Shaprio Edward, Macro Economic Analysis,Galgotia Publication's New Delhi.

10. Ahuja H. L (2017) Advanced Economic Theory; S. Chand & Company, New Delhi
11. Ahuja H. L (2016) Macro Economics Theory and Practices; S. Chand & Company, New Delhi.
12. Lekhi R. L. (2013) Public Finance; Kalyani Publisher New Delhi.

13.प्रा. रामदेशमुख, आधुनिकस्थूलअर्थशास्त्र, विद्याप्रकाशननागपूर.

14.जी. एन. झामरे, स्थूलअर्थशास्त्र, पिंपळापुरेअँडकंपनीपब्लिशर्सनागपूर.

15. पाटील जे. एफ. (२०१४) साकलिक अर्थशास्त्रब, फडके प्रकाशन, कोल्हापूर.

SHIVAJI UNIVERSITY, KOLHAPUR

Revised syllabus for
Bachelor of Arts (Part – III)

SEMESTER V & VI

ECONOMICS

Syllabus to be implemented from June 2020 onwards

Equivalance B.A.III Economics Sem- V

Sem No.	Paper No.	Title of Old Paper	Sem No.	Discipline	Title of New Paper
V	VII	Micro Economics	V	Economics Course - 7	Principles of Micro Economics- I
V	VIII	Research Methodology in Economics (Part I)	V	Economics Course- 10	Research Methodology in Economics- I
V	IX	History of Economic Thoughts (Part I)	V	Economics Course - 11	History of Economic Thoughts- I
V	X	Economics of Development	V	Economics Course - 8	Economics of Development
V	XI	International Economics (Part I)	V	Economics Course - 9	International Economics- I

Equivalance B.A.III Economics Sem- VI

Sem No.	Paper No.	Title of Old Paper	Sem No.	Economics Course	Title of New Paper
VI	XII	Market and Pricing	VI	Economics Course- 12	Principles of Micro Economics- II
VI	XIII	Research Methodology in Economics (Part II)	VI	Economics Course- 15	Research Methodology in Economics- II
VI	XIV	History of Economic Thoughts (Part II)	VI	Economics Course- 16	History of Economic Thoughts- II
VI	XV	Economics of Planning	VI	Economics Course- 13	Economics of Planning
VI	XVI	International Economics (Part II)	VI	Economics Course- 14	International Economics- II

Structure of Course
Revised syllabus of B.A. Part III (Economics)

Sr. No.	Semester	Title of the Paper	Discipline	Distribution of Credit	Workload	Total Credits	Theory Marks	Term work seminar
1	V	Principles of Micro Economics- I	Economics Course- 7	4	4 Lectures / week	20	40	10
2	V	Economics of Development	Economics Course- 8	4	4 Lectures / week		40	10
3	V	International Economics- I	Economics Course- 9	4	4 Lectures / week		40	10
4	V	Research Methodology in Economics- I	Economics Course- 10	4	4 Lectures / week		40	10
5	V	History of Economic Thoughts- I	Economics Course- 11	4	4 Lectures / week		40	10
Sr. No.	**Semester**	**Title of the Paper**	**Discipline**	**Distribution of Credit**	**Workload**	**Total Credits**	**Theory Marks**	**Term work Group Project**
6	VI	Principles of Micro Economics- II	Economics Course- 12	4	4 Lectures / week	20	40	10
7	VI	Economics of Planning	Economics Course- 13	4	4 Lectures / week		40	10
8	VI	International Economics- II	Economics Course- 14	4	4 Lectures / week		40	10
9	VI	Research Methodology in Economics- II	Economics Course- 15	4	4 Lectures / week		40	10
10	VI	History of Economic Thoughts- II	Economics Course- 16	4	4 Lectures / week		40	10

B. A. III Economics (Semester V) (CBCS Pattern)

Principles of Micro Economics- I

(Elective Course- 7)

Course Outcomes: After successful completion of this course, the students will be able to:

- Explain what economics is and explain why it is important
- Understand consumer decision making and consumer behaviour
- Define the concept of utility and satisfaction
- Derive revenue and cost figures as well as curves
- Understand producer decision making and producer behaviour

Module- I Introduction to Micro Economics (Teaching Hours- 15, Credits- 01)

1.1 Meaning, nature and scope
1.2 Importance and limitations
1.3 The Economic Problem- Scarcity and Choice; concept of opportunity cost
1.4 Framework of economic analysis- Concept, module, parameters

Module- II Consumer's Behaviour (Teaching Hours- 15, Credits- 01)

2.1 Utility- concept, total and marginal utility
2.2 Cardinal utility approach: law of diminishing marginal utility
2.3 Ordinal utility approach: meaning and properties of indifference curve
2.4 Consumer's equilibrium and consumer's surplus

Module- III Demand and Supply Analysis (Teaching Hours- 15, Credits- 01)

3.1 Law of demand, demand function, determinants of demand
3.2 Elasticity of demand: price, income, cross and substitution
3.3 Measurement and importance
3.4 Law of supply, supply function and elasticity

Module- IV Theory of Production (Teaching Hours- 15, Credits- 01)

4.1 Law of variable proportions and law of returns to scale
4.2 Economies and diseconomies of scale
4.3 Revenue- total, marginal and average revenue
4.4 Cost concepts and their relationship, cost curves- short run and long run

BASIC READING LIST:

1. Dominic Salvator (2012) – Principles of Micro Economics, 5th edition, Oxford University Press, Oxford.
2. John B. Taylor & Akila Weerapana, (2011) 'Principles of Economics', 7th Edition, Cengage Learning, India, New Delhi.

3. Koutsoyiannis, A. (1979), Modern Microeconomics, 2nd Edition, Macmillan Press, London.
4. Lipsey Richard G., (latest edition), An Introduction to Positive Economics, Weidenfeld & Nicolson, London.
5. Lipsey, R.G. and K.A. Chrystal (latest edition), Principles of Economics (IX Ed.), Oxford University Press, Oxford.
6. Mankiw, N. Gregory (2008),Principles of Microeconomics, 5th Edition, Cengage Learning India, New Delhi.
7. Mansfield, E (latest edition), Microeconomics (9th Ed) W.W. Norton and Company, New York.
8. Pindyek and Rubinfield (latest edition)- Micro Economics, Pearson Education, New Delhi.
9. Ray, N.C. (latest edition), An introduction to Microeconomics, Macmillan company of India Ltd.
10. Samuelson, P.A. and W.D. Nordaus (latest edition), Economics, Tata McGraw Hill, New Delhi.
11. Stonier, A.W. and D.C. Hague (latest edition), A Textbook of Economic Theory, ELBS and Logman Group, London.
12. Varian, Hall (1992): Microeconomic Analysis, Third Edition, W. W. Norton & Company, Inc, New York.

B. A. III Economics (Semester VI) (CBCS Pattern)

Principles of Micro Economics- II

(Elective Course- 12)

Course Outcomes: After successful completion of this course, the students will be able to:

- Identify the market structure
- Analyse the economic behaviour of individual firms and markets
- Analyse a firm's profit maximising strategies under different market conditions
- Understand the factor pricing

Module- I Perfect Competition (Teaching Hours- 15, Credits- 01)

1.1 Meaning and characteristics
1.2 price and output determination under perfect competition
1.3 Equilibrium of the firm and industry in the short run
1.4 Equilibrium of the firm and industry in the long run

Module- II Monopoly (Teaching Hours- 15, Credits- 01)

2.1 Meaning and characteristics
2.2 Price discrimination and degrees
2.3 Equilibrium of a monopoly firm in the short run and long run
2.4 Monopoly and capacity loss

Module- III Imperfect Competition (Teaching Hours- 15, Credits- 01)

3.1 Meaning and characteristics

3.2 Price- output determination

3.3 Product differentiation

3.4 Oligopoly and duopoly- meaning and characteristics

Module- IV Factor Pricing (Teaching Hours- 15, Credits- 01)

4.1 Marginal productivity theory

4.2 Modern theory of rent

4.3 Classical and Keynesian theory of interest

4.4 Risk and uncertainty theory of profit

BASIC READING LIST:

1. Dominic Salvator (2012) – Principles of Micro Economics, 5th edition, Oxford University Press, Oxford.
2. John B. Taylor & Akila Weerapana, (2011) 'Principles of Economics', 7th Edition, Cengage Learning, India, New Delhi.
3. Koutsoyiannis, A. (1979), Modern Microeconomics, 2nd Edition, Macmillan Press, London.
4. Lipsey Richard G., (latest edition), An Introduction to Positive Economics, Weidenfeld & Nicolson, London.
5. Lipsey, R.G. and K.A. Chrystal (latest edition), Principles of Economics (IX Ed.), Oxford University Press, Oxford.
6. Mankiw, N. Gregory (2008),Principles of Microeconomics, 5th Edition, Cengage Learning India, New Delhi.
7. Mansfield, E (latest edition), Microeconomics (9th Ed) W.W. Norton and Company, New York.
8. Pindyek and Rubinfield (latest edition)- Micro Economics, Pearson Education, New Delhi.
9. Ray, N.C. (latest edition), An introduction to Microeconomics, Macmillan company of India Ltd.
10. Samuelson, P.A. and W.D. Nordaus (latest edition), Economics, Tata McGraw Hill, New Delhi.
11. Stonier, A.W. and D.C. Hague (latest edition), A Textbook of Economic Theory, ELBS and Logman Group, London.
12. Varian, Hall (1992): Microeconomic Analysis, Third Edition, W. W. Norton & Company, Inc, New York.

B. A. III Economics (Semester V) (CBCS Pattern)
Economics of Development

(Elective Course- 8)

Course Outcomes: After successful completion of this course, the students will be able to:

- Identify the dimensions of development
- Distinguish the fundamental and contemporary development debate
- Know the theories of economic development
- Realise the role of state in economic development

Module- I: Basic concepts of economic development (Teaching Hours- 15, Credits- 01)

1.1 Meaning of economic development- Distinction between economic development and growth
1.2 Indicators of economic development
1.3 Obstacles to economic development
1.4 Sustainable and green development

Module- II: Developing and developed countries (Teaching Hours- 15, Credits- 01)

2.1 Underdevelopment and characteristics
2.2 Factors affecting economic development
2.3 Features of economic growth
2.4 Developmental status of Indian economy

Module- III: Theories of economic development (Teaching Hours- 15, Credits- 01)

3.1 Classical approach to development- Ricardian Theory
3.2 Myrdal's theory of economic development
3.3 Rostow's stages of economic growth
3.4 Theory of balanced and unbalanced growth

Module- IV: Resources for economic development (Teaching Hours- 15, Credits- 01)

4.1 Capital formation, Technology and economic development
4.2 Human capital and economic development
4.3 FDI, FIIs, Portfolio and Aid
4.4 Role of state in economic development

BASIC READING LIST:

1. Adelman, Irma (1962), *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
2. Behrman, S. and T.N. Srinivasan (1995), *Handbook of Development Economics*, Vol. 1to 3, Elsevire, Amsterdam. Economics 31
3. Ghatak, Subrata (1986), *Introduction to Development Economics*, Allen and Unwin, London.
4. Hayami, Yujiro and Yoshihisa Godo (1997), *Development Economics*, Oxford University Press, New York.
5. Higgins, Benjamin (1980), *Economic Development*, Norton, New York.

6. Kindleberger, C.P. (1965), *Economic Development*, 3e, McGraw Hill, New York.
7. Meier, Gerald M. and James E. Rauch (2005), *Leading Issues in Economic Development*, 6e, Oxford University Press, New Delhi.
8. Myint, Hla (1965), *The Economics of Underdeveloped Countries*, Preager, New York.
9. Myint, Hla (1971), *Economic Theory and Under Developed Countries*, Oxford University Press, New York.
10. Thirlwal, A.P. (1999), (6th Edition), *Growth and Development*, Macmillan, London.
11. Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
12. Boserup, Ester (1981), *Population and Technological Change : A Study of Long Term Change*, Chicago University Press, Chicago.
13. Brahmananda, P.R. and C.N. Vakil (1956), *Planning for an Expanding Economy,* Vora and Co., Bombay.
14. Puri V. K. And S. K. Misra (2016), *Economics of Development and Planning*, Himalaya Publishing House.
15. Datta Gaurav and Ashwini Mahajan (2016), *Indian Economy*, S. Chand Publishing, New Delhi
16. Todaro Michael P. And Stephen C. Smith (2017), *Economic Development,* Pearson Education.
17. Chakravarti, Sukhamoy (1982), *Alternative Approaches to the Theory of Economic Growth,* Oxford University Press, Delhi.
18. Chakravarty, Sukhamoy (1987), *Development Planning : The Indian Experience,* Clarendon Press, Oxford.
19. Jhingan, M.L. (2005) *The Economics of Development and Planning* , Vrinda Publications Ltd. Delhi
20. Lekhi, R.K. (2005) *Economics of Development and Planning*, Kalyani Publishers, Delhi.
21. Patil, J. F. (et al) (2005) *Economics of Growth and Development* (Marathi) , Phadake Publishers, Kolhapur.
22. Patil, J.F. & Tamhankar, P.J. (1990) *Economics of Development and Planning* (Marathi), Continental Publishers, Pune.
23. Kavimandan (1975), *Economics of Development and Planning* (Marathi), Mangesh Prakashan , Nagpur

B. A. III Economics (Semester VI) (CBCS Pattern)
Economics of Planning

(Elective Course- 13)

Course Outcomes: After successful completion of this course, the students will be able to:

- Get acquainted with economic planning and its importance in development
- Get acquianted with development of planning and planning machinery in India
- Evaluate sectoral performance of the Indian economy
- Compare and analyse Indian models of economic development

Module- I: Introduction to economic planning (Teaching Hours- 15, Credits- 01)

1.1 Meaning, Case for and against economic planning
1.2 Genesis of planning
1.3 Types of planning
1.4 Conditions of success of planning

Module- II: Issues in economic planning (Teaching Hours- 15, Credits- 01)

2.1 The choice of techniques: labour and capital intensive
2.2 Capital output ratio: Importance and factors affecting COR
2.3 Input output analysis
2.4 Project evaluation

Module- III: Planning in India- I (Teaching Hours- 15, Credits- 01)

3.1 Evolution of planning in India
3.2 Objectives and evaluation of planning
3.3 Planning Commission and National Development Council
3.4 NITI Ayog- Need for establishment, organization, objectives and work

Module- IV: Planning in India- II (Teaching Hours- 15, Credits- 01)

4.1 Plan models in Indian plans
4.2 Agricultural development under plans
4.3 Industrial development under plans
4.4 Services sector development under plans

BASIC READING LIST:

1. Behrman, S. and T.N. Srinivasan (1995), *Handbook of Development Economics*, Vol. 1to 3, Elsevire, Amsterdam. Economics 31
2. Hayami, Yujiro and Yoshihisa Godo (1997), *Development Economics*, Oxford University Press, New York.
3. Kindleberger, C.P. (1965), *Economic Development*, 3e, McGraw Hill, New York.
4. Meier, Gerald M. and James E. Rauch (2005), *Leading Issues in Economic Development*, 6e, Oxford University Press, New Delhi.
5. Myint, Hla (1971), *Economic Theory and Under Developed Countries*, Oxford University Press, New York.
6. Thirlwal, A.P. (1999), (6th Edition), *Growth and Development*, Macmillan, London.
7. Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
8. Brahmananda, P.R. and C.N. Vakil (1956), *Planning for an Expanding Economy,* Vora and Co., Bombay.
9. Puri V. K. And S. K. Misra (2016), *Economics of Development and Planning*, Himalaya Publishing House.
10. Datta Gaurav and Ashwini Mahajan (2016), *Indian Economy*, S. Chand Publishing, New Delhi
11. Chakravarty, Sukhamoy (1987), *Development Planning : The Indian Experience,* Clarendon Press, Oxford.
12. Jhingan, M.L. (2005) *The Economics of Development and Planning* , Vrinda Publications Ltd. Delhi
13. Lekhi, R.K. (2005) *Economics of Development and Planning*, Kalyani Publishers, Delhi.
14. Patil, J. F. (et al) (2005) *Economics of Growth and Development* (Marathi) , Phadake Publishers, Kolhapur.
15. Patil, J.F. & Tamhankar, P.J. (1990) *Economics of Development and Planning* (Marathi), Continental Publishers, Pune.

B. A. III Economics (Semester V) (CBCS Pattern)
International Economics- I

(Elective Course- 9)

Course Outcomes: After successful completion of this course, the students will be able to:

- Explain international trade
- Understand the measurement of gains from international trade
- Distinguish different rates of exchange
- Measure the terms of trade

Module- I: Trade and Trade Theories (Teaching Hours- 15, Credits- 01)

1.1 Importance of the study of International Economics

1.2 Inter-regional and international trade: similarities and dissimilarities.

1.3 Ricardian theory of international trade

1.4 Hecksher – Ohlin Theory

Module- II: Gains from International Trade (Teaching Hours- 15, Credits- 01)

2.1 Gains from international trade and their measurement

2.2 Trade as an engine of economic growth.

2.3 Terms of trade: meaning, concepts and application

2.4 Factors affecting terms of trade

Module- III: Exchange Rate (Teaching Hours- 15, Credits- 01)

3.1 Meaning of exchange rate, Purchasing Power Parity theory

3.2 Fixed Exchange Rate – meaning, merits and demerits

3.3 Flexible Exchange Rate – meaning, merits and demerits

3.4 Floating Exchange Rate – meaning, merits and demerits

Module- IV: Tariffs and Quotas (Teaching Hours- 15, Credits- 01)

4.1 Free Trade: meaning, arguments for and against

4.2 Trade Protection Policy: meaning, arguments for and against.

4.3 Tariffs:meaning, types and effects

4.4 Quotas:meaning, types and effects.

BASIC READING LIST:

1 Aggarwal, M. R. (1979), Regional Economic Cooperation in South Asia, S. Chand and Co., New Delhi.

2 Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.

3 Crockett. A. (1982), International Money: Issue and Analysis, ELBS and Nelson, London.

4 Greenaway. D. (1983), International Trade Policy, MacMillan Publishers Ltd., London.
5 Heller, H. R. (1968), International Monetary Economics, Prentice Hall. India.
6 Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford
7 Kenan, P.B. (1994), The International Economy, Cambridge University Press, London.
8 Kindlberger, C. P. (1973), International Economics, R.D. Irwin, Homewood.
9 Krugman, P. R. and M. Obstgeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
10 Mithani D.M. (Reprint-2009) International Economics, Himalaya Publishing House, New Delhi.
11 Nayyar,D. (1976) : India's Exports and Export Policies in the 1960s, Cambridge University Press, Cambridge.
12 Panchmukhi, V. R. (1978), Trade Policies of India: A Quantitative Analysis, Concept University Press, Delhi.
13 Patel, S. J. (1995), Indian Economy Towards the 21st Century, University Press Ltd., India.
14 RuddarDatt& K.P.M. Sundaram, (2018), Indian Economy, S. Chand & Co. Ltd., New Delhi
15 Salvatore, D. L. (1997), International Economics, Prentice- Hall, Upper Saddle River, N. J.
16 Singh, M. (1964), India Export Trends and the Prospects for Self-sustained Growth, Oxford University Press, Oxford.
17 Sodersten, Bo (1991), International Economics, MacMillan Press Ltd. London

B. A. III Economics (Semester VI) (CBCS Pattern)

International Economics- II

(Elective Course- 14)

Course Outcomes: After successful completion of this course, the students will be able to:

- Distinguish between balance of trade and balance of payments
- Analyse the balance of payments
- Understand the various types of foreign capital
- Analyse the impact of international institutions on Indian economy

Module- I: Balance of Trade and Balance of Payments (Teaching Hours- 15, Credits- 01)

1.1 Balance of Trade and Balance of Payments

1.2 Importance of Balance of Payments

1.3 Disequilibrium in Balance of Payments: Causes and Consequences

1.4 Measures to correct disequilibrium in Balance of Payments

Module- II: Foreign Trade of India since 1991 (Teaching Hours- 15, Credits- 01)

2.1 Volume, composition and direction

2.2 Exim Policy of 2014-19

2.3 Trade administration of India

2.4 Convertibility of Rupee: Meaning and types.

Module- III: Foreign Capital in India (Teaching Hours- 15, Credits- 01)

3.1 Need for Foreign Capital

3.2 Types of Foreign Capital

3.3 Foreign Capital Policy of Government of India

3.4 Trends in Foreign Direct Investment in India

Module- IV: International Institutions and India (Teaching Hours- 15, Credits- 01)

4.1 IMF: Objectives and Functions

4.2 IBRD: Objectives,Functions

4.3 ADB: Objectives, Functions

4.4 WTO: Objectives, Functions

BASIC READING LIST:

1 Aggarwal, M. R. (1979), Regional Economic Cooperation in South Asia, S. Chand and Co., New Delhi.

2 Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.

3 Crockett. A. (1982), International Money: Issue and Analysis, ELBS and Nelson, London.

4 Greenaway. D. (1983), International Trade Policy, MacMillan Publishers Ltd., London.

5 Heller, H. R. (1968), International Monetary Economics, Prentice Hall. India.

6 Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford

7 Kenan, P.B. (1994), The International Economy, Cambridge University Press, London.

8 Kindlberger, C. P. (1973), International Economics, R.D. Irwin, Homewood.

9 Krugman, P. R. and M. Obstgeld (1994), International Economics: Theory and Policy, Glenview, Foresman.

10 Mithani D.M. (Reprint-2009) International Economics, Himalaya Publishing House, New Delhi.

11 Nayyar,D. (1976) : India's Exports and Export Policies in the 1960s, Cambridge University Press, Cambridge.

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13 Patel, S. J. (1995), Indian Economy Towards the 21st Century, University Press Ltd., India.

14 RuddarDatt& K.P.M. Sundaram, (2018), Indian Economy, S. Chand & Co. Ltd., New Delhi

15 Salvatore, D. L. (1997), International Economics, Prentice- Hall, Upper Saddle River, N. J.

16 Singh, M. (1964), India Export Trends and the Prospects for Self-sustained Growth, Oxford University Press, Oxford.

17 Sodersten, Bo (1991), International Economics, MacMillan Press Ltd. London

B. A. III Economics (Semester V) (CBCS Pattern)

Research Methodology in Economics- I

(Elective Course- 10)

Course Outcomes: After successful completion of this course, the students will be able to:

- Get acquainted with the basic concepts of research and its methodologies.
- Select and define appropriate research problem and parameters.

Module- I: Introduction to research in economics (Teaching Hours- 15, Credits- 01)

1.1 Meaning, definitions and objectives of research

1.2 Types of research

1.3 Significance of research

1.4 Areas of economic research

Module- II: Literature review and research design (Teaching Hours- 15, Credits- 01)

2.1 Literature review- meaning, need, how to carry out a literature review?

2.2 Research design- steps in research design

2.3 Features of good research design

2.4 Importance of research design

Module- III: Hypothesis and concept (Teaching Hours- 15, Credits- 01)

3.1 Meaning and definition, kinds of hypothesis

3.2 Features of hypothesis

3.3 Importance of hypothesis

3.4 Concept- meaning, conceptualization, formal and operational definition of concept

Module- IV: Data collection (Teaching Hours- 15, Credits- 01)

4.1 Primary and secondary data

4.2 Primary data collection methods- observation, questionnaire, interview

4.3 Sources of secondary data

4.4 Importance of data collection

BASIC READING LIST:

1. Goode and Hatt (1981), Methods in Social Research, McGraw Hill International Book Company, New Delhi.
2. Kerliger F.N. (1983), Foundation of Behavioural Research, Surjeet Publication,Delhi.
3. Young P. V. (1960), Scientific Social Survey and Research, Asia Publication House,Mumbai.
4. Kothari C.R. (1993), Research Methodology-Methods and Techniques, Wiley Eastern Ltd.,New Delhi.
5. Lundbrg G.A. (1960), Social Research, Longmans Green and Company, New York.

6. Herekar P .M. (2019), Research Methodology and Project Work, Phadake Prakashan,Kolhapur.
7. Settiz Claire, Jahoda Marie and Others (1959), Research Methods in Social Research,Dryden New York.
8. Takur Dvendra (1997), Research Methodology in Social Sciences, Deep and Deep Publication,New Delhi.
9. Gupta S.P.and Gupta M.P. (2005), Business Statistics, Sultan Chand & Sons, New Delhi
10. Gupta C.B. (1996), An Introduction to Methods, Vikas Publication House,New Delhi.
11- ns'keq[k jke ¼twu 2005½ % ^ewyHkwr lkaf[;dh*] fo|k izdk'ku] ukxiwj-
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B. A. III Economics (Semester VI) (CBCS Pattern)

Research Methodology in Economics- II

(Elective Course- 15)

Course Outcomes: After successful completion of this course, the students will be able to:

- Understand the sampling techniques as a method of data collection
- Use techniques of data analysis in research
- Write a research report and thesis
- Write a research proposal (grants)

Module- I: Sampling (Teaching Hours- 15, Credits- 01)

1.1 Meaning and nature

1.2 Types of sampling

1.3 Criteria of good sampling

1.4 Optimum size of sampling

Module- II: Processing and representation of data (Teaching Hours- 15, Credits- 01)

2.1 Classification of data

2.2 Tabulation of data

2.3 Percentage

2.4 Graphs and diagrams

Module- III: Techniques of data analysis (Teaching Hours- 15, Credits- 01)

3.1 Need and importance of data analysis

3.2 Measures of central tendency: mean, mode, median (direct method)

3.3 Measures of variation: range, standard deviation (direct method)

3.4 Correlation- meaning and importance, Karl Pearson's coefficient of correlation

Module- IV: Interpretation of data and report writing (Teaching Hours- 15, Credits- 01)

4.1 Interpretation of data: meaning

4.4 Report writing: meaning, steps, precautions

4.5 Properties of good report writing

4.4 Writing a good research proposal

BASIC READING LIST:

1. Goode and Hatt (1981), Methods in Social Research, McGraw Hill International Book Company, New Delhi.
2. Kerliger F.N. (1983), Foundation of Behavioural Research, Surjeet Publication,Delhi.
3. Young P. V. (1960), Scientific Social Survey and Research, Asia Publication House,Mumbai.
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11- ns'keq[k jke ¼twu 2005½ % ^ewyHkwr lkaf[;dh*] fo|k izdk'ku] ukxiwj-
12- ikVhy t-Qk-] iBk.k ds-th-] rkEg.kdj ih-ts-] larks"k ;kno ¼2012½ % ^vFkZ'kkL=h; la'kks/kukph rksaMvksG[k*] ¼lq/kkfjr vko`Rrh½] dkWfUVusaVy izdk'ku] iq.ks-
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14- [kSjukj fnyhi ¼Qsczqokjh 2009½ % ^izxr lkekftd la'kks/ku i/nrh o lkaf[;dh*] Mk;eaM ifCyds'kUl] iq.ks-
15- HkkaMkjdj iq-y- ¼1987½ % ^lkekftd la'kks/ku i/nrh*] egkjk"Vª fo|kihB xzaFkfufeZrh eaMG] ukxiwj-

B. A. III Economics (Semester V) (CBCS Pattern)

History of Economic Thoughts- I

(Elective Course- 11)

Course Outcomes: After successful completion of this course, the students will be able to:

- Understand the basic economic ideas of various economic thinkers of the world
- Understand the development of economic thoughts

Module-I: Origin of Economic Thoughts (Teaching Hours- 15, Credits- 01)

1.1 Early economic thought, rise of mercantilism, features of Mercantilism
1.2 Meaning and causes of emergence of Physiocracy
1.3 The concept of natural order and primacy of agriculture
1.4 Tableau economique

Module- II: Classical Economic Thoughts (Teaching Hours- 15, Credits- 01)

2.1 Adam Smith: Division of labour, theory of value and canons of taxation
2.2 David Ricardo: Theory of Value and views on distribution
2.3 Thomas Malthus: Theory of Population
2.4 Theory of Gluts

Module- III: Economic Thoughts of Fredrick List (Teaching Hours- 15, Credits- 01)

3.1 Criticism on Classical School
3.2 Stages of Economic growth
3.3 Concept of Nationalism
3.4 Theory of Protectionism

Module- IV: Economic Thoughts of Karl Marx (Teaching Hours- 15, Credits- 01)

4.1 The Concept of Scientific Socialism and Meterialist approach
4.2 The Theory of Value
4.3 Theory of Surplus Value
4.4 Concept of Falling rate of profit

BASIC READING LIST:

1. Dandekar V.M.and N.Nath (1971), Poverty in India, Indian school of political Economy, Pune.
2. Ganguli B. N. (1977): Indian Economic Thought - A 19th Century Perspectives,Tata Mc Grow Hill, New Delhi.
3. Rath Nilkanth(1995) V.M.Dandekar Social Scientist with a Difference : Journal of Indian School of Political Economy.Oct-Dec.1995, Vol-7 No-4.
4. Seshadri G.B.(1997): Economic Doctrines, Publishing Corporation, New Delhi.

5. चा.भ.खैरमोडे (१९७८) – डॉ.भीमराव रामजी आंबेडकर, खंड १ ला , खंड २ रा खंड ७ वा, प्रताप प्रकाशन.
6. गांधी मो.क.(१९९७) -मराठी अनुवाद सीताराम पुरोषोत्तम पटवर्धन'सत्याचे प्रयोग अथवा आत्मकथा पाचवी आवृत्ती.
7. डॉ.जे.एफ.पाटील (२०१५)– आर्थिक विचारांचा इतिहास, फडके प्रकाशन, कोल्हापूर.
8. इंगळे बी.डी. (२०११) आर्थिक विचारांचा इतिहास, अरुणा प्रकाशन, लातूर.
9. प्रा.रायखेलकर,डॉ.दामजी (२०११) – आर्थिक विचारांचा इतिहास, विद्या बुक पब्लिशर्स,औरंगाबाद.
10. प्रा.डॉ.अनिलकुमार वावरे, प्रा.संजय धोंडे, व डॉ.अनिल सत्रे (२०१४)– आर्थिक विचारांचा इतिहास, एज्युकेशनल पब्लिशर्स ॲन्ड डिस्ट्रिब्युटर्स,औरंगाबाद.
11. प्रा.रा.म.गोखले - आर्थिक विचारांचा इतिहास
12. डॉ.विजय कविमंडन - आर्थिक विचारांचा इतिहास

B. A. III Economics (Semester VI) (CBCS Pattern)

History of Economic Thoughts- II

(Elective Course- 16)

Course Outcomes: After successful completion of this course, the students will be able to:

- Understand the economic concepts and theories of Neo-Classical and Indian thinkers.
- Understand the development of economic thoughts

Module- I: Neo- Classical Economic Thought – Alfred Marshall

(Teaching Hours- 15, Credits- 01)

1.1 Theory of Value
1.2 The concept of representative firm
1.3 Consumer's surplus, elasticity of demand
1.4 Quasi rent

Module- II: Indian Economic Thought (Teaching Hours- 15, Credits- 01)

2.1 Mahatma Phule: Views on agriculture and education
2.2 Rajarshi Shahu Maharaj: Policy for agriculture development and co-Operation
2.3 Dr. Babasaheb Ambedkar: Views on money, agriculture and development policy
2.4 Dadabhai Nauroji: Drain theory

Module- III: Mahatma Gandhi (Teaching Hours- 15, Credits- 01)

3.1 Concept of village development
3.2 Importance of decentralization
3.3 Basic principle of development: swadeshi
3.4 Concept of Gram Swarajya

Module- IV: Economic Thoughts of Modern Indian Economist

(Teaching Hours- 15, Credits- 01)

4.1 Gopal Krishna Gokhale's views on public finance
4.2 D. R. Gadgil: Views on co-operative development and decentralization of power, co-operative commonwealth
4.3 V. M. Dandekar: Views on poverty
4.4 Amartya Sen: Concept of social choice, choice of techniques, Sen's views on poverty and public action

BASIC READING LIST:

1. Dandekar V.M.and N.Nath (1971), Poverty in India, Indian school of political Economy, Pune.
2. Ganguli B. N. (1977): Indian Economic Thought - A 19th Century Perspectives,Tata Mc Grow Hill, New Delhi.
3. Rath Nilkanth(1995) V.M.Dandekar Social Scientist with a Difference : Journal of Indian School of Political Economy.Oct-Dec.1995, Vol-7 No-4.
4. Seshadri G.B.(1997): Economic Doctrines, Publishing Corporation, New Delhi.
5. चा.भ.खैरमोडे (१९७८) – डॉ.भीमराव रामजी आंबेडकर, खंड १ ला , खंड २ रा खंड ७ वा, प्रताप प्रकाशन.
6. गांधी मो.क.(१९९७) -मराठी अनुवाद सीताराम पुरोषोत्तम पटवर्धन'सत्याचे प्रयोग अथवा आत्मकथा पाचवी आवृत्ती.
7. डॉ.जे.एफ.पाटील (२०१५)– आर्थिक विचारांचा इतिहास, फडके प्रकाशन, कोल्हापूर.
8. इंगळे बी.डी. (२०११) आर्थिक विचारांचा इतिहास, अरुणा प्रकाशन, लातूर.
9. प्रा.रायखेलकर,डॉ.दामजी (२०११) – आर्थिक विचारांचा इतिहास, विद्या बुक पब्लिशर्स,औरंगाबाद.
10. प्रा.डॉ.अनिलकुमार वावरे, प्रा.संजय धोंडे, व डॉ.अनिल सत्रे (२०१४)– आर्थिक विचारांचा इतिहास, एज्युकेशनल पब्लिशर्स अॅन्ड डिस्ट्रिब्युटर्स,औरंगाबाद.
11. प्रा.रा.म.गोखले - आर्थिक विचारांचा इतिहास
12. डॉ.विजय कविमंडन - आर्थिक विचारांचा इतिहास

Shivaji University, Kolhapur

Accredited By NAAC with 'A ++ ' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B.A. Part - I (Semester I and II)

HISTORY

(Syllabus to be implemented from June, 2022 onwards.)

Choice Based Credit System
B.A. Part - I
History Course – 1
(June 2022 onwards)

Semester I, Paper I: Rise of the Maratha Power (1600-1707)

(**Objectives**: The period from 1600 to 1707 was an important epoch in the history of Marathas. Chhatrapati Shivaji Maharaj established the Maratha state. Later, Chhatrapati Sambhaji, Chhatrapati Rajaram and Maharani Tarabai led the Maratha struggle of independence against the Mughal rule. The primary aim of this course is to introduce students to the history of the rise of Maratha power with main emphasis on life and work of Chhatrapati Shivaji Maharaj. The course is also expected to apprise the students with the sacrifices made by Maratha leaders and people to protect freedom and sovereignty of the region)

Module 1- Chhatrapati Shivaji Maharaja's achievement till 1664

a. Background of the Rise of Maratha Power

b. Early activities upto 1659; Afzalkhan Episode and Siege of Panhala

c. Shahistekhan Episode and Attack on Surat

Module 2-Chhatrapati Shivaji Maharaja's achievement till 1680

a. Treaty of Purandar and Visit to Agra

b. Coronation

c. Expedition to Karnataka

Module 3- Maratha War of Independence (1681-1707)

a. Chhatrapati Sambhaji Maharaj

b. Chhatrapati Rajaram Maharaj

c. Maharani Tarabai

Module 4-Importance of Sources for understanding Maratha history

a. Sources (Sanskrit and Marathi): *Shivbharat, Adnyapatra*

b. Persian sources: *Tarikh-i-Dilkusha, Muntakhab-ul-Lubab*

c. Foreign records and accounts: English and Portuguese

List of References:

Khafi Khan Muhammad Hashim, Muntakkhab-ul-lubab in *The History of India as Told by Its Own Historians* , Vol. 7 , Elliot and Dowson (eds.), Second Edition, Calcutta, 1952.
English Records on Shivaji (1959-1682), Shiva Charatira Karyalaya, Poona, 1931.
Patwardhan R. P., and H.G. Rawlinson, *Source Book of Maratha History- to the Death of Shivaji*, Vol.1, Bombay, 1929
Gordon, Stewart, *The Marathas 1600-1818*, Cambridge University Press, 1993.
Kulkarni, A. R. *Medieval Maratha Country,* Diamond Publications, 2008.
Kulakarni, A. R., *The Marathas*, Diamond Publications, 2008.
Pagdi, Setumadhava Rao, *Shivaji*, National Book Trust, India, 1993.
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काळे द. वि., *छत्रपती शिवाजी महाराज,* पुणे विद्यापीठ, पुणे, १९५९

दिवेकर स. म., (संपा.) *कवींद्र परमानंदकृत श्री शिवभारत*, भारत इतिहास संशोधक मंडळ, पुणे, १९२७

आठवले सदाशिव, *शिवाजी व शिवयुग*, मेहता पब्लिशिंग हाउस, पुणे, १९९२

जोशी प्र. न., (संपा) *आज्ञापत्र,* व्हीनस प्रकाशन, पुण, १९९७

बेंद्रे वा. सी., श्री *छत्रपती शिवाजी महाराज यांचे चिकित्सक चरित्र*, साहित्य सहकार मुद्रणालय, कुलाबा, १९७२

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पगडी सेतुमाधवराव, *मराठ्यांचे स्वातंत्र्ययुद्ध* (खाफीखानाचा साधनग्रंथ), पुणे, १९६२

पगडी,सेतूमाधवराव, *मोगल आणि मराठे* (तारीके दिल्कुशा) , पहिली आवृत्ती, पुणे, १९६२

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पगडी सेतु माधवराव, *छत्रपती शिवाजी,* नॅशनल बुक ट्रस्ट, इंडिया नवी दिल्ली, २००४

पवार जयसिंगराव (प्रमुख संपादक), *छत्रपती शिवाजीमहाराज स्मृतिग्रंथ*, महाराष्ट्र राज्य पाठ्यपुस्तक निर्मिती व अभ्यासक्रम संशोधन मंडळ, पुणे, २०११.

जयसिंगराव पवार, *छत्रपती संभाजी स्मारक ग्रंथ*, रिया पब्लिकेशन्स, कोल्हपुर, १९९०

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पठाण इस्माईल हुसेनसाहेब, छत्रपती शिवाजी महाराज, महाराष्ट्र इतिहास प्रबोधिनी, कोल्हपुर, २०२१

पठाण इस्माईल हुसेनसाहेब, छत्रपती संभाजी महाराज, महाराष्ट्र इतिहास प्रबोधीनी, कोल्हापूर, २०१८

Semester II, Paper II: Polity, Society and Economy under the Marathas (1600-1707)

(**Objectives**: 1600 to 1707 was a period of rapid change in the history of Marathas. Chhatrapati Shivaji Maharaj established the Maratha state and initiated fundamental changes in the political, socio-economic and cultural life of the people. The course is designed to acquaint the students with the political, socio-economic and religious life of the people during the 1600-1707 period. It will educate the students about the policy and contribution of Chhatrapati Shivaji Maharaj)

Module 1- Polity

a. Civil administration: administrative structure, Ashtapradhan

b. Judicial administration: judicial structure, gotsabha, divya

c. Military administration: forts and navy

Module 2- Economy

a. Agriculture: types of land and crops, revenue settlement, irrigation

b. Industry: local craftsmen and major Industries

c. Trade: trade centers, trade routes, transport and communications

Module 3- Society and Religion

a. Village communities: Vatandar, Mirasdar, Balutedar-Alutedar and Upare

b. Pandharpur movement

c. Pilgrimage Centers: Kolhapur, Shikhar Shinganapur, Tuljapur

Module 4-Chhatrapati Shivaji Maharaj: Policy and Contribution

a. Administration and Management

b. Trade and Agriculture

c. Religion

List of References:

Apte, Bhalchandra Krishna., *A History of the Maratha Navy and Merchantships*, State Board for Literature and Culture, 1973.
Gordon, Stewart, T*he Marathas 1600-1818,* Cambridge University Press, 1993.
Gune, Vithal Trimbak, *The Judicial System of the Marathas: A Detailed Study of the Judicial Institutions in Maharashtra, from 1600-1818 A.D.* Deccan College Postgraduate and Research Institute, 1953.
Kulkarni A. R., *Maharashtra in the Age of Shivaji*, R.J. Deshmukh, 1969.
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Mahajan, T. T., *Aspects Of Agrarian And Urban History Of The Marathas*, Commonwealth Publishers, 1991.
Mahajan, T. T., *Courts and Administration of Justice Under Chhatrapati Shivaji*, Commonwealth Publishers, 1992.
Pagdi, Setumadhava Rao, *Shivaji,* National Book Trust, New Delhi, 1993.
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Sarkar, Jadunath, *Shivaji and His Times*, Orient Blackswan, 1992.
Sen S.N. *Military System of the Marathas with a Brief Account of Their Maritime Activities*, Calcutta, 1928.

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The following marking structure was unanimously decided by the committee for Paper I and Paper II (Semester I and II)

Q1. A) Multiple Choice Questions- 05- (05 marks)

B) Answer in one sentence -05 – (05 marks)

Q.2 A) Write short notes on any four (out of six) – (20 marks)

Q.3. Essay Question – (10 marks)

OR

Essay Question

Q. 4 Essay Question – (10 marks)

OR

Essay Question

Shivaji University, Kolhapur

Accredited By NAAC with 'A ++' Grade

Syllabus in accordance with NEP

CHOICE BASED CREDIT SYSTEM
B.A. Part - I I
HISTORY
(Syllabus to be implemented from June 2023)

CHOICE BASED CREDIT SYSTEM

Syllabus in accordance with NEP

B.A. Part - I I

HISTORY (With effect from June 2023)

Semester	**Paper No.**	**Title**	**Credits**
III	3	History of Modern Maharashtra (1900 to 1960)	04
	4	History of India (1757-1857)	04
	IDS-1	Social Reforms in India	04
	IDS-1	Ancient Indian History and Culture-1	04
IV	5	History of Modern Maharashtra (1960-2000)	04
	6	History of Freedom Struggle (1858-1947)	04
	IDS-2	Social Reforms in Maharashtra	04
	IDS-2	Ancient Indian History and Culture-2	04

Note: Students can select...

Semester III: Either IDS-1 Social Reforms in India or IDS-1 Ancient Indian History and Culture-1

Semester IV: Either IDS-2 Social Reforms in Maharashtra or IDS-2 Ancient Indian History and Culture-2

Equivalent Papers

Semester	**Paper No.**	**New Paper**	**Old Papers**
III	3	History of Modern Maharashtra (1900 to 1960)	History of Modern Maharashtra (1900 to 1960)
	4	History of India (1757-1857)	History of India (1757-1857)
	IDS-1	Social Reforms in India	Social Reforms in India
	IDS-1	Ancient Indian History and Culture-1	Ancient Indian History and Culture-1
IV	5	History of Modern Maharashtra (1960-2000)	History of Modern Maharashtra (1960-2000)
	6	History of Freedom Struggle (1858-1947)	History of Freedom Struggle (1858-1947)
	IDS-2	Social Reforms in Maharashtra	Social Reforms in Maharashtra
	IDS-2	Ancient Indian History and Culture-2	Ancient Indian History and Culture-2

SEMESTER - III

Paper 3-History of Modern Maharashtra (1900 to 1960)

The first sixty years of 20th century was a period of great upheaval in Maharashtra. The events and changes that took place during this period made a lasting impact on the polity, society and economy of the region. The identity of Maharashtra region was forged during this period. This course introduces the students to the key historical events and transformations which have played an important role in making of modern Maharashtra

Course outcome:
After studying the course, the student will be able to…
1. Understand the beginnings and growth of nationalist consciousness in Maharashtra
2. Explain the contribution of Maharashtra to the national movement
3. Give an account of various movements of the peasants, workers, women and backward classes
4. Know the background and events which led to the formation of Maharashtra.

MODULE-1 Rise and Growth of Nationalism
a) Rise of Nationalism
b) Contribution of Gopal Krishna Gokhale
c) Contribution of Lokmanya Tilak

MODULE -2 Role of Maharashtra in the National Movement
a) Revolutionary Movement
b) Non-Cooperation Movement
c) Civil Disobedience Movement with special reference to the uprising in Solapur
d) Quit India Movement with special reference to Prati *Sarkar* Movement

MODULE -3 Social Movements
a) Peasants and Workers
b) Women's rights
c) Emancipation of Backward Classes

MODULE -4 Samyukta Maharashtra Movement
a) Background
b) Contribution of the Samyukta Maharashtra Samiti
c) Events leading to the formation of Maharashtra State

Suggestive reading:

- Sukhatankar B R, Nineteenth Century history of Maharashtra, Shubadha-Saraswat Prakashan,1988
- Lederle Mathew, Philosophical Trends in Modern Maharashtra, Popular Prakashan, Bombay, 1976.
- Masselos J.C., Towards Nationalism, Group Affiliations and the Politics Associations Nineteenth Century Western India, Popular Prakashan, Bombay, 1974.
- Dhanagare, D. N. (1990), 'Shetkari Sanghatana: The Farmers' Movement in Maharashtra — Background and Ideology', Social Action, Vol. 40
- Doctor, A.H. Low caste protest movements in 19th and 20th century Maharashtra: A study of Jotirao Phule and B.R. Ambedkar, Indian Journal of Social Science. 4(2); 1991; 199-222

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- परंपरा आणि परिवर्तन, प्रा.गं बा सरदार यांचे निवडक लेख, गोखले एजुकेशन सोसायटी, पुणे,१९८८
- फडणीस जगन, शेतकरी कामगार पक्षाचे राजकारण, अजब पुस्तकालय, कोल्हापूर,१९७८.
- पर्वते विष्णू , गांधी पर्व, महाराष्ट्र साहित्य आणि संस्कृती मंडळ, १९८५
- फडके य दि, विसाव्या शतकातील महाराष्ट्र, १ ते ८ खंड,
- पाटील विनायकराव, मराठी माणसांची नवी क्षितिजे, टाकाळा प्रकाशन,
- प्रबोधनातील पाउल खुणा, प्रा.गं बा सरदार यांचे निवडक लेख, कॉन्टीनेन्टल प्रकाशन १९७८
- गडकरी माधव - संयुक्त महाराष्ट्र लढ्याचे महारथी, पुणे,१९८७
- देवगिरीकर ल्यं र -१९२० ते १९६२ काळातील राजकीय आठवणी, चित्रशाळा प्रेस प्रकाशन, पुणे, १९६५
- देशमुख जी व्ही, संयुक्त महाराष्ट्राचे मारेकरी, अरविद प्रकाशन मुंबई
- जाधव वि तू, (अनु. राज्याची कारणमीमांसा, डॉ बाबासाहेब आंबेडकर, १९५५
- शिवणीकर राघव, सातारच सिह, अंधाटे एस एस, पुणे २०००.
- भोले भा ल., बेडकिहाळ किशोर (संपा.) बदलता महाराष्ट्र,(साठोत्तरी परिवारातच मागोवा) डॉ बाबासाहेब आंबेडकर अकादमी, सातारा,२००३.
- बेडेकर दि के, संयुक्त महाराष्ट्र, चित्रशाळा प्रेस प्रकाशन, पुणे, १९४७.
- जोशी एस एम, मी ऐस एम, संयुक्त महाराष्ट (पूर्वार्ध) कॉन्टीनेटल प्रकाशन पुणे १९८४.
- ब्रह्मे सुलभा, (संपा) ध रा गाडगीळ लेखसंग्रह, पुणे,१९७४

Paper 4- History of India (1757-1857)

This course will acquaint the students with the history of India under British rule. It will help the students to understand how the East India Company established and consolidated its rule in India. They will know about the impact of colonial rule on the Indian Economy. It will also familiarize the students with the revolts against the company rule.

Course outcome:

After studying this course, the student will…

1. Acquaint him/herself with significant events leading to establishment of the rule of East India Company
2. Know the colonial policy adopted by the company to consolidate its rule in India
3. Understand the structural changes initiated by colonial rule in Indian economy.
4. Explain the various revolts against rule of the East India Company.

MODULE- 1 Establishment of Company rule in India

a) Causes for establishment of Company rule
b) Struggle with Native Powers (Bengal and Mysore)
c) Struggle with Marathas

MODULE -2 Making of a Colonial Policy

a) Dual Government – Robert Clive
b) Subsidiary Alliance - Lord Wellesley
c) Doctrine of Lapse - Lord Dalhousie

MODULE -3 Making of a Colonial Economy

a) Land revenue settlements- (Permanent Settlement, Rayatvari, Mahalvari)
b) De-industrialization
c) Drain of Wealth

MODULE -4 Revolts against Company Rule

a) Tribal Revolts
b) Revolt of 1857
c) Queen's Proclamation of 1858 and its effects

Suggestive Readings:

- Bandyopadhyay, S. From Plassey to Partition. Delhi: Orient Longman, 2004.
- Bose, S and Ayesha Jalal. Modern South Asia: History, Culture, Political Economy. New Delhi: OUP, 1998
- Chandra, B. Nationalism and Colonialism in Modern India. Delhi: Orient Longman, 1996.
- Habib, I. Indian Economy 1757-1857: A People's History of India Series. Vol. 25 Delhi, Tulika Books, 2013
- Majumdar, Ray Choudhary, Datta- An Advanced History of India –
- Prasad, Ishwari and Subedar. - A History of Modern India
- Tara Chand, History of Freedom Movement in India – Four Volumes
- Chakravarty, Subhash, The Raj Syndrome: A study in Imperial Perceptions, 1989
- Cohn, B., Colonialism and its Forms of Knowledge, Princeton, New Jersey, Princeton University Press, 2001
- Stokes, Eric, The Peasant Armed: The Indian Rebellion of 1857, (ed.) Bayly, C.A, New Delhi, Oxford University Press, 1986
- ग्रोव्हर, बी. एल., व बेल्हेकर एन.के., आधुनिक भारताचा इतिहास - एक नवीन मुल्यांकन

IDS Paper 1-Social Reforms in India

This course is conceived to introduce the students to the social and religious change in India expressed in various social reform movements. Students will explore the significance and impact of prominent social and reform movements. It will help the students to understand how the ideals of rationalism, humanism and universalism were encouraged by the Indian social reformers. The course will attract students from a wide variety of social science disciplines.

Course Outcome:
After completion of the course, the student will be able to …
1. Understand the salient features of prominent socio-religious reform movements
2. Explain the thought and work of Mahatma Phule for radical transformation of Indian society
3. Know the measures taken by Rajashri Shahu Maharaj for emancipation of lower classes and women
4. Understand the thoughts of Ambedkar on the annihilation of the caste system and untouchability in India
5. Know how the Indian constitution embodies the values of social justice and equality

MODULE-1 Socio-Religious Reform Movements
a) Raja Ram Mohan Roy and Brahmo Samaj
b) Swami Dayanand Sarasvati and Arya Samaj
c) Swami Vivekanand and Ramakrishna Mission

MODULE-2 Mahatma Phule
a) Educational and Social Work
b) Satyashodhak Samaj
c) Thoughts of Mahatma Phule (with special reference to *Shetkaryancha Asud* and *Gulamgiri*)

MODULE-3 Rajashri Shahu Maharaj
a) Educational and Social upliftment of lower classes
b) Women's Rights
c) Hostel Movement

MODULE-4 Dr. Babasaheb Ambedkar
a) Thoughts on Annihilation of Caste
b) Mahad Incident and the Temple entry movement
c) Social Justice and Indian Constitution

Suggestive Readings:

- Kenneth W. Jones, Socio-religious reform movements in British India, Cambridge University Press, 1994
- David Kopf, The Brahmo Samaj and the Shaping of the Modern Indian Mind, Princeton, 1979
- Amiya P. Sen, Social and Religious Reform, Oxford University Press, 2005
- J.T.F. Jordans, Dayananda Saraswati, Oxford University Press, Delhi, 1997
- Kopf, The Bramho Samaj and Shaping of the Modern India, Princeton University press, 1979.
- Rosalind O Hanlon, Caste Conflict and Ideology: Mahatma Jotirao Phule and low caste protest in nineteenth century western India, South Asia Publication CUP, 1985

- Salunkhe, P.B. and Mali M.G; “Chhatrapati Shahu the Pilar of Social Democracy” ; Education Department Government of Maharashtra, Gargoti, Kolhapur, 1994.
- Sarkar Sumit: “Bibliographical Survey of Social Reform Movements in the Eighteenth and Nineteenth centuries”, Indian Council of Historical Research, New Delhi, 1975.
- Vaidya, G.N, “Shahu Chhatrapati- Ruler and a Revolutionary”, Shivaji University,
- Babasaheb Ambedkar, Annihilation Of Caste, Dr. Babasaheb Ambedkar Writings and Speeches, Vol. 1, Education Department, Government of Maharashtra, 2016
- Chavan Sheshrao, The Constitution of India: Role of Dr. B.R. Ambedkar—Legend and Reality, Atlantic ,2014.
- वाघमारे जनार्दन, स्वामी दयानंद सरस्वती, कीर्ती प्रकाशन, औरंगाबाद,२०१०
- घोष गौतम, आधुनिक भारताचे प्रेषित स्वामी दयानंद,(अनु) मोर्डेकर माधव, मेहता पब्लिशिग हाऊस, पुणे
- शंकर, अज्ञात विवेकानंद, (अनु) गडकरी मृणालिनी, राजहंस प्रकाशन प्रा ली.
- वैद्य प्रभाकर, महात्मा फुले आणि त्यांची परंपरा, प्रेरणा- शिकवण-विपर्यास, लोकवाड्मय मुंबई
- फडके य दि, (संपा) महात्मा फुले समग्र वाडमय, महाराष्ट्र साहित्य संस्कृती मंडळ, मुंबई.
- नरके हरी, संशोधनाच्या नव्या वाटा, महाराष्ट्र साहित्य संस्कृती मंडळ, मुंबई.
- कीर धनंजय, महात्मा फुले, पॉपुलर प्रकाशन,१९७३.
- पवार जयसिगराव, (संपा) राजर्षी शाहू चरित्र, महाराष्ट्र इतिहास प्रबोधिनी, कोल्हापूर
- कीर धनंजय, बाबासाहेब आंबेडकर, पॉपुलर प्रकाशन,१९६६.

IDS Paper 1-Ancient Indian History and Culture-1

The ancient period was an era of great achievement in Indian History. The prehistoric rock-art, town planning, Vedic literature, the epics and dramas, the inter-continental cultural contacts and the architecture marvels are some of the significant achievements of the Indian people. The culture which developed during this period influenced all future developments in India and left a lasting legacy.

Course outcome:

After studying the course the student will be able to…

1. Explain the history of early humans in India
2. Understand the legacy of the Harappan Civilization.
3. Give an account of the evolution of the Vedic culture
4. Know about the tremendous economic and religious changes that took place during the 6th century B.C.
5. Acquaint himself with the glorious legacy of Ancient India

MODULE 1-Early Humans

a. Hunter-Gatherers (Paleolithic and Mesolithic)-Life ways
b. Settlers (Neolithic)-Life ways
c. Megalithic (with special reference to Maharashtra)

MODULE 2-Harappan Civilization

a. Town Planning
b. Economic and Religious Life
c. Decline of Harappan civilization

MODULE 3- Vedic Culture

a. Vedic Literature (Vedas and Upanishads)
b. Political and Economical Life
c. Social and Religious Life

MODULE 4- India in 6th Century BC

a. Second Urbanization
b Jainism
c. Buddhism
d. Ajivikas

Suggestive Readings:

- Allchin, Bridget, and F. Raymond Allchin. The Rise of Civilization in India and Pakistan, Cambridge University Press, 1982.
- Romila Thapar, Early India (from the Origins to AD 1300), Penguin, London, 2002
- Upinder Singh, A History of Ancient and Early Medieval India, Pearson Education India, New Delhi, 2008
- A. L. Basham, The Wonder that was India, Pan Macmillan Limited, 2004
- R. S. Sharma, *India's Ancient Past*, Oxford University Press, New Delhi, 2005
- लक्ष्मणशास्त्री जोशी, वैदिक संस्कृतीचा इतिहास
- डी. डी. कोसंबी, प्राचीन भारतीय संस्कृतीची रूपरेखा
- म. श्री. दीक्षित, भारतीय तत्वज्ञान
- म. के. ढवळीकर, कोण्या एके काळाची सिधु संस्कृती
- म.श्री. माटे, प्राचीन कलाभारती

SEMESTER - IV

Paper 5-History of Modern Maharashtra (1960-2000)

After 1960 a new period of development began in the state of Maharashtra. The eminent leaders played a pioneering role in this period of rapid transformation. This was also a period of massive expansion of education as well as social transformation. This course introduces the students to significant leaders, events and transformations in history of Maharashtra

Course Objectives

After completion of the course, the student will…
1. Acquaint himself with the contribution of eminent leaders of Maharashtra
2. Know about the economic transformation of Maharashtra
3. Understand the salient features of changes in society
4.Explain the growth of education

MODULE -1 Leaders
a) Congress : Yashavantrao Chavan, Vasantdada Patil
b) Socialist: Nagnathanna Nayakawadi, S. M. Joshi, P. K. Atre
c) Communist: Comrade S. A. Dange

MODULE -2 Major Issues and Events
a) Agriculture Development with special reference to the role of Vasantrao Naik
b) Industry –Sugar (Pravara Sugar Factory) and Milk (Aarey Dairy Mumbai)
c) Natural Disasters (Earthquakes- Koyna 1967 and Latur 1993)

MODULE -3 Social Movements
a) Muslim Satyashodhak Samaj
b) Satyashodhak Communist Party
c) Vidrohi Movement

MODULE -4 Educational Development
a) Primary
b) Secondary
c) Higher and Technical Education

Suggestive readings:

- Baviskar B.S., The Politics of Development: Sugar Cooperatives in Rural Maharashtra, Oxford University Press, New Delhi, 1981
- Deshpande S.H., Economy of Maharashtra: Shri C. V. Joag Felicitation Volume Samaj Prabhodhan Sanstha, Poona, 1973
- Thakkar Usha & Kulkarni Mangesh, Politics in Maharashtra, Himalaya Publishing House, Mumbai, 1995
- Palshikar Suhas and Nitin Birmal (eds), Maharashtrache Rajkaran, Pratima, Pune.
- Baviskar B.S. and Attwood Donald (eds.), Finding the Middle Path, Vistaar Publications, New Delhi, 1995
- Pradeep Chavan, The Sugar Industry in Maharashtra, EPW, Vol.53, No 8, Feb,2018.
- Mohanty, Agrarian Transformation in Western India, Economic Gains and social costs, Taylor and Francis, 2018
- Kulkarni B D. Role of Cooperative Factories, in Rural Development (An Interdisciplinary Study) Tilak Maharashtra Vidyapith Pune, 1993.
- बेडकीहाळ किशोर, बदलता महाराष्ट्र, डॉ. बाबासाहेब आंबेडकर अॅकडमी, सातारा, २०१३

- श्री. ग. मुणगेकर (संपादक), परिवर्तनाचे प्रवाह महाराष्ट्र १९३१ ते १९८१, सकाळ सुवर्णमोहोत्सव प्रकाशन, १९८१
- पाटील पी. सी., कर्मविरोपनिषद, ग्रामीण जीवन अभ्यास केंद्र १९६४.
- ठोके मो. नि. , श्रमिकांचे कैवारी, अभिनंदन प्रकाशन, कोल्हापूर, १९८३,
- पाटील सुभाष (संपा.), क्रांतिसिह नाना पाटील स्मरणिका, हनमंतवडीये, १९९६.
- माने किरण, कथा क्रांती सूर्याची, कॉम्रेड गोविदराव पानसरे अमृत महोत्सव समिती कोल्हापूर, २०१४.
- यादव सुमित, क्रांतिसिह नाना पाटील जीवन व कार्य, सातारा इतिहास संशोधन मंडळ, २०१५.
- पाटील रा.तु., यशवंतराव चव्हाण: एक वादग्रस्त पण कर्तबगार, मुत्सदी, ,सन्मित्र प्रकाशन कोल्हापूर.
- पाटील रा.तू., महाराष्ट्राच्या इतिहासातील कांही ताजी पाने, वसंतराव आणि यशवंतराव, सन्मित्र प्रकाशन कोल्हापूर.
- अहिर ज. य. , क्रांतिवीर नागनाथअण्णा नायकवडी, वाळवा, २०१०
- कुलकर्णी हेरंब, दारिद्याची शोधयात्रा, समकालीन प्रकाशन पुणे.
- घोटाळे विवेक आणि अभय कांता, महाराष्ट्रातील दुष्काळ, युनिक अकादमी पुणे.
- देसाई दत्ता, महाराष्ट्राच्या विकासाची दिशा, हवी नवी मळवाट, परिवर्तन प्रकाशन
- गवेकर अरुण, उच्च शिक्षण समस्या प्रवाह, उत्कर्ष प्रकाशन,पुणे,२०११.
- तावडे स्नेहल, माध्यमिक व उच्चमाध्यमिक शिक्षण व्यवस्थापन: समस्या आणि उपाय, डायमंड प्रकाशन पुणे.
- शहा सुरेखा, महाराष्ट्राचे जलनायक, सुमेरू प्रकाशन.
- मोरवंचीकर रा.श्री., भारतीय जलसंस्कृती स्वरूप व व्याप्ती, सुमेरू प्रकाशन
- कणिकर राजश्री, जलसंपदा, परममित्र प्रकाशन
- पाटील दिनेश, असंतोषाचा अब्राम्हणी क्रांतिसूर्य कॉम्रेड शरद पाटील, पार्थ पब्लिकेशन. कोल्हापूर,२०१९.

Paper 6-History of Freedom Struggle (1858-1947)

The course is designed to study the freedom struggle in India from 1858 to 1947. It will familiarize the students with events leading to emergence of national consciousness in India. They will be acquainted with the prolonged struggle launched by the Indian National Congress under the leadership of Mahatma Gandhi. They will also know about the struggle of the revolutionaries, leftists and the Indian National Army. The course will introduce students to the concept of Communalism and the process which led to the partition of India.

Course Objectives:

After completion of this course, the student will be able to…

1) Understand the events which lead to the growth of nationalism in India
2) Acquaint himself with the freedom struggle under the leadership of Mahatma Gandhi
3) Explain the contribution of Revolutionaries, Left Movement, and Indian National Army
4) Understand the gravity of Communalism and the partition of India

MODULE- 1 Rise of Nationalism

a) Formation of Indian National Congress
b) Contribution of Moderates
c) Contribution of Extremists (Swadeshi Movement and Home Rule Movement)

MODULE -2 Gandhian Era

a) Non-Cooperation Movement
b) Civil Disobedience Movement
c) Quit India Movement

MODULE -3 Other Strands

a) Revolutionary Movement
b) Leftist Movement
c) Subhash Chandra Bose and Indian National Army

MODULE -4 Communalism and Partition

a) Concept of Communalism
b) Causes for Partition
c) Effects of Partition

Suggestive Readings:

- Bandyopadhyay, S. From Plassey to Partition. Delhi: Orient Longman, 2004.
- Chandra Bipan, Rise and Growth of Economic Nationalism in India, Delhi, 1966
- Chandra, B. Nationalism and Colonialism in Modern India. Delhi: Orient Longman 1996.
- Mujumdar R. C., British Paramountcy & Indian Renaissance, Part I & II, Bhartiya Vidhya Bhavan (3rd Ed.) 1991.
- Bhattacharjee, Arun, History of Modern India (1707 – 1947), Ashish Publishing House, New Delhi 1976
- Dutt, R.P. India Today. Calcutta: Manisha, 1986
- Tara Chand, History of Freedom Movement in India, Vol. 1to 4, Publication Division, Government of India, New Delhi, 1961-1972
- Chousalkar, Ashok, Indian Idea of Political Resistance, Ajanta Publication, Delhi 1990
- B.R. Nanda (ed), Gokhale: The Indian Moderates and the British Raj, Princeton University Press, New Jersey, 1977
- Daniel Argov, Moderates and Extremists in the Indian National Movement,
- ताराचंद , भारतीय स्वतंत्रता आंदोलन का इतिहास खंड-१,२,३,४,(हिंदी)
- चंद्र, व इतर (अनु. मा. कृ. पारधी), स्वातंत्र्याचा लढा, नॅशनल बुक ट्रस्ट इंडिया, नवी दिल्ली .
- ग्रोव्हर, बी. एल. व बेल्हेकर एन.के., आधुनिक भारताचा इतिहास - एक नवीन मुल्यांकन
- जावडेकर, श. द. , आधुनिक भारत
- केळकर, श्रीपाद, असहकाराचे आंदोलन
- प्रधान, ग. प्र., स्वातंत्र्याचे महाभारत
- तळवलकर, गोविंद, नवरोजी ते नेहरू,
- तळवलकर, गोविंद , सत्तांतर, भाग-१,२
- लिमये, मधु, स्वातंत्र्य चळवळीची विचारधारा, समाजवादी मित्र बिरादरी, पुणे.
- सरकार, सुमित, आधुनिक भारत का इतिहास , राजकमल प्रकाशन, नई दिल्ली. (हिंदी)
- शुक्ल, आर. एल.(संपा.), आधुनिक भारत का इतिहास (स्वतंत्रता प्राप्ती एंव देश विभाजन तक) माध्यम कार्यान्वय निदेशालय, नई दिल्ली. (हिंदी)
- दत्त, रजनी पाम, आज कालचा भारत, डायमंड पब्लिकेशन, पुणे.
- वाळिबे, व्ही.एस., सत्तावन ते सत्तेचाळीस, स्वातंत्र्य लढ्याची संस्मरणीय कहाणी, राजहंस पब्लिकेशन पुणे.

IDS Paper 2-Social Reforms in Maharashtra

Fundamental changes took place in the society of Maharashtra during the 19th and 20th centuries. The beginnings of Western education, press and industrialization made a lasting impact on the thinking of people. Eventually some reform-oriented people started movements to reform the society. This course introduces the students to the salient features of social reforms in Maharashtra.

Course outcome:
After studying the course, the student will be able to…
1) Know about the beginnings of social reforms in Maharashtra by the Paramhansa Mandali and Prarthana Samaj.
2) Understand the contribution of women reformers
3) Explain the contribution of social reformers in the fight for social justice
4) Explain the role played by educational reforms in transformation of society.

MODULE-1 Beginnings of Social Reform
a) Social condition in early 19th century
b) Paramhansa Mandali
c) Prarthana Samaj

MODULE -2 Women Reformers
a) Savitribai Phule
b) Tarabai Shinde
c) Pandita Ramabai

MODULE -3 Social Reformers
a) Lahuji Salve
b) Maharshi Vitthal Ramji Shinde
c) Gadage Maharaj
d) Annabhau Sathe

MODULE -4 Educational Reforms
a) Karmaveer Bhaurao Patil
b) Dr. Bapuji Salunkhe
c) Punjabrao Deshmukh

Suggestive Readings:

- Kenneth W. Jones, Socio-religious reform movements in British India, Cambridge University Press, 1994
- Amiya P. Sen, Social and Religious Reform, Oxford University Press, 2005
- Articles on Paramhansa Sabha, Prarthana Samaj, Satyashodhak Samaj in Murali Ranganathan (ed.), The Collected Works of JV Naik, Asiatic Society of Mumbai, 2016
- Ravindra Kumar, Western India in the Nineteenth Century: A study in the social history of Maharashtra: Volume 27 (Studies in Social History) Routledge & Kegan Paul,1968
- Feldhaus Anne (Edit)Images of Women in Maharashtrian Society, State University of New York Press ,1998
- The Pandita Ramabai Story: In Her Own Words, Mukati Mission Clinton,2018
- Ganachari A. G., Nationalism and Social Reform in a Colonial Situation, Kalpaze, Publication, New Delhi, 2005.
- Ghugare Shivprabha, Renaissance in Western India: Karmveer V.R.Shinde Himalaya Publishing House, Bombay, 1983.

- पवार बा. ग. , महर्षी विठ्ठल रामजी शिंदे, मातृभूमी प्रकाशन पुणे
- माळी मा. गो. , सावित्रीबाई फुले समग्र वाडमय
- पवार ब. ग., सावित्रीबाई फुले चरित्र, मातृभूमी प्रकाशन,पुणे

- खोले विलास, (संपा) स्त्री पुरुष तुलना, ताराबाई शिंदे, संशोधित आवृत्ती, प्रतिमा प्रकाशन,१९९७

- पवार एम. जी. , महर्षी विठ्ठल रामजी शिंदे समग्र वाडमय, अक्षरधारा प्रकाशन, कोल्हापूर

- भगत रा. तू., समतासूर्य गाडगेबाबा, चैतन्य प्रकाशन कोल्हापूर.
- भगत रा. तू., चैतन्य प्रकाशन कोल्हापूर असे होते गाडगेबाबा.
- घोडे अनंत, कोल्हापूर सशत्र क्रांतीचे जनक लहूजी वस्ताद
- कदम सोमनाथ डी., मातंग समाजाचा इतिहास, अरुणा प्रकाशन लातूर.
- साहित्यरत्न लोकशाहीर अण्णाभाऊ साठे, निवडक वाडमय, खंड क्र १ व २लोकशाहीर अण्णाभाऊ साठे चरित्र साधने प्रकाशन समिती, महाराष्ट्र शासन ,मुंबई
- गुरव बाबुराव, अण्णाभाऊ साठे समाज विचार आणि साहित्य विवेचन,, लोकवाडमय प्रकाशन मुंबई
- सुर्वे गजानन, शिक्षण महर्षी बापुजी साळुंखे चरित्र ग्रंथ, ,शिक्षण महर्षी बापुजी साळुंखे सत्कार समिती, कराड १९८१
- मोहिते कल्पना, डॉ पंजाबराव देशमुख यांचे जीवन व कार्य, मुक्ता पब्लिशिग हाउस कोल्हापूर, २०१२.

IDS Paper 2: Ancient Indian History and Culture -2

The ancient period saw the emergence of several powerful political states, notably the Mauryan, Satvahana and Kushana empires. Later the Guptas and King Harshavardhana consolidated their rule in North India. These political developments were accompanied by efflorescence in literature, art and literature. The extraordinary achievements of Indians in architecture, painting, drama, and science shaped their civilization.

Course outcome:

After studying the course, the student will be able to …

1. Explain the foundation, growth, and achievements of the Mauryan kings
2 . Know about the life and work of Satvahana and Kushana Kings
3. Explain the achievements of Gupta Kings
4. Understand the cultural efflorescence that took place in Ancient India.

MODULE 1-Mauryan Empire

a. Chandragupta Maurya and the foundation of Empire
b. Ashoka and his Dhamma
c. Literature, Art, and Architecture

MODULE 2-The Age of Satvahana and Kushana

a. Major rulers of Satvahanas: Satkarni I and Gautamiputra Satkarni
b. Major ruler of Kushanas: Kanishka
c. Literature, Art, and Architecture

MODULE 3- Gupta and Post-Gupta period

a. Major Gupta Rulers: Samudragupta and Chandragupta II
b. Harshavardhana
c. Literature, Art, and Architecture

MODULE 4- Legacy of Ancient India

a. Monuments: Stupa (Sanchi), Kailas Temple (Ellora), Chaitya-Vihara (Karle)
b. Paintings (Ajanta) and Sculptures (Gandhara and Mathura style)
c. Literature and Science: Epics (Ramayana and Mahabharata) and Drama of Kalidas

Suggestive Readings:

- Allchin, Bridget, and F. Raymond Allchin. The Rise of Civilization in India and Pakistan, Cambridge University Press, 1982.
- Romila Thapar, Early India (from the Origins to AD 1300), Penguin, London, 2002
- Upinder Singh, A History of Ancient and Early Medieval India, Pearson Education India, New Delhi, 2008
- A. L. Basham, The Wonder that was India, Pan Macmillan Limited, 2004
- R. S. Sharma, India's Ancient Past, Oxford University Press, New Delhi, 2005
- लक्ष्मणशास्त्री जोशी, वैदिक संस्कृतीचा इतिहास
- डी. डी. कोसंबी, प्राचीन भारतीय संस्कृतीची रूपरेखा
- म. श्री. दीक्षित, भारतीय तत्वज्ञान
- म. के. ढवळीकर, कोण्या एके काळाची सिधु संस्कृती
- म.श्री. माटे, प्राचीन कलाभारती

Structure of Question Paper Faculty of Humanities

University Exam-40 Marks

B.A.-Part II (Semester III/IV) Examination Oct./March, 20.... (NEP-CBCS)
History
Subject Code, Paper No. and Title:.....

Day and Date: **Total Marks: 40**

Time:

Instruction: 1) All Questions are compulsory

2) Figures to the right indicate full marks

Q. 1 Complete the following sentences by choosing correct alternatives (05)

1).....

a) b) c) d)

2).....

a) b) c) d)

3).....

a) b) c) d)

4).....

a) b) c) d)

5).....

a) b) c) d)

Q. 2 Write short notes (any THREE out of five) (15)

a.
b.
c.
d.
e.

Q. 3 Write detail answers on any TWO (out of four) of the following (20)

A.
B.
C.
D.

Internal Evaluation-10 Marks

B.A.-II, Semester III-Group Activity
B.A.-II, Semester IV-Oral Examination

SHIVAJI UNIVERSITY, KOLHAPUR

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Revised Syllabus for

Bachelor of Arts (Part- III)

SEMESTER V & VI

HISTORY

(Syllabus to be implemented from June 2020 onwards)

EQUIVALANCE OF B.A. III HISTORY SEMESTER- V

Semester	Paper No	Title of Old Paper (June 2015)	Semester	Course No	Title of New Course (June 2020)
V	Paper No. VII	History of Ancient India (From Prehistory to 3rd c. BC)	V	Course No. VII	Early India (from beginning to 4th c. BC)
V	Paper No. VIII	Political History of Medieval India (1206 to 1707 A.D.)	V	Course No. VIII	History of Medieval India (1206-1526 AD)
V	Paper No. IX	India Since Independence –I	V	Course No. IX	Age of Revolutions
V	Paper No. X	History of the Marathas (1707-1818)	V	Course No. X	Political History of the Marathas
V	Paper No. XI	Introduction to Historiography	V	Course No. XI	History: Its Theory

EQUIVALANCE OF B.A. III HISTORY SEMESTER VI

Semester	Course No	Title of Old Paper	Semester	Course No	Title of New Course
VI	Paper No. XII	History of Ancient India (From 3 c. BC to 7th c. AD)	VI	Course No. XII	Ancient India (From 4th c. BC to 7th c. AD)
VI	Paper No. XIII	Socio-Economic and Cultural History of Medieval India (1206 to 1707 A.D.)	VI	Course No. XIII	History of Medieval India (1526-1707 AD)
VI	Paper No. XIV	India Since independence- II	VI	Course No. XIV	Making of the Modern World (16th to 19th Century)
VI	Paper No. XV	Modern Maharashtra (1960 to 2000)	VI	Course No. XV	Polity, Economy and Society under the Marathas
VI	Paper No. XVI	Applications of History	VI	Course No. XVI	Methods and Applications of History

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STRUCTURE OF PROGRAMME

REVISED SYLLABUS B.A. PART III (HISTORY)

Sr.No	Semester	Title of Course	Course No.	Credit	Workload	Total Credits	Theory Marks	Term Work/ Seminar
1	V	Early India (from beginning to 4th c. BC)	Course No. VII	04	4 lectures/ Week	20 Credits	40	10
2	V	History of Medieval India (1206-1526 AD)	Course No. VIII	04	4 lectures/ Week		40	10
3	V	Age of Revolutions	Course No. IX	04	4 lectures/ Week		40	10
4	V	Political History of the Marathas	Course No. X	04	4 lectures/ Week		40	10
5	V	History: Its Theory	Course No. XI	04	4 lectures/ Week		40	10
Sr.No	**Semester**	**Title of Course**	**Course No.**	**Credit**	**Workload**	**Total Credits**	**Theory Marks**	**Term Work/ Group Project**
6	VI	Ancient India (From 4th c. BC to 7th c. AD)	Course No. XII	04	4 lectures/ Week	20 Credits	40	10
7	VI	History of Medieval India (1526-1707 AD)	Course No.XIII	04	4 lectures/ Week		40	10
8	VI	Making of the Modern World (16th to 19th Century)	Course No. XIV	04	4 lectures/ Week		40	10
9	VI	Polity, Economy and Society under the Marathas	Course No. XV	04	4 lectures/ Week		40	10
10	VI	Methods and Applications of History	Course No. XVI	04	4 lectures/ Week		40	10

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B.A. Part -III, (History)
Semester –V, Course VII
Paper VII : Early India (from beginning to 4th c. BC)

Course Objectives: This course explores important historical developments in India from the beginning to the 4rd Century B.C. It traces the history of the Indian subcontinent from the Paleolithic period to the establishment of the Mauryan state. The student will be introduced to the political, social, economic and religious developments in India during this formative period. This course will help the students to understand how India came to be. They will know the facts about the early period of Indian history up to the 4thcentury B.C. They will get an introduction to the beginnings of India's political, socio-economic and cultural dynamics and understand the legacy of Ancient India.

Course Outcomes:

After studying the course the student will be able to …

1) Understand the transition of humans in India from Hunters to Farmers
2) Explain the transition from Early to Later Vedic period.
3) Clarify the causes for the first and second urbanizations
4) Give an account of the teachings of Gautama Buddha and Vardhamana Mahavira
5) Describe the rise and growth of the Mauryan Empire
6) Explain the salient features of Ashoka's Dhamma

Module I:The Beginning

a) The Hunter-Gatherers: Paleolithic and Mesolithic
b)The Early Farmers: Neolithic and Chalcolithic
c) The First Urbanization: Harappan Civilization
d)The Megalithic Nomads: Burial types, nature of remains

Module II: The Vedic Age and Epics

a) Vedic literature
b) Transition from Early to Later Vedic period: Polity and Economy
c)Transition from Early to Later Vedic period: Society and Religion
d) The Epics: Ramayana and Mahabharata

Module III: The Second Urbanization

a) Nature of second urbanization
b) Emergence of Regional States (16 Maha-janapadas)
c) Rise of Heterodox religions: Ajivikas, Buddhism and Jainism
d) Teachings of Gautama Buddha and Vardhamana Mahavira

Module IV: The Mauryan Empire

a) Sources: Arthashastra and Indica
b) Chandragupta Maurya and Ashoka
c)Mauryan Administration
d) Ashoka's Dhamma

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Select Reference Books:

- Allchin, B. G.; Allchin, B.; Allchin, R.; Yoffee, N.; Alcock, S.; Dillehay, T. et al. (1982): The Rise of Civilization in India and Pakistan: Cambridge University Press (Cambridge World Archaeology).
- Habib, I.; Thakur, V. (2016): The Vedic Age: Tulika Books (A People's History of India Series).
- Jha, D. N. (1977): Ancient India: an introductory outline: People's Pub. House.
- Kosambi, D. D. (1975): An Introduction to the Study of Indian History: Popular Prakashan.
- Majumdar, R. C.; Bharatiya Vidya Bhavan; Bharatiya Itihasa Samiti (1951): The History and Culture of the Indian People: The Vedic age: G. Allen 8 Unwin (The History and Culture of the Indian People).
- Sharma, R. S. (1991): Aspects of Political Ideas and Institutions in Ancient India: Motilal Banarsidass.
- Sharma, R. S. (2006): India's Ancient Past: OUP India.
- Sharma, R. S. (2007): Material Culture and Social Formations in Ancient India: Macmillan India.
- Sharma, R. S.; Kumar, D. (2018): Bharat Ka Prachin Itihas: Oxford University Press India.
- Singh, U. (2009): A History of Ancient and Early Medieval India: From the Stone Age to the 12th Century (PB): Pearson India.
- Thapar, R. (2004): Early India: From the Origins to AD 1300: University of California Press.
- Thapar, R. (2012): Asoka and the Decline of the Mauryas: OUP India (Oxford India Perennials).
- थापर रोमिला, अर्ली इंडिया, के सागर पब्लिकेशन; पुणे, २०१३
- थापर रोमिला दी पेंग्वीन हिस्टरी ऑफ अर्ली इंडिया, के सागर पब्लिकेशन्स; पुणे, २०१८
- वासंती फडके (अनु.), एंशंट इंडिया (प्राचीन भारत) मूळ लेखक शर्मा आर.एस., के सागर पब्लिकेशन; पुणे, २०१५

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- रोमिला थापर, लिखित अशोक आणि मौर्यांचा ऱ्हास, (Asoka and the Decline of the Mouryas या पुस्तकाचा अनुवाद). अनुवादिका. डॉ. सौ. शरावती शिरगावकर. अनुवादिका, महाराष्ट्र राज्य, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई, २००७ (https://sahitya.marathi.gov.in/scans/Ashok%20Ani%20Mauryacharhas_131.pdf)
- ढवळीकर, मधुकर केशव., आर्यांच्या शोधात, राजहंस प्रकाशन; पुणे, २०१२
- ढवळीकर, मधुकर केशव, कोण होते सिंधू लोक ?, राजहंस प्रकाशन प्रा लि; पुणे, २०१६
- ढवळीकर, मधुकर केशव, कोणे एके काळी सिंधु संस्कृती, राजहंस प्रकाशन, पुणे, २००६

B.A. Part III

Semester V, Course No: VIII

History of Medieval India (1206-1526 AD)

Course Objectives: This course covers the important period of Medieval Indian History. It was during this period that the Sultans established their rule in India. They introduced fundamental changes in polity, society, religion and culture of India. The course will acquaint the with various sources of medieval Indian history. They will get knowledge about the activities of major rulers and the policies followed by them. The students will know about the agricultural condition, development of trade and industry as well as the social, religious and architectural milieu of the period.

Course Outcomes:

After studying the course the student will be able to…

1) Describe the different types of historical sources available for writing the history of medieval India

2) Explain the contributions of medieval rulers like Allaudin Khilji, Muhammad-bin-Tuqhlaq, Krishnadevraya, and Mahmud Gavan

3) Give an account of the administration and economy of the Delhi sultanate and Vijayanagar Empire

4) Elucidate the significant developments which took place in religion, society and culture

Module I - Sources:

a) Literary: Tarikh-i- Firozshahi, Amuktamalyada

b) Archaeological (excluding Monuments)

c) Account of Foreign Travelers: Ibn Battuta, Domingo Paes

Module II - Major Rulers

a)Allaudin Khilji: Internal policy and reforms

b) Muhammad - bin- Tughlaq : Experiment of Token Currency

c) Krishnadevraya: Military success and cultural contribution

d) Mahmud Gavan: Contribution to Bahmani Kingdom

Module III - Administration and Economy(Delhi Sultanate and Vijaynagar)

a) Administration : Central and Provincial

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b) Agriculture and Land Revenue

c) Industry and Trade

Module IV) Religion, Society and Culture:

a) Sufi Order: Chishti Silsila; Bhakti Movement: Sant Kabir; Sikh Religion: Guru Nanak

b) Society: Hindu and Muslim

c)Architecture: Delhi Sultanate, Vijaynagar and Bahamani.

Select Reference Books:

- Rizvi, S.A.A., The Wonder that was India, Part II, Rupa, Delhi,2002
- Chitnis, K.N., Glimpses of Medieval Indian Ideas and Institutions, 1974
- Chitnis K. N. Socio- Economic Aspects of Medieval India, Poona, 1979
- Mehta, Jaswant Lal, Advanced Study in the History of Medieval India, Volume I to III, Sterling, New Delhi, 1981.
- Raychaudhuri Tapan and Irfan Habib (eds.), Cambridge Economic History of India, Vol. I. C. 1200 C. 1750., Delhi, S. Chand, 1984.
- Satish Chandra, History of Medieval India (800- 1700), Orient Longman, Hyderabad, 2007
- जे. एल. मेहता, क्षीरसागर वि. एस, देशपांडे व्ही. टी, मध्ययुगीन भारताचा बृहत इतिहास , तीन खंड, के' सागर पब्लिकेशन्स, पुणे, २०१७
- Stein, Burton, Vijayanagara , Cambridge University Press, 1989
- सतीश चंद्र , वि. एस. क्षीरसागर, मद्ययुगीन भारत – मोगल साम्राज्य १५२६- १७४८, के सागर पब्लिकेशन्स, २०१७
- Salma Ahmed Farooqui, A Comprehensive History of Medieval India, Pearson, 2011.
- के. एन चिटणीस: मध्ययुगीन भारतीय संकल्पना व संस्था, खंड १ ते ४, पुणे, १९८२
- श. गो. कोलरकर: मध्ययुगीन भारताचा इतिहास (१२०६ ते १७०७) , श्री मंगेश प्रकाशन , १९९४
- बारगळ व ढवळे, मध्यकालीन भारत , विद्याप्रकाशन, नागपूर, १९८७
- डब्ल्यू. एच. मूरलॅन्ड, अबकार कालीन हिंदुस्थान , ICHR, डायमंड प्रकाशन, पुणे, २००६
- डब्ल्यू. एच. मूरलॅन्ड, अबकार ते औरंगझेब, ICHR, डायमंड प्रकाशन, पुणे, २००६
- एन. ए. सिद्दिकी, मोगलकालीन महसूल पद्धती, ICHR, डायमंड प्रकाशन, पुणे , २००६
- जदूनाथ सरकार, औरंगजेब, डायमंड प्रकाशन, पुणे, २००६

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B.A. Part II
Semester V, Course No: IX
Age of Revolutions

Course Objectives: This course introduces the students to the pathbreaking events of global history. The students will study the accounts of the causes and consequences of the transformative revolutions which changed the history of mankind. They brought about sudden big changes not only in the country in which they happened but also the world in general. Most of them left a lasting effect on the thought and the socio-political and cultural conditions of mankind. The course has been framed to make the students aware of the change and impact of these revolutionary events.

Course Outcomes:

After studying the course the student will be able to…

1) Explain the causes and consequences of the Reformation
2) Give an account of the role played by Martin Luther
3) Explain the salient features of the Industrial revolution
4) Given an account of the American revolution
5) Explain the causes, effects and major events of French Revolution
6) Explain the role of major leaders of the French Revolution

Module I: Reformation (16th Century)

a) Causes
b) Role of Martin Luther
c) Consequences

Module II: Industrial Revolution (18th Century)

a) Causes
b) Major Developments
c) Effects

Module III: American Revolution (1776)

a) Causes
b) Important events
c) Impact

Module IV: French Revolution (1789)

a) Causes
b) Important events and major leaders
c) Impact on the world

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Select Reference books:

- Arun Bhattacharjee, World Revolutions, Ashish Publishing House, New Delhi, 1988
- L. Mukherjee, A Study of Modern Europe and the World, Calcutta, 2011
- John Merriman, A History pf Modern Europe; From the Renaissance to the Present, W.W. Norton and Company, 2009
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B.A. Part - III
Semester V, Course No. X
Political History of the Marathas

Course Objectives: The course is designed to study the political condition of Marathas after 1707. The Maratha polity was transformed into the largest political entity of India in the eighteenth century. The course introduces the students to the political developments which led to the expansion of Maratha power in the eighteenth century. It also explores the causes and events which led to the eventual decline of Maratha power.

Course Outcomes:

After studying the course the student will be able to…

1) Describe the political conditions of the Marathas upto the year 1740
2) Explain the role of Balaji Bajirao.
3) Explain the causes and effects of the Battle of Panipat.

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4) Understand the political condition of the Marathas after 1761.
5) Critically analyze the causes for the decline of Maratha power.

Module I: Political condition up to 1740

a. Release of Shahu; Struggle between Shahu and Maharani Tarabai.
b. Balaji Vishwanath : Delhi Campaign, Maratha Confederacy
c. Bajirao Peshwa: Northern Policy, Relations with Nizam

Module II: Balaji Bajirao and Battle of Panipat(1761)

a. Relations with Angre
b. Conflict with Raghuji Bhosale
c. Battle of Panipat-1761

Module: III Political condition after 1761

a. Madhavrao Peshwa
b. Mahadji Shinde
c. Nana Phadnavis

Module IV: Decline of the Maratha Power

a. Peshwa Bajirao II
b. Second and Third Anglo- Maratha War
c. Causes for the decline of Maratha power

Select Reference books :

- अप्पासाहेब पवार (संपा) : ताराबाई कालीन कागदपत्रे, खंड १, शिवाजी विद्यापीठ, २०१८
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- सेतुमाधवराव पगडी : मराठ्यांचे स्वातंत्र्ययुद्ध , पुणे, १९६२
- महादेव गोविंद रानडे, मराठी सत्तेचा उत्कर्ष, वरदा प्रकाशन, २०१६
- प्र.न.देशपांडे : मराठी सत्तेचा उदय आणि उत्कर्ष, स्नेहवर्धन पब्लिशिंग हाऊस, पुणे, २००१
- न.र.फाटक :(अनु.) : मराठी सत्तेचा उत्कर्ष, (म.गो.रानडेकृत राईज ऑफ मराठा पॉवर चे भाषांतर)
- जयसिंगराव पवार : महाराणी ताराबाई, तारारणी विद्यापीठ प्रकाशन, १९७५
- जयसिंगराव पवार मराठी साम्राज्याचा उदय आणि अस्थ, कोल्हापूर , १९९३
- त्र्यं.श.शेजवलकर, श्री शिवछत्रपती- संकल्पित शिवचरित्राची प्रस्तावना, आराखडा. व साधने, मराठा मंदीर प्रकाशन, मुंबई, १९६४.
- त्र्यं.श.शेजवलकर , पानिपत १७६१, जोशी आणि लोखंडे प्रकाशन, १९६१
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- V.G. Dighe, Peshwa Bajirao and Maratha expansion, Karnatak Publishing House, Bombay, 1944

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- S.R. Sharma- The founding of Maratha freedom, Orient Longmans, Bombay, 1964
- H.N. Sinha – Rise of the Peshwas, The Indian Press (Publications) Ltd, Allahabad, 1954
- S.N.Sen-, Anglo Maratha Relations 1785-1796, Macmillan , Madras, 1974
- P.C.Gupta, Bajirao II and East India Company, Allied Publications Private Limited, Calcutta, 1964
- Brij Kishore, Tarabai and his Times , Bombay , 1963
- G.S. Sardesai- New History of Maratha's Vols I,II and III, Bombay, 1948

B.A. Part III:
Semester V, Course No. VII
History: Its Theory

(Field visit to any important historical place, monuments and record offices is essential)

Course Objectives:

This course has been designed to impart knowledge of the discipline of history to the students. The students will learn the nature and scope of the discipline. They will have a clear understanding of the nature of the evidence collected from primary and secondary sources. They will be introduced to the process of presenting and writing history. They will know the methods of writing history.

Course Outcomes:

After studying the course the student will be able to…

1) Understand the definition and scope of the subject of History
2) Know the process of acquiring historical data
3) Explain the process of presenting and writing history
4) Understand the methods of writing history

Module I: History: Definition and Scope

a) Meaning, Scope and Nature

b) Types of History

c) Interdisciplinary Approach

Module II: Acquisition of Historical Data

a) Sources: Nature and Types

b) Methods of Data Collection

c) Methods of Critical Enquiry

Module III: Process of presenting and writing history

a) Steps of Historical Research
b) Data Analysis and Interpretation
c) Presentation

Module IV: Methods of History writing

a) Notetaking
b) Footnotes and Endnotes
c) Index, Appendix, Bibliography

Select Reference books:

- B. Shaik, Ali., History, Its Theory and Method, Macmillan India Ltd, Madras, 1978
- Carr, E. H., What is History, Palgrave Publishers Ltd., Macmillan, 1986
- Chitnis, K. N., Research Methodology in History, Poona, 1979
- Bajaj, S. K., Research Methodology in History, Anmol Publications Pvt. Ltd., New Delhi, 1998
- Collingwood, R. G., The Idea of History, Oxford University Press, Oxford 1978
- Gottschalk, Louis., Understanding History, New York, Second Edition, 1969
- Majumdar, R. C., Historiography in Modern India, Bombay, 1970.
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- गायकवाड, आर. डी., सरदेसाई, बी. एन. आणि हनमाने, व्ही. एन. इतिहासलेखन पद्धत व ऐतिहासिक स्मारके यांचा अभ्यास, फडके प्रकाशन, कोल्हापूर, १९८८
- गद्रे, प्रभाकर., इतिहास लेखनाच्या परंपरा, श्री मंगेश प्रकाशन, नागपूर, २००४
- सरदेसाई, बी. एन., इतिहासलेखनपद्धती, फडके प्रकाशन, कोल्हापूर, २००४
- राजदेरकर, सुहास., इतिहासलेखनशास्त्र, विद्या प्रकाशन, नागपूर, १९९८
- सरदेसाई, बी. एन., इतिहासलेखन परिचय, फडके प्रकाशन, कोल्हापूर, २००६
- देशमुख, प्रशांत., इतिहासाचे तत्त्वज्ञान, विद्या बुक्स पब्लिशर्स, औरंगाबाद, २००५
- लेले, वि. गो., (अनुवादक) इतिहास म्हणजे काय? कॉन्टिनेन्टल प्रकाशन, पुणे, १९९४
- आठवले, सदाशिव., इतिहासाचे तत्त्वज्ञान, प्राज्ञपाठशाला, वाई, १९६७
- आगलावे, प्रदीप., सामाजिक सनोधन, पदधती शास्त्र व तंत्र, साईनाथ प्रकाशन, नागपूर, २०१९
- देव, प्रभाकर., इतिहस ऐक शास्त्र, कल्पना प्रकाशन नांदेड, १९९७

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SEMESTER VI

B.A. Part III

Semester VI, Course No. XII

Ancient India (From 4th c. BC to 7th c. AD)

Course Objectives: This course explores the history of India from the 4th century BC to the 7th century A.D. It takes a panoramic survey of the historical developments during this formative period of Indian history. The course studies the eventful changes which took place under the Satavhana, Kushanas, Guptas, Vakatakas , Chalukyas and Pallavas. The students will be introduced to the incomparably vivid picture of India which prevailed during period. They will be acquainted with not only the glory of India but also the social inequality and social evils which have shaped it in the past.

Course Outcomes:

After studying the course the student will be able to…

1) Know the political ,economic and religious developments which took place in early historic India

2) Explain the role played by Major Satavahana, Kushana, Gupta and Vakataka Kings

3) Give an account of the developments in the Post-Gupta period

4) Have an informed opinion about the society and culture of Ancient India

Module I: Early Historic India

a)Sources: Gatha Saptashati, Periplus of the Erythraean Sea

b)Major Kings: Satavahana and Kushanas

c)Industry and Trade

d) Hinayana Buddhism

Module II: The Classical Age

a) Major Kings: Guptas and Vakatakas

b)Economy and Greater India

c)Literature and Science

d)Religion

Module III: The Post-Gupta Period

a) Source: Hiuen Tsang

b)North India: Harshavardhana

c) Deccan: Early Chalukyas of Badami

d) South India: Pallavas

Module IV: Society and Culture

a) Position of Women and Varna Structure (From Vedic period to Post-Gupta period)

b) Education

c) Art (From Mesolithic Art to Ajanta Paintings)

d) Architecture- (Rock-Cut Caves (Maharashtra) to Constructed Temples (Madhya Pradesh)

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Select Reference Books :

- Jha, D. N. (1977): Ancient India: an introductory outline: People's Pub. House.
- Kosambi, D. D. (1975): An Introduction to the Study of Indian History: Popular Prakashan.
- Majumdar, R. C.; Bharatiya Vidya Bhavan; Bhāratīya Itihāsa Samiti (1951): The History and Culture of the Indian People: The Vedic age: G. Allen 8 Unwin (The History and Culture of the Indian People).
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- Sharma, R. S. (2006): India's Ancient Past: OUP India.
- Sharma, R. S. (2007): Material Culture and Social Formations in Ancient India: Macmillan India.
- Sharma, R. S.; Kumar, D. (2018): Bharat Ka Prachin Itihas: Oxford University Press India.
- Singh, U. (2009): A History of Ancient and Early Medieval India: From the Stone Age to the 12th Century (PB): Pearson India.
- Thapar, R. (2004): Early India: From the Origins to AD 1300: University of California Press.
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- Munshi, K. M.; Majumdar, R. C. (1997): The Classical Age: Bharativa Vidya Bhavan (History and culture of the Indian people / General ed.: R.C. Majumdar).
- Sastri, K.A.N. (1958): A history of South India from prehistoric times to the fall of Vijayanagar: Oxford University Press.
- मोतीचंद्र, सार्थवाह, साहित्य अकादमी, नवी दिल्ली , २०१०
- कोसंबी डी. डी., प्राचीन भारतीय संस्कृती आणि सभ्यता , ICHR, डायमंड प्रकाशन, २००६
- थापर रोमिला, अर्लि इंडिया, के सागर पब्लिकेशन, पुणे, २०१३
- थापर रोमिला दी पेंग्वीन हिस्टरी ऑफ अर्ली इंडिया, के सागर पब्लिकेशन्स, पुणे, २०१८
- वासंती फडके (अनु.), एंशंट इंडिया (प्राचीन भारत) मूळ लेखक शर्मा आर.एस., के सागर पब्लिकेशन, पुणे, २०१५

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B.A. Part III

Semester VI, Course No. XIII

History of Medieval India (1526-1707 AD)

Course Objectives : This course explores the history of the Mughal period in India. The Mughals introduced fundamental changes in the polity, economy, society, culture and religion of India. The Bahamani kingdom in the Deccan also split up into five smaller kingdoms during this period. In the course the students will be introduced to the important events, personalities and developments in India. They will know the policies followed by important rulers and will acquaint themselves with the general scenario prevalent in India during the period. They will understand how a syncretic culture developed in India during the period.

Course Outcomes:

After studying the course the student will be able to…

1) Know about the various sources for writing Medieval Indian history
2) Explain the role of rulers like Babar, Akbar, Chandbibi and Ibrahim Adilshah II
3) Gain knowledge about the administrative and revenue system
4) Describe the condition of Industry and trade
5) Explain important developments in religion, society and culture

Module I: Sources

a) Literary: Akbarnama, Gulshan -i -Ibrahimi
b) Archaeological (excluding monuments)
c) Accounts of Foreign Travelers: Francois Bernier, Niccolo Manucci

Module II - Major Rulers

a) Babar: Battle of Panipat and foundation of Mughal empire.
b) Akbar: Rajput policy
c) Chandbibi
d) Ibrahim Adilshah II

Module III- Administration and Economy

a) Administration: Central and Provincial
b) Land Revenue: Akbar and Malik Ambar
c) Industry and Trade

Module IV: Religion, Society and Culture

a) Religious Policy: Akbar and Aurangzeb
b) Society: Hindu and Muslim
c) Architecture: Mughal and Adilshahi

Select Reference Books:

- Rizvi, S.A.A., The Wonder that was India, Part II, Rupa, Delhi, 2002
- Chitnis, K.N., Glimpses of Medieval Indian Ideas and Institutions, 1974
- Chitnis K. N. Socio- Economic Aspects of Medieval India, Poona, 1979

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- Mehta, Jaswant Lal, Advanced Study in the History of Medieval India, Volume I to III, Sterling, New Delhi, 1981.
- Qureshi I.H., The Administration of the Moghal Empire, Delhi, Low Price, Publication 1990
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- Stein, Burton, Vijayanagara , Cambridge University Press, 1989
- M. P. Patil, Court Life under the Vijaynagar Rulers, B.R. Publishing Corporation, 1999
- सतीश चंद्र , वि. एस. क्षीरसागर, मद्ययुगीन भारत – मोगल साम्राज्य १५२६- १७४८, के सागर पब्लिकेशन्स, २०१७
- Salma Ahmed Farooqui, A Comprehensive History of Medieval India, Pearson, 2011.
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- श. गो. कोलरकर: मध्ययुगीन भारताचा इतिहास (१२०६ ते १७०७) , श्री मंगेश प्रकाशन , १९९४
- बारगळ व ढवळे, मध्यकालीन भारत , विद्याप्रकाशन, नागपूर, १९८७
- डब्ल्यू. एच. मूरलॅन्ड, अबकार कालीन हिंदुस्थान , ICHR, डायमंड प्रकाशन, पुणे, २००६
- डब्ल्यू. एच. मूरलॅन्ड, अबकार ते औरंगझेब, ICHR, डायमंड प्रकाशन, पुणे, २००६
- एन. ए. सिद्दिकी, मोगलकालीन महसूल पद्धती, ICHR, डायमंड प्रकाशन, पुणे , २००६
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B.A. Part III

Semester VI , Course No: XIV.

Making of the Modern World (16th to 19th Century)

Course Objectives: This course deals with significant events in global history. The primary objective of the course is to introduce the students to the important events which have happened in the world in modern times. These events which were revolutionary in character had a profound impact on the making of the modern world. The students will be acquainted with the events of the Glorious revolution in England. They will understand the causes for the rise and spread of Nationalism and Imperialism. Moreover, they will know about some select important personalities who contributed to the making of the Modern World.

Course Outcomes:

After studying the course the student will be able to…

1) Know the causes and consequences of the Glorious revolution in England
2) Explain the concept of Nationalism and account for its rise and spread.
3) Describe the unification of Italy and Germany.
4) Give an account of the rise, growth and impact of Imperialism
5) Explain the significance of the Partition of Africa
6) Know the life and thoughts of important leaders like Metternich, Karl Marx and Abraham Lincoln

Module I: Glorious Revolution

a)Causes
b) Major events
c) Consequences

Module II: Nationalism

a) Causes for the rise and spread of Nationalism
b) Unification of Italy and Germany
c) Impact

Module III : Imperialism

a) Causes for rise and growth of Imperialism
b) Partition of Africa
c) Impact on the world

Module IV: Important Personalities

a) Metternich
b) Karl Marx
c)Abraham Lincoln

Select Reference books:

- Arun Bhattacharjee, World Revolutions, Ashish Publishing House, New Delhi, 1988
- L. Mukherjee, A Study of Modern Europe and the World, Calcutta**,** 2011
- David Thompson, Europe Since Napoleon, Penguin books, 1971
- T.C.W. Blanning, The Oxford History of Modern Europe, OUP, 2000

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- लिमये, स्मिता, अब्राहम लिंकन: दास्यमुक्तिचा देवदूत, निधीगंधा बुक एजन्सी; नागपूर, २०१७
- कारखानीस सरला, कार्ल मार्क्स चरित्र आणि विचार, जयंत एस भट, १९६०
- बापट राम, कार्ल मार्क्सचा विचार, परामर्श प्रकाशन, १९८४

B.A. Part III
Semester VI, Course No. XV
Polity, Economy and Society under the Marathas

Course Objectives : The objective of the course is to explore the nature of the Maratha polity. It will acquaint the students with the economic and social condition prevalent under Maratha rule. The course will also introduce the students to the sources of Maratha history.

Course Outcomes:

After studying the course the student will be able to…

1) Know the various sources for writing the history of the Marathas
2) Explain the significant developments in the polity of the Marathas
3) Describe the economic conditions
4) Explain the social conditions.

Module I: Sources

a. Importance of sources
b. Indian Sources: Sanskrit, Marathi, Persian
c. Foreign sources : Portuguese and English

Module II: Polity under the Marathas

a. Concept of Kingship
b. Asthapradhan Mandal
c. Transfer of power – Chhatrapati to Peshwa, Peshwa to Karbhari

Module III: Economic condition

a. Agrarian system – Land Revenue, Irrigation
b. Industry
c. Trade and Commerce

Module IV: Social condition

a. Social Structure - Family , Untouchability, Vethbegar , Slavery.
b. Condition of women and caste system
c. Education and Festivals

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Select Reference books :

- शेणोलीकर ह.श्री. महाराष्ट्र संस्कृती : घडण आणि विकास, मोघे प्रकाशन, कोल्हापूर, १९७२
- भावे. व. कृ. : शिवराज्य व शिवकाल, भावे प्रकाशन, पुणे, १९५९
- अत्रे. त्र्यं. ना. गाववाडा, राजहंस प्रकाशन प्रा लि., पुणे, २०१८
- वि. गो. खोबरेकर , महाराष्ट्रातील दप्तरखाने: वर्णन आणि तंत्र, १९६८
- कुलकर्णी अ. रा. : शिवकालीन महाराष्ट्र, १९९३ आवृत्ती
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- गवळी पा. आ., पेशवेकालीन गुलामगिरी व अस्पृश्यता, १९८१
- ओतुरकर, आर्. व्ही., पेशवेकालीन सामाजिक व आर्थिक जीवन, खंड १, भा. इ. सं. मं. , १९५०
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- हेरवाडकर, आर. व्ही., मराठी बखर, व्हीनस प्रकाशन, मुंबई, १९८६
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- Chitnis, K. N., Glimpses of Maratha Socio-Economic History, Atlanta Polishers, New Delhi, 1994
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- Desai, S.V., Social Life in Maharashtra under the Peshwas, Popular Prakashan, Bombay, 1962
- Duff, Grant., A History of Mahrattas, Vol. I to III, Oxford University Press, Calcutta, 3rd ed., 1921
- Gune, V. T., The Judicial System of the Marathas, Deccan College, Pune, 1953
- Kulkarni, A. R., Maharashtra in the Age of Shivaji (A Study in Economic History), Pune, 1969.
- Mahajan, T. T., Industry, Trade and Commerce during the Peshwa period, Jaipur, 1980
- Kadam V.S. Maratha Confederacy:A study in its origin and development, Munshiram Manoharlal Publishers Pvt Limited , 1993
- Fukazawa, H – The Medieval Deccan: Peasants, Social Systems and States Sixteenth to Eighteenth Centuries, OUP, New Delhi, 1999

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B.A. Part III
Semester VI , Course No. XVI
Methods and Applications of History

Couse Objectives: This course has been designed to impart knowledge of the methods of history to the students. The students will understand the nature of archival sources. They will be introduced to the trends of local and oral history and will know about the tools of local history like Survey, Interview and Questionnaire. The students will be introduced to the technique of collecting data through oral interviews. The students will understand the concept of the museum and learn the basic principles of museology. Moreover, the course will introduce the students to the relevance of monumental heritage and its relationship with the discipline of history through the concept of Heritage Tourism

Course Outcomes:

After studying the course the student will be able to…

1) Understand the nature of archival sources
2) Gain conceptual clarity about recent trends in history.
3) Know about the application of history in museums.
4) Explain the concept and scope of heritage tourism.

(**Note: The students should undertake Individual/ Group field projects for assignments in which they could take oral interviews / surveys/ regarding persons, events and local socio-political, economic and cultural developments related to local history. They should make audio recordings of the interviews and develop an archive of local oral history in the college department. These audio interviews would form an important source of local history)**

Module I: Archival Sources

a) Meaning, types, and importance of Archives
b) Types of Records
c) Concept of Digital Archives

Module II: Recent Trends in History

a) Local History
b) Oral History
c) Tools of Local History (Survey, Interview, Questionnaire)
d) Interview Technique

Module III: Museology

a) Definition, Nature and Importance of Museum
b) Types of Museums
c) Methods of Collection, Conservation and Preservation Techniques of Objects

Module IV -Understanding Heritage Tourism

a) Concept, Scope and Significance of Heritage Tourism

b) Meaning and Historical Perspective of Tourism

c) World Heritage Sites in India

Select Reference books:

- B. Shaik, Ali., History:Its Theory and Method, Macmillan India Ltd, Madras, 1978
- Chitnis, K. N., Research Methodology in History, Poona, 1979
- Bajaj, S. K., Research Methodology in History, Anmol Publications Pvt. Ltd., New Delhi, 1998
- Sreedharan, E., A Textbook of Historiography 500 BC to AD 2000, Orient Longman, Hyderabad, 2000
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- कोठेकर, शांता., इतिहास तंत्र आणि तत्त्वज्ञान, श्री साईनाथ प्रकाशन, नागपूर, २००५
- गायकवाड, आर. डी., सरदेसाई, बी. एन. आणि हनमाने, व्ही. एन. इतिहासलेखन पद्धत व ऐतिहासिक स्मारके यांचा अभ्यास, फडके प्रकाशन, कोल्हापूर, १९८८
- गद्रे, प्रभाकर., इतिहास लेखनाच्या परंपरा, श्री मंगेश प्रकाशन, नागपूर, २००४
- सरदेसाई, बी. एन., इतिहासलेखनपद्धती, फडके प्रकाशन, कोल्हापूर, २००४
- राजदेरकर, सुहास., इतिहासलेखनशास्त्र, विद्या प्रकाशन, नागपूर, १९९८
- सरदेसाई, बी. एन., इतिहासलेखन परिचय, फडके प्रकाशन, कोल्हापूर, २००६
- देशमुख, प्रशांत., इतिहासाचे तत्त्वज्ञान, विद्या बुक्स पब्लिशर्स, औरंगाबाद, २००५
- बेंद्रे, वा. सी., शिवशाहीचा चर्चात्मक इतिहास: साधन चिकित्सा, लोकवाङ्मय गृह, मुंबई, १९७६
- आठवले, सदाशिव., इतिहासाचे तत्त्वज्ञान, प्राज्ञपाठशाला, वाई, १९६७
- धाटावकर, भास्कर., महाराष्ट्रातील शासकीय पुरालेखागारांची निर्मिती आणि कार्य, चेतन प्रकाशन, मुंबई, २०१०
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- खतीब, के. ए., पर्यटन भुगोल, मेहता पब्लिशिंग हाऊस, पुणे, २००६

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- राऊत, गणेश (संप), दत्तक गावांचा इतिहास, खंड १, २, ३, पुणे विद्यापीठ, पुणे, १९९९
- वांबूरकर जास्वंदी, इतिहास लेखनातील नवे प्रवाह, डायमंड प्रकाशन, पुणे, २०१५

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SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B. A. Part - I

GEOGRAPHY

(Syllabus to be implemented from June, 2022 onwards)

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with Learning Outcomes-Based Curriculum Framework (LOCF) of National Education Policy (NEP) 2020

for B.A. / B.Sc. Geography Degree (Basic/Honours)

w.e.f. Academic Year 2022-23 and onwards

PREAMBLE

This course intends to acquaint the students with various dimensions of, as also the challenges, confronting the physical geography. The Geography students of B. A. Part-I can betterly understand all modern concepts in Physical Geography and Human Geography in brief but in adequate manner. Geography has emerged through time as a transdisciplinary subject integrating the regional diversity with the concepts of the timing of space and the spacing of time. It provides broad, human and place-centred perspectives on the transformation of rural ecology to globalized urban landscape at different levels, from the local/regional/national to global. Geography is transformed through:

- Study from Local to Global ecology and its planning
- Traditional Techniques to Contemporary Spatial Information Technology
- Macro to Micro-level Social Perception Approach

OBJECTIVES

The objective of this course is to introduce the latest concepts in Physical Geography and Human Geography, Specifically in Atmosphere, Lithosphere, Fluvial Cycle, Hydrosphere, Human races, Population growth, Characteristics of Population and Settlements.

ELIGIBILITY FOR ADMISSION

Candidates who have passed any PUC Science, Commerce, Arts examinations in Maharashtra State or any other States in India with equal qualifications are eligible for admission to the course.

DURATION OF THE COURSE

The duration of the B.A./B.Sc. Geography Program shall extend over 8 semesters (four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

MEDIUM OF INSTRUCTION:

The medium of instruction shall be Marathi and English.

PROGRAM OUTCOMES

By the end of the program the students will be able to:

PO1: Relating to Knowledge

1.1 Provide explanation of definitions, relevant terms and concept of geography.

1.2 Provide better explanation about relevant principles, theories and models in geography.

1.3 Provide idea about detail knowledge regarding man and environmental process.

PO2: Understanding and application

2.1 Know the importance of spatio-temporal scale.

2.2 Know the relation or complex neture between physical and human environments.

2.3 Identify the importance of places, environment and people.

2.4 Understand how processes bring changes in systems and its distribution.

PO3: Students Skills

3.1 Collection, representation and Interpretation of geographical data and sources.

3.2 Presentation of geographical evidence and ideas with identifying geographical trends and patterns.

3.3 Application of the cartographical techniques to support the inferences of geographical aspects.

3.4 Make obvious skill of analysis of geographical information.

PO4: Students Evaluation

4.1 Critically evaluate the basics of geography.

4.2 Assess the effects of geographical processes and its impact on physical and human environments.

4.3 Assess how the viewpoints of different groups of people, potential conflicts of interest and other factors interact in the management of physical and human aspects.

4.4 Evaluate the relative success of failure of initiatives.

PROGRAMME SPECIFIC OUTCOME (PSO)

B. A. Part-I

1) The Students are known the branches of Geography and latest concepts in Physical Geography Specifically in Atmosphere, Lithosphere, Fluvial Cycle and Hydrosphere.
2) The students are understood the Human races, Population growth, Characteristics of Population and Settlements.

SCHEME OF EXAMINATION:-

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)

- The Theory paper shall carry internal 10 marks (as applicable to the course)
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers on any two (20)

Internal Evaluation 10 Mark

B.A.-I Semester-I - Home Assignment / Unit Test / Practical / Case Study

B.A.-I Semester-II – Home Assignment **/** Unit Test / Practical / Case Study

B. A. Part-I Semester I

Geography

(THEORY with Practical)

Title of the Course: Physical Geography **Code:** DSC B10

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Classes per week
04	60	04

Course Outcomes

1. Students will be able to understand the basic concepts in Physical Geography.
2. Students understand basic terms used to describe physical processes and landscape forms.
3. Students understand the atmosphere.
4. Students understand the concept of maps and globe.

Course Objectives

This course aims to

1. To study basic principles of the Physical Geography.
2. To understand the lithosphere, denudation, landforms, atmospheric elements and structure.
3. To understand the concept of maps and globe.

Syllabus

Semester - I

	Teaching Hours	Credits
Module – I Introduction to Physical Geography	10	0.75
1.1 Meaning and Definitions		
1.2 Scope of Physical Geography		
1.3 Branches of Physical Geography		
1.4 Importance of Physical Geography		
Module – II Lithosphere	10	01
2.1 Interior of the earth		
2.2 Wagner's Continental Drift Theory		
2.3 Earthquakes – Causes and Effects		
2.4 Volcano – Causes and Effects		
Module – III Denudation	15	01
3.1 Weathering: Concept and Types		
3.2 Davis Concept of Cycle of Erosion		
3.3 Erosional Landforms of River.		
3.4 Depositional Landforms of River.		

Module- IV Atmosphere	15	01
4.1 Composition and Structure of Atmosphere		
4.2 Insolation: Factors affecting on Insolation		
4.3 Temperature: Distribution of temperature (Vertical and Horizontal)		
4.4 Atmospheric Pressure: Belts and Planetary Winds.		
Module- V Map (Practical)	10	0.25
5.1 Map: Definition, Elements and Types		
5.2 Maps and Globe- Similarities and Differences		
5.3 Significance and Use of Maps and Globe		

Reference Books

1) Clyton K., (1986), Earth Crust, AdusBook , London.

2) Davis W. M., (1909), Geographical Essay, Ginnia Co.

3) Dayal P., (1996), Text Book of Geomorphology, Shukla Book Depot, Patna.

4) Kale V.S. and Gupta A., (2001), Elements of Geomorphology, Oxford University Press, Kolkata.

5) Kale V.S. and Gupta A., (2001), Elements of Geomorphology, Oxford Univ. Press. Monkhouse, (1951), Principle of Physical Geography, McGraw Hill Pub – New York.

6) Pitty A. F., (1974), Introduction to Geomorphology, Methuen London.

7) Singh Savindra, (2000), Physical Geography,PrayagPustakBhavan, 20-A, University Road, Allahabad – 211002.

8) Steers J. A., (1964), The Unstable Earth Some Recent Views in Geography, Kalyani Publishers, New Delhi.

9) Swaroop Shanti, (2006), Physical Geography, King Books, NaiSarak, Delhi – 110006.

10) Wooldridge S. W. and Morgan R. S., (1959), The Physical Basis of Geography and Outline of Geomorphology, Longman Green and Co. London.

Reference Websites

1) http://www.solarviews.com/eng/earth.htm

2) http://www.moorlandschool.co.uk/earth/tectonic.htm

3) https://www.usgs.gov/

4) https://www.ksndmc.org

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

https://onlinecourses.swayam2.ac.in/nou21_bt03/preview

B. A. Part-I Semester II

Geography

(THEORY with Practical)

Title of the Course: Human Geography **Code:** DSC B24

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Classes per week
04	60	04

Course Outcomes

1. Students will be able to understand the basic concepts in Human Geography.
2. Students understand basic terms used to describe population, settlements and agriculture.
3. Students understand the concept of Google Earth and Google Map.

Course Objectives

This course aims to

1. To study basic principles of the Human Geography.
2. To understand the concepts and terms regarding the population, settlements and agriculture.
3. To understand the concept of Google Earth and Google Map.

Syllabus

Semester - II

	Teaching Hours	Credits
Module- I Human Geography	11	0.75
1.1 Definitions of Human Geography		
1.2 Scope of Human Geography		
1.3 Branches of Human Geography		
1.4 Importance of Human Geography		
Module –II Population	13	01
2.1 Factors affecting on distribution of population		
2.2 Malthus' theory of Population Growth		
2.3 Demographic Transition Theory		
2.4 Migration: Types and Effects		
Module –III Settlement	13	01
3.1 Types and patterns of rural settlements		
3.2 Functions of Rural Settlements		
3.3 Factors affecting on urbanization		
3.4 Functions of Urban Centers		
Module – IV Agriculture	13	01

4.1 Origin and History of Agriculture

4.2 Types of Agriculture

4.3 Factors affecting on agriculture

4.4 Problems of Agriculture

Module- V Google Earth 10 0.25

5.1 Concept of Google Earth

5.2 Application of Dot, Line and Polygon according to Feature

5.3 Exercises with Google Earth Programme

Reference Books

1. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
2. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
3. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement, Oliver & Boyd, London.
4. Johnston R; Gregory D, Pratt G. et al. (2008) TheDictionary of Human Geography, Blackwell Publication.
5. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
6. Kaushik, S.D. (2010) ManavBhugol, Rastogi Publication, Meerut.
7. Maurya, S.D. (2012) ManavBhugol, ShardaPustakBhawan. Allahabad.
8. Hussain, Majid (2012) ManavBhugol. Rawat Publications, Jaipur
9. BeaujeuGamier : Geography of Population, Longman, Lindon-1978
10. Clarke J.I. : Population Geography, Pergam on Press Oxford – 1972
12. HaggetPetter : Human Geography
13. Ghosh B.N. : Fundamentals of Population Geography
14. Hussin M. : Human Geography 1994
15. Money D.S. : Human Geography
16. Perpillou A.V. : Human Geography, Longman, London- 1986
17. Robinson H. : Human Geography, 1976
18. Mishra &Puri : Indian Economy 2004
19. India- 2008 : Govt. of India
20. Hassan Mohammead I. : Population Geography, 2005
21. BhendeAsha&KanitkarTara :Principlas of Population studies
22. Perillouav : Human Geography, 1986

23. Singh, R.Y. : Geography of Settlement, 1998

24. Singh, Gopal :Mapwork& Practical Geography, 1999

25. Sawant S.B. &Athavale A.S. Population Geography, Mehata publishing house, Pune

26. Chandana R.C. : Geography of Population, Kalyani Pub. Ludhayana 1988

२७. सवदी.ए.बी. आणि कोळेकर .पी.एस.व लोक संख्या भूगोल निराली प्रकाशन पुणे.

२८. ताचोळे द.धो.–लोकसंख्याशास्त्र.

२९ .पवार, अडसुळ, फुले ,पाटील–मानवी भूगोल सप्रेम प्रकाशन कोल्हापूर.

३०. प्रकाश सावंत–भूरूपशास्त्र व हवामानशास्त्र, फडके प्रकाशन

Reference Websites

1) http://www.solarviews.com/eng/earth.htm

2) http://www.moorlandschool.co.uk/earth/tectonic.htm

3) https://www.usgs.gov/

4) https://www.ksndmc.org

Suggested equivalent online courses:

https://onlinecourses.swayam2.ac.in/aic19_ge05/preview

https://onlinecourses.swayam2.ac.in/nou21_bt03/preview

Estd. 1962
"A++" Accredited by NAAC (2021)
With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004, MAHARASHTRA
PHONE : EPABX – 2609000, www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४, महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग – ०२३१—२६०९०९४

Ref. No./SU/BOS/Humanities/541 Date :19/07/2023

To,
The Principal,
All Concerenced Affiliated Colleges/Institutions,
Shivaji University, Kolhapur

Subject : Regarding syllabi of B. A. Part II (sem. III & IV) degree programme under the Faculty of Humanities as per National Education Policy, 2020 (NEP)

Sir/Madam,

With reference to the subject mentioned above I am directed to inform you that the University authorities have accepted and granted approval to the revised syllabi, equivalence and nature of question paper of B. A. Part II (Sem. III & IV) under the Faculty of Humanities as per National Education Policy, 2020. (NEP)

English (Comp.)	English (Opt.)	Linguistics (I.D.S.)	Sanskrit	Kannada
Business Administration	Marathi	Ardhamagadhi	Hindi	Urdu
S.P. & Comm. Corresp.	Sociology	Political Science	Psychology	Economics
Industrial Psychology	Geography	Human Development	Philosophy	History
Defence Study (Entire)				

This syllabi shall be implemented from the academic year 2023-24 onwards . A soft copy containing the syllabus is attached herewith and it is also available on university website www.unishivaji.ac.in (Online Syllabus).

For students of Distance Education this syllabi be implemented from the academic yerar 2023-24.

You are therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully

Encl : As above

(Dr. S. M. Kubal)
Dy. Registrar

Copy to, For Information and necessary action.

Dean, Faculty of Humanities.	Computer Center/I. T. Cell.
Chairman, B.O.S./Ad-hoc oard under faculty of Humanities.	Eligibility Section.
Director, Board of Examinations & Evaluation	P. G. Seminar Section.
Appointment Section A & B	Distance Education Section.
B. A. Exam. Section.	Affiliation Section (T. 1 & T 2)
P. G. Admission Section.	

SHIVAJI UNIVERSITY, KOLHAPUR.

B.A. and B.A. B.Ed (Integrated) Part- II

Geography

NATIONAL EDUCATION POLICY (NEP-2020)

SYLLABUS WITH EFFECT FROM JULY 2023

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with

Learning Outcomes-Based Curriculum Framework (LOCF)

of National Education Policy (NEP) 2020

for B.A. / B. A. B. Ed. IISemester III Geography Degree (Basic/Honors)

w.e.f. June, 2023 onwards.

A] **Ordinance and Regulations:-**

(As applicable to degree/program)

B] **Shivaji University, Kolhapur**

New/Revised Syllabus forBachelor of -Arts.

1. TITLE: SOIL GEOGRAPHY **Code:** DSC D19

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. YEAR OF IMPLEMENTATION: New/Revised Syllabi will be implemented from July, 2023 onwards.

3. PREAMBLE

Soil Geography is subfield of physical geography that focuses on understanding the physical and chemical properties of soil, including its texture, structure, organic matter, and nutrient content, and the relationships between these properties. The subject has been introduced to B. A. Part-II is crucial in various disciplines such as agriculture, ecology, land use planning and environmental management, where understanding the spatial and temporal variability of soil properties is essential for sustainable land use and management. Soil Geography addresses challenges such as soil erosion, soil degradation, and soil pollution, and promotes the conservation and sustainable use of soil resources. Overall, studying Soil Geography helps us comprehend the importance of soil in supporting life and the need to manage and conserve soil resources.

4. GENERAL OBJECTIVES OF THE COURSE

1. To familiarize the students with 'Soil Geography as branch of Physical Geography', including its definition, nature, scope, history, and significance.
2. Enable students to comprehend the factors that influence soil formation.

3. Equip students with knowledge of the physical and chemical properties of soils, such as morphology, texture, structure, water, air, temperature, PH, organic matter, and NPK.
4. Enable students to understand the genetic classification of soils and the distribution of major soils in Maharashtra.
5. Help students to understand soil degradation, its causes, consequences and measures to prevent it.
6. Provide students with practical knowledge of soil profile, soil sample tools, pH analysis.

5. COURSE OUTCOMES

CO1: Relating to Knowledge

I. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Soil Geography, as well as its history and pedology.
II. Students will be able to explain the significance of Soil Geography in various fields, including agriculture, ecology, land use planning, and environmental management.
III. Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

CO2: Understanding and application

I. Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.
II. Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.
III. Students will be able to identify and classify soils based on their genetic characteristics and distribution.

CO3: Students Skills

I. By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.
II. Students will have gained practical knowledge of pH and NPK soil analysis.
III. Students will be able to use GIS for studying soil ecology and planning.
IV. Student will start up soil test laboratory.

CO4: Students Evaluation

I. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.

II. Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.

III. Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

6. DURATION

The duration of the B.A./B.Sc. Geography Program shall extend over 6/8 semesters (three/four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

7. PATTERN:

Pattern of Examination will be Semester.

8. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tuition Fee & Laboratory Fee, if any.)

9. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi (as applicable to the course / programme concerned).

11. STRUCTURE OF COURSE - 50 MARKS (40 + 10)

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus)

SEMESTER THIRD

Paper No. III	Title Marks
D 19 (DSC), Soil Geography	50

12. SCHEME OF TEACHING

The scheme of teaching and examination should be given as applicable to the course / paper concerned(Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Practical	Total
1	Soil Geography	04	04	-	04	50	-	50

13. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks for 'Group Activity'.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.

14. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme. Separate passing marks required in examinations. The minimum 14 out of 40 marks required in University examination and internal (Group Activity) 04 out of 10 marks.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers (10)

A or B

Q. 4: Write detail answers (10)

A or B

Internal Evaluation 10 Mark

B.A. Part-II, Semester-III - 'Group Activity'.

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New Course/paper	New Course/Paper No.
1	Soil Geography	III	Soil Geography	D 19

17. SPECIAL INSTRUCTIONS, IF ANY:

1. Field visit is necessary for module 5 to draw a soil profile.
2. The practical of module 5 is must be on the basis soil meter and NPK soil test kit.

NEW/REVISED SYLLABUS FOR

B. A.Part-II / B. A. B. Ed.

(Introduced from June, 2023 onwards)

DSC – D 19 (Course / Paper No. III)

Geography (Soil Geography)

Semester -III

Module	Teaching Hours	Credits
Module I: Basics of Soil Geography	10	0.75
1.1 Definition, Nature and Scope of Soil Geography		
1.2History of Soil Geography and Pedology		
1.3 Significance of Soil Geography		
Module II: Soils: Formation and Properties	16	01
2.1 Jenny's Factorial Model of Soil Formation: Parent Material, Biotic, Climatic, Relief and Time factor.		
2.2 Process of Soil Formation: Physical, Biotic and Chemical.		
2.3 Physical Properties of Soils: Morphology, Texture, Structure, Water, Air and Temperature.		
2.4Chemical Properties of Soils: pH, Organic Matter, NPK (Nitrogen, Phosphorous and Potassium).		
Module III: Soils: Classifications and Distribution	16	01
3.1 Genetic Classification of Soils		
3.2 Soil Characteristics and Major Soils Distribution in Maharashtra		
3.3 Soil Degradation: Concept, Causes, Consequences and Measures		
Module IV: Soil Analysis	12	01
4.1 Soil Profile		
4.2 Soil Sample: Tools		
4.3 Soil Analysis: Saline and Alkaline		
4.4 Vermicomposting Process		
Module V: Practical	06	0.25
5.1 Draw Soil Profile of local area		
5.2 Calculate soil properties with soil meter: pH, light, moisture		

5.3 Calculate NPK soil properties of local area.

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SHIVAJI UNIVERSITY, KOLHAPUR.

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Revised Syllabus For

B. A. Part-II

Geography Paper-IV

CBCS PATTERN

Syllabus to be implemented from

NEP - 2020 PATTERN

June, 2023 onwards.

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with

Learning Outcomes-Based Curriculum Framework (LOCF)

of National Education Policy (NEP) 2020

for B. A. / B. A. B. Ed. Semester III Geography Degree (Basic/Honors)

w.e.f. June, 2023 onwards.

A] **Ordinance and Regulations: -**

(As applicable to degree/program)

B] **Shivaji University, Kolhapur**

New/Revised Syllabus for **Bachelor of -Arts.**

1. TITLE: RESOURCE GEOGRAPHY Code: DSE 20

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. **YEAR OF IMPLEMENTATION**: New/Revised Syllabi will be implemented from June, 2023onwards.

3. PREAMBLE: -

Resource Geography is a major developing branch of Economic Geography. All countries in the world should try to make overall development with sustainable utilization of resources. Since, the growing population exerts its pressure on present resources which generates various problems in front of countryside. The present syllabus of this paper helps to inculcate moral values and environmental sustainability of resources. It also includes major resources such as water, forest, energy and human resources with its distribution, utilization and problems at world level and with special reference India.

This paper (Resource Geography) will be helpful to the students of B. A. part-II to think over the problems of resources for their and next generations future.

4. GENERAL OBJECTIVES OF THE COURSE:

1. To familiarize the students with 'Resource Geography' as a branch of Economic Geography, by understanding its definitions, scope.
2. To make students understand the concept and classification of Resources.
3. Enable students to comprehend the worldwide major resources(water, forest, energy and human) with their distribution, utilization and problems.
4. To make students learn the major resources and its management in India (water, forest, energy and human) with their distribution, utilization and problems.
5. Equip students with knowledge of the Sustainable Natural and Human Resource Development and its management at national as well as international level.
6. The course also aims to familiarize the students with cartographic techniques.

5. COURSE OUTCOMES

CO1: Relating to Knowledge

II. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Resource Geography.

III. Students will be able to explain the significance of Resource Geography in various fields, including agriculture, industry, transportation, and environmental management.

IV. Students will have a thorough understanding aboutthe distribution, utilization and problemsof worldwide major resources.

CO2: Understanding and application

III. Students will be able to comprehendthe sustainable resource development

IV. Students will be able to apply the knowledge of resource geography in real-world scenarios, such as management and conservation of resources.

V. Students will be able to the classify of resources based on their characteristics and their worldwide distribution.

VI. By the end of the course, Students will have gained knowledge of worldwide resource availability, its problems like scarcity, pollution etc. and will be able to imply measures to overcome these problems.

CO3: Students Skills

II. Students will be able to understand for the need of sustainable resource development and skills of resource management.

III. Student will be able to develop the cartographic skills.

CO4: Students Evaluation

II. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Resource Geography.

III. Students will be evaluated based on their ability to apply their knowledge of problems of resource availability, its management and sustainable resource development in practical scenarios.

IV. Students will be evaluated on their practical skills related to cartographic skills.

6. DURATION:

The duration of the B.A./B.Sc. Geography Program shall extend over 6/8 semesters (three/four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester

7. PATTERN:

Pattern of Examination will be Semester.

8. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure toBOS office. (i. e. Tuition Fee & Laboratory Fee, if any.]

9. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course / Programme concerned.)

11. STRUCTURE OF COURSE = 50 MARKS (40 + 10)

(Note –The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER THIRD

Paper No. IV	Title	Marks
DSC – D 20	Resource Geography	50

12. SCHEME OF TEACHING:

The scheme of teaching and examination should be given as applicable to the course / paper concerned (Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				**Examination Scheme Sr. (Marks)**		
		L	T	P	Total	Theory	Practical	Total
1	Resource Geography	04	04	-	04	50	-	50

13. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks for 'Group Activity'.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.

14. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / Programme. Separate passing marks required in examinations. The minimum 14 out of 40 marks required in University examination and internal (Group Activity) 04 out of 10 marks.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)
Q. 2: Write short notes (any three) (15)
Q. 3: Write detail answers (10)
A or B
Q. 4: Write detail answers (10)
A or B

Internal Evaluation 10 Mark

B. A. Part-II, Semester-III - 'Group Activity'

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New Course/paper	New Course/Paper No.
1	Resource Geography	IV	Resource Geography	DSC – D 20

17. SPECIAL INSTRUCTIONS, IF ANY –

Field visit is necessary for conducting resource survey of local area.

NEW/REVISED SYLLABUS FOR

B. A.Part-II / B. A. B. Ed.

(Introduced from June, 2023 onwards)

DSC – D 20 (Paper No. IV)

Geography (Resource Geography)

Semester – III

Module	Teaching Hours	Credits
Module I: Introduction to Resource Geography	**10 Lectures**	**0.75**
1.1 Definition and Scope of Resource Geography		
1.2 Resource: Concept and Classification		
1.3 Importance of Resource Geography		
Module II: Major Resources	**15 Lectures**	**01**
2.1 Water Resources: Distribution, Utilization and Problems		
2.2 Forest Resources: Distribution, Utilization and Problems		
2.3 Energy Resources: Distribution, Utilization and Problems		
2.4 Human Resources: Distribution, Utilization and Problems		
Module III: Sustainable Resource Development	**15 Lectures**	**01**
3.1 Concept of Sustainable Resource Development		
3.2 Sustainable Natural Resource Development: Water, Forest and Energy		
3.3 Sustainable Human Resource Development		
Module IV:Sustainable Resource Development in India	**12 Lectures**	**01**
4.1 Need of Sustainable Resource Development in India		
4.2 Management for Sustainable Natural Resource Development: Water, Forest and Energy		
4.3 Management for Sustainable Human Resource Development		
Module V: Practical (Theory Only)	**08 Lectures**	**0.25**
4.1 Proportional Circle		
4.2 Choropleth Map		

4.3 Dot Map

4.4 Isopleth Map

References :

1. Cutter S. N., Renwich H. L., and Renwick W., (1991): Exploitation, Coservation, Preservation: A Geographical Perspective on Natural Resources Use, John Wiley and Sons, New York.
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SHIVAJI UNIVERSITY, KOLHAPUR.

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Revised Syllabus For

B. A. Part-II

Geography Course / Paper-V

CBCS PATTERN

Syllabus to be implemented from

NEP - 2020 PATTERN

June, 2023 onwards.

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with Learning Outcomes-Based Curriculum Framework (LOCF) of National Education Policy (NEP) 2020

for B. A. / B. A. B. Ed. Semester III Geography Degree (Basic/Honors)

w.e.f. June, 2023 onwards.

A] **Ordinance and Regulations:- (As applicable to degree/program)**

B**] Shivaji University, Kolhapur**

New/Revised Syllabus For **Bachelor of—Arts**.

1. TITLE: Subject – OCEANOGRAPHY Code: DSE 47

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. YEAR OF IMPLEMENTATION: -

New/Revised Syllabi will be implemented from June 2023 onwards.

3. PREAMBLE: -

Oceanography is the most important branch of Physical Geography has been introduced to B.A. Part II. The subject focused on 71% part of earth surface, covered by the ocean and sea. Ocean is reservoir of resources that fulfils the need of living beings. Marine is the key resource for the development of any country. Keeping in this in mind, this course the fundamental concepts and knowledge of oceanography have been included. The present syllabus of this course includes definition nature, scope, history and significance of Oceanography and its relevance to the earth and atmospheric sciences; properties and dynamics of oceanic water, Oceanic currents and their influence and applied oceanography.

4. GENERAL OBJECTIVES OF THE COURSE/ PAPER

i) Students should know Oceanography is a fundamental branch of Physical Geography.

ii) Students will understand the basic and fundamental concepts of oceanography.

iii) Students should know about the physical and chemical properties of oceans.

iv) Students should know the types of oceanic currents

v) Students should know the ocean as food storages as well as storehouse of resources for the future.

vi) With this study of man and ocean students know the impact of man on oceans.

vii) With this study, students will understand marine is key resource for the development of any country.

viii) Students should know hypsographic curve, wind rose, isohaline and isotherms.

5. COURSE OUTCOMES

CO1. Relating to Knowledge:

I. Students will define the nature and scope of oceanography and its connection to physical sciences.

II. Students will identify branches of oceanography and their areas of focus.

III. Students will describe the factors affecting oceanic temperature, salinity, and distribution.

IV. Students will recognize the types of oceanic currents and their origins in different oceans.

V. Students will understand the sources, classification, and significance of oceanic deposits.

VI. Students will explain the role of the ocean as a source of food and potential future resources.

CO2. Understanding and Application:

I. Students will apply knowledge of oceanographic principles to illustrate the maps of ocean and NOAA CDR/ NESDIS sea surface temperature, Annual mean of the sea surface salinity distribution.

II. Students will apply knowledge of causes, effects of ocean pollution and propose solutions.

III. Students will utilize scientific reasoning to understand the relationships between ocean water properties and climate change.

IV. Students will be able to distinguish the various marine movements.

V. Students will apply theoretical knowledge to practical exercises, such as interpreting hypsographic curves, wind roses, isohalines, and isotherms.

CO3. Student Skills:

I. Develop critical thinking skills through the analysis and evaluation of oceanographic concepts.

II. Enhance problem-solving abilities by applying oceanographic principles to real-world situations and to demonstrate the ocean currents.

III. Develop effective communication skills through oral and written presentations of oceanographic topics.

CO4. Student Evaluation:

I. Assess student knowledge and understanding through quizzes, exams, and assignments.

II. Assess the development of critical thinking and problem-solving skills through case studies.

III. Evaluate the effectiveness of student communication skills through oral examination.

6. DURATION

The duration of the B.A./B.Sc. Geography Program shall extend over 6/8 semesters (three/four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

7. PATTERN:-

Pattern of Examination will be Semester.

8. FEE STRUCTURE :-

As per Government /University rules

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tution Fee & Laboratory Fee, if any.]

9. ELIGIBILITY FOR ADMISSION:-

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying (i.e. Entrance Examination) examination, if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the Course / programme concerned.)

11. STRUCTURE OF COURSE= 50 MARKS (40+10)

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FORTH

Paper No. V	Title Marks
D 47 (DSC), Oceanography	50

12. SCHEME OF TEACHING AND EXAMINATION:-

The scheme of teaching and examination should be given as applicable to the course / paper concerned (Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Term Work	Total
1	Oceanography	04	04	-	04	40	10	50

13. SCHEME OF EXAMINATION:-

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks for 'Case study / Oral Examination'.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.

14. STANDARD OF PASSING:-

As per Prescribed rules and regulation for each degree / programme. Separate passing marks required in examinations. The minimum 14 out of 40 marks required in University examination and internal (Group Activity) 04 out of 10 marks.

15. NATURE OF QUESTION PAPER

Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers (10)

A or B

Q. 4: Write detail answers (10)

A or B

Internal Evaluation 10 Mark

B.A.-II Semester-IV – Case Study/ Oral examination

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS - (FOR REVISED SYLLABUS)

Sr. No.	Title of Old paper	Old Paper No.	Title of New Paper	New Paper No.
1.	Oceanography	V	Oceanography	V

17. SPECIAL INSTRUCTIONS, IF ANY:

1. Field visit is necessary for performing case study of coastal area.
2. The practical of Isohalines and Isotherms in module 5 is must be carried out with NOAA data.

NEW/REVISED SYLLABUS FOR

B. A. Part-II / B. A. B. Ed.

(Introduced from June, 2023 onwards)

DSC – D 47 (Course / Paper No. IV)

Geography (Oceanography)

Semester –IV

Module	Teaching Hours	Credit
Module I : Introduction to Oceanography	**12**	**0.75**
1.1 Definition, Nature and Scope of Oceanography		
1.2 Oceanography and Physical Sciences		
1.3 Branches of Oceanography		
1.4 Significance of Oceanography		
Module II: Properties and Dynamics of Ocean	**15**	**01**
2.1 Oceanic Temperature: Factors affecting on ocean temperature and Distribution of oceanic temperature		
2.2 Salinity of Ocean: Factors affecting on Oceanic salinity and Horizontal distribution of oceanic salinity		
2.3 Oceanic Currents: Types of Oceanic currents, Responsible factors for Origin of ocean currents and Ocean currents of the Pacific, Atlantic and Indian Ocean		
Module III: Applied Oceanography	**13**	**01**
3.1 Ocean or Marine deposits: Sources and Classification		
3.2 Ocean Resources – Biotic- Mineral and Energy Resources		
3.3 Ocean as sources of food and as storehouse of resources for the future		
Module IV: Man and Oceans	**12**	**01**
4.1 Manipulation of costal process		
4.2 Ocean Pollution – Causes, Effects and Measures		
4.3 Overfishing and fishery management		
Module V: Practical's (Theory Only)	**08**	**0.25**

5.1 Hypsographic Curve

5.2 Wind rose

5.3 Isohalines

5.4 Isotherms

References:

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15. Ummerkutty, A.N.P.(1985) Science of the Oceans and Human life, NBT, New Delhi .
16. Denny, M.(200) How the Ocean works : An introduction to Oceanography, Princeton University Press, New Jersey

17 Thurman, H. B.:Introductory Oceanography, Charles Webber E. Merril publishing

18 Weisberg J. and Howard: Introductory Oceanography, McGraw- Hill Book, New York.

19प्रा .देशमुख ,सावरकर ,भेंडकर) २००५ : (हवामानशास्त्र व सागरशास्त्र ,विद्याप्रकाशन ,नागपूर

20 पाध्ये अशोक नवी दिल्ली ,नॅशनल बुक ट्रष्ट इंडिया ,सागर विज्ञान : (१९९८)

21 घारपुरेपब्लीशर्स .पिंपळापुरे अँड कं ,सागर विज्ञान : (१९९८) पवार ,, नागपूर

22 सवदी पुणे ,निराली प्रकाशन ,हवामानशास्त्र व सागरशास्त्र : (२००४) कोळेकर ,

23 श्री सातारा ,रावली पब्लिकेशन ,प्राकृतिक भूगोल : (१९७०) दाते .दाते व सौ .

24. **जाधव बी**. **एस**., **जाधव के**. **आर**., पाटील **ए**. **बी**., (**२०१४**): सागरशास्त्र इस्लामपूर ,नाग नालंदा प्रकाशन ,

25. कोलते. पुराणिक कुबडे : (१९९०)हवामानशास्त्र व सागर विज्ञाननागप ,विद्याप्रकाशन ,ूर

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with

Learning Outcomes-Based Curriculum Framework (LOCF)

of National Education Policy (NEP) 2020

for B. A. / B. A. B. Ed./ B.Sc. Semester IV Geography Degree (Basic/Honours)

w.e.f. June, 2023 onwards.

A] **Ordinance and Regulations:-**

(As applicable to degree/program)

B] **Shivaji University, Kolhapur**

New/Revised Syllabus For Bachelor of -Arts.

1. TITLE: AGRICULTURE GEOGRAPHY **Code:** DSC D48

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. YEAR OF IMPLEMENTATION: New/Revised Syllabi will be implemented from June, 2023 onwards.

3. PREAMBLE:

Agricultural Geography is an interdisciplinary field of study that combines the principles of geography, agriculture, and ecology to understand the spatial and temporal variations in agricultural systems, their management, and the relationships between agriculture and the environment. This course aims to provide students with an in-depth understanding of the fundamental concepts of agricultural geography, including the evolution of agriculture, major agricultural systems, land-use theories, regionalization, problems, and modern concepts in agriculture. Additionally, the course will cover topics related to food, nutrition, and health, including distribution patterns of food and nutrition, the causes and spatial patterns of hunger, and eradicating hunger. The practical component of this course will focus on developing students' skills in interpreting and presenting agricultural data using various graphical and mapping techniques. This course is designed to equip students with the necessary knowledge and skills to analyze and interpret the spatial patterns and processes of agricultural systems and their relationship to the broader society and environment.

Course Objectives:

1. To understand the nature, scope, and significance of agriculture geography as a discipline and interdisciplinary nature.
2. To explore the historical evolution of agriculture and to identify and evaluate the physical and human determinants that influence agricultural activities.
3. To examine and compare the major agricultural systems
4. To analyze Von Thunen's Theory of Agricultural land-use for its applicability in explaining the spatial organization and patterns of agricultural activities.
5. To study the agricultural regionalization, focusing on crop combination and crop diversification, and understand their implications for agricultural productivity and regional development
6. To study the distribution patterns of food and nutrition, analyze the causes and spatial patterns of hunger.
7. To develop practical skills in interpreting and creating line and bar graphs, divided circles, and proportional squares to represent and analyze agricultural data and its spatial patterns.

Course Outcomes:

PO1: Relating to Knowledge

I. By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Agriculture Geography, as well as evolution of agriculture over different periods in history and its impact on society.

II. Students will be able to explain the significance of Agricultural Geography in various fields, including agriculture, ecology, land use planning, and environmental management.

IV. Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

PO2: Understanding and application

II. Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.

VII. Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.

IV. Students will be able to identify and classify soils based on their genetic characteristics and distribution.

PO3: Students Skills

IV. By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.

III. Students will have gained practical knowledge of pH and NPK soil analysis.

IV. Students will be able to use GIS for studying soil ecology and planning.

V. Student will start up soil test laboratory.

PO4: Students Evaluation

V. Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.

III. Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.

IV. Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

Upon completion of this course, students will be able to:

1. Explain the nature, scope and significance of agricultural geography and its relationship with other disciplines.
2. Analyze the evolution of agriculture over different periods in history and its impact on society.
3. Identify the physical and human factors that determine agricultural practices and land-use patterns in different regions of the world.
4. Evaluate the major agricultural systems and their suitability in different ecological and socio-economic conditions.
5. Analyze Von Thunen's theory of agricultural land-use and its relevance in modern times.
6. Understand agricultural regionalization and its implications for crop diversification and production.
7. Identify and evaluate the major physical and socio-economic problems affecting agriculture and food security in different regions of the world.
8. Analyze the impact of modern concepts in agriculture, such as the green revolution and organic farming.
9. Understand the distribution pattern of food and nutrition globally and its relationship with hunger and malnutrition.
10. Identify the causes and spatial pattern of hunger and evaluate strategies for its eradication.
11. Understand the relationship between nutrition and health and analyze the major challenges and opportunities for improving nutritional outcomes globally.
12. Apply basic cartographic skills to represent and analyze agricultural data using line and bar graphs, divided circle, proportional square, and choropleth maps.

6. DURATION

The duration of the B.A./B.Sc. Geography Program shall extend over 8 semesters (four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

8. PATTERN:

Pattern of Examination will be Semester.

8. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tuition Fee & Laboratory Fee, if any.)

9. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi (as applicable to the course / programme concerned).

11. STRUCTURE OF COURSE - 50 MARKS (40 + 10)

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus)

SEMESTER FOURTH

Paper No.	Title	Marks
D 48 (DSC),	Agriculture Geography	50

12. SCHEME OF TEACHING

The scheme of teaching and examination should be given as applicable to the course / paper concerned (Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Practical	Total
1	Agriculture Geography	04	04	-	04	50	10	50

13. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks for 'Group Activity'.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.

14. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme. Separate passing marks required in examinations. The minimum 14 out of 40 marks required in University examination and internal (Group Activity) 04 out of 10 marks.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers (10)

Q. 4: Write detail answers (10)

Internal Evaluation 10 Mark

B. A. Part-II, Semester-III – Field Visit / Project Report / Group Activity.

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF

Sr. No.	Title of Old Paper	Old paper No.	Title of New Course/paper	New Course/Paper No.
1	Agriculture Geography	VI	Agriculture Geography	VI / D 48

17. SPECIAL INSTRUCTIONS, IF ANY: Nil

NEW/REVISED SYLLABUS FOR

B. A. Part-II / B. A. B. Ed.

(Introduced from June, 2023 onwards)

DSC – D 48 (Course / Paper No. VI)

Geography (Agriculture Geography)

Semester -IV

Module	Teaching Hours	Credits
Module I: Introduction to Agricultural Geography 1.1 Definition, Nature, Scope and Significance of Agricultural Geography 1.2 Evolution of agriculture: Ancient, Medieval and Modern Period 1.3 Determinants of Agriculture: Physical and Human (economic, social, cultural, political and administrative)	10	0.75
Module II: Agriculture: Systems and Land-use Theory 2.1 Major Agricultural Systems: Nomadic Herding, Livestock	15	1

Ranching, Shifting Cultivation, Intensive Subsistence Farming, Commercial Farming and Horticulture 2.1 Von Thunen's Theory of Agricultural land-use		
Module III: Regionalization, Problems and Modern Concepts in Agriculture 3.1 Agricultural Regionalization (Crop Combination and Crop Diversification) 3.2 Agricultural Problems: Physical and Socio-economical (Economic, Social, Cultural, Political and Administrative) 3.3 Modern Concepts in Agriculture: Green revolution and Organic Farming	15	1
Module IV: Food, Nutrition and Health 4.1 Distribution pattern of Food and Nutrition 4.2 Causes and Spatial Pattern of Hunger 4.3 Eradication of Hunger 4.4 Nutrition and Health	10	1
Module V: Practical (Theory Only) 5.1 Line and Bar Graphs 5.2 Divided Circle 5.3 Proportional Square 5.4 Choropleth Map	10	0.25

Reference Books:

1. Basu, D.N., and Guha, G.S., 1996: Agro-Climatic Regional Planning in India, Vol.I & II, Concept Publication, New Delhi.
2. Bryant, C.R., Johnston, T.R, 1992: Agriculture in the City Countryside, Belhaven Press, London.
3. Burger, A., 1994: Agriculture of the World, Aldershot, Avebury.
4. Grigg, D.B., 1984: Introduction to Agricultural Geography, Hutchinson, London.
5. Ilbery B. W., 1985: Agricultural Geography: A Social and Economic Analysis, Oxford University Press.
6. Mohammad, N., 1992: New Dimension in Agriculture Geography, Vol. I to VIII, Concept Pub., New Delhi.
7. Roling, N.G., and Wageruters, M.A.E.,(ed.) 1998: Facilitating Sustainable Agriculture, Cambridge University Press, Cambridge.
8. Shafi, M., 2006: Agricultural Geography, Doring Kindersley India Pvt. Ltd., New Delhi
9. Singh, J., and Dhillon, S.S., 1984: Agricultural Geography, Tata McGraw Hill, New Delhi.
10. Tarrant J. R., 1973: Agricultural Geography, David and Charles, Devon.
11. Husain, M., 2021: Agricultural Geography, Rawat Publications, Jaipur
12. Gautam, A.,2021: Agricultural Geography, Sharda Pusatak bhavan, Allahabad

Reference Websites:

https://agricoop.nic.in/en

https://www.india.gov.in/topics/agriculture

https://desagri.gov.in/document-report/agricultural-statistics-at-a-glance-2021/

https://sites.google.com/view/egeography/sem-4/paper-6?authuser=1

Suggested equivalent online courses:

https://onlinecourses.nptel.ac.in/noc23_ag08/preview

https://onlinecourses.swayam2.ac.in/cec23_hs10/preview

https://www.udemy.com/course/modern-farming-techniques/

SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade

B. A. Part - II GEOGRAPHY

(Syllabus to be implemented from June, 2023 onwards)

GENERAL ELECTIVE / INTER DISCIPLINARY STUDIES

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS
as per the Choice Based Credit System (CBCS) designed in accordance with Learning Outcomes-Based Curriculum Framework (LOCF)

of National Education Policy (NEP) 2020
for B. A. / B. A. B. Ed./ B.Sc. Geography Degree (Basic/Honours)
w.e.f. **June, 2023 onwards.**
GE / IDS Course / Paper – I & II

Semester – III and IV

1.TITLE : Subject – CARTOGRAPHY (GE / IDS)

Optional under the Faculty of Science

2. YEAR OF IMPLEMENTATION:-

Revised Syllabus will be implemented from June 2023 onwards.

3. PREAMBLE:-

Cartography is the most important part of Geography. The present syllabus of this paper includes nature, scope, historical development and importance of cartography, study of maps and their types, map projections, surveying, S.O.I. Topomaps, and introduction to modern techniques like computer, G.I.S., G.P.S. etc. In the process of development of science and technology, the changing nature of subject will make aware to the students about the modern technologies used in cartography. This will further help to improve the use of cartographic techniques and methods in teaching-learning and research work.

4. GENERAL OBJECTIVES OF THE COURSE/ PAPER :

1) To introduce the students with the importance of cartography.

2) To enable the students to understand map, concept of projection and concept of scale.

3) To give basic information to the students about S.O.I. topo maps.

4) To familiarize the students with the concept of surveying and different cartographic techniques and methods used for representation of demographic and physiosocio-economic database.

5) To aware the students with the modern technology like computer, GIS, GPS etc and their advantages over conventional cartography.

5. COURSE OUTCOMES

1. Students will be able to understand the basic concepts in Cartography.
2. Students will be able to understand the surveying techniques.
3. Students understand different cartographic techniques.
4. Students understand modern technology used in cartography.
5. Students understand the concept of GIS and GPS.

6. **DURATION**

- The course shall be a full time course
- The duration of course shall be of one year (Two semesters, Sem. – III & IV)

7**. PATTERN:** Pattern of Examination will be Semester

8. **FEE STRUCTURE:** As per the Shivaji University rules ; and as applicable to regulari)

9. **ELIGIBILITY FOR ADMISSION:** As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

10. **MEDIUM OF INSTRUCTION:**

The medium of instruction shall be in English or Marathi. (as applicable to the course/programme concerned.)

11. **STRUCTURE OF COURSE- --- 50 Marks**

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SECOND YEAR B. A. ----- (NO. OF PAPERS ~~FOUR~~)

SEMESTER THIRD

Paper No.	Title	Marks
IDS I	Cartography-I	50

SEMESTER FOURTH

Paper No.	Title	Marks
IDS II	Cartography-II	50

12. SCHEME OF TEACHING AND EXAMINATION

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

SECOND YEAR

Scheme of Teaching and Examination

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				Examination Scheme (Marks)		
		L	T	P	Total	Theory	Term Work	Total
1	Cartography - I	**04**	**04**	**00**	**04**	**40**	**10**	**50**
2	Cartography - II	**04**	**04**	**00**	**04**	**40**	**10**	**50**

13. **SCHEME OF EXAMINATION**:-

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course)
- The Theory paper shall carry internal 10 marks (as applicable to the course)
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

14. **STANDARD OF PASSING**:-

As Prescribed under rules & regulation for each degree/programme.

15. **NATURE OF QUESTION PAPER AND SCHEME OF MARKING** :

(Unit-wise weightage of marks should also be mentioned)

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (Any three out of five) (15)

Q. 3: Descriptive Question (10)

A or B

Q. 4: Descriptive Question (10)

A or B

Internal Evaluation (10 Mark)

B.A.-II Semester-III - Home Assignment / Unit Test / Practical / Case Study

B.A.-II Semester-IV – Home Assignment / Unit Test / Practical / Case Study

16. **EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS-**

(FOR REVISED SYLLABUS)

No.	Class	Sem.	Old Title	Title of New Paper
1	B.A. II	III	Cartography Course I	Cartography I
2	B.A. II	IV	Cartography Course II	Cartography II

17. SPECIAL INSTRUCTIONS , IF ANY. ---

NEW/REVISED NEP PATTERN SYLLABUS FOR

B.A. (Part II) Geography (GE / IDS)

(Introduced from June 2023 onwards)

Semester – III

(i) GE / IDS - I

(ii) Title of Paper: **Cartography-I**

Module		Teaching Hours	Credits
Module – I	**Introduction to Cartography**	**11**	**0.75**

1.1 Meaning and Definitions of Cartography

1.2 Nature and Scope of Cartography

1.3 Branches of Cartography

1.4 Importance of Cartography

Module – II	**Representation of the Earth's Surface**	**13**	**01**

2.1 Globe and System of Coordinates

2.2 Map: Definition, Elements and Methods of expression of scale of map

2.3 Types of maps by scale and purpose

2.4 Information on map – Liner, Areal, Symbolic & Written Information

Module –III	**Map Projection**	**13**	**01**

3.1 Definition and Necessity of Map Projection

3.2 Classification of Map Projections according to the Methods of Construction

3.3 Mercator's Projections: Properties and Uses

3.4 Choice of Map Projection

Module – IV	**Geodetic and Plane Surveying**	**13**	**01**

4.1 Definition, Meaning and Objectives of Survey

4.2 Types of survey

4.3 Plane Table Survey – Equipment and Procedure

4.4 Digital Laser Distance Meter – Survey Procedure

Module – V Computer Cartography 10 0.25

5.1 Introduction to Computer: Definition, Types and Input output Devices

5.2 Application of Computer in Cartography

NEW/REVISED NEP PATTERN SYLLABUS FOR

B. A. Part II Geography (GE / IDS)

(Introduced from June 2023 onwards)

Semester – IV

(i) **GE / IDS**– II

(ii) Title of Paper : **Cartography –II**

Modules	Teaching Hours	Credits
Module – I Methods of Representation of Data by Graphs And Diagrams	**11**	**0.75**
1.1 Line Graphs		
1.2 Bar Graphs		
1.3 Pie Diagram		
Module – II Methods of Representation of Data by Distributional Maps	**13**	**01**

2.1 Choropleth Method

2.2 Isopleth Method

2.3 Dot Method

2.4 Flow Maps

Module -III Introduction to Topographical Maps 13 01

3.1 Topographical Maps: Definition, Marginal Information

3.2 S.O.I. Topographical Maps : Conventional Signs & Symbols and Colours used.

3.3 Methods of Representation of relief in S.O.I. Topographical Maps

3.4 Types of Slopes by Contours

Module – IV Introduction to Geographical Information System and Global Positioning System 13 01

4.1 Geographical Information System: Definition, Elements and Functions

4.2 Application of Geographical Information System

4.3 Global Positioning System: Introduction, Definition and Segments

4.4 Application of Global Positioning System

Module – V Practical 10 0.25

5.1 Application of GPS in Cartography with exercise

5.2 Field work of GPS: Determining latitude, longitude and altitude

References:

1. Bygoot, J. : An Introduction to Mapwork and Practical Geography. University Tutorial, London, 1964

2. Kanetkar, T.P. and Kulkarni S.V.: Surveying and Levelling (Part I & II.) A.V.G. Prakashan, Poona, 1965.

3. Mishra R.P and Ramesh A. : Fundamentals of Cartography. Concept Publ. Com., New Delhi, 2000.

4. Monkhose, F. J. and Wilkinson, H. R.: Maps and Diadgrams. Mathuen, London, 1971.

5. Raisz, E.: Principals of Cartography. McGraw Hill Book Com., Inc, New York 1962.

6. Robinson, A.H. and Sale, R. D.: Elements of Cartography. John Wiley and Sons, Inc, New York 1969

7. Sarkar, A.K. : Practical Geography : A Systematic Approach. Oriental Longman, Calcutta, 1997.

8. Singh, L.R. and Singh, R.: Mapwork and Practical Geography. Allahabad, 1973.

9. अहिरराव, डी. वाय. व करंजखेले, के. प्रात्यक्षिक भूगोल, सुदर्शन, नाशिक 2002

10. गाताडे डी. जी. व अडवितोट, एस. सी. प्रात्यक्षिक भूगोल, अक्षरलेण प्रकाशन, सोलापूर, 2008

11. कुंभार, अर्जुन : प्रात्यक्षिक भूगोल, सुमेरून प्रकाशन, डोंबिवली पूर्व, 1994

12. शिंदे, एस. बी. : नकाशाशास्त्र, प्रात्यक्षिक भूगोल, फडके प्रकाशन, कोल्हापूर, 2002

13. Cartography – Distance Education Department, Shivaji University, Kolhapur, 2021.

NOTE :

i) The details of field work, seminar, Group Discussion and Oral examination be given wherever necessary.

ii) General/Specific instructions for Laboratory safety should be given wherever necessary.

SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade

NEP-2020

Syllabus For

B. A. Part – II
Geography (GENERIC ELECTIVE)
NEP - 2020 PATTERN

(Syllabus to be implemented from June, 2023 onwards)

Shivaji University, Kolhapur
PROGRAM /COURSE STRUCTURE and SYLLABUS
as per the Choice Based Credit System (CBCS) designed in accordance with
Learning Outcomes-Based Curriculum Framework (LOCF)
of National Education Policy (NEP) 2020
for B. A. / B. A. B. Ed./ B.Sc. Geography Degree (Basic/Honours)
w.e.f. June, 2023 onwards.
GE / IDS Course / Paper – I & II
Semester – III and IV

A] **Ordinance and Regulations:-**
(As applicable to degree/program)
B] **Shivaji University, Kolhapur**
New/Revised Syllabus For Bachelor of -Arts.
1. TITLE: RESOURCE GEOGRAPHY OF MAHARASHTRA **Code:** GE- I and II

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. YEAR OF IMPLEMENTATION: New/Revised Syllabi will be implemented from June, 2023 onwards.

3. PREAMBLE

The Maharashtra is one of the leading states of our country India due to the availability of both physical and non-physical resources. But in current era more and more pressure exert on physical resources and it reflects through not only from environmental issues but also integrated development of state. Considering this fact entire syllabus focuses on regional approach towards the location, physiography, climate, drainage, mineral, power, water, soils, forest, animals, and human resources in the Maharashtra and its sustainable development with resource management. The course itself creates various skills regarding the resources and regional development through participatory and applicability. The subject has been introduced to B. A. Part-II is crucial in various disciplines such as agriculture, ecology, land use planning, and environmental management, where understanding the spatial and temporal variability of resources for sustainable development of the Maharashtra.

4. GENERAL OBJECTIVES OF THE COURSE

1) To understand the regional approach of Maharashtra State in geographical sence
2) To examine use and misuse of various resource in Maharashtra and to analyze future prospects.
3) To study various methods and approaches of conservation and management of Natural resources in Maharashtra.
4) To understand the concept of sustainable and integrated resource and is application.
5) To analyze and examine local district resources of Maharashtra

6) To study the resource management for resources of Maharashtra

5. COURSE OUTCOMES

PO1: Relating to Knowledge

III. After the completion of course, students will be familiar with physical setup of the Maharashtra as well as its resources.

V. The students will be acquired optimum knowledge for resource inventory and spatio-temporal analysis of resources to predict its trends.

V. The course provides concrete platform to overcome environmental issues through its knowledge.

PO2: Understanding and application

III. The students will be realized the location, physiography, climate, drainage, soils, vegetation, mineral resources of Maharashtra.

VIII. The students will be able to prepare his/her own regional resource inventory structure.

VI. The students will be able to apply their knowledge for ecology, environmental management and regional as well as land use planning.

VII. The students will be able to apply their own ideas, methods and approaches of conservations of resources, resource management, and its sustainable development.

PO3: Students Skills

V. The students will have such skills to identify the spatio-temporal trends of resources.

IV. The students will have gained practical knowledge of data analysis.

V. The students will be able to represent resource distribution and its ecological and environmental relations.

VI. The student will be able to examine various resources.

PO4: Students Evaluation

VI. The students will be evaluated through written assignments, individual or group activity, project work and demonstrate their understanding of the course.

IV. The students will be evaluated based on their ability to apply their knowledge for resource inventory, analysis, management for sustainable development.

V. The students will be evaluated on their regularity, punctuality, practical skills related to resource conservation and approaches towards resource management.

6. DURATION

The duration of the B.A./ B. Sc. Geography Program shall extend over 8 semesters (four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

9. PATTERN:

Pattern of Examination will be Semester.

8. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tuition Fee & Laboratory Fee, if any.)

9. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi (as applicable to the course / programme concerned).

11. STRUCTURE OF COURSE - 50 MARKS (40 + 10)

(Note – The structure & title of course / papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus)

Semester - III

Paper No.	Title	Marks
GE – I	**Resource Geography of Maharashtra-I**	**50**

Semester - IV

Paper No.	Title	Marks
GE – II	**Resource Geography of Maharashtra-II**	**50**

12. SCHEME OF TEACHING AND EXAMINATION

The scheme of teaching and examination should be given as applicable to the course / paper concerned (Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Term work	Total
1	Resource Geography of Maharashtra Course - I	04	04	-	04	40	10	50
2	Resource Geography of Maharashtra Course - II	04	04	-	04	40	10	50

13. SCHEME OF EXAMINATION

- The examination shall be conducted at the end of each semester.
- The Theory paper shall carry 40 marks.
- The Theory paper shall carry internal 10 marks (as applicable to the course).
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

14. STANDARD OF PASSING:

As Prescribed under rules & regulation for each degree/programme.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING :-

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)
Q. 2: Write short notes (any three) (15)
Q. 3: Write detail answers (10)
A OR B
Q. 4: Write detail answers (10)
A OR B

Internal Evaluation 10 Mark

B.A.-II Semester-III - Home Assignment / Unit Test / Practical / Resource Inventory

B.A.-II Semester-IV – Home Assignment / Unit Test / Practical / Resource Survey

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS-(FORREVISED SYLLABUS)

Sr. No.	Title of Old Paper		Title of New Paper or Course	
1	Semester- III		Semester- III	
	Paper-I	Resource Geography of Maharashtra -I	Course -I	Resource Geography ofMaharashtra - I
	Semester- IV		Semester- IV	
	Paper-II	Resource Geography of Maharashtra - II	Course -II	Resource Geography ofMaharashtra - II

17. SPECIAL INSTRUCTIONS, IF ANY: Nil

NEW/REVISED CBCS PATTERN SYLLABUS FOR
B. A. / B. A. B. Ed. Part - II Geography GENERIC ELECTIVE (GE /IDS)
(Introduced from June, 2023 onwards)
Semester – III

(i) Course / Paper No. I
(ii) Title of Paper: **Resource Geography of Maharashtra-I**

Modules	Teaching Hours	Credits
Module – I: Introduction 1.1 Location of Maharashtra 1.2 Physiography 1.3 Climate 1.4 Drainage Pattern	**12**	**01**
Module – II: Resources 2.1 Definition and Classification of resources 2.2 Conservation and sustainable development of resources 2.3 Role of resources in regional development	**14**	**01**
Module – III: Mineral and power resources in Maharashtra 3.1 Manganese 3.2 Coal 3.3 Conventional Power Resources: Oil, Natural Gas, Hydroelectricity & Thermal power 3.4 Non- conventional Power Resource – Solar and Wind (Importance, Distribution and Production)	**14**	**01**
Module – IV: Water and Soil Resources in Maharashtra 4.1 Sources of irrigation and distribution 4.2 Water Management 4.3 Major soil types and their distribution 4.4 Need of conservation and sustainable development of soil resources.	**12**	**0.75**
Module – V Practical: Resource Inventory 5.1 Mineral Resources in Local District 5.2 Water Resources in Local District 5.3 Soil Resources in Local District	**08**	**0.25**

References:

1. B. Arunchalm, Regional Geography of Maharashtra
2. B.D. Nag Choudhary, "Inhoduction to Enviroment Management" Inter Prind Mehata House, New Delhi.

3. Brucu Mitchell “Geography and resources analysis” John willey and sons, New York.
4. C.D. Deshpande, “Geography of Maharashtra” National book Trust of India, New Delhi.
5. Cutler L, Renwick H.L. Exploitation conservation and preservation : A Geographical perspective and natural resource use, Rowmon and Allanhed, Towata.
6. Govt. of Maharashtra “Economic development of Maharashtra.” (Maharashtra Economic Development Council)
7. Karve “Maharashtra – Land and People
8. Dixit K.R., “Maharashtra in Maps”
9. Matthews O.P., “Water resources Geography and Laow, Scientific Publishers, Jodhapur.
10. Deshpande, S.H. “Economy of Maharashtra”
11. Resource Geography of Maharashtra (IDS) – Distance Education Department, Shivaji University, Kolhapur
12. खतीब के.ए., महाराष्ट्राचा भूगोल, मेहता पब्लिशिंग हाउस, पुणे
13. सावंत प्रकाश- महाराष्ट्राचा भूगोल, फडके प्रकाशन, कोल्हापूर
14. पाटील टी.पी. - महाराष्ट्राचा भूगोल
15. सवदी ए. बी., द मेगा स्टेट महाराष्ट्र, निराली प्रकाशन, पुणे
16. सवदी ए. बी., महाराष्ट्राचा भूगोल, निराली प्रकाशन, पुणे
17. देशपांडे च. धु., - महाराष्ट्राचा भूगोल अनुवादक मो.द. तावडे
18. दाते एस. पी. महाराष्ट्राचा साधनसंपती भूगोल, एन.बी. टी. नवी दिल्ली

NEW/REVISED CBCS PATTERN SYLLABUS FOR
B. A. / B. A. B. Ed. Part - II Geography GENERIC ELECTIVE (IDS)
(Introduced from June, 2023 onwards)

General Elective – II (IDS)
Semester – IV

(i) Course / Paper No. II
(ii) Title of Paper : Resource Geography of Maharashtra-II

Modules	**Teaching Hours**	**Credits**
Module – I Forest Resources in Maharashtra	**12**	**01**
1.1 Importance of forest resources		
1.2 Types and Distribution of forest		
1.3 Deforestation causes and effects		
1.4 Conservation of forest resource		
Module – II Animal Husbandry and Fisheries in Maharashtra	**14**	**01**
2.1 Types of animals and their distribution		
2.2 Animals production (milk, meet, skin, hide, wool, eggs)		
2.3 Conservation of Animals		
2.4 Types of fisheries and their distribution		
2.5 Conservation of fisheries		
Module – III Human resource in Maharashtra	**14**	**01**
3.1 Man as a resource		
3.2 Growth of population		
3.3 Distribution of population		
3.4 Composition of population		
3.5 Population pressure on resources in Maharashtra		
Module – IV Resource Management in Maharashtra	**12**	**0.75**
4.1 Concept of Resource Management		
4.2 Soil and Forest Resource Management		
4.3 Animal Resource Management		
4.4 Population Resource Management		
Module – V Practical: Resource Survey	08	**0.25**
5.1 Forest Resource		
5.2 Animal Resource		
5.3 Human Resource		

References:

1. B. Arunchalm, Regional Geography of Maharashtra
2. B.D. Nag Choudhary, “Introduction to Enviroment Management” Inter Prind Mehata House, New Delhi.

3. Brucu Mitchell “Geography and resources analysis” John willey and sons, New York.
4. C.D. Deshpande, “Geography of Maharashtra” National book Trust of India, New Delhi.
5. Cutler L, Renwick H.L. Exploitation conservation and preservation : A Geographicalperspective and natural resource use, Rowmon and Allanhed, Towata.
6. Govt. of Maharashtra “Economic development of Maharashtra.” (Maharashtra Economic Development Council)
7. Karve “Maharashtra – Land and People
8. Dixit K.R., “Maharashtra in Maps”
9. Matthews O.P., “Water resources Geopgraphy and Laow, Scientific Publishers, Jodhapur.
10. Deshpande, S.H. “Economy of Maharashtra”
11. Resource Geography of Maharashtra (IDS) – Distance Education Department, Shivaji University, Kolhapur
12. खतीब के.ए., महाराष्ट्राचा भूगोल, मेहता पब्लिशिंग हाउस, पुणे
13. सावंत प्रकाश– महाराष्ट्राचा भूगोल, फडके प्रकाशन, कोल्हापूर
14. पाटील टी.पी. – महाराष्ट्राचा भूगोल
15. सवदी ए. बी., द मेगा स्टेट महाराष्ट्र, निराली प्रकाशन, पुणे
16. सवदी ए. बी., महाराष्ट्राचा भूगोल, निराली प्रकाशन, पुणे
17. देशपांडे च. धु., – महाराष्ट्राचा भूगोल अनुवादक मो.द. तावडे
18. दाते एस. पी. महाराष्ट्राचा साधनसंपती भूगोल, एन.बी. टी. नवी दिल्ली

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with

Learning Outcomes-Based Curriculum Framework (LOCF)

of National Education Policy (NEP) 2020

for B. A. II / B. A. B. Ed./ B. Sc. II Semester III and IV Geography Degree (Basic/Honors)

w.e.f. June, 2023 onwards.

A] **Ordinance and Regulations:-**

(As applicable to degree/program)

B] **Shivaji University, Kolhapur**

New/Revised Syllabus ForBachelor of -Arts.

1. TITLE: Tourism Geography **Code:** GE I and GE II

Number of Theory Credits	Number of lecture hours/ semester	Number of Theory Periods per week
04	60	04

2. YEAR OF IMPLEMENTATION: New/Revised Syllabi will be implemented from June, 2023 onwards

3. PREAMBLE:

The paper "Concepts of Tourism Geography" offers students a comprehensive exploration of the fundamental concepts and principles in the field of tourism geography. This paper aims to provide students with a solid foundation of knowledge and skills necessary to understand the various aspects of tourism geography and its practical applications. Through a series of modules, students will gain insights into the introductory concepts, classification systems, impacts, use of computer technologies, and data collection techniques in tourism geography. By the end of this paper, students will have a well-rounded understanding of the key components and dynamics of tourism geography, allowing them to critically analyze tourism trends, assess its impacts, and contribute to sustainable development in the tourism industry.

The course on "Development and Planning of Tourism" offers a comprehensive study of the tourism industry, focusing on India, with specific emphasis on Maharashtra and the case study of Mahabaleshwar. The course equips learners with the knowledge and skills necessary to understand tourism development, planning processes, and sustainable practices. It covers various topics, including historical perspectives, economic significance, destination analysis, travel documentation, and case studies. Through theoretical concepts, real-world examples, and practical applications, learners will gain insights into the multifaceted nature of tourism and its impact on local economies, communities, and the environment. The course fosters critical thinking and problem-solving skills, promoting responsible tourism practices for long-term sustainability. Upon completion, learners will receive a certificate recognizing their participation and understanding of key concepts in the development and planning of tourism.

4. Course Objectives:

- To understand the fundamental concepts and definitions of tourism and tourist and along with explore the nature and scope of tourism geography as a multidisciplinary field.
- To identify the components of tourism and their interrelationships and analyze recent trends in the industry.
- To evaluate the economic, socio-cultural, and environmental impacts of tourism.
- To study data collection techniques such as field surveys, interviews, questionnaires, and sampling methods in tourism geography research.
- To explore the significance of effective planning and development strategies in the tourism industry.
- To examine different types of tourism centers, including natural, religious, cultural, and historical destinations in India.
- To analyze the development and planning of tourism in Maharashtra, with a focus on Mahabaleshwar or local district tourism centres as a case study.
- To identify challenges and issues associated with tourism development and explore sustainable practices for mitigating negative impacts.

- To develop an understanding of travel documentation processes, including passports, visas, ticketing, and tour itineraries.
- To understand the principles of sustainable development in tourism.
- To utilize computer technologies for e-ticket booking, destination search, promotion, mapping, and distance calculations in the context of tourism geography.

5. Course Outcomes:

Upon completion of this course, students will be able to:

PO1: **Relating to Knowledge:**

- Students will be demonstrated a comprehensive understanding of the definition of tourism and tourist and knowledge of the nature and scope of tourism geography.
- Students will be recognized the significance of studying tourism geography in tourism planning, development, and management.
- Students will be able to identify and describe the components of tourism and their interrelationships.
- Students will classify tourism based on various criteria and analyze recent trends in the industry.
- Understand tourism's historical development, from ancient to contemporary periods.
- Identify tourism's role in the national economy and the process of planning in India.
- Recognized different types of tourism centers in India and Maharashtra.
- Summarize the key components of travel documentation.

PO2: **Relating to Understanding and Application:**

- Students will apply their understanding of tourism geography concepts to analyze the impacts of tourism on economic, socio-cultural, and environmental aspects.
- Students will comprehend the principles of sustainable development in tourism and apply them to address the challenges and opportunities in the industry.
- Students will demonstrate an understanding of the use of computer technologies in various aspects of tourism geography, such as e-ticket booking, destination search, promotion, mapping, and distance calculations.
- Students will be able to interpret and analyze data collected through field surveys, interviews, questionnaires, and sampling techniques in tourism geography research.
- The students will be able to evaluate tourism's impact on the economy and apply planning principles.
- Analyze characteristics of tourism centers and assess sustainable practices.

- The students will be able to evaluate development and planning efforts in Maharashtra and destination case studies.

PO3: **Relating to Students' Skills:**

- Students will develop critical thinking skills to evaluate and assess the economic, socio-cultural, and environmental impacts of tourism.
- Students will enhance their technological skills in using computer applications for various tasks related to tourism geography.
- Students will develop practical skills in conducting field surveys, interviews, questionnaires, and sampling techniques for data collection in tourism geography research.
- Students will improve their communication skills by effectively presenting and conveying information related to tourism geography.
- Develop critical thinking and research skills for analyzing tourism strategies.
- Enhance communication and teamwork skills through presentations and group activities.
- Improve time management and organizational skills.

PO4: **Relating to Students' Evaluation:**

- Students will be able to critically evaluate the classification of tourism based on different criteria and analyze the recent trends in the tourism industry.
- Students will demonstrate their ability to assess the economic, socio-cultural, and environmental impacts of tourism using appropriate evaluation methods.
- Students will develop the skills to evaluate the effectiveness of computer applications in tourism geography and their contribution to sustainable tourism practices.
- Students will apply their knowledge and skills in data collection techniques to evaluate the reliability and validity of primary data in tourism geography research.
- Demonstrate knowledge through assessments.
- Apply theoretical knowledge to real-world scenarios and case studies.
- Active participation in discussions and presentations.

6. DURATION

The duration of the B.A./B.Sc. Geography Program shall extend over 8 semesters (four academic years) of 16 weeks or more, each with a maximum of 90 actual working days of instruction in each semester.

7. **PATTERN:**

Pattern of Examination will be Semester.

8. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any new degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tuition Fee & Laboratory Fee, if any.)

9. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi (as applicable to the course / programme concerned).

11. STRUCTURE OF COURSE - 50 MARKS (40 + 10)

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus)

Semester - III

Paper No.	Title	Marks
GE – I	Concepts of Tourism Geography-I	**50**

Semester - IV

Paper No.	Title	Mark
GE – II	Development and Planning of Tourism in India-II	**50**

12. SCHEME OF TEACHING

The scheme of teaching and examination should be given as applicable to the course / paper concerned (Lecture Method, Demonstration Method, Experimental Method, Group Activity Method, Field visit and collection of samples, Observation Method, etc.)

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Practical	Total
1	Concepts of Tourism Geography	04	04	-	04	40	10	50
	Development and Planning of Tourism in India	04	04	-	04	40	10	50

13. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The theory paper shall carry 40 marks (as applicable to the course)
- The theory paper shall carry internal 10 marks for ‘Group Activity’.

- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.

14. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme. Separate passing marks required in examinations. The minimum 14 out of 40 marks required in University examination and internal (Group Activity) 04 out of 10 marks.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

Continuous Evaluation Methods (40 Marks):

Q. 1: Multiple Choose Question (05)

Q. 2: Write short notes (any three) (15)

Q. 3: Write detail answers (10)

A or B

Q. 4: Write detail answers (10)

A or B

Internal Evaluation 10 Mark

B. A. Part-II, Semester-III- 'Group Activity'

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF

Sr. No.	Title of Old Paper	Old paper No.	Title of New Course/paper	New Course/Paper No.
1	Concepts of Tourism Geography	I	Concepts of Tourism Geography	GE-I
2	Development and Planning of Tourism in India	II	Development and Planning of Tourism in India	GE-II

17. SPECIAL INSTRUCTIONS, IF ANY: Nil

NEW/REVISED SYLLABUS FOR
B. A. Part-II / B. A. B. Ed.
(Introduced from June, 2023 onwards)
GE- I / IDS (Course / Paper No. I)
Geography (Concepts of Tourism Geography)
Semester –III

Module	Teaching Hours	Credits
Module: Introduction to Tourism Geography 1.1 Definition of Tourism and Tourist 1.2 Nature of Tourism Geography 1.3 Scope of Tourism Geography 1.4 Significance of Tourism Geography 1.5 Historical development of Tourism 1.6 Components of tourism	15	1
Module II: Classification and Recent Trends in Tourism 2.1Classification on the basis of Nationality, Time, Number of tourist, Objectives, Transportation, Season and Nature of Tourism. 2.2 Recent trends in Tourism	10	0.75
Module III: Impact of Tourism 3.1 Economic impact 3.2 Socio-Cultural impact 3.3 Impact on Environment 3.4 Sustainable development of Tourism	15	1
Module IV: Use of computer in tourism geography 4.1 e-ticket booking 4.2 search hotels and destination 4.3 promotion of tour agency 4.4 mapping and distance calculations through computer 4.5 Sustainable development of Tourism	10	1
Module V: Data Collection Techniques in Tourism Geography 5.1 Field surveys and interviews for gathering primary data. 5.2 Questionnaires and surveys for collecting tourist information. 5.3 Sampling techniques in tourism geography research	10	0.25

Reference Books:

1. Bhatia A.K. : International Tourism
2. Bhatia A.K. : Tourism Development
3. DevManoj : India – A ToruistParedise
4. DharPramnath : Development of Tourism and Travel Industry
5. Gupta V.N. : Tourism in India
6. NegiJagmohan : Tourism Development and ResourceConservation 28
7. Pearce Donglas : Tourism Development
8. Robinson R. : Geography of Tourism
9. Sharma K.C. : Tourism : Policy, Planning stategy.
10. Seth Pran :Enlessful Tourism Manament
11. Sinha P.C. : Tourism Marketing
12. Singh Shawni : Principles of Indian Tourism
13. Singh S.N. : Geography of Tourism and Recreation
14. Singh Ratandeep : Tourism Today Vol. 1
    Tourism Today Vol. 2
    Tourism Today Vol. 3
15. शिंदेएस .बी : .पर्यटनभूगोल
16. घारपुरेव्ही .टी : .पर्यटनभूगोल ,पिंपळापुरेपुब्लीशर्स ,नागपूर .
17. Geography of Tourism – Distance Education Department, Shivaji University, Kolhapur

NEW/REVISED SYLLABUS FOR
B. A. Part-II / B. A. B. Ed.
(Introduced from June, 2023 onwards)
GE-II / IDS (Course / Paper No. II)
Geography (Development and Planning of Tourism)
Semester –IV

Module	Teaching Hours	Credits
Module I: Development and Planning of Tourism in India 1.1 Tourism in ancient period 1.2 Tourism in modern period 1.3 Role of tourism in national economy 1.4 Tourism planning in India	10	0.75
Module II: Tourism Centers in India 2.1 Natural tourism centers in India 2.2 Religious tourism centers in India 2.3 Cultural tourism centers in India 2.4 Historical tourism centers in India	15	1
Module III: Development and Planning of Tourism in Maharashtra 3.1 Development of tourism in Maharashtra 3.2 Planning of tourism in Maharashtra	12	1
Module IV: Tourism Centers in Maharashtra 4.1 Natural tourism centers in Maharashtra 4.2 Religious tourism centers in Maharashtra 4.3 Cultural tourism centers in Maharashtra 4.4 Historical tourism centers in Maharashtra	13	1
Module V: Travel documentation 5.1 Passport 5.2 Visa 5.3 Ticketing 5.4 Tour itinerary	10	0.25

Reference Books:

1. Bhatia A.K. : International Tourism
2. Bhatia A.K. : Tourism Development
3. DevManoj : India – A ToruistParedise
4. DharPramnath : Development of Tourism and Travel Industry
5. Gupta V.N. : Tourism in India
6. NegiJagmohan : Tourism Development and ResourceConservation 28
7. Pearce Donglas : Tourism Development
8. Robinson R. :Geography of Tourism
9. Sharma K.C. : Tourism : Policy, Planning stategy.
10. Seth Pran :Enlessful Tourism Manament
11. Sinha P.C. : Tourism Marketing
12. Singh Shawni : Principles of Indian Tourism
13. Singh S.N. :Geography of Tourism and Recreation
14. Singh Ratandeep : Tourism Today Vol. 1

    Tourism Today Vol. 2

    Tourism Today Vol. 3

15- शिंदे एस .बी : .पर्यटन भूगोल

16- घारपुरे व्ही .टी : .पर्यटन भूगोल ,पिंपळापुरे पुब्लीशर्स ,नागपूर .

17 Geography of Tourism – Distance Education Department, Shivaji University, Kolhapur

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & & B. A. B. Ed.

Geography
(Evolution of Geographical Thought)

CBCS PATTERN
Syllabus to be implemented from

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

B. A. Part – III & B. A. B. Ed. Geography
(Evolution of Geographical Thought)
Syllabus to be implemented from June 2020 onwards

1.TITLE : Evolution of Geographical Thought

Optional under the Faculty of Science

2. YEAR OF IMPLEMENTATION :

Revised Syllabus will be implemented from June 2020 onwards.

3. PREAMBLE

This curriculum focuses on the understanding of core and fundamental branches of the discipline. This paper is specially designed to cater to foundation building of the students by imparting knowledge about the pillars of geography. It encompasses the evolution of the subject right from the experiences and understanding of travelers and explorers regarding space, place and people to the progression towards establishment of the discipline geography in sciences.

4. GENERAL OBJECTIVES OF THE COURSE

1) To study the historical evolution of geographic thought.
2) An analysis of different paradigms in geography.
3) To evaluating the contemporary trends in geographical studies.
4) To study the paradigms and debates in the geographical studies.
5) To study the recent trends in geography.

5. COURSE OUTCOMES

1) Student should be able to understand in-depth about the Evolution of Geographical Thought.
2) Students should be able to analyse the recent trends in geography.
3) Student should be able to make use of various models of paradigms and debates in the geographical studies.
4) Understanding of recent trends in geography.

6. DURATION

- The course shall be a full time course
- The duration of course shall be of one year (Sem. – V)

7. PATTERN

Pattern of Examination will be Semester

8. FEE STRUCTURE

(As per the Shivaji University rules; and as applicable to regular)

9. ELIGIBILITY FOR ADMISSION :

As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

10. MEDIUM OF INSTRUCTION :

The medium of instruction shall be in English or Marathi. (as applicable to the course /programme concerned.)

11. STRUCTURE OF COURSE 50 MARKS

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	Title	Marks
DSC-E106 or VII,	Evolution of Geographical Thought	50

12. SCHEME OF TEACHING AND EXAMINATION

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				Examination Scheme (Marks)		
		L	T	P	Total	Theory	Term Work	Total
1	Evolution of Geographical Thought	04	04	00	04	40	10	50

13. SCHEME OF EXAMINATION :

- The examination shall be conducted at the end of each semester
- The theory paper shall carry 40 marks
- The term work shall carry 10 marks
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

14. STANDARD OF PASSING:

As Prescribed under rules & regulation for each degree/ programme.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING :

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question : 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Physical Geography of India	VII	Evolution of Geographical Thought	E106 or VII

17. SPECIAL INSTRUCTIONS, IF ANY.

NEW/REVISED SYLLABUS FOR
B. A. Part-III and B. A. B. Ed. Geography
(Introduced from June 2020 onwards)
Semester - V

(i) E106 or Paper No. VII
(ii) Title of Paper: Evolution of Geographical Thought

Module	Teaching Hours	Credit
Module – I Geography in Ancient Period	**15**	**1**
1.1 Contribution of Greeks and Romans		
1.2 Arab Geographical Thoughts		
1.3 Indian Geographical Thoughts		
1.4 Exploration and Development of Geography		
Module – II Schools of Geography	**15**	**1**
2.1 German School of Geography – Alexander von Humboldt		
2.2 French School of Geography – Vedal de la Blache		
2.3 American School of Geography – William Moris Davis		
2.4 British School of Geography – Halford J. Mackinder		
Module – III Dualisms in Geography	**15**	**1**
3.1 Determinism Vs Possibilism		
3.2 Systematic Vs Regional geography		
3.3 Physical Vs Human geography		
3.4 Historical Vs Contemporary		
Module – IV Trends in Geography	**15**	**1**
4.1 Quantitative Revolution		
4.2 Model Building in Geography		

4.3 Man-nature relationship: Radicalism, Behaviourism and Humanism

4.4 Future of Geography

Books Recommended :

Adhkari, S. (2006) *Fundamentals of Geographical Thought*, Chaitanya Publishing House, Allahabad.

Bunkse, V.E. (2004) *Geography and the art of Life*, John Hopkins University Press, Bailtimore,

Dikshit, R. D. (1997). *Geographical Thought: A Contextual History of Ideas*. Delhi, India: Prentice– Hall India.

Dixit, R.D. (2001) *Geographical Thought : A critical History of ideas*, Prentice Hall of India, New Delhi

Dixit, R.D. (2001) *भौगोलिक चिंतन*, Prentice Hall of India, New Delhi

Gaile, G. and Wilmot, C. (ed) (2003) *Geography in America at the Dawn of the 21st Centrury*, Oxford University Press, Oxford & New York.

Harvey, David., (1969): *Explanation in Geography*, London: Arnold.

HubbarD, P.et al (2002) *Thinking Geographically : Space, Theory and Contemporary Human Geography*, Continuum, London

Johnston, R.J. (1988) *The Future of Geography*, Methuen, London,

Johnston, R.J. and Claval, P. (1984) *Geography since the Second World War : An International survey*, Crown Haim, Sydney**.**

Majid Husain (2007)**:** *Evolution of Geographic Thought* Rawat Publication, Jaipur

Marcus, D. (1999) *Post – Structuralism in Geography, The Diabolical Arts of Spatial Sciences*, Edinburgh University Press, Edinburgh.

Martin Geoffrey J. (2005). *All Possible Worlds: A History of Geographical Ideas*, UK: Oxford.

Singh, R.B. (2016). *Progress in Indian Geography*. New Delhi, India: Indian National Science Academy.

Sudeepta, A. (2015). *Fundamentals of Geographical Thought*. Delhi, India: Orient black swan private limited.

e-PG Pathshala: https://epgp.inflibnet.ac.in/

MOOCS - NPTEL: https://nptel.ac.in/

MOOCS - SWAYAM: https://swayam.gov.in/

National Digital Library of India: https://ndl.iitkgp.ac.in/

Shivaji University Library (E-Resources): http://www.unishivaji.ac.in/library/E-Resources

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & & B. A. B. Ed.

Geography
(Economic Geography)

CBCS PATTERN
Syllabus to be implemented from

(Subject to the modifications to be made from time to time)
Syllabus to be implemented from June 2020 onwards

B. A. Part – III & B. A. B. Ed.

Geography (Economic Geography)

Syllabus to be implemented from June 2020 onwards

Semester-VI

1.TITLE : Economic Geography

Optional under the Faculty of Science

4. YEAR OF IMPLEMENTATION :

Revised Syllabus will be implemented from June 2020 onwards.

5. PREAMBLE

[Note :- The Board of Studies should briefly mention foundation, core and applied components of the course/paper. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge at examination level.**]**

9. GENERAL OBJECTIVES OF THE COURSE

6) To study the basics of economic geography.
7) To study the locational factors of economic activities with special reference to agriculture and industry.
8) To study the basics concepts related to manufacturing and major manufacturing industries of selected countries of the world.
9) To study the transport and trade.

10. COURSE OUTCOMES

5) In depth understanding about the economic geography.
6) Detailed knowledge about locational factors of economic activities with special reference to agriculture and industry.
7) Detailed understanding of the basics concepts related to manufacturing and major manufacturing industries (selected countries) of the world.
8) Understanding of the transport and trade.

11. DURATION

- The course shall be a full time course
- The duration of course shall be of one year (Sem. – VI)

12. PATTERN

Pattern of Examination will be Semester

13. FEE STRUCTURE

(As per the Shivaji University rules; and as applicable to regular)

11. ELIGIBILITY FOR ADMISSION :

As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

12. MEDIUM OF INSTRUCTION :

The medium of instruction shall be in English or Marathi. (as applicable to the course /programme concerned.)

12. STRUCTURE OF COURSE 50 MARKS

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	Title Marks
DSE-E230 or X, Economic Geography	**50**

12. SCHEME OF TEACHING AND EXAMINATION

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				Examination Scheme (Marks)		
		L	T	P	Total	Theory	Term Work	Total
1	Economic Geography	04	04	00	04	40	10	50

14. SCHEME OF EXAMINATION :

- The examination shall be conducted at the end of each semester
- The theory paper shall carry 40 marks
- The term work shall carry 10 marks
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

15.STANDARD OF PASSING:

As Prescribed under rules & regulation for each degree/ programme.

16.NATURE OF QUESTION PAPER AND SCHEME OF MARKING :

(Unit wise weightage of marks should also be mentioned)

Semester -VI		Marks
Question: 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

17. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr.	Title of Old Paper	Old paper	Title of New paper	New Paper

No.		No.		No.
1	Economic Geography of India	X	Economic Geography	DSE-E230 or X

18. SPECIAL INSTRUCTIONS, IF ANY.

NEW/REVISED SYLLABUS FOR
B. A. Part-III and B. A. B. Ed. Geography
(Syllabus to be implemented from June 2020 onwards)
Semester - VI

(iii) E230 or Paper No. X

(iv) Title of Paper: Economic Geography

Module	Teaching Hours	Credit
Module – I Introduction to Economic Geography	**15**	**1**
1.1 Definition, Nature and Scope		
1.2 Concept and Classification of Economic Activity		
1.3 Branches of Economic Geography		
1.4 Significance of Economic Geography		
Module – II Economic Activity	**15**	**1**
2.1 Factors Affecting on Location of Agricultural Activity		
2.2 Factors Affecting on Location of Industrial Activity		
2.3 Alfred Weber's Theory of Industrial Location		
Module – III Manufacturing Activity	**15**	**1**
3.1 Concept of Manufacturing Region		
3.2 Concept of Special Economic Zone		
3.3 Major Industries: i) Cotton Textile Industry - USA		
ii) Iron and Steel Industry – USA		
iii) Sugar Industry – Brazil		
iv) Automobile Industry – India		
Module – IV Transport and Trade	**15**	**1**
4.1 Significance of Transportation		
4.2 Major Transport Routs: Roadway, Railway, Airway and Ocean Routs		

4.3 International Trade: India and USA

4.4 Trade Policies: India and USA

Books Recommended:

References

Alexander J. W., (1963): Economic Geography, Prentic Hall Inc Englewood Cliffs, New Jersey.

Boesch H. (1964) : A Geography of world Econimy" D. Van Nostrand co. New york.

Coe N. M., and others, (2007): Economic Geography: A Contemporary Introduction, Wiley-Blackwell.

Combes P., Mayer T. and Thisse J. F., (2008) Economic Geography: The Intergration of Regions and Nations, Princeton University Press.

Goh Chang & morgan, G.C. (1997): Human and Economic Geography, oxford University Press.

H. Robinson (1978): Economic Geography, Macdonaid & Evans.

Hamilton, I (1992) : Resources and Jndurtry, Oxford University Press New York.

Hartshorn, T.N. and Alexander, J.W. (1994): Economic Geography, prentice Hall, New Delhi.

Hodder B. W. and Lee Roger, (1974): Economic Geography, Taylor and Francies.

Meyer, B. S., Aanderson, D. B. and Bohning, R. H. (1960): An Introduction to Plant Physiology, Von Nostrand Company, New York.

Roborstson D (2001) : Globalization and Environment E. elgar CO.U.K.

Sadhukhan S. K., (1990): Economic Geography An Appraisal of Resources, S. Chand and Company Ltd., New Delhi.

Truman A. Hartshorn and John W. Alexander, (1988): Economic Geography, PHI Learning Private Limited, New Delhi.

Walker, D. F., Collins, L. (Eds.), (1975): Locational Dynamics of Manufacturing Activity, John Wiley and Sons, New York.

Wheeler J. O., (1995) : Economic Geography John wiely, New York.

White H.P. and senior M.L. (1983) Transport Geography, Longman, London.

Willington D. E., (2008): Economic Geography, Husband Press.

Zimmermann, E. W., (1933): World's Resources and Industries, Harper and Row, New York.

खतीब के. ए. — आर्थिक भूगोल, अजब प्रकाशन, कोल्हापूर

धारपूरे विठ्ठल — आर्थिक भूगोल, पिंपळापुरे ॲण्ड कं, नागपूर

सवदी, कोळेकर — आधूनिक भूगोल, निराली प्रकाशन, पुणे.

सवदी कोळेकर (२००८) — भूगोलाची मुलतत्वे, खंड दुसरा, निराली प्रकाशन

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & B. A. B. Ed.

Geography of India

CBCS PATTERN

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

Accredited By NAAC
With 'A' Grade
New/Revised Syllabus For
Bachelor/Master of

B. A. Part – III / B. A. B. Ed.
DSC (Discipline Specific Core Course) – E107 (Paper No. VIII) Geography (Sem. V)
Syllabus to be implemented from June 2020 onwards

A] **Ordinance and Regulations:-**
(As applicable to degree/program)

B] **Shivaji University, Kolhapur**
New/Revised Syllabus for Bachelor of Arts and B. A. B. Ed**.**

1. TITLE: Subject – GEOGRAPHY OF INDIA
Optional/Compulsory/Additional/IDS under the Faculty of Science

2. **YEAR OF IMPLEMENTATION**: - New/Revised Syllabi will be implemented from June 2020 onwards.

3. PREAMBLE:-

The present course focuses on the studies of Geography of India should briefly mention foundation, core and applied components. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge of physiography, climate, drainage, soils, vegetation, agriculture and industry etc.

4. GENERAL OBJECTIVES OF THE COURSE/ PAPER/:

(As applicable to the Degree /Subject- Paper concerned)

1) To acquaint the students with distinct dimensions of India and physical setup of the country.
2) To focus the climate of India and mechanism of monsoon of India.
3) To get information about soils and vegetations in India.
4) To help the students to understand recent trends in regional study.
5) To focus on the mineral, agricultural and industrial product of the country.
6) To understand the economic setup of the country.

4.1 COURSE OUTCOMES

1) In depth understanding the dimensions and physiography of India.

2) The students are fully aware about the climatic seasons in India.

3) Detailed knowledge about soils, vegetations, drainage systems in India.

4) Understanding an importance of agriculture and industry in Indian economy.

5) Detailed knowledge about the economic setup of the India.

5. DURATION

- **The course shall be a full time course.**
- **The duration of course shall be of Three years, as applicable to the respective degree.**

6. PATTERN:-

Pattern of Examination will be Semester.

7. FEE STRUCTURE :-

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tution Fee & Laboratory Fee, if any.)

8. ELIGIBILITY FOR ADMISSION:-

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course / programme concerned.)

10. STRUCTURE OF COURSE = 50 marks

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	Title	Marks
E107 (DSC)/Paper No. VIII,	Geography of India	50

11. SCHEME OF TEACHING:

The scheme of teaching and examination should be given as applicable to the course / paper concerned.

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme (Marks)			
		L	T	P	Total	Theory	Practical	Term work	Total
1	Geography of India	04	04	-	04	40	-	10	50

12. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks and term work shall carry 10 marks (as applicable to the course).
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 40 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question: 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.

1	Economic Geography	VIII	Geography of India	DSE-E 107 Or VIII

16. SPECIAL INSTRUCTIONS, IF ANY – Nil

New/ Revised syllabus for

B. A. Part-III and B. A. B. Ed. (Semester -V)

(Syllabus to be implemented from June 2020 onwards)

(i) Paper – E107 or VIII

(ii) Title of Paper - Geography of India.

(iii) Specific Objectives: ----------

(iv) A brief note: - (On expected level of study from examination and assessment point of view) :- -----

Module	**Lectures**	**Credit**
Module -I) Physical Profile of India	**20**	**1**

1.1) Location (Absolute and Relative)

1.2) Physiographic Divisions (Characteristics and Importance)

1.3) Climate: Summer, Rainy and Winter Seasons in India (weather conditions and Characteristics)

1.4) Major Drainage Systems: a) Northern River Systems (Sindhu, Ganga & Brahmaputra)

b) Southern River Systems (Godavari, Krishna & Cauvery)

(Characteristics and Importance)

Module -II) **Soils and Forests**	**14**	**1**

2.1 Major soil types, characteristics and its distribution in India

2.2 Soil degradation and soil conservation in India

2.3 Major forest types: characteristics and their distribution

2.4 Deforestation and conservation of forests in India

Module -III) **Mineral and Power Resources**	**13**	**1**

3.1 Conventional Resources: Iron Ore and Manganese (Distribution, Production and Trade)

3.2 Power Resources: Coal and Mineral Oil (Distribution, Production and Trade)

3.2 Non Conventional Resources: Solar and Wind (Distribution, Production and Trade)

Module -IV) Agriculture and Industry 13 1

4.1 Importance of Agriculture in Indian Economy.

4.2 Major Crops: Rice and Sugarcane (Distribution, Production and Trade)

4.3 Importance of Industries in Indian Economy.

4.4 Industries: Location Factors, Sugar Industry, Iron and Steel Industry and Fertilizer Industry (Distribution, Production and Trade)

References:

1. Majid H., (2013): Geography of India, Tata Mcgraw Hill Education (India) Private Limited, New Delhi.
2. Khullar R. D. (2007): India- A Compressive Geography, Kalayani Publisher.
3. Tiwari, R.C. (2007) Geography of India. Prayag Pustak Bhawan, Allahabad.
4. Singh R. L., (1971): India: A Regional Geography, National Geographical Society of India.
5. Deshpande C. D., (1992): India: A Regional Interpretation, ICSSR, New Delhi.
6. Johnson, B. L. C., ed. (2001). Geographical Dictionary of India. Vision Books, New Delhi.
7. Mandal R. B. (ed.), (1990): Patterns of Regional Geography – An Intenational Perspective. Vol. 3 –
8. Indian Perspective.
9. Sdyasuk Galina and Sengupta P., (1967): Economic Regionalisation of India, Census of India
10. Sharma, T. C. 2003: India - Economic and Commercial Geography. Vikas Publ., New Delhi.
11. Singh, J., (2003),: India - A Comprehensive & Systematic Geography, Gyanodaya Prakashan, Gorakhpur.

12. Spate O. H. K. and Learmonth A. T. A., (1967): India and Pakistan: A General and Regional
13. Geography, Methuen.
14. Tirtha, R., (2002): Geography of India, Rawat Publs., Jaipur & New Delhi.
15. Pathak, C. R. (2003): Spatial Structure and Processes of Development in India. Regional Science
16. Assoc., Kolkata.
17. Sharma, T.C. (2013): Economic Geography of India. Rawat Publication, Jaipur.
18. Savadi, Kolekar: Bharatacha Samarag Bhugol, Nirali Prakashan, Pune.
19. Khatib K. A.,: Geography of India
20. Pawar C.T. & Others : Geography of India.
21. Soil and Water conservation manual Govt. of India.

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC
Revised Syllabus For
Bachelor of Arts Part III and B. A. B. Ed.
Geography
(Choice Based Credit System)

Urban Geography
Or
Regional Planning and Sustainable Development

(Subject to the modifications to be made from time to time)
Implemented From June, 2020 onward

B. A. Part – III & B. A. B. Ed.
Geography (Urban Geography), Semester-VI
Implemented From June, 2020 onward

A] **Ordinance and Regulations:-**
(As applicable to degree/programme)

B] **Shivaji University, Kolhapur**
Revised Syllabus For **B. A. Part – III and B. A. B. Ed.**

1. TITLE: Subject – Urban Geography

2. **FACULTY of SCIENCE:-** Optional under the Faculty of Science

3. YEAR OF IMPLEMENTATION: - Revised Syllabus will be implemented from June 2020 onwards.

4. **PREAMBLE:-**

[Note: - The Board of Studies should briefly mention foundation, core and applied components of the course/paper. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge at examination level.**]**

5. GEUNERAL OBJECTIVES OF THE COURSE:

1) To Study the basic of Urban Geography.
2) To Study the types of Urban Settlements, Site and Situations.
3) To get an ideas of relationship between human activities and urban development.
4) To make the students capable for handling the present problematic situation in Urban and rural areas.
5) To make students as a good urban planner and environmental conservator.

6. COURSE OUTCOMES:

1) The students were known the importance of urban settlements through urban geography.
2) The students understood the types of Urban Settlements, Site and Situations.
3) The students were familiar with an idea of relationship between human activities and urban development.

4) Detail understanding of students regarding present urban problems and students are capable to handling of present problematic situations in urban areas.

5) The students are developed as a good urban planner and environmental conservator.

6. DURATION

- **The course shall be a full time course.**
- **The duration of course shall be of one semester.**

7. PATTERN:-

Pattern of Examination will be Semester

8. FEE STRUCTURE:-

(as applicable to regular course determined by the university and other fee will be applicable as per University rules/norms)

9. ELIGIBILITY CRITERIA FOR ADMISSION:

As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course/programme concerned.)

11. STRUCTURE OF COURSE-

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	**Title Marks**
DSC-E231 or XI, Urban Geography	50

12. SCHEME OF TEACHING AND EXAMINATION:

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

THIRD YEAR

Scheme of Teaching and Examination

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				Examination Scheme Sr. (Marks)		
		L	T	P	Total	Theory	Term	Total

							work	
1	Urban Geography	04	04	00	04	40	10	50

SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each semester
- The Theory paper shall carry 50 marks
- The term work shall carry 10 marks
- The evaluation of the performance of the students in theory papers shall be on the basis of semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:

As Prescribed under rules & regulation for each degree/programme.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(Unit wise weightage of marks should also be mentioned)

Semester VI	Marks
Question 1) Objective Type Question (Multiple Choice)	05
Question 2) Short Note Type Question (Any four out of six)	15
Question 3) Detail Answers Type Question (Any two out of three)	20

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Urban Geography	XI	Urban Geography	DSE-E231 or XI

16. SPECIAL INSTRUCTIONS, IF ANY.

REVISED SYLLABUS FOR
(Choice Based Credit System)
B. A. Part-III and B. A. B. Ed, Geography
(Introduced from June 2020 onwards)

Semester – VI

(i) DSE- E231 or XI

(ii) Title of Paper: - Urban Geography

(iii) Specific Objectives:-

(iv) A brief note: - (On expected level of study from examination and assessment point of view):- -----

Modules	**No. of Lectures**	**Credit**
Module-I: Introduction to Urban Geography	**15**	**01**
1.1 Urban Geography: Meaning and Definitions		
1.2 Nature and Scope of Urban Geography		
1.3 Approaches of Urban Geography		
1.4 Significance of Urban Geography		
Module-II: Urbanization	**15**	**01**
2.1 Site and Situation: Significance and Types		
2.2 Concept and Factors of Urbanization		
2.3 Patterns of Urbanization in developed and developing countries		
2.4 Functional classification of cities (Quantitative and Qualitative)		
Module-III: 3 Structure and Morphology of Urban Centers	**15**	**01**
3.1 Structure and Morphology		
3.2 City Region and C.B.D.		
3.3 Rural-Urban Fringe		
3.4 Models of Town Morphology: The Concentric Zone Theory, the Sector Theory and the Multi-Nuclei Theory		

Module-IV: Urban Problems and Issues **15**

01

4.1 Urban Issues: problems of housing, slums, civic amenities (water and transport)

4.2 Concept of Garden City

4.3 Urban Planning in India

4.4 Case studies of Mumbai and Chandigarh with reference to Land use and Urban Issues

References

1. Tim Hall. (1998): Urban Geography, Routtedge ,London.
2. Verma L.N.: Urban Geography, Rawat Publications, Jaipur.
3. Johnson J. H. (1967): Urban Geography, An Introductory Analysis.
4. Bose A., : India's Urbanization 1974-2000,Tata McGraw Hill, New Delhi.
5. Carter H. (1972): The study of urban Geography, Edward Arnold, London.
6. Smailes A. E. : The Geography of Towns.
7. Taylor and Pntnam : Geography of UrbanPlaces.
8. Hudson F : SettlementGeogrpahy

९दशपांडेसी.डी.१९८३.शहरे–कॉन्सेप्टपब्लिशिंगकंपनी,पुणे

१०.ऋग्वदी,कोळेकर,२००५.आधुनिकभूगोलनिरालीप्रकाशन,पुणे११. खतीबके. ए. २००७ : वसाहतीभूगोल, अजबप्रकाशन, कोल्हापूर

12. Mandal : Urban Geography

B. A. Part – III & B. A. B. Ed. Geography
(Regional Planning and Sustainable Development)
Implemented From June, 2020 onward

A] **Ordinance and Regulations:-**
(As applicable to degree/programme)

B] **Shivaji University, Kolhapur**
Revised Syllabus For **B. A. Part – III and B. A. B. Ed.**

1. TITLE: Subject – Regional Planning and Sustainable Development

2. **FACULTY of SCIENCE:-** Optional under the Faculty of Science

3. YEAR OF IMPLEMENTATION: - Revised Syllabus will be implemented from June 2020 onwards.

4. **PREAMBLE:-**

Regional Planning is the need of time to everyone. Geography subject can lead to the development of human activities through regional planning. In the process of development of geography, the changing nature of subject will make aware to the students about the recent technologies used in geography. This will further help to improve the use of geographical techniques and methods in teaching, learning and research work through regional planning.

5. GEUNERAL OBJECTIVES OF THE COURSE:

1) To introduce the students with the importance of regional planning.
2) To understand the concepts of region, regionalization, regional planning & development.
3) To give basic information to the students about the region.
4) To get familiar with indicators of measurement of development.
5) To understand Perroux's Growth Pole Model & Growth Center Model in Indian context.
6) To develop skills for demarcation of region.
7) To aware the students regional planning with recent technology.

6. COURSE OUTCOMES:

6) The students were known the importance of regional planning.
7) The students understood the concepts of region, regionalization, regional planning & development and detailed knowledge of region.
8) The students were familiar with indicators of measurement of development.

9) Detail understanding of Perroux's Growth Pole Model & Growth Center Model in Indian context.

10) The students are develop skills for demarcation of region and aware the regional planning with recent technology.

6. DURATION

- **The course shall be a full time course.**
- **The duration of course shall be of one semester.**

7. PATTERN:-

Pattern of Examination will be Semester

8. FEE STRUCTURE:-

(as applicable to regular course determined by the university and other fee will be applicable as per University rules/norms)

9. ELIGIBILITY CRITERIA FOR ADMISSION:

As per eligibility criteria prescribed for each course and the merit list in the qualifying examination.

10. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course/programme concerned.)

11. STRUCTURE OF COURSE-

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	**Title Marks**
DSC-E231 or XI, Regional Planning and Sustainable Development	40

12. SCHEME OF TEACHING AND EXAMINATION:

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

THIRD YEAR

Scheme of Teaching and Examination

Sr. No.	**Subject/Paper**	**Teaching Scheme (Hrs/Week)**				**Examination Scheme Sr. (Marks)**		
		L	**T**	**P**	**Total**	**Theory**	**Term**	**Total**

							work	
1	**Regional Planning and Sustainable Development**	**04**	**04**	**00**	**04**	**40**	**10**	**50**

SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each semester
- The Theory paper shall carry 50 marks
- The term work shall carry 10 marks
- The evaluation of the performance of the students in theory papers shall be on the basis of semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:

As Prescribed under rules & regulation for each degree/programme.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:
(Unit wise weightage of marks should also be mentioned)

Semester VI	Marks
Question 1) Objective Type Question (Multiple Choice)	05
Question 2) Short Note Type Question (Any four out of six)	15
Question 3) Detail Answers Type Question (Any two out of three)	20

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Urban Geography	XI	Regional Planning and Sustainable	DSE-E231 or XI

16. SPECIAL INSTRUCTIONS, IF ANY.

REVISED SYLLABUS FOR
(Choice Based Credit System)
B. A. Part-III and B. A. B. Ed, Geography
(Implemented From June, 2020 onward)

Semester – VI

(i) DSE- E231 or XI

(ii) Title of Paper: - Regional Planning and Sustainable Development

(iii) Specific Objectives:-

(iv) A brief note: - (On expected level of study from examination and assessment point of view):- -----

Modules	**No. of Lectures**	**Credit**
Module I: Region and Regionalization	**(15)**	**1**
1.1 Definition, Concept of Region and Regionalization		
1.2 Characteristics of Region		
1.3 Types of Region		
1.4 Demarcation of Region		
Module II: Regional Planning	**(15)**	**1**
2.1 Concept of Regional Planning		
2.2 Need for Regional Planning and Types of Regional Planning		
2.3 Choice of a Region for Planning		
2.4 Planning Regions of India		
Module III: Models for Regional Planning	**(15)**	**1**
3.1 Spread and Backwash Concept		
3.2 Walter Christaller's Central Place Theory		
3.3 Francois Perroux,s Growth Pole Model		
3.4 R. P. Misra's Growth Foci Concept		
Module IV: Sustainable Development	**(15)**	**1**
4.1 Concept of Sustainable Development and Underdevelopment		
4.2 Rostow's Growth Model- Stages of Development		
4.3 An Indicators of Measuring Development		

4.4 Human Development Index (HDI)

18. Recommended Reading Material:

1. Alden, J. and Morgan, (1974): Regional Planning: A Comprehensive View, Leonard Hill Books, Beds.
2. Adrill, J. (1974): New Citizens Guide to Town and Country Planning, Charies knight and Company Ltd. London.
3. Chand, M. & Puri, V. (1983): Regional Planning in India, Allied Publishers Ltd., New Delhi.
4. Chandra, R.C. (2000): Regional Planning and Development, Kalyani Publishers, Ludhiana.
5. Cook. P. (1983): Theories of Planning and Spatial Development, Hutchinson & Company Ltd. London.
6. Diamond, D. (ed) (1982): Regional Disparities and Regional Policies, Pergamon Press, Oxford.
7. Dickinson R.E. (1964): City and Region: A Geographical Interpretation. Routledge and Keagan Paul.
8. Friedman, J. & Alonson W. (1964): Regional Development and Planning. MIT Press. Cambridge.
9. Galasson, John (1974): An Introduction to Regional Planning Hutchinson. Educational London.
10. Hilborot, J.G.M (1971): Regional Planning. Rotterdam University Press, Rotterdam.
11. Misra, R.P. Sundaram K.V. & Rao, V.L.S. Prakasa (1974): Regional Development Planning In India.
12. Misra, R.P. (1992): Regional Planning. Concept Publishing Company. New Delhi.
13. Reddi, K. V. (1988): Rural Development in India, Himalaya Pub, Mumbai.
14. Singh, R.L.(2008): Fundamentals of Human Geography, Sharada Pustak Bhawan, Allahabad.
15. Sundran, K.V. (1977): Urban and Regional Planning in India, Vikas Publishing, New Delhi.
16. Swawy, M.C.K., Bhaskara, R. Hegde, V.M. (eds.) (2008): Urban Planning and Development at Cross Roads, BC Books for Change, Bangalore.
17. Whynnes, Charles & Hammand (1979): Elements of Human Geography, George Aflen & Unwin, London. Kothari, C. R. (1985): Research Methodology- Methods and Techniques, Wiley Eastern Limited, New Delhi
18. सवदी ए. बी. व कोळेकर पी. एस. (2008): भूगोलाची मूलतत्वे, खंड दुसरा, निराली प्रकाशन, पुणे

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & B. A. B. Ed.

Population Geography
Or
Social Geography

CBCS PATTERN

Syllabus to be implemented from

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

B. A. Part – III and B. A. B. ED.
DSC (Discipline Specific Core Course) E108 Geography (Course / Paper No. IX)
June 2020 onwards
Semester - V

A] Ordinance and Regulations:

(As applicable to degree/program)

B] Shivaji University, Kolhapur

New/Revised Syllabus For **Bachelor of –Arts and B. A. B. Ed.**

1. **TITLE: POPULATION GEOGRAPHY**

   Optional/Compulsory/Additional/IDS under the Faculty of Science

2. **YEAR OF IMPLEMENTATION:**

   New/Revised Syllabi will be implemented from June 2020 onwards.

3. **PREAMBLE:-**

   This curriculum focuses on the understanding of core and fundamental branches of the discipline. This paper is specially designed to learn the role of demography and population studies as a distinct field of human geography. It encompasses sound knowledge of key concept, different components of population. The curriculum has been carefully designed to include conceptual, basic themes, population dynamics and characteristic with contemporary issues.

4. **GENERAL OBJECTIVES OF THE COURSE/ PAPER/:**
   1) To study the basics of population geography.
   2) To study the population growth trends and its distribution.
   3) To study the population dynamics.
   4) To study the population compositions and its characteristics.

5. **Course Outcomes:**
   1) This paper would bring an understanding of population geography along with relevance of demographic data.
   2) The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population concepts.
   3) The students would get an understanding of the dynamics of population.
   4) An understanding of the implications of population composition in different regions of the world.
   5) An appreciation of the contemporary issues in the field of population studies

5. **DURATION:**

• The course shall be a full time course.

• The duration of course shall be of Three years, as applicable to the respective degree.

6. PATTERN:

Pattern of Examination will be Semester.

7. FEE STRUCTURE :

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tution Fee & Laboratory Fee, if any.]

8. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course / programme concerned.)

10. STRUCTURE OF COURSE = 40 + 10 = 50 marks

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

THIRD YEAR / SEMESTER …….

Paper No.	**Title**	**Marks**
Course / Paper DSE-E108 or IX,	**Population Geography**	**50**

11. SCHEME OF TEACHING:

The scheme of teaching and examination should be given as applicable to the course / paper concerned.

Sr. No.	**Subject/Paper**	**Teaching Scheme (Hrs/Week)**				**Examination Scheme (Marks)**		
		L	**T**	**P**	**Total**	**Theory**	**Term Work**	**Total**
1	Population Geography	**04**	**04**	**00**	**04**	**40**	**10**	**50**

12. SCHEME OF EXAMINATION:

• The examination shall be conducted at the end of each term for semester pattern.

• The Theory paper shall carry 40 marks (as applicable to the course).

• The term work shall carry 10 marks

• The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 40 marks.

• Question Paper will be set in the view of the /in accordance with the entire Syllabus

and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question: 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Research Methodology	IX	Population Geography	E108 or IX

16. **SPECIAL INSTRUCTIONS, IF ANY** – Nil

NEW/REVISED SYLLABUS FOR
B. A. Part-III and B. A. B. Ed. Geography
(Syllabus to be implemented from June 2020 onwards)
Semester - V

(i) Course/ Paper No. E108 or IX

(ii) Title of Paper: - POPULATION GEOGRAPHY

(iii) Specific Objectives: - ……

(iv) A Brief note: - (On expected level of study from examination and assessment point of view): -……

Module	Teaching Hours	Credits
Module I: Introduction to Population Geography	**15**	**01**
1.1 Definition of Population Geography		
1.2 Nature and Scope of Population Geography		
1.3 Significance of Population Geography		
1.4 Sources of Population Data		
Module II: Population Growth and Distribution	**15**	**01**
2.1 World Population Growth		
2.2 Factors Affecting on the Population Distribution		
2.3 Population Distribution of the World		
2.4 Population Concepts: Minimum Population, Optimum Population and Over Population		
Module III: Population Dynamics	**15**	**01**
3.1 Concept of Population Dynamics		
3.2 Fertility: Concept and Types		
3.3 Fertility: Causes, Effects and Measures		
3.4 Mortality: Concept and Types		
3.5 Mortality: Causes, Effects and Measures		
Module IV: Population Composition	**15**	**01**
4.1 Age		
4.2 Sex		
4.3 Literacy		
4.4 Rural and Urban Population		

REFERENCES:

1. Barrett H. R., 1995: Population Geography, Oliver and Boyd.
2. Bhende A. and Kanitkar T., 2000: Principles of Population Studies, Himalaya Publishing House.
3. Chandna R. C. and Sidhu M. S., 1980: An Introduction to Population Geography, Kalyani Publishers.
4. Clarke J. I., 1965: Population Geography, Pergamon Press, Oxford.
5. Jones, H. R., 2000: Population Geography, 3rd ed. Paul Chapman, London.
6. Lutz W., Warren C. S. and Scherbov S., 2004: The End of the World Population Growth in the 21st Century, Earthscan
7. Newbold K. B., 2009: Population Geography: Tools and Issues, Rowman and Littlefield Publishers.
8. Pacione M., 1986: Population Geography: Progress and Prospect, Taylor and Francis.
9. Wilson M. G. A., 1968: Population Geography, Nelson.
10. Panda B P (1988): Janasankya Bhugol, M P Hindi Granth Academy,Bhopal
11. Maurya S D (2009) Jansankya Bhugol, Sharda Putak Bhawan, Allahabad
12. Chandna, R C (2006), Jansankhya Bhugol, Kalyani Publishers, Delhi
14. Trewartha, G T (1969), A Geography of Population: world patterns, John Wiley, New York.
15. e-PG Pathshala: https://epgp.inflibnet.ac.in/
16. MOOCS - NPTEL: https://nptel.ac.in/
17. MOOCS - SWAYAM: https://swayam.gov.in/
18. National Digital Library of India: https://ndl.iitkgp.ac.in/
19. Shivaji University Library (E-Resources): http://www.unishivaji.ac.in/library/E-Resources

B. A. Part – III & B. A. B. Ed.
SOCIAL GEOGRAPHY
Syllabus to be implemented from June 2020 onwards

1.TITLE : Social Geography

Optional under the Faculty of Science

6. YEAR OF IMPLEMENTATION :

Revised Syllabus will be implemented from June 2020 onwards.

7. PREAMBLE

This curriculum focuses on the understanding of social geography of the discipline. This paper is specially designed to cater to social study of the students by imparting knowledge about the society. Social geography is the branch of human geography that is most closely related to social problems and well being, dealing with the relation of social phenomena and its spatial components. The different conceptions of social geography have been overlapping with other sub-fields of geography. It was basically applied as a synonym for the search for patterns in the distribution of social groups and there problems.

14. GENERAL OBJECTIVES OF THE COURSE

1) Understanding the concept, origin, nature and scope of social geography.
2) To study the migration, technological and occupational changes in India peoples.
3) An analysis of different social categories and their spatial distribution.
4) To understand the geographies of social welfare and well being.

4.1 COURSE OUTCOMES

6) In depth understanding the problems and prospects of society in India.
7) The students are fully aware about the migration, technological and occupational changes in India peoples.
8) Detailed knowledge about the social categories and communities in world.
9) Understanding concepts of social well being and welfare.

5. DURATION

- The course shall be a full time course
- The duration of course shall be of one year (Sem. – V)

6. PATTERN:

Pattern of Examination Will Be Semester

7. FEE STRUCTURE:

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tution Fee & Laboratory Fee, if any.)

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course / programme concerned.)

10. STRUCTURE OF COURSE = 50 marks

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER FIFTH

Paper No.	**Title Marks**
DSE-E108 or IX, Social Geography	**50**

12. SCHEME OF TEACHING AND EXAMINATION

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

Sr. No.	**Subject/Paper**	**Teaching Scheme (Hrs/Week)**				**Examination Scheme (Marks)**		
		L	**T**	**P**	**Total**	**Theory**	**Term Work**	**Total**
1	Social Geography	**04**	**04**	**00**	**04**	**40**	**10**	**50**

15. SCHEME OF EXAMINATION :

- The examination shall be conducted at the end of each semester.
- The Theory paper shall carry 50 marks.
- The term work shall carry 10 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of semester Examination of 50 marks.

- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

14. STANDARD OF PASSING: As Prescribed under rules & regulation for each degree/ programme.

15. NATURE OF QUESTION PAPER AND SCHEME OF MARKING :-

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question : 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

18. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Research Methodology	IX	Social Geography	E108 or Paper No. IX

17. SPECIAL INSTRUCTIONS, IF ANY.

NEW/REVISED CBCS PATTERN SYLLABUS FOR
B. A. - Part III and B. Ed. Geography Elective Discipline Specific
DSE –E108 or Paper No. IX
(Introduced from June 2020 onwards)

Semester – V

(v) Paper – E108 or IX

(vi) Title of Paper: Social Geography

Module	Teaching Hours	Credit
Module-I: Introduction to Social Geography	**15**	**(1)**
1.1 Definitions, Nature and Scope of Social Geography		
1.2 Sub-branches of Social Geography		
1.3 Relationship with other Social Sciences		
1.4 Approaches and Significance of Social Geography		
Module-II: Peopling Process in India	**15**	**(1)**
2.1 Educational Changes		
2.2 Technological Changes		
2.3 Occupational Changes		
2.4 Migration		
Module-III: Social Categories and their Spatial Distribution	**15**	**(1)**
3.1 Race		
3.2 Religions		
3.3 Gender		
Module-IV: Geographies of Welfare, Well Being and Social Problems in India	**15**	**(1)**
4.1 Concept of Social Welfare and Well being		
4.2 Healthcare and Housing Facilities		
4.3 Slums		
4.4 Communal Conflicts and Crime		

References

1. Ahmed A., 1999: Social Geography, Rawat Publications.

2. Casino V. J. D., Jr., 2009) Social Geography: A Critical Introduction, Wiley Blackwell.

3. Cater J. and Jones T., 2000: Social Geography: An Introduction to Contemporary Issues, Hodder Arnold.
4. Holt L., 2011: Geographies of Children, Youth and Families: An International Perspective, Taylor & Francis.
5. Panelli R., 2004: Social Geographies: From Difference to Action, Sage.
6. Rachel P., Burke M., Fuller D., Gough J., Macfarlane R. and Mowl G., 2001: Introducing Social Geographies, Oxford University Press.
7. Smith D. M., 1977: Human geography: A Welfare Approach, Edward Arnold, London.
8. Smith D. M., 1994: Geography and Social Justice, Blackwell, Oxford.
9. Smith S. J., Pain R., Marston S. A., Jones J. P., 2009: The SAGE Handbook of Social Geographies, Sage Publications.
10. Sopher, David (1980): An Exploration of India, Cornell University Press, Ithasa.
11. Valentine G., 2001: Social Geographies: Space and Society, Prentice Hall

SHIVAJI UNIVERSITY, KOLHAPUR.

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Revised Syllabus For

B. A. Part-III & B. A. B. Ed.

Political Geography

Or

Geography of Health and Wellbeing

CBCS PATTERN

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

Accredited By NAAC
With 'A' Grade
New/Revised Syllabus For
Bachelor/Master of

B. A. Part – III and B. A. B. Ed.
DSC (Discipline Specific Core Course) – E232 or Paper No. XII
Geography (Political Geography), Sem.-VI
Syllabus to be implemented from June 2020 onwards

A] **Ordinance and Regulations:-**
(As applicable to degree/program)

B] **Shivaji University, Kolhapur**
New/Revised Syllabus For **Bachelor of -Arts.**

1. TITLE: Subject – POLITICAL GEOGRAPHY
Optional/Compulsory/Additional/IDS under the Faculty of Science

2. **YEAR OF IMPLEMENTATION**: - New/Revised Syllabi will be implemented from June 2020 onwards.

3. PREAMBLE:-

Political Geography is the most important branch of Human Geography. But after 1960 this branch of Geography becomes popular due to its own significance in the World. Therefore, it has been introduced to B. A. Part-III. In this course the fundamental as well basic concepts and knowledge of Political Geography have been included. The present syllabus of this course includes nature, scope,

4. GENERAL OBJECTIVES OF THE COURSE/ PAPER/:

(As applicable to the Degree /Subject- Paper concerned)

i) To study the Political geography as a fundamental branch of Human Geography.
ii) To familiarize the students with the basics and fundamental concepts and theories of Political Geography.
iii) To aware the students about resource conflicts and politics of displacement.

4.1 COURSE OUTCOME

i) The students are fully aware about the Political geography as a fundamental branch of Human Geography.
ii) The students are familiarized with the basics and fundamental concepts and theories of Political Geography.
iii) The students are aware about resource conflicts and politics of displacement.

5. DURATION

- **The course shall be a full time course.**
- **The duration of course shall be of Three years, as applicable to the respective degree.**

6. PATTERN:-

Pattern of Examination will be Semester.

7. FEE STRUCTURE :-

As per Government /University rules.

[Note: - In case of any New degree/Program started at university/college, the respective colleges/ Dept. should submit a separate proposal of fee structure to BOS office. (i. e. Tution Fee & Laboratory Fee, if any.)

8. ELIGIBILITY FOR ADMISSION:-

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination (i.e. Entrance Examination), if any.

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course / programme concerned.)

10. STRUCTURE OF COURSE = 50 marks

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission/revision of first year syllabus.)

SEMESTER SIXTH

Paper No.	**Title Marks**
DSC-E232 or Paper No. XII, Political Geography	**50**

11. SCHEME OF TEACHING:

The scheme of teaching and examination should be given as applicable to the course / paper concerned.

Sr. No.	Subject/Papers	Teaching Scheme Per Week				**Examination Scheme Sr. (Marks)**			
		L	T	P	Total	Theory	Practical	Term Work	Total
1	Political Geography	04	04	-	04	40	-	10	50

12. SCHEME OF EXAMINATION:

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks (as applicable to the course).
- The term work shall carry 10 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question: 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

Sr. No.	Title of Old Paper	Old paper No.	Title of New paper	New Paper No.
1	Political Geography	XII	Political Geography	E 232 or XII

16. SPECIAL INSTRUCTIONS, IF ANY – Nil

NEW/REVISED SYLLABUS FOR
B. A. Part-III and B. A. B. Ed. Geography
(Syllabus to be implemented from June 2020 onwards)
Semester - VI

(i) DSC – E 232 or XII

(ii) Title of Paper:- POLITICAL GEOGRAPHY

(iii) Specific Objectives:- ----------

(iv) A brief note:- (On expected level of study from examination and assessment point of view):- -----

Module	Teaching Hours	Credits
Module I: Introduction to Political Geography	**15**	**01**
1.1 Definition of Political Geography		
1.2 Nature and Scope of Political Geography		
1.3 Approaches of Political Geography		
1.4 Significance of Political Geography		
Module II: Concepts in Political Geography	**15**	**01**
2.1 State		
2.2 Nation		
2.3 Boundary		
2.4 Frontier		
Module III: Theories in Political Geography	**15**	**01**
3.1 Hartland Theory - Halford J. Mackinder		
3.2 Rimland Theory – Nicholas J. Spykeman		
Module IV: Resource Disputes and Conflicts	**15**	**01**
4.1 Krishna Water Dispute		
4.2 Ganga Water Dispute		
4.3 Sardar Sarovar Project: Issues of Relief, Compensation and Rehabilitation		
4.4 Chandoli Dam Project: Issues of Relief, Compensation and Rehabilitation		

Reading List

1. Adhikari, S. (1997) : Political Geography, Rawat Publications, Jaipur.
2. Dikshit, R. D. (1985) : Political Geography, A Contemporary Perspective, McGraw Hill, New Delhi
3. Dwivedi, R. L. (1996):Political Geography, ChaitanyaPrakashan, Allahabad.

4. Muir, Richand (1995): Modern Political Geography, Macmillan, London.
5. Pounds, N. J. G. (1972): Political Geography 2nd Ed. McGraw Hill, N. Y.
6. Sharma, T. C. : Political Geography.
7. Agnew J., 2002: Making Political Geography, Arnold.
8. Agnew J., Mitchell K. and Toal G., 2003: A Companion to Political Geography, Blackwell.
9. Cox K. R., Low M. and Robinson J., 2008: The Sage Handbook of Political Geography, Sage Publications.
10. Cox K., 2002: Political Geography: Territory, State and Society, Wiley-Blackwell
11. Gallaher C., et al, 2009: Key Concepts in Political Geography, Sage Publications.
12. Glassner M., 1993: Political Geography, Wiley.
13. Jones M., 2004: An Introduction to Political Geography: Space, Place and Politics, Routledg.
14. Mathur H M and M M Cernea (eds.) Development, Displacement and Resettlement – Focus on Asian Experience, Vikas, Delhi
15. Painter J. and Jeffrey A., 2009: Political Geography, Sage Publications.
16. Taylor P. and Flint C., 2000: Political Geography, Pearson Education.
17. Verma M K (2004): Development, Displacement and Resettlement, Rawat Publications, Delhi
18. Hodder Dick, Sarah J Llyod and Keith S McLachlan (1998), Land Locked States of Africa and Asia (vo.2), Frank Cass

Accredited By NAAC
With 'A' Grade
New/Revised Syllabus For
B. A. Part – III and B. A. B. Ed.
DSE-E232 (Discipline Specific Elective Course/Paper No.XII
Geography (Geography of Health and Wellbeing), Semester-VI

Syllabus to be implemented from June 2020 onwards

A]Ordinance and Regulations:-

(As applicable to degree/program)

B] Shivaji University, Kolhapur

New/Revised Syllabus for Bachelor of Arts and B. A. B. Ed.

1. TITLE: **Geography of Health and Wellbeing**

Optional/Compulsory/Additional/**DSE**

2. FACULTY: Faculty of Science.

3.YEAROFIMPLEMENTATION:

New/Revised Syllabi will be implemented from June 2020 onwards.

4.PREAMBLE:

Geography of Health and Wellbeing considers the significance for physical and mental health of interactions between people and their environment. This branch of Geography becomes popular due to its significance. Therefore, it has been introduced to B. A. Part-III. In this course the fundamental concepts and knowledge of Geography of Health and wellbeing have been included. The present syllabus of this course includes perspectives of health, pressure on environmental quality and health, exposure and health risks, health and disease patterns.

5. GENERAL OBJECTIVES OF THE COURSE/PAPER:

(As applicable to the Degree/Subject-Paper concerned)

i) To know Geography of Health and Wellbeing.
ii) To study the fundamental concepts health and environmental trends.
iii) To study the pressure on environmental quality and health.
iv) To study the exposure and health risks.
iv) To understand the health and various disease patterns in environmental context with special reference to India.

6. COURCE OUT COME:

After the completion of course, the students will have ability to:

1. Understand various geographical perspectives related to human health.

2. Create awareness of human health and environmental trends.
3. The students are familiar with geographical background of diseases and their regional pattern.
4. Detail understanding of pressure on environmental quality and human health.
5. Create awareness among the students of malnutrition and hygiene.
6. The students are familiar with the process of health care planning in India.
7. The students are aware about impact of climate change on human health.

6. DURATION

•The course shall be a full time course.

•The duration of course shall be of Three years, as applicable to the respective degree.

8. PATTERN:

Pattern of Examination will be Semester.

8.FEE STRUCTURE:

As per Government/University rules.

[Note: In case of any New degree/Program started at university/college, the respective colleges/Dept. should submit a separate proposal of fee structure to BOS office.(i.e. Tution Fee & Laboratory Fee, if any.]

9. ELIGIBILITY FOR ADMISSION:-

As per eligibility criteria prescribed for respective degree programme and the merit in the qualifying examination (i.e. Entrance Examination), if any.

10.MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English or Marathi. (as applicable to the course/programme concerned.)

11.STRUCTUREOFCOURSE = 50 marks

(Note–The structure & title of papers of the degree as a whole should be submitted at The time of submission/revision of first year syllabus.)

SEMESTER SIXTH Paper No.

Course	Title	Marks
E 232/Paper- XII,	Geographyof Health and Wellbeing	50

12. SCHEME OF TEACHING AND EXAMINATION:

The scheme of teaching and examination should be given as applicable to the course /paper concerned.

Sr. No.	Subject/Papers	Teaching Scheme Per Week				Examination Scheme (Marks)			
1	Geography of Health and Wellbeing	L	T	P	Total	Theory	Practical	Term Work	Total
		04	04	-	04	40	-	10	40

13. Scheme of Examination:

- The examination shall be conducted at the end of each academic year.
- The paper shall carry 40 marks.
- The term work shall carry 10 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 50 marks.
- Question Paper will be set in the view of the / in accordance with the entire syllabus and preferably covering each unit of syllabi.

14. Standard of Passing:

(As prescribed under rules & regulation for each degree / program)

15. Nature of Question Paper and Scheme of Marking:

(Unit wise weightage of marks should also be mentioned)

Semester V		Marks
Question: 1)	Objective Type Question (Multiple Choice)	05
Question: 2)	Short Notes (Any three out of five)	15
Question: 3)	Detailed Answer Type Question (Any two out of three)	20

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS (For revised Syllabus)

Sr. No.	Title of Old Paper	Title of New Paper
1	Political Geography (Paper -I)	Geography of Health and Wellbeing E232 (Paper No. XII)

17. Special Instructions, If any.

NEW/REVISED SYLLABUS FOR
B. A. Part-III and B. A. B. Ed. Geography
(**Syllabus to be implemented from June 2020 onwards**)
Semester-VI

(i) Course/Paper No. E232 or XII

(ii) Title of Paper:- GEOGRAPHY OF HEALTH AND WELLBEING

(iii) Specific Objectives:----------

(iv) A brief note:-

(On expected level of study from examination and assessment point of view):- -----

Module	Teaching Hours	Credits
Module I:Perspectives on Health	15	01
1.1 Definition, Nature and Scope		
1.2 Trends and Applications		
1.3 Linkages with Environment and Development		
1.4 Health and Environmental Trends: Population Dynamics, Urbanization, Poverty and Inequality		
Module II: Pressure on Environmental Quality and Health	15	01
2.1 Human Activities and Environmental Pressure		
2.2 Land use and Agricultural Development		
2.3 Industrialization		
2.4 Transportation		
Module III: Exposure and Health Risks	15	01
3.1 Air and Water Pollution		
3.2 Household Wastes		
3.3 Housing		
3.4 Workplace		
Module IV: Health and Disease Patterns	15	01
(In Environmental Context with special reference to India)		
4.1 Communicable diseases and their regional pattern – AIDS and Dengue		
4.2 Lifestyle related diseases and their regional pattern – Cancer and Diabetes		
4.3 Climate change and human health		
4.4 Food production and nutrition		

REFERENCES

1.Akhtar Rais (Ed.), 1990:Environment and Health Themes in Medical Geography, Ashish Publishing House,New Delhi.

2.Avon Joan L. and Jonathan A Patzed., 2001:Ecosystem Changes and Public Health, Baltimin, John Hopling Unit Press(ed).

3.Bradley, D., 1977: Water, Wastes and Health in Hot Climates, John Wiley Chichesten.

4.Brown T., S. McLafferty, and G. Moon. 2009. *A companion to health and medical geography*. Chichester, UK: Wiley-Blackwell. DOI: 10.1002/9781444314762

5. Christaler George and HristopolesDionissios, 1998:SpatioTemporalEnvironment Health Modelling,Boston Kluwer AcademicPress.

6.Cliff, A.D. andPeter, H., 1988: Atlas of DiseaseDistributions,Blackwell Publishers, Oxford.

7.Emch, M., Root, E.D., Carrel, M., 2017, Health and Medical Geography, Fourth Edition Guilford *Publications*

8. Gatrell, A., and Loytonen, 1998: GISand Health, Taylor and Francis Ltd, London.

9. Gatrell A., and S. Elliott. 2009. *Geographies of health*. Chichester, UK: Wiley-Blackwell.

10. Gesler, W., and W. Kearns. 2002. *Culture place and health*. Critical Geographies. London: Routledge.

11.HardhamT. and TannavM., (eds):Urban Health in Developing Countries; Progress, Projects, Earthgoan, London.

12. Jones, K., and G. Moon. 1987. *Health disease and society*. London: Routledge.

13. Meade, M., and R. Earickson. 2000. *Medical geography*. New York: Guildford.

14. Murray,C. and A. Lopez, 1996: The Global Burden of Disease, Harvard University Press.

15.Moeller Dadewed., 1993: Environmental Health, Cambridge, Harvard University Press.

16.Phillips, D. and Verhasselt, Y., 1994: Health and Development, Routledge, London.

17. Shelar, S.K., 2012: Introduction to Medical Geography, Chandralok Pub., Kanpur.

18. Tromp, S., 1980: Biometeorology: The Impact of Weather and Climate on Humans and their Environment, Heydon and Son.

19. मस्कीडी., भैसेएस.,२०१४, आरोग्यभूगोल, अथर्वप्रकाशन,पुणे

Websites:

e-PGPathshala: https://epgp.inflibnet.ac.in/

MOOCS - NPTEL: https://nptel.ac.in/

MOOCS - SWAYAM: https://swayam.gov.in/

National Digital Library of India: https://ndl.iitkgp.ac.in/

Shivaji University Library (E-Resources): http://www.unishivaji.ac.in/library/E-Resources

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & & B. A. B. Ed.

Geography (Practical)

(Fundamentals of Map Making and Map Interpretation)

CBCS PATTERN

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

A) Ordinance and Regulations
(As applicable to degree)
B) Shivaji University, Kolhapur.
Revised Syllabus for
Bachelor of Arts and B. A. B. Ed.
DSE-E233 (Paper XIII or Practical Paper -I)

1. Title: Fundamentals of Map Making and Map Interpretation

Optional Subject under the Faculty of Science

2. **Year of Implementation:** Revised Syllabi will be implemented from June 2020 onwards.

3. Preamble:

Practical Work is the most important part of Geography. Map is an indispensable tool in Geographical Studies & Research activities. The present syllabus of this paper includes study of maps and their types, Map Projections, S.O.I. Topomaps, I.M.D. Weather Maps, and Cartographic Techniques. In the process of development of science and technology, the changing nature of subject of geography will make aware to the student about the map work and map interpretation. This will further help to improve the use of maps, cartographic techniques and methods in teaching-learning and research work.

4. General objectives of the Paper:

(As applicable to the – paper concerned)

1) To introduce the students with the importance of map making and map Interpretation.
2) To make the students to understand map, concept of scale and concept of projection.
3) To provide training in analysis of landforms.
4) To give basic information to the students about S.O.I. topomaps and I.M.D. weather maps.
5) To develop the skill of map Interpretation among the students.
6) To familiarize the students with the different cartographic techniques and methods used for representation of demographic and physio- socio-economic database.

5. COURSE OUTCOMES

1. In depth understanding the map, concept of scale and projection.
2. Detailed knowledge about the analysis of landforms and its identification.
3. The students are deeply aware about basic information to the students about S.O.I. topomaps and I.M.D. weather maps and obtained the skills about map interpretation.

4. The students are deeply familiar with different cartographic techniques and methods used for representation of demographic and physio- socio-economic database

6. Duration:

- The course shall be a full time course.
- The duration of course shall be of three years, as applicable to the respective degree.

7. Pattern:

Pattern of Examination will be **ANNUAL.**

8. Fee Structure:

As per Government / University rules.

9. Eligibility for Admission:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination, if any.

10.Medium of Instruction:

The medium of instruction shall be in English or Marathi. (As applicable to the course / programme concerned)

11. Structure of Course: Theory & Practical's

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission / revision of first year syllabus.)

Third Year (Semester VI) Paper No. XIII

Sr. No.	Subjects/Papers	Theory	Practical	Total marks
1	Fundamentals of Map Making and Map Interpretation	-----	100	100

12. Scheme of Teaching and Examination:

(The Scheme of teaching and examination should be given as applicable to the course / paper concerned)

B. A. part –III

Sr. No.	Subjects/Papers	Theory				Examination scheme (Marks)		
		L	T	P	Total	Practical	Term Work	Total (Annual)
1	Fundamentals of Map Making and Map Interpretation	---	---	10	10	100	---	100

13. Scheme of Examination:

- The examination shall be conducted at the end of each academic year.
- The Practical paper shall carry 100 marks.
- The evaluation of the performance of the student in practical papers shall be on the basis of annual practical examination of 100 marks.
- Question Paper will be set in the view of the / in accordance with the entire syllabus and preferably covering each Module of syllabi.

14. Standard of Passing:

(As prescribed under rules & regulation for each degree / program)

15. Nature of Question Paper and Scheme of Marking:

(Module wise weightage of marks should also be mentioned)

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS

(For revised Syllabus)

Sr. No.	Title of Old Paper	Title of New Paper
1	Map Work & Map Reading Paper XIII (Practical Paper -I)	Fundamentals of Map Making and Map Interpretation E 233 or Paper XIII (Practical Paper - I)

17. Special Instructions, If any.

Revised Syllabus for B. A. – III and B. A. B. Ed.

(Introduced from June 2020 Onwards)

Revised Syllabus for

B. A. Part III and B. A. B. Ed. Geography

DSE-E233 or Paper No. XIII (Practical Paper -I)

Title of Paper: Fundamentals of Map Making and Map Interpretation

Module – I: Introduction to Map and Scales: Periods 50

Marks 15

1.1 Map

1.1.1 Map: Definition and Elements

1.1.2 Classification of Maps: Based on Scale and Purpose

1.2 Scale

1.2.1 Meaning and Definition,

1.2.2 Methods of Representation of scale - Verbal, Numerical and Graphical.

1.2.3 Scale Conversion

1.2.4 Construction of Graphical Scale –

i) Simple (Plane Scale)

ii) Time and Distance Scale

iii) Diagonal Scale

Module II: Map Projection Periods 50

Marks 15

2.1 Definition, Classification of Projections:

a) Based on the methods of Construction: Perspective and Non-perspective

b) Based on Developable Surface used: Conical, Cylindrical, Zenithal, Conventional.

c) Based on Position of Tangent Surfaces: Polar, Equatorial (normal), Oblique.

d) Based on Position of view point or light: Gnomonic, Stereographic, Orthographic

e) Based on Preserved qualities: i) Equal area projection (Homolographic)

ii) Orthographic Projection

iii) Azumuthal Projection (True Bearing Projection)

2.2 Graphical Construction of the following Projections with Properties and Use:

i) Zenithal Polar Gnomanic Projection

ii) Zenithal Polar Equal Area Projection

iii) Simple Conical Projection with one standard Parallel

iv) Cylindrical Equal Area Projection

v) Mercator's Projection and Reference to Universal Transverse Mercator (UTM) Projection

Module – III : Identification, Mapping of Slope, Relief Features and Profiles

Periods 50

Marks 15

3.1 Slope and Gradient

3.1.1 Types of Slope: Gentle, Steep, Even, Uneven, Convex, Concave, Terraced.

3.1.2 Expression of Slopes: a) Gradient b) Degree c) Per Cent d) Mills

3.1.2 Representation of Relief by Contours: Hill, Mountain, Ridge, Cliff, Saddle, Plateau, Knoll, Spur, Col or Pass, Volcanic Col or Crater, Gorge, 'V' Shaped Valley, Waterfall, 'U' Shaped Valley, Cirque, Hanging Valley, Ria Coast, Fiord Coast, Sea cliff.

3.2 Profiles

3.5.1 Superimposed Profile

3.5.2 Composite Profile

3.5.3 Projected Profile

3.5.4 Longitudinal Profile

Module – IV : Topographical Maps **Periods 50**

Marks 15

4.1 Indexing of S.O.I. Topographical Map

4.2 Signs, Symbols and Colors used in SOI Toposheet

4.3 Interpretation of S.O.I.'s Topographical Maps

a) Marginal Information

b) Physical environment: Relief, Drainage and Vegetation

c) Cultural environment: Settlements, Transportation and Communication, Irrigation.

d) Land Use

Module V: Weather Instruments and IMD Maps **Periods 70**

Marks 20

5.1 Study of weather Instruments with reference to Principle, Mechanism, and Function

a) Thermograph

b) Barograph

c) Dry and Wet Bulb Thermometer

d) Cup Anemometer

e) Rain Gauge

5.2 Isobaric Patterns: Cyclone, Anticyclone, Col, Ridge, Secondary Depression

5.3 Signs and Symbols used in Indian Daily Weather Maps

5.4 Interpretation of Indian Daily Weather Maps

Marginal Information, Pressure, Winds, Clouds, Rainfall, Other Conditions, Sea Condition, Temperature departure from normal

Module VI : Representation Techniques of Statistical Data **Periods 30**

Marks 10

a) Divided Rectangle
b) Proportional Circle
c) Proportional Square
d) Choropleth Map
e) Dot Map
f) Isopleths

Module VII: Journal and Viva Voce

Marks 10

Note :

1. Use of stencils, log tables, computer and calculator is allowed.
2. Journal should be completed and duly certified by practical in-charge and Head of the Department.

Reference:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial,
2. London 1964.

3. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept Publishing Company, New Delhi, 1998
4. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
5. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
6. Negi. , Dr. Balbir Singh : Practical Geography, Kedar Nath Ram Nath, Meerut, Delhi.
7. Raisz, E.: Principals of Cartography, McGraw Hill Book Com., Inc, New York, 1962.
8. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, New York, 1969.
9. Saha, Pijushkanti and Basu Partha : Advanced Practical Geography – A Laboratory Manual Books and Allied (P) Ltd, Kolkata. 2010.
10. Sarkar, Ashis : Practical Geography: A systematic Approach, Orient Longman limited, Calcutta, 1997.
11. Singh, Gopal : Map work and Practical Geography Vikas Publishing House Pvt. Ltd. New Delhi, 1996.
12. Singh, R and Kanaujia, L.R.S.: Map Work and Practical Geography, Central Book Depot, Allahabad.
13. Singh, R. L. and Rana P.B. : Elements of Practical Geography, Kalyani Publishers, New Delhi – Ludhiana, 1998.
14. Aher A. B., Chodhari A. P. & Bharambe S. N. Techniques of Spatial Analysis Prashant Publication Jalgaon 2015
15. Maurice Yeats, An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York, 1974.
16. P. Saha and P. Basu (2006): Advanced Practical Geography, Books and Allied Publication, Kolkata, India.
17. Khullar, Essentials of Practical Geography, New Academic Publishing Co, India.
18. Singh L R (2011): Fundamentals of Practical Geography
19. Robinson Rep. (2010): Elements of Cartography 6/e
20. Khan Za (1998): Text Book of Practical Geography
२१. कुंभार अर्जुन, प्रात्यक्षिक भूगोल,

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & & B. A. B. Ed.

Geography (Practical)

(Advanced Tools, Techniques & Field Work in Geography)

CBCS PATTERN

(Subject to the modifications to be made from time to time)

Syllabus to be implemented from June 2020 onwards

A) Ordinance and Regulations
(As applicable to degree)
B) Shivaji University, Kolhapur.
Revised Syllabus for
Bachelor of Arts and B. A. B. Ed.
DSE-E234 or Paper XIII (Practical Paper -II)
Syllabus to be implemented from June 2020 onwards

1. Title: Advanced Tools, Techniques & Field Work in Geography

Optional Subject under the Faculty of Science

2. Year of Implementation: Revised Syllabi will be implemented from June 2020 onwards.

3. Preamble:

Modern science & technology have gained momentum. The last couple of Decades have witnessed a sudden expansion of knowledge**.** In the process of development of science and technology, the changing nature of subject of Geography will make aware to the students about the advanced techniques such as Remote Sensing, GIS, and GPS. The application of computers has revolutionized the use of methods & techniques. The present syllabus of this paper includes study of Aerial Photographs, Remote Sensing, GIS, Application of Computer and use of field work in Geography. This will further help to improve the use of advanced techniques and methods in teaching-learning and research work.

4. General objectives of the Paper:

1) To introduce the students with the importance of field work and advanced Techniques in Geography.
2) To provide training in application of modern tool and techniques in Geography.
3) To enable the students to understand the use of computer for analysis of Geographical data.
4) To enhance the skill of the students in instrumental survey.
5) To give basic information to the students about Arial Photographs, Remote Sensing, GIS and GPS.

6. COURSE OUTCOMES

5. In depth understanding the importance of field work and advanced Techniques in Geography.
6. The students are trained to implement modern tool and techniques in Geography.
7. Detailed knowledge about the use of computer for analysis of Geographical data.
8. The students are deeply aware about the basics and trained in instrumental survey.

9. The students are deeply familiar with computer, GIS, GPS and Remote Sensing.

6. Duration:

- The course shall be a full time course.
- The duration of course shall be of three years, as applicable to the respective degree.

7. Pattern:

Pattern of Examination will be **ANNUAL.**

8. Fee Structure:

As per Government / University rules.

9. Eligibility for Admission:

As per eligibility criteria prescribed for respective degree program and the merit in the qualifying examination, if any.

10.Medium of Instruction:

The medium of instruction shall be in English or Marathi. (As applicable to the course / programme concerned)

11. Structure of Course: Theory & Practical's

(Note – The structure & title of papers of the degree as a whole should be submitted at the time of submission / revision of first year syllabus.)

Third Year (Semester VI) Paper No. XIII

Sr. No.	Subjects/Papers	Theory	Practical	Total marks
1	Advanced Tools, Techniques & Field Work in Geography	-----	100	100

12. Scheme of Teaching and Examination:

(The Scheme of teaching and examination should be given as applicable to the course / paper concerned)

B. A. part –III

Sr. No.	Subjects/Papers	Theory				Examination scheme (Marks)		
1	Advanced Tools, Techniques & Field Work in Geography	L	T	P	Total	Practical	Term Work	Total (Annual)
		---	---	10	10	100	---	100

13. Scheme of Examination:

- The examination shall be conducted at the end of each academic year.
- The Practical paper shall carry 100 marks.

- The evaluation of the performance of the student in practical papers shall be on the basis of annual practical examination of 100 marks.
- Question Paper will be set in the view of the / in accordance with the entire syllabus and preferably covering each Module of syllabi.

14. Standard of Passing:

(As prescribed under rules & regulation for each degree / program)

15. Nature of Question Paper and Scheme of Marking:

(Module wise weightage of marks should also be mentioned)

16. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS

(For revised Syllabus)

Sr. No.	Title of Old Paper	Title of New Paper
1	Advanced Tools, Techniques & Field Work	Advanced Tools, Techniques & Field Work in Geography (DSE-E234 or Paper No. XIV)

17. Special Instructions, If any.

Revised Syllabus for B. A. – III and B. A. B. Ed.

(Introduced from June 2020 Onwards)

Revised Syllabus for

B. A. (Part III) Geography

DSE-E234 or Paper No. XIV (Practical Paper -II)

(ii) Title of Paper - Advanced Tools, Techniques & Field Work in Geography(100 Marks)

Module-I: Introduction to Computer **Lectures- 50**

Marks-10

1.1: Introduction to Computer

1.2: Application of computer in geography

1.2.1: Construction of Line Graphs, Bar Graphs

1.2.2: Construction of Pie Diagram and Scatter Diagram

1.3: Application of Excel for Data Analysis

Module:-II: Remote Sensing **Lectures- 50**

Marks-15

2.1 Definition of Remote Sensing

2.2 Fundamentals of Remote Sensing: EMR, Sensors and Platforms

2.3 Application of Remote Sensing in Geography

2.4 Aerial photographs and Satellite imagery: Definition, types and difference between them

2.5 Determination of Photo Scale

2.6 Elements of image interpretation

2.7 Identification of Physical and cultural features from Aerial Photographs or Satellite Imagery

Module-III: GIS and GNSS **Lectures- 50**

Marks-15

3.1 Geographical Information System (GIS)

3.1.1 Definition and components

3.1.2 GIS Data Structure: Types (spatial and non-spatial), Raster and Vector data

3.1.3 Georeferencing, Digitization, Map Layout Preparation

3.1.4 Application of GIS in Geography: Land use or Land Cover, Urban Sprawl Analysis, Forests Monitoring

3.2 Global Navigation Satellite System

3.2.1 Definition and components

3.2.2: GPS and its applications in Geography

3.2.3 Field work in GPS: Determining latitude, longitude and altitude

3.3: Exercise with Google earth Program.

Module-IV: Statistical methods and techniques Lectures- 60

Marks-10

4.1 Measures of Central Tendency: Mean, Median and Mode

4.2 Dispersion: Mean Deviation and Standard Deviation

4. 3Association and Correlation: Karl Pearson's Method (Product Moment)

4.4 Analysis of Time Series: Semi-average Method

Module-V: Surveying Lectures- 60

Marks-15

5.1 Introduction to Survey: Meaning and types

5.2 Preparation of plans of the given area with the following survey method

(Any one methods among them)

A- Plane Table survey (Radial, Intersection, and Traverse method)

B- Dumpy Level survey

C- Theodolite survey

D- Total Station

E- Abony Level Survey

5.3 Preparation of plans Prismatic compass survey (Radical, Intersection and Traverse method)

5.3.1 Types and conversion of bearings.

5.3.2 Correction of bearing.

Module-VI: Project work based on field work any one of following:

Marks-15

Resource survey, Population survey, Agricultural survey, Settlement Survey, Environmental issues, Industrial visit, Health survey, Natural Hazard or Disaster

1. Project Report must be content of following points:

Introduction – Aims – Objectives - Review of the literature - Data collection – Methodology - Data Analysis – Interpretation - Findings – Suggestions - Bibliography

2. The duration of the field work should not exceed than 20 days.
4. The word count of the report should be about 8000 to 12,000 excluding figures, tables, photographs, maps, references and appendices.
5. One copy per student of the report as per research standard should be submitted at the time of examination.

Module- VII: Study Tour

Marks-10

Maximum 15 days of Study Tour and preparation of Tour Report.
The Study Tour Report must be content of following points:
Introduction – Necessity – Importance - Route map – Objectives – Methodology - Geographical Profile (Natural, Socio-economic and Cultural) - Geographical importance of visited tourist places – Conclusion – References

Journal and Viva Voce

Marks 10

Note :

1. Use of stencils, log tables, computer and calculator is allowed.
2. Journal should be completed and duly certified by practical in-charge and Head of the Department.

Reference:

21. Lo C. P., Albert K. W. Yeung, (2011): Concepts and Techniques of Geographic Information Systems, PHI Learning Private Limited, New Delhi-110001.
22. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial,
23. London 1964.
24. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept Publishing Company, New Delhi, 1998
25. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
26. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
27. Negi. , Dr. Balbir Singh : Practical Geography, Kedar Nath Ram Nath, Meerut, Delhi.
28. Raisz, E.: Principals of Cartography, McGraw Hill Book Com., Inc, New York, 1962.
29. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, New York, 1969.

30. Saha, Pijushkanti and Basu Partha : Advanced Practical Geography – A Laboratory Manual Books and Allied (P) Ltd, Kolkata. 2010.
31. Sarkar, Ashis : Practical Geography: A systematic Approach, Orient Longman limited, Calcutta, 1997.
32. Singh, Gopal : Map work and Practical Geography Vikas Publishing House Pvt. Ltd. New Delhi, 1996.
33. Singh, R and Kanaujia, L.R.S.: Map Work and Practical Geography, Central Book Depot, Allahabad.
34. Singh, R. L. and Rana P.B. : Elements of Practical Geography, Kalyani Publishers, New Delhi – Ludhiana, 1998.
35. Aher A. B., Chodhari A. P. & Bharambe S. N. Techniques of Spatial Analysis Prashant Publication Jalgaon 2015
36. Maurice Yeats, An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York, 1974.
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40. Robinson Rep. (2010): Elements of Cartography 6/e
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SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B. Sc. Part - I

GEOGRAPHY

(Syllabus to be implemented from June, 2022 onwards)

Shivaji University, Kolhapur

PROGRAM /COURSE STRUCTURE and SYLLABUS

as per the Choice Based Credit System (CBCS) designed in accordance with Learning Outcomes-Based Curriculum Framework (LOCF) of National Education Policy (NEP) 2020

B. Sc. Part-I Geography Degree (Basic/Honours)

w.e.f. Academic Year 2022-23 and onwards

1. TITLE: Physical Geography and Human Geography

1)	(Semester – I)	i) DSC 19 A - Physical Geography Paper-I
		ii) DSC 20 A - Physical Geography Paper-II
2)	(Semester – II)	i) DSC 20 B - Human Geography Paper-I
		ii) DSC 20 B - Human Geography Paper-II

Optional Subjects under the Faculty of Science.

2. YEAR OF IMPLEMENTATION:

Revised Syllabus will be implemented from June, 2021 onwards.

3. PREAMBLE:

The Geography students of B. Sc. Part-I can better understand all latest concepts in Physical Geography and Human Geography in brief but in adequate manner.

4. GENERAL OBJECTIVES OF THE PAPER:

The objective of this course is to introduce the latest concepts in Physical Geography and Human Geography, Specifically in Atmosphere, Composition of the Earth, Fluvial Cycle, Hydrosphere, Human races, Population growth and distribution, Characteristics of Population and Settlements.

5. DURATION:

The course shall be a full time course.

6. PATTERN:

Pattern of Examination will be Semester for Theory.

7. ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for each course and the merit list in qualifying examination.

8. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English.

9. STRUCTURE OF COURSE:

FIRST YEAR (Each of Papers- I & II)

Sr. No.	Subject or Paper	Marks
1	Physical Geography (Papers- I & II)	100
2	Human Geography (Papers- I & II)	100
Practical (Pattern of Examination will be ANNUAL.)		50

10. SCHEME OF TEACHING:

The scheme of teaching and examination should be given as applicable to the course / paper concerned.

Sr. No.	Subject or Paper	Teaching Scheme (Credits / Week)			
		Credits	Theory	Practical	Total
1	Physical Geography	04	04	--	04
2	Human Geography	04	04	--	04
Practical (Pattern of Examination will be ANNUAL.)		02	--	02	02

11.SCHEME OF EXAMINATION:

Question Paper will be set in the view of the / in accordance with the entire Syllabus and preferably covering each unit of syllabi of each semester.

12.STANDARD OF PASSING:

As per Prescribed rules and regulation for each degree / programme.

B. Sc. Part – I Semester I
(w.e.f. June, 2022)

DSC- 19 A: Geography (Physical Geography) - I

Marks: 50 Credits: 02

Title	No. of Lecture	Credits
Module I: Introduction to Physical Geography	**19**	**(1)**

1.1 Definition, Nature and Scope of Physical Geography

1.2 Branches of Physical Geography

1.3 Components of Earth systems

1.4 Importance of Physical Geography

1.5 Interior of the Earth: Structure of the Earth's interior, Density and Temperature in the interior of the Earth.

1.6 Forces of the Earth Crust: Endogenetic forces, Diastrophic forces: Epeirogenetic Forces, Orogenitic Forces

1.7 Wegener's Theory of Continental Drift.

1.8 Theory of Plate tectonics: Plates and boundaries and associated landforms

Module II	**Denudation**	**19**	**(1)**

2.1 Concept of Denudation

2.2 Weathering: Concept, Types of Weathering: Mechanical, chemical and Biotic Weathering

2.3 Fluvial Cycle of Erosion: W. M. Davis

2.4 Evolution of Landforms: Erosional and Depositional

2.4.1 Fluvial

2.4.2 Aeolian

Reference books:

1. Conserva H. T. 2004: Illustrated Dictionary of Physical Geography, Author House, USA.

2. Christopherson, R.W. 2000, Geo-systems, Prentice Hall, INC. USA. Hamblin, W.K., 1989: The Earth's Dynamic Systems, Macmillan Publishing Company, New York.

3. Gabler, R. E., Peterson,J. F. and Trapasso, L. M., 2007: Essentials of Physical Geography (8th Edition), Thomson, Brooks/ Cole, USA.

4. Garrette, N., 2000: Advance Geography, Oxford University Press.

5. Goudie, A., 1984: The Nature of Environment: An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.

6. Husain, M., 2001: Fundamentals of Physical Geography, Rawat Publication, Jaipur.

7. Kale,V. S. and Gupta, A.,2001: Introduction to Geomorphology, Orient Longman, Calcutta.

8. Monkhouse, F. J., 1996: Principles of Physical Geography, Hodder and Stoughton, London.

9. Robinson, H., 1969: Morphology and Landscape, University Tutorial Press Ltd, London.

10. Siddhartha, K., 2001: The Earth's Dynamic Surface, Kisalaya Publications Pvt. Ltd, New Delhi.

11. Strahler, A.A. and Strahler, A. N., 2002: Physical Geography: Science and Systems of the Human Environment, John Wiley & Sons, New York.

B. Sc. Part – I Semester I
(w.e.f. June, 2022)

DSC- 19 A: Geography (Physical Geography) - II

Marks: 50 Credits: 02

Title	No. of Lecture	Credits
Module I: Introduction to Climatology	**19**	**1**

1.1 Definition and Scope

1.2 Composition and Structure of Atmosphere

1.3 Elements of Weather and Climate

1.4 Insolation: Insolation: Definition, solar constant, factors affecting on distribution of Insolation, Distribution of Insolation and Heat Balance of the Earth.

1.5 Temperature: Controlling Factors of Temperature, Distribution of Temperature: Vertical and Horizontal.

1.6 Atmospheric Pressure: Definition, Affecting Factors and Distribution of air pressure: Vertical and Horizontal, Pressure Belts, Shifting of Pressure Belts.

1.7 Winds: Planetary Winds

1.8 Climate Change: Concept, Natural and Human Causes of Climate Change

Module II: Oceanography	**18**	**1**

2.1 Definition

2.2 Surface Configuration of Ocean Floor

2.3 Temperature of Ocean Water: Factors Affecting on Horizontal Distribution of Temperature of Ocean Water, Vertical Distribution of Temperature Ocean Water

2.4 Salinity of Ocean Water: Affecting Factors on salinity of ocean water, Distribution of

salinity – Horizontal and Regional

2.5 Ocean Currents:

2.5.1 Factors affecting on ocean currents and Types of Ocean Currents

2.5.2 Ocean Currents: Pacific, Atlantic and Indian Ocean

2.6 Man and Ocean

Reference books:

1. Conserva H.T., 2004: Illustrated dictionary of Physical Geography, Author House, USA.
2. Critchfield, H.J., 1997: General Climatology, Prentice Hall of India Pvt. Ltd, New Delhi. Dasgupta, A. and Kapoor, A.N., Principles of Physical Geography. Grald, S., General Oceanography.
3. Gabler R.E., Petersen J.F. and Trapasso L.M., 2007: Essentials of Physical Geography (8^{th} edition), Thompson, Brooks/Cole, USA.
4. Garrett N. 2000: Advanced Geography, Oxford University Press.
5. Goudie A., 1984: The nature of the environment an advanced physical geography, Basil Blackwell Publishers, Oxford.
6. Hamblin W.K., 1995: Earth's Dynamic System, Prentice Hall, N J.
7. Husain M., 2002: Fundamentals of Physical Geography, Ravat Publication, Jaipur.
8. Lutgens, F.K. and Tarbuck, E.J., 2007: The Atmosphere, Pearson Prentice Hall, New Jersey. Pirie, R.G., Oceanography (Contemporary).
9. Monkhouse F.J. 200: Principals of Physical Geogeaphy, Platinum Publishers, Kolkatta.
10. Ross, D.A., 1988: Introduction to Oceanography. Prentice Hall, New Jersey.
11. Sharma, R.C. and Vatel. M., Oceanography for Geographers.
12. Strahler, A.A. and Strahler, A. N., 2002: Physical Geography: Science and Systems of the Human Environment, John Wiley and Sons, INC.
13. Strahler, A.H. and Strahler, A. N., 1992: Modern Physical Geography, John Wiley and Sons, INC.
14. Strahler, A.N., 1965: Introduction to Physical Geography, John Wiley and Sons,
15. Strahler A.N., Strahler A.H. 2008: Modern Physical Geography. John Wiley and Sons, New York.
16. Trewartha, G., Introduction to Weather and Climate. King, C.A.M., Oceanography for Geographers. Lake, P., Physical Geography.

B. Sc. Part – I Semester - II
(w.e.f. June, 2022)

DSC-19B: Geography (Human Geography) -I

Marks: 50 Credits: 02

Title of the Unit		No. of Lecture	No. of Credits
Module I	**Human Geography and Human Race**	**18**	**(1)**

1.1 Definition and Nature, Scope of Human Geography

1.2 Branches of Human Geography

1.3 Importance of Human Geography

1.4 Human Races: Classification and World Racial Groups

1.5 Human Life: ESKIMO (Cold) and PYGMY (Hot)

(Location, Geographical environment, Physical traits, Food & clothing and Economic activity)

Module II	**Population**	**19**	**(1)**

2.1 Population Growth: Concept and Population Growth in India

2.2 Factors Affecting on the Distribution of Population

2.3 Distribution of the World Population

2.4 Population Growth Theories: Malthusian Theory and Notestein's Theory of Demographic Transition

2.5 Demographic Transition in India

DSC-20B: Human Geography-II

Marks: 50 Credits: 02

Module I	**Composition of Population and Population Migration**	**19**	**(1)**

1.1 Age Composition: Factors Affecting on Age Composition and Age Composition in India.

1.2 Sex Ratio: Factors Affecting on Sex Composition and Sex Composition in India.

1.3 Migration: Concept, types and Causes

1.4 Consequences of Migration.

1.5 Population Policies of India and Population Projections

Module II	**Settlements**	**18**	**(1)**

2.1 Definition and Types of Settlements

2.2 Pattern of Rural Settlements

1.3 Functions of Rural Settlement

1.4 Urbanization

1.5 Classification of Urban Settlement

1.6 Functions of Urban Settlement

References:

1. Bergwan, Edward E 1995: Human Geography; Culture, Connections and Landscape, Prentice-Hall, New Jersey.
2. Carr, M. 1987: Patterns, Process and change in Human Geography. MacMillan Education, London.
3. Fellman, J. L. 1997: Human Geography—Landscapes of Human Activities. Brown and Benchman Pub., U.S.A.
4. De Blij H. J. 1996: Human Geography, Culture, Society and Space John Wiley, New York.
5. Johnston, R.J. (editor). 1994: Dictionary of Human Geography Blackwell, Oxford.
6. Mc Bride, P. J. 1996: Human Geography Systems, Patterns and Change, Nelson, U.K. and Canada.
7. Michael, Can 1997: New Patterns: Process and Change in Human Geography Nelson,
8. Rubenstein, J.H. and Bacon R.S. 1990: The Cultural Landscape — an Introduction to Human Geography. Prentice Hall, India, New Delhi.
9. Singh, K.N. 1992:People of India, An introduction Seagull Books.
10. Spate O.H.K. and Learmonth A. T. A. 1968: India and Pakistan Methuen, London.
11. U. V. Jagdale& P. G. Saptarshi (2007): Human Geography, Diamond Publication (Marathi)
12. Johnson R. Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography
13. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
14. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
15. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
16. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
17. Kaushik, S.D. (2010) Manav Bhugol, Rastogi Publication, Meerut.
18. Maurya, S.D. (2012) Manav Bhugol, Sharda Pustak Bhawan. Allahabad.
19. Hussain, Majid (2012) Manav Bhugol. Rawat Publications, Jaipur
20. Beaujeu Gamier : Geography of Population, Longman, Lindon-1978
21. Clarke J.I. : Population Geography, Pergam on Press Oxford – 1972

22. Chandana R.C. : Geography of Population, Kalyani Pub. Ludhayana 1988
23. Hagget Petter : Human Geography
24. Ghosh B.N. : Fundamentals of Population Geography
25. Hussin M. : Human Geography 1994
26. Money D.S. : Human Geography
27. Perpillou A.V. : Human Geography, Longman, London- 1986
28. Robinson H. : Human Geography, 1976
29. Mishra &Puri : Indian Economy 2004
30. India- 2008 : Govt. of India
31. Hassan Mohammead I. : Population Geography, 2005
32. Bhende Asha & Kanitkar Tara : Principlas of Population studies
33. Perillouav : Human Geography, 1986
34. Singh, R.Y. : Geography of Settlement, 1998
35. Singh, Gopal : Mapwork & Practical Geography, 1999
36. Sawant S.B. & Athavale A.S. Population Geography, Mehta publishing house, Pune.

B. Sc. Part – I Practical-I (Based on paper I & II) (w.e.f. June, 2022)

Marks: 50 (Credits: 02)

General Cartography (Practical)

Title of the Unit		No. of Credits
Module I	**Map**	**(0.25)**

1.1 Map: Definition, Elements and Types

1.2 Maps and Globe – Similarities and Differences

1.3 Significance and uses of Maps and Globes

Module II	**Map Scale**	**(0.50)**

2.1 Meaning and Definition

2.2 Methods of Representation of scale

i) Verbal

ii) Numerical

iii) Graphical

2.3 Construction of Graphical Scale

i) Simple (Plane Scale)

ii) Time and Distance Scale

iii) Diagonal Scale

Module III	**Map Projection**	**(0.25)**

3.1 Definition and Classification of Map Projection

i) Based on the methods of Construction –
Perspective and Non-perspective

ii) Based on Developable Surface used -
Conical, Cylindrical, Zenithal, Conventional.

iii) Based on Position of Tangent Surfaces – Polar,
Equatorial (normal), and Oblique.

iv) Based on Position of view point or light –

Gnomonic, Stereographic, Orthographic

v) Based on Preserved qualities -

i) Equal area projection (Homolographic)

ii) Orthographic Projection

iii) Azimuthal Projection (True Bearing Projection)

3.2 Graphical Construction of the following Projections:

i) Zenithal Polar Gnomonic Projection

ii) Cylindrical Equal –Area Projection

iii) Simple Conical Projection with one standard Parallel

iv) Mercator's Projection

Module IV Representation of Statistical Data (0.50)

4.1 Graphs and Diagrams

i) One Dimensional Diagrams:

a) Climograph

b) Hythergraph

4.2 Two Dimensional Diagrams:

a) Divided Circle

b) Divided Rectangle

4.3 Three Dimensional Diagram:

a) Cube Diagram

b) Proportional Spheres

4.4 Distributional Maps

a) Choropleth Map

b) Isopleths Map

Module V Remote Sensing, GIS and GPS (0.50)

5.1 Remote Sensing

a) Definition and Concept of Remote Sensing

b) Elements of Remote Sensing: EMR, Sensors and Platforms.

c) Application of Remote Sensing in Geography

5.1 GIS (Geographical Information System)

a) Definition and Concept of GIS

b) Elements of GIS

c) Application of GIS in Geography

5.3 GPS / GNSS (Geographical Positioning System / Geographical Navigational Satellite System)

a) Definition and Concept of GPS / GNSS

b) Application of GPS in Geography

c) Field Work – Determining Latitude, Longitude and Altitude.

Reference Books

1. Buoygoot, J. (1964): An Introduction to Map work and Practical Geography. University Tutorial, London.
2. Monkhouse, F. J. and Wilkinson, H. R. (1971): Maps and Diadgrams. Mathuen, London.
3. Raisz, E. (1962): Principals of Cartography, McGraw Hill Book Com., Inc, New York.
4. Robinson, A.H. and Shale, R. D. (1969): Elements of Cartography. John Wiley and Sons, Inc, New York.
5. Singh, L.R. and Singh, R., (1973): Map work and Practical Geography. Allahabad.
6. Curran, P. (1989): Principles of Remote Sensing, Longman, London.
7. Lo C. P. and Young A. K. W., (2011): Concepts and Techniques of Geographic Information Systems, PHI Learning Private Lim., New Delhi – 110001.
8. Dickinson, G.C., (1979): Maps and Air Photographs, Arnold Publisher, New Delhi.
9. Mishra, R.P and Ramesh A., (2000): Fundamentals of Cartography. Concept Publ. Com., New Delhi.
10. Burrough, P. A. and McDonell, R., (1998): Principles of Geographical Information Systems, Oxford University Press, Oxford.

NOTE:

i) The details of field work, seminar, Group Discussion and Oral examination be given wherever necessary.

ii) General/Specific instructions for Laboratory safety should be given wherever necessary.

Shivaji University

Kolhapur

Accredited By NAAC with 'A^{++}' Grade

Syllabus for Bachelor of Science

Part-I

Chemistry

DSC

(NEP-2.0)

To be implemented from

June, 2024 onwards

Shivaji University, Kolhapur
Bachelor of Science
Credit Framework
First-Year (B. Sc. I-Chemistry)

Level	Sem.	Subject-1 (Chemistry)	Subject-2	Subject-3	IDC/MDC/OE/GE	SEC	AEC, VEC, IKS			OJT, FP, CEP, CC, RP			Total Credits
		DSC	DSC	DSC	OE	SEC	AEC	VEC	IKS	CC	FP/OJT	RP/ Dissert.	
4.5	I	ICH-101 Paper-I Inorganic Chemistry (2 Cr)	DSC-I (2 Cr)	DSC-I (2 Cr)	CHOEPR-101 Practical Paper-I Water Analysis (2 Cr)	--	--	--	IKS-I (2 Cr) Introducti on to IKS	--	--	--	--
		OCH-102 Paper-II Organic Chemistry (2 Cr)	DSC-II (2 Cr)	DSC-II (2 Cr)									
		PRCH-103 Practical Paper-I (2 Cr)	DSC-P-I (2 Cr)	DSC-P-I (2 Cr)									
	Credits	**4(T)+2(P) =6**	**4(T)+2(P) =6**	**4(T)+2(P) =6**	**2 (P) =2**	**--**	**--**	**--**	**2(T)**	**--**	**--**	**--**	**22**
	II	PCH-201 Paper-III Physical Chemistry (2 Cr)	DSC-III (2 Cr)	DSC-I (2 Cr)	CHOEPR-201 Practical Paper-II Soil Analysis (2 Cr)	--	--	VEC-I (2 Cr) Democracy, Election and Constitution	--	--	--	--	--
		ACH-202 Paper-IV Analytical Chemistry (2 Cr)	DSC-IV (2 Cr)	DSC-II (2 Cr)									
		PRCH-203 Practical Paper-II (2 Cr)	DSC-P-II (2 Cr)	DSC-P-II (2 Cr)									
	Credits	**4(T)+2(P)=6**	**4(T)+2(P) =6**	**4(T)+2(P) =6**	**2 (P)=2**	**--**	**--**	**2(T)**	**--**	**--**	**--**	**--**	**22**
Total Credits		**12**	**12**	**12**	**4**	**--**	**--**	**2**	**2**	**--**	**--**	**--**	**44**
		Exit Option: Award of UG Certificate in Major with 44 Credits and an additional 4 credits core NSQF course/ Internship/Skill Courses OR Continue											

Structure of B. Sc. I Chemistry

Sr. No.	Semester	Title of Paper
1	I	ICH-101 Paper-I, Inorganic Chemistry (2 credits, 30 Hours)
2		OCH-102 Paper -II, Organic Chemistry (2 credits, 30 Hours)
3		PRCH-103 Practical Paper-I (2 credits, 60 Hours)
4	II	PCH-201 Paper -III, Physical Chemistry (2 credits, 30 Hours)
5		ACH-202 Paper -IV, Analytical Chemistry (2 credits, 30 Hours)
6		PRCH-203 Practical Paper-II (2 credits, 60 Hours)

Program Outcomes:

PO-1:- Students will gain fundamental knowledge of chemistry which will help them with PG Studies and Research

PO-2:- Students will be able to know good laboratory practices and lab safety.

PO-3:- To make the learner proficient in analyzing the various observations and chemical phenomena presented to him during the course.

PO-4:- Students will be able to apply the fundamental knowledge to address cross-cutting issues such as sustainable development

PO-5:- Students will be able to solve various problems by identifying the essential parts of a problem, formulating a strategy for solving the problem, applying appropriate techniques to arrive at a solution, testing the precision and accuracy of the solution and interpreting the results.

PO-6:- Students will be able to communicate effectively, i.e., articulate, comprehend and write effective reports, make effective presentations and documentation and express the subject through technical writing and oral presentation.

Program Specific Outcomes:

PSO-1:- Students will be able to explain fundamental concepts of inorganic, physical, organic, industrial and analytical chemistry.

PSO-2. Identify chemical formulae and solve numerical problems.

PSO-3. Students can use modern chemical tools, Models, Charts and Equipment.

PSO-4. Students will be able to prepare and qualify for competitive examinations.

PSO-5. Students will understand good laboratory practices and safety.

PSO-6. Students will develop research-oriented skills.

B. Sc. I (NEP-2.0) Semester I, PAPER-I

ICH-101- Inorganic Chemistry

(Theory Credits-02, 30 hours)

Name of the topic	Expected Course outcomes
1. Atomic Structure and Periodicity of Elements.	To learn and understand basic knowledge of inorganic chemistry. To understand size, shape and electronic distribution in shells and sub- shells of an atom.
2. P-block Elements.	To learn and understand the properties and uses of the compounds of Boron, Carbon and Nitrogen from p-block elements.
3. Chemical Bonding and Molecular Structure: Ionic Bonding.	To learn different types of bonds and nature of bonding in inorganic compounds. Calculations of different energies associated with ionic bonding.
4. Acids and Bases.	To Understand the role of acids and bases in chemistry. The study is useful in all chemical areas.

Unit I: Atomic Structure and Periodicity of Elements (10 hours)

1.1 Bohr's theory of hydrogen atom and its limitations

1.2 Wave particle duality

1.3 Heisenberg uncertainty principle

1.4 Quantum numbers and their significance

1.5 Shapes of s, p and d atomic orbital's

1.6 Electrons filling rules in various orbitals: a) Aufbau's principle b) Hunds rule of maximum multiplicity c) Pauli's exclusion principle.

1.7 Electronic configuration of elements. Stability of empty, half-filled and completely filled orbitals.

1.8 Periodicity of the elements: General discussion of the following properties of the elements with reference to S- block elements: a) Electronic configuration b) Atomic radii c) Ionic radii d) Ionization energy e) Electron affinity f) Electronegativity g) Metallic characters h) Reactivity i) Oxidation state j) Melting and boiling points k) Chemical properties.

Unit II: P-Block Elements (Group 13, 14, 15) (9 hours)

2.1 Position of elements in periodic table.

2.2 Characteristics of group 13^{th}, 14^{th} and 15^{th} elements with special reference to electronic configuration and periodic properties.

2.3 Compounds of group13^{th}, 14^{th} and 15^{th} elements.

2.3.1 Boron – Diborane (only structure).

2.3.2 Allotropes of Carbon and Phosphorus.

2.3.3 Oxyacids of Nitrogen (HNO_2, HNO_3).

Unit III: Chemical Bonding and Molecular Structure: Ionic Bonding (7 hours)

3.1 Types of Chemical Bonds: a) Ionic Bond b) Covalent Bond c) Co-ordinate bond d) Metallic bond e) Hydrogen Bond f) Van-der walls force.

3.2 Definition and formation of ionic bond. General characteristics of ionic bonding

3.3 Energetic in Ionic bond formation.

3.4 Born-Haber cycle for NaCl and its applications.

3.5 Fajan's Rule and its applications.

Unit IV: Acids and Bases (4 hours)

4.1 Theories of Acids and Bases – Arrhenius concept, Bronsted –Lowry concept, Lewis concept, Lux-Flood concept. (Definition and examples only).

4.2 Hard and Soft Acids and Bases (HSAB concept).

4.2.1 Classification of Acids and Bases as hard soft and borderline.

4.2.2 Pearson's HSAB concept.

4.2.3 Applications and limitations of HSAB concept.

Reference Books:

1) Lee, J. D. Concise Inorganic Chemistry ELBS, 1991.
2) Cotton, F.A., Wilkinson, G. & Gaus, P.L. Basic Inorganic Chemistry, 3rd ed., Wiley.
3) Douglas, B. E., McDaniel, D. H. & Alexander, J. J. Concepts and Models in Inorganic Chemistry, John Wiley & Sons.
4) Huheey, J. E., Keiter, E. A., Keiter, R. L. & Medhi, O. K. Inorganic Chemistry:
5) Principles of Structure and Reactivity, Pearson Education India, 2006.
6) Puri, Sharma, Kalia. Principles of Inorganic Chemistry
7) Madan R. L. Chemistry for Degree Students (B. Sc. First year), S. Chand

B.Sc. Part I (NEP-2.0) SEMESTER-I, PAPER-II

0CH-102- Organic Chemistry

(Theory Credits: 02, 30 hours)

Name of the topic	Expected Course outcomes
1. Fundamentals of Organic Chemistry	The students are expected to understand the fundamentals and basic principles involved in organic chemistry.
2. Stereochemistry	Understanding the spatial arrangement of atoms of organic molecule and types of stereoisomers.
3. Aromaticity	Knowledge of general properties and fundamental reactions of aromatic compounds.
4. Heterocyclic Compounds	To understand the basic knowledge of heterocyclic compounds. To get knowledge of methods to preparation, physical and chemical properties of some heterocyclic compounds with five and six membered heterocycles containing N as the hetero atom (Pyrrole and Pyridine).

Unit I: Basic Concepts in Organic Chemistry (9 hours)

Introduction, Curved arrow notations, Cleavage of Bonds: Homolysis and Heterolysis. Organic molecular species: Nucleophiles and electrophiles. Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyper conjugation effect, Reactive Intermediates: Generation, Structure, Stability and Reactions of Carbocations, Carbanions, Carbon free radicals, Carbene and Nitrene.

Unit II: Stereochemistry (9 hours)

Introduction, Types of Stereoisomerism, Representation of organic molecules using Wedge, Fischer, Sawhorse and Newman formula, Optical Isomerism: Concept of Chirality, Elements of Symmetry, Optical Isomerism in tartaric acid, 2, 3 Dihydroxy butanoic acid, Enantiomerism, Diastereomerism and Meso compounds, Geometrical isomerism in C=C, C=N and alicyclic compounds. Nomenclature of stereoisomers: D and L, Erythro and Threo, R and S, E and Z.

Unit III: Aromaticity (6 hours)

Introduction, Characteristics properties of aromatic compounds, Meaning of terms: Aromatic, Non aromatic, Antiaromatic, Pseudoaromatic , Classification of aromatic compounds, Structure of Benzene: Kekule structure, Resonance structure, M.O. picture, Modern theory of Aromaticity, Mechanism of Electrophilic substitution reactions: Nitration, Sulphonation, Halogenation and Friedel - Crafts reaction.

Unit IV: Heterocyclic Compounds (6 hours)

Introduction, Classification and Nomenclature of heterocyclic compounds.

Nitrogen Heterocycles:

a) Pyrrole:- Introduction, Synthesis, Physical and chemical properties.

b) Pyridine:- Introduction, Synthesis, Physical and chemical properties.

Reference Books:

1) Graham Solomon, T. W., Fryhle, C. B. & Snyder, S. A. Organic Chemistry, John Wiley & Sons (2014).

2) McMurry, J. E. Fundamentals of Organic Chemistry, 7th Ed. Cengage Learning India Pvt Ltd, Edition, 2013.

3) Sykes, P. A Guidebook to Mechanism in Organic Chemistry, Orient Longman, New Delhi (1988).

4) Eliel, E. L. Stereochemistry of Carbon Compounds, Tata McGraw Hill education, 2000.

5) Finar, I. L. Organic Chemistry (Vol. I & II), E.L.B.S.

6) Morrison, R. T. & Boyd, R. N. Organic Chemistry, Pearson, 2010.

7) Bahl, A. & Bahl, B. S. Advanced Organic Chemistry, S. Chand, 2010.

8) Nasipuri, D. Stereochemistry of Organic compounds: Principles and Applications.

9) Madan, R. L. Chemistry for Degree Students (B. Sc. First Year), S. Chand Publication.

10) Heterocyclic chemistry, J.A. Joule and K. Mills, 4th ed., Blackwell Publishing 2000

11) John A. Joule, Keith Mills.; Heterocyclic Chemistry, 5th Edition, April 2010, ©2010, Wiley Blackwell,

12) Gilchrist, T. L. Heterocyclic chemistry; 3rd ed.; Addison Wesley Longman: Edinburgh Gate, 1997.

13) Joule, J. A.; Mills, K.; Heterocyclic chemistry; 4th ed.; Blackwell Science: Oxford, 2000.

B. Sc. I Semester I, Practical Course
PRCH-103-PRACTICAL PAPER-I
(Credits-02, 60 hours)

A] Inorganic Chemistry:

1) To prepare standard 0.1 N $KMnO_4$ solution and to determine the strength of given oxalic acid solution.
2) To determine quantity of Fe (II) ions from the given solutions by titrating it with 0.1N $K_2Cr_2O_7$ solution by using internal indicator
3) To estimate amount of Cu (II) ions by iodometric titration by using $Na_2S_2O_3$ solution.
4) To standardize supplied EDTA solution by titrating with 0.01 M $ZnSO_4$ solution and to estimate amount of calcium from given solution by using Eriochrome Black- T as an indicator.
5) Quality control -To determine percentage purity of the given

sample of soda ash (Na_2CO_3) by titrimetric method.

6) Estimation of amount of Acetic acid from the given vinegar sample by titrimetric method

7) Chromatography : Separation and identification of cations by Paper Chromatography technique from the following mixtures :

a) $Ni^{2+} + Cu^{2+}$ b) $Ni^{2+} + Co^{2+}$ c) $Cu^{2+} + Co^{2+}$

8) Spot Test : Identify the following metal ions by spot test method

Cu^{2+}, Ni^{2+}, Co^{2+}, Fe^{3+}, Al^{3+}, Pb^{2+}, Zn^{2+}, Hg^{+2}, Mg^{+2}, Mn^{+2}

References

1. Svehla, G. Vogel's Qualitative Inorganic Analysis, Pearson Education, 2012.
2. Mendham, J. Vogel's Quantitative Chemical Analysis, Pearson, 2009

B) Organic Chemistry

1) Estimations:

i) Estimation of Aniline. (by Bromination method)

ii) Estimation of Acetamide.

2) Organic Qualitative Analysis: Detection of physical constant, type, elements, functional group, and Confirmatory test. Identification of Organic Compounds (at least eight) (four containing at least one extra element- N, S, Cl)

a) Acids: Oxalic acid, Benzoic acid, Cinnamic acid

b) Phenols: Beta-Naphthol, p-Nitrophenol

c) Base: Aniline, p-Nitroaniline

d) Neutral: Acetone, Acetanilide, Chloroform, m-Dinitrobenzene, Thiourea, Bromobenzene

3) Purification of organic compounds by crystallization (from water and alcohol) and distillation.

References:

1) Vogel's Text Book of Quantitative Chemical Analysis. (Longmann) ELBS Edition.

2) Hand book of Organic Qualitative Analysis: Clarke.

3) Comprehensive Practical Organic Chemistry – Qualitative Analysis by V. K. Ahluwalia, Sunita Dhingra. University Press. Distributor – Orient Longman Ltd.

4) Comprehensive Practical Organic Chemistry preparation and Quantitative Analysis: V. K. Ahluwalia, Renu Aggarwal. University Press. Distributor – Orient Longman Ltd.

5) A Laboratory Hand - Book of Organic Qualitative Analysis and Separation: V. S. Kulkarni. Dastane Ramchandra & Co. Pune

B. Sc. I (NEP-2.0) Semester II, Paper -III

PCH-201-Physical Chemistry

Credits: 02, 30 hours

Name of the Topic	Expected Course Outcomes
1. Basic Mathematical Concepts	Learning and coherent understanding of basic concepts and rules of logarithms, graphs, derivative and integrations.
2. Thermodynamics	Knowledge and coherent understanding of basic concepts in thermodynamics will be gained by the student.
3. Chemical Kinetics	Learning and understanding the knowledge about basic concepts in kinetics and first order, second order reactions with characteristics and suitable examples.
4. Physical properties of liquids	Learning and coherent understanding of surface tension, viscosity and refractive index with suitable examples.
5. Electrochemistry	Learning and coherent understanding of basic concepts in electrochemistry, conductors and conductivity cells, measurement of conductance with suitable examples and numerical problems.

Unit I: Basic Mathematical Concepts (3 hours)

1.1 Logarithm: Basic rules and calculations.

1.2 Graph - Quadrants, drawing of linear graph, Slopes and Intercept.

1.3 Derivative and Integration: Basic rules.

Unit II: Thermodynamics (5 hours)

2.1 Introduction, Basic terms used in thermodynamics, Zeroth law of thermodynamics.

2.2 First law of thermodynamics: Mathematical equation, sign conventions, statements of first law and its limitations.

2.3 Spontaneous and non-spontaneous processes, Second law of thermodynamics.

2.4 Heat engine, Carnot's Cycle and efficiency of heat engine.

2.5 Numerical Problems.

Unit III: Chemical Kinetics (8 hours)

3.1 Introduction, rate of reaction, definition, and units of rate constant.

3.2 Factors affecting rate of reaction.

3.3 Order and Molecularity of reaction.

3.4 First order reaction: Derivation of rate constant. Characteristics of the first order reaction.

3.5 Pseudo- first order reactions –i) Hydrolysis of methyl acetate in presence of acid, ii) Inversion of cane sugar.

3.6 Second order reaction: Derivation of rate constant for equal and unequal concentration of the reactants.

3.7 Examples of Second order reaction: i) Reaction between $K_2S_2O_8$ and KI and ii) Saponification of ethyl acetate.

3.8 Characteristics of Second order reactions.

3.9 Numerical problems.

Unit IV: Physical properties of liquids (6 hours)

4.1 Introduction to states of matter, qualitative description of intermolecular forces in liquids, structure of liquids, classification of physical properties.

4.2 Surface tension and its determination using stalagmometer and differential rise method.

4.3 Viscosity and its determination using Ostwald's viscometer.

4.4 Refractive index (Snell's law) specific and molecular refractivities and its determination using Abbe's refractometer.

4.5 Numerical Problems.

Unit V: Electrochemistry (8 hours)

5.1 Introduction, types of cell, phenomenon of electrolysis, Faradays Laws of electrolysis.

5.2 Types of conductors.

5.3 Explanations of Conductance, specific conductance, equivalence and molecular conductance.

5.4 Variation of specific conductance, equivalence and molecular conductance with dilution, equivalent conductance at infinite dilution.

5.5 Dipping type of conductivity cell, modifications in the technique used before measurement of conductance w.r.to use of alternating current, use of conductivity water, conductivity cell and temperature control.

5.6 Measurement of conductance by Wheatstone bridge.

5.7 Cell constant and its determination.

5.8 Numerical problems.

Reference Books:

1) Barrow, G.M. Physical Chemistry Tata McGraw-Hill (2007).

2) Castellan G.W. Physical Chemistry 4th Ed. Narosa (2004).

3) Kotz, J.C. Treichel, P. M. &Townsend, J. R. General Chemistry, Cengage Learning IndiaPvt Ltd: New Delhi (2009).

4) Mahan , B.H. University Chemistry, 3rd Ed. Narosa(1998).

5) Petrucci, R.H. General Chemistry, 5th Ed., Macmillan Publishing Co,: New York(1985).

6) Elements of Physical Chemistry S., Glasstone, D. Lewis. (2010)

7) Principles of physical Chemistry Marron and Prutton. (2007).

8) Elements of Physical Chemistry P. W. Atkins (2017-18)

9) Essentials of Physical Chemistry Bahl and Tuli. S. Chand,2010.

10) Physical Chemistry Danials and Alberty (2016)

11) University General Chemistry C. N. R. Rao (2016)

12) Principles of Physical Chemistry, Puri, Sharma and Pathania 47th Edison,

VishalPublishing Co.

13) Physical Chemistry, A. J. Mee

14) Advanced Physical Chemistry, Guru Deep Raj

15) Physical Chemistry, R. A. Alberty

16) General Chemistry, 5th Edition, Macmillan Publishing Co., New York (1985)

B. Sc. I Semester II, Paper IV

ACH-202- Analytical Chemistry

(Theory Credits:02, Lectures-30 hours)

Expected learning Outcomes:

Name of the topic	Expected Course Outcome
1. Introduction to Analytical Chemistry	Learning various analytical procedures and importance also sampling, accuracy and precision
2. Fundamentals of Industrial Chemistry and IPR	a. Distinguish between classical and industrial chemistry b. Learning and Understanding basic concepts and concentration terms c. Knowledge of IPR
3. Chromatography	Knowledge of chromatographic separation technique and terms involved in it. Learning paper chromatography and thin layer chromatography
4. Theory of titrimetric Analysis	Knowledge of various type of titrations, neutralization curves, indicators used in various titrations

Unit I: Introduction to Analytical Chemistry (7 hours)

1.1 Introduction

1.2 Importance of analysis

1.3 Analytical processes (Qualitative and Quantitative)

1.4 Methods of analysis (Only classification)

1.5 Sampling of solids, liquids and gases

1.6 Errors, types of errors (determinate and indeterminate), methods of expressing accuracy (Absolute and relative error)

1.7 Significant figures, mean, median, standard deviation (Numerical problems expected)

Unit II: Fundamentals of Industrial Chemistry and IPR (7 hours)

2.1 Difference between classical and industrial chemistry, Raw materials for chemical industry, Material safety data sheets (MSDS)

2.2 Definition and Explanation of terms - Molecular weight, Equivalent weight, Molarity, Normality, Molality, Molarity of mixed solution, Acidity of base, Basicity of acid, ppt, ppm, ppb solutions, Mole Fraction, Weight fraction, Percentage composition by W/W, W/V, V/V, Problems based on Normality, Molarity, mole fraction, mixed solution, etc.

2.3 IPR- Introduction to IPR and its significance in presence scenario

Unit III: Chromatography (7 hours)

3.1 Introduction, Basic Principle of Chromatography, Basic terms, Classification of Chromatography

3.2 Paper Chromatography- Principle, Methodology-types of papers and treatment, sample loading, choice of solvent, development-ascending, descending, circular, location of spots, determination of Rf value, Applications, advantages and disadvantages

3.3 Thin layer chromatography- Principle, Solvent system, stationary phases, preparation of TLC plate, Detecting reagents, methodology-sample loading, development, detection of spot, Rf value, Applications, advantages and disadvantages

Unit IV: Theory of Titrimetric Analysis (9 hours)

4.1 Introduction

4.2 Acid-base indicators

4.3 Theory of indicators w.r.t. Ostwald's ionization theory

4.4 Neutralization curves and choice of indicators for

a. Strong acid-strong base

b. Strong acid-weak base

c. Strong base-weak acid

4.5 Complexometric titrations

a. Introduction

b. Types EDTA titrations

c. Metallochromic indicators-Eriochrome black- T

d. Indicator Action of Eriochrome black- T

4.6 Redox Titrations

a. Introduction

b. $KMnO_4$ Vs Oxalic acid titration; theory of $KMnO_4$ as self indicator.

4.7 Precipitation Titrations

a. Introduction

b. Silver nitrate Vs NaCl solution using Potassium chromate indicator

References

1. Text Book of Quantitative Inorganic analysis – A. I. Vogel
2. Instrumental methods of Chemical analysis –Willard, Merit & Dean
3. Instrumentals methods of Chemical analysis – Chatwal & Anand
4. Vogel's textbook of qualitative Inorganic analysis – Bassett, Denny etc.
5. Textbook of qualitative Inorganic analysis – Kolthoff and Sandel
6. Fundamentals of analytical chemistry – Skoog and West
7. Basic concepts of analytical chemistry – S. M. Khopkar
8. Text book of qualitative organic analysis – A. I. Vogel
9. Qualitative organic chemistry – A. I. Vogel
10. Instrumental methods of chemical analysis – H. Kaur
11. A text book of Quantitative chemical analysis Vogel's by J. Mendham, R. C. Denney
12. Quantitative Chemical Analysis – Daniel C. Harris
13. Chemical process industries – Shrieve & Brink
14. Industrial Chemistry – B. K. Sharma

15. Industrial Chemistry – R. K. Das
16. Text book of qualitative organic analysis – A. I. Vogel

B. Sc. I Semester II Practical Course
PRCH-203 Practical Paper-II
(Credits-02, 60 hours)

A) Physical Chemistry:

1) Determination of viscosity of given liquids A and B (Density data of liquids, viscosity of water to be given) [Any two liquids from Acetone, Carbon tetra chloride, Chloroform, Ethyl alcohol, Benzyl alcohol, Ethylene glycol and n- propyl alcohol]
2) To study the velocity constant of hydrolysis of methyl acetate in presence HCl.
3) To study the velocity constant of hydrolysis of methyl acetate in presence H_2SO_4.
4) To study the reaction between Potassium persulphate and Potassium iodide kinetically (equal concentration).
5) Determination of heat of ionization of weak acid by using polythene bottle.
6) Determination of Surface tension of the given liquids by Stalagmometer.
7) Determination of heat of solution of salt KCl.
8) Determination of equivalent weight of Mg by eudiometer.

B) Analytical Chemistry:

1) Estimation of amount of Acetic acid from the given vinegar sample by titrimetric method
2) Estimation of Aspirin tablet.
3) Estimation of Vitamin C from fruit juice.
4) Determination of Cell constant of given conductivity cell using KCl solution. (N/10 and N/50 KCl) (Solutions should be prepared by the students).
5) Preparation and standardization of HCl/H_2SO_4 solution from the bulk.
6) Separation and identification of amino acids by paper chromatography.
7) Estimation of Ca from pharma tablets by complexometric method.

References:

1) Practical book of Physical Chemistry: Nadkarni, Kothari & Lawande.
2) Experimental Physical Chemistry: A. Findlay.
3) Systematic Experimental Physical Chemistry: S. W. Rajbhoj, Chondhekar. (Anjali Publication.)
4) Experiments in Physical Chemistry: R. C. Das and B. Behra. (Tata McGraw Hill)
5) Advanced Practical Physical Chemistry: J. B. Yadav (Goel Publishing House.)
6) Practical Physical Chemistry: B. D. Khosala. (R. Chand & Sons)
7) Experiments in Chemistry: D. V. Jahagirdar.
8) A Text Book of Quantitative Inorganic Analysis Including Elementary Instrumental Analysis: A.I. Vogel (Third Ed) (ELBS)
9) Mendham, J. Vogel's Quantitative Chemical Analysis, Pearson, 2009

B.Sc. I Syllabus (NEP-2.0)

To be implemented from June 2024 onwards Semester I & II

Nature of Question paper

Total Marks 40

Q.1 Choose the correct alternative and rewrite the sentence again. 8 Marks

a)

b)

c)

d)

e)

f)

g)

h)

Q.2. Attempt any TWO of the following (Out of Three) 16 Marks

a)

b)

c)

Q.3. Answer any FOUR of the following (Out of SIX) 16 Marks

a)

b)

c)

d)

e)

f)

B.Sc. I Syllabus (NEP-2.0)

To be implemented from June 2024 onwards

Semester I

Nature of Practical Exam

Semester-I Practical Paper-I (50 Marks)

Number of Days: 01

First Session:

Section-I- Inorganic (25 Marks)

Q. 1 Experiment- 20 Marks

Q. 2 Journal- 05 Marks

Second Session:

Section-II Organic (25 Marks)

Q. 1 Experiment- 20 Marks

Q. 2 Journal- 05 Marks

Semester-II Practical Paper-II (50 Marks)

First Session:

Section-I- Physical (25 Marks)

Q. 1 Experiment- 20 Marks

Q. 2 Journal- 05 Marks

Second Session:

Section-II Analytical (25 Marks)

Q. 1 Experiment- 20 Marks

Q. 2 Journal- 05 Marks

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.Sc Part- III

Chemistry

Syllabus to be implemented from

June, 2020 onwards.

INTRODUCTION

This syllabus is prepared to give the sound knowledge and understanding of chemistry to undergraduate students at last year of the B.Sc. degree course. The goal of the syllabus is to make the study of chemistry as stimulating, interesting and relevant as possible. The syllabus is prepared by keeping in mind the aim to make students capable of studying chemistry in academic and industrial courses and to expose the students, to develop interest in them in various fields of chemistry. The new and updated syllabus is based on disciplinary approach with vigour and depth taking care the syllabus is not heavy at the same time it is comparable to the syllabi of other universities at the same level. The syllabus is prepared after discussions of number of faculty members of the subject and by considering the existing syllabi of B.Sc. Part-I, II & III, new syllabi of XI^{th} & XII^{th} standards, syllabi of NET and SET exams. U.G.C. model curriculum, syllabi of different entrance examination and syllabi of other Universities.

The units of the syllabus are well defined and the scope is given in detail. The periods required for units are given. The lists of reference books are given in detail.

OBJECTIVES

1. To promote understanding of basic facts and concepts in Chemistry while retaining the excitement of Chemistry
2. To make students capable of studying Chemistry in academic and Industrial courses and to expose the students to different processes used in Industries and their applications.
3. To expose the students to various emerging new areas of Chemistry and apprise them with their prevalent in their future studies and their applications in various spheres of chemical sciences.
4. To develop problem solving skills in students.
5. To developed ability and to acquire the knowledge of terms, facts, concepts, processes, techniques and principles of subjects.
6. To develop ability to apply the knowledge of contents of principles of chemistry.
7. To inquire of new knowledge of chemistry and developments therein.
8. To expose and to develop interest in the fields of chemistry
9. To develop proper aptitude towards the subjects
10. To develop the power of appreciations, the achievements in Chemistry and role in nature and society.
11. To develop skills required in chemistry such as the proper handling of appara tus and chemicals

Shivaji University, Kolhapur
B.O.S. in Chemistry
B.Sc. Part – III
Semester CBCS Syllabus
To be implemented from June – 2020

Equivalence

Sr. No.	Title of old paper (Syllabus implemented from June-2015)	Title of new paper (To be implemented from June-2020)
1	Paper – IX & XIII Physical Chemistry	Paper IX DSE-E5 and XIII DSE-F5 Inorganic Chemistry
2	Paper – X & XIV: Inorganic Chemistry	Paper- X DSE-E6 and XIV DSE-F6 Organic Chemistry
3	Paper-XI & XV: Organic Chemistry	Paper XI DSE-E7 and XV- DSE-F7 Physical Chemistry
4	Paper-XII & XVI: Analytical & Industrial Chemistry	Paper XII-DSE-E8 and XVI DSE-F8: Analytical & Industrial Chemistry

A repeater candidate, if any, will be allowed to appear for practical examination as per old course up to March / April 2021 examination.

List of Laboratory Equipments

Apparatus & Equipments

1. Digital balance with 1 mg accuracy
2. Conductometer
3. Potentiometer
4. pH Meter
5. Polarimeter
6. Colorimeter
7. Thermostat
8. Electric Oven
9. Suction Pump
10. Crucible Heater
11. IR Lamp
12. Magnetic stirrer
13. Buckner funnel
14. Water bath / Thermostat.
15. Platinum electrode
16. Glass electrode
17. Silver, Zinc, Copper electrodes
18. Conductivity cell
19. Distilled water plant.
20. Refractometer
21. Freeze
22. Deep Freeze
23. H_2S Apparatus
24. Muffle Furnace
25. Magnetic Stirrer

Glassware & Porcelain ware:

1. Burette (25/50 ml)
2. Micro burette (10 ml)
3. Pipette (5 ml,10 ml,25ml)
4. Graduated Pipette (1/2/5/10 ml)
5. Conical flask(100 ml, 250 ml)
6. Beakers (100 ml, 250 ml, 500 ml)
7. Volumetric flask (25ml,50 ml,100 ml, 250 ml)
8. Gooch Crucible / Sintered glass Crucible
9. Silica Crucible
10. Watch glass
11. Glass tubing
12. Glass Funnel (3")
13. Gas jar
14. Glass rod
15. Test Tubes (12 x100, 5x5x8)
16. Evaporating dish
17. TLC Unit
18. Measuring cylinder
19. Thile's tubes
20. Fusion Tube
21. Capillary tube
22. Stopper bottle
23. Thermometer ($1/10^{o}$, 360^{o})
24. Water condenser
25. Distillation flask (100 ml/ 250 ml)
26. Titration tiles.
27. Asbestos sheet.
28. Desiccators
29. Clay pipe triangle

Iron & Wooden ware:

1. Burners
2. Tripod stand
3. Iron stand
4. wire gauze
5. Burette stand
6. Test tube stand
7. Pair of tongs
8. Test tube holder
9. Spatula
10. Copper foil

Chemicals: All the chemicals required for experiments are mentioned in the syllabus.

Others:

1. Filter papers (Kalpi)
2. Whatman Filter paper No. 1, 40, 41 and 42.

Lab Safety Precautions / Measures in Chemistry Laboratory:

Part-I: Personal Precautions

1. All personnel must wear safety Goggles at all times.
2. Must wear the Lab. Aprons / Lab jacket and proper shoes.
3. Except in emergency, an over-hurried activity is forbidden.
4. Fume cupboard must be used whenever necessary.
5. Eating, Drinking and Smoking in the laboratories strictly forbidden.

Part-II: Use of safety and Emergency Equipments –

1. First aid kits.
2. Sand Bucket.
3. Fire extinguishers (dry chemical and carbon dioxide extinguisher).
4. Chemical storage cabinet with proper ventilation.
5. Material safety data sheets
6. Management of local exhaust system and fume hoods.
7. Sign in register if using instruments.

Nature of Theory Question Papers

N.B. The question paper should cover the entire syllabus. Marks allotted to questions should be in proportion to the lectures allotted to respective units.

Papers Semester V: IX-DSE-E5, X-DSE-E6, XI- DSE-E7, XII- DSE-E8,

Semester VI: XIII- DSE-F5, XIV-DSE-F6, XV-DSE-F7 and XVI- DSE-F8

Total Marks 40

Question No.	Details	Marks	Marks of Options
1.	Answer in one sentence (One mark for each question). Multiple choice questions (One mark for each question)	4 4	- -
2.	Long answer type questions (2 out of 3)	20	10
3.	Short answer type questions (3out of 5)	12	08
	Total	40	18

SHIVAJI UNIVERSITY, KOLHAPUR
B.O.S. in Chemistry
B.Sc. Part – III
Semester CBCS Syllabus
To be implemented from June – 2020

General Structure

Theory Examination:

There will be four theory papers of 40 marks each for each semester. Their titles and distribution of marks are as follows.

Semester V : Papers IX-DSE-E5, X-DSE-E6, XI- DSE-E7, XII- DSE-E8,

Semester VI: Papers XIII- DSE-F5, XIV-DSE-F6, XV-DSE-F7 and XVI- DSE-F8

Paper – **IX** DSE-E5, **& XIII** DSE-F5: Inorganic Chemistry – 40 marks

Paper – **X** DSE-E6 **& XIV** DSE-F6**:** Organic Chemistry – 40 marks

Paper – **XI** DSE-E7 **& XV** DSE-F7**:** Physical Chemistry – 40 marks

Paper – **XII** DSE-E8 **&XVI** DSE-F8**:** Analytical and Industrial Chemistry – 40 marks

The duration of each theory paper for examination will be of 2 hours

Internal examination (Oral/Seminar/test/home assignment) will be conducted for 10 marks for each paper.

Practical Examination:

Practical examination will be of 200 marks. The distribution of marks will be as follows:

1. Physical Section : 60 marks
2. Inorganic Section : 65 marks
3. Organic Section : 60 marks
4. Project : 15 marks

Total: 200 marks

The duration of practical examination will be of three days – six and half hours per day.

CHEMISTRY

Semester Syllabus for B.Sc.-III

Theory

1. N. B. Figures shown in bracket indicate the total lectures required for the respective topics.
2. The question paper should cover the entire syllabus. Marks allotted to questions should be in proportion to the lectures allotted to respective topics.
3. All topics should be dealt with S.I. units.
4. Study tour/industrial visit/visit to national institute or research laboratory is prescribed.
5. Use of recent editions of reference books is essential.
6. Use of scientific calculator is allowed.
7. **Values required for spectral problems should be provided in the question paper.**

B.Sc. Part III (CBCS) SEMESTER-V
Paper No. DSE-E5, Chemistry Paper No. –IX
(Inorganic Chemistry)
(Theory Credits: 02, 30 hours, 37 lectures)

Expected Learning Outcomes:

Name of the topic	Expected Learning Outcome
1. Acids bases and Non-aqueous solvents	Useful for the study of role of acids and bases in Chemistry. The study of non –aqueous solvents is important to learn all chemical properties of solutes and from the research point of view.
2. Metal ligand bonding in transition metal complexes	Useful to understand geometry, stability and nature of bonding between metal ion and ligand in complexes.
3. Metals, semiconductors and Superconductors	The topic deals with the synthesis and the applications of the semiconductors and Superconductors in electrical and electronic devices.
4. Organometalic compounds	The structure, method of preparation and the applications of organo metallic compound in various fields are explained.
5. Catalysis	The classification, types, mechanism and applications of catalyst in industrial fields is explained.

Unit 1. Acids, Bases and Non aqueous Solvents [8]

1.1 Introduction to theories of Acids and Bases-Arrhenius concept, Bronsted-Lowry concept, Lewis Concept, Lux-Flood Concept (definition and examples)

1.2 Hard and Soft Acids and Bases. (HSAB Concept)

1.2.1 Classification of acids and bases as hard, soft and borderline.

1.2.2 Pearson's HSAB concept.

1.2.3 Acid–Base strength and hardness-softness.

1.2.4 Applications and limitations of HSAB principle.

1.3 Chemistry of Non aqueous Solvents.

1.3.1 Introduction, definition and characteristics of solvents.

1.3.2 Classification of solvents.

1.3.3 Physical properties and Acid-Base reactions in Liquid Ammonia (NH_3) and Liquid Sulphur Dioxide (SO_2).

Unit 2. Metal Ligand bonding in Transition Metal Complexes [10]

2.1 Crystal field theory (CFT)

2.1.1 Introduction: Shapes of d-orbitals, Basic assumptions of CFT.

2.1.2 Crystal field splitting of d-orbitals of metal ion in octahedral, tetrahedral, square planar complexes and John-Teller distortion.

2.1.3 Factors affecting the Crystal field splitting.

2.1.4 High spin and low spin octahedral complexes w.r.t. Co (II).

2.1.5 Crystal Field stabilization energy (CFSE), Calculation with respect to octahedral complexes only.

2.1.6 Limitations of CFT.

2.2 Molecular orbital theory (MOT).

2.2.1 Introduction.

2.2.2 MOT of octahedral complexes with sigma bonding such as $[Ti(H_2O)_6]^{3+}$,$[CoF_6]^{3-}$, $[Co(NH_3)_6]^{3+}$.

2.2.3 Merits and demerits of MOT.

Unit 3. Metals, Semiconductors and Superconductors. [9]

3.1 Introduction.

3.2 Properties of metallic solids.

3.3 Theories of bonding in metal.

i. Free electron theory.

ii. Molecular orbital theory (Band theory).

3.4 Classification of solids as conductor, insulators and semiconductors on the basis of band theory**.**

3.5 Semiconductors- Types - intrinsic and extrinsic and applications of semiconductors.

3.6 Superconductors: Ceramic superconductors - Preparation and structures of mixed oxide $YBa_2Cu_3O_{7-x}$.

3.7 Applications of superconductors.

Unit.4. Organometallic Chemistry. **[4]**

4.1 Definition, Nomenclature of organometallic compounds.

4.2 Synthesis and structural study of alkyl and aryl compounds of Be and Al.

4.3 Mononuclear carbonyls -Nature of bonding in simple mononuclear carbonyls.:$[Ni(CO)_4]$, $[Fe(CO)_5]$, $[Cr(CO)_6]$.

Unit 5. Catalysis **[5]**

5.1 Introduction

5.2 Classification of catalytic reaction- Homogenous and Heterogeneous

5.3 Types of Catalysis.

5.4 Characteristics of catalytic reactions.

5.5 Mechanism of catalysis.

i. Intermediate compound formation theory.

ii. Adsorption theory.

5.6 Industrial applications of catalysis.

Reference Books:

1. Concise Inorganic Chemistry (ELBS, 5th Edition) – J. D. Lee.
2. Inorganic Chemistry (ELBS, 3rd Edition) D. F. Shriver, P. W. Atkins, C. H.Lang Ford, Oxford University Press, 2nd Edition.
3. Basic Inorganic Chemistry : Cotton and Wilkinson.
4. Advanced Inorganic Chemistry (4^{th} Edn.) Cotton and Wilkinson.
5. Concepts and Models of Inorganic Chemistry : Douglas and Mc. Daniel. 3^{rd} Edition. John Wiley publication.
6. Structural principles in inorganic compounds. W. E. Addison.
7. Theoretical principles of Inorganic Chemistry – G. S. Manku.
8. Theoretical Inorganic Chemistry by Day and Selbine.
9. Co-ordination compounds. SFA Kettle.
10. Essentials of Nuclear Chemistry by H. J. Arnikar.
11. Nuclear Chemistry by M. N. Sastri.
12. Organometallic Chemistry by R. C. Mahrotra, A. Sing, Wiley Eastern Ltd.New Delhi.
13. Inorganic Chemistry by A. G. Sharpe, Addision – Wisley Longman – Inc.

14. Principles of Inorganic Chemistry by Puri, Sharma and Kalia, Vallabh Publication. Pitampur Delhi.
15. Text book of Inorganic Chemistry by K. N. Upadhyaya Vikas Publishing House – New Delhi.
16. Inorganic Chemistry 3rd Edn G. L. Miessler and D.A. Tarr, pearson publication.
17. Co-ordination compounds by Baselo and Pearson.
18. UGC Inorganic chemistry by H.C. Khera, Pragati prakashan
19. UGC Advanced Inorganic Chemistry by Agarwal and Keemtilal, Pragati Prakashan

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B.Sc. Part III (CBCS) SEMESTER-V
Paper No. DSE-E6 Chemistry Paper No. X
(Organic Chemistry)
(Theory Credits: 02, 30 hours, 38 lectures)

Expected learning Outcomes:

Name of the topic	Expected Learning Outcome
1. Introduction to Spectroscopy	Understanding of energy associated with electromagnetic radiation and its use in analytical technique.
2.UV-Vis Spectroscopy	Knowledge of chromophore, auxochrome and calculation of $\lambda_{max.}$.
3. IR Spectroscopy	Knowledge of vibrational transitions, regions of IR spectrum, functional group recognition.
4.NMR Spectroscopy	Understanding of magnetic-non magnetic nuclei, shielding-deshielding, chemical shift, splitting pattern
5. Mass spectroscopy.	Knowledge of molecular ion, fragmentation pattern and different types of ions produced.
6. Combined Problems based on UV-Vis, IR, NMR and Mass Spectral data	Student will predict the structure of organic compound with the help of provided spectral data.

Unit 1. Introduction to Spectroscopy **[03]**

1.1 Meaning of spectroscopy.

1.2 Nature of electromagnetic radiation: wavelength, frequency, energy, amplitude, wave number and their relationship.

1.3 Different units of measurement of wavelength and frequency.

1.4 Different regions of electromagnetic radiations.

1.5 Interaction of radiation with matter: absorption, emission, fluorescence and scattering.

1.6 Types of spectroscopy and advantages of spectroscopic methods.

1.7 Energy types and energy levels of atoms and molecules.

Unit 2. UV-Vis Spectroscopy **[05]**

2.1 Introduction.

2.2 Beer-Lambert's law, absorption of UV radiation by organic molecules leading to different excitations.

2.3 Terms used in UV Spectroscopy: Chromophore, Auxochrome, Bathochromic shift, hypsochromic shift, hyperchromic and hypochromic effect.

2.4 Modes of electromagnetic transitions.

2.5 Effect of conjugation on position of UV band.

2.6 Calculation of λ_{max} by Woodward and Fischer rules for dienes and enones.

2.7 Colour and visible spectrum.

2.8 Applications of UV Spectroscopy.

Unit 3. IR Spectroscopy **[06]**

3.1 Introduction.

3.2 Principles of IR Spectroscopy.

3.3 Instrumentation, schematic diagram.

3.4 Fundamental modes of vibrations, types and calculation.

3.5 Conditions for absorption of IR radiations.

3.6 Regions of IR spectrum, fundamental group region, finger print region.

3.7 Hook's Law for Calculation of vibrational frequency.

3.8 Factors affecting IR absorption frequency.

3.9 Characteristic of IR absorption of following functional groups a) alkanes, alkenes, alkynes b) alcohol and phenols c) ethers d) carbonyl compounds e) amines f) nitro compounds and g) aromatic compounds.

Unit 4. NMR Spectroscopy **[09]**

4.1 Introduction.

4.2 Principles of PMR Spectroscopy.

4.3 NMR- Instrumentation, Schematic diagram.

4.4 Magnetic and nonmagnetic nuclei.

4.5 Chemical shift: definition, measurement, calculation, Factors affecting Chemical shift.

4.6 Shielding & deshielding.

4.7 Peak Integration.

4.8 Merits of TMS as PMR reference compound.

4.9 Coupling Constant.

4.10 Types of Coupling Constant.

4.11 Spin-spin splitting (n+1 rule).

4.12 Applications.

Unit 5. Mass Spectroscopy. **[08]**

5.1 Introduction.

5.2 Principles of mass spectroscopy.

5.3 Mass spectrometer - schematic diagram.

5.4 Types of ions produced during fragmentation.

5.5 Nitrogen rul

5.6 Fragmentation patterns of: alkanes, alkenes, aromatic hydrocarbons, alcohols, phenols, amines and carbonyl compounds.

5.7 McLaffrety rearrangement.

5.8 Applications.

Unit 6. Combined Problems based on UV, IR, NMR and Mass Spectral data. **[07]**

Reference Books: (Use recent editions)

1. Absorption Spectroscopy of Organic Molecules by V.M.Parikh.
2. Spectroscopy of Organic compounds by P. S. Kalsi.
3. Elementary Organic Absorption Spectroscopy by Y. R. Sharma.
4. Instrumental Methods of Analysis (7^{th} edition) by Willard, Merritt, Dean, Settle.
5. Spectroscopy by G. R. Chatwal and S. K. Anand
6. Spectroscopy by Pavia, lampman, Kriz,Vyvyan
7. Organic Spectroscopy (2^{nd} edition) by JagMohan
8. Organic Spectroscopy (3^{rd} edition) by William Kemp
9. Instrumental Methods of Chemical Analysis by H. Kaur

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B.Sc.-III (CBCS) SEMESTER V
Paper No. DSE- E7 Chemistry Paper No. XI
(Physical Chemistry)
(Theory Credits: 02, 30 hours, 38 lectures)

Expected learning Outcomes:

Name of the Topics	Expected Learning Outcome
1. Elementary quantum mechanics	Learning and understanding quantum Chemistry, Heisenberg's uncertainty principle, concept of energy operators (Hamiltonian), learning of Schrodinger wave equation. Physical interpretation of the ψ and ψ^2. Particle in a one dimensional box
2. Spectroscopy	Knowledge about spectroscopy, Electromagnetic spectrum, Energy level diagram, Study of rotational spectra of diatomic molecules: Rigid rotor model, Microwave oven, vibrational spectra of diatomic molecules, simple Harmonic oscillator model, Raman spectra: Concept of polarizability, pure rotational and pure Vibrational Raman spectra of diatomic molecules, related knowledge will be gained by the students.
3. Photochemistry	Learning and understanding photochemical laws, reactions and various photochemical phenomena.
4. Solution	Learning the various types of solutions, relations vapour pressure, temperature relations.
5. Electromotive force	Learning and understanding the knowledge of emf measurements, types of electrodes, different types of cells, various applications of emf measurements.

Unit 1. Elementary quantum mechanics **[08]**

1.1 Introduction.

1.2 Drawbacks of classical mechanics, Black body radiation, Photoelectric effect, Compton effect, Duel nature of matter and energy: De Broglie hypothesis.

1.3 The Heisenberg's uncertainty principle.

1.4 Concept of energy operators (Hamiltonian).

1.5 Derivation of Schrodinger wave equation, well behaved function.

1.6 Physical interpretation of the ψ and ψ^2.

1.7 Particle in a one dimensional box.

1.8 Numerical problems.

Unit 2. Spectroscopy **[08]**

2.1 Introduction.

2.2 Electromagnetic radiation.

2.3 Interaction of radiation with matter, Electromagnetic spectrum, Energy level diagram.

2.4 Rotational spectra of diatomic molecules: Rigid rotor model, moment of inertia, energy levels of rigid rotor, selection rules, Intensity of spectral lines, determination of bond length, isotope effect, Microwave oven

2.5 Vibrational spectra of diatomic molecules: Simple Harmonic oscillator model, Vibrational energies of diatomic molecules, Determination of force constant, overtones.

2.6 Raman spectra: Concept of polarizability, pure rotational and pure Vibrational Raman spectra of diatomic molecules, selection rules.

2.7 Comparative study of IR and Raman spectra, rule of mutual exclusion- CO_2 molecule.

2.8 Numerical problems.

Unit 3. Photochemistry **[06]**

3.1 Introduction, Difference between thermal and photochemical processes.

3.2 Laws of photochemistry: i) Grotthus - Draper law ii) Lambert law iii) Lambert – Beer's law (with derivation) iv) Stark-Einstein law.

3.3 Quantum yield, Reasons for high and low quantum yield.

3.4 Factors affecting Quantum yield.

3.5 Photosensitized reactions – Dissociation of H_2, Photosynthesis.

3.6 Photodimerisation of anthracene, decomposition of HI and HBr.

3.7 Jablonski diagram depicting various processes occurring in the excited state: Qualitative description of fluorescence and phosphorescence.

3.8 Chemiluminescence, Electroluminescence and Bioluminescence.

3.9 Numerical problems.

Unit 4. Solutions [06]

4.1 Introduction.

4.2 Ideal solutions, Raoult's law, Vapour pressure of ideal and non ideal solutions of miscible liquids.

4.3 Composition of liquid and vapour, vapour pressure and boiling point diagrams of miscible liquids. Distillation of miscible liquid pairs.

Type I : Systems with intermediate total vapour pressure (i.e. System in which b.p. increases regularly – Zeotropic).

Type II : Systems with a maximum in the total vapour pressure (i.e. System with a b.p. minimum – Azeotropic).

Type III : Systems with a minimum in the total vapour pressure (i.e. System with a b.p. Maximum – Azeotropic).

4.4 Solubility of partially miscible liquids.

i. Maximum solution temperature type: Phenol – water system.

ii. Minimum solution temperature type: Triethyl amine – water system.

iii. Maximum and minimum solution temperature type: Nicotine – water system.

Distillation of partially miscible liquid pairs.

4.5 Vapour pressure and distillation of immiscible liquids, steam distillation.

Unit 5. Electromotive force **[10]**

(Convention: Reduction potentials to be used)

5.1 Introduction

5.2 Thermodynamics of electrode potentials, Nernst equation for electrode and cell potentials in terms of activities.

5.3 E.M.F. series.

5.4 Types of electrodes: Description in terms of construction, representation, half cell reaction and emf equation for

i) Metal – metal ion electrode.

ii) Amalgam electrode.

iii) Metal – insoluble salt electrode.

iv) Gas – electrode.

v) Oxidation – Reduction electrode.

5.5 Reversible and Irreversible cells.

i. Chemical cells without transference.

ii. Concentration cells with and without transference.

iii. Liquid – Liquid junction potential: Origin, elimination and determination.

5.6 Equilibrium constant from cell emf, Determination of the thermodynamic parameters such as ΔG, ΔH and ΔS.

5.7 Applications of emf measurements :

i. Determination of pH of solution using Hydrogen electrode.

ii. Solubility and solubility product of sparingly soluble salts (based on concentration cells).

5.8 Numerical problems.

Reference Books:

1. Physical Chemistry by G. M. Barrow, International student Edition,Mc Graw Hill.
2. University General Chemistry by C.N.R. Rao, Macmillan.
3. Physical Chemistry by, R. A. Alberty, Wiley Eastern Ltd.
4. The Elements of Physical Chemistry by P. W. Atkins, Oxford.
5. Principles of Physical Chemistry by S. H. Maron, C. H. Prutton, 4thE dition.

6. Nuclear and Radiochemistry by Friedlander, Kennedy and Miller, John Wiley and Sons. Wiley International edition.
7. Essentials of Nuclear Chemistry by H. J. Arnikar, 4th edition. Wiley Eastern.
8. Principles of Physical Chemistry by Puri, Sharma, Pathania,Shobhanlal Naginchand and Company, Jalandar.
9. Instrumental methods of chemical analysis by Chatwal and Anand,5th Edition, Himalaya Publication.
10. Fundamentals of molecular spectroscopy by C. N. Banwell – Tata Mc Graw-Hill.
11. Quantum Chemistry including molecular spectroscopy by B. K. Sen,Tata Mc Graw -Hill.
12. Text Book of Physical Chemistry by S. Glasstone, Macmillan India Ltd.
13. Elements of Physical Chemistry by D. Lewis and S. Glasstone (Macmillan).
14. Principles of Physical Chemistry by Maron and Lando (Amerind).
15. Electrochemistry by S. Glasstone.
16. Physical Chemistry by W. J. Moore.
17. Basic Chemical Thermodynamics by V. V. Rao (Macmillan).
18. Essential of Physical Chemistry, Bahl and Tuli (S. Chand).
19. Text Book of Physical Chemistry, Soni and Dharmarha.
20. Advanced Physical Chemistry Gurdeep Raj GOEL Publishing House, 36th Edition

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B.Sc. Part III (CBCS) SEMESTER-V
Paper No. DSE-E8 Chemistry paper No. XII
(Analytical Chemistry)
(Theory Credits: 02, 30 hours, 38 lectures)

Expected learning Outcomes:

Name of the topic	Expected Learning Outcome
1.Theory of Gravimetric Analysis	Learning and understanding the techniques of gravimetric analysis.
2.Flame Photometry	Knowledge of instrumental analysis of alkali and alkaline earth elements.
3.Colorimetry and Spectrophotometry	Understanding, working and applications of optical methods as an analytical tool.
4.Potentiometric titrations	Understanding theory and applications of potentiometric titrations.
5.Chromatographic techniques and Quality control	Understanding the basics of ion exchange and column adsorption chromatography, Quality control practices in analytical industries / laboratories.

Unit 1. Theory of Gravimetric Analysis [08]

1.1 Introduction.

1.2 Gravimetric analysis by precipitation: nucleation, crystal growth, digestion/ageing, filtration, drying, ignition, weighing.

1.3 Optimum conditions for good precipitation.

1.4 Physical nature of precipitate.

1.5 Purity of precipitate: co-precipitation, post-precipitation.

1.6 Organic precipitants and their applications.

Unit 2. Flame Photometry [06]

2.1 Introduction.

2.2 General principles of flame photometry.

2.3 Instrumentation: Block diagram, Burners (Premix and Lundergraph burners), mirror, slits, filters, detector (Photomultiplier tube).

2.4 Effect of solvent in flame photometry.

2.5 Experimental procedure of analysis (Standard addition and internal standard).

2.6 Interferences and Factors that influence the intensity of emitted radiation in a flame photometer.

2.7 Applications of flame photometry in real sample analysis.

2.8 Limitations of flame photometry.

Unit 3. Colorimetry and Spectrophotometry [06]

3.1 Theory of colorimetry and spectrophotometry.

3.2 Lambert Beer's law, deviation from Beer's law.

3.3 Terms used in colorimetry and spectrophotometry.

3.4 Classification of methods of 'colour' measurement or comparison.

3.5 Photoelectric colorimeter method–Single beam photo-electric colorimeter.

3.6 Spectrophotometer method–Single beam direct reading spectrophotometer.

3.7 Determination of unknown concentration by using concentration-absorbance plot.

3.8 Applications of colorimetry and spectrophotometry.

Unit 4. Potentiometric titrations [07]

4.1 Introduction.

4.2 Determination of pH.

4.3 Study of Quinhydrone and Glass electrodes and their use in determination of pH.

4.4 Potentiometric titrations: Classical and analytical methods for locating end points.

4.5 Acids- Bases titration with suitable example.

4.6 Redox titration with suitable example.

4.7 Precipitation titration with suitable example.

4.8 Basic circuit of direct reading potentiometer.

4.9 Advantages of potentiometric titrations.

Unit 5. Chromatographic techniques and Quality control [10]

5.1 Introduction, classification.

5.2 **Column chromatography:** Introduction, types, Principle of adsorption column chromatography, solvent system, stationary phases, Methodology-Column packing, applications of sample, development, detection methods, recovery of components, Applications.

5.3 **Ion exchange chromatography:** Introduction, Principle, Types and properties of ion exchangers, Methodology-Column packing, application of sample, elution, detection/analysis, Applications.

5.4 **Concepts in Quality control**

i. Introduction and Concept of quality.
ii. Quality control.
iii. Quality assurance.
iv. ISO series.
v. Good laboratory practices.

References

1. Text Book of Quantitative inorganic analysis – A.I.Vogel.
2. Instrumental methods of chemical analysis –Willard, Merit & Dean.
3. Instrumentals methods of chemical analysis – Chatwal & Anand.
4. Vogel's textbook of qualitative inorganic analysis – Bassett, Denny etc.
5. Textbook of qualitative inorganic analysis – Kolthoff and Sandel.
6. Fundamentals of analytical chemistry – Skoog and West.
7. Basic concepts of analytical chemistry – S.M. Khopkar.
8. Text book of qualitative chemical analysis – Vogel.
9. Handbook of quality assurance for the analytical chemistry laboratory – James P.Dux,Van Nostrand Reinhold,New York 1986.
10. Instrumental methods of chemical analysis – H.Kaur.
11. A text book of Quantitative chemical analysis Vogel's by J.Mendham, R. C. Denney.
12. Quantitative Chemical Analysis – Daniel C. Harris.
13. Applying ISO 9000 Quality management system, International trade centre publishing genera, Indian edition printed by D. L. Shaha Trust.

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B.Sc. Part III (CBCS) SEMESTER -VI
Paper No. DSE-F5, Chemistry Paper No. –XIII
(Inorganic Chemistry)
(Theory Credits: 02, 30 hours, 38 lectures)

Expected Learning Outcome

Name of the topic	Expected Learning Outcome
1.Coordination Chemistry	The topic focused on the mechanism of the reactions involved in inorganic complexes of transition metals. The students can understand the thermodynamic and kinetic aspects of metal complexes.
2.Nuclear Chemistry	The generation of nuclear power with the help of nuclear reactions is highlighted. Role of radio isotopes in medicinal, industrial and Archaeology fields is explained.
3.Chemistry of f-block Elements	The characteristics, properties and separation of lanthanides and Actinides are discussed. Synthesis and IUPAC Nomenclature of trans uranic elements (TU) explained.
4.Iron and Steel	The techniques involve in ore dressing and extraction of cast iron from its ore are discussed.
5.Bio –inorganic Chemistry	Role of various metals and non metals in our health are discussed.

Unit 1. Coordination Chemistry [12]

A. Inorganic Reaction mechanism

1.1 Introduction.

1.2 Classification of Mechanism: Association, dissociation, interchange and the rate determining steps.

1.3 S_N^1 and S_N^2 reactions for inert and labile complexes.

1.4 Mechanism of substitution in cobalt (III) octahedral complexes.

1.5 Trans effect and its theories.

1.6 Applications of trans effect in synthesis of Pt (II) complexes.

B. Thermodynamic and Kinetic aspects of metal complexes.

1.7 Introduction.

1.8 Thermodynamic stability.

1.9 Kinetic Stability.

1.10 Relation between thermodynamic and kinetic stability.

1.11 Stepwise stability constant.

1.12 Factor affecting the stability of complexes.

1.13 Determination of Stability constant by Job variation, Mole ratio and Slope ratio method.

Unit 2. Nuclear Chemistry **[05]**

2.1 Nuclear reactions and energetic of nuclear reactions.

2.2 Types of nuclear reactions

i. Artificial transmutation.

ii. Artificial radioactivity.

iii. Nuclear fission and its application in heavy water nuclear reactor.

iv. Nuclear fusion.

2.3 Use of Thorium, Uranium and Plutonium in atomic energy

2.4 Applications of radio-isotopes as tracers.

i. Chemical investigation – Esterification.

ii. Structural determination – Phosphorus pentachloride.

iii. Analytical Chemistry – Isotopic dilution method for determination of volume of blood.

iv. Age determination – Dating by C^{14}.

Unit 3. Chemistry of f- Block Elements **[09]**

A] Lanthanides

3.1 Introduction.

3.2 Occurrence.

3.3 Electronic Configuration.

3.4 Oxidation State.

3.5 Lantahnide contraction.

3.6 Separation of Lanthanides by Ion exchange method.

B] Actinides

3.7 Position in periodic table.

3.8 Electronic configuration.

3.9 General methods of preparation of transuranic elements.

i. Neutron capture – followed by β decay.

ii. Accelerated projectile bombardment.

iii. Heavy ion bombardment.

3.10 IUPAC nomenclature of the super heavy elements with atomic number (Z) greater than 100.

Unit 4. Iron and Steel. **[07]**

4.1 Occurrence and ores of iron.

4.2 Definition of the Terms- Ore , Mineral, Slag, Flux, Gangue , Matrix, Calcinations, Reduction, Roasting, Smelting and Leaching.

4.3 Extraction of iron by Blast furnace.

4.4 Steel: Definition and types.

4.5 Conversion of cast iron into steel by

i. Bessemer process.

ii. L.D. process.

4.6 Heat treatment on steel.

Unit 5. Bio-inorganic Chemistry. **[05]**

5.1 Introduction.

5.2 Essential and trace elements in biological process.

5.3 Metalloporphyrins with special reference to hemoglobin and myoglobin.

5.4 Biological role of alkali and alkaline earth metal ions with special referenc to Na^+, K^+ and Ca^{2+}

Reference Books: (Use recent editions)

1. Concise Inorganic Chemistry (ELBS, 5th Edition) – J. D. Lee.

2. Inorganic Chemistry (ELBS, 3rd Edition) D. F. Shriver, P. W. Atkins, C. H.Lang Ford, Oxford University Press, 2nd Edition.
3. Basic Inorganic Chemistry : Cotton and Wilkinson.
4. Advanced Inorganic Chemistry (4^{th} Edn.) Cotton and Wilkinson.
5. Concepts and Models of Inorganic Chemistry : Douglas and Mc. Daniel. 3^{rd} Edition. John Wiley publication.
6. Structural principles in inorganic compounds. W. E. Addison.
7. Theoretical principles of Inorganic Chemistry – G. S. Manku.
8. Theoretical Inorganic Chemistry by Day and Selbine.
9. Co-ordination compounds. SFA Kettle.
10. Essentials of Nuclear Chemistry by H. J. Arnikar.
11. Nuclear Chemistry by M. N. Sastri
12. Organometallic Chemistry by R. C. Mahrotra A. Sing, Wiley Eastern Ltd.New Delhi.
13. Inorganic Chemistry by A. G. Sharpe, Addision – Wisley Longman – Inc.
14. Principles of Inorganic Chemistry by Puri, Sharma and Kalia, Vallabh Publication. Pitampur Delhi.
15. Text book of Inorganic Chemistry by K. N. Upadhyaya Vikas Publishing House – New Delhi.
16. Inorganic Chemistry 3rd edn G. L. Miessler and D.A. Tarr, pearson publication
17. Co-ordination compounds by Baselo and Pearson.
18. UGC Inorganic chemistry by H.C. Khera, Pragati prakashan
19. UGC Advance Inorganic Chemistry by Agarwal and Keemtilal, Pragati Prakashan

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B.Sc. Part III (CBCS) SEMESTER-VI
Paper No. DSE-F6 Chemistry Paper No. XIV
(Organic Chemistry)
(Theory Credits: 02, 30 hours, 38 Lectures)

Expected learning Outcomes:

Name of the topic	Expected Learning Outcome
1. Reagents and Reactions in Organic Synthesis	Knowledge of reagents used in organic transformations and various reactions used in organic synthesis.
2.Retrosynthesis	Knowing basic terms used in retrosynthetic analysis, retrosynthesis of some organic compounds.
3.Electrophilic addition to >C=C< and −C≡C− bond	Student will learn addition reaction across >C=C< bond w.r.t. hydrohalogenation, hydration hydroxylation, ozonolysis and addition of halogen, halogen acid, hydrogen,water, etc. across −C≡C−bond.
4.Natural Products	Knowledge of terpenoids and alkaloids w.r.t. occurrence, isolation, characteristics and classification. Analytical and synthetic evidences of Citral and Nicotine.
5.Pharmaceuticals	Understanding classification of drugs, Qualities of ideal drug. Synthesis and uses of some representative drugs and Drug action of sulpha drugs.

Unit 1. Reagents and Reactions in Organic Synthesis [10]

A] Reagents

Preparation and Applications of following reagents.

1. Lithium aluminium hydride $LiAlH_4$.
2. Raney Nickel.
3. Osmium tetraoxide.

4. Selenium dioxide (SeO_2).
5. Dicyclohexyl Carbodiimide (DCC).
6. Diazomethane.

B] Reactions

Statement, General Reaction, Mechanism and Synthetic applications

1. Diels -Alder reaction.
2. Meerwein –Pondorff-Verley reduction.
3. Hofmann rearrangement.
4. Wittig reaction.
5. Wagner- Meerwein rearrangement.
6. Baeyer Villiger oxidation.
7. Problem based on above reactions.

Unit 2. Retrosynthesis [06]

2.1 Introduction.

2.2 Recapitulation of basics of reaction mechanism and reagents.

2.3 Terms used- Target molecule (TM), Disconnection, Synthons, Synthetic equivalence, Functional group interconversion (FGI), one group disconnection (w. r. t. suitable examples).

2.4 Retrosynthetic analysis and synthesis of target molecules: Cinnamaldehyde, Cyclohexene, para methoxy acetophenone, Methyl-3-phenyl propionate, α,α-dimethyl benzyl alcohol, Paracetamol.

Unit 3. Electrophilic addition to >C=C< and −C≡C− bonds [08]

A. Addition to Carbon-Carbon double (>C=C<) bond:

3.1 Introduction.

3.2 Examples of addition reactions.

3.3 Mechanism of electrophilic addition to >C=C< bond, orientation & reactivity,

i. Hydrohalogenation.
ii. Anti-Markovnikoff's addition (peroxide effect).
iii. Rearrangements (support for formation of carbocation).

iv. Addition of halogens.
v. Addition of water.
vi. Addition of hypohalous acids (HO-X).
vii. Hydroxylation (formation of 1,2-diols).
viii. Hydroboration-oxidation (formation of alcohol).
ix. Hydrogenation (formation of alkane).
x. Ozonolysis (formation of aldehydes & ketones).

B. Addition to Carbon-Carbon triple (−C≡C−) bond:

3.4 Introduction.

3.5 Examples of addition reactions.

3.6 Mechanism of electrophilic addition to−C≡C−bond.

i. Addition of halogens.
ii. Addition of halogen acids.
iii. Addition of hydrogen.
iv. Addition of water.
v. Formation of metal acetylides.

Reference books:

1. Organic Reactions and Their Mechanisms P. S. Kalsi 3rd Revised edition.
2. Advanced organic Chemistry by B.S. Bahl & Arun Bhal (Reprint in 1997)
3. Organic Chemistry by Morrison and Boyd 6thedition.

Unit 4. Natural Products [08]

A] Terpenoids:

4.1 Introduction, Occurrence, Isolation, General Characteristic, Classification.

4.2 General Methods for structure determinations.

4.3 Isoprene rule.

4.4 Analytical evidences and synthesis of Citral.

B] Alkaloids:

4.5 Introduction, Occurrence, Isolation, Classification, Properties.

4.6 General Methods for structure determination.

4.7 Analytical evidences and synthesis of Nicotine.

Unit 5. Pharmaceuticals [06]

5.1 Introductio.

5.2 Classification.

5.3 Qualities of ideal drug.

5.4 Synthesis and uses of ethambutal, phenobarbitone, isoniazide, benzocaine, Chloramphenicol,paludrine.

5.5 Drug action of sulpha drugs.

Reference books:1

1. Advanced Organic Chemistry : Reactions, Mechanisms and structure by – Jerry March.
2. Reagents for Organic Synthesis by Louis F. Fieser , Mary Fieser -1967.
3. A Text book of Practical Organic Chemistry including Qualitative Organic Analysis by A. I.Vogel.
4. Mechanism and Structure in Organic Chemistry. April,1963 By Edwin S.Gould.
5. A text book of Organic Chemistry by Arun Bahl, B.S.Bhal Eighteenth Revised edition 2006.
6. A guidebook to mechanism in Organic Chemistry sixth Edition by Peter Syke.
7. Organic Synthesis: The Disconnection Approach by Stuart Warren.
8. Organic Synthesis Through Disconnection Approach by P. S. Kalsi
9. Fundamentals of Organic Synthesis the Retrosynthetic Analysis by Ratan Kumar Kar
10. Organic Reactions and Their Mechanisms P. S. Kalsi 3rd Revised edition.
11. Advanced organic Chemistry by B.S. Bahl & Arun Bhal (Reprint in 1997)
12. Organic Chemistry by Morrison and Boyd 6thedition.
13. Organic Chemistry Vol II Stereochemistry and the Chemistry of Natural Products (5th ed) by I. L.Finar.
14. Organic Chemistry Natural Products Vol I, by O. P.Agrawal
15. Industrial Chemistry-B.K. Sharma, Goyal publishing house,Mirut
16. Shreeves chemical process industries 5th Edition, G.T. Oustin, McGrawHill
17. Riegel`s hand book of Industrial chemistry, 9th Edition, Jems A.Kent
18. Industrial chemistry –R.K. Das, 2nd Edition,1976.

19. Synthetic drugs by M.S.Yadav,Campus book international.

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B.Sc. III (CBCS) SEMESTER-VI
Paper No. DSE-F 7 Chemistry Paper No. XV
(Physical Chemistry)
(Theory Credits: 02, 30 hours, 37 Lectures)

Expected Program Outcomes:

Name of the Topics	Expected Learning Outcome
1. Phase equilibria	Learning and understanding of phase rule, learning of One component, Two component and Three component systems phase diagrams with suitable examples.
2. Thermodynamics	Knowledge about basic concept of Thermodyanamics, free energy, Gibbs-Helmholtz equation and its applications, problem related with it.
3. Solid state chemistry	Learning and understanding Space lattice, lattice sites, Lattice planes, Unit cell. Laws of crystallography, Weiss indices and Miller indices, Cubic lattices and types of cubic lattice, planes or faces of a simple cubic system, Diffraction of X-rays, Derivation of Bragg's equation. Determination of crystal structure by Bragg's method. crystal structure of NaCl and KCl on the basis of Bragg's equation.
4. Chemical kinetics	Learning of kinetics, Simultaneous reactions such as i)opposing reaction ii)side reaction iii)consecutive reactions: iv) chain reaction v) explosive reaction
5. Distribution law	Learning and understanding the knowledge of distribution law, its modifications, applications of distribution laws, process of extraction, determination of solubility, distribution indicators, molecular weights.

Unit 1. Phase Equilibria **[07]**

1.1 Introduction.

1.2 Gibbs phase rule : Phase rule equation and explanation of terms involved in the equation.

1.3 Phase diagram, true and metastable equilibria.

1.4 One component systems:

i. Water system.

ii. Sulphur system with explanation for polymorphism.

1.5 Two component systems:

i. Eutectic system: (Ag – Pb system); Desilverisation of lead.

ii. Freezing mixture: (KI –H_2O system).

iii. Formation of compound with congruent melting point ($FeCl_3$ – H_2O).

1.6 Three component solid-liquid system:

i. Development of triangular phase diagram: (Acetic acid – Chloroform –water system).

Unit 2. Thermodynamics [09]

2.1 Introduction.

2.2 Free energy: Gibbs function (G) and Helmholtz function (A), Criteria for thermodynamic equilibrium and spontaneity.

2.3 Relation between ΔG and ΔH : Gibbs-Helmholtz equation.

2.4 Phase equilibria : Clapeyron – Clausius equation and its applications.

2.5 Thermodynamic derivation of law of mass action, Van't – Hoff isotherm and isochore.

2.6 Fugacity and activity concepts.

2.7 Partial molar quantities, Partial molar volume, Concept of chemical potential, Gibbs-Duhem equation.

2.8 Numerical problems.

Unit 3. The Solid State [09]

3.1 Introduction: Space lattice, lattice sites, lattice planes, unit cell.

3.2 Laws of crystallography:

i. Law of constancy of interfacial angles

ii. Law of rational indices

iii. Law of crystal symmetry.

3.3 Weiss indices and Miller indices.

3.4 Cubic lattice and types of cubic lattice, planes or faces of a simple cubic system, spacing of lattice planes.

3.5 Diffraction of X-rays, Derivation of Bragg's equation.

3.6 Determination of crystal structure by Bragg's method.

3.7 Determination of crystal structure of NaCl and KCl on the basis of Bragg's equation.

3.8 Numerical problems.

Unit 4. Chemical Kinetics [06]

4.1 Introduction.

4.2 Simultaneous reactions such as

i. Opposing reaction: (Derivation of rate equation for first order opposed by first order expected).

ii. Side reaction.

iii. Consecutive reactions.

iv. Chain reaction.

v. Explosive reaction (Derivation of rate equation and Numerical problems are not expected).

Unit 5. Distribution law [06]

5.1 Introduction, solute, solvent and solution, miscible and immiscible liquids.

5.2 Nernst distribution law and its limitations.

5.3 Modification of distribution law with respect to change in molecular state of solute (association and dissociation of solute in one of the solvent).

5.4 Applications of the distribution law

i. Process of extraction (derivation expected).

ii. Determination of solubility of solute in particular solvent.

iii. distribution indicators.

iv. determination of molecular weight of solute in different solvents.

5.5 Numerical problems.

Reference Books:

1. Physical Chemistry by G. M. Barrow, International student Edition,Mc Graw Hill.
2. University General Chemistry by C.N.R. Rao, Macmillan.
3. Physical Chemistry by, R. A. Alberty, Wiley Eastern Ltd.
4. The Elements of Physical Chemistry by P. W. Atkins, Oxford.
5. Principles of Physical Chemistry by S. H. Maron, C. H. Prutton, 4thE dition.
6. Nuclear and Radiochemistry by Friedlander, Kennedy and Miller, John Wiley and Sons. Wiley International edition.
7. Essentials of Nuclear Chemistry by H. J. Arnikar, 4th edition. Wiley Eastern.
8. Principles of Physical Chemistry by Puri, Sharma, Pathania,Shobhanlal Naginchand and Company, Jalandar.
9. Instrumental methods of chemical analysis by Chatwal and Anand,5th Edition, Himalaya Publication.
10. Fundamentals of molecular spectroscopy by C. N. Banwell – Tata Mc Graw-Hill.
11. Quantum Chemistry including molecular spectroscopy by B. K. Sen,Tata Mc Graw -Hill.
12. Text Book of Physical Chemistry by S. Glasstone, Macmillan India Ltd.
13. Elements of Physical Chemistry by D. Lewis and S. Glasstone (Macmillan).
14. Principles of Physical Chemistry by Maron and Lando (Amerind).
15. Electrochemistry by S. Glasstone.
16. Physical Chemistry by W. J. Moore.
17. Basic Chemical Thermodynamics by V. V. Rao (Macmillan).
18. Essential of Physical Chemistry, Bahl and Tuli (S. Chand).
19. Text Book of Physical Chemistry, Soni and Dharmarha.
20. Advanced Physical Chemistry Gurdeep Raj GOEL Publishing House, 36th Edition

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B. Sc. Part III (CBCS) SEMESTER-VI
Paper No. DSE-F8 Chemistry Paper No. XVI
(Industrial Chemistry)
(Theory Credits: 02, 30 hours, 38 lectures)

Expected learning Outcomes:

Name of the topic	Expected Learning Outcome
1.Sugar Industry	Learning and understanding the whole process of manufacture of sugar and byproducts of sugar industry.
2.Manufacture of industrial heavy chemicals	Learning and understanding of physico-chemical principles of production of ammonia, sulfuric acid, nitric acid and sodium carbonate along with its manufacturing plant.
3.Synthetic polymers	Understanding and learning the classification, synthesis and applications of various polymers.
4.Petroleum industry and eco-friendly fuels	Understanding the petroleum Industry, fuels and need of use of ecofriendly fuels.
5.Nanotechnology	Understanding and learning of nanotechnology including classification, optical properties, synthesis routes, characterization techniques and applications of nano-materials.

Unit 1. Sugar Industry **[07]**

1.1 Introduction.

1.2 Manufacture of cane sugar in India: Extraction of juice, Clarification, Concentration, crystallization, centrifugation and other details of industrial process.

1.3 Byproducts of sugar industry.

1.4 Manufacture of Ethyl Alcohol from Molasses: by Fermentation.

Unit 2. Manufacture of Industrial Heavy Chemicals **[08]**

2.1 Introduction

2.2 Manufacture of Ammonia (NH_3)

i. Physico-chemical principles.

ii. Manufacture by Haber's process.

2.3 Manufacture of Sulphuric acid (H_2SO_4)

i. Physico-chemical principles.

ii. Manufacture by Contact process.

2.4 Manufacture of Nitric acid (HNO_3)

i. Physico-chemical principles.

ii. Manufacture by Ostwald's process (Ammonia oxidation process).

2.5 Manufacture of Sodium carbonate (Na_2CO_3) (Washing soda).

i. Physico-chemical principles.

ii. Manufacture by Solvay process.

Unit 3. Synthetic Polymers [08]

3.1 Introduction.

3.2 Classification.

i. Based on origin.

ii. Based on composition-organic, inorganic polymers.

iii. Based on method of preparation.

iv. Based on general physical properties.

v. Based on structure.

3.3 Addition Polymerization: Free radical addition and ionic addition polymerization.

3.4 Zigler Nata polymerization.

3.5 Methods of preparation and applications of some organic polymers: Polyethylene, polystyrene, polyvinyl chloride, Phenol-formaldehyde resin.

3.6 Conducting organic polymers: Synthesis and properties of Polyaniline, polypyrrol.

3.7 Applications of conducting organic polymers.

Unit 4. Petroleum industry and eco-friendly fuels [07]

A] Petroleum industry

Introduction, occurrence, composition of petroleum, resources, processing of petroleum, calorific value of fuel, cracking, octane rating (octane number), cetane

number, flash point, petroleum refineries, applications of petrochemicals, synthetic petroleum, lubricating oils & additives.

B] Fuels

Fuels and eco-friendly fuels: liquid, gaseous fuel (LPG, CNG), fossil fuels, diesel, bio diesel, gasoline, aviation fuels. Use of solar energy for power generation.

Unit 5. Nanotechnology [08]

5.1 Introduction of nanotechnology, history, Classification of nanoparticles based on size.

5.2 Optical properties of Nanomaterial's

i. Semiconducting NPs.

ii. Metallic NPs.

5.3 Synthetic Routes of nanomaterials: Top-down and bottom-up approaches.

5.4 Synthesis methods: Sol-gel, precipitation, chemical reduction, chemical vapor deposition, hydrothermal, electrodeposition.

5.5 Characterization of nanomaterials: X-Ray diffractometer, Scanning Electron Microscope, Transmission electron microscope.

5.6 Applications of nanotechnology.

References:

1. Industrial Chemistry-B.K. Sharma
2. Chemical process industries – Shrieve & Brink
3. Industrial chemistry – Kent
4. Industrial chemistry – Rogers
5. Industrial chemistry – R. K. Das
6. Mechanical chemistry – Burger
7. Nanotechnology: Principles and Practices – Sulbha Kulkarni
8. The Petroleum chemicals industry by R. F. Goldstine, e &Fn London
9. Fundamentals of petroleum chemical technology by P Below.
10. Petro Chemicals Volume 1 and 2 ; A Chauvel and Lefevrev ; Gulf Publishing company

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Laboratory Course (Practicals)

N. B. (i) Use of Digital/Analytical/Chainometric/Single pan balance is allowed.

(ii) Use of Scientific calculator is allowed.

(iii) Use of Chart/Text book/Hand book of practical is allowed.

(iv) There will be a project having weightage of 15 marks.

Project should be in the following areas but focused on applications of Chemistry.

a) Society oriented

b) Daily use

c) Industry based

d) Analysis based

The project will be assessed by all the three examiners with equal weightage at the time of practical examinations.

The project may be completed individually or by a group of students not exceeding number three.

One copy of the project should be submitted at the time of examination. After assessment this copy will remain in the department.

INORGANIC CHEMISTRY

I) Gravimetric Estimations (G).

N. B. Any **two** experiments from G1 to G3 and any **two** experiment from G4 & G6.

G1. Gravimetric estimation of iron as ferric oxide (Fe_2O_3) from the given solution containing ferrous ammonium sulphate, copper sulphate and free sulphuric acid.

G2. Gravimetric estimation of zinc as zinc pyrophosphate from the given solution

containing zinc sulphate, ferrous ammonium sulphate and free sulphuric acid.

G3. Gravimetric estimation of barium as barium sulphate($BaSO_4$) from the given solution containing barium chloride, ferric chloride and free hydrochloric acid.

G4. Gravimetric estimation of barium as barium chromate($BaCrO_4$) from the given solution containing barium chloride, ferric chloride and free hydrochloric acid.

G5. Gravimetric estimation of nickel as bis (dimethylglyoximato) nickel (II) from the given solution containing nickel sulphate, ferrous ammonium sulphate and free Sulphuric acid.

G6. Gravimetric estimation of aluminium as aluminium oxinate potassium tris (8-hydroxy quinolato) aluminium (III) from the given solution containing potash alum ,copper sulphate and free sulphuric acid.

[For the gravimetric experiments, stock solution should be given in the range of 10 to 15 cm^3 and asked to dilute to 100 cm^3 (or the stock solution should be given in the range of 20 to 30 cm^3 and asked to dilute to 250 cm^3). Use 50 cm^3 of this diluted solution for estimation.]

II. Inorganic Preparations (P).

N. B. At least **six** preparations from the following with **percentage yield**:

P1. Preparation of potassium trioxalato aluminate (III).

P2. Preparation of Tetra ammine copper (II) chloride.

P3. Preparation of tris(thiourea) copper (I) sulphate.

P4. Preparation of potassium trioxalato ferrate (III).

P5. Preparation of chloropenta-ammine cobalt (III) chloride.

P6. Preparation of ammonium diamminetetrathiocynato chromate (III) (Reineck's salt).

P7. Preparation of Potassium hexa nitro coblatate (III).

P8. Preparation of ammonium trioxalato chromate (III).

P9. Preparation of hexathiourea plumbus (II) nitrate.

A) Percentage Purity

N. B. : Any **two** from the following.

V1. Determination of percentage purity of ferrous ammonium sulpahte.

V2. Determination of percentage purity of tetrammine copper (II) sulphate.

V3. Determination of percentage purity of potassium (trioxalato-aluminate) (III).

B) Analysis of Commercial Sample.

N. B. Any **Three** from the following:

V5. Determination of percentage of Calcium in the given sample of milk powder or lime.

V6. Determination of amount of aluminum in the given solution of potash alum.

V7. Determination of titrable acidity in the given sample of milk or lassi.

V8. Determination of percentage purity of boric acid using supplied sodium hydroxide. (Standard succinic or oxalic acid solution to be prepared to standardise the given sodium hydroxide solution.)

V9. To determine the amount of HCl in given of commercial samples.

C) Ion exchange method.

N. B. Any **two** from the following.

V10. Determination of amount of sodium present in the given solution of common salt using cation exchange resin (By Acid Base titration).

V11. Determination of amount of magnesium in the given solution containing(Mg^{2+} and Zn^{2+}) using anion exchange resin and standard solution of EDTA.

V12. Determination of amount of zinc in the given solution containing (Mg^{2+} andZn^{2+}) using anion exchange resin and standard solution of EDTA.

Reference Books:

1. A text book of quantitative Inorganic Analysis - A. I. Vogel.
2. Text book of Quantitative Inorganic Analysis - Kolthoff and Sandell.
3. Experimental Inorganic Chemistry - Palmer W. G.
4. Advanced Practical Inorganic Chemistry - Adams and Raynor.
5. Manual in Dairy Chemistry - I.C.A.R. Sub-Committee on Diary Education.
6. Chemical methods for environmental analysis - R. Ramesh and M. Anbu.

ORGANIC CHEMISTRY

I) Qualitative analysis

Separation of binary mixture and Identification of **one** component. (At least 08 mixtures)

Nature 1) Solid – Solid : 4 mixtures
2) Solid – Liquid : 2 mixtures
3) Liquid – Liquid : 2 mixtures

1) Solid – Solid Mixtures:

One mixture from each the following types should be given:

i) Acid+Phenol ii) Acid + Base
iii) Acid+Neutral iv) Phenol +Base
v) Phenol+Neutral vi) Base +Neutral

2) Solid – Liquid Mixtures

Mixture of type Neutral + Neutral or Acid + Neutral should be given.

3) Liquid – Liquid Mixtures

Mixture of type Neutral + Neutral or Base + Neutral should be Given. Following compounds should be used for preparation of mixtures

i) Acids: Benzoic acid, Phthalic acid, Salicylic acid, Cinnamic acid, Aspirin, Oxalic acid.

ii) Phenols: α-naphthol, β-naphthol.

iii) Bases:o-nitroaniline, m-nitroaniline, p-nitroaniline, aniline, o-toluidine and N, N-dimethylaniline.

iv) Neutrals: Anthracene, acetanilide, m-dintrobenzene, chloroform, carbon tetrachloride, acetone, nitrobenzene, ethyl acetate, ethyl benzoate, bromobenzene, urea and thiourea.

NB :

1. For Solid-Liquid and Liquid-Liquid mixtures avoid detection of type of mixture. Instead the weightage is given to detection of nature and separation ofmixture.
2. Separation and qualitative analysis of the binary Mixtures should be carried out on microscale using microscale kits.

II) Quantitative analysis: Organic Estimations:(Any four)

1. Estimation of sucrose
2. Saponification value of oil.
3. To determine the amount of acid and amide present in the given mixture of acid and amide.
4. Determination of Molecular weight of monobasic/dibasic acid by volumetric method.
5. Estimation of unsaturation –to estimate the percentage purity of given olefinic compound by brominationmethod.

Note: Double burette method should be used for titration.

III) Organic Preparations: (Any four)

1. Multicomponent reaction - Preparation of Dihydropyrimidone.
2. Radical coupling reaction - Preparation of 1,1,2 bis-2naphthol.
3. Base catalyzed Aldol condensation- Preparation of Dibenzal propanone.
4. Diels Alder reaction- Reaction between Furan and Maleic acid
5. Benzil- Benzilic acid rearrangement reaction
6. Oxidation reaction – Preparation of Methyl phenyl sulfone.

IV) Preparation of Derivatives:

1. Picrate derivative (naphathalene and α-naphthol).
2. Iodoform (Acetone).
3. Osazone of Carbohydrates (Glucose).
4. Oxalate derivative (ofUrea).
5. Nitrate derivative of Urea
6. 2,4-Dinitro phenyl hydrazone (carbonyl compounds)
7. Oxime derivatives (carbonyl compounds)

Or

Determination of structure of organic compound from given NMR spectra.

Ethanol, Ethyl acetate, Benzyl alcohol, Propanoic acid, Butaraldehyde, Ethyl benzoate, Isopropyl benzene, Propyl ether, n-pentane, Propene, Diethyl amine, 2-chloro butane.

NB: All preparations should be carried out by considering green Chemistry approach

1. Preparation of derivative should be carried out on small scale. The starting compound should not be given more than one gram.
2. Calculation of percentage practical yield in preparation is must.
3. Recrystallization of crude product and its melting point.
4. The product should be confirmed byTLC.
5. Assign reactions with mechanism.

Reference books:

1. Practical Organic Chemistry by – A.I.Vogel.
2. Practical Organic Chemistry by – O. P.Agarwal

PHYSICAL CHEMISTRY

I. Non instrumental Experiments:

A. Any one of the following

i) Partition Law.

To determine the partition coefficient of CH_3COOH between H_2O and CCl_4.

ii) Viscosity.

To determine the viscosity average molecular weight of a polymer.

iii) Adsorption.

To investigate the adsorption of oxalic acid by activated charcoal and test the validity of Freundlich & Langmuir isotherms.

iv) Solubility.

To study the effect of addition of electrolyte (NaCl or KCl) on the solubility of Benzoic acid at room temperature.

B. Chemical kinetics. (Any four)

1. The study of energy of activation of first order reaction i.e. hydrolysis of methyl acetate in presence of 0.5 N HCl / 0.5 N H_2SO_4.
2. The study of energy of activation of second order reaction i.e. reaction between $K_2S_2O_8$ and KI (Equal concentrations).
3. The study of energy of activation of second order reaction i.e. reaction between $K_2S_2O_8$ and KI (Unequal concentrations).
4. To study the hydrolysis of methyl acetate by using its two concentrations in presence of 0.5 N HCl and hence find velocity constant of the reaction.
5. To study the effect of addition of electrolyte (KCl) on the reaction between $K_2S_2O_8$ and KI (Equal concentrations).

C. Partial molar volume.

1. To determine the partial molar volume of ethyl alcohol in a mixture of ethyl alcohol and water (Any seven mixtures be given).

II. Instrumental experiments

A. Potentiometry (Any four)

1. Titration of strong acid with strong alkali.

   N.B. i) 8 to 10 ml of 1N acid solution to be given by examiner in 100 ml volumetric flask & student should dilute it to 100 ml and 10ml of this solution is taken for titration.

   ii) Experiment is carried out by taking pilot run from 1 to 10 ml and then final run taking 0.2 ml reading in the range of end point.

2. Preparation of buffer solution and determination of their pH (Any five buffer solutions), Theoretical calculation of pH values by using Henderson's equation.
3. Determination of standard electrode potential of Zn/Zn^{++}, Cu/Cu^{++}, Ag/Ag^{+} (Any two).
4. Estimate the amount of Cl^-, Br^- and I^- in given unknown halide mixture by titrating it against standard $AgNO_3$ solution.
5. Titration of ferrous ammonium sulphate using $K_2Cr_2O_7$ solution and to calculate redox potential of Fe^{++}, Fe^{+++} system.

B. Conductometry (Any three).

N.B. i) 8 to 10 ml of 1N acid solution to be given by examiner in 100 ml volumetric flask & student should dilute it to 100 ml and 10ml of this solution is taken for titration.

1. Titration of a mixture of weak acid and strong acid with strong alkali
2. To study the effect of substituent on dissociation constant of weak acid with respect to acetic acid and monochloroacetic acid (cell constant to be given).

   N.B. Calculate K by using formula $K= \alpha^2.C/1- \alpha$
3. To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method.
4. To determine the normality of citric acid in lemon by titrating it against standard 0.2 N NaOH solution by conduct metric method.
5. To determine λ_∞ of strong electrolyte (NaCl or KCl) and to verify Onsager equation.

C. Refractometry. (Any One)

1. To determine the percentage composition of unknown mixture by (i) graphical method and (ii) by composition law (Densities of pure liquids A & B be given).
2. To determine the molar refractivity of methyl acetate, ethyl acetate, n-hexane and

carbon tetrachloride and calculate the refraction equivalents of C, H and Cl atoms.

D. Colorimetry (Any Two).

1. To verify Lambert – Beer's law using $CuSO_4$ solution.
2. To estimate of Fe^{+++} ions by thiocynate method.
3. To estimate Fe^{+++} ions using salicylic acid by colorimetric titration.
4. To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium colorimetrically.

E. pH – metry (Any One).

1. To determine the dissociation constant of monobasic acid (Acetic acid).
2. To determine the dissociation constant of dibasic acid (Malonic acid).
3. To determine hydrolysis constant of aniline hydrochloride.

Reference Books:

1. Findlay's Practical Physical Chemistry (Longman)
2. Advanced Practical Physical Chemistry by J. B. Yadav, Goel publishing house.
3. Practical Physical Chemistry by B. D. Khosla, V. C. Garg (R. Chand and Co.)
4. Systematic experimental Physical Chemistry by Rajbhoj, Chandekar (Anjali Publicaiton) Aurangabad.
5. Practical Physical Chemistry: Nandkumari, Kothari and Lavande.
6. Practical Physical Chemistry by Gurtu (S. Chand).
7. Text Book of Qualitative Inorganic Analysis by A. I. Vogel (ELBS Longman).

Nature of Practical Examination

1) The practical examination will be of **200** marks.

2) The duration of practical examination will be of **three days - six and half hour per day.**

3) Questions related to the practical exercise/project report/industrial visit carried out by the student should be asked in viva.

4) Use of scientific calculator is allowed.

5) S.I. units should be used wherever possible.

6) Use of Chart / Hand book / Text book of practical is allowed.

7) A student is expected to submit a journal certified by the Head of the Department.

8) A student not be permitted to appear at the practical examination unless he/she produces a certified journal. If the journal is lost, the student should produce a certificate from the Head of the Department stating that he/she has satisfactory completed the practical work but his / her journal is lost.

9) Use of Digital / Analytical / Chainometric / Single pan balance is allowed.

10) A student should submit one copy of project at the time of examination.

Each examiner should asses the project work for Five marks and sign the same. If any student will not submit project work, he/she will be given Zero mark for the project.

11) The distribution of marks for practical examination will be as follows:

A) Physical Chemistry 60 marks

i) Non-instrumental experiment 25 marks

ii) Instrumental experiment 25 marks

iii) Viva 05 marks

iv) Journal 05 marks

B) Inorganic Chemistry 65 marks

i) Gravimetric analysis 25 marks

ii) Preparation 15 marks

iii) Volumetric estimation 15 marks

iv) Viva 05 marks

v) Journal 05 marks

C) Organic Chemistry 60 marks

i) Mixture separation and identification of compounds 25 marks

ii) Estimation/Preparation 20 marks

iii) Derivative 05 marks

iv) Viva 05 marks

v) Journal 05 marks

D) Project 15 marks

Total:- 200 marks

B.Sc. Programme structure (CBCS Pattern)

B.Sc. I, B. Sc. II, B. Sc. III Inorganic, Organic, Physical Analytical Chemistry

/ Industrial Chemistry)

B. Sc. I

Semester	Subject	Course Code	Paper No
I	Inorganic Chemistry	DSC-3A	I
	Organic Chemistry	DSC- 4A	II
II	Physical Chemistry	DSC- 3B	III
	Analytical Chemistry	DSC – 4B	IV

B. Sc. II

Semester	Subject	Course Code	Paper No
III	Physical Chemistry	DSC-C3	V
	Industrial Chemistry	DSC- C4	VI
IV	Inorganic Chemistry	DSC- D3	VII
	Organic Chemistry	DSC – D4	VIII

B. Sc III

Semester	Subject	Course Code	Paper No
V	Inorganic Chemistry	DSC-E5	IX
	Organic Chemistry	DSC- E6	X
	Physical Chemistry	DSC- E7	XI
	Analytical Chemistry	DSC – E8	XII
VI	Inorganic Chemistry	DSC-F5	XIII
	Organic Chemistry	DSC- F6	XIV
	Physical Chemistry	DSC- F7	XV
	Industrial Chemistry	DSC – F8	XVI

Shivaji University

Kolhapur

Accredited By NAAC with 'A^{++}' Grade

Revised Syllabus for Bachelor of Science

Part-II

Chemistry

(As per NEP-2020)

To be implemented from

June, 2023 onwards

Structure of B. Sc. II Chemistry

Sr. No.	Semester	Title of Paper
1	III	DSC-3C Paper-V (Physical Chemistry) (2 credit: 30 Hours, 37 Lectures)
2		DSC-4C Paper -VI (Analytical Chemistry) (2 credit: 30 Hours, 38 Lectures)
4	IV	DSC-3D Paper -VII (Inorganic Chemistry) (2 credit: 30 Hours, 37 Lectures)
5		DSC-4D Paper -VIII (Organic Chemistry) (2 credit: 30 Hours, 38 Lectures)

B.Sc. Part II (NEP) Semester– III

DSC-3C: Paper V (PHYSICAL CHEMISTRY)

(Credits: 02, 30 hours, 37 Lectures)

Name of the Topics	**Expected Learning Outcome**
1. Electrolytic Conductivity	Learning and coherent understanding of conductivity and transport number of the aqueous solutions with different applications. Experimental determination of transport number and numerical problems
2. Thermodynamics	Knowledge and coherent understanding of basic concepts in thermodynamics and concept of Entropy will be gained by the student.
3. Chemical Kinetics	Learning and understanding the knowledge about basic concepts in kinetics and third order reaction with characteristics, suitable examples, and methods for determination of order of reactions and numerical problems.
4. States of Matter	Learning and coherent understanding of behavior of gases, ideal gas as model system and its extension to real gases. The dependence of physical state on P, V and T. Liquid crystals are essentials in all common and research devices, hence they are introduced with suitable examples.
5. Surface Chemistry	Learning and understanding of theoretical basis of adsorption phenomenon, dynamic nature of surface and its applications.

Unit 1: Electrolytic Conductivity (6 hours)

1.1 Introduction, Migration of ions.

1.2 Hittorf's rule, Transference number, determination of transport number using Hittorf's method and moving boundary method, factors affecting transport number: nature of electrolyte, concentration, temperature, complex formation and degree of hydration.

1.3 Kohlrausch law of independent migration of ions and its applications such as relations between ionic conductance, ionic mobility and transport number, determination of equivalent conductance at infinite dilution of weak electrolytes, determination of degree of ionization of weak electrolyte, solubility and solubility products of sparingly soluble salts.

1.4 Conductometric titrations (only acid -base titrations with mixture of strong and weak acid). Advantages of conductometric titrations.

1.5 Numerical problems.

Unit 2: Thermodynamics (6 hours)

2.1 Introduction, Concept of Entropy: Definition, mathematical expression, unit.

2.2 Physical significance of Entropy.

2.3 Entropy changes for reversible and irreversible processes in isolated systems.

2.4 Entropy changes for an ideal gas as a function of V & T and as function of P & T.

2.5 Entropy change in mixing of gases.

2.6 Entropy change in phase transformations.

2.7 Third law of thermodynamics, standard entropy, application of third law of thermodynamics in determination of absolute entropy, Entropy changes in chemical reactions

2.8 Numerical problems.

Unit 3: Chemical kinetics **(4 hours)**

3.1 Introduction.

3.2 Third order reactions: derivation of rate constant considering reaction with Equal initial concentration, characteristics, and examples of third order reaction.

3.3 Determination of order of reaction by: i) Integration method, ii) Graphical method and iii) Half-life method.

3.4 Effect of temperature on rate of reaction, Arrhenius equation. Concept of energy of activation.

3.5 Numerical problems.

Unit 4: States of Matter **(8 hours)**

4.1 Introduction, States of matter and their properties.

A) Gaseous state:

4.2 Postulates of Kinetic Theory of Gases and derivation of the kinetic gas equation.

4.3 Ideal and Non ideal gases, Deviation of real gases from ideal behavior, compressibility factor, causes of deviation.

4.4 Van der Waals equation of state for real gases. Explanation of real gas behavior by Van der Waal's equation, Boyle temperature (derivation not required).

4.5 Critical Phenomena: PV-isotherms of real gases (Andrew's isotherms), Continuity of state, Critical constants and their calculation from Vander Waals equation.

B) Liquid state:

4.6 Liquid crystals: Difference between liquid crystal, solid and liquid.

4.7 Classification, structure of nematic, smectic and cholestric liquid crystal.

4.8 Thermography and seven segment cell.

4.9 Numerical Problems.

Unit 5: Surface Chemistry **(6 hours)**

5.1 Introduction, Adsorption as a surface phenomenon, Definition of adsorption, adsorbent, adsorbate. Characteristics of adsorption.

5.2 Factors affecting adsorption, Types of adsorption, Distinction between physical and chemical adsorption,

5.3 Adsorption isotherms: Freundlich adsorption isotherm, Langmuir adsorption isotherm. BET equation.

5.4 Applications of adsorption.

Reference Books:

1) Barrow, G.M. Physical Chemistry Tata McGraw-Hill (2007).

2) Castellan G.W. Physical Chemistry 4 th Ed. Narosa (2004).

3) Kotz, J.C. Treichel, P.M.& Townsend,J.R.General Chemistry, Cengage Learning India Pvt Ltd: New Delhi (2009).

4) Mahan ,B.H. University Chemistry, 3rd Ed. Narosa (1998).

5) Petrucci, R.H. General Chemistry, 5th Ed., Macmillan Publishing Co,: New York (1985).

6) Elements of Physical Chemistry, S., Glasstone, D. Lewis.(2010)

7) Principles of physical Chemistry, Marron and Prutton. (2007).

8) Elements of Physical Chemistry, P.W.Atkins (2017-18)

9) Essentials of Physical Chemistry, Bahl and Tuli. S. Chand, 2010.

10) Physical Chemistry, Danials and Alberty (2016)

11) University General Chemistry C.N.R.Rao (2016)

12) Principals of Physical Chemistry Puri, Sharma and Pathania 47ThEdison,Vishal Publishing Co. Daryaganj Delhi. 110002 (2017-18)

13) Physical Chemistry A.J.Mee.(2015)

14) Advanced Physical Chemistry Gurudeep Raj (2017-18)

15) Physical Chemistry R.A.Aleberty. (2017-18)

16) Petrucci, R.H. General Chemistry 5th Ed. Macmillan Publishing Co.: New York (1985).

B.Sc. II Semester III

DSC 4C- Chemistry Paper VI (Analytical Chemistry)

(Theory- Credits: 02, 30 hours, 38 Lectures)

Name of the Topics	Expected Learning Outcome
1. Gravimetric Analysis	Learning and understanding of basic concepts in gravimetric analysis
2. Water Analysis	Students will learn the different water analysis techniques
3. Corrosion and electroplating	Learning and understanding the knowledge about basic concepts in corrosion and electroplating, mechanism of corrosion, principle of electroplating
4. Chromatographic techniques	Learning and coherent understanding of column and ion exchange chromatography
5. Petroleum industry, biofuels and IPR	Learning of working of petroleum industries, understanding of biofuels, copyrights and trademarks

Unit I Gravimetric Analysis [6 hours]

Introduction, Gravimetric analysis by precipitation: nucleation, crystal growth, digestion/ageing, filtration, drying, ignition, weighing, optimum condition for good precipitation, Physical nature of precipitate, Purity of precipitate: co-pecipitation, post-precipitation Organic precipitates and their applications.

Unit II Water Analysis [4 hours]

Physical analysis of water: pH, Conductance, Color, Odor, Turbidity and taste, Chemical Analysis Total dissolved solids, Hardness and its determination, Salinity, Alkalinity, Acidity Sulphates, Nitrates, Dissolved oxygen, Chemical oxygen demand, Biological oxygen demand.

Unit III Corrosion and electroplating [6 hours]

A) Corrosion -Introduction of corrosion, Electrochemical theory of corrosion, Factors affecting on corrosion -i. Position of metals in the electrochemical series on the basis of standard reduction potential ii. Purity of metal iii. Effect of moisture iv. Effect of oxygen (differential aeration principle) v. Hydrogen overvoltage, Methods of protections of metals from corrosion alloy formation, making metal cathodic, controlling external condition. Coating-galvanising, Tinning, electroplating, metal cladding, organic coating.,

B) Electroplating: Electrolysis, Faraday's laws, Cathode current Efficiency, Basic principles of electroplating, cleaning of articles, Electroplating of chromium, Anodising

Unit IV. Chromatographic techniques [7 hours]

Introduction, classification. Column chromatography: Introduction, types, Principle of adsorption column chromatography, solvent system, stationary phases, Methodology-Column packing, applications of sample, development, detection methods, recovery of components, Applications. Ion exchange chromatography: Introduction, Principle, Types and properties of ion exchangers, Methodology-Column packing, application of sample, elution, detection/analysis, Applications.

Unit V. Petroleum industry, biofuels and IPR [7 hours]

A] Petroleum industry Introduction, occurrence, composition of petroleum, resources, processing of petroleum, calorific value of fuel, cracking, octane rating (octane number), cetane number, flash point, petroleum refineries, applications of petrochemicals, synthetic petroleum, lubricating oils & additives.

B] Biofuels: Biodiesel, Bio-ethanol

C] IPR- Introduction to copyright and Trademark

Reference Books:

1) Principles of Physical Chemistry by Puri, Sharma and Pathania, VishalPublishing company Jalindhar

2) Essential of Physical Chemistry by Bahl B.S., Tuli G.D. and BahlArun, S.Chand and Company Ltd.New Delhi

3) Modern Analytical Chemistry By David Harvey, McGRAW-Hill International Edition, 2000

4) Industrial chemistry by B.K.Sharma, Goel Publishing Housing, 16th edition2011

5) Advanced Inorganic Chemistry, Vol.No.1, by Gurudeep Raj, Krishna Prakashan Media Ltd, Goel Publication, Meerut

6) Analytical chemistry by B.K. Sharma, Krishna Prakashan Media Ltd, Meerut, edition 3rd 2011

7) Principles of electroplating and electroforming by Blum and Hogaboom

8) Chemical Process Industries by Shreve and Brink

9) Industrial Chemistry by Loutfy Madkor and Helen Njenga

10) Elementary Principles of Chemical Processes by Richard Felder and Ronald Rousseau, John Wiley and Sons

B. Sc. Part II (CBCS) (NEP 2020) Sem IV

Paper No. DSC-D3- Chemistry paper No. VII (Inorganic Chemistry)

(Theory Credits: 02, 30 hours, 37 Lectures)

Expected learning Outcomes:

Name of the topic	Expected Learning Outcome
1. Co-ordination Chemistry	Learning and understanding basic concepts about coordination complexes.
2. Chelation	Gain knowledge about applications of chelates in Analytical chemistry.
3. Chemistry of elements of 3d series elements	Student will be capable of understanding the properties of 3d series elements.
4. Chemistry of 4f elements (Lanthanides).	Understanding the properties of 4f elements.
5. Inorganic Semi - micro Qualitative Analysis	Student will learn the basic knowledge about the qualitative analysis of inorganic compounds.

Unit 1: Co-ordination Chemistry (8 hours)

1.1 Introduction-Definition and formation of co-ordinate covalent bond in BF_3– NH3, $[NH_4]^+$ and H_2O

1.2 Terminology- Description of the terms- ligand, co-ordination number, co-ordination sphere

1.3 Effective atomic number rule.

1.4 Distinguish between double salt and complex salt.

1.5 Werner's theory

1.5.1 Postulates.

1.5.2 The theory as applied to cobalt amines viz. $CoCl_3.6NH_3$, $CoCl_3.5NH_3$, $CoCl_3.4NH_3$, $CoCl_3.3NH_3$

1.6 IUPAC nomenclature of coordination compounds.

1.7 Isomerism in complexes with C.N. 4 and 6

1.7.1 Geometrical Isomerism,

1.7.2 Optical Isomerism

1.7.3 Structural Isomerism-Ionization Isomerism, Hydrate Isomerism, Coordination Isomerism, Linkage Isomerism and Co-ordination position Isomerism

1.8 Valance bond theory of transition metal complexes with respect to, C.N. = 4, complexes of Cu and Ni, C.N. = 6 complexes of Fe and Co

Unit 2: Chelation (4 hours)

2.1 A brief introduction with respect to ligands, chelating agent, chelation and metal chelates.

2.2 Structural requirements of chelate formation

2.3 Difference between metal chelate and metal complex

2.4 Classification of chelating agents (with specific illustration of bidentate chelating agents)

2.5 Application of chelation with respect to chelating agents - EDTA and DMG

Unit 3: Chemistry of Elements of 3d Series Elements (6 hours)

3.1 Position of elements in periodic table

3.2 Characteristics of d-block elements with special reference to

i) Electronic structure

ii) Oxidation states, stability of oxidation states of Fe with respective to Latimer diagram

iii) Magnetic character

iv) Colored ions

v) Complex formation.

Unit-4. Chemistry of 4f Elements (Lanthanides) (5 hours)

4.1 Position of lanthanides in periodic table

4.2 Occurrence

4.3 Characteristics of 4f elements with special reference to

4.3.1 Electronic configuration

4.3.2 Oxidation states

4.3.3 Magnetic properties

4.3.4 Lanthanide contraction

4.4 Separation of lanthanides by ion exchange method.

Unit-5. Inorganic Semi-micro Qualitative Analysis (7 hours)

5.1 Theoretical principles involved in qualitative analysis.

5.2 Applications of solubility product and common ion effect in separation of cations into groups.

5.3 Applications of complex formation in

a) Separation of II group into IIA and IIB sub-groups.

b) Separation of Copper from Cadmium.

c) Separation of Cobalt from Nickel.

d) Separation of Cl^-, Br^-, I^-.

e) Detection of NO_2^-, NO_3^- (Brown ring test).

5.4 Application of oxidation and reduction in

a) Separation of Cl^-, Br^-, I^- in mixture

b) Separation of NO_2^- and NO_3^- in mixture.

5.5 Spot test analysis.

Reference Books:

1. Inorganic chemistry, Principles of structure and reactivity by J.E. Huheey and etal
2. Inorganic Chemistry by Shriver and Atkins 5th edition
3. Vogels text book of Qualitative Inorganic analysis by A. I. Vogel .3rd and 6th edition
4. Advanced Inorganic Chemistry by Agrawal Keemtilal (Pragati Prakashan)
5. Theoretical Inorganic chemistry by C.Day & J.Selbin IInd edition
6. Principles of inorganic chemistry by Puri Sharma & Kalia
7. Modern Inorganic chemistry by R.D.Madan (S.Chand)
8. Inorganic Chemistry by J.D.Lee
9. Basic Inorganic Chemistry by F.A.Cotton,G.Wilkilson & B.L.Gaus wiley
10. Chemistry for Degree students by R.L.Madan (S.Chand Publication
11. Concise Coordination Chemistry by Ramlingam, Ramgopalan

B. Sc. Part II Sem IV, NEP-2020

Paper No. DSC- D4 - Chemistry Paper No. VIII (Organic Chemistry)

(Theory Credits: 02, 30 hours, 38 Lectures)

Expected Learning Outcomes:

Name of the topic	**Expected Learning Outcomes**
1. Carboxylic acids and their derivatives.	To impart knowledge about the synthesis, reactivity and applications of carboxylic acids.
2. Amines and Diazonium Salts	Knowledge about classification, preparation and applications of amines and diazonium salts.
3. Carbohydrates	Understanding the classification, configuration and structure of carbohydrates.
4. Carbonyl Compounds - Aldehydes and Ketones	Student will be capable of understanding the nomenclature and reactivity of aldehydes and ketones.
5. Stereochemistry	Student will learn the basic knowledge of conformational analysis of some organic compounds.

Unit 1: Carboxylic Acids and Their Derivatives. [6 hours]

1.1 Monocarboxylic acid: Introduction, Methods of Formation from Alcohols, Aldehydes, Ketones, Nitriles and Alkyl benzenes.

1.2 Halo acids: a) Synthesis of halo acids-Mono, Di, Tri- chloro acetic acid by HVZ reaction b) Reactions - Substitution reaction of Monochloro acetic acid by Nucleophile OH^-, I^-, CN^- and NH3

1.3 Hydroxy acids: Citric acid

a) Methods of formation of Citric acid from glycerol.

b) Chemical Reactions: Reaction of citric acid: acetylation by acetic anhydride,

reduction by HI, action of heat.

1.4 Di carboxylic acids:

a) Introduction

b) Method of formation of succinic acid from ethylene dibromide, maleic acid

c) Chemical Reactions: Action of heat, Action of $NaHCO_3$, C_2H_5OH in presence of acid.

d) Method of formation Phthalic acid from o-xylene and Naphthalene

e) Chemical Reactions of Phthalic acid : Action of heat, reaction with sodalime, ammonia.

1.5 Carboxylic acid derivatives:

a) Introduction

b) Acid halide derivative: Acetyl chloride: i)Synthesis from acid, by action with PCl_3 and $SOCl_2$.

ii) Reaction with water, alcohol (Mechanism of esterification is expected) and ammonia.

c) Acid anhydride derivative:

i)Synthesis of acetic anhydride by dehydration of acetic acid.

ii) Reactions with water, alcohol and ammonia.

Unit 2: Amines and Diazonium Salts: [5 hours]

2.1 Amines

i) Introduction, Classification and Nomenclature

ii) Methods of preparation:

a) From alkyl halide by amonolysis

b) By reduction of nitriles or cyanides

c) From unsubstituted amides (Hoffmann degradation),

d) By Gabrial synthesis (From Phthalamide).

iii) Reactions: Carbylamine reaction, Schotten-Baumann reaction, Electrophilic

substitution (Aniline) - Nitration, Bromination, Sulphonation.

2.2 Diazonium salt:

i) Introduction

ii) Preparation of Benzene diazonium chloride.

iii) Reactions of Benzene diazonium chloride.

a) Replacement reaction -Sandmeyers reaction.

b) Coupling reactions: Synthesis of Congo red.

Unit 3: Carbohydrates [6 hours]

3.1 Introduction.

3.2 Classification of carbohydrates, reducing and non-reducing sugars.

3.3 Physical properties of glucose and fructose.

3.4 Killiani's synthesis of Glucose from D- Arabinose.

3.5 Determination of structure of D- Glucose.

a) Open chain structure of D- Glucose.

b) Configuration of D- Glucose from D- Arabinose.

c) Ring structure of D- Glucose.

d) Size of ring in D- Glucose by methylation Method.

e) Haworth projection for D- Glucose.

3.6 Cyclic structure of Fructose

3.7 Structures of Disachharides

a) Linkage between Monosachharides

b) Open chain and Haworth cyclic structures of Sucrose, Lactose and Maltose.

3.8 Structures of Polysachharides: a) Starch b) Cellulose

Unit 4: Carbonyl Compounds- Aldehydes and Ketones [6 hours]

4.1 Introduction, Nomenclature of aliphatic and aromatic aldehydes and ketones.

4.2 Structure and reactivity of Carbonyl group.

4.3 Reactions of Carbonyl Compounds- Mechanism and applications of -----

i) Aldol condensation, ii) Claisen and Benzoin Condensation, iii) Perkins reaction, iv) Cannizaros reaction, v) Knoevenagel condensation and vi) Reformatsky reaction.

Unit 5: Stereochemistry [7 hours]

5.1 Conformational isomerism – Introduction.

5.2 Representation of conformations of ethane by using Saw- Horse, Fischer (dotted line wedge) and Newmann's projection formulae.

5.3 Conformations and conformational analysis of ethane and n-butane by Newmann's Projection formula with the help of energy profile diagrams.

5.4 Relative stability cycloalkanes - Baeyer's strain theory and Theory of strainless rings.

5.5 Conformations and stability of cyclohexane

5.6 Conformation and stability of methyl cyclohexane.

5.7 Locking of conformation in t-butyl cyclohexane.

Reference Books:

1. Morrison, R. T. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).

2. Stereochemistry conformation & Mechanism, 9th Edition, By P.S.Kalasi, Publisher: New Age International, 2017

3. Stereochemistry of carbon compounds by Eliel..

4. Stereochemistry of Organic Compounds by D. Nasipuri.

5. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).

6. Finar, I. L. Organic Chemistry (Volume 2), Dorling Kindersley (India) Pvt. Ltd.

7. Organic Chemistry. Volume I, II, III by S.M. Mukharjee, S.P. Singh and R.P. Kapoor. Wiley Eastern Limited (New Age International)
8. Advanced Organic Chemistry by, B.S. Bahl, ArunBahl. S.Chand& Company, Ltd.
9. Chemistry by R. L. Madan, S. Chand and Company Ltd.

B.Sc. II Practical Paper Course
(Credit: 04, 8 hours per week)

A] Physical chemistry:

1) To study the hydrolysis of methyl acetate in presence of HCl and H_2SO_4 and to determine the relative strength of acids.
2) To study the effect of acid strength on hydrolysis of an ester by using 0.5M HCl and 0.25M HCl.
3) To study the reaction rate of hydrolysis of an ethyl acetate by an alkali.
4) To study the reaction between potassium persulphate and Potassium iodide in Solution with unequal concentration of the reactants.
5) To determine the degree of dissociation and dissociation constant of acetic acid at various dilutions and to verify Ostwald's dilution law conductometrically.
6) To determine the normality of the given strong acid by titrating it against the strong alkali conduct metrically.
7) To determine the normality of the given weak acid by titrating it against the strong alkali conductometrically.
8) To determine the percentage composition of a given liquid mixture by viscosity method (Density data to be given).
9) To determine the specific and molar refractions of benzene, toluene and xylene by Abbe's refractometer and to determine the refraction of CH_2 Group (Methylene group) (Densities should be determined by students).
10) To determine the specific rotation and unknown concentration of sugar solution.

11) Determination of adsorption coefficient of acetic acid-charcoal system.

B) Inorganic Chemistry

1) Gravimetric Analysis (Any two)

i) Gravimetric estimation of iron as Fe_2O_3 from a solution containing Ferrous ammonium sulphate and free sulphuric acid.

ii) Gravimetric estimation of barium as $BaSO_4$ from a solution containing barium chloride and free hydrochloric acid.

iii) Gravimetric estimation of nickel as $Ni(DMG)_2$ from a solution containing $NiSO_4.7H_2O$ and free sulphuric acid.

iv)Gravimetric estimation of aluminium as Aluminium oxinate from a solution containing aluminium sulphate or potash alum and free sulphuric acid.

2) Inorganic Preparations (Any Two)

i) Preparations of sodium cuprous thiosulphate

ii) Preparation of tris (ethylene diamine) nickel (II) thiosulphate

iii) Preparation of hexammine nickel (II) chloride

iv) Preparation of tetrammine copper (II) sulphate.

3) Semi-micro Qualitative Analysis

Analysis of binary mixtures with non interfering cations and anions (at least 6 mixtures to be analyzed)

i) Following anions are to be given :

Cl^-, Br^-, I^-, NO_3^-, CO_3^{--}, SO_4^{--} , S^{--}, (insoluble CO_3^{--} may be given)

ii) Following cations are to be given :

Cu^{2+}, Cd^{2+}

Al^{+3}, Fe^{+3}, $Cr^{+3.}$

Zn^{+2}, Mn^{+2}, Ni^{+2}, Co^{+2}, Ca^{+2}, Ba^{+2}.

Mg^{+2}, NH^{4+}, K^+

Note:- Use of spot tests to be made whenever possible.

4) Titrimetric Analysis (Any Four):

i) Fertilizer analysis: To determine percentage of nitrogen in the given sample of a nitrogenous fertilizer (ammonium sulphate). Known weight of the sample to be taken by the student. For preparing its solution which is to be refluxed with known excess of alkali. Standard HCl solution to be supplied.

ii) Analysis of Synthetic /Commercial Sample: To estimate Magnesium from talcum powder.

iii) Determination of alkali content from antacid tablet using HCl solution .

iv) Estimation of Calcium from chalk: To estimate amount of calcium from the chalk by titrimetric method. (By redox titration using $KMnO_4$ solution)

v) Determination of total hardness of water using 0.01M EDTA solution.

(Students should standardize the given EDTA solution by preparing 0.01M $CaCl_2$ solution. using $CaCO_3$ salt.)

C) Organic Chemistry:

1) Organic Qualitative Analysis : Identification of at least Eight Organic compounds with reactions including two from acids, two from phenols, two from bases and two from neutrals.

Acids – Succinic acid, Phthalic acid, alicylic acid, Aspirin.

Phenols – Alpha-Naphthol, o-nitrophenol, p-nitrophenol.

Bases – o, m- and p-nitroanilines, Diphenyl amine.

Neutrals – Urea, Acetanilide, Carbon tetrachloride, Bromobenzene, Methyl acetate, Nitrobenzene, Naphthalene, Anthracene, Ethyl methyl ketone.

Note: A systematic study of an organic substance involves reactions in the determination of elements and functional group.

2) Organic Quantitative Analysis:

I) Estimations (Any Three)

i) Estimation of acetone.

ii) Estimation of vitamin C.

iii) Estimation of Phenol by Bromination method

iv) Estimation of formaldehyde by sodium sulphite method

v) Estimation of ester.

II) Organic preparations

i) p-nitro acetanilide from acetanilide.

ii) Acetanilide from aniline using anhydrous ZnCl2 and Zn dust.

iii) Phthalimide from phthalic anhydride.

iv) Benzoic acid from benzamide.

3) Demonstration of Thin layer chromatography. Separation, identification and determination of Rf values

Reference Books :

1) Mendham, J.Vogel's Quantitative Chemical Analysis, Pearson 2009.

2) Khosla, B. D.; Garg, V. C. &Gulati, A.Senior Practical Physical Chemistry, R. Chand & Co: New Delhi (2011).

3) Findlay' Practical Physiccal Chemistry (Longmann)2015.

4) Practical Physical Chemistry :Gurtu (S Chand) 2014.

5) Systematic Experimental Physical Chemistry :Rajbhoj, Chandekar(Anjali Publication) 2016.

6) Advanced Practical Physical Chemistry: J.B. Yadav (Goel Publishing House) 2015.

7) Vogel's text book of Qualitative Inorganic analysis by A. I. Vogel .3rd and 6th edition

8) Vogel's text book of Quantitative Inorganic Chemistry by A. I. Vogel.

9) Physical Chemistry of Inorganic qualitative analysis by Kuricose & Rajaram.

10) Practical manual in water Analysis by Goyal & Trivedi

11) Practical Organic Chemistry by A.I. Vogel.

12) Hand book of Organic qualitative analysis by H.T. Clarke.

13) A Laboratory Hand Book of Organic qualitative analysis and separation by V.S. Kulkarni. Dastane Ramchandra& Co.

14) Practical Organic Chemistry by F.G. Mann and B.C. Saunders. Low – priced Text Book. ELBS. Longman

15) Advanced Practical Organic Chemistry by N.K. Vishnoi. Vikas Publishing House Private Limited.

16) Advanced practical chemistry by J. Singh, L. D. S. Yadav, R. K. P. singh, I. R. Siddiqui et.al, Pragati prakashan.

Shivaji University, Kolhapur

B.Sc. II Chemistry Revised Syllabus (NEP-2020)

from June 2023 onwards

Semester III & IV Nature of Question paper

Total Marks 40

Q.1 Choose the correct alternative and rewrite the sentence again. 08 Marks

i)

ii)

iii)

iv)

v)

vi)

vii)

viii)

Q.2. Attempt any TWO of the following (Out of Three) 16 Marks

a)

b)

c)

Q.3. Answer any FOUR of the following (Out of SIX) 16 Marks

a)

b)

c)

d)

e)

f)

Shivaji University, Kolhapur

B.Sc. II Chemistry Revised Syllabus (NEP-2020)

From June 2023 onwards

Total Marks 100

Nature of Practical Examination

Q. 1 Physical Section Experiment	25 Marks
Q. 2 Organic Section Experiment	30 Marks
Q. 3 Inorganic Section Experiment	35 Marks
Q. 4 Journal	10 Marks

Standard Format For Syllabus Framework

SHIVAJI UNIVERSITY, KOLHAPUR.

A^{++}

Accredited By NAAC

(2021)

Revised Syllabus For

B. Sc. I Botany

(Faculty of Science & Technology)

Paper –I, II - (Semester- I)

and

Paper -III, IV - (Semester-II)

(NEP-2020) Syllabus to be implemented from August 2022 onwards.

A] **Ordinance and Regulations: (As applicable to Degree Course)**

B] **Shivaji University, Kolhapur**

Revised Syllabus For

Bachelor of Science

1. **TITLE : Subject- Botany**

   Optional under the Faculty of Science and Technology

2. **YEAR OF IMPLEMENTATION**:- Revised Syllabi implemented from August 2022 onwards.

3. PREAMBLE:-

[Note :-The Board of Studies should briefly mention foundation, core and applied components of the course / paper. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge at examination level.**]**

4. GENERAL OBJECTIVES OF THE COURSE:
(as applicable to the Degree concerned)

Objectives:-

1) To impart knowledge of Science.

2) To develop scientific attitude, open Minded, critical, curious.

3) To develop skill in practical work, experiments and laboratory materials and equipments along with the collection and interpretation of scientific data to contribute the science.

4) To understand scientific terms, concepts, facts, phenomenon and their relationships.

5) To make the students aware of natural resources and environment.

6) To provide practical experience to the students as a part of the course

7) To develop scientific ability to work in the field of research and other fields of their own interest and to make them fit for society.

8) To acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of humanbeings.

9) To develop ability for the application of the acquired knowledge to improve agriculture and other related fields to make the country selfreliant and sufficient.

10) To create the interest of the society in the subject and scientific hobbies, exhibitions and other similar activities.

5. DURATION

The course shall be a full time course.

6. PATTERN:-

Pattern of Examination will be Semester.

7. FEE STRUCTURE :-

As per Government /University rules.

1. Refer brochure and prospectus of concern affiliated college/institute to Shivaji University, Kolhapur.
2. Other fee will be applicable as per rules and norms of Shivaji University, Kolhapur.

8. ELIGIBILITY FOR ADMISSION:

As per guidelines obtained from Shivaji University, Kolhapur by following rules and regarding reservations by Govt. of Maharashtra**.**

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English.

10. STRUCTURE OF COURSE- B. Sc. I Botany

FIRST YEAR (SEMESTER I and II) (Total Number of papers - IV)

Sr. No.	Subjects/Papers	Theory	Internal	Total Marks
1.	Paper-I	**50**	-	50
2.	Paper-II	**50**	-	50
3.	Paper-III	**50**	-	50
4.	Paper-IV	**50**	-	50
	Practical			50
	Total			**250**

11. SCHEME OF TEACHING AND EXAMINATION:-

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

FIRST YEAR - SEMESTER – I/ II : Botany (Optional)

Scheme of Teaching and Examination

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				ExaminationScheme (Marks)		
		L	T	P	Total	Theory	Term Work	Total
	Semester-I							
1	Paper-I	2.5	-	-	2.5	50		50
2	Paper-II	2.5	-	-	2.5	50		50
	Semester-II							
3	Paper-III	2.5	-	-	2.5	50		50
4	Paper-IV	2.5	-	-	2.5	50		50
	Practical- I (annual)	-	-	4	04	50	-	50
	Total	**05**	**-**	**04**	**09**	**-**	**-**	**250**

- Practical Examination will be conducted annually for 50 Marks.
- Except English, there shall be combined passing for two theory courses of 50 marks each. i.e. Minimum 35 marks are required for passing out of 100.
- There shall be separate passing for theory and practical courses.
- CGPA Ability Enhancement Compulsory Course(AECC) for (A and B) is English
- SEC- Skill Enhancement Course (Vocational Studies –I):

  Field Projects/ Internship/ Apprenticeships/ Community Engagement and Services, any one Selected From Pool of Courses of 4 Credits.
- SEC I + SEC II Practical examination shall be conducted annually of 100 Marks at the end of semester –II.

  Total Marks for B.Sc.-I Botany (Excluding English) : 250
- Theory and practical lectures : 48 minutes each

Exit at Level 5:

Those who are interested to exit after Level 5 shall have to complete the SEC-I and SEC-II courses with allotted credits of Shivaji University Guidelines

Programme Structure for Bachelor of Science with Botany as a Major subject
With Multiple Entry Multiple Exit Options

SEM	Discipline Specific Core Courses (DSC) (L+P) (Credits)	Discipline Specific Elective Courses (DSE) (L+P) (Credits)	Ability Enhancement Compulsory Courses (AECC) (L+P) (Credits)	Skill Enhancement Courses (SEC)		Total Credits
				Vocational Courses (L+P) (Credits) (Non	Value Based Courses (P) (Credits) (NonCGPA)	
I	Botany- (Theory 4 + practical 2 = 6 credits). And any other three courses Physics / Chemistry / Zoology / Microbiology / Geology / Comp. Sc. / Biotech ./Electronics / Geography / Industrial Microbiology / Maths / statistics (courses- 3 x credits- 6=18 credits)	--	CGPA – AECC-1; (2 credits)- English for communication. Non CGPA (2 credits) [Democracy, Election & Good Governance]	SBC-1: (2 –credits) Multidisciplinary (select From the Pool of Courses)	VBC (1) NCC / NSS /Sports / Cultural, etc.	26
II	Botany- Theory credits 4 practical credits 2 Total credits for each subject= 6 credits). And any other three courses Physics / Chemistry / Zoology / Microbiology / Geology / Comp. Sc. / Biotech ./Electronics / Geography / Industrial Microbiology / Maths / statistics (courses- 3 x credits- 6=18 credits)	--	AECC- 2: (2 credits) - **Eng for communication**	SBC-2: (2- credits) Multidisciplinary (select From the Pool of Courses)	VBC (1) NCC / NSS /Sports / Cultural, etc.	26
Level 5 : Exit with Certificate Course in Science with the completion minimum credits as per the Shivaji University Guidelines.						

III	**Botany (Theory 4 + practical 4) = 8 credits** And select any two courses form Physics / Chemistry / Zoology / Microbiology / Geology / Comp. Sc./ Pollution / Biotech ./Electronics / Geography / Industrial Microbiology / Maths / Statistics / Astrophysics/ Plant Protection. (2 courses x 8 credits = 16 credits)	--	AECC-3 : (2 credits) Environmental Studies (Theory)	SBC-3 (2) Multidisciplinary (select From the Pool of Courses)	VBC (1) NCC / NSS /Sports / Cultural, etc.	26
IV	**Botany (Theory 4 + practical 4) = 8 credits** And select any two courses form Physics / Chemistry / Zoology / Microbiology / Geology / Comp. Sc. / Pollution / Biotech ./Electronics / Geography / Industrial Microbiology / Maths / statistics / Astrophysics/ Plant Protection. (2 courses x 8 credits = 16 credits)	--	AECC-4 : (2credits) Environmental Studies (Project)	SBC- 4 (2) Multidisciplinary (select From the Pool of Courses)	VBC (1) NCC / NSS /Sports/ Cultural, etc.	26
Level 6 : Exit with Diploma in Science (with the completion of with the completion minimum credits as per the Shivaji University Guidelines.						
V	--	Four DSE courses of Botany (Theory credits = 2 + practical	AECC-5 (2 credits) Professional Communication (Eng) [Constitution of India & Local Self	SBC- 5 (2) Multidisciplinary (select From the Pool of Courses)	VBC (1) NCC / NSS /Sports / Cultural, etc.	18

		credits = 2 Total credits for each course = 4 (4 courses x 4 credits each =16 credits)	Government : Non-CGPA (2)			
VI	--	Four DSE courses of Botany (2+2) = 4 credits each (4 x 4 =16 credits)	AECC-6 (2 credits) Professional Communication (Eng)	SBC- 6 (2) Multidisciplinary	VBC (1) NCC / NSS /Sports / Cultural, etc.	18
Level 7 : Exit with three years Bachelor of Science (with the completion minimum credits as per the Shivaji University Guidelines.) or continue studies for Bachelor with (Honours/Research) four year Degree Programme						
Note: 1. For first year Sem-I, students have to select any four DSC courses available at their respective colleges. Same four courses they have to continue for Sem-II.						
2. For second year Sem-III, students have to select any three out of four DSC courses of first year. Same three courses they have to continue For Sem-IV.						
3. For third year Sem –V, students have to select any one DSC course out of three DSC courses of second year. Same course they have to continue for Sem-VI.						
4. For semesters V & VI there shall be four DSE courses (papers) for each semester						
5. The DSC courses from C1 to C14 have two papers of 50 marks each with combined passing i.e. minimum 35 marks are required to pass out of 100 marks.						
6. Students can exit after Level 5 with Certificate Course in Science (with the completion of courses equal to minimum allotted credits as per shivaji university guidelines)						
7. Students can exit after Level 6 with Diploma in Science (with the completion of courses equal to minimum credits allotted by the Shivaji University, Kolhapur						
8. Students can exit after Level 7 with Bachelor of Science (with the completion of courses equal to minimum credits allotted by the Shivaji University, Kolhapur						
9. SBC: Skill Based Courses (2 credits). Students have to select one for each semester from the pool of courses available at their respective colleges or the pool of courses from Shivaji university .						
10. VBC: Value Based Courses (1Credit). Students have to select one for each semester from the pool of courses available at their respective colleges						

13. STANDARD OF PASSING:-

As Prescribed under rules & regulation for each degree.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(MODULE wise weightage of marks should also be mentioned)

Q. 1. Multiple choices questions (10-Questions) --- 10 Marks

Q.2. Attempt **any two** of the following.

(Essay type/Broad answer questions) ---- 20 Marks

Q.3. Write short notes (**any four**) --- 20 Marks

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

(Introduced from August 2022 onwards)

Old Syllabus (Semester pattern)			**Revised Syllabus (Semester pattern)**	
Paper No.	**Title of Old Paper**	**Semester No**	**Paper No.**	**Title of New Paper**
I	Biodiversity of Microbes, Algae and Fungi	**I**	**I**	Microbes, Algae and Bio fertilizers
II	Biodiversity of Archegoniate	**I**	**II**	Cell biology and Analytical Techniques
III	Plant Ecology	**II**	**III**	Mycology, Phyto pathology and Mushroom Cultivation
IV	Plant Taxonomy	**II**	**IV**	Archegoniate (Bryophytes, Pteridophytes and Gymnosperms)

16. SPECIAL INSTRUCTIONS, IF ANY. --- Nil

Semester- I

Botany Paper I: DSC-13 A: Microbes, Algae and Biofertilizers

CREDIT: 2. LECTURE PERIODS: 2.5 PER WEEK- LECTURE HOURS; 2 PER WEEK
MARKS: 50

MODULE	SUB-MODULE	TOPICS	LECTURE PERIOD
1	**Microbes**		
	1.1 Viruses	i) Discovery, General characteristics, ii) Structure of viruses iii) Types of viruses- DNA viruses (T- Phage), RNA viruses (TMV) iv) Economic importance	06
	1.2 Bacteria	i) Discovery, General characteristics ii) Cell structure iii) Forms of bacteria iv) Nutrition, v) Reproduction- vegetative, asexual and sexual (Conjugation) vi) Economic importance	06
2	**Algae and Biofertilizers**		
	2.1 Algae	i) General outline of plant kingdom (Cryptogams and Phanerogams), ii) General characteristics of algae Classification (as per G. M. Smith, 1955) up to classes iii) Economic importance iv) Life cycle (excluding developmental stages of sex organs) of the following types- **a) Cyanophyceae**: *Nostoc* **b) Chlorophyceae**: *Spirogyra*	09
	2.2 Biofertilizers	i) Introduction, Microbes used as Biofertilizers, ii) Study of following Biofertilizers with respect to characters, association and uses of **a)Bacteria:***Rhizobium* **b) Blue-green algae:** *Nostoc* **c) Fungi:** *Trichoderma* **c) Pteridophytes:** *Azolla* iii) Procedure for preparation of Biofertilizers- Bacteria and Blue green algae	09
Total Lectures			**30**

SEMESTER –I

Botany Paper II: DSC-14 A: Cell biology and Analytical techniques

CREDIT: 2. LECTURE PERIODS: 2.5 PER WEEK- LECTURE HOURS; 2 PER WEEK
MARKS: 50

MODULE	SUB-MODULE	TOPICS	LECTURE PERIOD
1.	**Cell biology**		
	1.1 Cell as a structural and functional unit of life	i) Introduction, Definition ii) Cell as biochemical entity iii)Structure and difference between Prokaryotic and Eukaryotic cell iv) Plant cell wall- structure and functions	**04**
	1.2 Cell organelles and cell membrane	**i)** Ultrastructure and functions of a) Chloroplasts b) Mitochondria c) Ribosomes d) Endoplasmic reticulum e) Lysosomes f) Peroxisomes **ii) Cell membrane**- Structure, Fluid Mosaic model, role of cell membrane	**09**
	1.3 Cell division	i) Cell cycle and its importants. ii) **Mitosis**- Introduction, definition, stages and Significance iii) **Meiosis**- Introduction, definition, stages and Significance	**07**
2.	**Analytical techniques**		
	2.1 Microscopy	i) Principles of microscopy ii) Light microscopy iii) Fluorescence microscopy iv) Electron microscopy (SEM)	**05**
	2.2 Chromatography	i) Principles and applications of chromatography ii) Paper Chromatography- Ascending iii) Thin Layer Chromatography.(TLC)	**05**
Total Lectures			**30**

SEMESTER –II

Botany Paper III: DSC-13B: Mycology, Phytopathology and Mushroom cultivation

CREDIT: 2. LECTURE PERIODS: 2.5 PER WEEK- LECTURE HOURS; 2 PER WEEK
MARKS: 50

MODULE	SUB-MODULE	TOPICS	LECTURE PERIOD
1.	**Mycology**		
	1.1 Fungi – A)	i) General characters of fungi ii) Classification as per Ainsworth (1973) - upto class iii) Economic importance	**06**
	B)	Life cycle (excluding developmental stages of sex organs) of the following types- **a) Zygomycotina: *Mucor*** **b) Ascomycotina: *Penicillium***	**07**
	1.2 Lichens	i) Occurrence and General characters ii) Nature of association iii) Types of lichens iv) Economic importance	**04**
2	**Phytopathology and Mushroom cultivation**		
	2.1 Phytopathology	i) Introduction and General symptoms. ii) Study of following plant diseases with respect to symptoms and control measures- **a) Viral** – Yellow vein mosaic of Bhendi **b) Bacterial** – Blight of Pomegranate **c) Fungal** – White rust of crucifers **d) Mycoplasma (MLO)-** Grassy shoot of sugarcane	**06**
	2.2 Mushroom cultivation	i) Introduction and History ii) Steps in cultivation of *Pleurotus sajor-kaju* iii) Commercial importance.	**07**
Total Lectures			**30**

SEMESTER –II

Botany Paper IV: DSC-14B: Archegoniate (Bryophytes, Pteridophytes and Gymnosperms)

CREDIT: 2. LECTURE PERIODS: 2.5 PER WEEK- LECTURE HOURS; 2 PER WEEK
MARKS: 50

MODULE	SUB-MODULE	TOPICS	LECTURE PERIOD
1.	**Archegoniate and Bryophytes**		
	1.1 Archegoniate	i) Introduction, ii) Diagnostic features of archegoniate iii) Transition to land habit iv) Alternation of generation	**04**
	1.2 Bryophytes	i) General characters ii) Classification as per G.M. Smith (1955) upto classes iii) Ecological & Economic importance. iv) Morphology, Anatomyand life cycle (excluding developmental stages of sex organs) of **Anthocerotopsida**- *Anthoceros*	**08**
2	**Pteridophytes and Gymnosperms**		
	2.1 Pteridophytes	i) General characters ii) Classification as per G.M. Smith (1955) upto classes iii) Ecological and Economic importance iv) Morphology, anatomy (leaf and stem) and life cycle (excluding developmental stages of sex organs of a) **Lycophyta** – *Selaginella* b) Heterospory& Seed habitat	**08**
	2.2 Gymnosperms	i) General characters ii) Classification as per Sporne (1965) upto classes iii) Ecological and Economic importance. iv) Morphology, Anatomy(leaf and stem) and life cycle (excluding developmental stages of sex organs) of **Gnetopsida** – *Gnetum* v) Connecting link between Pteridophytes and Angiosperms	**10**
Total Lectures			**30**

Practical's of B. Sc. Part – I Botany (CBCS)

(With effect from August- 2022)

Botanical Excursion:

One teacher along with a batch not more than 20 students be taken for Botanical. Excursion to places of Botanical interest, one in each semester. If there are female students in a batch of twenty students, one additional lady teacher is permissible for excursion. T.A. and D.A. for teacher and non-teaching staff participating in excursions should be paid by the concern colleges as per University rules. Tour report duly certified by teacher concerned and Head of the Department should be submitted at the time of practical examination.

Practical Course:

B. Sc. Part – I Botany practical course is to be covered in twenty five practicals. These practicals are to be performed by the students. Each practical is to be supplemented by permanent slides, preserved / fresh specimens, materials, charts, herbarium sheets where ever necessary.

Details of Practical Examination:

A) Practical Examination for B. Sc. I. will be conducted at the end of second semester.

B) Every candidate must produce a certificate from Head of Department of his / her college, saying that he / she has completed practical course in satisfactory manner as per terms laid down by Academic council on the recommendations of Board of Studies in Botany. The student should record his / her observation and report of each experiment in the journal. The journal is to be signed periodically by teacher in charge and certified by the Head of Department at the end of year. Candidates have to produce their certified journal and tour report at the time of practical examination. Candidate is not allowed to appear for the practical

examination without a certified journal / a certificate from Head of Botany Department regarding the same.

C) Practical Examination should be of five hours duration and shall test a candidate in the following respect.

1. Practical study of external and internal structures of different plant types and their classification.
2. Making temporary stained preparations and identification.
3. Identification and setting of biochemical experiments.
4. Study of plant diseases as per syllabus.
5. Spotting of the specimens as per syllabus.

List of Practicals:

1. Study of microscope: Light and Electron microscope (SEM with Photograph)
2. Electron microphotographs/models of viruses – T-Phage and TMV
3. Forms of bacteria- (Temporary / permanent slides/ photographs).
4. Bacteria- Gram staining technique
5. Study of vegetative and reproductive structures of *Nostoc*
6. Study of vegetative and reproductive structures of *Spirogyra*
7. Study of different types of Biofertilizers as per theory syllabus
8. Study of vegetative and reproductive structures of *Mucor.*
9. Study of vegetative and reproductive structures of *Penicillium*.
10. Study of forms of lichen- Crustose, Foliose and Fruticose.
11. Study of Mushroom cultivation (Demonstration).
12.13. Study of plant diseases per theory.
14. Study of vegetative and reproductive structures of *Anthoceros*
15. Study of vegetative and reproductive structures of *Selaginella*
16. Study of vegetative and reproductive structures of *Gnetum*
17. Study of cell and its organelles with the help of electron microphotographs.
18. Study of cell structure in Onion peels (cataphyll), it's staining and mounting.
19. Study of effect of organic solvent concentrations on membrane permeability.
20 .Study of peroxisome (enzyme activity catalase)
21. Study of glyoxisome (enzyme activity-malate dehydrogenase)
22. Study of different stages of mitosis.
23. Study of different stages of meiosis.
24. Separation of photosynthetic pigments by ascending paper chromatography.
25. Separation of amino acids by thin layer chromatography.

Course Outcomes

CO1. Students will able to recognize the structure , types and multiplication of viruses.

CO2. Students will able to understand the bacterial types, structure and mode reproduction

CO3. Students will able to identify the different types of algae and their importance in day today life.

CO4. Students will able develop the skills for the production of different type of Bio fertilizers ,

CO5. Students will able to distinguish the prokaryotic and eukaryotic organisms and acquire the knowledge of different plant cell organelles and its role in the plant body.

CO6. Students will able to understand the different types of cell division and it's phases.

CO7. Students will able to handle all types of microscope.

CO8. Students will able to develop a skill in the chromatography techniques.

CO9. Students will able to identify and classify the different fungi and also realize the economic importance of fungi.

CO10. Students will able to identify the lichens on the basis of morphology and to know the medicinal value of the lichens.

CO11. Students will be able to recognize the different plant diseases and their management.

CO12. Students will able to develops the soft skill technique in the Mushroom Cultivation and realize the commercial status of the mushrooms.

CO13. Students will able to identify the bryophytes their importance.

CO14. Students will able to recognize the characters and ecological importance of pteridophytes.

CO15. Students will be able to identify, classify the gymnosperms and understand the Economic importance of gymnosperms.

(iii) Specific Objectives:----------

(iv) A brief note :- (On expected level of study from examination and assessment point of view):- -----

(v) Recommended Reading:
(In MLA/APA Style Sheet Format)

a) Basic Reading :-

b) Additional Reading :-

c) References :-

d) Books

List of Books Recommended for B. Sc. I Botany

Algae –

1.Introductory Phycology. Kumar, H. D. 1988, Affiliated East-West Press Ltd., New York.
2. Algae - Kumar H. D. and H. N. Singh (1991)
3. Algae - Sharma O. P. (1986)
4. Algae - Pandey B. P. (1994)
5. A Text book of Algae - Chopra G. L. (1969)
6. A Text book of Algae - Kumar H. D., Singh H. N. (1977)
7. A Text book of Botany - V. Singh, P. C. Pandey, Jain D. K. (1999)
8. A Text book of Botany Vol. I – Pandey S. N., S. P. Misra, P. S. Trivedi (1.982)
9. A Treatise on Algae - K. N. Bhatia (1980)

Fungi –

1. A Hand book of Lichens - D. D. Awasthi (2000)
2. An Introduction to Fungi - Dube H. C. (1990)
3. Morphology of Plants and Fungi --Blod, H.C., Aloxopoulos, G. J. and Delevoryas, T. 1980. (4th Edition) Harper and Foul Co., New York.
4. An Introduction to Fungi.--Dube, H. C. 1990. Vikas Publishing House Pvt. Ltd.,Delhi.
5. Cryptogamic Botany Vol. I & II (2nd Edition), Gilbert, M. S. 1985. Tata McgrawHill Publishing Co., Ltd New Delhi.
6. Fungi- Vashishtha B. R. (1996)
7. Fungi- Pandey B. P. (1994)
8. Introduction to Fungi - Sundrarajan (2001)

9. Introductory Mycology - C. J. Alexopoulos, C. W. Mims, M. Blackwell
10. Cryptogamic Botany Vol. I - Algae and Fungi - G. M. Smith (1974)
11. Plant diseases –Singh R. S. (1963).
12. Manual of plant pathology –Padoley S. K. & Mistry P. B.
13. Hand book of field crop diseases- Ny. Vall (1979).
14. Experiments in Microbiology, Plant pathology and Tissue culture- Aneja K. R. (1993).
15. Plant pathology- R. S. Mehrotra, (1980) Dean, Faculty of science, Kurkshetra University, Kurukshetra.
16. Plant Diseases- F.T. Brooks, periodical Expert book Agency, D-42, VivekVihar, Delhi 1100032.
17. Plant diseases –RajaniShrma, Campus books international, 4831/24 Prahlad Street, An sari Road, Daryaganj, New Dehli-110002.
18. Diseases of crop plant in India –Dr. Rangaswami.
19. Plant diseases –R.S. Singh
20. Modern plant pathology – R. S. Bilgrami and H. C. Dube.

Bryophytes –

1. Bryophytes. Puri, P. 1985. Amarm& Sons, Delhi.
2. College Botany - S. Sundararajan (1999)
3. College Botany Vol. I - Gangulee H. C., Das K. S. and Datta C. T. (1991)
4. College Botany Vol. II - Gangulee H. C., Kar A. K. (1999)
5. College Botany Vol. III -- S. K. Mukharji (1990)
6. Cryptogamic Botany Vol. I- G. M. Smith (1955)
7. Cryptogamic Botany: Bryophytes and Pteridophytes - Smith G. C. (1955)

Pteridophytes—

1. An Introduction to Pteridophytes - Rashid A. (1978)
2. An Introduction to Pteridophyta (Diversity and Differentiation) -A. Rashid (1976)
3. A Text book of Pteridophyte – S. N. Pandey, P. S. Trivedi, S. P. Misra (1995)
4. An Introduction to Embryophyta - Parihar N. S. (1961)
5. Morphology and Evolution of Vascular Plants Gifford, E. M. and Foster, A. S. 1989. W.H. Freeman & Co., New York.
6. Morphology of vascular Plant (lower groups) -- A. J. Eames.
7. Illustrated Manual of Ferns of Assam -S. K. Borthakur, P. Deka, K. K. Nath (2000)
8. Pteridophyta – Vascular Cryptogams - P. C. Vashishta (1972)
9. Botany for Degree Students- Pteridophyta (Vascular Cryptogams) - P. C. Vashishta, A. K. Sinha, Anil Kumar – S Chad –Multicolour Illustrative Revised Edition- 2006.

Gymnosperms –

1.Botany for Degree Students- Gymnosperms (Vascular Cryptogams) - P. C. Vashishta, A. K. Sinha, Anil Kumar – S Chad –Multicolour Illustrative Revised Edition- 2006.
2. The Morophology of Gymmosperms. -- Sporne, K. R. 1991. B. I. PublicationsPvt., Bombay, Calcutta, Delhi.
3. Morphology of Gymnosperms -- J. M. Coulter and C. J. Chamberlain.
4. Gymnosperms – Structure & Evolution.--C. J. Chamberlain
5. Morphology of Gymnosperms.--K. R. Sporne.

6. Gymnosperms- Vashishta P. C. (1976)
7. Gymnosperms- C. J. Chamberlein (1966)
8. Indian Gymnosperms in Time and Space - Ramanujan C. G. K. (1979)
9. Origin and Evolution of Gymnosperms - Ed Charles B. Beck (2002)
10. Phylogeny and form in the plant Kingdom - H. C. Dittmer (1964)

Cytology, Microbiology and Analytical Techniques-

1. Plant Cell Biology –Structure and function-Gunning B.E.S and Steer M.W. (1996).
2. Plant Cell Biology-A practical approach.-Harris N. and Oparka K. J. (1994). (IRL-Press of oxford University UK.).
3. Cell Biology- De. Robert et.al. (1982), (Publ. Sundar and Company).
4. Cell Biology –C. B. Powar (1992), Himalaya Publ. House, Delhi.
5. Plant Biochemistry-Cell-Sumps P.K. and Connie's. (1981).
6. Molecular Cell Biology-Albert's B. Bray D. Lewis J. Faff M. Robert K. & Watson J.D. (1999). (Publ. Garlands publishing co-In, New York U.S.A.)
7. Text Book of cell and molecular biology –Gupta P.K. (1999), Rastogi publication, Meerat.
8. Molecular and Cellular Biology-Wolfe S.L. (1993), Wadsworth publishing Company, California, U.S.A.
9. Applied Microbiology- Vinita Kale and Kishore Bhusari (2007) Himalaya Publishing House, Mumbai.
10. Virology- Saravanan P. MJP, Publishers, Chennai. 600005.
11. Chromatographic Methods- Stock, R. and C. B. F. Rince (1978).
12. Biological Techniques- Srivastava, H. S. (1999).

C] OTHER FEATURES:

1. INTAKE CAPACITY / NUMBER OF STUDENTS:-

As per university rules.

2. TEACHERS QUALIFICATIONS:-

- As prescribed by norms.
- However required number of core faculty should be given for particular course along with paper wise and Specialization wise work load allocation.
- Work load details should be as per Apex body/UGC/State Govt./University norms.

3. **The Board of studies should clearly mention the required Books, Journals and specific Equipments necessary for the Course.**

(A) LIBRARY: Library be equipped with the required Reference and Text Books, Journals and Periodicals for higher and advanced studies as per stated in revised syllabus and approved by BOS.

(B) SPECIFIC EQUIPMENTS:

T.V., V.C.R. V.C.P., L.C.D., Overhead Projector, Computers and necessary software and operating systems etc. are necessary to run the course

(C) LABORATORY SAFETY EQUIPMENTS:

i)Fire extinguishers at least two sets in each laboratory of 600 sq.ft. Area.

ii) Leakage of gases be avoided.

iii) First aid kit be made available.

iv) Sugar / Glucose –500gm pack- a pinch of sugar and a cup of drinking water in hypoglycemic condition or in extreme weakness of student or a person concerned

B) GENERAL SAFETY RULES FOR LABORATORY WORK

1) List of equipments needed for Laboratory Safety:-

1. Fire extinguisher
2. First Aid Kit
3. Good ear thing and insulated wirings for electrical supply.
4. Emergency exit
5. Apron and goggles wherever necessary
6. Fuming Chambers
7. Masks flows and shoes while handling hazardous chemicals & gases (Good valves, manometers and regulators for gas supply)
8. Operational manuals for instruments (handling to be made as suggested.)
9. Rules of animals and blanks ethics.
10. Leakage of gases to be avoided.
11. Cylinders or flow pipes to handle Acids.
12. No weighing for NaOH and hygroscopic substances.
13. Stabilized supply in the laboratory.

2) There Is No Substitute for Safety

1. Any injury no matter how small, it must be reported to teacher immediately.
2. a) In case any chemical enters your eyes go immediately to eye- wash facility and flush your eyes and face with large amount of water.

   b) For acid or phenol split, do not use water instead put some bicarbonate.
3. In case of fire, immediately switch of all gas connections in the laboratory and pour sand on the source of fire or cover it with asbestos or cement sheet.
4. While leaving laboratory, make sure that gas, water taps and electricity are switched off.
5. Remove your lab coat. Gloves and clean your hands before leaving laboratory.

6. Make your workplace clean before leaving the laboratory.
7. Keep your hands away from your face, while working in laboratory.
8. Each laboratory must have a first aid box.
9. Know what to do in case of emergency - e.g.

   (a) Know the place of fire extinguisher and first aid box.
10. Don't use cell phones in the laboratory.

    (a) Remember important phone numbers

3) DO's

1. Always wear lab coat, shoes in the laboratory. Every student must have their weight box, a napkin etc.
2. Maintain separate record book for each subject.
3. Keep your belongings at the place allotted for the same.
4. Maintain silence, order, cleanliness and discipline in the laboratory.
5. Work at the place allotted to you or specially used for certain operations.
6. Keep the working table clean.
7. Handle the laboratory equipments, glassware and chemical with great care.
8. Use only required quantities of material and apparatus of essential size.
9. Perform the test in their proper order.
10. Know the location of eye wash fountain and water shower.
11. Minimize your exposure to organic solvents.
12. The Metal like sodium should be kept under kerosene or liquid paraffin layer in a vessel with a cork stopper.
13. Sodium metal should be cut on dry filter paper. The cut off pieces of sodium should be immediately collected in a vessel containing kerosene or liquid paraffin.
14. Always pour acid into water when diluting and stir slightly.
15. All operations involving poisonous flammable gases and vapours should be carried out in the flame chamber (with exhaust facility)
16. Ladies should avoid wearing saree. If it is there, apron is essential.

4) DON'T

1. Don't work alone in the laboratory
2. Don't leave the glass wares unwashed.
3. Don't take apparatus, chemicals out of lab.

4. Don’t leave any substance in a vessel or bottle without label.
5. Don’t weigh the reagent directly on the balance pan.
6. Don’t throw the cut off pieces of sodium metal in sink or water. Transfer it immediately in its container.
7. Don’t take sodium metal with hands. Use forceps.
8. Don’t panic and run in case of fire. Use the fire extinguishers or sand buckets.
9. Don’t breathe the vapours of organic solvents.
10. Don’t pour any unused reagent back in its stock bottle.
11. Don’t eat or drink any food in laboratory.
12. Don’t use inflammable solvents like benzene, ether, chloroform, acetone and alcohol around flame.
13. Don’t distill to dryness.
14. Don’t exchange stoppers of flasks and bottles containing different reagents.
15. Don’t leave reagent bottle lying on the table.
16. Don’t disturb the order of reagent bottles in which they are placed.
17. Don’t bring reagent on your working table from the general shelf.
18. Don’t throw burning matchstick into dustbin.
19. Don’t leave the laboratory without permission.

5) LABORATORY / FIELD WORK CARE AND SAFTY FOR BOTANY STUDENTS

1. Unnecessary wastage of plant material during practicals should be avoided.
2. During study tour / personal collection, more emphasis be given on study of plants in nature and collection of wild plants should not be carried out.
3. If at all the collection of the plant material in needed, it should be carried out under supervision of concerned teacher. Collection of poisonous plants / poisonous mushrooms should be avoided.
4. Oral intake of unknown plant material, out of curiosity, during practical or collection tour is strictly prohibited.
5. If there is any allergic reaction while handling the plants / plant parts / pollen grains / fungal specimens it should be immediately brought to the notice of the concerned teacher and reported to the registered medical purloiner.
6. Wearing of hand gloves (and mask) is essential while handling poisonous plants / herbarium sheets / toxic and hazardous chemicals / reagents / strong acids / strong alkalis

during the experiment should be made with vacuum pipette / auto pipette / burette under the supervision of concerned teacher / lab assistant.

7. Highly inflammable organic solvents (alcohol, acetone etc.) should not be kept in vicinity of spirit lamp.
8. The laboratory safety measures adopted for handling of hazardous chemicals in chemistry practicals should be followed for conducting practicals in plant biochemistry / microbiology.
9. Operational manuals for equipments such or centrifuge, autoclave, spectrophotometer should be followed.
10. In case of minor injuries, preliminary treatment should be undertaken with the help of first aid kit available in the laboratory. In case of serious injury, concerned teacher should be immediately contacted for consultation to the physician.
11. The instruction report for breeding, experimentation will be submitted in a week period. (Which are laid down by Ministry of Social Justice & Empowerment and Ministry of Environment and Forests, Govt. of India).

PROGRAM SPECIFIC OUTCOMES (PSO) OF BOTANY:

In life science plant science is one of the most important basic and applied subject. Plants synthesized their own food material and provides the food and oxygen to all living organism. Most of the basic requirements fulfilled by the plants. This course has been designed to give the fruitful knowledge and to develop the commercial soft skills in the various aspects of plant science.

PSO 1: Understanding the classification of all higher and lower plants. Plant diseases and their management.

PSO 2: Understand the structure and function of different cell organelles and the role of cell membrane, plant anatomy, taxonomy and ecology.

PSO 3: Understand the skills for the production of Bio fertilizers and mushroom culture techniques.

List of Skill Enhancement courses.

- Soil and Water Analysis
- Handicrafts: Bamboo products
- Nature and wildlife photography.
- Bioprospecting of medicinal plants
- Aurvedic preparations
- Gardening and it's management.

Link for the pool of SEC courses from

National Skills Qualification Framework (NSQF)

(You may add or delete any courses as per available facilities)

https://drive.google.com/file/d/176Vwvx4SC2ONrt69XADruzI2qnfBPI_o/view?usp=sharing

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004,
MAHARASHTRA
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शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४,महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग दुरध्वनी ०२३१—२६०९०९३/९४

Estd. 1962
"A++" Accredited by NAAC(2021)
With CGPA 3.52

SU/BOS/Science/481 **Date: 01/07/2023**

To,

The Principal, All Concerned Affiliated Colleges/Institutions Shivaji University, Kolhapur	The Head/Co-ordinator/Director All Concerned Department (Science) Shivaji University, Kolhapur.

Subject: Regarding syllabi of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

B.Sc. Part-II (Sem III & IV) as per NEP-2020			
1.	Mathematics	8.	Chemistry
2.	Statistics	9.	Sugar Technology (Entire)
3.	Physics	10.	Microbiology
4.	Astrophysics	11.	Industrial Microbiology
5.	Zoology	12.	Electronics
6.	Botany	13.	Geology
7.	Plant Protection		

This syllabus, nature of question and equivalence shall be implemented from the academic year 2023-2024 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website **www.unishivaji.ac.in**)

The question papers on the pre-revised syllabi of above-mentioned course will be set for the examinations to be held in October /November 2023 & March/April 2024. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Dy Registrar
Dr. S. M. Kubal

Copy to:

1	The Dean, Faculty of Science & Technology	8	P.G. Admission/Seminar Section
2	Director, Board of Examinations and Evaluation	9	Computer Centre/ Eligibility Section
3	The Chairman, Respective Board of Studies	10	Affiliation Section (U.G.) (P.G.)
4	B.Sc. Exam/ Appointment Section	11	Centre for Distance Education

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A^{++}' Grade

Revised Syllabus For

B. Sc. II Botany

(Faculty of Science & Technology)

Paper –V, VI - (Semester- III)

and

Paper -VII, VIII - (Semester- IV)

(NEP-2020) CBCS Syllabus to be implemented from June, 2023 onwards

A] Ordinance and Regulations: (As applicable to Degree Course)

B] Shivaji University, Kolhapur

Revised syllabus for Bachelor of Science

1. **TITLE:** Subject-Botany
   Optional under the Faculty of Science

2. **YEAR OF IMPLEMENTATION**:-Revised Syllabi (As per NEP 2020) will be implemented from June 2023 onwards.

3. **PREAMBLE:-**

   [Note: - The Board of Studies should briefly mention foundation, core and applied components of the course/paper. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge at examination level.**]**

4. **GENERAL OBJECTIVES OF THE COURSE:**
   (as applicable to the Degree concerned) Objectives:-

   1) To impart knowledge of Science is the basic objective of education.
   2) To develop scientific attitude is the major objective to make the students open minded, critical, curious.
   3) To develop skill in practical work, experiments and laboratory materials and equipments along with the collection and interpretation of scientific data to contribute the science.
   4) To understand scientific terms, concepts, facts, phenomenon and their relationships.
   5) To make the students aware of natural resources and environment.
   6) To provide practical experience to the students as a part of the course to develop scientific ability to work in the field of research and other fields of their own interest and to make them fit for society.
   7) The students are expected to acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of human beings.
   8) To develop ability for the application of the acquired knowledge to improve agriculture and other related fields to make the country self reliant and sufficient.
   9) To create the interest of the society in the subject and scientific hobbies, exhibitions and other similar activities.

5. **DURATION**
   The course shall be a fulltime course.

6. **PATTERN:-**
   Pattern of examination will be semester.

7. FEE STRUCTURE:-

As per Government / University rules

1. Refer brochure and prospectus of concern affiliated college/institute to Shivaji University, Kolhapur.
2. Other fee will be applicable as per rules and norms of Shivaji University, Kolhapur.

8. ELIGIBILITY FOR ADMISSION:

As per guidelines obtained from Shivaji University, Kolhapur by following rules and regarding reservations by Govt. of Maharashtra

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English.

10. STRUCTURE OF THE COURSE - B. Sc. II Botany

SECOND YEAR (SEMESTER III / IV) (NO. OF PAPERS 4)

Sr. No.	Subjects/Papers	Theory	Internal	Total Marks
1.	Paper-V	40	10	50
2.	Paper-VI	40	10	50
3.	Paper-VII	40	10	50
4.	Paper-VIII	40	10	50
	Practical-I			50
	Practical-II			50
Total				**300**

11. SCHEME OF TEACHING AND EXAMINATION:-

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

SECOND YEAR- SEMESTER–III/IV: Botany (Optional)

Scheme of Teaching and Examination

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/Week)				Examination Scheme (Marks)		
		L	T	P	Total	Theory	Term Work	Total
	Semester-III							
1	Paper-V	03	-	-	03	40	10	50
2	Paper-VI	03	-	-	03	40	10	50
	Semester-IV							
3	Paper-VII	03	-	-	03	40	10	50
4	Paper-VIII	03	-	-	03	40	10	50
	Practical- I (annual)	-	-	04	04	-	-	50
	Practical- II (annual)	-	-	04	04	-	-	50
	Total	06	-	08	14	-	-	300

12. SCHEME OF EXAMINATION :-

- The examination shall be conducted at the end of each term for semester pattern.
- The theory paper shall carry 40 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 40 marks.
- The internal evaluation for each paper shall carry 10 marks. (Semester III: Group activity and Semester IV: Case study/Oral examination)
- Question paper will be set in the view of the /in accordance with the entire syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:-

As prescribed under rules and regulation for each degree.

14. NATURE OF THEORY QUESTION PAPER AND SCHEME OF MARKING:

Q. 1. Multiple choices questions (8-questions) --- 8 Marks

Q. 2. Attempt **any two** of the following (out of three).
(Essay type / Broad answer questions)---- 16 Marks

Q. 3. Write short notes (**any four**) (out of six). 16 Marks

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

(Introduced from June 2023 onwards)

Old Syllabus (Semester pattern)		**Revised Syllabus (Semester pattern)**		
Paper No.	**Title of Old Paper**	**Semester No.**	**Paper No.**	**Title of New Paper**
V	Embryology of Angiosperms	Semester- III	V	Plant Systematics and Anatomy
VI	Plant Physiology		VI	Genetics and Molecular Biology
VII	Plant Anatomy	Semester- IV	VII	Plant Ecology and Economic Botany
VIII	Plant Metabolism		VIII	Plant Physiology, Nursery and Gardening Techniques

16. SPECIAL INSTRUCTIONS, IF ANY

SEMESTER-III
Botany Paper V: DSC C13: PLANT SYSTEMATICS AND ANATOMY
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK
LECTURE HOURS: 3 PER WEEK, MARKS: 50

UNIT	SUBUNIT	TOPIC	LECTURE PERIOD
1.	**PLANT SYSTEMATICS**		**15**
	1a. Plant systematics	1.1 Introduction to systematics, Functions of Taxonomy: Plant Identification, Classification, Nomenclature. 1.2 Principle and Rules of ICN 1.3 Morphology of flowering plants: a. Root: Definition, Types and Modifications (Conical, Fusiform, Napiform, Prop, Pneumatophore) b. Stem: Definition and Modifications (Phylloclade, Rhizome, Corm, Tuber) c. Leaf: Definition and (Simple and Compound, Phyllotaxy) d. Flower: Definition, Typical flower and Types (Actinomorphic, Zygomorphic) e. Inflorescence: Definition and Types f. Fruits: Definition and types 1.4 Bentham and Hooker's Classification (outline up to subclasses mentioning the numbers of series, orders), Merits and demerits.	**13**
	1b. Herbaria and Botanic gardens	1.5 Herbaria: Introduction and functions, examples with salient features: a. 'CAL' b. 'K' (Virtual herbarium) 1.6 Botanic gardens: Introduction and functions, example with salient features: Lead Botanic Garden (SUK)	**2**
2.	**PLANT ANATOMY**		**15**
	2a. Structure and development of plant body	2.1 Anatomy: Introduction to internal organization of plant body 2.2 Organization of shoot apex: Apical cell theory 2.3 Organization of root apex: Quiescent centre concept 2.4 Types of tissues: a. Meristematic tissue types based on position (Apical, intercalary and lateral) b. Permanent tissue types [Simple tissue: Parenchyma, Collenchyma, Sclerenchyma and Complex tissue: Xylem, Phloem]	**9**
	2b. Primary and secondary structure	2.6 Primary structure of root, stem and leaf (Dicot and Monocot)	**6**

		2.7 Secondary structure (Normal) of root and stem (Dicot and Monocot)	

SEMESTER-III
Botany Paper VI: DSC C14: GENETICS AND MOLECULAR BIOLOGY
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK
LECTURE HOURS: 3 PER WEEK, MARKS: 50

UNIT	SUBUNIT	TOPIC	LECTURE PERIOD
1.	**GENETICS**		**15**
	1a. Mendelian inheritance	1.1 Introduction and terminologies 1.2 Principles of inheritance-Mendel's Laws 1.3 Chromosome theory of inheritance 1.4 Linkage: Introduction, types and significance 1.5 Crossing over : Introduction and significance	**8**
	1b. Variation in Chromosome Number and Structure	1.6 Structure of chromosome and types of chromosome based on position of centromere 1.7 Structural variations: Deletion, Duplication, Inversion and Translocation 1.8 Numerical variations: Euploidy and Aneuploidy	**7**
2.	**MOLECULAR BIOLOGY**		**15**
	2a. Nucleic Acids: Carriers of Genetic Information	2.1 Nucleic acids – DNA and RNA a. DNA structure: Watson and Crick's Model, Forms of DNA – A, B, Z. b. RNA structure, Types- mRNA, tRNA and rRNA c. Significance of nucleic acids 2.2 DNA as a genetic material: Griffith's experiment.	**9**
	2b. DNA Replication	2.3 Concept of Central Dogma of molecular biology 2.4 DNA replication and Enzymes involved 2.5 Concept of genetic code	**6**

SEMESTER-IV
Botany Paper VII: DSC D13: PLANT ECOLOGY AND ECONOMIC BOTANY
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK
LECTURE HOURS: 3 PER WEEK, MARKS: 50

Module	Sub-Module	Topics	Lecture Period
1	**PLANT ECOLOGY**		**15**
	1a. Introduction to Plant Ecology	1.1 Basic Concept, Levels of organization 1.2 Concept and Types of ecosystems: a. Terrestrial-Grassland b. Aquatic-Lake 1.3 Trophic organization, Food Chains and Webs and Ecological pyramids 1.4 Phytogeography: Principles, Phytogeographical regions of India (Chattarjee, 1962)	**9**
	1b. Abiotic factors: Soil and Water	1.5 Soil: Importance, Origin, Formation, Composition and Soil profile. 1.6 Water: Introduction and importance, States of water in the soil and environment, Water Table; plant indicators of water table.	**6**
2	**ECONOMIC BOTANY**		**15**
	2a. Origin of Cultivated Plants	2.1 Concept of Centers of Origin, their importance with reference to Vavilov's work, 2.2 Importance of Germplasm diversity- Seed bank; Contribution of Padmashree Rahibai Soma Popere (Bijmata)	**4**
F	2b. Utilization of plants	2.3 Botanical name, Origin (Native place), Morphology, Plant parts used and Economic importance of a. Millets: Finger millet b. Spices: Clove c. Condiment: Bay leaf (Tamalpatra) d. Beverages: Coffee e. Oil yielding: Soybean f. Medicinal: Neem g. Dyes: Heena h. Cosmetics: *Aloe* i. Timber: Teak j. Fibers: Cotton k. Rubber: Rubber fig	**11**

SEMESTER-IV
Botany Paper VIII: DSC D14: PLANT PHYSIOLOGY, NURSERY AND GARDENING TECHNIQUES
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK
LECTURE HOURS: 3 PER WEEK, MARKS: 50

Module	Sub-Module	Topics	Lecture Period
1	**PLANT PHYSIOLOGY**		**15**
	1a. Fundamentals of Plant Physiology and Photosynthesis	1.1 Introduction to Plant Physiology. 1.2 Photosynthesis-Introduction and significance 1.3 Photosynthetic pigments(Chlorophyll a, b, xanthophylls, carotene) and Photosystems 1.4 Mechanism of Photosynthesis- a) Light reaction: Photolysis of water, Photophosphorylation (cyclic and non-cyclic) b) Dark Reaction: C_3, C_4 and CAM pathways	**8**
	1b. Respiration	1.5 Respiration: Introduction and significance 1.6 Types of Respiration: Aerobic and Anaerobic 1.7 Mechanism of Aerobic respiration a) Glycolysis b) Formation of Acetyl- CoA c) TCA / Krebs cycle d) Electron transport system in mitochondria	**7**
2	**NURSERY AND GARDENING TECHNIQUES**		**15**
	2a. Nursery techniques	2.1 Nursery: Definition, objectives, types and scope 2.2 Infrastructure and planning for nursery, poly house. 2.3 Propagation practices a. Seed propagation - Planting-direct seedling and transplants. b. Vegetative propagation – cutting (Soft wood and hard wood), layering (air), grafting (Whip and Tongue) and budding ('T' and Patch).	**07**
	2b. Gardening Techniques	2.4 Introduction, objectives, scope and advanced gardening 2.5 Types of gardening-landscape and home gardening, Terrarium, Floating garden, Bottle garden, Hanging garden, Vertical garden. 2.6 Bonsai technique 2.7: Important gardens in India: Lalbagh (Bangalore) and Mughal Garden (New Delhi)	**08**

Practical - I
(Based on paper V and VI)

1. Study of types and modifications of root and stem.
2. Study of typical flower and types of inflorescence.
3. Study of types of fruits.

4 and 5. Study of vegetative and floral characters of the following families:

i. Polypetalae : Leguminosae (Papilionaceae)
ii. Gamopetalae : Bignoniaceae
iii. Apetalae : Euphorbiaceae
iv. Monocot : Amaryllidaceae

6. Preparation of herbarium specimens (technique) and searching of digital or e-herbarium specimen at virtual herbarium (K) (e.g. *Ficus religiosa*).
7. Study of meristem (RAM and SAM).
8. Study of simple and complex tissues. (by permanent slides)
9. Study of primary structure of dicot and monocot root.
10. Study of primary structure of dicot and monocot stem.
11. Preparation of double stained permanent slide of any suitable material.
12. Maceration technique
13. Study of Mendel's Law through suitable phenotypic trait in plant material.
14. Genetic examples of Linkage.
15. Genetic examples of Crossing over.
16 and 17. Karyotypic study in plants using photomicrograph (any two plant materials e.g. *Allium cepa* and *Aloe vera*).
18. Study of structural variations in chromosome with the help of photomicrograph.
19. Study of 'nucleic acid as genetic material by using photographs (Griffith's experiment).
20. Determination of amino acid sequences in polypeptide from the given data (nucleotide sequence of mRNA).
21. Preparation of nuclear stains: Acetocarmine or Aceto orcein
22. Isolation of plant genomic DNA.
23. Estimation of DNA from plant material by using Diphenylamine.
24. Estimation of RNA from plant material by using Orcinol.
25. Submission of herbarium specimen of weeds (Minimum 10).

Practical - II
(Based on Paper VII and VIII)

1. Study of Phytogeographical regions of India (Chattarjee, 1962).
2. Determination of soil texture. (any two samples)
3. Determination of water holding capacity of soil. (any two samples)
4. Determination of pH of water. (any two samples)
5. Determination of Soil Water Content (SWC) of any two samples.
6. Study of ecological pyramids from given data.
7. Preparation of Nachani Satwa.
8. Study of origin (Native place), Botanical name, Morphology, Plant parts used and Economic importance of Spices and Medicinal plant: Bay leaf and Neem.
9. Study of origin (Native place), Botanical name, Morphology, Plant parts used and Economic importance of Beverages: Coffee and Oil yielding plant: Soybean.
10. Preparation of Heena dye and Aloe gel.
11. Study of origin (Native place), Botanical name, Morphology, Plant parts used and Economic importance of Timber: Teak and Rubber: Rubber fig
12. Study of origin (Native place), Botanical name, Morphology, Plant parts used and Economic importance of Fiber yielding plant: Cotton
13. Separation of Photosynthetic pigments by paper chromatography/TLC.
14. Study of Kranz leaf anatomy in C_4 plants.
15. Estimation of TAN value in CAM plants.
16. Study of effect of light intensity on photosynthesis.
17. Study of respiration in germinating seeds by using Ganong's respirometer.
18. Demonstration of fermentation.
19. Study of budding technique-Patch.
20. Study of grafting technique- Whip.
21. Preparation of potting mixture and technique of potting and repotting.
22. Demonstration of Bonsai technique.
23. Garden layout designing and drawing (any type).
24. Garden implements (any four) - Garden shear, sickle, cutter, shovel, budding knife, secateurs, water can, pruning scissors, sprayer, spade.
25. Visit to nursery/Aesthetic garden/ Places of botanical interest (Separate report to be submitted by students).

PRACTICALS IN BOTANY

Study Tour/Botanical excursion:

One teacher along with a batch not more than 20 students is taken for Botanical excursions to places of botanical interest, one in each term. If there are female students in a batch of sixteen, one additional lady teacher is permissible for excursion. Each excursion will not be more than 4 days during college working days. T.A. and D.A. for teachers and non teaching staff participating in the excursions should be paid as per the rules. The tour report duly certified by the concerned teacher and the head of the department should be submitted at the time of practical examination.

Details of Practical Examination

B. Sc. II Botany Practical – I and II are to be covered in 25 practicals each. These practicals are to be performed by the students. Each practical is to be supplemented by permanent slides, preserved / fresh specimens / materials, charts, photomicrograph, ideogram herbarium sheets, wherever necessary.

Every candidate must produce a certificate from Head of the Department in his / her college stating that he / she has completed practical course in a satisfactory manner as per the lines laid down by academic council on the recommendations of Board of Studies in Botany. The student should record his / her observations and report of each experiment should be written in the Journal.

The Journal is to be signed periodically by teacher in charge and certified by Head of the Department at the end of the year. Candidates have to produce their certified journal and tour reports at the time of practical examination. **A candidate will not be allowed to appear for the practical examination without a certified journal, otherwise a candidate must produce a separate certificate of his / her regular attendance for practical course and completion of the same signed by the concerned teacher and Head of the Department.**

Total Marks for practical 100 Marks

a) Practical – I : 50 Marks

b) Practical – II : 50 Marks

The practical course is to be covered in 50 practicals. The practical course should be divided into Practical - I which will comprise 25 practicals based on Paper V and Paper VI where as the Practical - II will comprise 25 practicals based on Paper VII and VIII. The Practical - I will carry 50 marks and practical II will also carry 50 marks. The practical examination will be conducted at the end of semester IV on two successive days.

Each practical examination (Practical I and II) should be of 5 hours duration and shall test a candidate in respect of following –

i. Identification and preparation of temporary and permanent slides.
ii. Practical study of external and internal structures of different plants as per the syllabus.
iii. Understanding of principles of the experiments.
iv. Identification and setting of physiological experiments.
v. Recording of observations and conclusions.
vi. Identification and understanding of the practicals conducted with respect to development of plants.
vii. Spotting of the specimens as per the syllabus.
viii. Submission of the tour report.

Course Outcomes:

Paper V:

After successful completion of the course, the students will be able

1. To know the scope and importance of the plant systematics.
2. To understand plant morphology, nomenclature and classification
3. To prepare and demonstrate herbarium and to understand importance of Botanical gardens.
4. To examine internal organization of plant organs.
5. To differentiate and understand plant tissue systems.
6. To analyze the composition of different parts of plant.

Paper VI:

After successful completion of the course, the students will be able

1. To understand the principles of Mendelian inheritance and gene interaction.
2. To differentiate between structural and numerical variations in chromosomes.
3. To analyze and solve genetic problems on linkage and crossing over.
4. To know the composition and significance of nucleic acids.
5. To summarize concept of central dogma and genetic code.

Paper VII:

After successful completion of the course, the students will be able

1. To understand core concepts of biotic and abiotic components.
2. To gain and insight in to the diverse ecosystem, related food web and ecological pyramids.
3. To prepare map of Phytogeographical regions of India.
4. Know importance of plants and plant products and their utility.
5. To know the centre of origins of different crop plants.
6. To understand importance and conservation of Germplasm.

Paper VIII:

After successful completion of the course, the students will be able

1. To understand various physiological processes in plants.
2. To understand significance and mechanism of photosynthesis.
3. To know the process of respiration in higher plants.
4. To design outlines of landscaping and home gardening.
5. To propagate plants by seed and vegetative propagation.
6. To prepare different types of gardens and to know garden equipments.

(iii) Specific Objectives:----------

(iv) A brief note :- (On expected level of study from examination and assessment point of view):- -----

(v) Recommended Reading:

(In MLA/APA Style Sheet Format)

a) Basic Reading :-

b) Additional Reading :-

c) References :-

d) Books

List of Books Recommended for B. Sc. II Botany

Plant Systematics

1. Singh, G. (2012). *Plant Systematics:* Theory and Practice Oxford & IBH Pvt. Ltd., New Delhi.
2. 3rdedition.
3. Jeffrey, C. (1982). An Introduction to *Plant Taxonomy.* Cambridge University Press, Cambridge.
4. Judd, W.S., Campbell, C.S., Kellogg, E.A., Stevens, P.F. (2002). Plant Systematics-A Phylogenetic Approach. Sinauer Associates Inc., U.S.A. 2nd edition.
5. Radford, A.E. (1986). Fundamentals of *Plant Systematics*. Harper and Row, NewYork.
6. Simpson, M. G. (2006). Plant Systematics. Elsevier.
7. Cooke, T. (1903). The Flora of Presidency of Bombay, I, London, (B.S.I. Repr. ed., 1958.) Botanical Survey of India, Calcutta.

Plant Anatomy:

1. Dickison, W.C. (2000). Integrative Plant Anatomy. Harcourt Academic Press, USA.
2. Fahn, A. (1974). Plant Anatomy. Pergmon Press, USA.
3. Mauseth, J.D. (1988). Plant Anatomy. The Benjammin/Cummings Publisher, USA.
4. Evert, R.F. (2006) Esau's Plant Anatomy: Meristems, Cells, and Tissues of the Plant Body: Their Structure, Function and Development. John Wiley and Sons, Inc.

Genetics and Molecular biology:

1. Watson J.D., Baker, T.A., Bell, S.P., Gann, A., Levine, M., Losick, R. (2007). Molecular Biology of the Gene, Pearson Benjamin Cummings, CSHL Press, New York, U.S.A. 6th edition.
2. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics. John Wiley and Sons Inc., U.S.A. 5th edition.
3. Klug, W.S., Cummings, M.R., Spencer, C.A. (2009). Concepts of Genetics. Benjamin Cummings. U.S.A. 9th edition.
4. Russell, P. J. (2010). i-Genetics- A Molecular Approach. Benjamin Cummings, U.S.A. 3rd edition.
5. Griffiths, A.J.F., Wessler, S.R., Carroll, S.B., Doebley, J. (2010). Introduction to Genetic Analysis. W. H. Freeman and Co., U.S.A. 10th edition.

6. Kumar, H. D. (2001). Molecular Biology. Vikas Publishing House.
7. Varma, P. S. and Agrawal, V. K. (2020). Molecular Biology. S. Chand Publications.
8. Lewin, B. (2000) Gene VII. Oxford University Press.
9. Dnyansagar, V. R. (1996) Cytology and genetics. Tata McGraw-Hills Publication.

Plant Ecology:

1. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4th edition.
2. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition.
3. Odum, E.P. (2005). Fundamentals of ecology. Cengage Learning India Pvt. Ltd., New Delhi. 5th edition.
4. Singh, J.S., Singh, S.P., Gupta, S. (2006). Ecology Environment and Resource Conservation. Anamaya Publications, New Delhi, India.
5. Wilkinson, D.M. (2007). Fundamental Processes in Ecology: An Earth Systems Approach.Oxford University Press. U.S.A.
6. Kormondy, E.J. (1996). Concepts of ecology. PHI Learning Pvt. Ltd., Delhi, India. 4th edition.

Economic Botany:

1. Singh, D. & Manivannan, S. (2009). Genetic Resources of Horticultural Crops. Ridhi International, Delhi, India.
2. Swaminathan, M.S. and Kochhar, S.L. (2007). Groves of Beauty and Plenty: An Atlas of Major Flowering Trees in India. Macmillan Publishers, India.
3. Capon, B. (2010). Botany for Gardeners. 3rd Edition. Timber Press, Portland, Oregon.
4. Pande, B. P. (1999). Economic Botany. S Chand Publications.
5. Kochhar, S. L. (2011) Economic Botany in the Tropics. MacMillian Publishers Ltd., New Delhi. 4th Edn.

Plant Physiology

1. Hopkins, W. G. 1995. Introduction to Plant Physiology. John Wiley and Sons, Inc., New York, USA.
2. Moore, T. C. 1989. Biochemistry and Physiology of Plant Hormones. (2nd edition). Springer – Verlag, New York, USA.
3. Salisburry, F.B. and Ross, C. W. 1992. Plant Physiology. (4th edition). Wadsworth Publishing Co., California, USA. 19
4. Taiz, L. and Zeiger, E. 1998. Plant Physiology. (2nd edition) Sinauer Associates, Inc., Publishers, Massachusetts, USA.
5. R.C. Grewal – Plant Physiology. Campus Books International 483/24, PrahiadstreetAnsari Road, Darya ganj, New Delhi – 110002.
6. V.K. Jain – Fundamentals of Plant Physiology. S. Chand and Company Ltd. Ramnagar, New Delhi – 110055.
7. Salisbury Ross – Plant Physiology. CBS, Publishers and Distributions 485/ Jain Bhawan, BholeNath Nagar, Shahdara, New Delhi – 110032.
8. G. Ray Noggle / G. Fritz- Introductory Plant Physiology. Prentice Hall of India Ltd. New Delhi – 110001.

9. V.Verma. Text Book of Plant Physiology.Emkay Publications., B-19, East KrishnaNagar, Delhi-1100051.
10. D.O.halland K.K. Rao. Photosynthesis. Edward Arnold, East Street, Baltimore, Mary-land-21202,U.S.A.
11. Jain, V.K. (2000): Fundamentals of Plant Physiology ,S.Chand and Co, New Delhi.
12. Pandey, S.N. (1991): Plant Physiology, Vikas Publishing House (P) Ltd., New Delhi, India.
13. Verma, V. (2007): Text Book of Plant Physiology. Ane Books India, New Delhi.
14. Taiz, L. and Zeiger, E. 2006. Plant Physiology. 4th Edition. Sinnauers Associates, Saunders land, Massachusetts, USA
15. Emil Tmog, Mineral Nutrition of Plants. Oxford and IBH Publishing House, Bombay/ New Delhi.
16. S. Sundararajan- Plants Physiology. Anmol Publications, Pvt. Ltd .New Delhi.110002.

Nursery and Gardening:

1. Gardening in India- Perey Lancaster (1997) Oxford and IBH Publishing Co. Pvt. Ltd, New Delhi.
2. Gardening in India- Bose T. K. and Mukharjee, D. (1972), Oxford and IBH Publishing Co. Pvt. Ltd, New Delhi.
3. Plant Propagation – Principles and Practices by H. T. Hartmann, D.E. Kester, F. T. Davies and R. L. Geneve (1997) Published by Prentice-Hall Inc., New Jersey 07458, USA.
4. Complete Home Gardening- Dej, S. C. (2003) Agrobias, Jodhpur, India.
5. Horticulture and Gardening- Khan M. R. (1995) Nirali Prakashan, Pune, India.
6. Gardening for everyone- Pramila Mehra. Hand pocketbook private limited, New Delhi.
7. Principles and Techniques for Plant Scientists- Dhopate, A. M. (2003) Agrobios, Jodhpur,
8. Plant Propagation-Sandhu M. K. (1989) Wile Eastern Ltd., Bangalore, Madras.

C] OTHER FEATURES:

1. INTAKE CAPACITY / NUMBER OF STUDENTS:-

As per university rules.

2. TEACHERS QUALIFICATIONS:-

• As prescribed by norms.

• However required number of core faculty should be given for particular course along with paper wise and Specialization wise work load allocation.

• Work load details should be as per Apex body/UGC/State Govt./University norms.

3. The Board of studies should clearly mention the required Books, Journals and specific Equipments necessary for the Course.

(A) LIBRARY: Library be equipped with the required Reference and Text Books, Journals and Periodicals for higher and advanced studies as per stated in revised syllabus and approved by BOS.

(B) SPECIFIC EQUIPMENTS:

T.V., V.C.R. V.C.P., L.C.D., Overhead Projector, Computers and necessary software and operating systems etc. are necessary to run the course

(C) LABORATORY SAFETY EQUIPMENTS:

1. Fire extinguishers at least two sets in each laboratory of 600 sq.ft. Area.
2. Leakage of gases be avoided.
3. First aid kit be made available.
4. Sugar / Glucose –500gm pack- a pinch of sugar and a cup of drinking water in hypoglycemic condition or in extreme weakness of student or a person concerned.

B) GENERAL SAFETY RULES FOR LABORATORY WORK

1) List of equipments needed for Laboratory Safety:-

1. Fire extinguisher
2. First Aid Kit
3. Good ear thing and insulated wirings for electrical supply.
4. Emergency exit
5. Apron and goggles wherever necessary
6. Fuming Chambers
7. Masks flows and shoes while handling hazardous chemicals & gases (Good valves, manometers and regulators for gas supply)
8. Operational manuals for instruments (handling to be made as suggested.)
9. Rules of animals and blanks ethics.
10. Leakage of gases to be avoided.
11. Cylinders or flow pipes to handle Acids.
12. No weighing for NaOH and hygroscopic substances.
13. Stabilized supply in the laboratory.

2) There is No Substitute for Safety:

1. Any injury no matter how small, it must be reported to teacher immediately.
2. a) In case any chemical enters your eyes go immediately to eye- wash facility and flush your eyes and face with large amount of water.

   b) For acid or phenol split, do not use water instead put some bicarbonate.
3. In case of fire, immediately switch of all gas connections in the laboratory and pour sand on the source of fire or cover it with asbestos or cement sheet.
4. While leaving laboratory, make sure that gas, water taps and electricity are switched off.
5. Remove your lab coat. Gloves and clean your hands before leaving laboratory.
6. Make your workplace clean before leaving the laboratory.
7. Keep your hands away from your face, while working in laboratory.
8. Each laboratory must have a first aid box.
9. Know what to do in case of emergency - e.g.

a) Know the place of fire extinguisher and first aid box.

10. Don't use cell phones in the laboratory.

a) Remember important phone numbers

3) DO's

1. Always wear lab coat, shoes in the laboratory. Every student must have their weight box, a napkin etc.

2. Maintain separate record book for each subject.

3. Keep your belongings at the place allotted for the same.

4. Maintain silence, order, cleanliness and discipline in the laboratory.

5. Work at the place allotted to you or specially used for certain operations.

6. Keep the working table clean.

7. Handle the laboratory equipments, glassware and chemical with great care.

8. Use only required quantities of material and apparatus of essential size.

9. Perform the test in their proper order.

10. Know the location of eye wash fountain and water shower.

11. Minimize your exposure to organic solvents.

12. The Metal like sodium should be kept under kerosene or liquid paraffin layer in a vessel with a cork stopper.

13. Sodium metal should be cut on dry filter paper. The cut off pieces of sodium should be immediately collected in a vessel containing kerosene or liquid paraffin.

14. Always pour acid into water when diluting and stir slightly.

15. All operations involving poisonous flammable gases and vapours should be carried out in the flame chamber (with exhaust facility)

16. Ladies should avoid wearing saree. If it is there, apron is essential.

4) DON'T

1. Don't work alone in the laboratory

2. Don't leave the glass wares unwashed.

3. Don't take apparatus, chemicals out of lab.

4. Don't leave any substance in a vessel or bottle without label.

5. Don't weigh the reagent directly on the balance pan.

6. Don't throw the cut off pieces of sodium metal in sink or water. Transfer it immediately in its container.

7. Don't take sodium metal with hands. Use forceps.

8. Don't panic and run in case of fire. Use the fire extinguishers or sand buckets.

9. Don't breathe the vapours of organic solvents.

10. Don't pour any unused reagent back in its stock bottle.

11. Don't eat or drink any food in laboratory.

12. Don’t use inflammable solvents like benzene, ether, chloroform, acetone and alcohol around flame.

13. Don’t distill to dryness.

14. Don’t exchange stoppers of flasks and bottles containing different reagents.

15. Don’t leave reagent bottle lying on the table.

16. Don’t disturb the order of reagent bottles in which they are placed.

17. Don’t bring reagent on your working table from the general shelf.

18. Don’t throw burning matchstick into dustbin.

19. Don’t leave the laboratory without permission.

5) LABORATORY / FIELD WORK CARE AND SAFTY FOR BOTANY STUDENTS

1. Unnecessary wastage of plant material during practicals should be avoided.

2. During study tour / personal collection, more emphasis be given on study of plants in nature and collection of wild plants should not be carried out.

3. If at all the collection of the plant material in needed, it should be carried out under supervision of concerned teacher. Collection of poisonous plants / poisonous mushrooms should be avoided.

4. Oral intake of unknown plant material, out of curiosity, during practical or collection tour is strictly prohibited.

5. If there is any allergic reaction while handling the plants / plant parts / pollen grains / fungal specimens it should be immediately brought to the notice of the concerned teacher and reported to the registered medical purloiner.

6. Wearing of hand gloves (and mask) is essential while handling poisonous plants / herbarium sheets / toxic and hazardous chemicals / reagents / strong acids / strong alkalis during the experiment should be made with vacuum pipette / auto pipette / burette under the supervision of concerned teacher / lab assistant.

7. Highly inflammable organic solvents (alcohol, acetone etc.) should not be kept in vicinity of spirit lamp.

8. The laboratory safety measures adopted for handling of hazardous chemicals in chemistry practicals should be followed for conducting practicals in plant biochemistry /microbiology.

9. Operational manuals for equipments such or centrifuge, autoclave, spectrophotometer should be followed.

10. In case of minor injuries, preliminary treatment should be undertaken with the help of first aid kit available in the laboratory. In case of serious injury, concerned teacher should be immediately contacted for consultation to the physician.

11. The instruction report for breeding, experimentation will be submitted in a week period.

(Which are laid down by Ministry of Social Justice & Empowerment and Ministry of Environment and Forests, Govt. of India).

PROGRAM SPECIFIC OUTCOMES (PSO) OF BOTANY:

In life science plant sciences is one of the most important basic and applied subjects. Plants synthesize their own food material using water and carbon dioxide in presence of sunlight and releasing oxygen as a byproduct. Plants are basis of biodiversity and they fulfill basic needs of all living organism *viz*. food, oxygen, etc. We can't imagine life on earth without plants. This course has been designed to give the fruitful knowledge and commercial skills in the various aspects of plant science. After successful completion of this program students will be able

PSO 1: To understand the various aspect of plant systematics and anatomical features of higher plant.

PSO 2: To understand the basics of genetics and molecular biology.

PSO 3: To understand the plant ecology, phytogeography, centre of origin of cultivated plants and utilization of plants.

PSO 4: To understand vital physiological processes in plants and skills of nursery and garden technique.

List of skill enhancement courses:

1. Gardening skills
2. Nursery techniques
3. Plant identification and herbarium technique
4. Plant resources
5. Collection and preservation technique of Indian native seeds or land races
6. Soil and water analysis
7. Germplasm conservation (in-vivo)

Link for information about SEC courses from National Skills Qualification Framework (NSQF): https://nqr.gov.in/national-skills-qualification-framework

(You may add or delete any courses as per available facilities)

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

Bachelor of Science (B.Sc.) Part III

Botany

CBCS PATTERN

Syllabus to be implemented from

June, 2020 onwards

Paper –IX, X, XI, XII - (Semester- V)

and

Paper –XIII, XIV, XV, XVI - (Semester-VI)

A] **Ordinance and Regulations: (As applicable to Degree Course)**

B] **Shivaji University, Kolhapur**
Revised Syllabus For Bachelor of Science

1. **TITLE : Subject- Botany**
Optional under the Faculty of Science

2. **YEAR OF IMPLEMENTATION**: - **Implemented from June 2020 onwards.**

3. PREAMBLE:-

[Note:-The Board of Studies should briefly mention foundation, core and applied components of the course/paper. The student should get into the prime objectives and expected level of study with required outcome in terms of basic and advance knowledge at examination level.**]**

4. GENERAL OBJECTIVES OF THE COURSE:
(As applicable to the Degree concerned)

Objectives:-

1) To impart knowledge of Science is the basic objective of education.
2) To develop scientific attitude is the major objective to make the students open minded, critical, curious.
3) To develop skill in practical work, experiments and laboratory materials and equipments along with the collection and interpretation of scientific data to contribute the science.
4) To understand scientific terms, concepts, facts, phenomenon and their relationships.
5) To make the students aware of natural resources and environment.
6) To provide practical experience to the students as a part of the course to develop scientific ability to work in the field of research and other fields of their own interest and to make them fit for society.
7) To The students are expected to acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of human beings.
8) To develop ability for the application of the acquired knowledge to improve agriculture and other related fields to make the country self reliant and sufficient.
9) To create the interest of the society in the subject and scientific hobbies, exhibitions and other similar activities.

5. DURATION

The course shall be a full time course.

6. PATTERN:-

Pattern of Examination will be Semester.

7. FEE STRUCTURE :-

As per Government /University rules.

1. **Refer brochure and prospectus of concern affiliated college/institute to Shivaji University, Kolhapur.**
2. **Other fee will be applicable as per rules and norms of Shivaji University, Kolhapur.**

8. ELIGIBILITY FOR ADMISSION:

As per guidelines obtained from Shivaji University, Kolhapur by following rules and regarding reservations by Govt. of Maharashtra.

9. MEDIUM OF INSTRUCTION:

The medium of instruction shall be in English.

10. STRUCTURE OF COURSE- B. Sc. III Botany (Optional)

THIRD YEAR (SEMESTER V/VI) (NUMBER OF PAPERS VIII)

Sr.No.	Subjects/Papers	Theory	Internal	Total Marks
1.	**Paper-IX**	40	10	50
2.	**Paper- X**	40	10	50
3.	**Paper -XI**	40	10	50
4.	**Paper- XII**	40	10	50
5.	**Paper- XIII**	40	10	50
6.	**Paper-XIV**	40	10	50
7.	**Paper-XV**	40	10	50
8.	**Paper-XVI**	40	10	50
	Practical -I			**50**
	Practical- II			**50**
	Practical- III			**50**
	Practical -IV			**50**
	Total			**600**

11. Structure of B. Sc. III P Semester V and VI

Sr. No.	Subject Title	TEACHING SCHEME			PRACTICAL		
		Credits	No. of Lectures	Hours	Credits	No. of Lectures	Hours
SEMESTER V							
1	**DSE-E**	2	3	2.4	8	20	16
2	**DSE-E**	2	3	2.4			
3	**DSE-E**	2	3	2.4			
4	**DSE-E**	2	3	2.4			
	TOTAL	**10**	**16**	**12.8**	**8**	**20**	**16**
SEMESTER VI							
1	**DSE-F**	2	3	2.4	8	20	16
2	**DSE-F**	2	3	2.4			
3	**DSE-F**	2	3	2.4			
4	**DSE-F**	2	3	2.4			
	TOTAL	**10**	**16**	**12.8**	**8**	**20**	**16**
GRAND TOTAL		**20**	**32**	**25.6**	**16**	**40**	**32**

12. SCHEME OF EXAMINATION :-

- The examination shall be conducted at the end of each term for semester pattern.
- The Theory paper shall carry 40 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 40 **+ 10** marks.
- Question Paper will be set in the view of the /in accordance with the entire Syllabus and preferably covering each unit of syllabi.

13. STANDARD OF PASSING:-

As Prescribed under rules & regulation for each degree.

14. NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

(Unit wise weightage of marks should also be mentioned)

Q. 1. Multiple choices questions (8-questions) --- 08 Marks

Q.2. Attempt **any two** of the following.

(Essay type/Broad answer questions) ---- 16 Marks

Q.3. Write short notes (**any four**) --- 16 Marks

15. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS- (FOR REVISED SYLLABUS)

(Introduced from June 2020 onwards)

Old Syllabus (Semester pattern)		Revised Syllabus (Semester pattern)		
Paper No.	**Title of Old Paper**	**Sem. No**	**Paper No.**	**Title of New Paper**
IX	Biology of Non Vascular Plants and Paleobotany	**V**	**DSE –E25**	Genetics and Plant Breeding
X	Genetics and Analytical Techniques in Plant Science		**DSE –E26**	Microbiology, Plant Pathology and Mushroom Culture Technology
XI	Fundamentals of Plant Physiology and Ecology		**DSE –E27**	Cytology and Research Techniques in Biology
XII	Plant Biochemistry		**DSE –E28**	Horticulture and Gardening
XIII	Biology of Vascular Plants	**VI**	**DSE –F25**	Plant Biochemistry and Molecular Biology
XIV	Microbiology and Plant Pathology		**DSE –F26**	Bioinformatics, Biostatistics and Economic Botany
XV	Plant Breeding, Biostatistics, Ethnobotany and Horticulture		**DSE –F27**	Plant Biotechnology and Paleobotany
XVI	Molecular Biology and Biotechnology		**DSE –F28**	Bio fertilizers and Herbal Drug Technology

SEMESTER V
B.Sc. Part- III Botany
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10
Paper- IX DSE –E25
Genetics and Plant Breeding

Unit 1: Mendelism: 10

1.1 Introduction, Definition and Basic terminologies in genetics.

1.2 Principles of inheritance a) Law of Dominance b) Law of Segregation c) Law of independent assortment.

1.3 Gene Interaction-a) Complementary gene interaction b) Supplementary gene interaction.

Unit 2 : Linkage and Recombination 10

2.1 Linkage: Definition, Linkage group, Types, Coupling and Repulsion phase, Significance.

2.2 Recombination (Crossing over): Definition, Types , Mechanism of crossing over, Significance

2.3 Mutation – Definition, Spontaneous and Induced mutation. Types of mutagen Physical and Chemical, Significance.

Unit 3: Chromosomes structure and Variation

3.1 Chromosome structure - Introduction, types (based on position of centromere) **13**

3.2 Multiple allelism: Introduction, Definition, Self-incompatibility in plants

3.3 Quantitative inheritance: a) Polygene inheritance- Concept, examples- Kernel colour in wheat,

b) Population genetics- Hardy-Weinberg's law.

3.4 Maternal inheritance- Mendelian versus cytoplasmic inheritance, Plastid inheritance in *Mirabilis jalappa.*

3.5 Alternation in genetic make-up and its significance-

a) Change in chromosome structure- Deletion, Duplication, Inversion and Translocation.

b) Change in chromosome number- Euploidy and Aneuploidy.

Unit 4: Plant Breeding 12

4.1 Introduction, Definition of plant breeding.

4.2 Aims and objectives of plant breeding

4.3 Methods of plant breeding-

a) Introduction and acclimatization

b) Selection- i) Mass selection ii) Pure line selection iii) Clonal selection

c) Hybridization techniques in self and cross pollinated crops.

d) Male sterility and its significance

e) Mutation breeding- Gamma garden

B.Sc. Part- III Botany

CREDITS: 2, LECTURE PERIOD: 3 PER WEEK , MARKS: 40+10

Paper- XDSE –E26

Microbiology, Plant Pathology and Mushroom Culture Technology

Unit 1: Microbiology **10**

1.1 Micro organisms in biological world, characteristic features of different groups: Phytoplasma and Actinomycetes

1.2 Methods in Microbiology**:** Staining for microbes**:** Bacteria**,** Sterilization Methods, Culture Media, Pure Culture Techniques

1.3 Recombination in Bacteria: Transformation and Transduction

Unit 2: Industrial Microbiology **10**

2.1 Applications of micro-organisms with reference to Synthesis of Antibiotics (Penicillin), Organic Acids (Lactic Acid), Alcohol (Ethyl Alcohol)

2.2 Bio-pesticides- Concept, Types and Significance

Unit 3: Plant Pathology **15**

3.1 Classification of Plant Diseases: on the basis of Pathogens and Symptoms

3.2 Transmission of Pathogen- Air borne, Seed borne and Soil borne

3.3 Prevention and Control: Physical, Chemical and Biological Control, Role of Quarantine

3.4 Study of Plant Diseases-

- **i)** Grassy Shoot of Sugarcane (Phytoplasma),
- **ii)** Citrus Canker (Bacterial),
- **iii)** Yellow Vein Mosaic of Bhendi (Viral),
- **iv)** White Rust of Crucifers and Tikka Disease of ground nut (Fungal)

Unit 4: Mushroom Technology **10**

4.1. History, Types of Mushrooms: Edible (Non poisonous) and inedible (Poisonous).

4.2 Cultivation Technology:

Pure culture: Medium, Sterilization, Preparation of spawn, Multiplication, Mushroom bed preparation, factors affecting the mushroom bed preparation and composting technology in mushroom production.

4.3 Storage: Short Term (Refrigeration), Long Term Storage (Canning, Pickles, Papads), Drying in Salt Solutions

4.4 Values of Mushroom: Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content - Vitamins.

B.Sc. Part- III Botany

CREDITS: 2, LECTURE PERIOD: 3 PER WEEK , MARKS: 40+10

Paper- XI DSE –E27

Cytology and Research Techniques in Biology

Unit 1: Cell as a unit of life **10**

I.1 Introduction, The Cell Theory, Prokaryotic and Eukaryotic cells,

1.2 Cell cycle and Apoptosis.

1.3 Cell division: Mitosis and Meiosis with their significance.

Unit 2: Cell Organelles **12**

2.1 Nucleus: Ultra structure, Nuclear envelope, Nuclear pore complex, DNA packaging in Eukaryotes.

2.2 Mitochondria: Ultrastructure, semiautonomous body and Role.

2.3 Chloroplasts: Ultrastructure, semiautonomous body and Role.

2.4 Ribosomes: Structure and Functions of Prokaryotic and Eukaryotic ribosome.

Unit 3: Sub Cellular Structures and Cell Membrane **10**

3.1. ER, Golgi body and Lysosomes: Structure and Role,

3.2 Peroxisomes and Glyoxysomes: Structure and Role.

3.3 Cell membrane: Structure, Fluid Mosaic Model, Role.

3.4Types of membranes as per permeability.

Unit 4: Research Techniques in Biology **13**

4.1 Principles of microscopy, Light, Fluorescence and Electron microscopy (EM)- Scanning EM.

4.2 Colorimetry, Spectrophotometry, Micrometry, Photomicrography,

4.3 Intellectual property right (IPR) – Concept and Importance.

4.4 Patents – Objectives, Procedure and Working

B.Sc. Part- III Botany
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10
Paper- XII DSE–E28
Horticulture and Gardening

Unit 1: Importance and divisions of Horticulture **5**

1.1: Introduction and importance of horticulture

1.2: Divisions of Horticulture – Pomology, Olericulture, Floriculture, Landscape gardening,

Unit 2: Horticultural Produce and Management of Pest and diseases **10**

2.1: Floriculture: a) Introduction, Cultivation of important cut flowers and management of important pests and diseases: Rose, Gerbera and Marigold.

b) Flower arrangements, Packing and Marketing of cut flowers.

2.2: Fruit preservation technology:

a) Physical - Drying, freezing, heat,

b) Chemical - sugar, salt, chemical preservatives.

Unit 3: Nursery **15**

3.1: Definition, objectives and scope, Infrastructure for nursery

3.2: Propagation Practices: Sexual and Asexual

a) Sexual: Seed: Sowing of seed, Transplanting of seedling, Advantages and Disadvantages.

b) Vegetative: i) Cutting – Definition, Stem cutting (Hard wood stem and soft wood stem),Use of PGR's for rooting

ii) Layering –Definition, Simple layering, Air layering

iii) Grafting – Definition, Whip grafting, Approach grafting

iv) Budding: Definition, T-budding, Patch budding

c) By specialized vegetative structure – Bulbs, Corms, Tubers, Rhizomes

Unit 4: Landscape Gardening **15**

4.1 Definition, scope and objectives

4.2 Indoor Garden – Indoor plants, bottle garden, dish garden, hanging basket, Bonsai, Vertical Garden

3.3 Outdoor Garden – Lawns, Preparation of lawn, lawn types, Rockery, Terrace garden, Water garden, green house and polyhouse

3.4 Important aesthetic Gardens of India: i) Mughal garden, Delhi

ii) Brindavan garden, Mysore.

SEMESTER- VI
B.Sc. Part- III Botany
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10
Paper- XIII DSE –F25
Plant Biochemistry and Molecular Biology

Unit 1: Carbohydrates **12**

1.1 Introduction and Classification of carbohydrates.

1.2 Structure and Properties of- a) Monosaccharides (Pentose: Ribose, Hexose: Glucose),
b) Oligosaccharides (Sucrose), c) Polysaccharides (starch).

1.3 Isomerism: Types of Isomers (Structural and Stereoisomer)

1.4 Significance of carbohydrates

Unit 2 : Lipids **12**

2.1 Introduction, General Structure, properties and classification of Lipids

2.2 Structure and properties of Saturated Fatty Acids (Stearic and Palmitic acid) and Unsaturated Fatty Acids (Oleic acid, Linoleic and)

2.3 Significance of Lipids

Unit 3: Proteins **11**

3.1. Introduction, ructure**,** Properties, Characteristics and classification of Amino acids

3.2. Brief Outline of biosynthesis of Amino acid: Proline

3.3. General Structure, Classification of Protein

3.4. Protein Biosynthesis in Eukaryotes: Transcription and translation

Unit 4: Nucleic Acids **10**

4.1 Introduction, Composition and Structure

4.2 DNA: Watson and Crick Model, Forms of DNA (A, B and Z)

4.3 DNA Replication in Eukaryotes

4.4 RNA: Types, structure and role of RNA's

4.5 Regulation of Gene expression- Lac Operon, Tryptophan Operon

B.Sc. Part- III Botany
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10

Paper- XIV DSE –F26
Bioinformatics, Biostatistics and Economic Botany

Unit 1: Bioinformatics 14

1.1 Introduction, Aim, Scope and Branches of Bioinformatics

1.2 Biological Databases: Classification Format and Retrieval system of Biological Database, National Center for Biotechnological Information (NCBI), Basic Local Alignment Search Tool (BLAST)

1.3Protein Information Resource (PIR) - Concept, Resources, Databases and Data Retrieval

1.5 Applications of Bioinformatics- Molecular Phylogeny (Concept, Methods, Analysis and Consistency)

Unit 2: Biostatistics 11

2.1 Introduction, definition, terminology.

2.2 Collection and presentation of data: Types of data, techniques of data collection- Census method, sampling method- simple random, stratified and systematic sampling.

Classification, tabulation, graphical representation- Histogram and polygon.

2.3 Measures of central tendency and Dispersion: Arithmetic mean, Mode, Median, Range, Deviation, Mean deviation, Standard Deviation, Coefficient of Variation.

2.4 Statistical methods for testing the hypothesis') Students' T-test ii) Chi-square test.

Unit 3: Economic Botany: Cereals, Legumes and Oils 10

3.1 Origin of Cultivated Plants - Concept of centers of origin, their importance with reference to Vavilov's work.

3.2 Cereals: Origin, Botanical Name, Morphology, Sources and Economic importance of Wheat.

3.3 Legumes: Origin, Botanical Name, Morphology, Sources and Economic importance of Gram and Soybean.

3.4 Oils and Fats: Origin, Botanical Name, Morphology, Parts used and uses of Ground nut.

Unit 4: Economic Botany: Spices, Beverages and Fibers 10

4.1 Spices and Condiments - Origin, Botanical Name, Morphology, Parts used and Uses of Clove and Black pepper.

4.2 Beverages – Origin, Botanical Name, Morphology, Parts used and uses of Tea.

4.3 Fibre yielding Plants - Origin, Botanical Name, Morphology, Parts used and uses of Cotton.

B.Sc. Part- III Botany
CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10
Paper- XV DSE –F27
Plant Biotechnology and Paleobotany

Unit 1: Plant Biotechnology **03**

1.1 History, Definition, Scope and Importance (Areas of application)

1.2 Biotechnology in India

Unit 2: Recombinant DNA Technology **15**

2.1. Introduction, Principles and enzymes involved in DNA technology..

2.2. Cloning Vectors: a) Prokaryotic- Plasmid, Lambda phage and Cosmid.
(Brief idea) b) Eukaryotic-YAC (Yeast Artificial Chromosomes).

2.3Southern blotting and Northern blotting techniques and its applications, Molecular Probes

2.4. DNA Fingerprinting, Molecular DNA Markers (RAPD, RFLP)

2.5 PCR, DNA sequencing and Concept of Gene bank.

Unit 3: Plant Tissue Culture **15**

3.1 Principles and Terminologies, Laboratory Requirement (Conditions and Instruments), Culture Media, Totipotency and Cellular Differentiation,

3.2 Micro propagation: Stages of Micro propagation- Callus formation, Root Initiation, Shoot Initiation, Primary and Secondary Hardening, Advantages and disadvantages

3.3 Embryogenesis: Protoplast culture, Cybrid

3.4 Somaclonal Variations

Unit 4: Paleobotany **12**

4.1 General account, Geological time scale, process of fossilization, Types of fossils.

4.2 Study of following form genera with reference to systematic position, external morphology and affinities: a) *Lyginopteris* b) *Enigmocarpon*.

4.3 Application of paleobotany: Role of microfossil in oil and coal exploration.

B.Sc. Part- III Botany

CREDITS: 2, LECTURE PERIOD: 3 PER WEEK, MARKS: 40+10

Paper- XVI DSE –F28

Bio fertilizers and Herbal Drug Technology

Unit 1: Biofertilizers **11**

1.1 Introduction, Importance, types and study of –

a) Bacterial fertilizers: *Rhizobium*, *Azotobacter*, *Azospirillum*

b) Blue green Algal:, Cyanobacteria (BGA): *Nostoc*, *Anabaena*.

c) Mycorrhizal association: VAM

d) Fungal: *Trichoderma*

1.2 Organic manures –

a) Farm Yard Manure, Green manure, Compost

b) Vermicomposting and Vermi-wash

Unit 2: Herbal Medicines **11**

2.1 Definition, Importance of herbal medicines

2.2 Classification of crude drugs: Taxonomical, Morphological and Chemical

2.3 Identification, authentication, collection, processing and storage of medicinal plants.

2.4 Introduction to general methods of extraction, isolation and purification of Phyto constituents.

Unit 3: Herbal cosmetology **11**

3.1 Applications of herbs in cosmetics: Shampoo (*Sapindus laurifolius*, *Acacia concinna*), hair dye (*Lawsonia inermis*)

3.2 Facemask (*Santalum album*), bath oil (*Rosa indica*), perfume (*Jasminum sambac*).

Unit 4: Pharmacognosy **12**

4.1 Pharmacognosy: Introduction And, Definition

4.2 Medicinal uses of Tulsi, Ginger, Methi, Avala.

4.3 Adulteration of drugs of natural origin: Evaluation by morphological, Microscopic, Chemical, Physical, Chromatographical, Spectrophotometric.

4.4 Plant antioxidants: Properties of Antioxidants, Vitamins (C and E)

Shivaji University, Kolhapur

B.Sc. III Botany (CBCS Syllabus)

Practical-I (Based on Paper No. X and XV)

1	Preparation of culture media –PDA (slants and Plates) and sterilization.
2	Methods of inoculation- on slants and plates
3	Isolation of soil fungi by serial dilution method.
4	Study of different types of stains in biological studies.
5	Method of control of seed borne diseases (Dipping/Seed dressing)
6 and 7	Plant diseases as per theory
8 and 9	Demonstration of Mushroom Cultivation and Harvesting
10	Isolation of plant genomic DNA and its spooling.
11	Calorimetric estimation of DNA using di-phenyl amine.
12	Preparation of plant tissue culture medium (M.S.).
13	Demonstration of techniques of *In Vitro* culture using suitable ex-plant.
14	Demonstration of inoculation of explants on suitable medium (M.S.)
15	Isolation of Protoplast.
16	Study of steps in genetic engineering for the production of Golden rice **w**ith the help of photographs.
17	Identification of types of fossils – i) Impression ii) Compression iii) Petrification IV) Coal.
18	Identification of – i) *Lyginopteris*
19	Identification of *Enigmocarpon*
20	Submission of plant diseases

Shivaji University, Kolhapur
B.Sc. III Botany (CBCS Syllabus)
Practical-II (Based on Paper No. IX and XIV)

1. Genetic examples on Linkage.

2 Genetic examples on Crossing over

3 Genetic examples on Polygene inheritance

4 Determination of chromosome count in PMCs in ***Allium* / *Cynoetis*.**

5 Detection of meiotic anomalies in chromosomes in ***Rhoeo.***

6 Preparation of karyotypes – idiograms by using photographs.

7 Methods of emasculation

8 Breeding techniques in a) Malvaceae b) Fabaceae c) Poaceae

9 Mounting of floral parts.

10 Study of World map to show Vavilov's centers of origin of cultivated plants.

11 Study of Botanical Name. Morphology, Parts used and Economic importance of Wheat.

12 Study of Botanical Name. Morphology, Parts used and Economic importance of Gram and Soybean.

13 Study of Botanical Name. Morphology, Parts used and Economic importance of Clove and Black pepper.

14 Study of Botanical Name. Morphology, Parts used and Economic importance of Ground nut.

15 Study of Botanical Name. Morphology, Parts used and Economic importance of Cotton.

16 Measures of central tendency of given data.

17 Study of frequency distribution and its graphical representation

18 Determination of Standard deviation of the given data.

19 Submission of PPT on the basis gene transfer method.

Shivaji University, Kolhapur
B.Sc. III Botany (CBCS Syllabus)
Practical-III (Based on Paper No. XI and XVI)

1. To study prokaryotic cells (bacteria), eukaryotic cells with the help of electron micrograph / photographs.

2 and 3 Study of the photomicrography technique.

4 Study of cell structure in Onion, *Hydrilla* leaf and *Spirogyra* filament.

5 Study of mitosis.

6 Study of meiosis.

7. Use of dialysis to separate smaller molecules from larger molecules.

8 Micrometry technique.

9 Study of DNA packaging by micrographs.

10 Study of Beer and Lambert's Law.

11 Preparation of permanent cytological slides.

12 Submission of photomicrograph.

13 Application of Biofertilizers - i) *Nostoc* ii) *Azotobacter iii*) *Rhizobium iv) Trichoderma*

14 Identification of organic manure – i) Green manure (*Crotolaria juncea*),
ii) Vermicompost iii) Vermiwash

15 and 16 Herbal Preparations of
i) Churn (Triphalachurna) ii) Kadha /Decoction (Adulsa)
iii) Hair oil (Maka)iv) Shampoo (Ritha, Shikakai).

17 Biochemical test for drug adulteration of
i) Haladi (*Curcuma longa*) ii) Hing (*Ferulaassa-foetida*)
iii) Camphor (*Cinnamomum camphora*) iv) Saffron (*Crocus sativus)*

18 Macroscopic (Organoleptic**)** study of – i) Tulsi ii) Ginger iii) Methii v) Avala.

19 Determination of Vein-islet Number by Camera Lucida.

20. Phytochemical analysis- Qualitative tests for Tannins, Alkaloids, Saponins, Steroids, Terpenoids, Flavonoids, reducing sugars, carbohydrates. (Any four).

21 Visit to Herbal cosmetics industry/Pharma industry (Separate handwritten report to be submitted by student).

Shivaji University, Kolhapur
B.Sc. III Botany (CBCS Syllabus)
Practical-IV (Based on Paper No. XII and XIII)

1. Study of budding technique – Patch and T-budding
2. Study of Layering technique – Air layering
3. Study of Grafting technique – Whip and Approach
4. Technique of Potting and Repotting
5. Demonstration of Bonsai
6. Demonstration of Bottle garden and hanging baskets.
7. Floral arrangement – Flower pot, Floral bouquet, Floral Rangoli
8. Garden implements (Any five) – Garden shear, sickle, cutter, shovel, budding knife, secateur, water can, pruning scissors, sprayer, spade
9. Study of ornamental plants – Rose, Gerbera, Marigold
10. Study of hedge and edge plants.
11. Study of indoor plants.
12. Qualitative test for sugar in plant material
13. Qualitative tests for starch and cellulose in plant material
14. Qualitative test for proteins.
15. Qualitative test for lipids.
16. Identification of sugars by ascending paper chromatography**.**
17. Determination of fatty acid value of oil sample.
18. Separation and identification of amino acids by TLC (Thin Layer Chromatography).
19. Determination of iso-eletric point of plant protein.
20. Visit to nursery/ Aesthetic garden / Exhibition / Food industry (Separate handwritten report to be submitted by student)

List of Books Recommended for B. Sc. III Botany

Cytology and Genetics ---

1. Cell Biology - S. C. Rastogi (1992)
2. Cell Biology - C. B. Powar (2000)
3. Cell Biology, Genetics, Evolution and Ecology – P S. Verma, V K. Agarwal (2001)
4. Cell Biology - R. Dowben (1971)
5. Cell and Molecular Biology – P. K. Gupta (1999)
6. Cell and Molecular Biology (2001) – E. D. P De Robertis& E. M. F De Robertis (Jr.)
7. Cell Physiology - A C. Giese (1979)
8. Cellular Energy Metabolism and Its Regulation - Atkinson, D. E. (1977)
9. Genetics - P. K Gupta (1997)Rastogi Publications. Shivaji Road, Meerut.
10. Gene Action - Hartman alldSuskind (1968)
11. Cytology and Genetics.--Dnyansagar(T. Magrewith& Co.)
12. Plant Chromosomes: Laboratory Methods--Fukui. K. and Nakayama S. 1996. CRC Press, Boca Raton, Florida.
13. Plant Chromosomes: AnalysisManipulation and Engineering. Sharma A.K. and Sharma A. 1999. Hawood Academic Publishing, Australia.
14. Fundamentals of Cytology --L. W. Sharp.
15. Principles of Genetics -Snustad. D. P. and Simmons. M.J. 2000. (2nd Edition).John Wiley & Sons Inc., USA.
16. Cytogenetics and Plant Breeding-- S N. Chandrashekharan and S. V. ParthaSarathy.
17. The Science of Genetics.-Atherly. A.G., Girton. J.R. and McDonald. 1999. Saunders College Publishing Co., Fort Worth USA.
18. Principles of Genetics- Gardener. J., Simmons. H.J. and Snustad. D.P. 1991. (8^{th} Edition). John Wiley & Sons, New York.
19. Genetics: Principles and Analysis--Hartl.D.L.andJones.E.W. 1998. (4^{th}Edition) Jones & Barlett Publishers. Massachusetts. USA.
20. Genetics (5th Edition).-Russel. P.J. 1998. The Benjamin/Cummings Publishing Co., Inc., USA.
21. MolecularBiology of Cell. Alberts B., Bray D., Lewis, J., Raff, M. Roberts, K. and Wastson, J.D. 1999.Garland Publishing Co., Inc., New York USA.
22. Karp, G. 2010. Cell and Molecular Biology: Concepts and Experiments. 6th Edition. John Wiley & Sons. Inc.
23. De Robertis, E.D.P. and De Robertis, E.M.F. 2006. Cell and Molecular Biology. 8th edition. Lippincott Williams and Wilkins, Philadelphia.
24. Becker, W.M., Kleinsmith, L.J., Hardin. J. and Bertoni, G. P. 2009. The World of the Cell. 7th edition. Pearson Benjamin Cummings Publishing, San Francisco.
25. Molecular biology (principles and practices) Dr. priyanka Siwach and Dr. Namita singh laxmi publication. ISBN 9788131807476.
26. Molecular biology , N Arumugam , Saras Publication . ISBN 9789382459835
27. Molecular biology , Dr. P.S. Verma , Dr. V.K. Agrawal, P.Chand Publication
28. Molecular biology Concepts for Inquiry Jenifer A Hackett.
29. Esential cell biology 4^{th} edition Bruce alberts, Dennis bray,Karen Hopkin, AlexanderD, Jahnson.

Economic Botany:

1. Kocchar, S. L. 1998. Economic Botany in Tropics, 2nd edition. MacmillanIndia Ltd., New Delhi.
2. A Textbook ofEconomic Botany--Sambamurthy, A. V. S. S. and Subramanyam, N. S. 1989. Wiley Eastern Ltd., New Delhi.
3. Hill's Economic Botany. -- Sharma, O. P. 1996. Tata McGraw Hill PublishingCompany Ltd., New Delhi.
4. Economic Botany - Plants inOur World. Simpson, B. B. and Conner-Ogorzaly, M. 1986. McGraw Hill, New York.

Horticulture and Gardening:

I. Gardening in India. -- Perey Lancaster (1997) Oxford & I B H Publishing Co.Pvt.Ltd,New Delhi.
2. Floriculture: Fundamentals & Practices. - Alex Laurie and Ries V.C. (2003)
3. Percy Lancaster's Gardening in India.- Bose, T.K. and Mukherjee, D. (1997) (Ed.)Oxford and IBH Publ. (P.) Ltd,, New Delhi, India.
4. A Art of Miniature Plant Culture. - Day, S.C. (2003)Agrobias. Jodhpur, India.
5. Complete Home Gardening. -Dej, S.C. (2003) Agrobias, Jodhpur, India.
6. Principles and Techniques for Plant Scientists. -Dhopte, A.M. (2003) Agrobios,Jodhpur, India.
7. Horticulture and Gardening.- Khan, M.R. (1995) NiraliPrakashan, Pune. India.
8. Gardening for every one- PramilaMehra. Hind pocket book private limited, NewDehli.
9. Kumarsen V. Horticulture ,Saras Publication
10.Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH PublishingCo., New Delhi.
11. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
12.Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
13.Edmond Musser & Andres, Fundamentals of Horticulture, McGraw Hill Book Co.,New Delhi.
14.Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture andCooperation, National _Seed Corporation Ltd., New Delhi.
15.Janick Jules. 1979. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., SanFrancisco, USA.
16.Randhawa, G.S. and Mukhopadhyay, A. 1986. Floriculture in India. Allied Publishers.

Microbiology and Plant Pathology

1) Microbiology- P.D.Sharma; Rastogi Publications
2) Plant Pathology- Mehrotra
3) Plant Diseases- R.S. Singh
4) Plant Diseases- Rangaswamy

Biochemistry

1) Fundamentals of Biochemistry- J.L.Jain, Sunjay Jain, Nitin Jain; S. Chand & Company Ltd.
2) Cell Biology, Genetics, Molecular Biology, Evolution and Ecology- P. S. Verma, V. K. Agarwal; S. Chand & Company Ltd.

Bioinformatics

1) Introduction to Bioinformatics – S. Sundara Rajan, R. Balaji; Himalaya Publishing House.

Plant Biotechnology

1. Elements Of Biotechnology- P. K. Gupta (Second Edition); Rastogi Publications

2. Plant Tissue Culture - Kalyan Kumar De; New Central Book Agency (P) Ltd.

3. Introduction to Plant Tissue Culture - M. K. Razdan (Second Edition); Oxford & IBH Publishing Co. Pvt. Ltd.

4. Practical Biotechnology and Plant Tissue Culture - Prof. Santosh Nagar, Dr. Madhuri Adhav; S. Chand & Co. Ltd.

5. Arnold C.A.1972. An Introduction to PalaeobotanyTata McGraw-Hill,

6. Andrews H.N. Studies in Palaeobotany 1961. John Wiley & Sons Canada, Limited,

7. Shukla A.C. and S.P . Mishra. Essentials of Palaeobotany.

8. Wilson, N. S. and Rothwell,G.W.1983. Palaeobotany and the Evolution of Plants (2ndEdition).Cambridge University Press U.K.

9. Dubey, R.C., 2005 A Text book of Biotechnology S.Chand& Co, New Delhi.

10. Kumaresan, V. 2005, Biotechnology, Saras Publications, New Delhi.

11. John JothiPrakash, E. 2004. Outlines of Plant Biotechnology. Emkay ¬Publication, NewDelhi.

Biofertilizers and Herbal Technology

1. Sathe, T.V. 2004 Vermiculture and Organic Farming. Daya publishers.

2. SubhaRao, N.S. 2000, Soil Microbiology, Oxford & IBH Publishers, New ¬Delhi.

3. Vayas,S.C, Vayas, S. and Modi, H.A. 1998 Bio-fertilizers and organic ¬Farming Akta Prakashan, Nadiad

4. Chopra R.N., S.L.Nayar and I.C.Chopra, 1956.Glossary of Indian medicinal plants C.S.I.R, New Delhi.

5. Dey and Raj Bahadur,1984. The indigenous drugs of India, Kanny, Lall,. International Book Distributors.

Details of Practical Examination

A) Every candidate must produce a certificate from Head of the Dept. in his /her college, stating that he / she has completed practical course in satisfactory manner as per guidelines laid down by Academic Council on the recommendations of Board of Studies in Botany. The student should record his / her observations and report of each experiment should be written in the journal. The journal is to be signed periodically by teacher in charge and certified by the Head of the Department at the end of year. Candidates have to produce their certificated journal and tour report at the time of practical examination. Candidate is not "allowed to appear" for the practical examination without a certified journal / a certificate from Head of the Botany Dept. regarding the same.

B) Practical Examination shall be of Five hours duration and shall test a candidate in respect of the following.

1. Practical study of external and internal structures of different plant types and their classification. Making temporary stained preparations and identification.
2. Identification and setting of experiments as per syllabus.
4. Spotting of the specimens as per syllabus.

Botanical Excursions

One teacher along with a batch not more than 20 students be taken for botanical excursion to places of Botanical interest, one in each term. If there are female students in a batch of 20 students, one additional lady teacher is permissible for excursion. Each excursion will not be more than SEVEN days during college working days. T.A. and D.A. for teachers and non-teaching staff participating in excursions should be paid as per rules. Tour report duly certified by tour in charge teacher and Head of the Department should be submitted at the time of practical examination. For every study tour take the prior permission of the head of the department and Principal.

Practical Course

B. Sc. III Botany Practical course covered in four practical numbers (Practical no.1 , Practical no.2, practical no.3 and practical no. 4 with total 80 practicals). These practicals are to be performed by the students. Each practical is to be supplemented by permanent slides, preserved / fresh specimens / materials, charts, herbarium sheets, etc. wherever necessary.

C] OTHER FEATURES:

1. INTAKE CAPACITY / NUMBER OF STUDENTS:-

As per university rules.

2. TEACHERS QUALIFICATIONS:-

- As prescribed by norms.
- However required number of core faculty should be given for particular course along with paper wise and Specialization wise work load allocation.
- Work load details should be as per Apex body/UGC/State Govt./University norms.

2 The Board of studies should clearly mention the required Books, Journals and specific Equipments necessary for the Course.

(A) LIBRARY: Library be equipped with the required Reference and Text Books, Journals and Periodicals for higher and advanced studies as per stated in revised syllabus and approved by BOS.

(B) SPECIFIC EQUIPMENTS:

T.V., V.C.R. V.C.P., L.C.D., Overhead Projector, Computers and necessary software and operating systems etc. are necessary to run the course.

(C) LABORATORY SAFETY EQUIPMENTS

i)Fire extinguishers at least two sets in each laboratory of 600 sq.ft. Area.

ii) Leakage of gases be avoided.

iii) First aid kit be made available.

iv) Sugar / Glucose –500gm pack- a pinch of sugar and a cup of drinking

water in hypoglycemic condition or in extreme weakness of student or

a person concerned

B) GENERAL SAFETY RULES FOR LABORATORY WORK

1) List of equipments needed for Laboratory Safety:-

1. Fire extinguisher
2. First Aid Kit
3. Good earthing and insulated wirings for electrical supply.
4. Emergency exit
5. Apron and goggles wherever necessary
6. Fuming Chambers
7. Masks flows and shoes while handling hazardous chemicals & gases (Good valves, manometers and regulators for gas supply)
8. Operational manuals for instruments (handling to be made as suggested.)
9. Rules of animals and blanks ethics.
10. Leakage of gases to be avoided.
11. Cylinders or flow pipes to handle Acids.
12. No weighings for NaOH and hygroscopic substances.
13. Stabilized supply in the laboratory.

2) There Is No Substitute for Safety

1. Any injury no matter how small, it must be reported to teacher immediately.
2. a) In case any chemical enters your eyes go immediately to eye- wash facility and flush your eyes and face with large amount of water.

   b) For acid or phenol split, do not use water instead put some bicarbonate.
3. In case of fire, immediately switch of all gas connections in the laboratory and pour sand on the source of fire or cover it with asbestos or cement sheet.
4. While leaving laboratory, make sure that gas, water taps and electricity are switched off.
5. Remove your lab coat. Gloves and clean your hands before leaving laboratory.
6. Make your workplace clean before leaving the laboratory.
7. Keep your hands away from your face, while working in laboratory.
8. Each laboratory must have a first aid box.

9. Know what to do in case of emergency - e.g.

   (a) Know the place of fire extinguisher and first aid box.

10. Don't use cell phones in the laboratory.

    (a) Remember important phone numbers

3) DO's

1. Always wear lab coat, shoes in the laboratory. Every student must have their weight box, a napkin etc.
2. Maintain separate record book for each subject.
3. Keep your belongings at the place allotted for the same.
4. Maintain silence, order, cleanliness and discipline in the laboratory.
5. Work at the place allotted to you or specially used for certain operations.
6. Keep the working table clean.
7. Handle the laboratory equipments, glassware and chemical with great care.
8. Use only required quantities of material and apparatus of essential size.
9. Perform the test in their proper order.
10. Know the location of eye wash fountain and water shower.
11. Minimize your exposure to organic solvents.
12. The Metal like sodium should be kept under kerosene or liquid paraffin layer in a vessel with a cork stopper.
13. Sodium metal should be cut on dry filter paper. The cut off pieces of sodium should be immediately collected in a vessel containing kerosene or liquid paraffin.
14. Always pour acid into water when diluting and stir slightly.
15. All operations involving poisonous flammable gases and vapours should be carried out in the flame chamber (with exhaust facility)
16. Ladies should avoid wearing saree. If it is there, apron is essential.

4) DON'T

1. Don't work alone in the laboratory
2. Don't leave the glass wares unwashed.
3. Don't take apparatus, chemicals out of lab.
4. Don't leave any substance in a vessel or bottle without label.
5. Don't weigh the reagent directly on the balance pan.
6. Don't throw the cut off pieces of sodium metal in sink or water. Transfer it immediately in its container.
7. Don't take sodium metal with hands. Use forceps.
8. Don't panic and run in case of fire. Use the fire extinguishers or sand buckets.

9. Don’t breathe the vapours of organic solvents.
10. Don’t pour any unused reagent back in its stock bottle.
11. Don’t eat or drink any food in laboratory.
12. Don’t use inflammable solvents like benzene, ether, chloroform, acetone and alcohol around flame.
13. Don’t distill to dryness.
14. Don’t exchange stoppers of flasks and bottles containing different reagents.
15. Don’t leave reagent bottle lying on the table.
16. Don’t disturb the order of reagent bottles in which they are placed.
17. Don’t bring reagent on your working table from the general shelf.
18. Don’t throw burning matchstick into dustbin.
19. Don’t leave the laboratory without permission.

5) LABORATORY / FIELD WORK CARE AND SAFTY FOR BOTANY STUDENTS

1. Unnecessary wastage of plant material during practical should be avoided.
2. During study tour / personal collection, more emphasis be given on study of plants in nature and collection of wild plants should not be carried out.
3. If at all the collection of the plant material in needed, it should be carried out under supervision of concerned teacher. Collection of poisonous plants / poisonous mushrooms should be avoided.
4. Oral intake of unknown plant material, out of curiosity, during practical or collection tour is strictly prohibited.
5. If there is any allergic reaction while handling the plants / plant parts / pollen grains / fungal specimens it should be immediately brought to the notice of the concerned teacher and reported to the registered medical purloiner.
6. Wearing of hand gloves (and mask) is essential while handling poisonous plants / herbarium sheets / toxic and hazardous chemicals / reagents / strong acids / strong alkalis during the experiment should be made with vacuum pipette / auto pipette / burette under the supervision of concerned teacher / lab assistant.
7. Highly inflammable organic solvents (alcohol, acetone etc.) should not be kept in vicinity of spirit lamp.
8. The laboratory safety measures adopted for handling of hazardous chemicals in chemistry practicals should be followed for conducting practicals in plant biochemistry / microbiology.
9. Operational manuals for equipments such or centrifuge, autoclave, spectrophotometer should be followed.

10. In case of minor injuries, preliminary treatment should be undertaken with the help of first aid kit available in the laboratory. In case of serious injury, concerned teacher should be immediately contacted for consultation to the physician.

11. The instruction report for breeding, experimentation will be submitted in a week period. (Which are laid down by Ministry of Social Justice & Empowerment and Ministry of Environment and Forests, Govt. of India).

Course outcomes

1. Students are acquainted with basic as well as recent knowledge in the field of molecular biology, biotechnology and bioinformatics

2. Acquiring the basic procedure in the field of microbiology and plant pathology.

3. To develop skills in of horticulture including nursery, landscaping, gardening, floriculture and polomology

4. Students will be able to demonstrate their knowledge, skills and attributes to be successful contributing members o the horticulture profession.

5. Acquaint the student with the comprehensive knowledge in the bio fertilizers, herbal drug technology and paleobotany

6. Students will able to demonstrate their understanding of relevant course theories and concepts

Students able to Mendelian and Neo-mendelian genetics

7. Students become familiar with the Organic manures, Herbal Medicines, Herbal cosmetology and Pharmacognosy.

8. Understand the methods of Plant Biotechnology, Protoplast culture and Recombinant DNA Technology.

9. Acquainted the scope of paleobotany in the present scenario and understand the fossil genera

10. Aware about the Spices, Beverages and Fibers, Cereals, Legumes and Oils.

11. Understand the of carbohydrates, lipids, proteins

12. Understand the techniques of plant breeding

13. Understand the techniques of mushroom cultivation.

14. Acquainted the techniques of micrometry, chromatography and other laboratory techniques used in the field of life science.

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A++' Grade

CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part - I
ZOOLOGY

SEMESTER I AND II

(Syllabus to be implemented from June, 2022onwards.)

Choice Based Credit System with Multiple Entry and Multiple Exit Options

To be implemented from the Academic Year 2022-23

First Year Bachelor of Science (Level-5) Programme Structure (NEP-2020 PATTERN)

Sub Zoology

SEMESTER-I (Duration-6 Months)							
	Technical scheme						
	Theory				Practical		
CGPA Courses	Course code	Credits	Number of Lecture per week	Hours	Credits	Number of Lecture per week	Hours
	DSC-15A	02	05	04	02	04	3.2
	DSC-16A	02					
	AECC-A	02	04	3.2			
	Total-(A)	06	09		02	04	
Non CGPA Course	SEC-I	-	-	-	02	04	04
	VBC-I	-	-	-	01	02	02
SEMESTER-II (Duration-6 Months)							
CGPA Courses	DSC-15B	02	05	04	02	04	3.2
	DSC-16B	02					
	AECC-B	02	04	3.2			
	Total-(B)	06	09				
Non CGPA Course	SEC-I	-	-	-	02	04	04
	VBC-I	-	-	-	01	02	02
Total-(A+B)		12	18		04	08	6.4

<table>
<tr><td colspan="12">EXAMINATION SCHEME</td></tr>
<tr><td colspan="12">SEM-I</td></tr>
<tr><td colspan="7">THEORY</td><td colspan="5">PRACTICAL</td></tr>
<tr><td rowspan="5">CGPA COURSES</td><td></td><td>Credits</td><td>Hours</td><td>Max. Marks</td><td>Total Marks</td><td>Min. Marks for Passing</td><td>Hours</td><td>Credits</td><td>Marks</td><td>Total Marks</td><td>Min. Marks for Passing</td></tr>
<tr><td>DSC-15A</td><td>02</td><td>04</td><td>50</td><td rowspan="2">100</td><td rowspan="2">35</td><td colspan="4" rowspan="2">PRACTICAL EXAM IS ANNUAL</td><td></td></tr>
<tr><td>DSC-16A</td><td>02</td><td>04</td><td>50</td><td></td></tr>
<tr><td>AECC-B</td><td>02</td><td>3.2</td><td>50</td><td>50</td><td>18</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">NONCGPA</td><td>SEC-I</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VBC-I</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="12">SEM-II</td></tr>
<tr><td colspan="7">THEORY</td><td colspan="5">PRACTICAL</td></tr>
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<tr><td>DSC-16B</td><td>02</td><td>04</td><td>50</td><td colspan="5">As per the BOS Guidelines</td></tr>
<tr><td>AECC-B</td><td></td><td>3.2</td><td></td><td></td><td></td><td colspan="5"></td></tr>
<tr><td rowspan="2">NONCGPA</td><td>SEC-I</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td colspan="2">-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>VBC-I</td><td colspan="2"></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr>
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List of SEC Courses (A student can opt any SEC irrespective of his own faculty)

- Apiculture
- Sericulture
- Vermiculture
- CMLT
- Aquarium Maintenance
- Bioinformatics

Link for the pool of SEC courses from

National Skills Qualification Framework (NSQF)

(You may add or delete any courses as per available facilities)

https://drive.google.com/file/d/176Vwvx4SC2ONrt69XADruzI2qnfBPI_o/view?usp=sharing

B. Sc. Part – I Semester –I

ZOOLOGY

DSC – 15A (ANIMAL DIVERSITY-I)

Theory: 30 hrs. (37.5 lectures of 48 minutes)

Marks -50 (**Credits: 02)**

Unit 1:

KingdomProtista **(3hrs.)**

General characters and classification up to classes; Locomotory organelles and locomotion in Protozoa

PhylumPorifera **(3hrs.)**

General characters and classification up to classes; Canal System in *Sycon*

PhylumCnidaria **(3hrs.)**

General characters and classification up to classes; Polymorphism in Hydrozoa

PhylumPlatyhelminthes **(3hrs.)**

General characters and classification up to classes; Life history of *Taenia solium*and its parasitic adaptations

PhylumNemathelminthes **(3hrs.)**

General characters and classification up to classes; Life history of *Ascaris lumbricoides* and its parasitic adaptations

Unit 2:

PhylumAnnelida **(3hrs.)**

General characters and classification up to classes; Metamerism in Annelida

PhylumArthropoda **(5hrs.)**

General characters and classification up to classes; Vision in Arthropoda, Metamorphosis inInsects

PhylumMollusca **(3hrs.)**

General characters and classification up to classes; Torsion in gastropods

PhylumEchinodermata **(4hrs.)**

General characters and classification up to classes; Water-vascular system in Asteroidea

Total Periods – 30 hrs

B. Sc. Part – I Semester –I

ZOOLOGY

DSC – 16 A (Cell Biology and Evolutionary Biology)

Theory: 30 hrs. (37.5 lectures of 48 minutes)

Marks-50 (**Credits: 02)**

CELL BIOLOGY & EVOLUTIONARY BIOLOGY

Cellstructure- **(2hrs.)**

Cell theory and diversity in cell size and shape

Structure ofnucleus– **(2hrs.)**

Nucleus with reference to Nuclear membrane, Nucleoplasm, Chromatin and nucleolus.

Structure ofChromosome- **(3hrs.)**

With reference to Morphology and organization (Nucleosome), Polytene Chromosomes

Ultra structure and functions ofthefollowing **(8 hrs.)**

Plasma membrane (Fluid Mosaic Model)

Mitochondria

Endoplasmic reticulum

Golgi complex

Lysosome

Unit 2:

HistoryofLife **(2hrs.)**

Major Events in History of Life : Introduction to theories of origin of life, study of theory of chemical evolution.

Introduction toEvolutionaryTheories **(5hrs.)**

Lamarckism, Darwinism, Neo-Darwinism

Direct EvidencesofEvolution **(4hrs.)**

Types of fossils, formation of fossils, dating of fossils

Extinction **(4hrs.)**

Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution

Total Periods – 30 hrs

- **Suggested Readings:**

- Ruppert and Barnes, R.D. (2006). *Invertebrate Zoology*, VIII Edition. Holt SaundersInternationalEdition.
- Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. and Spicer, J.I.(2002). *TheInvertebrates: A New Synthesis*, III Edition, Blackwell Science
- Young, J. Z. (2004). *The Life of Vertebrates*. III Edition. Oxford universitypress.
- PoughH. *Vertebrate life,* VIII Edition, PearsonInternational.
- Hall B.K. and Hallgrimsson B. (2008). *Strickberger'sEvolution*. IV Edition. Jones andBartlettPublishersInc.
- Tortora, G.J. and Derrickson, B.H. (2009). *Principles of Anatomy and Physiology*, XIIEdition, John Wiley &Sons,Inc.
- DeRobertisEDPandDeRobertisEME– CellandMolecularBiology
- C.B. Powar– Cell Biology, HimalayaPub. House
- P. K. Gupta – Cell and MolecularBiology
- Cell Biology – Dr. N.Arumugam
- Ridley, M. (2004). *Evolution*. III Edition. BlackwellPublishing
- Barton,N.H.,Briggs,D.E.G.,Eisen,J.A.,Goldstein,D.B.andPatel,N.H.(2007).
- *Evolution*. Cold Spring,Harbour Laboratory Press.
- Hall,B.K.andHallgrimsson,B.(2008).*Evolution*.IVEdition.JonesandBartlettPublishers
- Campbell, N. A. and Reece J. B. (2011). *Biology*. IX Edition, Pearson, Benjamin, Cummings.
- Douglas,J.Futuyma(1997).*EvolutionaryBiology*.SinauerAssociates.

B. Sc. Part – I Semester –II

ZOOLOGY

DSC – 15 B (Animal Diversity and Insect Vector)

Theory: 30 hrs. (37.5 lectures of 48 minutes)
Marks-50 (**Credits: 02)**

Animal Diversity and Insect Vectors

Unit: IAnimalDiversity **(16 hrs)**

Type Study: Rat (*Rattus rattus*) (Physiology is not expected)

- Systematic position, Habit andHabitat
- MorphologicalCharacters
- DigestiveSystem
- Respiratory System
- Circulatory System (Composition of Blood andHeart)
- Excretory System
- ReproductiveSystem
- Brain forRat

Unit: II : Insect Vectors

1. Mosquito as aninsect vector **(8hrs)**

Mosquito born diseases with respect to causal organism, life cycle and symptoms

a. Malaria
b. Dengue
c. Chikungunya
f. Control Measures of mosquitoes

2. Housefly as an importantmechanicalvector **(2 hrs)**

Housefly born diseases with respect to Causal organism, life cycle, symptoms

a. Myiasis
b. Control Measure of housefly

3. Flea as aninsect vector **(4 hrs)**

Flea born diseases with respect to Causal organism, life cycle and symptoms

a. Plague
b. Typhus fever
c. Control offleas

Total Periods – 30 hrs

B. Sc. Part – I Semester –II

ZOOLOGY

DSC – 16 B (Genetics)

Theory: 30 hrs. (37.5 lectures of 48 minutes)
Marks-50 (**Credits: 02)**

Genetics

Unit: 1

IntroductiontoGenetics **(3hrs.)**

Mendel's work on transmission of traits, Genetic Variations, Molecular basis of Genetic Information

Mendelian and postMendelianGenetics **(8hrs.)**

Principles of Inheritance, Incomplete dominance and co-dominance, gene interaction, Multiplealleles w.r.t. ABO, Rh blood groups and coat colour in rabbit, sex linked inheritance.

Linkage,CrossingOver **(4hrs.)**

Linkage and process of crossing over, Coupling and repulsion theory, Cytological evidence of crossing over.

Unit 2:

Mutations **(8hrs.)**

Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy, induced gene mutation.

SexDetermination **(7hrs.)**

Chromosomal theory, Genic balance theory, Haploidy-Diploidy mechanism, Environmental Theory

Total Periods – 30 hrs

Suggested Readings :

- P.S.Varma &V.K.Agarwal–CellBiology,Genetics,MolecularBiology, Evolution andEcology
- R. P. Meyyan, N, Arumugam – Genetics &Evolution
- Gardner, E.J., Simmons, M.J., Snustad, D.P. (2008). *Principles of Genetics*. VIIIEdition. WileyIndia.
- Snustad, D.P., Simmons, M.J. (2009). *Principles of Genetics*. V Edition. John Wileyand SonsInc.
- Klug,W.S.,Cummings,M.R.,Spencer,C.A.(2012).*ConceptsofGenetics*.XEdition.BenjaminVerma P. S. and Agarwal V. K. – Genetics, S. Chand andCompany
- Strickberger– Genetics. C MillianPublications
- Winchester – Genetics, OxfordPublication
- Genetics by P.P. Meyyan,Cummings.
- Russell, P. J. (2009). *Genetics- A Molecular Approach.* III Edition. Benjamin Cummings.
- Griffiths, A.J.F., Wessler, S.R., Lewontin, R.C. and Carroll, S.B. *Introduction toGenetic Analysis*. IX Edition. W. H. Freeman andCo.
- Imms, A.D. (1977). A General Text Book of Entomology. Chapman & Hall, U K Chapman, R.F.(1998).
- The Insects: Structure and Function. IV Edition, Cambridge University Press, U K Pedigo L.P.(2002).
- Entomology and Pest Management. Prentice Hall PublicationMathews, G.(2011).
- Integrated Vector Management: Controlling Vectors ofMalaria
- Insect Vector Borne Diseases.Wiley-Blackwell
- Biology of Vertebrates Walter & Sayles;(McMillan).
- Chordate Zoology, P.S. Dhami& J. K. Dhami - R. Chand & Co., NewDelhi.
- ModernTextbookofZoology,R.L.Kotpal,RastogiPublications,Meerut.
- The Life of Vertebrates, 3rd Edition, 1993, J. Z. Young E. L. B.S.Oxford.
- Chordate Zoology - E.L. Jordan, S. Chand & Co., NewDelhi.
- The Phylum Chordata - 1987, H.H. Newman, Distributor Satish Book Enterprise, Agra.
- Comparative Anatomy of the Vertebrates G. C.Kent.

B. Sc. Part – I

ZOOLOGY PRACTICALS

Marks -50 (**Credits: 02)**

(DSC– 15A,B and 16 A,B: LAB)

1. Study of the followingspecimens:

i. Study of *Amoeba*, *Euglena, Plasmodium, Paramecium,* w.r.t. classification andlocomotion

ii. Study of Sycon, *Hyalonema,* and *Euplectella, Obelia, Physalia, Aurelia, Tubipora, Metridium, Taenia solium,*Maleandfemale*Ascarislumbricoides,Aphrodite,Nereis,Pheretima,Hirudinaria,Palaemon,Cancer*, *Limulus*, *Palamnaeus, Scolopendra*, *Julus*, *Periplaneta, Apis, Chiton, Dentalium, Pila, Unio, Loligo, Sepia, Octopus, Pentaceros, Ophiura, Echinus, Cucumaria*and *Antedon,* w.r.t. classification and morphological peculiarities.

2. Study of thefollowing:

i. T.S. or L.S. of*Sycon*,

ii. Lifehistory*TaeniaandAscaris*andtheirparasiticadaptations.

3. Preparation of haemincrystals

4. Study Tour: Visit to any suitable place to study animal diversity or any place related to theory syllabus and submission ofreport.

5. Preparation of blood smear and identification of ABO and Rh bloodgroups

6. CytologicalPreparations:

Mitochondria – Stained preparation of mitochondria from onion peeling / Hydrilla leaf / Oralmucosa by using Janus Green -B.

Polytene Chromosomes – Stained preparation of polytene chromosome in Chironomous larva/Drosophila larva.

7. Studyoffossilevidencesfromplastercastmodelsandpictures.

8. Demonstration of Rat tostudy,

- Digestive system, Lungs, Heart, Kidney, Testis, Ovary and Brain ofRat

9. Study of Mendelian Inheritance and gene interactions (Non-Mendelian Inheritance) using suitable examples. Minimum 10 Examples on: Monohybrid & Dihybrid ratio, Incomplete dominance, Co-dominance, Multiple alleles, Sex linked inheritance, Linkage, Crossing over andGene interaction.

10. Study of following insect vectors through permanent slides orphotographs

1. Mosquito born diseases (Causal organism, symptoms and controlmeasures)
a. Malaria b. Dengue c.Chikungunya
2. Housefly born diseases (Causal organism, symptoms and controlmeasures)
a. Myiasis
3. Flea born diseases (Causal organism, symptoms and controlmeasures)
a. Plague b. Typhusfever

SUGGESTED READINGS

- Ruppert and Barnes, R.D. (2006). *Invertebrate Zoology*, VIII Edition. Holt Saunders InternationalEdition.
- Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. and Spicer, J.I. (2002). *The Invertebrates: A New Synthesis*, III Edition, BlackwellScience
- Young, J. Z. (2004). *The Lifeof Vertebrates*. III Edition. Oxford university press.
- PoughH.*Vertebratelife,*VIIIEdition,PearsonInternational.
- Hall B.K. and Hallgrimsson B. (2008). *Strickberger's Evolution*. IV Edition. Jones and Bartlett PublishersInc.
- Practical Zoology byKotpal.
- PracticalZoologybyVermaandAgarwal.PhysiologybyC.C.Chattarji.Vol.I&II.
- Lehane, M. J.(1991).Biology of blood sucking insects. Harper Collins Academic,London.
- Service M. W. (1986). Blood sucking insects : Vectors of disease, studies in biology.No. 167, Arnold,London.

SCHEME OF MARKING (THEORY)

SEM	Core Course	Evaluation	Marks	Total Marks	Answer Books	Standard of passing(Min)
I	DSC - 15A	Semester wise	50	100	As per Instructions	35
	DSC - 16A	Semester wise	50			
II	DSC - 15B	Semester wise	50	100	As per Instructions	35
	DSC - 16B	Semester wise	50			

SCHEME OF MARKING (PRACTICAL)

Practical examination is annul

SEM	Course	Marks	Evaluation	Sections	Standard of passing
I and II	DSC – A(DSC 15A and DSC 16A) Lab and DSC - B (DSC 15B and DSC 16B) Lab	50	Annual	As per Instructions	35%

Nature of Theory Question Paper

B.Sc. I
Zoology

Q.1 Ten multiple choice question (one mark each) 10

Q. 2 Attempt any two (Ten marks each) 20

i.

ii.

iii.

Q.3 Attempt any four (five marks each) 20

i.

ii.

iii.

iv.

v.

vi.

Shivaji University, Kolhapur

Choice Based Credit System with Multiple Entry and Multiple Exit options as per NEP-2020

Bachelor of Science (B. Sc. II) Programme Structure

Under Faculty of Science & Technology

(To be implemented from Academic Year 2023-24)

Structure of B.Sc. II Programme (Semester III & IV)

SEMESTER–III (Duration–6 Months)																			
Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME											
		THEORY			PRACTICAL			THEORY							PRACTICAL				
								Internal			University								
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Max Marks	Min Marks		Hours	Max Marks	Total Marks	Min Marks	Hours	Max Marks	Min Marks		
1	DSC-C Chemistry-V	**2**	3	2.4	4	8	6.4	10	4		2	40	**80**	**28**	**PRACTICAL EXAMINATION IS ANNUAL**				
2	DSC-C Chemistry-VI	**2**	3	2.4				10	4		2	40							
3	DSC-C Botany-V	**2**	3	2.4	4	8	6.4	10	4		2	40	**80**	**28**					
4	DSC-C Botany-VI	**2**	3	2.4				10	4		2	40							
5	DSC-C Zoology-V	**2**	3	2.4	4	8	6.4	10	4		2	40	**80**	**28**					
6	DSC-C Zoology-VI	**2**	3	2.4				10	4		2	40							
7	AECC-C Env Studies	**4**	4	3.2	---	---	---	---	---		---	---	---	---					
8	SEC-III	Any one from pool of courses			**2**	---	---	---	---		---	---	---	---	2	**50**	18		
	TOTAL	**16**	**22**	**17.6**	**14**	**24**	**19.2**	**60**				**240**	**350**	---		**50**			

SEMESTER–IV(Duration–6 Months)

Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME									
		THEORY			PRACTICAL			THEORY						PRACTICAL			
								Internal		University							
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Max Marks	Min Marks	Hours	Max Marks	Total Marks	Min Marks	Hours	Max Marks	Min Marks
1	DSC-C Chemistry-VII	**2**	3	2.4	4	6.4	8	10	4	2	40	**80**	**28**	**As per BOS Guide-lines**	**100**	**35**
2	DSC-C Chemistry-VIII	**2**	3	2.4				10	4	2	40					
3	DSC-C Botany-VII	**2**	3	2.4	4	6.4	8	10	4	2	40	**80**	**28**		**100**	**35**
4	DSC-C Botany-VIII	**2**	3	2.4				10	4	2	40					
5	DSC-C Zoology-VII	**2**	3	2.4	4	6.4	8	10	4	2	40	**80**	**28**		**100**	**35**
6	DSC-C Zoology-VIII	**2**	3	2.4				10	4	2	40					
7	AECC-C AECC-D Env. Studies	---	---	---	---	---	---	---	---	3	70	**100**	**25**		---	---
										Project	30		**10**			
8	SEC-IV	Any one from pool of courses			2	---	---							2	**50**	18
	TOTAL	**12**	**18**	**14.4**	**14**	**19.2**	**24**					**400**	---		**350**	
		28	**40**	**32**	**28**	**38.4**	**48**					**750**	--	---		

- Student contact hours per week: 36.8 Hours (Min.)
- Total Marks for B.Sc.-II (Including EVS) **1100**
- Theory and Practical Lectures :48 Minutes Each
- Total Credits for B.Sc.-II (Semester III & IV): 56
- **DSC: -**Discipline Specific Core Course: Select any 3subject pairs, relevant to those opted at B. Sc. I, from DSC C1 to DSC C38 and / or DSC IC39 to DSC IC50 and DSC D1 to DSC D38 and/or DSC ID39 to DSC ID50.
- **AECC**- Ability Enhancement Compulsory Course (C): Environmental Studies: EVS Theory and AECC-D EVS Project (Theory:70 & Project:30 marks)
- ***There shall be separate passing for internal and University theory as well as practical / project examinations.***
- ***Practical Examination shall be conducted annually for 100 Marks per course (subject) and minimum 35 marks are required for passing.***
- ***Except Environmental Studies, there shall be combined passing for two theory papers of 40 marks each. i. e. minimum. 28 marks are required for passing out of 80.***
- ***Minimum 4 marks are required for passing out of 10 for Internal Examination of each paper.***
- ***Examination of SEC shall be either theory or practical depending upon type of SEC.***

Structure of B. Sc. II Programme Semester V&VI

SEMESTER–V (Duration–6 Months)																	
Sr. No.	Subject Title	TEACHING SCHEME						EXAMINATION SCHEME									
		THEORY			PRACTICAL			THEORY					PRACTICAL				
								Internal			University						
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Max Marks	Min Marks	Hours	Max Marks	Min Marks	Hours	Max Marks	Min Marks
1	DSE-E	**2**	3	2.4	**8**	**20**	**16**	10	4	2	40	**14**	**PRACTICAL EXAMINATION IS ANNUAL**		
2	DSE-E	**2**	3	2.4				10	4	2	40	**14**			
3	DSE-E	**2**	3	2.4				10	4	2	40	**14**			
4	DSE-E	**2**	3	2.4				10	4	2	40	**14**			
5	AECC-E	**4**	4	3.2				10	4	2	40	**14**			
6	SEC-V	Any one from pool of courses			**2**	---	---	---	---				**2**	**50**	**18**
	TOTAL	**12**	**16**	**12.8**	**10**	**20**	**16**	**50**			**200**				
SEMESTER–VI (Duration–6 Months)																	
1	DSE-F	**2**	3	2.4	**8**	**20**	**16**	10	4	2	40	**14**	**As per BOS Guide-Lines**	**200**	**70**
2	DSE-F	**2**	3	2.4				10	4	2	40	**14**			
3	DSE-F	**2**	3	2.4				10	4	2	40	**14**			
4	DSE-F	**2**	3	2.4				10	4	2	40	**14**			
5	AECC-E	**4**	4	3.2				10	4	2	40	**14**			
6	SEC-VI	Any one from pool of courses			**2**	---	---						**2**	**50**	**18**
	TOTAL	**12**		**12.8**	**10**		**16**	**50**			**200**				

	GRAND TOTAL	**24**	**32**	**25.6**	**20**	**40**	**32**				**400**	**800**				

• Student contact hours per week: 28.8 Hours (Min)	• Total Marks for B.Sc.-III (Including English): 8**00**
• Theory and Practical Lectures: 48 Min. Each	• Total Credits for B.Sc.-III (Semester V&VI): 44
• **DSE-Discipline Specific Elective.** A candidate shall select one course (subject) from the three Courses (Subjects)selected at B.Sc.–II. Select any 4 pairs of papers from DSE-E1 to DSE-E84 for Sem –V and DSE- F1 to DSE-F84 for Sem-VI	
• **AECC**-Ability Enhancement Compulsory Course (E & F): English for communication	
• ***There shall be separatee passing for internal, theory and practical examinations.***	
• ***Practical Examination shall be conducted annually for 200 marks, and minimum 70 marks are required for passing.***	
• ***University semester end exam shall be of 40 marks per paper and minimum 14 marks are required for passing.***	
• ***Minimum 4 marks are required for passing out of 10 for Internal Examination of each paper.*** • ***Examination of SEC shall be either theory or practical depending upon type of SEC.***	

Class	B. Sc. - I	B. Sc. - II	B. Sc. - III	Total
Marks	1200	1100	800	3100
No. of Credits	60	56	44	160

Nature of Question Paper for B.Sc. Part – II (40 + 10 Pattern) according to Revised Structure as Per NEP – 2020 to be implemented from academic year 2023-24

Maximum Marks: 40

Duration: 2 hrs

Choose the correct alternative from the following and rewrite the sentence **[8]**

1 to 8 MCQ one mark each with four options

a)
b)
c)
d)

Attempt any TWO of the following **[16]**

a)

b)

c)

Attempt any FOUR of the following **[16]**

a)

b)

c)

d)

e)

f)

***

Shivaji University, Kolhapur
Draft Syllabus as per NEP – 2020
B. Sc. II Zoology
Semester III Paper V
DSC-C (ANIMAL DIVERSITY-II-NEP 2020)
Theory: 30 hrs. (37.5 lectures of 48 minutes)

Unit I:

Hemichordata **(2 hrs.)**

General characters and Classification

Protochordata **(3 hrs.)**

General characters and Classification of Protochordata

Agnatha **(2 hrs.)**

General characters of Agnatha and Classification of cyclostomes up to classes

Pisces: **(3 hrs.)**

General characters and Classification up to orders

Unit II: Amphibia **(10 hrs.)**

General features and Classification up to orders

Type Study: Frog (Physiology is not expected)

- Systematic Position, Habit and Habitat
- Morphological Characters
- Digestive System
- Respiratory System
- Heart and Composition of Blood
- Excretory System
- Reproductive System (Male and Female)
- Brain

Unit III: Reptiles **(4 hrs.)**

General characters and Classification up to orders;

Venomous and non-venomous snakes, Biting mechanism in snakes

Aves **(3 hrs.)**

General characters and Classification up to orders

Mammals **(3 hrs.)**

General characters and Classification up to orders

Shivaji University, Kolhapur
B. Sc. Part II Semester- III
ZOOLOGY
Semester III Paper-VI
DSC-C (BIOCHEMISTRY- NEP 2020)
Theory: 30 hrs. (37.5 lectures of 48 minutes)

Unit I:
Carbohydrate Metabolism: (10 hrs.)

1) Classification and biological significance of carbohydrates
2) Glycolysis
3) Krebs Cycle
4) Electron Transport Chain
5) Pentose Phosphate Pathway
6) Gluconeogenesis
7) Glycogenesis
8) Glycogenolysis

Lipid Metabolism: (7 hrs.)

1) Classification and biological significance of lipids
2) β oxidation of fatty acids

Unit II:
Protein metabolism: (8 hrs.)

1) Structure, Classification and biological significance of proteins
2) Transamination
3) Deamination
4) Urea Cycle/ Ornithine cycle

Unit III:

Enzymes: (5 hrs.)

1) Introduction, Classification and Nomenclature
2) Mechanism of enzyme action
3) Enzyme Kinetics
4) Inhibition and Regulation
5) Isoenzymes, Co-enzymes and Co-factors.

B. Sc. Part II Semester- IV
ZOOLOGY
Semester IV Paper-VII
DSC-C (REPRODUCTIVE BIOLOGY - NEP 2020)
Theory: 30 hrs. (37.5 lectures of 48 minutes)

Unit I: Structure and hormones of pituitary gland (3 hrs.)

Unit II: Functional anatomy of female reproductive system: (12 hrs.) A. **Anatomy of female reproductive system**

a. Histology of Ovary
b. Histology of Oviduct/Fallopian Tube
c. Histology of Uterus
d. Histology of Cervix and vagina
e. Reproductive cycle in Human
f. Female sex hormones
g. Folliculogenesis, process of Oogenesis and structure of ovum
h. Menstrual cycle and hormonal regulation
i. Transport of ovum and sperm in female genital tract
j. Process of fertilization
k. Hormonal control in Implantation
l. Diagnostic features of pregnancy and hormonal regulation
m. Mechanism and hormonal regulation of Parturition and Lactation

Unit III: Functional anatomy of male reproductive System: (8 hrs.)

B. Anatomy of male reproductive System

a. Histology of testis
b. Histology of Epididymis
c. Histology of Seminal vesicle
d. Histology of prostate gland
e. Histology of Cowper's gland
f. Histology of penis
g. Male sex hormones
h. Process of spermatogenesis and structure of sperm
i. Epididymal functions and sperm maturation
j. Sperm transportation in male genital tract
k. Hormonal control of Testicular activities

Unit IV: Reproductive Health (4 hrs.)

a. Infertility in Male: causes, diagnosis and management
b. Infertility in Female: causes, diagnosis and management
c. Assisted Reproductive Technology:
Sperm bank. Frozen embryos. Intrauterine Transfer (IUT). Zygote Intrafallopian Tube Transfer (ZIFT) Gamete Intrafallopian Transfer (GIFT). Intracytoplasmic Sperm Injection (ICSI).
d. In vitro fertilization (IVF): Ovarian stimulation, Egg retrieval, Sperm retrieval, Fertilization and Embryo transfer

Unit V: Contraceptive Methods: (3 hrs.)

a. Temporary methods
b. Permanent Methods

B. Sc. Part II Semester- IV
ZOOLOGY
Semester IV Paper-VIII
DSC- C (APPLIED ZOOLOGY-I -NEP 2020)
Theory: 30 hrs. (37.5 lectures of 48 minutes)
Marks-50 (Credits: 02)

Unit I:

Introduction to Host-parasite Relationship: (4 hrs.)

Host, Definitive host, Intermediate host, Parasitism, Symbiosis, Commensalism, Reservoir, Zoonosis

Unit II:

Epidemiology of Diseases: (4 hrs.)

Transmission, Prevention and control of diseases: Tuberculosis, Typhoid.

Unit III:

Rickettsia and Spirochetes: (4 hrs.)

Brief account of *Rickettsia prowazekii*, *Borrelia recurrentis* and *Treponema pallidum*

Unit IV:

Insects of Economic Importance: (6 hrs.)

Biology, Control and damage caused by

1) Gram pod borer (*Helicoverpa armigera*)
2) Sugarcane leaf hopper (*Pyrilla perpusilla*)
3) Lemon Butterfly (*Papilio demoleus*)
4) Pulse Beetle (*Callosobruchus chinensis*)
5) Rice Weevil (*Sitophilus oryzae*)
6) Red Flour beetle (*Tribalism castaneum*)

Unit V:

1. **Poultry Farming**: (5 hrs.)

(a) Principles of poultry breeding,
(b) Indigenous and Exotic poultry breeds
(b) Management of breeding stock and broilers,
(c) Processing and Preservation of eggs.

2. **Sericulture** (7 hrs.)

(a) Life cycle of *Bombyx mori*
(b) Types of silkworm
(c) Rearing equipments
(d) Diseases and management
(e) Cocoon formation and Economic importance of silk

B. Sc. Part II
ZOOLOGY PRACTICAL-I -NEP 2020)
Marks-50 (Credits: 02)

PRACTICAL-I (Based on Animal Diversity-II and Biochemistry of Semester-III)

Unit I

Animal Diversity- II

1. Study of the following specimens with reference to morphological peculiarities and classification upto orders:
   a. Hemichordata: Balanoglossus
   b. Urochordata: Herdmania
   c. Cephalochordata: Branchiostoma **(**Amphioxus**)**
   d. Cyclostomata: Petromyzon
   e. Pisces: Sphyrna (Hammer Headed Shark), Pristis (Saw Fish), Torpedo (Electric Ray), Labeo, Exocoetus (Flying Fish), Anguilla (Eel Fish)
   f. Amphibia: Ichthyophis, Salamander, Bufo, Hyla (Tree Frog)
   g. Reptilia: Chelone (Turtle), Hemidactylus (Wall Lizard), Chamaeleon, Draco (Flying Lizard), Crocodylus (Crocodile), Gavialis.
   h. Mammalia: Duck-billed platypus, Kangaroo, Bat, Squirrel, Loris
2. **Demonstration of Frog**: Digestive System, Respiratory System, Excretory system, Male and Female Reproductive System, heart and brain
3. Characters identifying venomous and non-venomous snakes: Russell's viper, Saw scaled viper, Common krait, Indian Cobra, Sea snake, Rat snake and Checkered keelback
4. Study of any six common birds from different orders with the help of photographs and keys.
5. Dissection of brain of fowl.
6. Temporary preparation of Hyoid apparatus, Sclerotic plates, Pecten and Columella of fowl.
7. Temporary preparation of Placoid, Cycloid and Ctenoid scales in fishes.

Unit II

Biochemistry:

1. Biochemical tests for Glucose, Fructose, Sucrose, Lactose and Lipid.
2. Estimation of total protein in given solutions by Lowry's method.
3. Study of activity of salivary amylase under optimum conditions.
4. Effect of Temperature and pH on activity of salivary amylase.
5. Urea, urease enzyme activity

B. Sc. Part II
ZOOLOGY PRACTICAL-II -NEP 2020
Marks-50 (Credits: 02)

PRACTICAL-II (Based on Reproductive Biology and Applied Zoology of Semester-IV)

Unit I: Reproductive Biology:

1. Study of Animal house:
   - Set up and maintenance of animal house
   - Breeding techniques
   - Care of normal and experimental animals with the help of model/photographs
2. Stages/phases of menstrual cycle.
3. Surgical techniques: Principles of surgery in endocrinology, Ovariectomy, Tubectomy, hysterectomy, orchiectomy and vasectomy in rats through Demonstration or Video
4. Examination of histological sections from photomicrographs/permanent slides of rat Testis, Epididymis, Ovary, Fallopian tube, Uterus (proliferative and secretary stages), Cervix and Vagina
5. Structure of human sperm and ovum
6. Detection of pregnancy by using kit.
7. Study of contraceptive devices by photographs or models.

Unit II: Applied Zoology:

1. Study of arthropod vectors associated with human diseases: Pediculus, Culex, Anopheles, Aedes and Xenopsylla
2. Study of insect pests through damaged products/photographs.

   i) Crop pests

   a. Gram pod borer (*Helicoverpa armigera*)

   b. Sugarcane leaf hopper (*Pyrilla perpusilla*)

   c. Lemon Butterfly (*Papilio demoleus*)

   ii) Stored grains pests

   a. Pulse Beetle (*Callosobruchus chinensis*)

   b. Rice Weevil (*Sitophilus oryzae*)

   c. Red Flour beetle (*Tribalism castaneum*)

4. Identifying feature and economic importance of *Helicoverpa armigera* (Cotton bollworm), *Papilio demoleus* (Lime butterfly), *Pyrilla perpusilla* (Sugarcane plant hopper), *Callosobruchus chinensis* (Pulse beetle), *Sitophiluso ryzae* (Rice weevil) and *Tribolium castaneum* (Red flour beetle).

Unit III:

3. **Poultry:** To study the breeds of poultry birds with the help of photographs (2 Indigenous and 2 Exotic poultry birds)
4. **Sericulture:** To study the Life cycle of mulberry silk moth (*Bombyx mori*),
   Types of silk moths – Muga, Tasar and Eri by photographs or specimen

5. Field trip to sericulture center or poultry farm or animal breeding centre or any suitable place to study animal diversity or any place related to theory syllabus. Submission of field trip report (Printed/Hand writings).

Suggested Readings for Paper V and VI:

1. Berg, J. M., Tymoczko, J. L. and Stryer, L. (2006). Biochemistry. VI Edition. W.H Freeman and Co.
2. Guyton, A.C. and Hall, J. E. (2011). Textbook of Medical Physiology, XII Edition, Harcourt Asia Pvt. Ltd/ W.B. Saunders Company
3. Hall B. K. and Hallgrimsson, B. (2008). Strickberger's Evolution. IV Edition. Jones and Bartlett Publishers Inc.
4. Murray, R. K., Granner, D. K., Mayes, P. A. and Rodwell, V. W. (2009). Harper's Illustrated Biochemistry. XXVIII Edition. Lange Medical Books/Mc Graw 3Hill.
5. Nelson, D. L., Cox, M. M. and Lehninger, A. L. (2009). Principles of Biochemistry. IV Edition. W.H. Freeman and Co.
6. Pough H. (2008). Vertebrate life, 8th Edition, Pearson International.
7. Young, J. Z. (2004). The Life of Vertebrates. III Edition. Oxford university press.
8. The Protochordates – by S. H. Bhamrah and Kavita Juneja – Anmol Publications, New Delhi
9. Introduction to Protochordata – S. H. Bhamrah and Kavita Juneja – Anmol Publications, New Delhi 8) Chordate Zoology – S. Chand Company, New Delhi
10. Text Book of Zoology – Vertebrates, Vol. II – T. J. Parker and W. A. Haswell Edited by Marshall and Williams, CBS Publications and Distributors, New Delhi.
11. E. L. Jordan – Chordate Zoology, S. Chand and Company, New Delhi.
12. A Text Book of Chordates – A. Thangamani, L. M. Narayan, S. Prasannakumar, N. Arumugam
13. R. L. Kotpal – Modern Text Book of Zoology, Vertebrates

Suggested Readings for Paper VII and VIII:

1. Arora, D. R and Arora, B. (2001). Medical Parasitology. II Ed. CBS Pub., and Distributors.
2. Atwal, A. S. (1986). Agricultural Pests of India and South East Asia, Kalyani
3. Austin, C. R. and Short, R. V. (1982). Reproduction in Mammals. Cambridge University Press, London. Vol. 1.
4. Chapman, R. F. (1998). The Insects: Structure and Function. IV Edition, Cambridge University Press, UK.
5. Dennis, H. (2009). Agricultural Entomology. Timber Press (OR).
6. Degroot, L. J. and Jameson, J. L. (2010). (6^{th} eds). Endocrinology. W. B. Saunders and Company.
7. Dunham R. A. (2004). Aquaculture and Fisheries Biotechnology Genetic Approaches. CABI publications, U.K.
8. Hafez, E. S. E. (1962). Reproduction in Farm Animals. Lea & Fabiger Publisher.
9. Hatcher, R.A. et al. (2001). The Essentials of Contraceptive Technology. Population Information Programme.
10. Knobil, et al. (2014). (4th eds). The Physiology of Reproduction. Raven Press Ltd.
11. Park, K. (2007). Preventive and Social Medicine. XVI Edition. B.B Publishers.
    Pedigo L. P. (2002). Entomology and Pest Management
12. Ganga, G and Chetty, S.J. (1997): An Introduction to Sericulture, 2nd Edition, Oxford and IBH Publishing Co. Ltd. New Delhi.
13. Mohan Rao M.M. (1988): A text Book of Sericulture BSP Publications, Sultan Bazar, Hyderabad.
14. Hisao, Aruga: Principles of Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.Sc Part- III

Zoology

Syllabus to be implemented from

June, 2020 onwards.

SHIVAJI UNIVERSITY, KOLHAPUR

Revised Syllabus for Bachelor of Science

B. Sc. III – Zoology –To be implemented from June 2020

GENERAL OBJECTIVES OF THE COURSE

1) Aims:

1. To impart the knowledge of animal science to the pupils.
2. To make the pupils to use the knowledge in their daily life.
3. To make the pupils aware of natural resources and environment.
4. Application of knowledge in Zoology for nutrition, agriculture & live stock.
5. To provide practical experiences which form a part of their learning processes.
6. To develop aptitude for scientific work & ability to pursue studies far beyond graduation.
7. To encourage the pupils to take life science as a carrier which is the need now a days.
8. To make the pupils fit for the society.

2) Objectives –

1. To impart knowledge is the basic aim of education. The students are expected to acquire the knowledge of animal science, natural phenomenon, manipulation of nature & environment by man.
2. Understanding the scientific terms, concepts, facts, phenomenon & their interrelationships.
3. Applications of the knowledge.
4. To develop skills in practical work, experiments & laboratory materials, instruments.
5. To develop interests in the subject & scientific hobbies.
6. To develop scientific attitude which is the major objective? This makes the students open minded, critical observations, curiosity, thinking etc.
7. Abilities to apply scientific methods, collection of scientific data, problem solving, organize science exhibitions, clubs etc.
8. Appreciation of the subject, contributions of scientists, scientific methods, scientific programs etc.

3) DURATION

- The course shall be full time course.
- The duration of course shall be three years.

4) PATTERN: Pattern of Examination will be semester for theory and annual for practical with INTERNAL ASSESSMENT (Project/Seminar/Field work for theory) Scheme

5) MEDIUM OF INSTRUCTION: The medium of instruction shall be in English.

6) STRUCTURE OF COURSE: B.Sc. III – Zoology THEORY – No. of papers: Eight, No of practicals: Four SEMESTER V-Paper IX to XII & SEMESTER VI- Paper XIII to XVI

SEMESTER-V Theory

Sr. No.	Subject	Marks	University	Internal
1	Zoology Paper- IX	50	40	10
2	Zoology Paper- X	50	40	10
3	Zoology Paper- XI	50	40	10
4	Zoology Paper- XII	50	40	10
				Total=200

SEMESTER-VI Theory

Sr. No.	Subject	Marks	University	Internal
1	Zoology Paper- XIII	50	40	10
2	Zoology Paper- XIV	50	40	10
3	Zoology Paper- XV	50	40	10
4	Zoology Paper- XVI	50	40	10
				Total = 200

PRACTICALS- Annual

09	Practical—V	50
10	Practical – VI	50
11	Practical – VII	50
12	Practical – VIII	50
	Total	200

Total = 600

7. SCHEME OF TEACHING AND EXAMINATION (Teaching scheme - Hrs/Week)

No	Sem. - V	Sem. - VI	L	P	Total
1	Paper No IX Paper No. XIII	Paper No IX Paper No. XIII	3		
2	Paper No IX Paper No. XIII	Paper No IX Paper No. XIII	3		
3	Paper No IX Paper No. XIII	Paper No IX Paper No. XIII	3		
4	Paper No IX Paper No. XIII	Paper No IX Paper No. XIII	3		
			12		**12**
1	Practical V			5	
2	Practical VI			5	
3	Practical VII			5	
4	Practical VIII			5	
				20	**20**
	Total				**32**

8) SCHEME OF EXAMINATION

Question paper will be set in the view of the / in accordance with the entire syllabus and preferably covering each unit of syllabi.

9) EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS (FOR REVISED SYLLABUS)

Refer copy of revised syllabus

10) OTHER FEATURES

1. Required Books, Journals stated in each syllabus of Part I, Part II and Part III Zoology and Fisheries.

A) LIBRARY : Reference and Text Books, Journals, and Periodicals, Reference Books for Advanced Studies.

B) SPECIFIC EQUIPMENTS: Necessary to run the Course (T.V., L.C.D., andOverhead Projector), (Computer and necessary software's, operating systems etc.)

C) LABORATORY SAFETY EQUIPMENTS

- Fire Extinguishers at least two sets in each laboratory. (Lab. area 600 sq.ft.)

- Leakage of gases be avoided.
- Primary medical aid box (First Aid Kit)
- Sugar / Glucose – 500 gm pack: Pinch of sugar and a cup of drinking water in hypoglycemic condition. OR In extreme weakness of student or person concerned.
- Rules of animal ethics should be strictly followed.

D) LABORATORY INSTRUCTIONS

1) Always wear an apron inside the laboratory. Do not wear it outside.
2) Do not drink or eat inside the laboratory.
3) Do not place pencil, fingers or any material in the mouth. Moisten labels with water.
4) Use microscopes and other instruments carefully.
5) Discard all used glassware such as test tube, pipettes, petry-plates, glass slides in a receptacle meant for it.
6) Put cotton plugs, papers, matches, waste dissection material etc. in a waste-paper basket. Do not throw them in sink not leave them on desk or floor.
7) Regard all cultures as pathogenic. Take every precaution against infection.
8) Report all accidents to the instructor immediately.
9) Wash hands thoroughly with soap and water before and after dissection and experiment.
10) Always turn off water, gas and electricity before leaving the laboratory.
11) When students enter in laboratory they should have – A Laboratory Journal, pencil and eraser, foot rule, dissection box with dissecting instruments, a small napkin.
12) All drawings must be made with drawing pencil only.
13) As the journal is to represent student's bonafide work during the whole year, student should keep it as clean as possible and DO NOT LOOSE IT
14) Students should not forget that unless their journals are certified, they are not allowed to appear for the university examination

11) COMMON NATURE OF QUESTION FOR THEORY

PAPER: SEMISTER – V Zoology Paper (IX, X, XI, XII)

SEMISTER – VI Zoology Paper (XIII, XIV, XV, XVI)

Q. 1	Multiple Choice Questions (Eight questions)	08
Q. 2	Long answer questions (Attempt any two out of three)	16
	A.	
	B.	
	C.	
Q. 3	Shorn Notes (Attempt any four out of Six)	16
	a.	
	b.	
	c.	
	d.	
	e.	
	f.	

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SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- IX

DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1: Integumentary System	4
1. Generalized structure of integument	
2. Functions of Integument	
3. Soft and Hard epidermal derivatives	
4.Hard epidermal derivatives	
Unit 2: Skeletal System	4
1. Vertebral column	
2. Appendicular skeleton	
Unit3: Digestive System	4
Brief account of alimentary canal and digestive glands	
Unit 4: Respiratory System	4
Brief account of Gills, lungs, air sacs	
Unit 5: Circulatory System	4
Evolution of heart and aortic arches	
Unit 6: Evolution of Kidney	3
Succession of kidney	
Unit 7: Nervous System	3
Comparative account of brain	
Unit 8: Sense Organs	4
Comparative account of ear and eye of vertebrates	

SUGGESTED READINGS:

1. Kardong, K.V. (2005) Vertebrates' Comparative Anatomy, Function and Evolution. IV Edition. McGraw-Hill Higher Education. Kent, G.C. and Carr R.K. (2000). Comparative Anatomy of the Vertebrates. IX Edition
2. The McGraw-Hill Companies. Hilderbrand, M and Gaslow G.E. Analysis of Vertebrate Structure, John Wiley and SonsWalter, H.E. and Sayles, L.P; Biology of Vertebrates, Khosla Publishing House.

3. Outlines of comparative anatomy, Romer & Parsons, Central Book Depot, The Vertebrate Body (Saunders).
4. Biology of Vertebrates Walter & Sayles; (McMillan).

5. Chordate Zoology, P.S. Dhami & J. K. Dhami - R. Chand & Co., New Delhi.
6. Modern Textbook of Zoology, R. L. Kotpal, Rastogi Publications, Meerut.
7. The Life of Vertebrates, 3rd Edition, 1993, J. Z. Young E. L. B.S. Oxford.
8. Chordate Zoology - E.L. Jordan, S. Chand & Co., New Delhi.
9. The Phylum Chordata - 1987, H.H. Newman, Distributor Satish Book Enterprise, Agra. 8. Comparative Anatomy of the Vertebrates G. C. Kent.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- X

DSE-F29 (Molecular Cell Biology and Animal Biotechnology)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1: Molecular Biology – 7

1) DNA Replication (Semiconservative mode)
2) DNA Damage and Repair mechanism
3) Regulation of gene expression- Operon concept
4) Genetic Code:
    i) Properties of Genetic code
    ii) Codon assignment
    iii) Wobble hypothesis

Unit 2: Protein synthesis 8

A) Transcription
i) Process in prokaryotes and eukaryotes
ii) RNA polymerase
iii) Post transcriptional modification in RNA
B) Translation in prokaryotes and eukaryotes
i) Initiation
ii) Elongation
iii) Termination

Unit 3 : Molecular Techniques in Gene manipulation 15

1. Restriction enzymes: Nomenclature, detailed study of Type II.
2. Characteristics of Cloning vectors: Plasmids, Cosmids, Phagemids, Lambda Bacteriophages
3. Gene cloning: Transformation techniques by Calcium chloride method and electroporation
4. Construction of genomic and cDNA libraries
5. Southern, Northern and Western blotting
6. DNA sequencing: Sanger method
7. Polymerase Chain Reaction,
8. DNA Finger Printing
9. DNA micro array

SUGGESTED READINGS:

1. Brown, T.A. (1998). Molecular Biology Labfax II: Gene Cloning and DNA Analysis. II Edition, Academic Press, California, USA. Glick, B.R. and Pasternak, J.J. (2009).
2. Molecular Biotechnology - Principles and Applications of Recombinant DNA. IV Edition, ASM press, Washington, USA. Griffiths, A.J.F., J.H. Miller, Suzuki, D.T., Lewontin, R.C. and Gelbart, W.M. (2009).
3. An Introduction to Genetic Analysis. IX Edition. Freeman and Co., N.Y., USA. Snustad, D.P. and Simmons, M.J. (2009).
4. Principles of Genetics. V Edition, John Wiley and Sons Inc. Watson, J.D., Myers, R.M., Caudy, A. and Witkowski, J.K. (2007).
5. Recombinant DNAGenes and Genomes- A Short Course. III Edition, Freeman and Co., N.Y., USA. Beauchamp, T.I. and Childress, J.F. (2008).
6. Principles of Biomedical Ethics. VI Edition, Oxford University Press.
7. Cell and Molecular Biology, 8th Edition, De. Robertis EDP and De Robertis Jr. EMF, Lippincott Williams and Wilkins,Philadelphia.
8. Cell Biology, C.B. Powar, Himalaya Publication House.
9. Cell and Molecular Biology, EJ. Dupraw, Academic Press, NewYork.
10. Cell Structure and Function - A. G. Loewy, P. Siekevitz, J. R. Meninger & J. A. N. Gallant, Saunder College, Philadelphia.
11. Molecular Biology of the Cell - 3rd Edition, Bruce Alberts, Dennis Bray, Julian Lewis, Martin Raff, K. Roberts & James D. Watson, Garian Publishing, New York.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XI

DSE-F30 (Biotechniques and Biostatistics)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit I: Genetically Modified Organisms 9

1. Production of cloned and transgenic animals:
    a. Nuclear Transplantation
    b. Retroviral Method
    c. DNA microinjection
2. Applications of transgenic animals:
    a. Productions of pharmaceuticals
    b. Production of donor organs
3. Knockout mice.

Unit II: Culture Techniques and Applications 6

a. Animal cell culture: Introduction, principle and applications
b. Stem Cells: Introduction to stem cells
    i) Potency of stem cells: Totipotency, Pleurepotency, Multipotency, Unipotency
    ii) Sources of stem cells-Embryo, Fetal, Adult, Bone marrow

Unit III: Biostatistics 15

a. Classification of Biological data
b. Frequency distribution
c. Tabulation
d. Graphical representation of data
e. Measures of central tendency (Mean, Median, Mode)
f. Dispersion – Mean, deviation & standard deviation
g. Correlation – Scattered diagram, Karl Pearson's correlation coefficient and Spearman's rank correlation coefficient.

SUGGESTED READINGS:

1. Brown, T.A. (1998). Molecular Biology Labfax II: Gene Cloning and DNA Analysis. I Edition, Academic Press, California, USA. Glick, B.R. and Pasternak, J.J. (2009). Molecular Biotechnology - Principles and

2. Applications of Recombinant DNA. IV Edition, ASM press, Washington, USA. Griffiths, A.J.F., J.H. Miller, Suzuki, D.T., Lewontin, R.C. and Gelbart, W.M. (2009)
3. An Introduction to Genetic Analysis. IX Edition. Freeman and Co., N.Y., USA. Snustad, D.P. and Simmons, M.J. (2009).
4. Principles of Genetics. V Edition, John Wileyand Sons Inc. Watson, J.D., Myers, R.M., Caudy, A. and Witkowski, J.K. (2007).
5. Recombinant DNAGenes and Genomes- A Short Course. III Edition, Freeman and Co., N.Y., USA.Beauchamp, T.I. and Childress, J.F. (2008).
6. Principles of Biomedical Ethics. VI Edition Oxford University Press.
7. Elements of Biotechnology - P. K. Gupta, Rastogi Publications.
8. Gene V & VI, 1994, Lewin B., Oxford University Press, Oxford.
9. Concept of Genes-Pearson Edition 9.Cell and Molecular Biology

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XII

DSE-F31 (AQUATIC BIOLOGY)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1: Aquatic Biomes **10**

a. Freshwater ecosystem (lakes, wetlands, streams and rivers),
b. Estuaries
c. Intertidal zones
d. Oceanic pelagic zone
e. Marine benthic zone
f. Coral reefs

Unit 2: Freshwater Biology **10**

1. Lakes
    a. Lake as an Ecosystem
    b. Lake Morphometry
    c. Physico-chemical characteristics
        i. Light
        ii. Temperature
        iii. Thermal Stratification
        iv. Dissolved solids
        v. Carbonates
        vi. Bicarbonates
        vii. Phosphates and Nitrates
        viii. Turbidity
        ix. Dissolved gases (Oxygen Carbon dioxide)
        x. Nutrient Cycle – (Nitrogen, Sulphur and Phosphorus)
2. Streams
    a. Different stages of stream development
    b. Physico-chemical Environment
    c. Adaptation of hill stream fishes

Unit 3: Endocrinology 10

a. Study of endocrine glands – Anatomy and histology

b. Hormones- Nature, role, regulation and disorders with reference to the following

thyroid gland, parathyroid gland, adrenal gland and islets of Langerhans

SUGGESTED READINGS:

1. Anathakrishnan : Bioresources Ecology 3rd Edition
2. Goldman : Limnology, 2nd Edition
3. dum and Barrett : Fundamentals of Ecology, 5th Edition
4. Pawlowski : Physicochemical Methods for Water and Wastewater Treatment, 1st
5. Edition Wetzel : Limnology, 3rd edition
6. Trivedi and Goyal : Chemical and biological methods for water pollution studies
7. Welch : Limnology Vols. I-II
8. Animal Physiology – Nelson (Cambridge)
9. Endocrinology – Hadely
10. General Endocrinology – Bangara and Turner (W.B. Saunders)
11. Reproductive Physiology – Nalbandov A. V.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XIII

DSE-E30 (DEVELOPMENTAL BIOLOGY OF VERTEBRATES)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1 : Gametogenesis 6

1. Types of Eggs
2. Fertilization – Types and Process of Fertilization
3. Types of Cleavages

Unit 2: Early Development of Frog 6

1. Structure of mature egg and its membranes
2. Cleavage
3. Blastula and its fate map
4. Process of gastrulation
5. Types of Morphogenic Movements
6. Fate of three germinal layers
7. Neurulation
8. Metamorphosis in frog and its hormonal regulation

Unit 3: Chick Embryology 15

1. Structure of sperm
2. Structure of egg and vitellogenesis
3. Fertilization and cleavage
4. Blastula and its fate map
5. Process of gastrulation
6. Organogenesis
    a. Development of neural tube and brain up to 72 hours of incubation
    b. Development of gut up to 72 hours of incubation
    c. Development of blood and heart up to 72 hours of incubation
    d. Foetal membranes and significance

Unit 4: Late Embryonic Development 3

1. Implantation of embryo in human being
2. Placenta – Formation, types and significance

SUGGESTED READINGS:

1. An Introduction to Embryology 1981, Balinsky B.L., Saunders College,Philadelphia.
2. Developmental Biology; Patterns/Principles/Problems, 1982, Saunders J. W. Collier MacMillan, Publishers, London.
3. Developmental Biology, 1997, 3rd Edition, Gilbert S.F. Saunder Associates Inc. U.S.A.
4. Developmental Biology, 1992 3rd edition, Browder L.W. Erickson C.A. & Williams, R J. Saunders College, Publications, London.
5. A Text Book of Embryology, Dr. Puranik P. G., S. Chand & Co. 6. Developmental Biology, 1984, Browder L.W. , Saunders College Publicaions, U.S.A.
6. Development of Chick embryo, 1972, Lillie. 8. Developmental Biology, 1991, 3rd Edition, Sinaur Associates, Inc. U.S.A.Gilbert, S. F. (2006).
7. Developmental Biology, VIII Edition, Sinauer Associates, Inc., Publishers, Sunderland, Massachusetts, USA. Balinsky, B.I. (2008).
8. An introduction to Embryology, International Thomson ComputerPress. Carlson, Bruce M (1996). Patten's Foundations of Embryology, McGraw Hill, Inc.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XIV

DSE-E32 (IMMUNOLOGY)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1: Overview of the Immune System 7

1. Introduction to basic concept in immunology
2. Principles of innate and adaptive immune system

Unit 2: Cells and Organs of the immune system 8

1. Haematopoeisis
2. Cells of immune system
3. Organs (Primary and Secondary lymphoid organs) of the immune system
4. Immune responses- Humoral and cell mediated

Unit 3 : Antigens 7

1. Basic properties of antigens
2. B and T cell epitopes

Unit 5: Immunoglobulin / Antibodies 8

1. Structure, Classes and Functions of Antibodies
2. Antigen – Antibody interactions
3. Hybridoma Technology: Monoclonal Antibodies in diagnosis and therapeutics

SUGGESTED READINGS:

1. Kindt, T. J., Goldsby, R.A., Osborne, B. A. and Kuby, J (2006). Immunology, VI Edition. W.H. Freeman and Company. David, M., Jonathan, B., David, R. B. and Ivan R. (2006).
2. Immunology, VII Edition, Mosby, Elsevier Publication. Abbas, K. Abul and Lechtman H. Andrew (2003.) Cellular and Molecular
3. Immunology. V Edition. Saunders Publication.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XV

DSE-E31 (Applied Zoology - II)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit 1: Apiculture 8

1. Types and casts of honey bee
2. Honey Comb
3. Bee Keeping
    a. Artificial models of bee hive – Newton and Langstroth models
    b. Bee keeping Equipments
    c. Extraction of Honey
4. Medicinal Value of Honey

Unit 2 : Animal Husbandary 5

1. Indigenous and exotic breeds of cattle
2. Preservation and artificial insemination in cattle
3. Induction of early puberty
4. Synchronization of estrus in cattle
5. Commercial importance of dairy farming

Unit 3: Pearl culture 4

1. Species of oyster
2. Process of Pearl formation: natural and artificial
3. Maintenance of oysters
4. Harvesting
5. Importance of Pearl

Unit 4: Freshwater prawn culture **3**

1. Species of Prawn
2. Site selection
3. Farm Construction
4. Production system: fertilization, Larval Development, Food and feeding
5. Harvesting

Unit 5: Fish Technology **5**

Genetic improvements in aquaculture industry:

1. Induced breeding
2. Transportation of fish seed
3. Feeding and development
4. Harvesting and Marketing

Unit 4 : Goat Farming- **5**

1. Breeds
2. Feeding
3. Housing
4. Economic Importance

SUGGESTED READINGS:

1. Mollusca - Hyman.
2. Prawn and Prawn Fishery of India - Kurian.
3. Fish Culture - K. H. Alikuhni.
4. Fish Culture - Lagter.
5. Fishes of India. - Khanna.
6. Hand Book of Animal Husbandary and Dairy - Mudlyer.
7. Bee keeping in India - Sardar Sing.
8. Bee Keeping in India- M. G. Smith.
9. Poultry keeping in India - Naidu P.N.M.
10. Poultry Husbandary - M. A. Jule. 18. Poultry Husbandary - Moarthy.
11. Outlines of Dairy Technology - Sukumar De.
12. Milk and milk products - Clarence Henry Eckles,Willes Barnes Combs, Harold Macy

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Paper- XVI

DSE-F32 (Insect Vectors and Histology)

Theory: 30 hrs. (37.5 lectures of 48 minutes) (Credits 2)

Unit I: Dipteran as Disease Vectors 18

1. Dipteran as important insect vectors
    a. Mosquitoes
    b. Sand fly
    c. Houseflies
2. Study of mosquito born diseases –
    a. Malaria
    b. Dengue
    c. Chikungunya
    d. Viral encephalitis
    e. Filariasis
3. Control measures of Mosquitoes
4. Study of house fly as important mechanical vector
    a. Myiasis, Control of house fly

Unit II: Siphonoptera as Disease Vectors 6

1. Fleas a important insect vectors
2. Host-specificity
3. Study of Flea-borne diseases
    a. Plague
    b. Typhus fever
4. Control of fleas

Unit III: Histology of mammalian organs 6

Tooth, tongue, Salivary glands, Stomach, Duodenum, Ileum, Liver, Pancreas, Kidney

SUGGESTED READINGS:

1. Imms, A.D. (1977). A General Text Book of Entomology. Chapman & Hall, U K Chapman, R.F. (1998).
2. The Insects: Structure and Function. IV Edition, Cambridge University Press, U K Pedigo L.P. (2002).
3. Entomology and Pest Management. Prentice Hall PublicationMathews, G. (2011).
4. Integrated Vector Management: Controlling Vectors of Malaria
5. Insect Vector Borne Diseases. Wiley-Blackwell
6. Textbook of Histology: Bloom W and Fawcett D.W.
7. Histology: Lippinocott. Ham, A.W.
8. Histology: Greep, R.O and well, L.
9. An Atlas of Histology. Heinemann Educational Book Ltd. London and ELBS: Freeman. W.H. and Bracegirdle, B.
10. Microscopic Anatomy of vertebrates, Lea and Febigen. Philaldelphia: Kendall, J.I.
11. Histology of Mammals: Athavale, M.V and Latey, A. N.

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – I (Credits-02)

Comparative anatomy and developmental biology of vertebrates

I. Comparative Study of following

1. V.S. of skin of vertebrates
2. Digestive system of vertebrates
3. Respiratory system of vertebrates
4. Heart of vertebrates
5. Brain of vertebrates
6. Osteology
    a) The skeleton of fowl (Disarticulated)
    b) The skeleton of rabbit (Disarticulated)
    c) Mammalian skull's – (any one herbivorous and one carnivorous animal)

II. Study of developmental stages of frog.

1. Cleavage
2. Blastulation
3. Gastrulation
4. Neurulation
5. Stages of metamorphosis in frog
    a. External gill stage
    b. Internal gill stage
    c. Forelimb stage
    d. Hind limb stage
    e. Tail bud stage
    f. Juvenile stage

III. Study of Chick Embryo

12. Whole mount of chick embryo – 18, 24, 33, 48 and 72 hours.
13. T.S. of chick embryo – 18, 24, 33, 48 and 72 hours.

VI. Preparation of whole mount chick embryo.

IV. Study of Histological structures of placenta (permanent slide or microphotographs)

1) Epitheliochorial
2) Endotheliochorial
3) Hemochorial
4) Syndesmochorial
5) Hemoendothelial

V. Examination of Gametes – Frog or Rat sperm & ovum through slides or microphotographs.

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Practical – II (Credits-02)

Applied Zoology – II and Immunology

Unit 1: Applied Zoology

1. Apiculture
    a. Casts of Honey Bees
    b. Bee Hive(Photographs or models)
    c. Pollen Basket
    d. Sting Apparatus
    e. Honey
    f. Newton's model of Bee Hive (Photographs or models)
    g. Bee keeping Equipments (Photographs or models)

2. Preservation & Artificial insemination in cattles
8. Pearl culture
    a. Species of oyster
    b. Process of Pearl formation: natural and artificial
    c. Importance of Pearl
9. Freshwater prawn culture
    a. Species of Prawn
    b. Site selection
    c. Farm Construction
    d. Production system
    e. Harvesting
10. Goat farming
    a. Breeds (any four = 2 Indigenous and 2 Exotic)
    b. Housing
    c. Feeding

6. Visit to goat farm or animal breeding centre – submission of visit report

B] Immunology

1. Study of lymphoid organ's (Photograph, Models, Videos)
2. Histological study of (slides or photographs)
    a. Spleen
    b. Thymus
    c. Lymph nodes
3. Preparation of stained blood smears to study various types of blood cells
4. Determination of ABO blood groups
5. Demonstration of
    a. ELISA
    b. Immuno-electrophoresis

C] Cell counting and viability test from splenocytes of farm breed animals / cell lines

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – III (Credits-02)

Molecular biology, Animal biotechnology, Biostatistics & Biotechniques

I] Microtechnique

1. Preparation of permanent histological slides by HE technique
2. Histochemical technique
    a. AB PH 1 technique
    b. AB PH 2.5 technique
    c. PAS technique

II] Biotechniques

1. Chromatography – Separation of amino acid by paper chromatography
2. DNA isolation
3. Demonstration of DNA by feulgan technique
4. To study the following technique (photographs)
    a) Southern blotting
    b) Northern blotting
    c) Western blotting
    d) DNA sequencing (Sangers method)
    e) PCR
    f) DNA fingerprinting

III) Biostatistics

Any 10 example based on theory

IV] Project (any suitable work possible in local area or from the syllabus) Report of the same to be submitted at the time of practical examination

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – IV (Credits-02)

Aquatic biology, insect vector & diseases

A] Aquatic biology

1. Determination of area of a lake using graphimetric & gravimetric method
2. Identify the zooplanktons present in lake ecosystem
3. Determination of turbidity or transparency from nearby lake or water body
4. Determination of dissolved oxygen
5. Determination of free CO_2
6. Determination of alkalinity (Carbonates & bicarbonates) from water collected from nearby lake or water body
7. Estimation of total hardness of water
8. Instruments used in limnology & their significance
   a) Secchi disc
   b) Van Dorn bottle
   c) Conductivity meter
   d) Turbidity meter
   e) PONAR grab sampler
9. Visit to seashore/water reservoir/animal sanctuary to study animal diversity. Report of tour should be submitted at the time of practical examination
10. Endocrine glands (Anatomy and Histology) – Thyroid, Parathyroid, Adrenal and Pancreas.

B] Insect Vectors & diseases

10. Study of different kinds of mouthparts of insects
    a) Chewing & biting
    b) Chewing & lapping
    c) Piercing & sucking
    d) Sponging
    e) Siphoning
11. Study of following insect vectors through permanent slides or photograph
    a) Insect vector – Mosquito, sandfly & housefly
    b) Study of mosquito born diseases – Malaria, dengue, chikungunya, encephalitis, filariasis
    c) Study of sandfly born diseases – Visceral leishmanians, Cutaneous leishmanians, Phlebotomus fever
    d) Study of housefly born diseases – Myiasis
    e) Study of flea born diseases – Plague, typhus
12. Histology of Following mammalian organs-
    a) Tooth (V.S.) b) Tongue c) Salivary gland d) Stomach e)Duodenum f) Ileum g) Liver h) Pancreas i) Kidneys

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A++' Grade

NATIONAL EDUCATION POLICY (NEP-2020)

Syllabus For

B. Sc. Part-I
Physics

Syllabus to be implemented from AUGEST, 2022 onwards

Department of
Physics, Shivaji
University, Kolhapur
B. Sc. –Part-I (Physics) Course Structure

NOTE:
The following in a nutshell gives the scope and extent of each course offered. Each core theory course has two levels of teaching: Lectures and practical's.

B.Sc. (Physics) NEP-2020				
Part-I (Semester-I)				
	Sr. No	**Course code**	**Course Title**	**Credits**
CGPA	**1**	DSC A1	Mechanics - I	2
	2	DSC A2	Mechanics - II	2
	3	DSC B1	Electricity and Magnetism-I	2
	4	DSC B2	Electricity and Magnetism-II	2
	5	DSC A DSC B	i. Lab - Mechanics ii. Lab - **E**lectricity & Magnetism	2 2
Non-CGPA	**6**	AECC-1 AECC-2	English for communication English for communication	
Non-CGPA	**7**	SEC	Skill Enhancement Course	

Science Structure

Sem	**DSC**	**DSE/OEC/GEC/ IDS**	**AECClangages and Env Sci**	**SEC (Multidisciplinary)**	**Total Credits**
I	4x(4+2)= 24		1x 4= 4 ENG	SEC -I(1) VBC(1)	30
II	4x(4+2)= 24		1x 4= 4 ENG	SEC-II(2)	30
III	3x (4+4) = 24	--	-	SEC-III(2)	26
IV	3x (4+4) = 24	--	1x 4= 4 (EVS)	SEC- IV(2)	30
V		DSE 4x (2x2) = 16	1x 4= 4 ENG	SEC-V(2)	22
VI		DSE 4x (2x2) = 16	1x 4= 4 ENG	SEC -VI(2)	22
			Total		160

Shivaji University, Kolhapur
B. Sc. Part – I Semester-I(NEP-2020)
PHYSICS PART-I
DSC A1 MECHANICS-I
Theory: 30 Hours Marks-50 (Credits: 02)

Unit-I

1. **Vector Algebra and Elementary Calculus** : (9 Hours)

   Revision– (Vector Algebra: Components of Vectors and Unit Vector, Addition and Subtraction of Vectors), Scalar product, Vector product and their properties, Scalar triple product and its physical significance, Properties of scalar triple product, Vector triple product, properties of vector triple product. Derivatives of a vector with respect to a parameter (velocity and acceleration).

2. **Ordinary Differential Equations:** (6 Hours)

   Differential equation, degree, order, linearity and homogeneity of differential equation, Types of Differential Equations: Ordinary and Partial differential equations, First order homogeneous differential equations, Second order homogeneous differential equations with constant coefficients, Examples.

Unit -II

1. **Conservation Theorems :** (9 Hours)

   Single particle: Conservation theorem for linear momentum of a particle, Conservation theorem for angular momentum of a particle, work-energy theorem, Conservation theorem for energy of a particle.

   System of particles: Center of mass, Conservation theorem for linear momentum, Conservation theorem for angular momentum, Conservation theorem for energy.

2. **Rotational Motion:** (6 Hours)

   Angular velocity, Angular momentum, Torque, Kinetic energy of rotation, Moment of Inertia, Moment of inertia of a spherical shell about its diameter, Moment of inertia of solid cylinder about its axis of symmetry.

Reference Books:

1. Mathematical Physics -B. S. Rajput, 25th edition 2013, PragatiPrakashan, Meerut.
2. Mechanics – D. S. Mathur, 2009, S. Chand & Company Ltd., New Delhi.
3. Mathematical Physics – B. D. Gupta, 3rd edition, 2009, Vikas Publishing House Pvt. Ltd., New Delhi.
4. Mathematical Physics – P. P. Gupta, R. P. S. Yadav, G. S. Malik, 4th edition 1983-84, KedarNath Ram Nath, Meerut, Delhi.
5. University Physics. FW Sears, MW Zemansky and HD Young, 13/e, 1986, Addison - Wesley.
6. Mechanics Berkeley Physics course, V.1: Charles Kittel, et. Al. 2007, Tata McGraw Hill.
7. Physics – Resnick, Halliday& Walker 9/e, 2010, Wiley Eastern Ltd, New Delhi.
8. Engineering Mechanics, Basudeb Bhattacharya, 2ndedn., 2015, Oxford University Press.

9. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
10. Physics – S.G. Starling and WoodalLongmams and Green Co. Ltd.
11. Elements of properties of matter – D.S. Mathur, 2016, ShyamLal Charitable Trust, New Delhi.
12. A text Book of properties of matter–N.S. Khare and S. Kumar, Atmaram and Sons New Delhi.
13. Concepts of Physics Vol. I - H.C. Verma, 2014, BharatiBhavan Publishers.

PHYSICS PART-II
DSC A2 MECHANICS-II

Theory: 30 Hours
Marks-50 (Credits: 02)

Unit-I

1. Gravitation (9 Hours)

Newton's Law of Gravitation, Motion of a particle in a central force field (motion in a plane, angular momentum is conserved), Kepler's Laws (statement only), Satellite in circular orbit and applications, Geosynchronous orbits, Weightlessness, Basic idea of global positioning system (GPS).

2. Oscillations (6 Hours)

Simple harmonic motion, Differential equation of SHM and its solutions, Kinetic and Potential Energy, Total energy and their time averages, Damped oscillations, Forced oscillations.

Unit-II

1. Elasticity (9 Hours)

(Revision Hooke's law, Stress-strain diagram, Definition of elastic constants (Y, η, K and σ)), Bending of beam, Bending moment, Cantilever (without considering weight of cantilever), Beam supported at both the ends (without considering weight of beam), Torsional oscillation and torsional couple per unit twist, Work done in twisting a wire, Torsional pendulum-Determination of rigidity modulus and moment of inertia, Determination of elastic constants (Y, η, and σ) by Searle's method.

2. Surface Tension (6 Hours)

Surface tension (definition), Molecular theory of surface tension, Angle of contact, Young equation and wettability, Relation between surface tension, excess of pressure and radius of curvature, Experimental determination of surface tension by Jaeger's method, Factors affecting surface tension, Applications of surface tension.

Reference Books:

1. University Physics. F W Sears, M W Zemansky and H D Young 13/e, 1986. Addison-Wesley
2. Mechanics Berkeley Physics course,v.1: Charles Kittel, et. Al. 2007, Tata McGraw - Hill.
3. Physics – Resnick, Halliday& Walker 9/e, 2010, Wiley eastern Ltd, New Delhi.
4. Engineering Mechanics, Basudeb Bhattacharya, 2nd edn., 2015, Oxford University Press
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
6. Physics – S.G. Starling and WoodalLongmams and Green Co. Ltd.
7. Elements of properties of matter – D.S. Mathur, Shamlal Charitable trust New Delhi.
8. A text Book of properties of matter–N.S. Khare and S. Kumar, Atmaram and sons, New Delhi.
9. Concepts of Physics –Vol.1 H.C. Verma -BharatiBhavan Publishers.

PHYSICS PART-III
DSC B1 ELECTRICITY AND MAGNETISM-I

Theory: 30 Hours
Marks-50 (Credits: 02)

Unit-I

Vector Calculus **(15 Hours)**

Introduction, Del operator, gradient of scalar field and its physical significance , divergence of vector field and its physical significance, curl of vector field, line integral, surface integral, volume integral (definitions only),Gauss divergence theorem(statements and proof), Statements of Stoke's theorem, Greens symmetrical theorem.

Unit-II

Electrostatics **(15 Hours)**

Electrostatic field, electric flux, Gauss's theorem of electrostatics, electric potential as line integral of electric field, potential due to a point charge, electric dipole, uniformly charged spherical shell and solid sphere, calculation of electric field from potential, capacitance of an isolated spherical conductor, parallel plate, spherical and cylindrical condenser, energy per unit volume in electrostatic field, dielectric medium, polarization vector, displacement vector, Gauss's theorem in dielectrics, Parallel plate capacitor completely filled with dielectric.

Reference Books:

1. Electricity and Magnetism, Edward M. Purcell, McGraw-Hill Education, Cambridge University Press, (1985).
2. Electricity and Magnetism, J.H. Fewkes& J. Yarwood., Oxford Univ. Press.Vol. - I, (1991).
3. Electricity and Magnetism, D C Tayal, Himalaya Publishing House, 2nd Edition (1988).
4. University Physics, Ronald Lane Reese, Thomson Brooks/Cole Publishing Company, (2003).
5. D.J. Griffiths, Introduction to Electrodynamics, Cambridge University Press, Pearson,(1999).
6. Electricity and Magnetism – N. S. Khare and S. S. Shrivastav,Atma Ram & Sons, Delhi. 9th edition (1976).
7. Foundations of Electromagnetic Theory, John R Reitz, Frederick J. Milford, Addison-Wesley Publishing Company 4th edition (2008)
8. University Physics– Hugh D. Young and Roger A. Freedman, Addison- Wesley Publishing Company, Inc., 9th edition,(1996)
9. Concepts of Physics, H. C. Verma, BhartiBhawan publisher, Vol-2, (2016)
10. Mathematical Physics, B. D. Gupta, Vikas Publication House Pvt Ltd, 4th edition, (2009).
11. Electricity and Magnetism by R. Murugeshan, S. Chand & Co., New Delhi, (2008).

PHYSICS PART-IV
DSC B2 ELECTRICITY AND MAGNETISM – II

Theory: 30 Hours
Marks-50 (Credits: 02)

UNIT I

1. **A.C. Circuits** **(07 Hours)**
   Complex numbers and their application in solving a. c. series LCR circuit using j operator and phasor diagram, Resonance in LCR series circuit, Sharpness of resonance (qualitative treatment only), Resonance in LCR Parallel circuit, complex Impedance, Reactance, Admittance, and Susceptance, Examples of series and parallel resonance, A.C.Bridge - Owen's Bridge Q-factor (definition only).
2. **Network theorems** **(04 Hours)**
   Review of network terminology(Circuit element, Active element, Passive element, Branch, Node or junction, Loop, Mesh, Voltage source, Current source, Ohms law, Resistances in series, Resistances in parallel), Thevenin theorem, Nortan theorem, Equivalnce between Thevenin theorem and Nortan theorem, solved problems.
3. **Ballistic Galvanometer:** **(04 Hours)**
   Construction and working of B. G., expression for charge flowing through ballistic galvanometer, Correction for damping in galvanometer, Constants of ballistic galvanometer.

UNIT II

1. **Magnetism** **(08 Hours)**
   Introduction to magnetization and intensity of Magnetization, Biot-Savart's law & its applications- straight conductor, circular coil, solenoid carrying current, Divergence and curl of magnetic field, Magnetic vector potential, Ampere's circuital law.
2. **Magnetic materials and their Properties** **(07 Hours)**
   Magnetic intensity, magnetic induction, permeability, magnetic susceptibility. Hysteresis and hysteresis curve, diamagnetic, paramagnetic, ferromagnetic, ferrimagnetic and anti-ferromagnetic materials.

Reference Books

1. Electricity and Magnetism, Edward M. Purcell, 1986, McGraw-Hill Education.
2. Electricity and Magnetism, J.H. Fewkes& J. Yarwood. Vol.I, 1991, Oxford UniversityPress.
3. Electricity and Magnetism, D C Tayal, 1988, Himalaya Publishing House.
4. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
5. Electricity and Magnetism ,Khare and Shrivastav.Atma Ram & Sons, Delhi, 1976
6. University Physics 9th Edition ,Young and Freedman.
7. Foundations of Electromagnetic Theory ,Rritz and Milford. Pearson Publication
8. Electricity and Magnestism, Gupta,Kumar and Singal
9. Basic Electronics and Liner Circuits, N.N.Bhargava, D.C.Kulshrestha and S.S.Gupta, Tata McGraw-Hill
10. Electronic Fundamentals and Applications, J.D.Ryder, Prentice-Hall of India Pvt.Ltd
11. Network theory and Filter Design, V.K.Aatre, New Age International Publisher
12. Principals of Electronics, V.K.Mehata, S. Chand Publication, New Delhi

B. Sc. Part – I
PHYSICS PRACTICAL

Marks 50 (Credits: 02)

DSC A- LAB: MECHANICS

1. Measurements of length (or diameter) using Vernier caliper, screw gauge and travelling microscope.
2. To determine the Moment of Inertia of a Flywheel.
3. To determine the Moment of inertia of a disc using auxiliary annular ring.
4. To determine modulus of rigidity of material of wire by torsional oscillations.
5. To determine Young's modulus of material of Bar by vibration.
6. To determine Y/η of Wire by Searle's method.
7. To determine 'g' by Bar Pendulum.
8. To determine Poisson ratio of rubber (rubber tube).
9. To study exponential decay of amplitude of simple pendulum.
10. To determine surface tension of water by Jaeger's method

DSC B- LAB ELECTRICITY AND MAGNETISM

1. To use digital multimeter for measurement of (a) Resistances, (b) AC and DC Voltages, (c)DC Current and (d) checking electrical fuses.
2. To level the prism table using spirit level and optical method and hence determine angle of prism using spectrometer.
3. To determine constants of B. G.(Figure of merit, Current sensitivity, Voltage sensitivity and charge sensitivity)
4. To compare capacitances using De'Sauty's bridge (B.G/Spot Galvanometer).
5. To determine low resistance by Carey Foster's Bridge.
6. To determine impedance of series LCR circuit.
7. To study the series LCR circuit and determine its resonant frequency and quality factor.
8. To study a parallel LCR circuit and determine its anti-resonant frequency and quality factor.
9. To determine frequency of A. C. mains by sonometer for magnetic or non-magnetic material of wire.
10. To verify Thevenin / Norton theorem.

Reference Books:

1. Advanced Practical Physics for students, B.L.Flint&H.T.Worsnop, 1971, Asia Publishing House.
2. A Text Book of Practical Physics, InduPrakash and Ramakrishna, 11th Edition, 2011, KitabMahal, New Delhi.
3. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
4. College Practical Physics – Khanna and Gulati (S. Chand and Co. Ltd, Delhi).
5. Practical Physics – Gupta and Kumar (PragatiPrakationMeerat)
6. Advanced Level Practical Physics – J.M. Nelcon, J.M. Ogloom (EIBS).
7. Engineering Practical Physics- S. Panigrahi& B.Mallick,2015, Cengage Learning India Pvt. Ltd.

TITLES FOR REVISED THEORY COURSES

Semester	Physics Part	Course Code	Course title old and New
I	I	DSC A1	MECHANICS-I
	II	DSC A2	MECHANICS-II
II	III	DSC B1	ELECTRICITY AND MAGNETISM – I
	IV	DSC B2	ELECTRICITY AND MAGNETISM – II

- **Scheme of Practical Examination for B. Sc. Part –I**

1. Practical examination will be conducted annually.
2. Practical examination will be conducted for one day per batch.
3. The examination will be conducted in two sessions per day and each session will be of three hours duration.
4. Every candidate should perform one experiment each from Lab A and Lab B .
5. At least eighty percent practical should be completed by the student.
6. The marks distribution for practical is as below.

Practical groups	**Marks**
Group I	20
Group II	20
I)Certified laboratory journal	10
Total Marks	**50**

Nature of Question Paper

Theory: Time -2 hours, Marks-50 Credits-2

Question 1: Select the correct alternative (Compulsory 10 questions) 10 marks
(Four alternatives for each question)

Question 2: (Attempt any Two out of three) 20 marks
(Long answer type)

Question 3: (Attempt any four out of six) 20 marks
(Short answer type)

Note: Equal weightage should be given to each unit.

Shivaji University, Kolhapur
B.Sc. Part-I Physics Syllabus (NEP-2020) with effect from August, 2022

COURSE OUTCOME

Semester-I		
Course Code	Part	Course Outcome
DSC A1	Mechanics-I	▪ Students are able to ***understand and identify*** scalar and vector physical quantities in mechanics ▪ Students are able to ***understand and apply*** vector algebraic methods to elementary exercises in mechanics ▪ Students are able to ***understand and identify*** degree and order of given differential equations ▪ Students are ***able to solve*** second order, homogenous ordinary differential equations in mechanics ▪ Students are able to ***understand the conceptual evolution***of conservation laws of momentum and energy for both single and system of particles ▪ Students are able to ***understand and apply***basicconcepts of rotational motion ▪ In general, students are capable of ***correlating*** above concepts and methods in mechanics to *both* ***theoretical and experimental domains revealing analytical as well as numerical skills***
DSC A2	Mechanics-II	▪ Students are able to ***understand and apply*** Newtons Law of Gravitation to celestial objects ▪ Students are able to ***understand geometry of planetary orbits under the action of central force*** ▪ Students are able to ***solve*** numerical problems based on Kepler`s Laws of planetary motion ▪ Students are able to ***understand*** **simple concepts like weightlessness, Geosynchronous satellite and GPS** ▪ Students are ***able to setup*** differential equation for simple harmonic motion and its allied cases ▪ Students are ***able to*** calculate time averages of KE, PE and TE ▪ Students ***are able to revise*** basic concepts such as stress, strain and elastic constants of elasticity ▪ Students are ***able to derive*** elastic constants for beam supported at both ends and at one end ▪ Students are ***able to derive*** elastic constant (eta) of a wire under torsional oscillations (Searle's Method) ▪ Students are ***able to explain*** the phenomenon of surface tension on the basis of molecular forces ▪ Students are ***able to derive*** the relation between surface tension and excess pressure ▪ Students are ***able to perform*** an experiment to

		determine ST by Jaeger`s method ▪ Students are ***able to discuss and state*** the factors affecting the ST ▪ In general, students are capable of ***correlating*** above concepts and methods to ***both theoretical and experimental domains revealing analytical as well as numerical skills***
Semester-II		
Course Code	Part	Course Outcome
DSC B1	Electricity and Magnetism-I	▪ Students are able to ***understand the physical significance of*** gradient, divergence and curl ▪ Students are able to ***apply*** concepts in vector calculus such as gradient, divergence and curl related to vector and scalar fields using Gauss, Stokes and green`s theorem ▪ Students are able to ***understand*** and ***apply*** concepts of electrostatic field, potential to point charges, electric dipole and geometrically regular charged bodies ▪ Students are able to ***understand*** and ***apply*** concept of capacitor to isolated conductor, parallel plates, cylindrical and spherical capacitors and allied modifications in it ▪ Students are able to ***understand and apply*** concept of energy density in electric field ▪ Students are capable of ***applying*** above concepts to ***solve numerical exercise*** in electrostatics
DSC B2	Electricity and Magnetism-II	▪ Students are able ***to understand*** importance of complex numbers in analysis of AC Circuits contacting Inductance(L) Capacitor(C) and Resistance (R) and their various configurations ▪ Students are able to ***define and apply*** the concepts in AC circuits such as Impedance (Z), reactance (X_C and X_L), Admittance, Susceptance and Quality Factor (Q) ▪ Students are able to ***understand and design*** AC bridge: Owen`s Bridge ▪ Students ***reveal*** mastery in basic terminology in network analysis for further studies ▪ Students are able to ***state and apply*** Network theorems to simple circuits ▪ Students are able to ***understand*** basic working principle of Ballistic galvanometer ▪ Students are able to ***define*** constants of ballistic galvanometer ▪ In general, students are capable of ***applying*** above concepts in network analysis to ***both theoretical and experimental domains*** ▪ Students are able to understand simple elementary

		concepts such as magnetization and intensity of magnetization ▪ Students are ***able*** to state Biot-Savart`s law and are ***capable*** to apply it to straight, circular wires and solenoid ▪ Students are able to ***understand*** concept of magnetic vector potential along with Ampere`s circuital law ▪ Students are able to understand the explain the phenomenon of hysteresis in magnetism ▪ Students are able to ***discriminate*** different magnetic materials based on their characteristic properties

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004,
MAHARASHTRA
www.unishivaji.ac.in, bos@unishivaji.ac.in
शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४,महाराष्ट्र
दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग दुरध्वनी ०२३१—२६०९०९३/९४

Estd. 1962
"A++" Accredited by NAAC(2021)
With CGPA 3.52

SU/BOS/Science/481 **Date: 01/07/2023**

To,

The Principal, All Concerned Affiliated Colleges/Institutions Shivaji University, Kolhapur	The Head/Co-ordinator/Director All Concerned Department (Science) Shivaji University, Kolhapur.

Subject: Regarding syllabi of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

B.Sc. Part-II (Sem III & IV) as per NEP-2020			
1.	Mathematics	8.	Chemistry
2.	Statistics	9.	Sugar Technology (Entire)
3.	Physics	10.	Microbiology
4.	Astrophysics	11.	Industrial Microbiology
5.	Zoology	12.	Electronics
6.	Botany	13.	Geology
7.	Plant Protection		

This syllabus, nature of question and equivalence shall be implemented from the academic year 2023-2024 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website **www.unishivaji.ac.in**)

The question papers on the pre-revised syllabi of above-mentioned course will be set for the examinations to be held in October /November 2023 & March/April 2024. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Dy Registrar
Dr. S. M. Kubal

Copy to:

1	The Dean, Faculty of Science & Technology	8	P.G. Admission/Seminar Section
2	Director, Board of Examinations and Evaluation	9	Computer Centre/ Eligibility Section
3	The Chairman, Respective Board of Studies	10	Affiliation Section (U.G.) (P.G.)
4	B.Sc. Exam/ Appointment Section	11	Centre for Distance Education

Estd. 1962
NAAC 'A' Grade

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शिवाजी विद्यापीठ, कोल्हापूर – 416004.
दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग– २६०९०९४)
फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३.e-mail:bos@unishivaji.ac.in

SU/BOS/Sci & Tech/509 **Date: 12/07/2023**

To,
The Principal,
All affiliated college,
Shivaji University, Kolhapur.

Subject: Regarding minor change in Syllabus of **B.Sc.Part-II Physics Programme as per NEP-2020** under Faculty of Science & Technology.

Ref: SU/BOS/Science/481dated 01/07/2023.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the University have accepted and granted approval to minor change in Syllabus of **B.Sc. Part-II Physics Programme as per NEP-2020** under Faculty of Science & Technology which is enclosed herewith.

This minor change in Syllabus of will be implemented from the academic year 2023-24 i.e.

You are therefore, requested to bring this to the notice, all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy. Registrar

Copy to :-

1	**The Dean, Faculty of Science & Technology**	8	**Appointment Section**
2	**The Chairman, Respective, BOS**	9	**Centre for Distance Education**
3	**Exam Section**	10	**Computer Centre**
4	**Eligibility Section**	11	**Affiliation Section (U.G.)**
5	**O.E. I Section**	12	**Affiliation Section (P.G.)**
6	**O.E. II Section**	13	**P.G.Admission Section**
7	**O.E. III Section**	14	**P.G.Seminar Section**

SHIVAJI UNIVERSITY, KOLHAPUR

Accredited by NAAC with 'A^{++}' Grade with CGPA 3.52

Revised Syllabus for Bachelor of Science Part II

PHYSICS

CBCS (NEP) Pattern

Syllabus to implement from June 2023.

SHIVAJI UNIVERSITY, KOLHAPUR
CBCS (NEP) Syllabus with effect from June, 2023
B.Sc. Part-II Semester-III PHYSICS Paper-V
DSC-C1 THERMAL PHYSICS AND STATISTICAL MECHANICS – I
Theory: 36 Hours
Marks-40 (Credits: 02)

Unit I: **(18 hrs)**

Laws of Thermodynamics

Thermodynamic system, thermodynamic variables, equation of state, thermodynamic equilibrium, Zeroth Law of thermodynamics, Internal energy, First law of thermodynamics, conversion of heat into work, specific heats C_P & C_V, Applications of First Law (Isothermal process, Adiabatic process, Isochoric, Isobaric), relation between C_P & C_V, work done during isothermal and adiabatic processes, reversible & irreversible processes, Second law of thermodynamics, Carnot's ideal heat engine, Carnot's cycle (Working, efficiency), Carnot's theorem, Entropy (concept & significance), Entropy changes in reversible & irreversible processes, Third law of thermodynamics, Unattainability of absolute zero.

Unit II: **(18 hrs)**

1. Transport Phenomena (09 hrs)

Molecular collisions, Mean free path and collision cross-section, Estimation of molecular diameter and mean free path, Clausius and Maxwell`s equation for mean free path (without derivation). Transport Phenomena: transport of momentum (viscosity), transport of thermal energy (conduction), Transport of mass (diffusion).

2. Thermometry (09 hrs)

Principle of thermometry, types of thermometers, Scales of temperature (Celsius, Kelvin, Fahrenheit and Rankine), Principle construction and working of a) mercury thermometer; b) platinum resistance thermometer and c) thermocouple thermometer. Thermistor.

Reference books

1) Heat and Thermodynamics, M.W. Zemansky and R. Dittman, (8^{th}Edn) McGraw Hill.
2) Text Book of Heat- J.B. Rajam, S.Chand and Company Ltd.
3) A Treatise on Heat- MeghnadSaha and B.N. Srivastava, Indian Press.
4) Heat and Thermodynamics- Brijlal and N. Subramanyam, S.Chand and Company Ltd.
5) Heat Thermodynamics and Statistical Physics- J.P. Agrawal, Satya Prakash, Pragati Publ.
6) Fundamentals of Heat - D.S.Mathur, S.Chand and sons.

SHIVAJI UNIVERSITY KOLHAPUR

CBCS (NEP) Syllabus with effect from June, 2023

B.Sc. Part-II Semester-III PHYSICS Paper-VI

DSC-C2 WAVES AND OPTICS – I

Theory: 36 Hours Marks-40 (Credits: 02)

Unit I: (18 hrs)

1.**Superposition of Harmonic Oscillations** (6 hr)

Linearity and superposition principle, Superposition of two collinear harmonic oscillations for oscillations having equal frequencies: Analytical method, oscillations having different frequencies (Beats), Superposition of two perpendicular harmonic oscillations: for oscillations having equal frequencies (Analytical method).Oscillations having different frequencies (Lissajous figures), Uses of Lissajous figures.

2. Coupled Oscillations (4 hr)

Frequencies of coupled oscillatory systems, normal modes and normal co-ordinates, energy of coupled oscillations, energy transfer in coupled oscillatory system.

3. Wave Motion and Ultrasonic Waves (8 hr)

Wave Motion: Transverse waves on a string, travelling and standing waves on a string, Normal modes of a string, Group velocity and Phase velocity, Plane waves, Spherical waves. Ultrasonic waves: Piezo-electric effect, Production of ultrasonic waves by Piezo-electric oscillator, Detection of ultrasonic waves, Properties of ultrasonic waves, Applications of ultrasonic waves.

Unit II: (18 hr)

1. Sound and Acoustics of Buildings (7 hr)

Sound: Transducers and their characteristics, Pressure microphone, Moving coil loudspeaker, Intensity and loudness of sound, Decibels, Intensity levels, Acoustics of buildings: Reverberation and time of reverberation, Absorption coefficient, Sabine’s formula for reverberation time, Acoustic aspects of halls and auditoria.

2. Viscosity (11hr)

Rate flow of liquid in a capillary tube - Poiseuille’s formula, experimental determination of coefficient of viscosity of a liquid by Poiseuille’s method, effect of temperature on viscosity of a liquid, Viscosity of liquid by rotating cylinder method, Searle's viscometer, viscosity of gases by Rankine's method (qualitative treatment only), Lubrication.

Reference books:

1. The Physics of Waves and Oscillations- N. K. Bajaj, Tata McGraw-Hill Reprint 2022.
2. Physics of Degree Students- C. L. Arora and Dr. P. S. Hemne, S Chand & company
3. A Text Book of Sound- Khanna and Bedi, Atma Ram & Sons, Delhi.
4. Waves and Oscillations-N Subrahmanyam, BrijLal. Vikas 2nd edition, Reprint 2022
5. Elements of Properties of Matter-D.S. Mathur, S. Chand.
6. Electronic Instrumentation – H.S. Kalasi McHraw , Hill

SHIVAJI UNIVERSITY KOLHAPUR

CBCS (NEP) Syllabus with effect from June, 2023

B.Sc. Part-II Semester-IV PHYSICS Paper-VII

DSC-D1 THERMAL PHYSICS AND STATISTICAL MECHANICS – II

Theory: 36 Hours

Marks-40 (Credits: 02)

Unit I **(18 hrs)**

1. Thermodynamic Potentials (10 hrs)

Enthalpy, Gibbs function, Helmholtz function, Internal Energy, Maxwell's thermodynamical relations, Joule-Thomson effect, Clausius- Clapeyron equation, Expression for ($C_P - C_V$), C_P/C_V, TdS equations.

2. Theory of Radiation (8 hrs)

Blackbody radiation and its importance, Experimental study of black body radiation spectrum, Concept of energy density, Derivation of Planck's law, Deduction of Wien's displacement law, Rayleigh-Jeans Law, Stefan Boltzmann Law and Wien's displacement law from Planck's law.

Unit II **(18 hrs)**

1. Classical Statistics (12 hrs)

Phase space, Microstate and Macrostate, Accessible microstates, apriori probability, thermodynamic probability, probability distribution, Maxwell-Boltzmann (MB) distribution law, evaluation of constants α and β, Entropy and Thermodynamic probability, Distribution of molecular speeds.

2. Quantum Statistics (6 hrs)

Bose-Einstein (BE) distribution law, Fermi-Dirac (FD) distribution law, comparison of M.B., B.E., and F.D. statistics.

Reference books

1) Heat and Thermodynamics-M.W.Zemasky and R. Dittman, McGraw Hill.
2) Physics for Degree Students B.Sc. second year- Arora, Hemne, S. Chand.
3) Concepts of Modern Physics- Arthur Beiser, McGraw-Hill.
4) Thermal Physics, S. Garg, R. Bansal and C. Ghosh, 1993, Tata McGraw-Hill.
5) Thermodynamics, Kinetic theory & Statistical Thermodynamics, F.W.Sears G.L.Salinger. 1988, Narosa.
6) University Physics- Ronald Lane Reese, Thomson Brooks/Cole.
7) Heat Thermodynamics and Statistical Physics, N. Subramanyam, Brij Lal, P. Hemne, 2008, S. Chand.

SHIVAJI UNIVERSITY KOLHAPUR

CBCS (NEP) Syllabus with effect from June, 2023

B.Sc. Part-II Semester-IV PHYSICS Paper-VIII

DSC-D2 WAVES AND OPTICS -II

Theory: 36 Hours Marks-40 (Credits: 02)

Unit - I **(18 hrs)**

1. Cardinal Points (7 hrs)

Cardinal points of an optical system (definitions only), graphical construction of image using cardinal points, Newton's formula, relation between f and f' for any optical system, relation between lateral, axial and angular magnifications.

2. Resolving Power of Optical Instruments (5 hrs)

Resolution, resolving power (RP) of optical instruments, Rayleigh's criterion for the limit of resolution, Modified Rayleigh's criterion, comparison between magnification and resolution, RP of plane diffraction grating, RP of a prism.

3. Polarization of Light (6 hrs)

Idea of polarization, polarization by double refraction, Huygens explanation of double refraction through uniaxial crystal, Nicol prism (construction, working), production of circularly and elliptically polarized light, optical rotation - laws of rotation of plane of polarization, polarimeter.

Unit-II **(18 hrs)**

1. Interference (10 hrs)

Principle of Superposition, Coherence and condition for interference, Division of amplitude and division of wave front, Lloyds single mirror (determination of wavelength of light of monochromatic source), Interference in thin parallel films (reflected light only), Wedge shaped films, Newton’s rings and its application for determination of wavelength and refractive index of light.

2. Diffraction (8 hrs)

Fraunhoffer diffraction- Elementary theory of plane diffraction grating, Determination of wavelength of light using diffraction grating, Theory of Fresnel’s half period zones, Zone plate (construction, working and its properties), Fresnel’s diffraction at straight edge.

Reference books

1) Optics – Ajoy Ghatak, 2021, McGraw Hill.
2) A Textbook of Optics-N. Subrahnmanyam,Brij Lal, M.N. Avadhanulu, S.Chand.
3) A Textbook of Light- D.N. Vasudeva, Atma ram and Sons.
4) Waves and Optics – M. N. Avadanulu , TVS Arun Murthy, S. Chand.
5) Fundamentals of Optics – Devraj Singh PHI Learning.

B.Sc. Part II, PHYSICS LAB Experiments (DSC C1, C2, D1, D2 Paper V,VI,VII,VIII)

Total Marks: 100 Credits: 04

- **Group I (Thermal Physics and General Physics)**

1. To determine the value of Stefan's constant.
2. To determine the coefficient of thermal conductivity of copper by Searle's apparatus.
3. To determine the coefficient of thermal conductivity of a bad conductor by Lee and Charlton's disc method.
4. To determine the temperature co-efficient of resistance by platinum resistance thermometer.
5. To study the variation of thermo e. m. f. across two junctions of a thermocouple with temperature. / To determine the surface tension of water by ripple method.
6. To record and analyze the cooling temperature of hot object as a function of time using a thermocouple.
7. To calibrate Resistance Temperature Device (RTD) using Null Method / Off-Balance Bridge.
8. To determine the surface tension of mercury by Quincke's method.

- **Group II (Thermal Physics and Electricity)**

1. To determine the temperature coefficient of resistance using post office box.
2. To verify the Stefan's fourth power law.
3. To determine the specific heat of graphite.
4. To determine the ratio of specific heat of air by Kundt's tube.
5. To determine Joules constant (J) by electrical method.
6. To determine the thermal coefficient of linear expansion of a metal rod.
7. To determine Mechanical equivalent of heat J by Callender and Barne's constant flow method.
8. To determine the constants of Ballistic Galvanometer (B. G.)

- **Group III (Waves and Optics-I)**

1. To investigate the motion of coupled oscillators.
2. To determine the frequency of an electrically maintained tuning fork by Melde's experiment and to verify λ^2–T Law.
3. To study Lissajous figures using CRO.
4. To determine coefficient of viscosity of water by capillary flow method (Poiseuille's method)
5. To determine velocity of sound in air by Kundt's tube and audio oscillator or Phase shift method (CRO and microphone).
6. To determine the viscosity of liquid by Searle's viscometer.
7. To determine the velocity of sound in air by resonating bottle.
8. To determine the frequency of a crystal oscillator.

- **Group IV (Waves and Optics II)**

1. To determine the resolving power of a prism.
2. To determine the resolving power of a plane diffraction grating.
3. To determine wavelength of sodium light: using straight edge / Biprism.
4. To determine wavelength of sodium light using Newton's Rings.
5. To determine thickness of thin film using interference in wedge shaped thin film.
6. Goniometer I-To study cardinal points of optical system
7. Goniometer II-To study the equivalent focal length of optical system.
8. To study angle of specific rotation of sugar using Polarimeter.

Reference Books:

1. B.Sc. Practical Physics – Harnam Singh , P.S. Hemane, S. Chand.
2. Advanced Practical Physics for students, B.L. Flint & H.T. Worsnop, 1971, Asia Publishing House.
3. Advanced level Physics Practical, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers.
4. A Text Book of Practical Physics, Indu Prakash and Ramakrishna, 11th Edition, 2011, Kitab Mahal, New Delhi.
5. B.Sc. Practical Physics, C. L. Arora, S. Chand & Company Pvt. Ltd., New Delhi.

Scheme of Theory Examination for B. Sc. part –II

1. Two theory papers for each semester.
2. Each paper is of two hour duration and of 40 marks and internal evaluation of 10 Marks.
3. The theory examination will be conducted with university 80% + Internal 20% Pattern

Scheme of Practical Examination for B. Sc. Part II

1. The marks distribution for practical marks is as below.

Group	***Allotted Marks***
Group I	20
Group II	20
Group III	20
Group IV	20
Journal Certified Journal -10 Marks Neatness -5 Marks Punctuality-5 Marks	20
Total Marks	**100**
Credits	04

2. Practical examination will be conducted annually.
3. Practical examination will be conducted for two days per batch of 16 students.
4. The examination will be conducted in two sessions per day and each session will be of three hours duration.
5. Every candidate should perform one experiment each from Groups I to IV (total 4 experiments).
6. At least eighty percent practical should be completed by the student.

Nature of Question Paper

Time: 2 Hours **Total Marks: 40**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat labelled diagrams wherever necessary.
4. Use of scientific calculator /log table is allowed.

Q.1 Select the correct alternative for the following.

(Eight questions with four alternatives carrying 1 mark each) **(08)**

Q.2 Attempt ANY TWO of the following. **(16)**

(A)

(B)

(C)

Q.3 Attempt ANY FOUR of the following. **(16)**

(A)

(B)

(C)

(D)

(E)

(F)

Note : Equal Weightage should be given to all the units.

Course outcome:

Paper	Course Outcome
Paper V Thermal Physics and Statistical Mechanics-I	1: Highlight different types of velocities of gas molecules. 2: Acquire Knowledge of Maxwell's distribution of gas molecules. 3: Visualize Merits and drawbacks of thermometers. 4: Apply knowledge of thermodynamic processes in design of heat engine.
Paper VI Waves and Optics –I	1: Apply superposition principle to develop mathematical model of harmonic oscillators. 2: To develop the mathematical model for coupled oscillations. 3: Understand the ultrasonic waves and their applications. 4: Use of Basic principles of sound in context of acoustics of buildings.
Paper VII Thermal Physics and Statistical Mechanics-II	1: Develop Conceptual clarity of thermodynamic functions and Clausius-Clapeyron equation. 2: Appreciate the problem associated with the black body radiation spectrum. 3: Know, how the problems can be solved by using Planck's law of radiation. 4: Acquire preliminary knowledge of classical and quantum statistical mechanics.
Paper VIII Waves and Optics-II	1: Draw ray diagrams to demonstrate Cardinal points. 2: Determine the resolving power of prism and grating by making use of Rayleigh criterion. 3: Qualitatively study phenomenon of polarization of light. 4: Apply phenomenon of interference of light for determination of its wavelength.
Practical	1: Acquire skills in setting up of optics experiments. 2: Develop the practical skills and techniques for accurate measurements. 3: Acquire observational skills 4: Determine Least counts of different measuring instruments

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B.Sc Part- III

Physics

Syllabus to be implemented from

June, 2020 onwards.

SHIVAJI UNIVERSITY, KOLHAPUR

B.Sc. Part-III Physics CBCS Syllabus with effect from June 2020

B.Sc. Part-III Semester-V

PHYSICS Paper-IX

DSE-E1 Mathematical Physics

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

UNIT-I

1. **Partial Differential Equation (8 hours)**

   Introduction to differentialequations, Method of separation of variables for solving second order partial differential equations, Form of two dimensional Laplace differential equation in Cartesian coordinates and its solution, Three dimensional partial differential equation in Cartesian coordinates and its solution, The differential equation of progressive wave and its solution.

2. **Frobenious Method and Special Functions (10hours)**

   Singular points of second order differential equations, Application of singularity to Legendre and Bessel differential equation, Series solution method of solving second order linear differential equation(Frobenious method) and its application to Legendre differential equation.

UNIT-II

1. **Some Special Integrals (6 hours)**

   Gamma function, Properties of Gamma function, Beta function, Properties of Beta function,Relation between Beta and Gamma functions, Error function (Probability Integral).

2. **Complex Analysis (12 hours)**

   Revision of complex numbers and their graphical representation: Geometrical representation, Equal complex numbers, Addition, Subtraction, Multiplication and Division of complex number by geometry. Types of complex numbers, square roots of complex numbers, Logarithmic function of complex variables, Euler's formula, De'Moivre's theorem, Cauchy-Riemann conditions.

Reference Books

1. Advanced calculus, Robert C. Wrede, Murray Spiegel.
2. Differential Equations with Modeling Applications, Dennis G.Zill.
3. Partial Differential Equations,Gupta Malik and Mittal.
4. Differential Equations,Gupta Malik and Mittal.
5. Differential Equations,RamachandraRao,H. R. Anuradha.
6. Partial Differential Equations, N. P. Bali.
7. Differential Equations, N. Ch. S. N. Iyenger.
8. Mathematical Physics, B. S. Rajput.
9. Mathematical Methods for Physicists, Arfken, Weber, 2005, Elsevier.
10. Mathematical Methods for Scientists and Engineers, McQuarrie, 2003, Viva Books.
11. Mathematical Physics, H. K. Das, Rama Varma.
12. Essential Mathematical methods, K. F. Riley, M. P. Habson, 2011,Cambridge.
13. Mathematics for Physicists, Susan M.Lea, 2004, Thomson Books/Cole.

B.Sc. Part-III Semester-V

PHYSICS Paper-X

DSE-E2 Quantum Mechanics

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

Unit-I

1. Matter Waves (08 hours)

Wave particle duality, De-Broglie hypothesis of matter waves, Derivation of wavelength of matter wave, Concept of wave packet, Relation between group velocity - phase velocity and group velocity-particle velocity, Davisson and Germer experiment, Uncertainty principle (statements only): position–momentum and energy- time, Application of uncertainty principle- non existence of free electrons in the nucleus.

2. Schrodinger's Wave Equation (10 hours)

Wave function and its physical interpretation, Condition of physically acceptable wave function, Normalized and orthogonal wave function, Schrödinger time dependent and time independent (steady state) wave equations in 1D and 3D, Probability current density(continuity equation), Eigen values and Eigen functions, Expectation values of dynamic variables.

Unit-II

1. Operators in Quantum Mechanics (08 hours)

Definition of an operator, Position operator (x), Linear momentum operator (p), Commutation relation in quantum mechanics, Commutation relation between x and p, Kinetic energy operator (T), Hamiltonian operator (H), Parity operator (π), Angular momentum operator (L) – components of angular momentum operator in Cartesian coordinate system, Ladder operators, Eigen values of L_z and L^2 (use equations for L^2 and Lz in spherical polar coordinates).

2. Applications of Schrodinger Equation (10 hours)

Particle in a rigid box (infinite potential well) in one dimension and three dimension, Step potential- reflection and transmission coefficients, Potential barrier- tunneling effect (qualitative treatment), One dimensional simple harmonic oscillator (operator method)- energy levels, zero point energy, Schrodinger equation for Hydrogen atom in spherical polar coordinates, Separation of radial and angular parts, Solution of radial part of Schrodinger's equation - Energy Eigen values.

Reference Books

1. Modern Physics, R. Murugeshan, 1997, S. Chand and Company Ltd.
2. Atomic Physics, J B Rajam, S Chand and Co.
3. Perspectives of Modern Physics, Arthur Beiser, McGraw Hill International Editions.
4. Concepts of Modern Physics, Arthur Beiser, Ahobhit Mahajan, S. Rai Choudhury, Sixth Edition, Tata McGraw Hill Education Private Ltd.
5. Modern Physics, S. L. Kakani and Shubhra Kulkarni, 2006, Viva books Private Ltd.
6. Modern Physics, D. L. Sehgal, K. L. Chopra and N. K. Sehgal, Reprint 1995, Sultan Chand & sons.
7. Introduction to Modern Physics, F. K. Richtmyer, E. H. Kennard, John N. Cooper, Sixth Edition, Tata McGraw Hill Education Private Ltd
8. A Text book of Quantum Mechanics, P.M. Mathews & K. Venkatesan, 2nd Edn.,2010, Tata McGraw Hill,
9. Quantum Mechanics, Leonard I. Schiff, 3rdEdn. 2010, Tata McGraw Hill.
10. Quantum Mechanics Theory and Applications, A. K. Ghatak and S. Lokanathan, Third Edn.1995, Macmillan India Ltd.
11. Quantum Mechanics Theory and applications, AjoyGhatak, S. Lokanathan, 5th Ed,2017, Trinity.
12. Quantum Mechanics, Chatwal and Anand, Reprint 2010, Himalaya Publishing house.
13. Quantum Mechanics, Gupta, Kumar, Sharma, Thirtieth Edn., 2011, Jai Prakash Nath Publications.
14. Advanced Quantum Mechanics, SatyaPrakash, Reprint 2011, KedarNath Ram Nath Meerut.
15. Advanced Quantum Mechanics, B. S. Rajput, Ninth Edn., 2009, Pragati Prakashan.
16. Quantum Mechanics, B. N. Srivastava, Reprint 2011, Pragati Prakashan.
17. Quantum Mechanics, P. J. E. Peebles, 2003, Prentice Hall of India.
18. Quantum Mechanics, S. P. Singh,M. K. Bagade, Kamal Singh, S. Chand & company Ltd, New Delhi

B.Sc. Part-III Semester-V

PHYSICS Paper-XI

DSE-E3 Classical Mechanics and Classical Electrodynamics

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

UNIT-I

1.Lagrangian Formulation (10 hour)

Constraints, Degrees of freedom, Generalized coordinates, Principle of virtual work, D'Alembert's principle, Lagrange's equation from D'Alembert's principle, Applications of Lagrange's equation to a particle in space, Atwood's machine and a bead sliding on uniformly rotating wire under force free condition.

2.Techniques of Calculus of Variation (8 hour)

Hamilton's principle, Deduction of Hamilton's principle from D'Alembert's principle, Deduction of Lagrange's equation from Hamilton's principle, Applications-shortest distance between two points in a plane,Brachistochrone problem.

UNIT- II

1.Special Theory of Relativity (12 hours)

Inertial and non-inertial reference frames, Galilean transformation equations, Michelson-Morley experiment, postulates of special theory of relativity, Lorentz transformation equations, Relativistic addition of velocities, Length contraction, Time dilation, Variation of mass with velocity, Mass-energy relation.

2. Charged Particles Dynamics (6 hours)

Poisson's and Laplace's equations and their physical significance, Laplace's equation in one dimension and its solutions, Motion of charged particle - in uniform electric field E, magnetic field B, Crossed uniform electric field E and magnetic field B.

Reference Books

1. Classical Mechanics, Goldstein Herbert, NarosaPubli./ Pearson Edu. 2018
2. Classical Mechanics, Gupta, Kumar and Sharma, Pragati Praka.2012
3. Introduction to Classical Mechanics, Nikhil Ranjan Roy, S Chand Publ. 2016
4. Introduction to Classical Mechanics,Takwale R.G., Puranik P. S.,Tata McGraw 1979
5. Classical Mechanics,Panat P.V., NarosaPubli. 2016
6. Atomic physics, J B Rajam S Chand
7. Concepts of Modern Physics, ArthurBeiser, McGraw Hill
8. Introduction to Special Relativity, Robert Resnick, Wiley India
9. Classical Electrodynamics, PuriS.P., Tata McGraw/Alpha Science 2011
10. Classical Electrodynamics, Jackson J. D., Wiley India , 2007
11. Electromagnetics, Laud B.B., New Age Interna. 2011

B.Sc. Part III-Semester-V

PHYSICS Paper-XII

DSE-E4 Digital and Analog Circuits and Instrumentation

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

Unit-I

1.Digital Electronics (08 hours)

Review of basic logic gates, Derived logic gates (NOR, NAND, XOR and XNOR gates), NAND and NOR gates as universal gates, De Morgan's theorems, R-S flip flop, J-K flip-flop, Half adder, Full adder, 4 bit parallel binary adder.

2.TransistorsAmplifier and Sinusoidal Oscillators (10 hours)

Transistor Amplifier: Single stage transistor CE amplifier, D.C. and A.C. equivalent circuits, load line analysis-d.c. load line, a.c. load line and Q point.

Oscillator: Feedback in amplifiers and its types,theory of feedback oscillator, Barkhausen's criterion for sustained oscillations,Oscillatory circuit (tank circuit),essentials of transistor oscillator, sinusoidal oscillators-phase shift oscillator, Colpitts oscillator, Hartley oscillator, Crystal oscillator using transistors.

Unit-II

1. Cathode Ray Oscilloscope (8 hours)

Introduction to CRO, Block diagram of CRO, Principle, Construction and working of CRT, Applications of CRO: measurement of A.C. and D. C. voltages, periodic time, frequency and phase difference, Lissajous figures.

2. Operational Amplifier and Timer (10 hours)

Operational Amplifier: Differential amplifier and its type, Op-Amp, Block diagram of an Op- Amp. Op-Ampparameters, Characteristics of an ideal and practical Op-Amp (IC 741), Applications of Op-Amps: Inverting amplifier and Non-inverting amplifier, Adder, Subtractor, Differentiator, Integrator.

Timer IC: Block diagram of IC555, IC 555 Pin configuration, Applications of IC 555 as astable and monostablemultivibrator.

ReferenceBooks

1. Integrated Electronics, J. Millman and C.C. Halkias, 1991, Tata Mc-Graw Hill.
2. Electronic devices and circuits, S. Salivahanan and N. Suresh Kumar, 2012, Tata Mc-Graw Hill.
3. Microelectronic Circuits, M.H. Rashid, 2nd Edn.,2011, Cengage Learning.
4. Modern Electronic Instrumentation & Measurement Tech., Helfrick&Cooper,1990, PHI Learning
5. Digital Principles & Applications, A.P. Malvino, D.P. Leach &Saha, 7th Ed.,2011, Tata McGraw Hill
6. Microelectronic circuits, A.S. Sedra, K.C. Smith, A.N. Chandorkar, 2014, 6th Edn., Oxford University Press.
7. Fundamentals of Digital Circuits, A. Anand Kumar, 2nd Edition, 2009, PHI Learning Pvt. Ltd.
8. OP-AMP and Linear Digital Circuits, R.A. Gayakwad, 2000, PHI Learning Pvt. Ltd.
9. Basic Electronics: A text lab manual, P.B. Zbar, A.P. Malvino, M.A. Miller, 1994, Mc-Graw Hill.
10. Electronics: Fundamentals and Applications, J.D. Ryder, 2004, Prentice Hall.
11. Electronic Principle, Albert Malvino, 2008, Tata Mc-Graw Hill.
12. A text book of Electronics, SantanuChattopadhay, New Central Book Agency, Kolkata
13. Basic Electronics, 2nd Edition , B. Basavaraj, H. N. Shivashankar, Vikas Publishing house pvt. Ltd. New Delhi.
14. Electronic principles, V. K. Mehta
15. Basic Electronics, Bhargava and Gupta

B.Sc. Part-III Semester-VI

PHYSICS Paper-XIII

DSE-F1 Nuclear and Particle Physics

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

Unit-I

1. General Properties of Nuclei and Nuclear Model (10 hours)

Constituents of nucleus and their intrinsic properties, Quantitative facts about size, mass, chargedensity (matter energy), binding energy, average binding energy and its variation with mass number,Liquid drop model approach, Semi empirical mass formula, Magic numbers.

2. Particle Accelerators (8 hours)

Need of accelerators,Cyclotron- construction, working, theory and its limitations,Principle of phase stable orbit, Synchrocyclotron - construction and working, Synchrotrons- electron synchrotron and proton synchrotron, Betatron - principle, construction and workingcondition, expression of energy gain.

Unit-II

1. Nuclear Detectors (10 hours)

Ionization chamber, Geiger Muller counter- construction, working and theory, dead time and recoverytime, quenching mechanism, Construction of photo-multiplier tube (PMT), Scintillation detector-principle, construction and working, Wilson cloud chamber, Semiconductor detector, Cerenkovradiations, Cerenkov detector.

2. Particle Physics (8 hours)

Particle interactions, Classification of elementary particles, Symmetries and conservation laws-energy,momentum, angular momentum and parity, Baryon number, Lepton number, Concept of quark model.

ReferenceBooks

1. Introductory nuclear Physics, Kenneth S. Krane (Wiley India Pvt. Ltd., 2008).
2. Concepts of nuclear physics, Bernard L. Cohen. (Tata Mcgraw Hill, 1998).
3. Introduction to the physics of nuclei & particles, R.A. Dunlap. (Thomson Asia, 2004)
4. Introduction to Elementary Particles, D. Griffith, John Wiley & Sons
5. Quarks and Leptons, F. Halzen and A.D. Martin, Wiley India, New Delhi
6. Basic ideas and concepts in Nuclear Physics - An Introductory Approach by K. Heyde (IOP-Institute of Physics Publishing, 2004).
7. Radiation detection and measurement, G.F. Knoll (John Wiley & Sons, 2000).
8. Theoretical Nuclear Physics, J.M. Blatt &V.F.Weisskopf (Dover Pub.Inc., 1991)
9. Nuclear Physics by John Lilley,The Manchester Physics Series – Willy
10. Nuclear Physics by S. B. Patel, New age international (p) lit. Publishers New Delhi.
11. Modern Physics by R. Murugeshan, S. Chand & company Ltd, Ram Nagar New Delhi
12. Nuclear Physics by D. C. Tayal, Himalaya Publishing house
13. Concept of modern physics by ArthirBeiser, Tata McGraw- Hill publishing company ltd. New Delhi
14. Atomic and nuclear structure by D. K. JHA, Discovery publishing house New Delhi
15. Nuclear energy by D. K. JHA Discovery publishing house New Delhi)
16. Nuclear physics by S. N. Ghoshal , S. Chand & company Ltd, Ram Nagar New Delhi

B.Sc. Part-III Semester-VI

PHYSICS Paper-XIV

DSE-F2 Solid State Physics

Theory: 36 Hours (45 lectures of 48 min)

Marks-50 (Credits: 02)

Unit-I

1. Crystal Structure (10 hours)

Solids: amorphous, polycrystalline and crystalline materials; lattice, basis, unit cell- primitive, non-primitive unit cell, symmetry operations, symmetry elements of cube, Bravais lattice in two and three dimensions, Miller indices, Miller indices andinter-planer spacing, Simple crystal structures: SC, BCC, FCC and HCP(Co-ordination number, atomic radius, atoms per unit cell and packing fraction)

2. X-Ray Diffraction (08 hours)

Reciprocal lattice and its properties, Brillouin zone, Diffraction of X-rays by crystals, Ewald construction, Bragg's law in reciprocal lattice, Experimental methods in X-ray diffraction (Laue method,rotating crystal method,powder photograph method),Analysis of cubic crystal by powder method.

Unit-II

1. Magnetic Properties of Matter (10 hours)

Classical Langevin theory of diamagnetic and paramagnetic materials, Quantum mechanical treatment of paramagnetism, Curie's law, Weiss theory of ferromagnetism and ferromagnetic domains, Explanation of B-H curve, Hysteresis and energy loss.

2. Elementary Band Theory of Solids (8 hours)

Concept of density of states, Bloch theorem (statement only), Kroning–Penny model, Origin of energy gap, Velocity of electrons according to band theory, Effective mass of an electron, Distinction between metals, semiconductors and insulators, Hall Effect - Hall voltage and Hall Coefficient.

Reference Books

1. Introduction to Solid State Physics, Charles Kittle, 8th Ed.,2004,Wiley India Pvt. Ltd.
2. Elements of Solid State Physics, J.P. Srivastava, 2nd Ed., 2006,Prenice-Hall of India
3. Introduction to Solid, Leonid V.Azaroff,2004,Tata Mc-Graw Hill
4. Solid State Physics, Neil W. Aschroft and N. David Mermin, 1976, Cengage Learning
5. Solid State Physics,Rita John,2014,Mc-Graw Hill
6. Solid State Physics, Adrianus J. Dekker, Macmillan Publishers India Ltd.
7. Solid State Physics, M.A.Wahab,3rd Ed.,2018,Narosa Publishing House Pvt. Ltd.
8. Solid State Physics, S.O.Pillai,5th Ed., New Age International(P) Ltd., Publishers.
9. Fundamentals of Solid State Physics, Saxena-Gupta-Saxena, (PragatiPrakashan Meerut)
10. Solid State Physics, R. L. Singhal
11. Solid State Physics, C.M. Kachhava (Tata McGraw Hill Publication)
12. Elements of X-ray diffraction, B.D.Cullity and S.Stock
13. Solid state electronic devices, B.G.Streetman& S.K.Banerjee,5thEd.[PHI Learning Delhi.

B.Sc. Part-III Semester-VI

PHYSICS Paper-XV

DSE-F3 Atomic and Molecular Physics and Astrophysics

Theory: 36 Hours (45 Lectures of 48 minutes)

Marks -50 (Credits: 02)

UNIT-I

1. Atomic Spectra (09 hours)

Observed hydrogen fine structure, Spectral notations and optical spectral series for doublet structure, Spectrum of sodium and its doublet fine structure, Selection and intensity rules for fine structure doublets, Normal order of fine structure doublets, Electron spin-orbit interaction,Normal and anomalous Zeeman effect and their explanation from vector atom model, Lande's g factor.

2. Molecular Spectra (09 hours)

Molecular bond, Electron sharing, H_2^+ molecular ion, The hydrogen molecule, Rotational energy levels, Rotational spectra, Vibrational energy levels, Vibrational spectra, Vibration – rotation spectra, Electronic spectra of diatomic molecules.

UNIT-II

1 Raman Spectra (4 hours)

Raman Effect,Characteristic properties of Raman lines, Classical and quantum theory of Raman Effect,Difference between Raman spectra and infrared spectra.

2. Structure of Universe: **(08 hours)**

Big-Bang theory, Steady state theory, Oscillating theory,Hubble law, Cosmological tests, Milky Way galaxy, Origin of solar system - Condensation theory; arguments for and against the theory.

3. Stellar Evolution (06 hours)

The H–R Diagram,Evolution of main sequence stars - Red giants and White dwarfs, Evolution of more massive stars- Supernova, Neutron star, Black hole,Surface of the Sun, Sunspots, Sunspot cycle.

Reference books

1. Atomic and Nuclear Physics – H. Semat and T. E. Albright.

2. Introduction to Atomic Spectra – H. E. White.

3. Concepts of Modern Physics – Arthur Beiser.

4. Perspectives of Modern Physics – Arthur Beiser.

5. Spectroscopy (Atomic and Molecular) – Gurdeep Chatwal, Sham Anand.

6. Astronomy – Fundamentals and Frontiers – Robert Jastrow and M. H.Thompson

7. Astronomy – Frank Bash.

8. Foundation of Astronomy, Michael A. Seeds,10^{th} edition, Thomson Learning, Inc., USA, 2008.

B.Sc. Part-III Semester-VI

PHYSICS Paper-XVI

DSE-F4 Energy Studies and Materials Science

Theory: 36 Hours (45 lectures)

Marks 50 (Credits: 02)

UNIT-I

1. Energy and Wind Energy (8 hrs)

Energy, Forms of energy, Man and environment, Energy chains, Classification of energy resources, Energy demands, Age of renewable and alternatives,Wind energy, Wind energy chains, Wind energy quantum, Planning of wind farm, Wind power density, Efficiency factor of wind turbine (P-H graph), Power of wind turbine for a given incoming wind velocity, Types of a wind turbine generator unit, Horizontal axis propeller type wind turbine generator unit.

2. Solar Energy (8 hrs)

Solar energy, Solar energy spectrum (UV,Visible and IR), Utilization of solar energy-thermal route, photovoltaic route, Essential subsystems in solar energy plant, Solar constant, Clarity index, Solar insolation, Solar energy from satellite station through microwave to earth station, Solar photovoltaic systems, Merits and limitations of solar PV systems, Prospects of solar PV systems, Power of a solar cell and solar PV panel.

3. Biomass Energy (2 hrs)

Origin of biomass, Biomass energy resources (biomass from cultivated crops, biomass from waste organic matter), Biomass conversion process (biochemical conversion-anaerobic digestion and fermentation)

UNIT-II

1. Superconductivity (6 hrs)

Idea of superconductivity, Critical temperature, Critical magnetic field, Meissner effect, Type-I and Type-II superconductors, London equation and penetration depth, Isotope effect, Application (magnetic levitation)

2. Nanotechnology (12 hrs)

Introduction tonanoscience and nanotechnology, Length scales relevant to nanoscience, Nanostructures: 1D, 2D and 3Dnanostructures, Size effects in nanosystems, Quantum

confinement, Synthesis of nanostructured materials(Top down and bottom up approach), Photolithography, Ball milling,Nucleation and growth, Applications of nanotechnology (Spintronics, Molecular electronics, Nanobiotechnology)

ReferenceBooks

1. Energy Technology – Non-conventional, Renewable and Conventional – S. Rao and Dr. Parulekar.
2. Non-conventional Energy sources - G. D. Rai (4th edition), Khanna Publishers, Delhi.
3. Solar Energy - S.P. Sukhatme (second edition), Tata Mc.Graw Hill Ltd, New Delhi.
4. Solar Energy Utilization - G. D. Rai (5th edition), Khanna Publishers, Delhi.
5. Non-conventional Energy Sources – G. D. Rai (Khanna Publishers).
6. Elements of Material Science and Engineering - I.H.Vanvlach (4th Edition)
7. Material Science and Engineering - V. Raghva
8. Material science and metallurgy for Engg.-Kodigire V. D. Everest publication house, Pune
9. Material Science and Engg. - 5th Edition- V. Raghavan PHI Learning Pvt. Ltd. Delhi
10. Nanotechnology: Principles and Practices,Sulbha K Kulkarni (2nd Edition), Capital Publishing Co. New Delhi.
11. Science at the Nanoscale: An Introductory Textbook, Chin Wee Shong, ChorngHaur Sow, Andrew T. S. Wee (Pan Stanford Publishing Pte. Ltd.)
12. Introduction to Nanoscience, S.M. Lindsay (Oxford University press)

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B.Sc.Part III Physics Laboratory Experiments

Total Marks: 200 Credits: 08

- **Group-I**

1. Resonance pendulum
2. S.T. of soap solution
3. Surface tension of mercury by Fergusson modified method
4. Y and η using Flat Spiral Spring
5. Y by Koenig's method
6. Y by Cornu's spiral
7. C program to arrange the given set of numbers in ascending/descending order
8. C program to findlargest/smallest number from a given set of numbers
9. Scilab Expt. 1 (problem from Quantum Mechanics)
10. Scilab Expt. 2 (problem from Quantum Mechanics)

- **Group-II**

1. Cardinal points by turn table method
2. Cardinal points by Newton's method
3. Refractive index of glass by Brewster's law
4. Diffraction at a Single Slit
5. Diffraction at cylindrical obstacle
6. Lloyd's single mirror
7. Double refracting prism
8. Diameter of Lycopodium powder
9. Spherical aberration
10. Absorption spectrum of a liquid ($KMnO_4$ solution)

- **Group-III**

1. Self Inductance by Owen's Bridge
2. Measurement of B_H , B_V and θ using Earth Inductor /Hysteresis by magnetometer method
3. Mutual inductance using Ballistic galvanometer.
4. Resistance of B.G. by half deflection method
5. e/m of Electron By Thomson's Method/Calibration of wire by Carey Foster bridge
6. Calibration of wire by Griffith's method

7. Absolute capacity of condenser
8. I-V characteristics of Solar Cell
9. Band gap energy of semiconductor using p-n junction diode
10. Determination of Plank's constant by using LED

- **Group–IV**

1. To verify the truth tables of NAND, NOR, Ex-OR and Ex-NOR gates by usingbasic gates with IC-74 series.
2. To verify the De-Morgan's theorems by using IC-74 series.
3. To design a single stage CE amplifier of given gain using voltage divider bias.
4. To built and test Colpitts oscillator using BJT.
5. To builtand test phase shift oscillator using BJT.
6. To determine A.C. and D.C. sensitivity of the C.R.O. andto measure unknown frequency.
7. To design and test an astablemultivibrator using IC-555 Timer.
8. To design and testmonostablemultivibratorusing IC-555 Timer.
9. To studyOp-amp as an inverting amplifier.
10. To study Op-amp as Schmitt trigger.

Skill Testing Experiments

- **Group-V-A**
    1. Study of divergence of LASER beam
    2. Measurement of wavelength of LASER using plane diffraction grating
    3. Schuster's method and optical leveling of spectrometer
    4. Obtaining Biprism fringes without lateral shift
    5. Measurement of distance between two coherent sources in Biprism experiment
    6. Polar graph using photocell/photovoltaic cell
    7. Study of quantum tunneling effect using tunnel diode
    8. Testing of electronic components
    9. C program – Edit,save and execute given C program
    10. C program – Edit,save and execute given C program

- **Group – V-B**
    1. Radius of Capillary bore using mercury thread
    2. Determination of lattices constant using given XRD powder pattern
    3. Estimation of errors
    4. Measurement of phase shift of RC network using CRO
    5. Study of Half and Full adder
    6. Simplification of digital circuit using Boolean laws (paper-work).
    7. Measurement of resistance of galvanometer (Kelvin's method)
    8. Electrical wiring of bulb, switch and plug.
    9. Tracing of given electronic circuit/ build the given circuit using breadboard
    10. Assembling of given electronic circuit(soldering method)

- **Group VI: Assessment of Annual Work of a Student**
    1. Certified Laboratory Journal.
    2. Study Tour Report.
    3. Seminar Report (2 Seminars) / Project work.

- **Reference Books for practical**

1. Advanced Practical Physics for students, B.L. Flint & H.T. Worsnop, 1971, Asia Publishing House.
2. Advanced level Physics Practical, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
3. A Text Book of Practical Physics, Indu Prakash and Ramakrishna, 11th Edition,2011, Kitab Mahal, New Delhi.
4. B.Sc. Practical Physics, C.L.Arora, S.Chand & Company Pvt.Ltd., New Delhi
5. B.Sc. Practical Physics, Harman Singh,Hemane, 2012 Edition.

- **Revised Scheme of Practical Examination for B. Sc. Part – III**

1. Practical examination will be conducted annually.
2. Practical examination will be conducted for three days per batch.
3. The examination will be conducted in two sessions per day and each session will be of three hours duration.

4. Every candidate should perform one experiment each from Groups I to IV and one experiment each from Group V-A and Group V-B (total 6 experiments).
5. Study tour anywhere in India is compulsory.
6. At least eighty percent practical should be completed by the student.
7. The marks distribution for practical is as below.

Practical groups	**Marks**
Group I	30
Group II	30
Group III	30
Group IV	30
Group VA-15, Group VB-15	30
Group VI I)Certified laboratory journal (certified Journal- 10 marks, neatness-5 marks, punctuality- 5 marks) II) Study Tour Report III) Seminar Report / Project Report	 20 10 20
Total Marks	**200**

Nature of Question Paper

Theory: Time -2 hours, Marks-50

Question 1: Select the correct alternative (Compulsory 10 questions) 10 marks

(Four alternatives for each question)

Question 2: (Attempt any Two out of three) 20 marks

(Long answer type)

Question 3: (Attempt any four out of six) 20 marks

(Short answer type)

- **Note:** Equal weightage should be given to each unit.

6.Syllabus (Academic Year 2022-23 NEP

1.Syllabus Ethics -

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited by NAAC with 'A^{++}' Grade
CHOICE BASED CREDIT SYSTEM
Syllabus For

B.Sc. Part–I

MICROBIOLOGY

(Faculty of Science and Technology)

SEMESTER I AND II

(Syllabus to be implemented from August, 2022 onwards as per NEP 2020)

Shivaji University, Kolhapur
Syllabus For Bachelor of Science Part – I : Microbiology

1. TITLE: Microbiology

2. YEAR OF IMPLEMENTATION: - Syllabus will be implemented from June, 2022 onwards.

3. PREAMBLE:

This syllabus is framed to give sound knowledge with understanding of Microbiology to undergraduate students at second year of three years of B.Sc. degree course.

Students learn Microbiology as a separate subject from B.Sc. II. The goal of the syllabus is to make the study of Microbiology popular, interesting and encouraging to the students for higher studies including research.

The new and updated syllabus is based on a basic and applied approach with vigor and depth. At the same time, precaution is taken to make the syllabus comparable to the syllabi of other universities and the needs of industries and research.

The syllabus is prepared after discussion at length with number of faculty members of the subject and experts from industries and research fields.

The units of the syllabus are well defined, taking into consideration the level and capacity of students.

4. GENERAL OBJECTIVES OF THE COURSE / PAPER :

1) To make the students knowledgeable with respect to the subject and its practicable applicability.
2) To promote understanding of basic and advanced concepts in Microbiology.
3) To expose the students to various emerging areas of Microbiology.
4) To prepare students for further studies, helping in their bright career in the subject.
5) To expose the students to different processes used in industries and in research field.
6) To develop their ability to apply the knowledge of Microbiology in day to day life.
7) To prepare the students to accept the challenges in life sciences.
8) To develop skills required in various industries, research labs and in the field of human health.

5. DURATION : The course shall be a full time course.

6. PATTERN : Pattern of Examination will be Semester.

7. MEDIUM OF INSTRUCTION : The medium of instruction shall be English.

Learning Outcomes:

A candidate who wish to graduate in B.Sc. (Microbiology Course) needs to have acquired/developed following competencies:

1. Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment, genetics, agriculture, food and others.
2. Demonstrate key practical skills/competencies in working with microbes for study and use in the laboratory as well as outside, including the use of good microbiological practices.
3. Competent enough to use microbiology knowledge and skills to analyze problems involving microbes, articulate these with peers/ team members/ other stake holders, and undertake remedial measures/studies etc.
4. Developed a broader perspective of the discipline of Microbiology to enable him to identify challenging societal problems and plan his professional career to develop innovative solutions for such problems.

Structure of Bachelor of Science Part-I with Microbiology as principle Subject

SEM	Discipline specific Core Course (DSC) (L+T+P) (Credits)	Discipline specific Elective Course (DSE)/ Open Elective (OE) (L+T+P) (Credits)	Ability Enhancement Compulsory Courses (AECC)/ Languages (L+T+P) (Credits)	Skill Enhancement Courses (SEC)		Total Credits
				Skill Based Courses (L+T+P) (Credits) (Non-CGPA)	Value Based Courses (L+T+P) (Credits) (Non-CGPA)	
I	Microbiology C1 **(4+2)** Chemistry C1 **(4+2)** Zoology C1 **(4+2)**	Botany C1 / Biotechnology C1 / Biochemistry C1 **(4+2)**	AECC-1 **(2) (Non-CGPA)** English for communication	SEC-1 **(2)** Multidisciplinary	NCC / NSS / Sports / Cultural **(1)** / SSC **(2)**	24
II	Microbiology C2 **(4+2)** Chemistry C2 **(4+2)** Zoology C2 **(4+2)**	Botany C2 / Biotechnology C2 / Biochemistry C2 **(4+2)**	AECC-2 **(2) (Non-CGPA)** English for communication	SEC-2 **(2)** Multidisciplinary	NCC / NSS / Sports / Cultural **(1)** / SSC **(2)**	24
Option 1: Exit with Certificate Course in Science (Microbiology) (with the completion of courses equal to minimum of 48 credits)						

SEMESTER- I
Paper – I (DSC 25 A)

Introduction to Microbiology

Credits - 2; Total hours – 30

Learning Objectives:

1. To develop a good knowledge of the development of the discipline of Microbiology and the contributions made by prominent scientists in this field.
2. To develop a very good understanding of the characteristics of different types of microorganisms, methods to organize/classify these into and basic tools to study these in the laboratory.
3. To explain the useful and harmful activities of the microorganisms and scope of different branches of Microbiology.
4. To describe characteristics of bacterial cells, cell organelles and various appendages like capsules, flagella or pili.

Credit I	**History and mile stones in Microbiology**	**No. of hours: 15**

	A. History of Microbiology 1. Spontaneous generation *vs.* biogenesis. 2. Contributions of - a. Antony von Leeuwenhoek, b. Edward Jenner, c. Louis Pasteur, d. Robert Koch, e. Ivanowsky, f. Joseph Lister, g. Alexander Fleming, h. Martinus W. Beijerinck and i. Sergei N. Winogradsky. B. Introduction to types of Microorganisms: 1. General characteristics of different groups: a. Acellular microorganisms-Viruses, Viroids and Prions b. Cellular microorganisms- Bacteria, Algae, Fungi and Protozoa - with emphasis on distribution and occurrence, morphology, mode of reproduction and economic importance. c. Ultra-structure of Prokaryotic and eukaryotic cell, difference between prokaryotic and eukaryotic microorganisms. C. Bacterial Nomenclature and Classification:	

	a. Taxonomic ranks b. Common or Vernacular name c. Scientific or International name d. Whittaker's five kingdom and Carl Woese's three kingdom classification systems. D. An overview of Scope of Microbiology: 1. Beneficial and harmful activities of microorganisms. Introduction to applied branches of Microbiology: a. Air, b. Water, c. Sewage, d. Soil, e. Dairy, f. Food, g. Medical, h. Industrial, i. Biotechnology and j. Geomicrobiology.	
Credit II	**Bacterial Cell Structure and Functions**	**No. of hours: 15**
	A. Cell size, shape and arrangement B. Cytology of Bacteria: i. Cell wall: Composition and detailed structure of Gram-positive and Gram-negative bacterial cell walls ii. Cell Membrane: Structure, function & chemical composition of bacterial cell membranes. iii. Structure and functions of Capsule and slime layer. iv. Structure and functions of Flagella v. Structure and functions of Pilli. C. Structure and functions of Cytoplasmic Components: a. Ribosomes b. Mesosomes c. Inclusion bodies d. Nucleoid e. Chromosome f. Plasmids g. Endospore: Structure, stages of sporulation h. Reserve food materials - Nitrogenous and non-nitrogenous	

Paper – II (DSC 26 A)
Basic Techniques in Microbiology
Credit- 2; Total hours - 30

Learning Objectives:

1. To study the staining techniques for the observation of bacteria and bacterial cell components
2. To study the working principle, handling and use of microscopes for the study of microorganisms
3. To understand the principles of sterilization and disinfection of culture media, glassware and plastic ware and other objects to be used for microbiological work.

Credit I	**Staining Techniques and Microscopy**	**No. of hours: 15**
	A. Stains and staining procedures: 1. Definition and Classification of stains - Acidic, Basic andNeutral 2. Principles, Procedure, Mechanism and applications of staining procedures i. Simple staining ii. Negative staining iii. Differential staining: Gram staining and Acid fast staining 3. Special staining methods i. Cell wall (Chance's method) ii. Capsule (Maneval's method) iii. Volutine granule (Albert's method) **B. General Principles of Microscopy:** a. Types of microscopes: light and electron microscopes b. Light microscopy: Parts, Image formation, Magnification, Numerical aperture (uses of oil immersion objective), Resolving power and Working distance. c. Ray diagram, special features, applications and comparative study of: i. Compound Microscope ii. Electron Microscope	
Credit II	**Control of Microorganisms**	**No. of hours:**

		15
	A. Definitions of - Sterilization, Disinfection, Antiseptic, Germicide, Microbiostasis, Antisepsis and Sanitization. B. Physical agents for control of microorganisms: i. Temperature – a) Dry heat b) Moist heat ii. Desiccation iii. Osmotic pressure iv. Radiations - U.V. Ray, Gamma rays, v. Filtration – Asbestos and Membrane filter C. Chemical Agents for control of microorganisms: Mode of action, application and advantages of - i. Phenol and Phenolic compounds ii. Alcohols (Ethyl alcohol) iii. Halogen compounds (chlorine and iodine) iv. Heavy metals (Cu and Hg) v. Gaseous Agents – Ethylene oxide, Beta-propiolactone and formaldehyde	

SEMESTER- II

Paper - III (DSC 25 B): Bacteriology

(Credits - 2; Total hours - 30)

Learning Objectives:

1. To describe the nutritional requirements of bacteria and other microbes which grow under extreme environments.
2. To understand the basic laboratory experiments to isolate, cultivate and differentiate bacteria
3. To study the preservation of bacteria in the laboratory

Credit I	**Microbial Nutrition and Culture Media**	**No. of hours: 15**
	A. Nutritional requirements of microorganisms: a. Water b. Micronutrients c. Macronutrients d. Carbon e. Energy source f. Oxygen g. Hydrogen h. Nitrogen i. Sulphur j. Phosphorous k. Growth factors – auxotroph, prototroph and fastidious organisms. B. Nutritional types of microorganism based on carbon and energysources: a. Autotrophs b. Heterotrophs c. Phototrophs d. Chemotrophs e. Photoautotrophs f. Chemoautorphos g. Photoheterotrophs h. Chemoheterotrophs C. Types of Culture Media:	

	a. Components of media b. Natural and Synthetic media c. Chemically defined media d. Complex media, Selective e. Differential f. Enriched g. Enrichment media. D. Cultivation of microorganisms: a. Use of culture media for cultivation b. Conditions required for growth of the microorganisms.	
Credit II	**Isolation, Cultivation and Preservation of Microorganisms.**	**No. of hours: 15**
	A. Isolation of Microorganisms from natural habitats: a. Pure culture techniques – Streak plate, Spread plate, Pour Plate and micromanipulator b. Isolation and cultivation of anaerobic organisms by using media components and by exclusion of air/O2 B. Preservation of microbial cultures: a. Sub culturing b. Overlaying of cultures with mineral oils c. Storage at low temperature d. Lyophilisation C. Systematic study of pure cultures: a. Morphological characteristics. b. Cultural characteristics: i. Colony characteristics on solid media ii. Growth in liquid media iii. Growth on agar slants D. Biochemical Characteristics – a. Sugar fermentation b. Production of metabolites - H_2S gas c. Production of enzymes - Amylase, Caseinase and Catalase.	

Paper - IV (DSC 26 B): Microbial Biochemistry

(Credits - 2; Total hours - 30)

Learning Objectives:

1. To develop a very good understanding of various biomolecules which are required for development and functioning of a bacterial cell.
2. To develop the knowledge of how the carbohydrates make the structural and functional components such as energy generation and as storage food molecules for the bacterial cells
3. To make well conversant about multifarious structures and functions of proteins, enzymes, lipids and nucleic acids.
4. To differentiate the concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.

CreditI	**Biomolecules**	**No. of hours: 15**
	A. Proteins: 1. General structure of amino acids, peptide bond. 2. Types of amino acids based on R group – a) Nonpolar, aliphatic amino acids. b) Aromatic amino acids. c) Polar, Uncharged amino acids. d) Positively charged (basic) amino acids e) Negatively charged (acidic) amino acids. 3. Peptides - properties 4. Structural levels of proteins: primary, secondary, tertiary andquaternary. B. Carbohydrates: Definition, classification and brief account of - a. Monosaccharides: Classification based on aldehyde and ketone groups, structure of ribose, deoxyribose, glucose, galactose and fructose. b. Disaccharides: Glycosidic bond, structure of lactose and sucrose. c. Polysaccharides: Structure and biological role of starch, glycogen and cellulose.	

	C. Lipids: a. Simple lipids – Fats and oils, waxes. b. Compound lipids – Phospholipid, Glycolipids c. Derived lipids – Cholesterol **D.** Enzymes: a. Definition b. Structure- Concept of apoenzyme, coenzyme, cofactor and active site. c. Types- Extracellular, Intracellular, Constitutive and Inducible. d. Features of enzyme - substrate reaction. **E.** Nucleic Acids: a. DNA – structure and composition (Watson and Crick Model) b. RNA – Types (mRNA, tRNA, rRNA), structure and functions.	
Credit II	**Microbial Metabolism**	**No. of hours: 15**
	A. Concept of Catabolism and anabolism with examples B. Fundamental principles of energetics- a. Exergonic and endergonic reactions, b. High energy compounds. C. Modes of ATP generation in bacteria by: a. Fermentation b. Respiration c. Photosynthesis D. Biochemical Mechanisms of ATP generation: a. Substrate level phosphorylation. b. Oxidative phosphorylation - Respiration electron transport chain, aerobic and anaerobic respiration. c. Bacterial Photophosphorylation – Cyclic and Non-cyclic. E. Catabolism of glucose – EMP, TCA cycle (schematic presentation and significance).	

PRACTICAL COURSE

Paper I &II: Introduction to Microbiology and Basic Techniques in Microbiology

Learning Objectives:

1. To understand the basic techniques in Microbiology laboratory
2. To study the working principle, handling and use of compound microscope for the study of microorganisms
3. To study the simple and special staining techniques for the observation of bacteria and bacterial cell components
4. To understand the working principles and applications various equipment's in Microbiology laboratory
5. To study the preparation, sterilization and use of various culture media.

Credit I	**Basic Techniques**	**No. of hours: 15**
	1. Preparations of- a. Stains (0.5% basic fuchsin & 0.5% crystal violet) b. Buffer (Phosphate buffer of pH 7) c. Reagents (1 N and 1M solutions of HCL and NaOH) d. Physiological saline. 2. Biosafety- a. Aseptic techniques b. Table disinfection c. Hand wash d. Use of aprons e. Proper disposal of used material f. Cleaning and sterilization of glassware 3. Study of parts of light compound microscope, its use and care. 4. Staining Techniques - a. Monochrome staining b. Negative staining c. Gram's staining d. Cell wall staining (Chance's method), e. Capsule staining(Maneval's method), f. Volutine granule staining (Albert' s method)	

	5. Motility by Hanging drop method. 6. Study of the principle and applications of instruments – a. Biological safety cabinets – Laminar Air Flow Device b. Autoclave c. Incubator d. Hot air oven e. Colorimeter, f. Colony counter	
	Preparation of Culture Media	**No. of hours: 15**
	1. Preparation of culture media and their sterilization - agar plates, buts and slants 2. Simple media: a. Peptone water – 1% & 2 % b. Nutrient broth c. Nutrient agar 3. Biochemical test media: a. Glucose phosphate broth b. Koser's citrate broth c. Milk agar d. Starch agar 4. Selective media - Sabouraud's agar 5. Selective & Differential Media -MacConkey's agar. 6. Sterilization of culture medium using autoclave and assessment for sterility. 7. Sterilization of glassware using hot air oven and assessment for sterility	

Paper III & IV: Bacteriology and Microbial Biochemistry

Learning Objectives:

1. To understand the basic laboratory experiments to isolate and cultivate
2. To study various biochemical tests used to differentiate bacteria

Credit II	**Study of Bacteria**		**No. of hours: 15**
	1. Demonstration of presence of micro flora in / on – a. Air by solid impaction technique on nutrient agar plates b. Water by direct cultivation method c. Hand, nails, teeth and skin (swabbing) by direct cultivationmethods. 2. Isolation of pure cultures of bacteria by four quadrant streaking method and study of Colony characteristics, Gram staining and motility of – *a. Escherichiacoli* *b. Bacillusspecies* *c. Staphylococcus aureus* 3. Enumeration of bacteria from water and milk by SPC method.		
	Biochemical Tests		No. of hours: 15
	a. Indole test b. Methyl red test c. Voges Proskauer's test d. Citrate Utilization test e. H_2S production test f. Sugar fermentation - glucose and lactose g. Enzyme production - i. Amylase ii. Catalase iii. Caseinase		

Books recommended for Theory

1) Microbiology by Pelczar, M.J.Jr., Chan E.C.S., Krieq, N.R. 5th edition, 1986 (McGraw Hills Publication).
2) Fundamental Principles of bacteriology by A. J. Salle, Tata McGraw Hill.
3) Fundamentals of Microbiology by Frobisher, Hindsdill, Crabtree, Good Heart, W.B. Saunders Company, 7th edition.
4) Medical Microbiology Vol. I and II by Cruick Shank R., Duguid J.P., Marmion B.P., Swain R.H.A., XIIth edition, Churchill Livingston, New York.
5) A textbook of Microbiology by Ananthnarayan – Orient Longman, Bombay
6) General Microbiology by Stanier R. Y. Vth edition, McMilan, London.
7) General Microbiology Vol I and II by Powar and Daginawala, Himalaya Publications.
8) Medical Bacteriology by Dey and Dey – Allied Agency, Calcutta.
9) Food Microbiology by W. C. Frazier.
10) Basic Experimental Microbiology by Ronal M. Atlas, Alfred E. Brown, Kenneth W. Dobra, Wonas Miller (1986) Pren-tice Hall.
11) General Microbiology by Robert F. Boyd (1984), Times, Mirror/Mosby College.
12) A Biologics guide to principles, techniques of Practical Biochemistry by K. Wilson and K. H. Goulding, Edward Arnold Publication.
13) Introduction to Practical Biochemistry by D. Plummer, J. Willey and Sons.
14) Microbiology by Prescott, Herley and Klein, IInd edition.
15) Bacteriological Techniques by F. K. Baker
16) Introduction to Microbial Techniques by Gunasekaran.
17) Biochemical methods by Sadasivam& Manickam
18) Elementary Microbiology Vol. I by Dr. H.A. Modi, Akta Prakashan, Nadiad, Gujrat.
19) Principles of Biochemistry by Nelson and Cox (Lehninger) – Fifth edition.

Books recommended for Practical

1) Medical Microbiology by Cruickshank Vol. II.
2) Stains and Staining procedures by Desai and Desai.
3) Introduction to Practical Biochemistry by D. Plummer, J Wiley and Sons.
4) Bacteriological techniques by F. J. Baker.
5) Introduction to Microbial techniques by Gunasekaran.
6) Biochemical methods by Sadasivam and D. Manickam.
7) Laboratory methods in Biochemistry by J. Jayaraman.
8) Experimental Microbiology by Patel & Patel

List of Minimum Equipment's

1) Hot air oven – 1
2) Incubator - 1
3) Autoclave - 1
4) Refrigerator – 1
5) Medical microscopes - 10 nos. for one batch
6) Chemical balance - 2
7) pH meter - 1
8) Seitz filter – 1
9) Centrifuge - 1
10) Colorimeter - 1
11) Distilled Water Plant – 1
12) Laminar air flow cabinet - 1
13) Arrangements for gas supply and fitting of two burners pertable.
14) One working table of 6' x 2½' for two students.
15) One separate sterilization room attach to the laboratory (10' x 15')
16) At least one wash basin for a group of five students
17) Colony counter
18) Water bath
19) One separate instrument room attached to lab (10' x 15')
20) One laboratory for one batch including working tables (6' x 2½') per two students for one batch
21) Store room (10' x 15')

Theory Examination

Nature of Question paper

Multiple choice questions (10- Questions) ---- 10 marks

Attempt **any two** of the following.

(Essay type/Broad answer questions) ---- 20 marks

Write short notes (**any four**) ---- 20 marks

Practical Examination

(A) The practical examination will be conducted on two consecutive days for three hours per day per batch of the practical examination.

(B) Each candidate must produce a certificate from the Head of the Department in her/his college, stating that he/she has completed in a satisfactory manner the practical course on lines laid down from time to time by Academic Council on the recommendations of Board of Studies and that the journal has been properly maintained. Every candidate must have recorded his/her observations inthe laboratory journal and have written a report on each exercise performed. Every journal is to bechecked and signed periodically by a member of teaching staff and certified by the Head of the Department at the end of the year. Candidates must produce their journals at the time of practical examinations.

(C) Nature of question paper and distribution of marks for Practical Examination

Q.1	Special Staining	10
Q.2	Isolation and study of colony characters, gram nature and motility of bacteria / Enumeration of bacteria from water / milk by SPC	15
Q.3	Biochemical tests	05
Q.4	Detection of enzyme activity	05
Q.5	Spotting	10
Q.6	Journal	05
	Total Marks	**50**

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1.Syllabus Ethics -

i) Professional Ethics
ii) Human values
iii) Environment and Sustainability

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

Bachelor of Science Part- II

MICROBIOLOGY

CBCS PATTERN

Syllabus to be implemented from

June, 2019 onwards.

B.Sc. Part II (Microbiology)

SEMESTER-III

Course V	**DSC- C 25 Microbial Physiology & Metabolism (CREDITS:02; TOTAL HOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	**Microbial Physiology & Metabolism**	**15**
	A) Growth : Growth phases, measurement of growth, continuous growth, synchronous growth and diauxic growth B) Effect of environmental factors on microbial growth : i. Temperature : Mesophiles, psychrophiles, thermophiles and hyperthermophiles. Thermal destruction of bacteria – D, F and Z values, TDP and TDT ii. pH: Neutrophiles, Acidophiles and Alkalophiles iii. Osmotic pressure -Isotonic, hypotonic and hypertonic environments, xerophiles and halophiles. iv. Heavy metals v. Radiations- U.V. rays C) Transport across cell membrane - Diffusion, active transport and group translocation	
Unit II / Credit II	**Microbial Metabolism**	**15**
	A) Catabolism of glucose - EMP,HMP, ED and TCA cycle B) Fermentation - Homolactic & Heterolactic fermentation C) Bacterial electron transport chain – Components, flow of electrons & mechanism of ATP generation - Chemiosmotic hypothesis	
Course VI	**DSC- C 26 : Applied Microbiology (CREDITS:02; TOTALHOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	**Applied Microbiology**	15
	A) Air Microbiology: a) Sources of microorganisms in air. b) Definitions of - Infectious dust, Droplets & Droplet nuclei c) Sampling methods for microbial examination of air i) Solid impaction - Sieve device ii) Liquid Impingement – Bead-bubbler device	

	B) Water Microbiology: a) Sources of microorganisms in water. b) Fecal pollution of water, Indictors of fecal pollution of water – *E. coli* c) Routine Bacteriological analysis of water. 1) SPC & 2) Tests for coliforms - i. Qualitative-Detection of coliforms - Presumptive test, Confirmed Test, Completed test.Differentiation between coliforms - IMViC test, Eijkman test. ii. Quantitative – MPN, Membrane filter technique d) Municipal water purification process and its significance. C) Milk Microbiology: a) Sources of microorganisms in milk b) General composition of Milk. c) Microbiological examination of Milk – DMC, SPC and dyereduction test- MBRT test d) Pasteurization - Definition, Methods – LTH , HTST ,UHT, Efficiency of Pasteurization– Phosphatase test (Qualitative)	
Unit II/ Credit II	**Industrial Microbiology**	15
	A) Basic concepts of fermentation. 1. Definition, concept of primary and secondary metabolites 2. Types of fermentations – Batch, continuous, dual and multiple 3. Typical Fermentor design – Parts and their functions. 4. Factors affecting fermentation process B) Screening - Primary and secondary screening C)Fermentation Media - Water, carbon source, nitrogen source,precursors, growth factors , antifoam agents & chelating agents.	

SEMESTER-IV

Course VII	DSC- D 25 : Microbial Genetics & Molecular Biology (CREDITS:02; TOTAL HOURS : 30)	No. of Hours per Unit / Credit
Unit I / Credit I	**Microbial Genetics**	15
	A) Basic concepts - a) Forms of DNA b) Gene, genome, genotype, phenotype, mutagen, recon, muton , cistron c) Split genes. d) Genetic code – definition and properties of genetic code. **B) Mutation -** a) Basic Concepts of Mutation: Base pair substitutions, Frame shift , Missense , nonsense, neutral, silent , pleiotropic and suppressor mutations. b) Spontaneous mutation – Definition and basic concept. c) Induced mutations – Definition , Mechanism of mutagenesis by- i. Base analogues : 5-Bromouracil and 2- aminopurines ii. Mutagens modifying nitrogen bases- a. Nitrous acid b. Hydroxylamine c. Alkylating agents iii. Mutagens that distort DNA - a. Acridine dyes b. UV light	
Unit II / Credit II	**Molecular Biology**	15
	A) Gene transfer in bacteria. a.Fate of exogenote in recipient cell. b.Modes of gene transfer - Transformation, Conjugation, Transduction B) Plasmids – a. Natural – Properties, types , structure and applications b. Artificial – pBR 322- structure and applications C) DNA repair : i) Photoreactivation ii) Dark repair mechanism (Excision repair) D) Lac operon – structure and working	
Course VIII	**DSC- D 26 : Basics in Medical Microbiology & Immunology (CREDITS:02; TOTAL HOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	**Medical Microbiology**	15
	a) Definitions – Host, Parasite, Saprophytes, Commensal, Infection, Etiological agent, Disease, Pathogen, Opportunistic pathogen, True	

	pathogen, Virulence, Pathogenicity , Fomite, Incubation period, Carriers, Morbidity rate, Mortality rate, epidemiology, etiology, Prophylaxis, Antigen, Antibody, Hapten, Vaccine, Immunity. b) Virulence factors (production of endotoxins, exotoxins, enzymes, escaping of phagocytosis) c) Types of diseases – i) Epidemic, ii) Endemic, iii) Pandemic, iv) Sporadic. d) Types of infections – Chronic, acute, primary, secondary, reinfection, Iatrogenic, congenital, local, generalized, Covert, Overt, Simple, Mixed, Endogenous, Exogenous, Latent, Pyogenic, Nosocomial. e) Modes of transmission of diseases 1. Transmission by air, water & food 2. Contact transmission 3. Vector borne transmission f) General principles of prevention and control of microbial diseases. g) Normal flora of human body & its significance	
Unit II/ Credit II	**Immunology**	15
	1. Immunity i) Defintion ii) Innate Immunity- types, factors influencing innate immunity iii) Acquired Immunity – Active & passive 2.Non Specific defense mechanisms of the vertebrate body i) First line of defense ii) Second line of defense 3. Antigen : Chemical nature, types of antigens, factors affecting antigenicity. 4. Antibody : Types of antibodies – Structure, properties and functions. 5. Theories of antibody production. 6. Immune Response : Primary and secondary immune responses. 7. Mechanism of antigen – antibody reaction- Lattice hypothesis 8. Types of antigen-antibody reaction-Precipitation and Agglutination	

PRACTICAL COURSE

Course V & VI	**Practical Course III (CREDITS:02; TOTAL HOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	**1. Stains and staining procedures :** i) Spore staining (Dorners method) ii) Flagella staining (Bailey's method) iii) Nucleus staining (Giemsa's method) using yeast cells. **2. Preparation of media :** Gelatin agar, Amino acid decarboxylation medium, Amino acid deamination medium, Arginine broth, Christensen's medium, Peptone nitrate broth, Hugh and Leifson's medium	**15**
Unit II / Credit II	**1. Biochemical tests :** i) Gelatin hydrolysis test. ii) Amino acid decarboxylation test iii) Amino acid deamination test iv) Urea hydrolysis test v) Nitrate reduction test vi) Huge and Leifson's test vii) Arginin hydrolysis **2. Effect of environmental factor on microorganisms :** i) Temperature ii) pH iii) Heavy metals – Copper iv) Antibiotic – Penicillin v) Salt - NaCl	**15**
Course VII & VIII	**Practical Course IV : (CREDITS:02; TOTAL HOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	1. Bacteriological analysis of water a. Qualitative tests – Presumptive , confirm and completed test b. Quantitative - MPN 2. Primary Screening of - i. Antibiotic producers – crowded plate technique ii. Amylase producers 3. Determination of growth phases of *E. coli* by Optical density	**15**
Unit II/ Credit II	1. Isolation of lac negative mutants of E.coli by visual detection method 2. Effect of U.V. light on growth of bacteria 3. Isolation and identification of pathogenic microorganisms from clinical sample. *(a) Salmonella species* *(b) Proteus species* 4. Determination of Blood groups – ABO and Rh. 5. Serological tests - Widal test – qualitative slide test	**15**

Practical Examination

(A) The practical examination will be conducted on two consecutive days for six hours perday per batch of the practical examination.

(B) Each candidate must produce a certificate from the Head of the Department in her/hiscollege, stating that he/she has completed in a satisfactory manner the practical course onlines laid down from time to time by Academic Council on the recommendations o Board of Studies and that the journal has been properly maintained. Every candidatemust have recorded his/her observations in the laboratory journal and have written areport on each exercise performed. Every journal is to be checked and signedperiodically by a member of teaching staff and certified by the Head of the Departmen at the end of the year. Candidates must produce their journals at the time of practica examinations.

(C) Candidates have to visit at least one place of microbiological interest (pharmaceutical / industry/dairy/research institute etc.) and submit the report of their visit

Nature of the Practical Examination Question Paper and Distribution Marks

	Marks
Determination of lag phase / staining	15
Isolation and identification of pathogen	20
Serology / blood groups	05
Primary screening technique / isolation of lac negative mutant	10
Biochemical tests	10
Effect of environmental factors	10
Spot tests (on culture media)	10
Journal	10
Tour report	10
Total marks – 100	

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1.Syllabus Ethics -

i) Professional Ethics
ii) Human values
iii) Environment and Sustainability

SHIVAJI UNIVERSITY, KOLHAPUR.

" A" Re-accredited By NAAC

(2014) with CGPA-3.16

NEW SYLLABUS FOR

B.Sc. Part III

MICROBIOLOGY

CBCS PATTERN

SYLLBUS TO BE IMPLEMENTED

FROM JUNE 2020

SHIVAJI UNIVERSITY, KOLHAPUR

REVISED SYLLABUS FOR BACHELOR OF SCIENCE
PART - III : MICROBIOLOGY

1. TITLE : Microbiology
2. YEAR OF IMPLEMENTATION: Revised Syllabus will be implemented from June 2020 onwards.
3. PREAMBLE:

This syllabus is framed to give sound knowledge with understanding of Microbiology to undergraduate students at first year of three years of B.Sc. degree course. Students learn Microbiology as a separate subject from B.Sc. I. The goal of the syllabus is to make the study of Microbiology popular, interesting and encouraging to the students for higher studies including research. The new and updated syllabus is based on a basic and applied approach with vigor and depth. At the same time precaution is taken to make the syllabus comparable tothe syllabi of other universities and the needs of industries and research. The syllabus is prepared after discussion at length with number of faculty members of the subject and experts from industries and research fields. The units of the syllabus are well defined, taking into consideration the level and capacity of students.

4. GENERAL OBJECTIVES OF THE PROGRAMME :

1) To make the students knowledgeable with respect to the subject and its practicable applicability.
2) To promote understanding of basic and advanced concepts in microbiology.
3) To expose the students to various emerging areas of Microbiology.
4) To prepare students for further studies helping in their bright career in the subject
5) To expose the students to different processes used in industries and in research field
6) To develop their ability to apply the knowledge of microbiology in day to day life.
7) To prepare the students to accept the challenges in life sciences.
8) To develop skills required in various industries, research labs and in the field of human health.

7. DURATION : The course shall be a full time course.

8. PATTERN: Pattern of Examination will be Semester.

9. MEDIUM OF INSTRUCTION: The medium of instruction shall be in English.

8. STRUCTURE OF COURSE -

1) B. Sc. III : Total Number of Courses - 8

Sr. No.	Subjects	Marks
	SEMESTER V	
1.	Course – IX	40+10
2.	Course – X	40+10
3.	Course – XI	40+10
4.	Course – XII	40+10
	SEMISTER VI	
5.	Course – XIII	40+10
6.	Course – XIV	40+10
7.	Course – XV	40+10
8.	Course – XVI	40+10
	PRACTICAL COURSE	
9	Practical – I	50
10	Practical – II	50
11	Practical – III	50
12	Practical – IV	50
Total		600

2) Structure and Titles of Papers of B.Sc. III Course :

SEMESTER VI	
Course IX (DSE E 49)	Virology
Course X (DSE E 50)	Immunology
Course XI (DSE E 51)	Food and Industrial Microbiology
Course XII (DSE E 52)	Agricultural Microbiology

SEMESTER VI	
Course XIII (DSE F 49)	Microbial Genetics
Course XIV (DSE F 50)	Microbial Biochemistry
Course XV (DSE F 51)	Environmental Microbiology
Course XVI (DSE F 52)	Medical Microbiology

9. SCHEME OF TEACHING AND EXAMINATION:

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

Sr. No.	**Subject/Paper**	**Teaching Scheme (Hrs/week)**		
		L	P	Total
1	Course – IX and XIII	3		
2	Course – X and XIV	3		
3	Course – XI and XV	3		12
4	Course – XII and XVI	3		
5	Practical I		5	
6	Practical II		5	20
7	Practical III		5	
8	Practical IV		5	
	Total			32

10. SCHEME OF EXAMINATION :

- The theory examination shall be conducted at the end of each semester of academic year.
- Each theory paper shall carry 40 marks.
- The evaluation of the performance of the students in theory papers shall be on the basis of Semester Examination of 600 marks.
- Question Paper will be set in view of the / in accordance with the entire Syllabus and preferably covering each unit of syllabi.

11. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS FOR REVISED SYLLABUS

Sr. No.	TITLE OF OLD PAPER	TITLE OF NEW PAPER
1	Paper IX: Virology	Course IX (DSE E 49): Virology
2	Paper X: Immunology and Serology	Course X (DSE E 50): Immunology
3	Paper XI: Food and Industrial Microbiology	Course XI (DSE E 51): Food and Industrial Microbiology
4	Paper XII: Agricultural Microbiology	Course XII (DSE E 52): Agricultural Microbiology
5	Paper XIII: Microbial Genetics	Course XIII (DSE F 49): Microbial Genetics
6	Paper XIV: Microbial Biochemistry	Course XIV (DSE F 50): Microbial Biochemistry
7	Paper XV: Environmental Microbiology	Course XV (DSE F 51): Environmental Microbiology
8	Paper XVI: Clinical Microbiology	Course XVI (DSE F 52): Medical Microbiology
9	Practical – I, II, III, IV	Practical – I, II, III, IV

12. OTHER FEATURES :

A. LIBRARY : Reference and Text Books, Journals and Periodicals, Reference Books for Advanced studies. - List Attached

B. SPECIFIC EQUIPMENTS : Necessary to run the Course - OHP, Computer, L.C.D., Projector

C. LABORATORY SAFETY EQUIPMENTS :
- Fire extinguisher
- First aid kit
- Fumigation chamber
- Stabilized power supply
- Insulated wiring for electric supply.
- Good valves, distribution pipes & regulators for gas supply.
- Operational manuals for instruments.
- Emergency exits.

Nature of Question papers (Theory)

COMMON NATURE OF QUESTION FOR THEORY COURSES

Multiple Choice (8).	**8 Marks**
Long Answer questions (Any 2 out of 3)	16 Marks
Short Answer questions (Any 4 out of 6)	**16 Marks**

B.SC.III MICROBIOLOGY

SEMESTER V

COURSE IX DSE - E 49 VIROLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT - I Lectures - 23

1) The Structural properties of viruses : Capsids, Nucleic acids and envelope. Structure of T4 bacteriophage, TMV and HIV, Viroids and prions.
2) Reproduction of Bacteriophages :
   a) One step growth experiment.
   b) Reproduction of T4 phage.
3) Isolation, cultivation and Purification of viruses
   a) Isolation and cultivation of viruses:
      i) Animal virus - Tissue culture, chick embryo and live animals
      ii) Plant virus – Whole plant, Protoplasts, Insect cell culture
      iii) Bacteriophages - Plaque method
   b) Purification of viruses based on physico-chemical properties:
      i) Density gradient centrifugation
      ii) Precipitation
4) Methods of Enumeration of viruses
      i) Latex droplet method (Direct electron microscopic count)
      ii) Plaque and pock assay method.

UNIT – II / CREDIT - II Lectures - 22

1) Lysogeny
   a) Introduction
      - Definition of lysogeny
      - Temperate phages
   b) Lysogeny by lambda phage
      - Adsorption and penetration of λ phage
      - Circularization of lambda genome
      - Genetic map for lysogenic interaction
      - Expression of λ genes
      - Establishment of repression
      - Maintenance of repression

- Integration of λ genome into host genome

2) Reproduction of animal virus - Adenovirus.

3) Reproduction of plant virus - TMV

4) Oncogenesis:

a) Definition of oncogenesis

b) Types of cancers

c) Characteristics of cancer cells.

d) Hypothesis about cancer.

i) Somatic mutation hypothesis

ii) Defective immunity hypothesis

iii) Viral gene hypothesis

- Role of DNA viruses in cancer with special emphasis on Papova viruses.
- Role of RNA tumor viruses
  - Provirus theory
  - Protovirus theory
  - Oncogene theory

BOOKS RECOMMENDED

1. General Microbiology - Stanier
2. Microbiology - Prescott, Klein
3. Microbiology - Davis
4. General Virology - Luria
5. Genetics of Bacteria and their Viruses - William Hayes.
6. General Microbiology Vol. II - Powar and Daginawala
7. Virology - Biswas and Biswas
8. Virology Vol. 4- Toply and Wilson
9. Principals of virology- S.J. Flint
10. Bacterial and Phage Genetics – Birge

COURSE X : DSE - E 50 - IMMUNOLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT - I lectures - 22

A) Cells and organs of the immune system:

I) Cells of the immune system

i. Hematopoiesis- Characteristics and Types of stem cells
ii. Classification of cells of immune system-Lymphoid and myeloid cells
iii. Structure and functions of Lymphoid cells- T cells and T cell subsets, NK cells, B cells and dendritic cells
iv. Structure and functions of myeloid cells – Granulocytes, Monocytes and macrophages

II) Organs of the immune system

Primary and secondary lymphoid organs - Structure and functions of Thymus, bonemarrow, spleen , lymph node and Mucosa associated lymphoid tissue(MALT)

B) Molecular mechanism of antibody production:

i. Processing and presentation of antigen by Antigen presenting cell.
ii. Interaction of APC with T_H cell
iii. Interaction of B cell and T_H cell
iv. Proliferation and differentiation of activated B cells
v. Role of follicular dendritic cells in selection of high affinity B cells
vi. Role of cytokines in proliferation and differentiation

C) Complement:

i. Nature, Properties, Complement activation by classical and alternate pathway.
ii. Biological consequences of complement activation

D) Monoclonal antibodies:

i. Concepts of Polyclonal and monoclonal antibodies
ii. Production of mouse monoclonal antibodies by hybridoma technology.
iii. Types of monoclonal antibodies- Mouse, Chimeric, Humanized and Human antibodies
iv. Applications of monoclonal antibodies.

UNIT – II / CREDIT - II lectures - 23

A) Cytokines:

i. General characters of cytokines
ii. Cytokines produced by different T_H cells and Macrophages.
iii. Effects of cytokines
iv. Interferon–properties- types, inducers of Interferon, Mechanism of action- antiviral and immunoregulatory

B) Hypersensitivity:

i. Basic concept ,Gell and Coombs classification
ii. Type I-Anaphylaxis
iii. Type II-Blood transfusion reactions
iv. Type III-Serum sickness.
v. Type IV- Delayed type hypersensitivity –Allergy of infection, Allograft rejection.

C) Immunological tolerance and Autoimmunity:

i. Immunological tolerance
   a) Natural or self tolerance and induced tolerance
   b) Cellular mechanism of immunological tolerance- Central tolerance and peripheral tolerance
   c) Termination of tolerance
ii. Autoimmunity :
   a) Concept
   b) Autoimmune diseases: Types, Immunopathological mechanisms-Rheumatoid arthritis, Treatment of autoimmune diseases

Books Recommended :

1) Immunology - 6th edition - Kubay ,Kindt, Goldsby & Osborne.
2) Essential Immunology - 11th edition - Delves, Martin, Burton and Roitt.
3) Immunology - An Introduction, 4th edition – Tizzard.
4) Basic and Clinical Immunology 5th edition- Stites, Stobo, H. H. Fudenberg.
5) Essentials of Immunology - S. K. Gupta
6) Immunology – M. P. Arora
7) Textbook of Basic and clinical Immunology- Sudha Gangal, Shubhangi Sontakke University Press
8) The elements of Immunology- Fahim Khan, Pearson Publication 2009
9) Immunology Second Edition- Vaman Rao.

COURSE XI : DSE - E 51 FOOD AND INDUSTRIALMICROBIOLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT - I lectures - 22

1) Food Microbiology

a) Food as a substrate for microorganisms: Intrinsic and extrinsic factors
b) Sources of microorganisms to food
c) Food spoilage: spoilage wine and beer, spoilage of vinegar
d) General Principles and methods of food preservation
e) Determination of: TDP, TDT, D, F, and Z values
f) Food poisoning:
    a. Role of microorganisms in food poisoning
    b. Food poisoning: i) Staphylococcal
       ii) Fungal (aflatoxin)
g) Food infections: food infection: Salmonellosis.
h) Probiotics: Concept and applications

2) Industrial Microbiology

A) Strain Improvement
B) Scale up of fermentations
C) Microbiological assays

UNIT – II / CREDIT - II lectures - 23

1) Industrial Microbiology

A. Preservation of industrially important microorganisms: Methods & Culture collection centers.
B. Industrial production of:
    a. Alcohol: - Organisms used, Inoculum preparation, Fermentation media, Fermentation conditions, Extraction and Recovery.
    b. Grape wine: - Definition, types, production of table wine (Red and White) and microbial defects of wine
    c. Penicillin: - Organisms used, Inoculum preparation, Fermentation media, Fermentation conditions, Extraction and Recovery. Concept of semi synthetic penicillin
C. Down stream processing & product recovery :
   Centrifugation, flocculation, filtration, solvent extraction, distillation, precipitation, crystallization and chromatography.
D. Testing of sterility, pyrogen, carcinogenicity, toxicity and allergens

Books Recommended:

1. Principles of fermentation technology- Peter F. Stanbury & Allan Whitaker (Pergamon Press).
2. Principles of Microbial technology - Peppler, Vol. I & II.
3. Industrial Microbiology - Casida
4. Industrial Microbiology - A. H. Patel
5. Industrial Microbiology - Prescott & Dnn
6. Industrial Microbiology - Miller
7. Pharmaceutical Microbiology - Huggo & Russel
8. Modern food Microbiology - Jay & Jay
9. Food Microbiology - Frazier
10. Industrial Microbiology- Cruger.
11. Fermentation Technology- A.H.Modi - Vol. I and II

COURSE XII : DSE - E 52 - AGRICULTURALMICROBIOLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT - I Lectures - 23

1) Soil Microbiology
   a. Physical characters.
   b. Chemical characters.
   c. Types of microorganisms in soil and their role in soil fertility.
   d. Microbiological interactions - Symbiosis, Commensalism, Amensalism, Parasitism, and Predation.
2) Role of microorganisms in elemental cycles
   a. Carbon cycle.
   b. Nitrogen cycle
   c. Phosphorous cycle
3) Role of Microorganisms in reclamation of soil.
   I) Manure and Compost
      Methods of Production:
      a) Green manure and farm yard manure
      b) City compost- Windrow and pit method.
      c) Vermicompost
   II) Optimal conditions for composting with reference to - Composition of organic waste, Availability of microorganisms, Aeration, C:N:P ratio, Moisture content, Temperature, pH and Time.
   III) Standards of City Compost and Vermicompost as per Fertilizer Control Order.

UNIT – II / CREDIT - II Lectures - 22

1) Types, production, methods of application and uses of :
   A) Biofertilizers
      i) Nitrogen fixing - Azotobacter, Rhizobium, and Azospirillum.
      ii) Phosphate Solubilizing Microorganisms.
   B) Biopesticides
      a) Bacillus thuringiensis
      b) Tricoderma spp.
      c) Beauveria bassiana
2) Biodegradation of :
   a) Cellulose
   b) Pesticides
3) Plant Pathology:
   a) Common symptoms produced by plant pathogens
   b) Modes of transmission of plant diseases.

c) Plant diseases :

i) Citrus Canker

ii) Tikka disease of groundnut

iii) Bacterial Blight of Pomegranate.

Books Recommended:

1. Soil Microbiology - An exploratory approach - Mark Coyne.
2. Agricultural Microbiology - N. Mukherjee and J. Ghosh.
3. Introduction to Soil Microbiology - Martin Alexander II
4. Edition.
5. Agricultural Microbiology - Rangaswamy and Bhagyaraj II
6. Plant diseases - R. S. Singh.
7. Plant pathology - R. S. Mehrotra.
8. Diseases of crop plants in India - G. Rangaswamy.
9. Principles of Soil Science - M. M. Rai.
10. Soils and Soils Fertility- 6th edition-Frederick R.Troeh (Blackwell publishing Co.)
11. 10.Soil Microbiology- Singh, Purohit, Parihar. (Agrobios India , 2010)
12. Soil Microbiology and Biochemistry – Ghulam Hassan Dar (New India Publishing Agency, 2010)

B.SC.III MICROBIOLOGY

SEMESTER VI

Course XIII DSE F49: MICROBIAL GENETICS

(Credit-2, Total Lectures- 45)

UNIT – I/ CREDIT I Lectures - 22

1) Basic concepts of bacterial genome -
   a) Structural organization of *E. coli* chromosome - Folded Fiber model.
   b) One cistron - one polypeptide hypothesis.

2) Molecular mechanism of gene expression
   a) Concept of operon
   b) Pribnow box
   c) Genetic regulation in tryptophan operon

3) Mutations
   a) Expression of mutations -
      i) Time course of phenotypic expression.
      ii) Conditional expression of mutation.
   b) Suppressor mutations (with examples) - Genetic and non-genetic.

4) Methods of isolation and detection of mutants based on -
   a) Relative survival
   b) Relative growth
   c) Visual detection

UNIT – II / CREDIT II Lectures - 23

1) Genetic complementation - Cis-trans test

2) Extrachromosomal inheritance :
   a) Kappa particles.
   b) Transposable elements - general properties and types.

3) Techniques in Molecular Biology –

a) DNA sequencing (Sanger's method)
b) DNA Finger printing
c) PCR

4) Genetic engineering
   a) Introduction
   b) Tools of genetic engineering –
      i) Enzymes
      ii) Vectors-phage, plasmid and cosmid
      iii) DNA probe
      iv) Linkers and adaptors
      v) Cloning organisms - (Bacteria and Yeasts)
      vi) Genomic library and cDNA library
   c) Techniques –
      i) Isolation of desired DNA segment- Shotgun Method, cDNA synthesis, Chemical synthesis
      ii) Construction of r-DNA using appropriate vector- Use of restriction enzymes, Linkers, Adaptors, Homopolymer tails
      iii) Transfer to cloning organisms (Bacteria and Yeasts)
      iv) Selection of recombinant bacteria and yeasts – Blue and white screening, Colony hybridization technique.
   d) Application of genetic engineering in –
      i) Medicine-
      ii) Agriculture
      iii) Industry
      iv) Environment

Books Recommended:

1. Genetics - Stickberger.
2. Genes - Benjamin Lewin IX ed.
3. Principles of gene manipulation - Primrose and Old
4. Genetic Engineering - Second Ed. Desmond S. T. Nicholl
5. Recombinant DNA - J. D. Watson
6. Biochemistry - Lehninger
7. Molecular Biology of Gene - J. D. Watson
8. Principles of Genetics - Herskowitz
9. General Microbiology - Stanier

COURSE XIV DSE F50: MICROBIALBIOCHEMISTRY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT I

Lectures - 22

1) Enzymes -

A) Definition, properties, structure, specificity, mechanism of action (Lock & Key, Induced fit hypothesis), Basics of enzyme classification.

B) Allosteric enzymes - Definition, properties, models explaining mechanism of action (Concerted and sequential models). Patterns of feed back inhibition.

2) Extraction and purification of enzymes.

A) Methods of extraction of intracellular and extracellular enzymes. i) Choice of source and biomass development

B) Methods of homogenization - cell disruption methods

C) Purification of enzymes on the basis of - a) Molecular size, b) Solubility differences c) Electrical charge, d) Adsorption characteristic differences e) Differences in biological activity

3) Assay of enzymes - Based on substrate and product estimation.

4) Ribozymes and Isozymes.

5) Immobilization of enzymes - Methods and applications

UNIT – II / CREDIT II

Lectures - 23

1) Factors affecting enzyme activity-

a) Factors affecting catalytic efficiency of enzymes- i) Proximity and orientation, ii) Strain and distortion, iii) Acid base catalysis, iv) Covalent catalysis

b) Environmental factors influencing enzyme activity- i) Substrate concentration, ii) Temperature, iii) pH, iv) Metal ions

2) Kineticsof singlesubstrate-enzymecatalyzedreactions - Derivation of Michaelis-Menten equation, Lineweaver Burk Plot, Significance of Km and Vmax.

3) Microbial Metabolism

I) Basics in carbohydratemetabolism-

a) PP pathway, ED pathway, Phosphoketolase pathway

b) Pyruvate as a key intermediate

c) Glyoxylate bypass

II) Assimilation of -

a) Carbon

b) Nitrogen with respect to N_2 and NH_3 (GOGAT)

c) Sulphur

4) Biosynthesis of -

a) RNA, b) DNA, c) Proteins, d) Peptidoglycan

5) Regulation of enzyme synthesis. i) Positive control - Ara operon, ii) Negative control - Lac operon iii)Catabolite repression

Books Recommended:

1. Enzymology - Prise & Stevens
2. Enzymes - Biochemistry, Biotechnology, clinical chemistry - Trevor Palmer.
3. Enzymes - Dixon and Webb
4. Nature of Enzymology - R. L. Foster,
5. Lehnigers Principles of Biochemistry by David Nelson & Michale Cox, Fifth edition.
6. General Microbiology - Stanier
7. Principles & techniques of Biochemistry - Wilson & Walker,6th edition.
8. Biochemistry - Lubert Stryer

COURSE XV DSE F51: ENVIRONMENTALMICROBIOLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT I Lectures - 22

1) General characteristics of waste-
   a) Liquid waste - pH, electrical conductivity, COD, BOD, total solids, total dissolved solids, total suspended solids, total volatile solids, chlorides, sulphates, oil & grease.
   b) Solid waste- pH, electrical conductivity, total volatile solids, ash.
   c) Standards as per MPCB.

2) Sewage Microbiology
   a) Physico-chemical and Biological characteristics
   b) Treatment
      i) Biological treatment: Trickling filter, Activated sludge process, Oxidation ponds, Anaerobic digestion, Septic tank, Root zone technology
      ii) Chemical treatment - Chlorination

3) Characteristics and treatment of waste generated by
   a) Sugar Industry
   b) Distillery
   c) Dairy Industry

d) Hospital

4) Eutrophication
   a) Classification of lakes
   b) Sources
   c) Consequences
   d) Control

UNIT – II / CREDIT II Lectures - 23

1) Biological safety in laboratory
   a) Good Laboratory Practices
   b) Bio safety levels (BSL)

2) Environmental monitoring
   a) Definition and purpose
   b) Cleanroom classification
   c) Routine Environmental monitoring programme in pharmaceutical industries- Air monitoring, Surface monitoring and Personnel monitoring.
   d) Bioburden test

3) Environmental Impact Assessment- Concept and Brief introduction

4) Bioremediation and Bioleaching
   a) Bioremediation
      i) Definition
      ii) Types
      iii) Applications.
   b) Bioleaching
      i) Introduction
      ii) Microorganisms involved
      iii) Chemistry of Microbial leaching
      iv) Laboratory scale and pilot scale leaching
      v) In situ leaching - Slope, heap
      vi) Leaching of Copper and Uranium

Books Recommended:

1. Environmental Pollution by Chemicals - Walker, Hulchiason.
2. Biochemistry and Microbiology of Pollution - Higgins and Burns.
3. Environmental Pollution - Laurent Hodge, Holt.
4. Waste Water Treatment - Datta and Rao (Oxford and IBH)
5. Sewage and waste treatment - Hammer

6. Pollution - Kudesia, Pragati Prakashan Meerat.
7. Environment Chemical Hazards - Ram Kumar (Swarup and Sons, New Delhi).
8. Environment and Metal Pollution - Khan (ABD Pub. Jaipur).
9. Environment Pollution - Timmy Katyal (Satke Anmol Pub. New Delhi).
10. Ecology of Polluted Water - Vol. II - Anand Kumar (Aph Pub. Co. New Delhi).
11. Environment Pollution and Management of waste waters by Microbial Techniques - Pathade and Goel (ABD Pub. Jaipur).
12. Current Topics in Environmental Sciences - Tripathi and Pandey (ABD Pub. Jaipur).
13. Environmental Impact Assessment - R. K. Trivedy
14. Microbial Limit and Bioburden Tests, 2nd edition - Lucia Clontz (CRC Press)

COURSE XVI DSE F52: MEDICAL MICROBIOLOGY

(Credit-2, Total Lectures- 45)

UNIT – I / CREDIT I Lectures - 22

BACTERIAL DISEASES

Morphology, cultural and biochemical characteristics, antigenic structure, modes of transmission,pathogenesis, symptoms, laboratory diagnosis, prevention and control of diseases caused by

i) Mycobacterium tuberculosis ii)Clostridium perfringens iii)Treponema pallidum iv)Pseudomonas aeruginosa v)Vibrio cholera vi)Staphylococcus aureus vii)Leptospira interrogans viii)Klebsiella pneumonia

UNIT – II / CREDIT II Lectures – 23

A. Morphology, cultural and biochemical characteristics, antigenic structure, modes of transmission and pathogenesis, symptoms, laboratory diagnosis, prevention and control of diseases caused by-
   1) Protozoa : *Plasmodium falciparum* (malaria)
   2) Viruses : i) Hepatitis A & B virus , ii) Rabies virus iii) Dengue virus
   3) Fungus: *Candida albicans*

B. Chemotherapy
   1) Chemoprophylaxis
   2) General principles of chemotherapy

3) Mode of action of antimicrobial agents:
    a) Antibacterial drugs: Penicillin, Bacitracin, Piperacillin, cycloserine, Streptomycin, Tetracycline, Trimethoprim, Sulphonamides and Quinolones .
    b) Antiviral drug :AZT,
    c) Antifungal drugs: Ketoconazole, Griseofulvin, Nystatin
    d) Antiprotozoal drugs: Metranidazole, Mepacrine
4) Drug resistance: Reasons and Mechanism of drug resistance
5) Immunoprophylaxis: Vaccines and Immune Sera
    a) Vaccines-live attenuated, inactive, subunit, conjugate and DNA vaccines
    b) Immune Sera- examples with applications

Books Recommended:

1. Microbiology–Davis B.D., Delbacco, 4th edition,1990 ,J.B.Lippincott Co. NY
2. Text book of Microbiology-Ananthnarayan R and C.E. Jayaram Panikar 5th edition, 1996, Orient Longman
3. Medical Bacteriology-Dey N .C. & Dey T.K. 17 th edition 1988, Allied Agency, Calcutta
4. Medical Bacteriology including Medical Mycology & AIDS–T. K. Dey, D. Sinha & N. C. Dey,New Central Book Agency (Kolkata)
5. Principals and Practice of Clinical Bacteriology–A.M.Emmerson
6. Antimicrobial chemotherapy- David Greenwood, 5th edition, Oxford university press
7. Medical Laboratory Technology;Vol. III,-Mukharjee K.L. ,10th edition. Tata Mc Graw-Hill Pub Co.
8. Ananthnarayan and Paniker's Textbook of Microbiology –9th edition , Editor Arati Kapil 2013, University Press

PRACTICAL COURSE

Practical - I (Virology and Microbial Genetics)Major :

1. Isolation of coliphages from sewage.
2. Effect of U.V. light on bacteria and graphical presentation of result.
3. Isolation of auxotrophic mutants by replica plate technique
4. Transfer of genetic material by transformation in *E.coli*
5. Isolation of chromosomal DNA from bacteria (J. Marmurs method or by Phenol chloroform method)

Minor :

1. Electrophoretic separation of DNA.
2. Isolation of streptomycin - resistant mutants (gradient plate technique)
3. Testing of carcinogenicity of a substance by Ame's test.

Practical - II (Food and Industrial Microbiology)Major :

1. Assay of amylase by DNSA method (graphical estimation)
2. Bio-assay of Vitamin B12
3. Bio-assay of Penicillin.

Minor:

1. Production of wine and examination for pH, colour and alcohol content.
2. Citric acid fermentation, recovery and estimation by titration.
3. Amylase production by using *Bacillus* species.
4. Isolation of lactic acid bacteria from fermented food.
5. Examination of milk by Direct microscopic count (DMC)

Practical - III (Agricultural and Environmental Microbiology)Major :

1. Isolation of Azotobacter from soil.
2. Isolation of Xanthomonas from infected citrus fruit.
3. Isolation of Rhizobium from root nodules.
4. Isolation of phosphate solublising bacteria from soil.
5. Determination of BOD of sewage

Minor :

1. Estimation of Calcium and Magnesium from soil (EDTA method)
2. Determination of organic carbon content of soil (Walkley and Black method)
3. Determination of COD of sewage.

Books recommended for Practical :

1. Medical Lab Technology - Ramnik and Sood, Jaypee brothers (Medical pub. New Delhi)
2. Practical Biochemistry - Plummer
3. APHA (American Public Health Association) Handbook
4. Soil, Plant and Water Analysis - P. C. Jaiswal
5. Biochemical methods - S. Sadasivam, A. Manickam
6. Practical Biochemistry - J. Jayraman
7. Chemical and Biological Analysis of Water - Dr. R. K. Trivedy and P. K. Goel.

Practical - IV Medical Microbiology

Major :

1. Isolation of following pathogens from clinical samples (wherever possible) and identification of the same by morphological,culturaland biochemical characteristics.
   a) Pseudomonas aeruginosa b) *Staphylococcus aureus c)Candida albicans*
2. Determination of MIC of streptomycin against *E.coli* by broth method

Minor :

1. Determination of sensitivity of common pathogens to antibiotics by paper discmethod.
2. Serological tests:
   a) Widal test -Quantitative
   b) Rapid Diagnostic Test for Malaria
   c) DemonstrationofEnzymeLinkedImmunosorbentAssay(ELISA)
3. Haematology:
   a) Estimation of haemoglobin by Sahli's method
   b) Determination of ESR of the blood sample(Wintrobe method)
   c) Determination of PCV
   d) Total and differential blood cells count.
4. Urine analysis : Physical and chemical examination of urine.
   a) Microscopic examination of urine-crystals,RBCs,puscells and bacteria.
   b) Test for protein (Acetic acid test)
   c) Test for ketone bodies (Rothra'stest)
   d) Test for bile salt and bile pigments.
   e) Test for sugar (Benedict's method)

Books recommended for Practical :

1. Medical LabTechnology-Ramnikand Sood,Jaypee brothers(Medical pub.NewDelhi)
2. Practical Biochemistry -Plummer
3. APHA(American Public Health Association)Handbook
4. Soil, Plant and Water Analysis-P.C.Jaiswal
5. Biochemical methods-S. Sadasivam, A. Manickam
6. Practical Biochemistry-J.Jayraman
7. Practical Microbiology – R.C. Dubey , D. K. Maheshwari , S. Chand & Co. Ltd.

Practical Examination

A) The practical examination will be conducted on three (3) consecutive days for not less than 6 hourson each day of the practical exanimation.

B) Each candidate must produce a certificate from the Head of the Department in his/her college stating that he/she has completed in a satisfactory manner the practical course on the guidelines laid down from time to time by Academic Council on the recommendation of Board of studies and has been recorded his/her observations in the laboratory journal and written a report on each exercise performed. Every journal is to be checked and signed periodically by a member teaching staff and certified by the Head of the Department at the end of staff and certified by the Head of the Department atthe end of the year. Candidates are to produce their journal at the time of practical examination. Candidates have to visit the least

Two (2) places of Microbiological interest (Pharmaceutical industry, Dairy, Research institutes etc.) and submit the report of their visit at the time of examination. The report should be duly certified by the Head of the Department.

Nature of question paper and distribution of marks for B.Sc. Part III Microbiology Practical Examination

Practicals I, II, III & IV

Q.1 Major Experiment	20 Marks
Q. 2 Minor Experiment	15 Marks
Q.3 Journal	05 Marks

SPOTTING	10 Marks
VIVA-VOCE	**10 Marks**

(On practicals not attempted in the examination)

TOUR REPORT: 20

SHIVAJI UNIVERSITY, KOLHAPUR.

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Accredited By NAAC with 'A' Grade

CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part – I

Computer Science (Optional)

SEMESTER I AND II

(Syllabus to be implemented from June, 2018 onwards.)

B.Sc. Computer Science (Optional) Semester-I & II

CBCS Syllabus to be implemented from June 2018 Onwards.

1. **TITLE: Computer Science**
2. **YEAR OF IMPLEMENTATION:** Revised Syllabus will be implemented from June 2018 onwards.
3. **DURATION:** B.Sc. in Computer Science Part- I The duration of course shall be one year and Two semesters.
4. **PATTERN:** Pattern of examination will be semester.
5. **STRUCTURE OF COURSE:**

STRUCTURE OF COURSE

Sr. No.	Paper	Name of Paper	Marks
Computer Science (Semester I)			
1	DSC-11A	Problem Solving using Computers	50 (Theory)
2	DSC-12A	Database Management System	50 (Theory)
Computer Science (Semester II)			
3	DSC-11B	Programming Skills Using 'C'	50 (Theory)
4	DSC-12B	Relational Database Management System	50 (Theory)
Practical (Annual)			
5	Practical Paper-I	Computer Science Practical Paper Based on DSC-11A and DSC-11B DSC-12A and DSC-12B	50 (Practical)

6. **EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS**

(FOR REVISED SYLLABUS)

Sr.No.	Title of old paper	Sr.No.	Title of New paper
SEMESTER I			
1	Computer Fundamentals-I	1	Database Management System
2	Programming in C -I	2	Problem Solving using Computers
SEMESTER – II			
3	Computer Fundamentals-II	3	Relational Database Management System
4	Programming in C -II	4	Programming Skills Using 'C'
PRACTICAL (ANNUAL PATTERN)			
5	Computer Science Practical Paper-I	5	Computer Science Practical Paper-I

B. Sc. Part – I Semester – I

COMPUTER SCIENCE

DSC-11A : PROBLEM SOLVING USING COMPUTERS

Theory: 30 hrs. (37 lectures of 48 minutes)

Marks-50 (**Credits: 02)**

Unit – 1 Problem Solving Using Computers (15 hrs.)

(A) Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.
(B) Logical Continuum of Program of Programming : Linux Operating System and C Language, Introduction to GCC Compiler, Components of Compilation Process, Getting Used to the Data Types , Built-In Standard Library, Nitty-Gritty of Programming, structures, Algorithm, Pseudocode, Procedure, Program, C Program Structure, Vi Editor, Whittling the First 'C' Program, Checking Whether the Compiler Is Working, Execution of Make file, Variable Declaration , Input / Output Statement, Format Specifiers, Escape Sequences.

Unit – 2 Control Structures and Arrays (15 hrs.)

(A) Decision Making and Looping Constructs: Introduction, The if Statement, The if-else Statement, Nested if-else, The Switch Case Statement, The while Loop, The odd Loop(do while), the for Loop, Loop Control Statements, Infinite Loop.

(B) Arrays: Features, Definition, Types of Arrays, Single-Dimensional Array, Two-Dimensional Array, Multi-Dimensional Array.

DSC-12A Database Management System

Theory: 30 hrs. (37 lectures of 48 minutes)

Marks-50 (**Credits: 02)**

Unit – 1 Introduction to Database Management Systems (15 hrs.)

Characteristics of database approach. Data models: Hierarchical, Network, Relational, Schema and Instances, DBMS architecture: Three Schema Architecture, Internal, Conceptual, External, Data independence: Logical, Physical.

Unit – 2 Entity Relationship and Enhanced ER Modeling (15 hrs.)

Entity : Entities: Domain, Attributes, Tuples, Relations,Entity Relationships: one-one, one-many, many-one, many-many, SQL-99: Schema Definition, Constraints: Domain Integrity, Entity, Referential, And Concept of Object modeling.

Reference Books:

(For Unit-1 and Unit-2)

1. "C Programming in an Open Source Paradigm: A Hands on approach", K.S.Oza, S.R.Patil, R.K.Kamat River Publisher Series in Information Science and Technology, Netherland 978-87-93237-67-4 , 2015
2. ANSI C – E. Balgurusamy
3. Let us C – Y.C. Kanetkar
4. 'C' programming – Dennis Ritchie
5. Programming in 'C' - Venugopal

(For Unit-3 and Unit-4)

1. R. Elmasri, S.B. Navathe, Fundamentals of Database Systems 6th Edition, Pearson Education, 2010.

2. R. Ramakrishanan, J. Gehrke, Database Management Systems 3rd Edition, McGraw-Hill, 2002.

3. A. Silberschatz, H.F. Korth, S. Sudarshan, Database System Concepts 6th Edition, McGraw Hill, 2010.

4. R. Elmasri, S.B. Navathe Database Systems Models, Languages, Design and application Programming, 6th Edition, Pearson Education,2013.

B. Sc. Part – I Semester – II

COMPUTER SCIENCE (OPTIONAL)

DSC-11B Programming Skills Using 'C'.

Theory: 30 hrs. (37 lectures of 48 minutes)
Marks-50 (**Credits: 02)**

Unit – 1 Pointers and Functions: (15 hrs.)

(A)Pointers**:** Pointer Data Type, Pointer Declaration, Pointer Initialization, Arrays and Pointers, Pointers and One-Dimensional Arrays, Pointers and Two-Dimensional Arrays
(B)Programming for Functional Functions**:** Introduction, Function Declaration, Function Definition, Function Call, Nested Functions Recursion.

Unit – 2 Structures and File Handling: (15 hrs.)

(A)Structure and Dynamic Memory Allocation **:** User-Defined Data Types, Defining Structure, Nesting of Structure, Dynamic Memory Allocation,.
(B)File Handling**:** Defining and opening a file, File opening modes- read, write, append, closing a file, Input/Output Operations on file: getc(), putc(), getw(), putw(), fprintf(), fscanf(), ftell(), fseek(), rewind().

DSC-12B Relational Database Management System

Theory: 30 hrs. (37 lectures of 48 minutes)
Marks-50 (**Credits: 02)**

Unit – 1 Relational Data Model (15 hrs.)

Basic concept, Relational constraint: not null, unique, primary, foreign, check, Relational. algebra: Select, Project, Union, Intersection, Difference, SQL queries: DDL : create, alter, drop, DML : insert, update, delete, DQL : select. SQL operator: Logical, relational, in, between, like, not, is null. SQL Clauses: Where, Order by, Group by , Having, Aggregate Functions :SUM, MAX, MIN, COUNT, AVG.

Unit – 2 Database design (15 hrs.)

Entity Relationship (ER) : Basic Structures of Entity Relationship (ER), Symbols, Construction of ER Diagram, Example: Library Management System, EER to relational mapping: Concept of Extended Entity Relationship Diagram (EER), Specialization, Generalization, Aggregation. Functional dependencies: Key, Primary, Super Key, Candidate Key, Functional Decomposition. Normal forms : First NF (1NF), Second NF (2NF), Boyce-Codd NF (BCNF) Third NF (3NF).

Reference Books:

(For Unit-1 and Unit-2)

1. "C Programming in an Open Source Paradigm: A Hands on approach", K.S.Oza, S.R.Patil, R.K.Kamat River Publisher Series in Information Science and Technology, Netherland 978-87-93237-67-4 , 2015
2. ANSI C – E. Balgurusamy
3. Let us C – Y.C. Kanetkar
4. 'C' programming – Dennis Ritchie
5. Programming in 'C' - Venugopal

(For Unit-3 and Unit-4)

1. R. Elmasri, S.B. Navathe, Fundamentals of Database Systems 6th Edition, Pearson Education, 2010.

2. R. Ramakrishanan, J. Gehrke, Database Management Systems 3rd Edition, McGraw-Hill, 2002.

3. A. Silberschatz, H.F. Korth, S. Sudarshan, Database System Concepts 6th Edition, McGraw Hill, 2010.

4. R. Elmasri, S.B. Navathe Database Systems Models, Languages, Design and application Programming, 6th Edition, Pearson Education,2013.

PRACTICAL PAPER – I (Maximum Marks: 50) (Credits 02)

Computer Science Practical Paper

Based on DSC-11A and DSC-11B , DSC-12A and DSC-12B .

Practical: Four lectures of 48 minutes (3.2 hrs) per week per batch.

Practical Experiments:

Based on Based on DSC-11A And DSC-11B .

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.

2. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria :

Grade A: Percentage >=80

Grade B: Percentage>=70 and <80

Grade C: Percentage>=60 and <70

Grade D: Percentage>=40 and <60

Grade E: Percentage<40

3. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.

4. WAP to display the first n terms of Fibonacci sequence.

5. WAP to print palindrome numbers between given range.

6. WAP to find sum of the following series for n terms: 1 – 2/2! + 3/3! - - - - - n/n!

7. WAP to sort given array in ascending as well as descending order.

8. WAP to calculate the sum and product of two compatible matrices.

9. WAP to check whether a given number is prime or not using nested function by introducing factorial function."P is prime number if and only if (P-1)! + 1 is divisible by P".

10. WAP to calculate factorial of given number using recursive function.

11. WAP to dynamically allocate memory of n items to an integer pointer, display their sum and average.

12. WAP to swap two numbers using function (call by reference).

13. WAP to dynamically allocate memory of n items to a character array, end it with '\0' and count number of vowels, consonants and spaces in it.

14. WAP to using user defined data type structure to store information of a student rollno, name, percentage. Create array of 10 students and display students having percentage > 70.

15. WAP to copy contain of text file into another text file.

16. WAP to count number of lines and characters of given text file.

Based on Based on DSC-12A And DSC-12B .

Note: MySQL may be used.

The following concepts must be introduced to the students:

DDL Commands

• Create table, alter table, drop table

DML Commands

• Select , update, delete, insert statements

• Condition specification using Boolean and comparison operators (and, or,not,=,<>,>,<,>=,<=)

• Arithmetic operators and aggregate functions(Count, sum, avg, Min, Max)

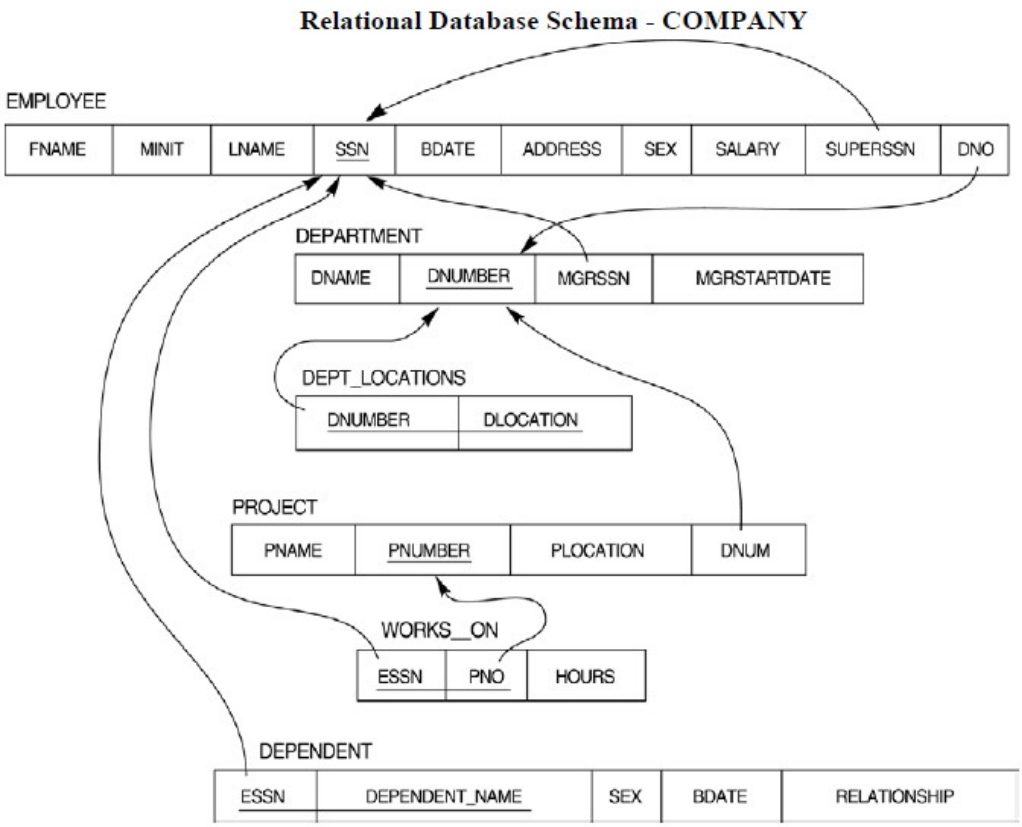
• Multiple table queries (join on different and same tables)

• Nested select statements

• Set manipulation using (any, in, contains, all, not in, not contains, exists, not exists, union, intersect, minus, etc.)

• Categorization using group by……..having

• Arranging using order by



Questions to be performed on above schema

1. Create tables with relevant foreign key constraints

2. Populate the tables with data

3. Perform the following queries on the database :

    1. Display all the details of all employees working in the company.

    2. Display ssn, lname, fname, address of employees who work in department no 7.

    3. Retrieve the birthdate and address of the employee whose name is 'Franklin T. Wong'

    4. Retrieve the name and salary of every employee

    5. Retrieve all distinct salary values

    6. Retrieve all employee names whose address is in ‘Bellaire’

    7. Retrieve all employees who were born during the 1950s

    8. Retrieve all employees in department 5 whose salary is between 50,000 and 60,000(inclusive)

    9. Retrieve the names of all employees who do not have supervisors

    10. Retrieve SSN and department name for all employees

    11. Retrieve the name and address of all employees who work for the 'Research' department

    12. For every project located in 'Stafford', list the project number, the controlling department number, and the department manager's last name, address, and birthdate.

    13. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.

    14. Retrieve all combinations of Employee Name and Department Name

    15. Make a list of all project numbers for projects that involve an employee whose last name is 'Narayan’ either as a worker or as a manager of the department that controls the project.

    16. Increase the salary of all employees working on the 'ProductX' project by 15%. Retrieve employee name and increased salary of these employees.

    17. Retrieve a list of employees and the project name each works in, ordered by the employee's department, and within each department ordered alphabetically by employee first name.

    18. Select the names of employees whose salary does not match with salary of any employee in department 10.

19. Retrieve the name of each employee who has a dependent with the same first name and same sex as the employee.

20. Retrieve the employee numbers of all employees who work on project located in Bellaire, Houston, or Stafford.

21. Find the sum of the salaries of all employees, the maximum salary, the minimum salary, and the average salary. Display with proper headings.

22. Find the sum of the salaries and number of employees of all employees of the 'Marketing' department, as well as the maximum salary, the minimum salary, and the average salary in this department.

23. Select the names of employees whose salary is greater than the average salary of all employees in department 10.

24. For each department, retrieve the department number, the number of employees in the department, and their average salary.

25. For each project, retrieve the project number, the project name, and the number of employees who work on that project.

26. Change the location and controlling department number for all projects having more than 5 employees to 'Bellaire' and 6 respectively.

27. For each department having more than 10 employees, retrieve the department no, no of employees drawing more than 40,000 as salary.

28. Insert a record in Project table which violates referential integrity constraint with respect to Department number. Now remove the violation by making necessary insertion in the Department table.

29. Delete all dependents of employee whose ssn is '123456789'.

30. Delete an employee from Employee table with ssn = '12345' (make sure that this employee has some dependents, is working on some project, is a manager of some department and is supervising some employees). Check and display the cascading effect on Dependent and Works on table. In Department table MGRSSN should be set to default value and in Employee table SUPERSSN should be set to NULL.

31. Perform a query using alter command to drop/add field and a constraint in Employee table.

7.EXAMINATION SCHEME

Theory: Theory examination will be conducted at the end of each semester.

Paper: Duration: 2 Hrs. Maximum Marks: 50. Minimum for passing: 35%.

Practical: Practical Examination will be conducted annually towards the end of Second Term of every Academic year. Duration: 4 hours, Maximum Marks: 50. Minimum for passing: 35%.

Nature of Each Theory Question Paper: (Maximum Marks 50)

1. Choose correct alternatives.	10 Marks(Each 1 mark)
2. Attempt any two (out of three sub questions).	20 Marks(Each 10 marks)
3. Attempt any four out of six sub questions.	20 Marks(Each 5 marks)

Nature of Practical Examination: (Maximum Marks 50) (Credits 02)

The Practical Examination in Computer Science is conducted at end of each Academic year which will be based on Paper **DSC-11A and DSC-11B , DSC-12A and DSC-12B** of 4 hours duration and of 50 maximum marks. There will be four questions, out of these student has to attempt Any Two questions. The marks distribution for the practical paper is given below:

Practical Paper - I

Each question carries	: 20 marks(20 x 2 = 40 marks)
Certified Journal carries	: 5 marks.
Viva based on practical carries	: 5 marks.

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SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

CHOICE BASED CREDIT SYSTEM

Syllabus For

B. Sc. Part – III

Computer Science (Optional)

SEMESTER – V & VI

(Syllabus to be implemented from June, 2020 onwards)

CBCS B.Sc. 3: (A) (i) Structure of B. Sc. Programme Sem I & II

Structure – I

Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME						
		THEORY			PRACTICAL			THEORY				PRACTICAL		
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Max	Total Marks	Min	Hours	Max	Min
S E M E S T E R – I (Duration – 6 Months)														
1	DSC-A	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**	**PRACTICAL EXAMINATION IS ANNUAL**		
2	DSC-A	**2**						2	50					
3	DSC-A	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**			
4	DSC-A	**2**						2	50					
5	DSC-A	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**			
6	DSC-A	**2**						2	50					
7	DSC-A	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**			
8	DSC-A	**2**						2	50					
9	AECC-A	**2**	4	3.2	-----	-----	-----	2	50	**50**	**18**			
Total		**18**	**24**	**19.2**	**8**	**16**	**12.8**		**-**	**450**				
S E M E S T E R – II (Duration – 6 Months)														
1	DSC-B	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**	**As per BOS Guide-lines**	**50**	**18**
2	DSC-B	**2**						2	50					
3	DSC-B	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**		**50**	**18**
4	DSC-B	**2**						2	50					
5	DSC-B	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**		**50**	**18**
6	DSC-B	**2**						2	50					
7	DSC-B	**2**	5	4	**2**	4	**3.2**	2	50	**100**	**35**		**50**	**18**
8	DSC-B	**2**						2	50					
9	AECC-B	**2**	4	3.2	-----	-----	-----	2	50	**50**	**18**			
Total		**18**	**24**	**19.2**	**8**	**16**	**12.8**		**-**	**450**			**200**	
Grand Total		36	**48**	**38.4**	**16**	**32**	**25.6**			**900**				

- Student contact hours per week : 32 Hours(Min.)
- Theory and Practical Lectures : 48 Minutes Each
- Total Marks for B.Sc.-I (Including English) :**1100**
- Total Credits for B.Sc.-I (Semester I & II) :**52**
- **DSC**–Discipline Specific Core course: Select any 4 subject pairs from A1 to A38 and B1 to B38.
- **AECC** – Ability Enhancement Compulsory Course (1A & 1B)-English
- Practical Examination will be conducted annually for 50 Marks per course(subject).
- ***Except English, combined passingfortwotheorypapersof50markseach.i.e.Min.35marksrequiredforpassingoutof100.***
- ***There shall be separate passing for theory and practical courses.***

(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC)
For Sem I: CCC – I : Democracy, Elections and Good Governance

(B) Non-Credit Self Study Course : Skill Development Courses (SDC)
For Sem II: SDC – I : Any one from following (i) to (v)
i) Business Communication & Presentation ii) Event management iii) Personality Development, iv) Yoga & Physical Management v) Resume, Report & proposal writing

Structure of B. Sc. Programme Semester III &IV

Structure - II

Sr. No.	Course (Subject) Title	TEACHING SCHEME						EXAMINATION SCHEME						
		THEORY			PRACTICAL			THEORY				PRACTICAL		
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Max	Total Marks	Min	Hours	Max	Min
S E M E S T E R – III (Duration – 6 Months)														
1	DSC-C	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**	**PRACTICAL EXAMINATION IS ANNUAL**		
2	DSC-C	**2**	3	2.4				2	50					
3	DSC-C	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**			
4	DSC-C	**2**	3	2.4				2	50					
5	DSC-C	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**			
6	DSC-C	**2**	3	2.4				2	50					
7	AECC-C	**4**	4	3.2	---	---	---			---	---			
	TOTAL	**16**	**22**	**17.6**	**12**	**19.2**	**24**			**300**	---			
S E M E S T E R – IV (Duration – 6 Months)														
1	DSC-D	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**	**As per BOS Guide-lines**	**100**	**35**
2	DSC-D	**2**	3	2.4				2	50					
3	DSC-D	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**		**100**	**35**
4	DSC-D	**2**	3	2.4				2	50					
5	DSC-D	**2**	3	2.4	4	6.4	8	2	50	**100**	**35**		**100**	**35**
6	DSC-D	**2**	3	2.4				2	50					
7	AECC-C AECC-D	---	---	---	---	---	---	3	70 30	**100**	**25** **10**	---	---	---
	TOTAL	**12**	**18**	**14.4**	**12**	**19.2**	**24**			**400**	---			
		28	**40**	**32**	**24**	**38.4**	**48**			**700**	**--**	**---**	**300**	

- Studentcontacthoursperweek:32Hours(Min.)
- Total Marks for B.Sc.-II(IncludingEVS) **1000**
- Theory and Practical Lectures : 48 MinutesEach
- Total Credits for B.Sc.-II (Semester III & IV) :**52**
- **DSC:-**Discipline Specific Core Course:Selectany3subjectpairs,relevanttothoseoptedasB.Sc.I, From DSCC1toDSCC38and/orDSCIC39toDSCIC50andDSCD1toDSCD38and/orDSCID39to DSCID50.
- **AECC**- Ability Enhancement Compulsory Course (1C): Environmental Studies: EVS (Theory – 70 & Project – 30 Marks)
- Practical Examination will be conducted annuallyfor100Markspercourse(subject)
- ***Except Environmental Studies, combined passingfortwotheorypapersof50markseach.i.e.Min.35 marks required for passing out of100.***
- ***There shall be separate passing for theory and practical courses also for Environmental Studies.***

ii) Structure of B. Sc. Programme Sem V &VI

Structure - III

Sr. No.	Subject Title	TEACHING SCHEME							EXAMINATION SCHEME					
		THEORY			PRACTICAL				THEORY			PRACTICAL		
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Theory	Internal	Min Marks	Hours	Max Marks	Min Marks
S E M E S T E R – V (Duration – 6 Months)														
1	DSE-E	**2**	3	2.4	**8**	**20**	**16**	2	40	10	**14+4=18**	**PRACTICAL EXAMINATION IS ANNUAL**		
2	DSE-E	**2**	3	2.4				2	40	10	**14+4=18**			
3	DSE-E	**2**	3	2.4				2	40	10	**14+4=18**			
4	DSE-E	**2**	3	2.4				2	40	10	**14+4=18**			
5	AECC-E	**2**	4	3.2	---	---	---	2	40	10	**14+4=18**			
	TOTAL	**10**	**16**	**12.8**	**8**	**20**	**16**		**200**	**50**	---			
S E M E S T E R – VI (Duration – 6 Months)														
1	DSE-F	**2**	3	2.4	**8**	**20**	**16**	2	40	10	**14+4=18**	**As per BOS Guidelines**	**200**	**70**
2	DSE-F	**2**	3	2.4				2	40	10	**14+4=18**			
3	DSE-F	**2**	3	2.4				2	40	10	**14+4=18**			
4	DSE-F	**2**	3	2.4				2	40	10	**14+4=18**			
5	AECC-F	**2**	4	3.2	---	---	---	2	40	10	**14+4=18**	---	---	---
TOTAL		**10**	**16**	**12.8**	**8**	**20**	**16**		**200**	**50**	---			
GRAND TOTAL		**20**	**32**	**25.6**	**16**	**40**	**32**		**400**	**100**	**--**	**---**	**200**	

- Studentcontacthoursperweek:32Hours(Min)
- Theory and Practical Lecture : 48 Min.Each
- Total Marks for B.Sc.-III(Including English):7**00**
- Total Credits for B.Sc.-III (Semester V & VI) :**36**

- **DSE- Discipline Specific Elective.** A candidate shall select one course (subject) from the three Courses (Subjects)selectedatB.Sc.–II.Selectany4pairsofpapersfromDSE-E1toDSE-E84forSem–VandDSE-F1 to DSE - F84 for Semester - VI
- **AECC**- Ability Enhancement Compulsory Course (E & F) :English
- Practical Examination will be conducted annually for 200Marks.
- ***There shall be separate passing for theory, internal and practical***

(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC)
For Sem V: CCC – II : Constitution of India and Local Self Government

(B) Non-Credit Self Study Course : Skill Development Courses (SDC) For
Sem VI: SDC – II: Any one from following (vi) to (x)
vi) Interview & Personal Presentation Skill, vii) Entrepreneurship Development Skill, viii) Travel & Tourism, ix) E-Banking & Financial Services, x) RTI & Human Right Education (HRE), IPR & Patents

CBCS R.B. Sc. 3: (B) List of courses:

i) B. Sc. Part 1 (Sem I &II),

Course code	Name of Course	Course code	Name of Course
B. Sc. 1: Sem I DSC – 1A to 38 A			
DSC A1	Physics I	**DSC A21**	Geology I
DSC A2	Physics II	**DSC A22**	Geology II
DSC A3	Chemistry I	**DSC A23**	Seed Technology I
DSC A4	Chemistry II	**DSC A24**	Seed Technology II
DSC A5	Mathematics I	**DSC A25**	Microbiology I
DSC A6	Mathematics II	**DSC A26**	Microbiology II
DSC A7	Statistics I	**DSC A27**	Industrial Microbiology I
DSC A8	Statistics II	**DSC A28**	Industrial Microbiology II
DSC A9	Electronics I	**DSC A29**	Biochemistry I
DSC A10	Electronics II	**DSC A30**	Biochemistry II
DSC A11	Computer Science I	**DSC A31**	Psychology I
DSC A12	Computer Science II	**DSC A32**	Psychology II
DSC A13	Botany I	**DSC A33**	Food Science & Quality control I
DSC A14	Botany II	**DSC A34**	Food Science & Quality control II
DSC A15	Zoology I	**DSC A35**	Astrophysics I
DSC A16	Zoology II	**DSC A36**	Astrophysics II
DSC A17	Biotechnology (Opt) I	**DSC A37**	Nanotechnology (opt) I
DSC A18	Biotechnology (Opt) II	**DSC A38**	Nanotechnology (opt) II
DSC A19	Geography I		
DSC A20	Geography II	**AECC – A**	English – I

DSC: Discipline Specific Core Course

AECC – Ability Enhancement Compulsory Course

Sem II: DSC – 1B to 38B

Course code	Name of Course	Course code	Name of Course
B. Sc. 1: Sem II DSC – 1B to 38B			
DSC B1	Physics III	**DSC B21**	Geology III
DSC B2	Physics IV	**DSC B22**	Geology IV
DSC B3	Chemistry III	**DSC B23**	Seed Technology III
DSC B4	Chemistry IV	**DSC B24**	Seed Technology IV
DSC B5	Mathematics III	**DSC B25**	Microbiology III
DSC B6	Mathematics IV	**DSC B26**	Microbiology IV
DSC B7	Statistics III	**DSC B27**	Industrial Microbiology III
DSC B8	Statistics IV	**DSC B28**	Industrial Microbiology IV
DSC B9	Electronics III	**DSC B29**	Biochemistry III
DSC B10	Electronics IV	**DSC B30**	Biochemistry IV
DSC B11	Computer Science III	**DSC B31**	Psychology III
DSC B12	Computer Science IV	**DSC B32**	Psychology IV
DSC B13	Botany III	**DSC B33**	Food Science & Quality control III
DSC B14	Botany IV	**DSC B34**	Food Science & Quality control IV
DSC B15	Zoology III	**DSC B35**	Astrophysics III
DSC B16	Zoology IV	**DSC B36**	Astrophysics IV
DSC B17	Biotechnology (Opt) III	**DSC B37**	Nanotechnology (opt) III
DSC B18	Biotechnology (Opt) IV	**DSC B38**	Nanotechnology (opt) IV
DSC B19	Geography III		
DSC B20	Geography IV	**AECC – B**	English – II

ii) B.Sc. Part 2 (Sem III &IV)

Course code	Name of Course	Course code	Name of Course
B. Sc. 2: Sem III DSC – 1C to 38C			
DSC C1	Physics V	**DSC C21**	Geology V
DSC C2	Physics VI	**DSC C22**	Geology VI
DSC C3	Chemistry V	**DSC C23**	Seed Technology V
DSC C4	Chemistry VI	**DSC C24**	Seed Technology VI
DSC C5	Mathematics V	**DSC C25**	Microbiology V
DSC C6	Mathematics VI	**DSC C26**	Microbiology VI
DSC C7	Statistics V	**DSC C27**	Industrial Microbiology V
DSC C8	Statistics VI	**DSC C28**	Industrial Microbiology VI
DSC C9	Electronics V	**DSC C29**	Biochemistry V
DSC C10	Electronics VI	**DSC C30**	Biochemistry VI
DSC C11	Computer Science V	**DSC C31**	Psychology V
DSC C12	Computer Science VI	**DSC C32**	Psychology VI
DSC C13	Botany V	**DSC C33**	Food Science & Quality control V
DSC C14	Botany VI	**DSC C34**	Food Science & Quality control VI
DSC C15	Zoology V	**DSC C35**	Astrophysics V
DSC C16	Zoology VI	**DSC C36**	Astrophysics VI
DSC C17	Biotechnology (Opt) V	**DSC C37**	Nanotechnology (opt) V
DSC C18	Biotechnology (Opt) VI	**DSC C38**	Nanotechnology (opt) VI
DSC C19	Geography V	*	
DSC C20	Geography VI		

*Interdisciplinary Courses (IDS) (DSC - IC)

DSC IC39	Astrophysics I	**DSC IC45**	Plant Protection I
DSC IC40	Astrophysics II	**DSC IC46**	Plant Protection II
DSC IC41	Geochemistry I	**DSC IC47**	Pollution I
DSC IC42	Geochemistry II	**DSC IC48**	Pollution II
DSC IC43	Biochemistry I	**DSC IC49**	Fisheries I
DSC IC44	Biochemistry II	**DSC IC50**	Fisheries II

Sem – IV

Course code	Name of Course	Course code	Name of Course
B. Sc. 2: Sem IV DSC – 1D to 38D			
DSC D1	Physics VII	**DSC D20**	Geography VIII
DSC D2	Physics VIII	**DSC D21**	Geology VII
DSC D3	Chemistry VII	**DSC D22**	Geology VIII
DSC D4	Chemistry VIII	**DSC D23**	Seed Technology VII
DSC D5	Mathematics VII	**DSC D24**	Seed Technology VIII
DSC D6	Mathematics VIII	**DSC D25**	Microbiology VII
DSC D7	Statistics VII	**DSC D26**	Microbiology VIII
DSC D8	Statistics VIII	**DSC D27**	Industrial Microbiology VII
DSC D9	Electronics VII	**DSC D28**	Industrial Microbiology VIII
DSC D10	Electronics VIII	**DSC D29**	Biochemistry VII
DSC D11	Computer Science VII	**DSC D30**	Biochemistry VIII
DSC D12	Computer Science VIII	**DSC D31**	Psychology VII
DSC D13	Botany VII	**DSC D32**	Psychology VIII
DSC D14	Botany VIII	**DSC D33**	Food Science & Quality control VII
DSC D15	Zoology VII	**DSC D34**	Food Science & Quality control VIII
DSC D16	Zoology VIII	**DSC D35**	Astrophysics VII
DSC D17	Biotechnology (Opt) VII	**DSC D36**	Astrophysics VIII
DSC D18	Biotechnology (Opt) VIII	**DSC D37**	Nanotechnology (opt) VII
DSC D19	Geography VII	**DSC D38**	Nanotechnology (opt) VIII
		*	
AECC C Environmental Studies (Theory Paper)			
AECC D Environmental Studies **(**Project)			

*Interdisciplinary Courses (IDS) (DSC – ID)

DSC ID39	Astrophysics III	**DSC ID45**	Plant Protection III
DSC ID40	Astrophysics IV	**DSC ID46**	Plant Protection IV
DSC ID41	Geochemistry III	**DSC ID47**	Pollution III
DSC ID42	Geochemistry IV	**DSC ID48**	Pollution IV
DSC ID43	Biochemistry III	**DSC ID49**	Fisheries III
DSC ID44	Biochemistry IV	**DSC ID50**	Fisheries IV

iii) B. Sc. Part 3 (Sem V &VI)

Discipline Specific Elective (DSE)

Course code	Name of Course	Course code	Name of Course
B. Sc. 3: Sem V DSE – 1E to 84E			
DSE E1	Physics IX	**DSE E45**	Seed Technology IX
DSE E2	Physics X	**DSE E46**	Seed Technology X
DSE E3	Physics XI	**DSE E47**	Seed Technology XI
DSE E4	Physics XII	**DSE E48**	Seed Technology XII
DSE E5	Chemistry IX	**DSE E49**	Microbiology IX
DSE E6	Chemistry X	**DSE E50**	Microbiology X
DSE E7	Chemistry XI	**DSE E51**	Microbiology XI
DSE E8	Chemistry XII	**DSE E52**	Microbiology XII
DSE E9	Mathematics IX	**DSE E53**	Industrial Microbiology IX
DSE E10	Mathematics X	**DSE E54**	Industrial Microbiology X
DSE E11	Mathematics XI	**DSE E55**	Industrial Microbiology XI
DSE E12	Mathematics XII	**DSE E56**	Industrial Microbiology XII
DSE E13	Statistics IX	**DSE E57**	Biochemistry IX
DSE E14	Statistics X	**DSE E58**	Biochemistry X
DSE E15	Statistics XI	**DSE E59**	Biochemistry XI
DSE E16	Statistics XII	**DSE E60**	Biochemistry XII
DSE E17	Electronics IX	**DSE E61**	Psychology IX
DSE E18	Electronics X	**DSE E62**	Psychology X
DSE E19	Electronics XI	**DSE E63**	Psychology XI
DSE E20	Electronics XII	**DSE E64**	Psychology XII
DSE E21	Computer Science IX	**DSE E65**	Food Science & Quality control IX
DSE E22	Computer Science X	**DSE E66**	Food Science & Quality control X
DSE E23	Computer Science XI	**DSE E67**	Food Science & Quality control XI
DSE E24	Computer Science XII	**DSE E68**	Food Science & Quality control XII
DSE E25	Botany IX	**DSE E69**	Plant Protection V
DSE E26	Botany X	**DSE E70**	Plant Protection VI
DSE E27	Botany XI	**DSE E71**	Plant Protection VII
DSE E28	Botany XII	**DSE E72**	Plant Protection VIII
DSE E29	Zoology IX	**DSE E73**	Fisheries V
DSE E30	Zoology X	**DSE E74**	Fisheries VI

DSE E31	Zoology XI	**DSE E75**	Fisheries VII
DSE E32	Zoology XII	**DSE E76**	Fisheries VIII
DSE E33	Biotechnology (Opt) IX	**DSE E77**	Astrophysics IX
DSE E34	Biotechnology (Opt) X	**DSE E78**	Astrophysics X
DSE E35	Biotechnology (Opt) XI	**DSE E79**	Astrophysics XI
DSE E36	Biotechnology (Opt) XII	**DSE E80**	Astrophysics XII
DSE E37	Geography IX	**DSE E81**	Nanotechnology (Opt)IX
DSE E38	Geography X	**DSE E82**	Nanotechnology (Opt)X
DSE E39	Geography XI	**DSE E83**	Nanotechnology (Opt)XI
DSE E40	Geography XII	**DSE E84**	Nanotechnology (Opt)XII
DSE E41	Geology IX		
DSE E42	Geology X		
DSE E43	Geology XI		
DSE E44	Geology XII	**AECC E**	English III

SEM – VI

Course code	Name of Course	Course code	Name of Course
B. Sc. 3: Sem VI DSE – 1F to 84F			
DSE F1	Physics XIII	**DSE F45**	Seed Technology XIII
DSE F2	Physics XIV	**DSE F46**	Seed Technology XIV
DSE F3	Physics XV	**DSE F47**	Seed Technology XV
DSE F4	Physics XVI	**DSE F48**	Seed Technology XVI
DSE F5	Chemistry XIII	**DSE F49**	Microbiology XIII
DSE F6	Chemistry XIV	**DSE F50**	Microbiology XIV
DSE F7	Chemistry XV	**DSE F51**	Microbiology XV
DSE F8	Chemistry XVI	**DSE F52**	Microbiology XVI
DSE F9	Mathematics XIII	**DSE F53**	Industrial Microbiology XIII
DSE F10	Mathematics XIV	**DSE F54**	Industrial Microbiology XIV
DSE F11	Mathematics XV	**DSE F55**	Industrial Microbiology XV
DSE F12	Mathematics XVI	**DSE F56**	Industrial Microbiology XVI
DSE F13	Statistics XIII	**DSE F57**	Biochemistry XIII
DSE F14	Statistics XIV	**DSE F58**	Biochemistry XIV
DSE F15	Statistics XV	**DSE F59**	Biochemistry XV
DSE F16	Statistics XVI	**DSE F60**	Biochemistry XVI
DSE F17	Electronics XIII	**DSE F61**	Psychology XIII
DSE F18	Electronics XIV	**DSE F62**	Psychology XIV
DSE F19	Electronics XV	**DSE F63**	Psychology XV
DSE F20	Electronics XVI	**DSE F64**	Psychology XVI
DSE F21	Computer Science XIII	**DSE F65**	Food Science & Quality control XIII
DSE F22	Computer Science XIV	**DSE F66**	Food Science & Quality control XIV
DSE F23	Computer Science XV	**DSE F67**	Food Science & Quality control XV
DSE F24	Computer Science XVI	**DSE F68**	Food Science & Quality control XVI
DSE F25	Botany XIII	**DSE F69**	Plant Protection IX
DSE F26	Botany XIV	**DSE F70**	Plant Protection X
DSE F27	Botany XV	**DSE F71**	Plant Protection XI
DSE F28	Botany XVI	**DSE F72**	Plant Protection XII
DSE F29	Zoology XIII	**DSE F73**	Fisheries IX
DSE F30	Zoology XIV	**DSE F74**	Fisheries X
DSE F31	Zoology XV	**DSE F75**	Fisheries XI

DSE F32	Zoology XVI	**DSE F76**	Fisheries XII
DSE F33	Biotechnology (Opt) XIII	**DSE F77**	Astrophysics XIII
DSE F34	Biotechnology (Opt) XIV	**DSE F78**	Astrophysics XIV
DSE F35	Biotechnology (Opt) XV	**DSE F79**	Astrophysics XV
DSE F36	Biotechnology (Opt) XVI	**DSE F80**	Astrophysics XVI
DSE F37	Geography XIII	**DSE F81**	Nanotechnology (Opt) XIII
DSE F38	Geography XIV	**DSE F82**	Nanotechnology (Opt) XIV
DSE F39	Geography XV	**DSE F83**	Nanotechnology (Opt) XV
DSE F40	Geography XVI	**DSE F84**	Nanotechnology (Opt) XVI
DSE F41	Geology XIII		
DSE F42	Geology XIV		
DSE F43	Geology XV		
DSE F44	Geology XVI	**AECC F**	English IV

B.Sc. Computer Science (Optional) Part III
Semester-V&VI
CBCS Syllabus to be implemented from June 2020 Onwards

1. **TITLE:** Computer Science
2. **YEAR OF IMPLEMENTATION**: Revised Syllabus will be implemented from June2020onwards.
3. **DURATION:** B.Sc. in Computer Science Part- III The duration of course shall be one year and two semesters.
4. **PATTERN:** Pattern of examination will be semester.
5. **STRUCTURE OF COURSE:**

STRUCTURE OF COURSE

Sr. No.	Paper	Name of Paper	Marks
Computer Science (Semester V)			
1	DSE-21E	Core Java	40 (Theory)
2	DSE-22E	C# Programming	40 (Theory)
3	DSE-23E	Linux part- I	40 (Theory)
4	DSE-24E	Python Part -I	40 (Theory)
Computer Science (Semester VI)			
5	DSE-21F	Advance Java	40 (Theory)
6	DSE-22F	ASP .NET	40 (Theory)
7	DSE-23F	Linux Part- II	40 (Theory)
8	DSE-24F	Python Part -II	40 (Theory)
Practical (Annual)			
5	Practical Paper-IV	Computer Science Practical Paper Based on DSE-21E,22E,21F and 22F	50 (Practical)
6	Practical Paper-V	Computer Science Practical Paper Based on DSE-23E,24E,23F and 24F	50 (Practical)
7	Practical Paper VI	Software Project	100

6. EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS (FOR REVISED SYLLABUS)

Paper No.	Title of old paper	Paper No.	Title of New paper
SEMESTER V			
IX	Computer Networking	IX	More chances be given
X	Visual Programming using C#	X	C# Programming
XI	Linux Operating System	XI	Linux- I
XII	MY SQL and PHP	XII	More chances be given
SEMESTER – VI			
XIII	Network Technology and Windows Server 2008	XIII	More chances be given
XIV	Java Programming	XIV	Core Java
XV	Advanced Linux OS	XV	Linux- II
XVI	E-commerce	XVI	More chances be given
PRACTICAL (ANNUAL PATTERN)			
	Computer Science Practical Paper-IV,V and VI		More chances be given

B.Sc. Part –III Computer Science Optional (Semester– V)
Course Code: DSE-21E
Paper IX
Course Title: Core Java
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 40**

Objectives:

The objective of this course is to teach the learner how to use Object Oriented paradigm to develop code and understand the concepts of Core Java and to cover-up with the pre-requisites of Core java.

Course Outcomes:

1.Object oriented programming concepts using Java.
2.Knowledgeof input, its processing and getting suitable output.
3.Understand, design, implement and evaluate classes and applets
4. Understand concept of Multiprogramming and Exception Handling

Unit	Content	Hours Allotted
I	**Introduction to java** • History of java • Features of Java • Comparison between C++ and java • Java Virtual Machine(JVM) • Tokens • Java Keywords • Data Types-integer(byte,short,int ,long),floating point(float, double),char, boolean • Operators-arithemetic,relational,logical,unary,ternary,bitwise • Branching and looping statement • Typecasting-Implicit and Explicit • Command line arguments • Writing simple java program • Compiling and executing Java program	**12**
II	**Object Oriented Programming using Java** • Introduction- Class, Object and method • staticKeywords,Constructors,and destructor • super and thisKey Word • Encapsulation and Abstraction • Inheritance- Definition and its types-single,multilevel,hierarchical • Polymorphism-Definition and concepts of overloading and overriding • Difference between Overloading and overriding • Abstract Classes and Interfaces • String- String and String Buffer class • Defining package • System Packages –java, lang, awt, javax, swing, net, io, util.	**12**

	• user defined packages-creating and accessing the package	
III	**Multithreading, Exception Handling and Applets** • Creating threads, extending a thread class- declaring the class, run() method • Stopping and blocking threads • Life cycle of thread • Using thread method • Thread priority • Definition of exception • Syntax of exception handling code • Multiple catch statement • Using finally statement • Applets Definition • Building applet code • Applet life cycle • Adding applet code to HTML file • Introduction to Abstract Window Toolkit (AWT)	**12**

Reference Books:

1. Programming with JAVA, A Primer by E Balaguruswamy
2. Herbert Schildt, Java2: The Complete Reference, Tata McGraw-Hill
3. Java Programming- Rajendra Salokhe (Aruta Pub)
4. *The Java Tutorials: http://docs.oracle.com/javase/tutorial/)*
5. The Java Tutorials of Sun Microsystems Inc

Practical Based on DSE 21E(Lab course IV)

1. Java programs based on branching and looping statements.
2. Java programs based Type Casting
3. Java programs based on command line arguments
4. Java programs based on constructors
5. Java programs based on inheritance
6. Java programs based on method overloading
7. Java programs based on method overriding.
8. Java programs based on interfaces
9. Java programs based on packages
10. Java programs based on multithreading
11. Java programs based on exception handling
12. Java programs with applets.

B.Sc. Part –III Computer Science Optional (Semester– V)
Course Code: DSE-22E
Computer Paper X
Course Title: C# Programming
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks:40**

Course Outcomes:

This course will cover the practical aspects C#.NET framework. The goal of this course is to introduce the students to the basics of OOPs and windows application program.

Unit	Content	Hours Allotted
I	**Introduction to .Net** • .NET Framework Architecture • An Overview • Components of .NET: CLR ,CLS • Microsoft Intermediate Language ("MSIL" or "IL"), • The Common Type System (CTS), Namespaces, • .NET Framework Base Classes, DLL and Exe. • An Overview of C# • History and Features of C#. • Data Types, Value and Reference Types, Boxing and • Unboxing • Properties : Set and Get • C# - Flow Control: Branching, Switching and Looping • Structure	**12**
II	**Object oriented Concepts** • C# Program compilation and execution • Command Line Arguments • Programming Examples using Console application , • Classes and Objects • Inheritance • Polymorphism • Abstract Classes • Sealed Classes • Partial Classes • Exception Handling	**12**
III	**Introduction to Windows Form Application Using C#** • IDE – (Integrated Development Environment) • Form Controls: Label, Button, Textbox, Checkbox, RadioButton, Timer, calendar, ListBox, Image and overview of remaining all common controls its properties and events	**12**

References:

1. C# 4.0 The Complete Reference Schildt Mc Graw Hill
2. Inside C# - By Tom Archer, Andrew Whitechapel (Microsoft Pub)
3. Programming in C#- E Balagurusamy

Practical Based on DSE-E22

1. Write a C# program that print hello word using command line argument.
2. Write a console application program to demonstrate switching, looping, branching statement.
3. Write a console application for swapping of 2 numbers using Pass by value.
4. Write a console application for swapping of 2 numbers using Pass by Reference.
5. Write a C# program that uses explicit keyword.
6. Write a C# program that uses implicit keyword.
7. Write a C# program to implement out parameter.
8. Write C# program to display factorial of number.
9. Write C# program to display prime factors of entered number.
10. Write C# program check entered number is even or odd.
11. Write C# program to demonstrate array.
12. Create DLL and implement in another console application.
13. Write C# program to demonstrate static and non-static methods.
14. Write C# program to demonstrate Inheritance.
15. Write C# program to demonstrate Interface.
16. Write C# program to demonstrate abstract class.

B.Sc. Part –III Computer Science Optional (Semester– V)
CourseCode: DSE-23E
Computer Paper XI
Course Title: LINUX Part I
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks:40**

Course Outcomes

1. Upon completion of this course, students should have a good working knowledge of Linux.
2. Allowing them to easily use any Linux distribution.
3. This course shall help student to learn advanced subjects in computer science practically.

Unit	Contents	Hours Allotted
I	**Introduction to Linux** • History of Linux • Architecture of Linux • Operating System Services • Shell • Types of Shell • Kernel • Login, Logout • General Purpose Utilities (banner, cal, date, calendar, who, tty, uname, password, lock, echo, tput, bc, clear, script, wc, head, tail, echo, test, expr)	**9**
II	**File System, System Calls and Process** • Basic file system management • Files Types, Boot block, Super block, Inode table • Storage and Accessibility of files • Finding Information of commands • File and Directory Commands • File and Directory Manipulation commands • File ownership and permission • Open, Read, Write, Close • Mounting and Un-mounting File System • Process States and Transitions • Process Creation • Signal • Process Termination • Awaiting Process Termination • Invoking Other Programs • Process Management(ps, kill, background processing, no hang up, SPOOL, job scheduling using at command)	**18**
III	**Editors and Shell Scripting** • Types of editors • Modes of Operation	**9**

	• Editing Text Files • Block Commands • Set Commands • Command Line Options • Choosing a Shell • Invoking the Shell Variables • Getting input from keyboard • Special Variables • Control Statement- Conditional • Iterative Statements • Regular expression	

Reference Books

1. Linux Commands- Instant Reference by Bryan PF affenberge
2. The Design of the Unix Operating System- Bach
3. Unix Shell Programming- Yashwant Kanetkar
4. Unix Concepts and Application – Sumitabhadas
5. Linux : The Complete Reference- Richard Peterson

Practical Based on DSE-23E

1. Demonstration of General Purpose Utilities.
2. Write a shell script using if statements to check file exists or not.
3. Write a shell script to copy a file.
4. Write a shell script to check the given number is odd or even.
5. Write a shell script to check file permission.
6. Write a shell script to calculate the grade of student.
7. Write a shell script to find out given word contains vowel and also the entered vowel is small case or capital.
8. Write a shell script to display given year is leap year or not.
9. Write a shell script to greet message according to time.
10. Write a shell script to print the Fibonacci series.
11. Write a shell script to print the numbers between 1 to10.
12. Write a shell script to read name, sex and marital status and display the same.

B.Sc. Part –III Computer Science Optional (Semester– V)
Course Code: DSE-24E
Computer Paper XII
Course Title: Python Part I
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 40**

Objective
Master the fundamentals of writing Python scripts

Course Outcomes:
1. To understand why Python is a useful scripting language for developers
2. To learn how to write loops and decision statements in Python
3. To learn how to use lists, tuples, and dictionaries in Python programs

Unit	Contents	Hours Allotted
I	**Introduction** • History • Features • Setting up path • Working with Python • Basic Syntax • Keywords • Variable and Data Types • Operator • Input , output functions **Conditional Statements & Looping** • If • If- else • Nested if-else • For • While • Nested loops	**12**
II	**Control Statements** • Break • Continue • Pass **String Manipulation** • Accessing Strings • Basic Operations • String slices • Function and Methods **Lists** • Introduction • Accessing list • Operations • Working with lists • Function and Methods	**12**

III	**Tuple** • Introduction • Accessing tuples • Operations • Working • Functions and Methods **Dictionaries** • Introduction • Accessing values in dictionaries • Working with dictionaries • Properties • Functions	**12**

Reference Books

1. Practical Programming: An introduction to Computer Science Using Python, second edition, Paul Gries, Jennifer Campbell, Jason Montojo, The Pragmatic Bookshelf.
2. Python for Informatics: Exploring Information, Charles Severance
3. Learning Python, Fourth Edition, Mark Lutz, O'Reilly publication
4. Introduction to Python for Computational Science and Engineering (A beginner's guide), Hans Fangohr
5. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
6. R. Nageswara Rao, "Core Python Programming", Dreamtech

Prctical Based on DSE-24E

1. Python program to add two numbers
2. Python program for factorial of a number
3. Python program for simple interest
4. Python program to check if a string is palindrome or not
5. Python program to reverse words in a given string in python
6. Python program to find out ways to remove i'th character from string in python
7. Python program to check if a substring is present in a given string
8. Python program to interchange first and last elements in a list
9. Python program to swap two elements in a list
10. Python program to find out different ways to clear a list in Python
11. Python program to reversing a List
12. Python Program for Linear Search
13. Python Program for Insertion Sort
14. Python Program to demonstrated use of dictionaries by Key or Value
15. Python Program to remove a key from dictionary

B.Sc. Part –III Computer Science Optional (Semester– VI)
Course Code: DSE-21F

Paper XIII

Course Title: Advanced Java
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 40**

Objectives:
Explore advanced topic of Java programming for solving problems.

Course Outcomes:

1) The student will be able to develop distributed business applications, develop web pages Using advanced server-side programming through servlets and Java server pages.
2) Demonstrate approaches for performance and effective coding
3) To learn database programming using Java
4) To study web development concept using Servlet and JSP

Unit	Content	Hours Allotted
I	**Swing and JDBC** • Concept of swing • MVC architecture • Component of swing: JFrame,JComponent,JLable, JTextfields, JCheckbox, JPanel, JRadiobuttons, JTabbed Pane,JButton, JTree, JTable, JMenu • Difference between AWT and Swing • Introduction Java Data Base Connectivity (JDBC) • JDBC Connection Statements, ResultSet. • simple program • Executing commands and SQL queries • Updatable ResultSet • Forward Only ResultSet • Scrollable ResultSet • PreparedStatement • Connection Modes, SavePoint.	**12**
II	**Servlet** • Introduction to Servlet • Hierarchy of Servlet • Life cycle of servlet • ServletConfig • ServletContext • Servlet API • packages- javax.servlet and javax.servlet.http • Servlet Communication • Handing get and post request (HTTP) • Handling a data from HTML to servlet • Retrieving a data from database to servlet	**12**

	• Session tracking – User Authorization, URL rewriting, Hidden form fields	
III	**Java Server Page (JSP)** • Concept of JSP • Life cycle of JSP • JSP v/s Servlet • Components of JSP: Directives, Tags • Scripting elements – Declarations, Expressions, Scriplets, Comments • Implicit objects of JSP • Connecting to database • Simple application using JSP	**12**

Reference Books

1. Programming with JAVA, A Primer by E Balaguruswamy
2. Herbert Schildt, Java2: The Complete Reference, Tata McGraw-Hill
3. Java Programming- Rajendra Salokhe (Aruta Pub)
4. Java 2 Black Book –(DreamTech)
5. *The Java Tutorials: http://docs.oracle.com/javase/tutorial/)*
6. The Java Tutorials of Sun Microsystems Inc

Practical Based on DSE-21F

Practical Program List

1. Program on Swing
2. Simple program using servlet
3. Simple program using JSP
4. Program on Database Connection.
5. Develop a java application to store image in a database as well as retrieve image from database
6. Create EMP table in Database and perform insert ,update ,and delete operation onEMP table using JSP.

B.Sc. Part –III Computer Science Optional (Semester– VI) CourseCode:DSE-22F

Computer Paper XIV

Course Title: ASP .NET
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks:40**

Course Outcomes:

This course will cover the practical aspects of multi-tier web based application development using the .NET framework. The goal of this course is to introduce the students to the basics of distributed Web application development.

Unit	Content	Hours Allotted
I	**Introduction to ASP.Net**: • Web browser, web server • HTTP request response structure • HTML form elements • GET/POST method • Client side and Server side programming. • Web form life cycle, page events, • Visual studio IDE. • **Server Controls:** Textbox, Listcontrols, FileUpload, Linkbutton, Imagemap, Image, Imagebutton, Calender, Literal control, Radiobutton, Checkbox, • Validation Controls • Navigation controls • Master Page.	**14**
II	**Asp.Net State Management** • Cross page postback property of button, • Response.Redirect, • Server.transfer, Response.Write, • Hiddenfield control, • View State, Cookies, Session, Application • Global.asax	**10**

	• Caching	

III	**Database and ADO.Net**
	• Sql Server Database.
	• Data controls
	  o Gridview
	  o Listview
	  o FormView
	  o DetailsView,
	  o Repeater
	• Introduction to ADO.Net
	  o ADO.NET Architecture- Connection, command, data reader, data adapter, data set
	  o Understanding connected layer of ADO.NET and disconnected layer of ADO.NET
	• Basics of Crystal reports
		12

Reference Books:

- Beginning ASP.NET 4.5 in C# and VB, Wrox, 2012, ISBN-10: 1118311809
- Beginning ASP.NET 4.5 in C#, Apress, 2012, ISBN-10: 1430242515
- Pro C# with .NET 3.0, Andrew Troelsen, Apress, 2007, ISBN 978-1-59059-823-8

Practical Experiments based on DSE-F22:

1. Write an Asp.Net Program to print a Message on web form.
2. Write an Asp.Net Program to Create Simple Web Application using two or more web form.
3. Write an Asp.Net Program to set a link for new Page.
4. Write an Asp.Net Program to demonstrate different common Control.
5. Write an Asp.Net program using while or for loop to print sum of first 100 ODD and Even Numbers.
6. Write an Asp.Net Program to add the value of Text Box in to Dropdown List and List box Controls.
7. Write an Asp.Net Program to Delete Items from Dropdown list and List box.
8. Write an Asp.Net Program to set Image on Image Control according to selection of image name from dropdown list.
9. Write an Asp.Net Program to demonstrate use of Master Page.
10. Program to demonstrate ADO.Net connected architecture.
11. Program to demonstrate ADO.Net disconnected architecture

12. Program to demonstrate client side state management.
13. Program to demonstrate serverside state management.
14. Write an Asp.Net Program to perform Insert and update operation in Database.
15. Write an Asp.Net program to perform Search and Delete operation in Database.
16. Write an Asp.net program to display the records from database using Data Reader Object.

B.Sc. Part –III Computer Science Optional (Semester– VI) CourseCode:DSE-23F

Computer Paper XV

Course Title: Linux Part II
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits:02 **Total Marks:40**

Course Outcome:

1. This course covers design principles of Linux Operating System Memory management.
2. Structure of File system and virtual file system is also elaborated.
3. This course contains details of shell programming and introduces System administration

Unit	Content	Hours Allotted
I	**Memory Management and Advanced vi** • Swapping • Demand Paging • ex Mode- handling Multiple Files • Named Buffer • Numbered Buffers • Entering control characters • Searching for a characters	9
II	**Filters and Advanced Shell Programming** • sed and sed options • grep and grep options • Line Addressing • Multiple Instruction(-E and -F) • Context Addressing • Writing Selected Lines to a File • Shell and subshell • Command Line Arguments • Exporting Shell Variables • Arrays • Shell Functions	18
III	**Networking Tools** • Introduction to TCP/IP • Network Management Tools- Firewall • The write command • The wall command • cron	9

Reference Books:

1. Linux Commands –Instant Reference by Bryan PF affenberge
2. The design of the Unix Operating System- Bach
3. Unix Shell Programming- Yashwant Kanetkar
4. Unix Concepts and Applications- Sumitabha das
5. Linux : The Complete Reference- Richard Peterson

Practical Based on DSE-23F

1. Write a shell script using grep command to print prime numbers between 1 to 30.
2. Write a shell script to find whether the supplied user working on network or not. If he/she is working then display his/her login time.
3. Write a anawk program to display customer earning report with given format.
4. Write a shell script which accepts a file name as a input. Find out whether it is ordinary file or directory. If a file is available then display all file access permission on screen.
5. Write a shell script which copies files from one directory to another during copy command.
6. Write an awk program to display stock report with given format.
7. Create a data file which contains given format and perform the given operations on that data file using sed.
8. Write a shell script to copy a file using command line argument, source file must be exists and readable and target file must be non existing file name.
9. Write a shell script, which works similar to wc command accept filename as command line argument.
10. Accept any word through command line argument and find out its length.

B.Sc. Part –III Computer Science Optional (Semester– VI) CourseCode:DSE-24F
Computer Paper XVI
Course Title: Python Part II
Total Contact Hours: 36 Hrs. (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits:02 **Total Marks:40**

Course Outcomes:

1. To learn how to write functions and pass arguments in Python
2. To learn how to build and package Python modules for reusability
3. To learn how to use exception handling in Python applications for error handling

Unit	Content	Hours Allotted
I	**Functions** • Defining a function • Calling a function • Types of functions • Function Arguments • Anonymous functions • Global and local variables	12
II	**Modules** • Importing module • Math module • Random module • Packages • Composition **Input-Output** • Printing on screen • Reading data from keyboard • Opening and closing file • Reading and writing files • Functions	12
III	**Exception Handling** • Exception • Exception Handling • Except clause • Try , finally clause • User Defined Exceptions **Object Oriented Programming Concepts** • Class and object • Attributes • Inheritance • Overloading • Overriding • Data hiding	12

Reference Books:

1. Practical Programming: An introduction to Computer Science Using Python, second edition, Paul Gries, Jennifer Campbell, Jason Montojo, The Pragmatic Bookshelf.
2. Python for Informatics: Exploring Information, Charles Severance
3. Learning Python, Fourth Edition, Mark Lutz, O'Reilly publication
4. Introduction to Python for Computational Science and Engineering (A beginner's guide), Hans Fangohr
5. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
6. R. Nageswara Rao, "Core Python Programming", Dreamtech

Practical Based on DSE-24F

1. Write a simple Python function to check whether x is even or odd
2. Write a simple Python program to demonstrate default arguments to function
3. Write a simple module (e.g. calc.py) for addition and subtraction
4. Write a program for importing sqrt() and factorial from the module math
5. Write a program to provide the facility to input and display it on the screen
6. Write a program to demonstrate to open and close file
7. Write a Python program to handle simple runtime error
8. Write program to handle multiple errors with one except statement
9. Write a python program to create user-defined exception
10. Write Python code to illustrate clean up (finally) actions
11. Write a program to demonstrate the use of class
12. Write a Python program to demonstrate inheritance
13. Write a Python program to demonstrate overloading
14. Write a Python program to demonstrate overriding

NATURE OF QUESTION PAPER AND SCHEME OF MARKING:

The practical Paper – IV is based on Paper No. IX, X, XIII and XIV.

The practical Paper – V is based on Paper No. XI, XII, XV and XVI.

The practical Paper – VI is of Major Project work done by the student.

NATURE OF PRACTICAL QUESTION PAPER:

1. The practical question paper IV and V for B.Sc.-III(computer science) will be of maximum 50 marks each.
2. The practical paper IV having four questions out of which two questions are based on Paper –IX (Sem.-V) Paper-XIII (Sem.-VI) and two questions are based on Paper X(Sem.V), Paper-XIV (Sem.-VI)
3. The practical paper V having four questions out of which two questions are based on Paper – XI (Sem.-V), Paper XV (Sem.-VI) and two questions are based on Paper-XII(Sem.-V), Paper-XVI (Sem.- VI)
4. The Student has to attempt any TWO questions out of FOUR questions. Each question carries 20 marks.
5. 10 marks are for Viva and certified Journal.
6. The student appearing for the practical examination is expected to write paper work for TWO questions. Paper work is compulsory and it includes problem analysis, Algorithm, source code, output and tracing.
7. It is expected to complete the paper work within 120 minutes. The student has to complete his/her actual practical experiment on machine within 90 minutes. The practical based viva will be of 30 minutes duration.
8. The duration of practical will be 4 hours.
9. Practical Paper VI is Project work of 100 marks.

Practical Paper VI: Project work - 100 marks

Project work Guidelines:

1. Institute is expected to conduct Industrial visit to any computerized industry and students are supposed to submit the report based on same.
2. Software development project is to be carried out by the candidate in actual consumer environment taking some real life problem.
3. The candidate submit the project work according to norms of software engineering i.e. the project document should contain Introduction, detailed design, sample testing and conclusion(Guidelines and other details are mentioned at **Appendix -1 and 2**)
4. Project will have internal guide to supervise and monitor the progress of the project. The internal guide may assign the project to the student or within the group of student (maximum 2 candidates in group) depending upon the complexity of the problem preferably using MySQL /MSSQL/Oracle as a back end and C#.NET/ASP with C#/PHP/ Java as a front end.
5. There will be online demonstration of project work in the presence of the external examiner and it will be considered for the evaluation.

6. The mark distribution for Practical paper VI will be as follows:

Project documentation	:	30 marks
On-line Presentation	:	20 marks
Project Based Viva-voce	:	30 marks
Industrial Visit Report	:	20 marks
Total Marks	**:**	**100marks**

Appendix- 1

Guidelines for Project:
Number of Copies: The student should submit two Hard-bound copies of the Project Report. (one copy for institute and one copy for student)

Acceptance/Rejection of Project Report:

The student must submit an outline of the project report to the college for approval. The college holds the right to accept the project or suggest modifications for resubmission.

Format of the Project Report:
The student must adhere strictly to the following format for the submission of the Project Report.

a. Paper:
The Report shall be typed on white paper, A4 size, for the final submission.

b. Typing:
The typing shall be of standard letter size, 1.5 spaced and on one side only. (Normal text should have Arial Font size 12. Headings have bigger size i.e. up to size 14)

c. Margins:
- The typing must be done in the following margins:
- Left -----1.5 inch, Right ----- 1 inch
- Top ----- 1 inch, Bottom ----- 1 inch

d. Front Cover:
The front cover should contain the following details:

- TOP : The title in block capitals of 6mm to 15mm letters.
- CENTRE: Full name in block capitals of 6mm to 10mm letters.
- BOTTOM: Name of the University, Course, Year of submission -all in block capitals of 6mm to 10mm letters on separate lines with proper spacing and centring.

f. Blank Sheets:
At the beginning and end of the report, two white black bound papers should be provided, one for The purpose of binding and other to be left blank.

Appendix - 2
- Input Design
- Report Design
- Implementation
- Testing

Standard Project Report Documentation Format

a) Covering Page

b) Institute/College certificate

c) Guide Certificate

d) Student declaration

e) Acknowledgement

f) Index (Chapter Scheme)

1) Introduction to Project

- Introduction
- Existing System
- Need and scope of System
- Organization Profile

2) Proposed System

- Objectives
- Requirement Engineering.
- Requirement Gathering.

• SRS

3) System Diagrams

- DFD
- ERD
- UML(if applicable)

4) System Requirements

- Hardware
- Software

5) System Design

- Database Design
- Input Design
- Output Design

6) User Guideline

- Installation process

7) Source Code

8) Outputs

- Input screens and Reports (with valid Data)

9) Conclusion and Suggestions

- Conclusion and suggestions

• Future enhancement

- Bibliography:

Note: Minimum 5 reports are essential as outputs of the project work done by the student

SHIVAJI UNIVERSITY, KOLHAPUR

Accredited By NAAC with 'A++' Grade

Choice Based Credit System with Multiple Entry and Multiple Exit Options

As per NEP-2020

Syllabus for

B.Sc. Part – II

COMPUTER SCIENCE (Optional)

SEMESTER – III AND IV

(Syllabus to be implemented from Academic Year 2023-24)

B.Sc. Computer Science (Optional) Semester - III & IV

(CBCS) NEP-2020 Syllabus to be implemented from June 2023 Onwards

1. **TITLE:** Computer Science
2. **YEAR OF IMPLEMENTATION**: Revised Syllabus will be implemented from June 2023 onwards.
3. **DURATION:** B.Sc. in Computer Science Part - II The duration of the course shall be one year and two semesters.
4. **PATTERN:** The pattern of examination will be semester.
5. **STRUCTURE OF COURSE:**

STRUCTURE OF COURSE

Sr. No.	Paper	Name of Paper	Marks		
			Theory	Internal	Total
Computer Science (Semester - III)					
1	DSC-C11	Web Technology	40	10	50
2	DSC-C12	Object Oriented Programming Using C++	40	10	50
Computer Science (Semester - IV)					
3	DSC-D11	Cyber Security Essentials	40	10	50
4	DSC-D12	Data Structure Using C++	40	10	50
Practical (Annual)					
5	Practical Paper-II	Computer Science Practical Paper Based on DSC-C11	50 (Practical)	-	50
6	Practical Paper-III	Computer Science Practical Paper Based on DSC-C12 and DSC-D12	50 (Practical)	-	50

6. **EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS**

(FOR REVISED SYLLABUS)

Sr. No.	Title of old paper	Sr. No.	Title of New paper
SEMESTER III			
1	PHP and MySQL	1	Web Technology
2	Object Oriented Programming Using C++	2	Object Oriented Programming Using C++
SEMESTER – IV			
3	Cyber Security Essentials-I	3	Cyber Security Essentials
4	Data Structure Using C++	4	Data Structure Using C++
PRACTICAL (ANNUAL PATTERN)			
5	Computer Science Practical Paper - II	5	Computer Science Practical Paper - II
6	Computer Science Practical Paper - III	6	Computer Science Practical Paper - III

B.Sc. Part – II Computer Science (Optional) (Semester – III)
Course Code: DSC-C11 Computer Science Paper –V
Course Title: Web Technology
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 50**

Course Outcomes:

Upon successful completion of this course, students will be able to

1. understand the principles of web design.
2. construct basic websites using HTML and Cascading Style Sheets.
3. build dynamic web pages with validation using JavaScript.
4. develop a modern web application that meets the current industry requirement.

Unit – 1: Introduction to Internet, HTML, CSS and JavaScript **18 Hrs.**

1.1 Fundamentals
- 1.1.1 Introduction Internet.
- 1.1.2 WWW, Web Browsers, Web Servers.URL and URI.

1.2 Overview of different protocols
- 1.2.1 HTTP, SMTP, FTP.

1.3 HTML
- 1.3.1 Introduction,
- 1.3.2 Standard HTML Document Structure
- 1.3.3 Basic Text Formatting Elements <b>, , <i>, <s>, <emp>, <u>, <small>, <big>, <tt>.
- 1.3.4 Images <img>, Hypertext Links<a>, and ,Lists -Ordered and Unordered, <input> (Type – Text, Password, Button, Submit, Reset).

1.4 Cascading Style Sheets
- 1.4.1 Introduction
- 1.4.2 Types of CSS
- 1.4.3 Basic syntax
- 1.4.4 Selectors –element, id, class, group, universal.
- 1.4.5 Style Properties of color, font, text, size and border

1.5 Java Script
- 1.5.1 Introduction
- 1.5.2 Document Object Model
- 1.5.3 Variables, Datatypes and Operators
- 1.5.4 Control Statement – if, if-else, break
- 1.5.5 Looping Statements – while, for
- 1.5.6 Element Access in Java scripts – getElementById() and getElementsByName()
- 1.5.7 Event and event handling – onClick(), onBlur(), onFocus(), onKeyPress()
- 1.5.8 dialog boxes – alert(), prompt(), confirm().

Unit – 2: Introduction to PHP **18 Hrs.**

2.1 Introduction PHP –

- 2.1.1 Introduction and Features,
- 2.1.2 PHP basic syntax <?php...?>,
- 2.1.3 Comment(single and multiline),
- 2.1.4 Echo command, PHP script execution in web browser.
- 2.1.5 Variables: Basics, Variable naming rules, unset(), gettype(), isset(),
- 2.1.6 constants -define() and constant()
- 2.1.7 Operators: Arithmetic, Comparison, Relational, Assignment, Increment Decrement, Ternary, Other operators(., $, @, {}, ``, =>),
- 2.1.8 Strings: Single Quoted and Double Quoted, escape sequences,
- 2.1.9 Forms: HTML forms, action and get & post methods. PHP super global variables ($_GET, $_POST, $_REQUEST
- 2.1.10 Decision-Making Statements: if, if... else, if ... elseif...else, switch statement, iterative Statements: for, while, do... while, foreach, break and continue statement
- 2.1.11 Exit statements: exit, die
- 2.1.12 User-Defined Functions: Declaring functions, Function call
- 2.1.13 Arrays: Concept, Types(Numerical/List, Associative/Maps, Multidimensional), accessing array elements

2.2 Database Connection – Connection to MySQL

- 2.2.1 Establishing Connection - mysqli_connect()
- 2.2.2 Closing connection - mysqli_close()
- 2.2.3 Select a database - mysqli_select_db()
- 2.2.4 Execute MySQL commands- mysqli_query()
- 2.2.5 Fetch data from tables - mysqli_fetch_row(), mysqli_fetch_array(), mysqli_fetch_assoc()

Reference Books –

1. Web Programming – John Dean, John and Bartlett Learning
2. Internet Fundamentals & Concepts – Shubhra Garg, S.K.Kataria& Sons
3. Web Technologies HTML, JavaScript, PHP, Java, JSP, ASP.NET, XML, and AJAX - Comprehensive Problem Solver, Black Book -Kogent Learning Solutions Inc, Dreamtech Press, Willey India Pvt Ltd.
4. Internet and World Wide Web How to Program – P. J. Deitel, H. M. Deitel,, Pearson
5. PHP and MySQL byDreamtech Publications
6. PHP Concepts Unleashed for Novice – Vol I - By Poornima Naik, Kavita Oza, Evincepub Publishing
7. PHP A Beginner's Guide – Vikram Vaswami
8. Beginning PHP 6, Apache, MySQL Web Development- By Timothy Boronczyk, ElizabethNaramore, Jason Gerner, Yann Le Scouarnec, Zeremy Stolz, Michael K. Glass
9. PHP and MySQL by Rajendra Salokhe, Aruta Publications
10. Learning Laravel: The easiest way – Jack Vo, Lean Publishing
11. Beginning Laravel -Sanjib Sinha, Apress
12. Web application development with Laravel PHP Framework version 4 - Jamal Armel, Metropolia

Practical Based on DSC-C11

1) For PHP practical use HTML form to take user input (avoid console-based input).
2) Also, provide more assignments to students for practice apart from the list provided below.

Sr. No.	Particulars
1.	Create a web page to demonstrate the use of text formatting elements.
2.	Create a web page having a link to another web page containing a gallery of images.
3.	Design a web page to demonstrate CSS selectors.
4.	Design a Web page to demonstrate the use of – CSS Text, Color, Border, and Size properties.
5.	Design a web page having three sections Header, Footer and Navigation Bar. Use ,, and CSS.
6.	Create a web page i) To check given number is odd or even ii) To check given number is a Palindrome or not. iii) To check given number is Armstrong or not.
7.	Create a web page to perform simple arithmetic calculations
8.	Create a web page with a Textbox and 4 buttons. Click on the 1st button will display the text entered in the text box on the web page, click on 2nd button will change text color, click on 3rd button will change font and click on 4th button will set border to text.
9.	Design an HTML form with the following fields and validate user input using JavaScript: Roll No., Name and Email address.
10.	Design a web page to input temperature in degree Celsius. Convert the temperature to degree Fahrenheit using PHP script.
11.	Design a web page to input a number. Using PHP script check whether given number is Odd/Even.
12.	Design a web page to input a number. Using PHP script check whether given number is Palindrome/Armstrong and display message in Web page accordingly.
13.	Design a web page to input a number. Using PHP script check whether given number is Prime or Not.
14.	Write a PHP script that will display array elements, smallest element in array, largest element in array and Sum of elements of array. (Use hard coded array)
15.	Write PHP script to display ‘n’ terms of Fibonacci series using user defined function.
16.	Write PHP script to display factorial of natural number using user defined function.

17.	Create Employee database in MySQL with table EmployeeMaster (EmpId, EmpName, EmpDepartment). Create a web page having a form with the above fields, connect the web page to MySQL and perform Insert, Update and Delete operations through the web page.
18.	Use the Employee database (Specified in Sr. No.17) and perform the following operation through the web page i. Display all employee details. ii. Display Employees from a specific department. iii. Display count of employees in a particular department.
19.	Create Student Database in MySQL with the following table: StudentMaster (RollNo, StudentName, AdmittedClass, DateOfBirth). Design a complete web form to perform CRUD operation on the above table.

3) Assignments using Laravel PHP web framework -

Introduce the following concepts to the students:

a. Introduction of Laravel
b. Features of Laravel
c. Introduction of MVC Pattern
d. Laravel Directory Structure
e. Installation - using Composer
f. Laravel Application Structure
g. Laravel Routing - Basic Routing, Routing Parameters, Laravel Named Routes
h. Laravel Controllers, Routing Controllers, Resource Controllers
i. Laravel Views, Passing data to views

Create a minimum of two basic Laravel Web Applications.

B.Sc. Part – II Computer Science (Optional) (Semester – III)
Course Code: DSC-C12 Computer Science Paper –VI
Course Title: Object Oriented Programming Using C++
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 50**

Course Outcomes:

Upon successful completion of this course, students will be able to

1. understand the principles of web design.
2. understand how C++ improves C with object oriented features
3. learn syntax and semantics of C++ programming language
4. learn how to write inline functions for efficiency and performance.
5. learn how to overload functions and operators in C++.
6. learn how to design C++ classes for code reuse.
7. learn how inheritance promotes code reuse in C++.
8. learn how inheritance and virtual functions implement dynamic binding with polymorphism.

Unit – 1: Introduction to C++ **12 Hrs.**

1.1 Object oriented programming Concepts: Object, class, Encapsulation, Abstraction, Polymorphism, Inheritance
1.2 Procedure Oriented programming versus Object oriented programming
1.3 Basic C++ program:
  1.3.1 Header file, using namespace std, main(), input:>> extraction using cin and output: << insertion using cout operator
  1.3.2 C++ Tokens:
    1.3.2.1 Keywords - bool, class, delete, namespace, friend
    1.3.2.2 Identifiers, Constants, Strings
1.4 Structure of C++ Program
1.5 Benefits of C++ over C Language
1.6 C++ Data Types:
  1.6.1 Built-in / Fundamental: void, char, int, float, double
  1.6.2 User defined- struct, union, enum, class
  1.6.3 Derived- array, function, pointer, reference

1.7 Variable:
  1.7.1 Definition, Declaration, Initialisation
  1.7.2 Dynamic Initialisation and reference variables
1.8 Operators in C++:
  1.8.1 DMA operators: new, delete
  1.8.2 Scope resolution operator::
  1.8.3 Manipulators: setw, endl, setprecision
1.9 Function:
  1.9.1 Function Call: by value, by pointer, by reference, return by reference
  1.9.2 Default arguments, const arguments
  1.9.3 Inline function
  1.9.4 Function overloading

Unit – 2: Object Oriented Programming **24 Hrs.**

2.1 Class:
- 2.1.1 Difference between struct and class
- 2.1.2 Class specification: class declaration, class definition, adding data membersand member functions
- 2.1.3 Access modifiers/ visibility labels – private, public, protected members
- 2.1.4 Member function definition - inside the class and outside the class
- 2.1.5 Object definition and memory allocation of object
- 2.1.6 Use of this pointer
- 2.1.7 Static members - data members and member function
- 2.1.8 Scope of a variable - local, local to class, global

2.2 Friend function and friend class:
- 2.2.1 Characteristics of friend function, Declaration and Definition of friend function
- 2.2.2 Use of friend class

2.3 Constructor and Destructor:
- 2.3.1 Constructor - Definition, Characteristics, features
- 2.3.2 Types - Default, parameterized, copy
- 2.3.3 Destructor- Definition, Need of destructor

2.4 Operator overloading:
- 2.4.1 Concept, Rules
- 2.4.2 Definition of operator function:
  - 2.4.2.1 Using member function to overload unary and binary operators
    Example: unary operator --, ++ and Binary-Arithmetic Operator
  - 2.4.2.2 Using friend function to overload unary and binary operators
    Example: unary operator --, ++ and Binary-Arithmetic Operator

2.5 Inheritance:
- 2.5.1 Concept, Definition
- 2.5.2 Types: single, multilevel, multiple, hierarchical, hybrid
- 2.5.3 Defining derived class
- 2.5.4 Introducing protected members, visibility of derived members
- 2.5.5 Diamond problem with hybrid inheritance -virtual inheritance and virtual base class

2.6 Polymorphism:
- 2.6.1 Concept, Definition
- 2.6.2 Types: Compile time/early binding/static binding and run time/ late binding / dynamic binding
- 2.6.3 Pointer to object
- 2.6.4 Virtual and pure virtual functions -abstract class, rules for virtual functions

Reference Books

1. Object - Oriented Programming in C++ by Rajesh K. Shukla - Wiley India Pvt. Ltd
2. Object Oriented Programming Using C++ by Poonam Ponde
3. Object-Oriented Programming with C++ by E Balagurusamy - McGraw Hill India
4. Mastering C++ by K. R. Venugopal - McGraw Hill Higher Education
5. C++ Programming by D. Ravichandran
6. A Tour of C++ (2nd Edition) - Bjarne Stroustrup.
7. The C++ Programming Language (4th Edition) - Bjarne Stroustrup.

Practical Based on DSC-C12

Use "Problem Solving Techniques" for following problems and implement code through C++ programming language. It includes: Problem Analysis, Algorithm, Flowchart, Output Tracing using Algorithm, Source Code with Output

First introduce the C++ compilation process and components (cpp, g++, as only) with a simple program and Debugging using(GDB).

Sr. No.	Content
1	**Function Default Argument:** i) To calculate perimeter of square(4*r), rectangle(2*l+2*b), triangle (a+b+c) ii) To calculate area of square(r*r), rectangle(l*b), trapezium(1/2*h*(s1+s2)) Keeping other argument to default value zero.
2	**Function Overloading:** i) To calculate perimeter of square(4*r), rectangle(2*l+2*b), triangle (a+b+c) ii) To calculate area of square(r*r), rectangle(l*b), trapezium(1/2*h*(s1+s2))
3	**Constructor And Destructor:** Demonstrate the working of constructor (default, parameterised, copy) and destructor to allocate and de-allocate memory to or from an array of integers using DMA operators new and delete.
4	**Static Members:** Display counter which counts numbers of objects of class, counter is incremented in constructor and decremented in destructor.
5	**Friend Function:** Create two classes Celsius and Fahrenheit and define friend functions to add and to compare two temperatures.
6	**Operator Overloading:** To overload binary arithmetic operator using member function/friend function
7	**Operator Overloading:** To overload unary --, ++ operator using member function/friend function
8	**Pure Virtual Function And Inheritance:** To specify base class Shape with pure virtual methods Input(), Perimeter() and Area(). Inherit three classes Square, Rectangle and Triangle from class Shape with appropriate data members and override methods Input(), Perimeter() and Area(). Use Pointer of class Shape to access objects of Three classes and Demonstrate working in "main" function.

B.Sc. Part – II Computer Science (Optional) (Semester – IV)
Course Code: DSC-D11 Computer Science Paper –VII
Course Title: Cyber Security Essentials
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 50**

Course Outcomes:

Upon successful completion of this course, students will be able to

1. understand the concept of information security management.
2. learn different access control methods.
3. understand wireless network security.
4. learn cyber security laws and the importance of security audit.

Unit – 1: Computer Networks and Information Security 12 Hrs.

- **Basic Terminologies:** Network, Internet, Internet Protocols, IP Address, MAC Address, Domain Name Server (DNS), DHCP. Components of computer networks - files server, workstation. Network, devices - hub, repeater, bridge, router, gateway.
- **OSI Model, TCP/IP Model**
- **Information Security:** Network Security, Types of Network Security, Cyber Security, CIA Triad, Common Types of Attacks -Distributed denial of service (DDoS), Man in the middle, Email attacks, Password attacks, Malware attacks. DoS attack, Goals for Security, E-commerce Security, Security protocols, Computer Forensics, Security Management- Overview of Security Management, Information Classification Process, Security Policy, Risk Management, Security Procedures and Guidelines, Business Continuity and Disaster Recovery, Ethics and Best Practices.

Unit – 2: Network Security, Access Controls, Cyber Security and Cyber Laws 24 Hrs.

- **Wireless Network Security:** Components of wireless networks, Security issues in wireless, Firewall, types of firewall.
- **Access Controls:** Overview of Authentication and Authorization, Overview of Intrusion Detection Systems, Intrusion Detection Systems and Intrusion Prevention Systems.
- **Introduction to Cyber Security:** Firewalls, Intrusion Detection Systems, Response, Scanning, Security policy, Threat Management, Cyber Security Vulnerabilities and Cyber Security Safeguards Introduction to Cryptography, Network-based Intrusion detection, Intrusion prevention system, ethical hacking
- **Cyber Security:** Email security: PGP and SMIME, Web Security: web authentication, SSL and SET, Database Security.
- **Cyber Security Laws:** Cyber Crime, Security Assurance, Security Laws, Intellectual Property Rights, International Standards, Security Audit- Need, Importance.

References:

1. Computer Network -AS Tannenbum
2. Cyber Security for Beginners: Everything you need to know about it (Cyber security, Cyber war, Hacking) - Harry Colvin.
3. How NOT To Use Your Smartphone - Rodney D Cambridge.
4. Online Safety: Scams, SPAM, Viruses and Clouds (Cyber Security Community Book - A.M. Perry.

5. Cyber Security Essentials- James Graham, Richard Howard, Ryon Olson (E-book)
6. Network Security Secrets and Solutions – Stuart McClure, Joe Scambray, George Kurtz.
7. Information Assurance Handbook: Effective Computer Security and Risk Management Strategies – Corey Schou, Steven Hernandez.
8. Applied Network Security Monitoring: Collection, Detection, and Analysis – Chris Sanders, Jason Smith.
9. E-Commerce- Indian Perspective- P.T. Joseph S.J.
10. E-Commerce and Security- Kjell Orsborn (E-book)

B.Sc. Part – II Computer Science (Optional) (Semester – IV)
Course Code: DSC-D12 Computer Science Paper –VIII
Course Title: Data Structure Using C++
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 50**

Course Outcomes:
Upon successful completion of this course, students will be able to

1. understand the basic concepts such as Abstract Data Types, Linear and Non-Linear Data structures.
2. choose appropriate data structures to represent data items in real-world problems.
3. analyze the time and space complexities of algorithms.
4. design programs using a variety of data structures such as array, stacks, queues, and linked list.
5. analyze and implement various kinds of searching and sorting techniques.

Unit – 1: Introduction to Data Structures: Stack and Queue **18 Hrs.**

1.1 Concept of Abstract Data Types:
- 1.1.1 Definitions, Data types, Data Object, Data structure (D-Data, A-Axioms, O-Operations),
- 1.1.2 Classification (Primitive, Non-Primitive: Array, Files, List: Linear, Non-Linear),
- 1.1.3 Basic Operations (Traversing, Searching, Insertion, Deletion, Sorting, Merging)

1.2 Sorting:
- 1.2.1Definition
- 1.2.2 Stable-Unstable Sorting
- 1.2.3 Adaptive-Non Adaptive Sorting
- 1.2.4 Order of Sorting (Increasing, Decreasing, Non Increasing, Non Decreasing)

1.3 Sorting Techniques: Bubble sort, Selection sort, Insertion sort, Quick sort
1.4 Searching: Linear and Binary Search
1.5 Stack:
- 1.5.1 Definition
- 1.5.2 Operations (Push, Pop, Peek, Isfull, Isempty),
- 1.5.3 Implementation using array

1.6 Applications of stack: Mathematical Expressions (Well-Parentheses, Notations: Infix, Prefix, Postfix, Conversion from Infix to Postfix and Infix to Prefix)
1.7 Queue –
- 1.7.1 Definition of queue
- 1.7.2 Operations (Enqueue, Dequeue, Peek, Isfull, Isempty)
- 1.7.3 Types of queue (Linear, Circular, Priority)
- 1.7.4 Implementation Linear Queue using array(Compaction)
- 1.7.5 Applications of Queue

Unit – 2: Linked List and Trees **18 Hrs.**

2.1 Linked List:
- 2.1.1Concept of linked list
- 2.1.2 Types Of Linked List (Singly-Doubly, Linear-Circular)
- 2.1.3 Implementation of Linked list

2.1.4 Operations on linear linked list (Insertion, Deletion, Display, Search)

2.1.5 Application

2.1.5.1 Implementation of stack and queue using linked list.

2.2 Trees:

2.2.1 Definition

2.2.2 Terminologies (Root, Child, Parent, Siblings, Descendant, Ancestor, Leaf/External node, Branch node/Internal node, Degree, Edge, Path, Level, Depth, Height of node, Height of tree, Forest)

2.3 Binary Tree:

2.3.1 Definition

2.3.2 Types (Full/Proper/Plane, Complete, Perfect, Skewed, Balanced)

2.4 Binary Search Tree:

2.4.1 Definition

2.4.2 Representation

2.4.3 Operations (Insertion, Deletion, Search, Tree Traversal: Preorder, Inorder, Postorder)

Reference Books

1. Data Structures Using C and C++ by Yedidyah Langsam, Aaron M. Tenenbaum
2. Data Strucure using C++ - E Balagurusamy
3. Data Structures Through C++ by Yashavant Kanetkar
4. Data Strucure Using C++ by D. S. Malik

Practical Based on DSC-D12

Use "Problem Solving Techniques" for the following problems. It includes: Problem Analysis, Algorithm, Flowchart, Output Tracing using Algorithm, and Source Code with Output.
Compiler: GNU g++ and Debugging using (GDB).

Sr. No	Content
1	**Stack And Application:**(Using Array) i) Implementation and Operations on Stack ii) Check Expression is Well-Parenthesised or not "Use [,(,{ brackets" iii) Conversion of infix expression to postfix and prefix "Use (only"
2	**Queue:**(Using Array) i) Implementation and Operations on Linear Queue ii) Implementation and Operations on Circular Queue (Use Count)
3	**Sorting**: i) Bubble sort ii)Insertion sort iii)Selection sort iv)Quick Sort(recursive function)
4	**Searching**: i) Linear Search ii) Binary Search
5	**Linked List**: i) Implementation and Operations on Linear Linked List ii) Implementation and Operations on Circular Linked List(Use Count) iii) Implementation and Operations on Circular Linked List
6	**Stack using Linked List**: i) Implementation and Operations using Linear Linked List on Stack
7	**Queue using Linked List**: i) Implementation and Operations using Linear Linked List on Queue ii) Implementation and Operations using Circular Linked List on Circular Queue
8	**Binary Search Tree using Linked List**: i) Implementation and Operations (insert, display inorder, preorder and post order with recursive function) using Linked List on BST.

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A++' Grade

Choice Based Credit System with Multiple Entry and Multiple Exit Option

(NEP-2020)

CHOICE BASED CREDIT SYSTEM

Syllabus for

B.Sc. Part – I

MATHEMATICS

SEMESTER I AND II

(Syllabus to be implemented from Academic Year 2022-23)

Choice Based Credit System with Multiple Entry and Multiple Exit Options

To be implemented from the Academic Year 2022-23

First Year Bachelor of Science (Level-5) Programme Structure (NEP-2020 PATTERN)

Courses	Sr. No.	Course Code	TEACHING SCHEME						EXAMINATION SCHEME						
			THEORY			PRACTICAL			THEORY				PRACTICAL		
			Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Max	Total Marks	Min	Hours	Max	Min
S E M E S T E R – I (Duration – 6 Months)															
CGPA COURSES	1	DSC-A	2	5	4	2	4	3.2	2	50	100	35	PRACTICAL EXAMINATION IS ANNUAL		
	2	DSC-A	2						2	50					
	3	DSC-A	2	5	4	2	4	3.2	2	50	100	35			
	4	DSC-A	2						2	50					
	5	DSC-A	2	5	4	2	4	3.2	2	50	100	35			
	6	DSC-A	2						2	50					
	7	DSC-A	2	5	4	2	4	3.2	2	50	100	35			
	8	DSC-A	2						2	50					
	9	AECC- A	2	4	3.2	-	-	-	2	50	50	18			
		TOTAL (A)	18			8	16				450				
Non CGPA	10	SEC-1	-	-	-	2	4	4							
	11	VBC-1				1	2	2							
S E M E S T E R – II (Duration – 6 Months)															
CGPA COURSES	1	DSC-B	2	5	4	2	4	3.2	2	50	100	35	As per BOS Guide-lines	50	18
	2	DSC-B	2						2	50					
	3	DSC-B	2	5	4	2	4	3.2	2	50	100	35		50	18
	4	DSC-B	2						2	50					
	5	DSC-B	2	5	4	2	4	3.2	2	50	100	35		50	18
	6	DSC-B	2						2	50					
	7	DSC-B	2	5	4	2	4	3.2	2	50	100	35		50	18
	8	DSC-B	2						2	50					
	9	AECC- B	2	4	3.2	--	--	--	2	50	50	18		200	18
		TOTAL (B)	18			8					450				
		TOTAL (A+B)	36			16					900				
Non CGPA	10	SEC-2	-	-	-	2	4	4							
	11	VBC-2				1	2	2							

- Student contact hours per week : 32 Hrs (Minimum)
- Total Marks for B.Sc.- I : 1100
- Theory and Practical Lecture Duration: 48 min each
- Total Credits for B.Sc.-I (Sem I & II) : 52
- Practical Examination will be conducted annually for 50 marks per course.
- **AECC:** Ability Enhancement Compulsory Course (A & B) : English for communication
- **SEC:** Skill Enhancement Course (Vocational Studies): Field Projects/ Internship/ Apprentiship/ Community Engagement and Service. Any one from pool of courses. For SEC courses there shall be only practical examination of 50 marks. **VBC:** Value Based Course (NSS/NCC/Sports/Cultural, etc.)
- Except English, there shall be combined passing for two theory courses of 50 marks each. i.e. minimum 35 marks are required for passing out of 100. There shall be separate passing for theory and practical.
- ***Exit option after Level 5: Students can exit with Certificate Course in Science (with the completion of courses equal to minimum of 52 credits).***

B. Sc. Part – I: Sem. – I: List of Courses

Discipline Specific Core (DSC) Courses

Course code	Name of the Course	Course code	Name of the Course
B. Sc. Part-I: Sem-I DSC : A1 to A38			
DSC A1	Physics I	**DSC A21**	Geology I
DSC A2	Physics II	**DSC A22**	Geology II
DSC A3	Chemistry I	**DSC A23**	Seed Technology I
DSC A4	Chemistry II	**DSC A24**	Seed Technology II
DSC A5	Mathematics I	**DSC A25**	Microbiology I
DSC A6	Mathematics II	**DSC A26**	Microbiology II
DSC A7	Statistics I	**DSC A27**	Industrial Microbiology I
DSC A8	Statistics II	**DSC A28**	Industrial Microbiology II
DSC A9	Electronics I	**DSC A29**	Biochemistry I
DSC A10	Electronics II	**DSC A30**	Biochemistry II
DSC A11	Computer Science I	**DSC A31**	Psychology I
DSC A12	Computer Science II	**DSC A32**	Psychology II
DSC A13	Botany I	**DSC A33**	Food Science & Quality control-I
DSC A14	Botany II	**DSC A34**	Food Science & Quality control-II
DSC A15	Zoology I	**DSC A35**	Astrophysics I
DSC A16	Zoology II	**DSC A36**	Astrophysics II
DSC A17	Biotechnology (Opt) I	**DSC A37**	Nanotechnology (opt) I
DSC A18	Biotechnology (Opt) II	**DSC A38**	Nanotechnology (opt) II
DSC A19	Geography I		
DSC A20	Geography II	**AECC – A**	English Paper – I

DSC: Discipline Specific Core Course

AECC – Ability Enhancement Compulsory Course

AECC – A – English Paper– I

Link for the pool of SEC courses from National Skills Qualification Framework (NSQF)

(You may add or delete any courses as per available facilities)

https://drive.google.com/file/d/176Vwvx4SC2ONrt69XADruzI2qnfBPI_o/view?usp=sharing

B. Sc. Part – I: Sem. – I: List of Courses

Discipline Specific Core (DSC) Courses

Course code	Name of the Course	Course code	Name of the Course
B. Sc. Part-I: Sem-II DSC : B1 to B38			
DSC B1	Physics III	**DSC B21**	Geology III
DSC B2	Physics IV	**DSC B22**	Geology IV
DSC B3	Chemistry III	**DSC B23**	Seed Technology III
DSC B4	Chemistry IV	**DSC B24**	Seed Technology IV
DSC B5	Mathematics III	**DSC B25**	Microbiology III
DSC B6	Mathematics IV	**DSC B26**	Microbiology IV
DSC B7	Statistics III	**DSC B27**	Industrial Microbiology III
DSC B8	Statistics IV	**DSC B28**	Industrial Microbiology IV
DSC B9	Electronics III	**DSC B29**	Biochemistry III
DSC B10	Electronics IV	**DSC B30**	Biochemistry IV
DSC B11	Computer Science III	**DSC B31**	Psychology III
DSC B12	Computer Science IV	**DSC B32**	Psychology IV
DSC B13	Botany III	**DSC B33**	Food Science & Quality control II
DSC B14	Botany IV	**DSC B34**	Food Science & Quality control IV
DSC B15	Zoology III	**DSC B35**	Astrophysics III
DSC B16	Zoology IV	**DSC B36**	Astrophysics IV
DSC B17	Biotechnology (Opt) III	**DSC B37**	Nanotechnology (opt) III
DSC B18	Biotechnology (Opt) IV	**DSC B38**	Nanotechnology (opt) IV
DSC B19	Geography III		
DSC B20	Geography IV	**AECC – B**	English Paper – II

B.Sc. Part I (Mathematics), Semester-I & II

Choice Based Credit System with Multiple Entry and Multiple Exit Option
(NEP-2020)

Syllabus to be implemented from Academic Year 2022-23

1. **TITLE: Mathematics**
2. **YEAR OF IMPLEMENTATION:** Revised Syllabus will be implemented from June 2022 onwards.
3. **DURATION:** B.Sc. in Mathematics Part- I. The duration of course shall be one year and two semesters.
4. **PATTERN:** Pattern of examination will be semester.
5. **STRUCTURE OF COURSE:**

STRUCTURE OF COURSE

Sr. No.	Paper	Name of Paper	Marks
Mathematics (Semester I)			
1	DSC-A5	Calculus	50 (Theory)
2	DSC-A6	Differential Equations	50 (Theory)
Mathematics (Semester II)			
3	DSC-B5	Multivariable Calculus	50 (Theory)
4	DSC-B6	Basic Algebra	50 (Theory)
Practical (Annual)			
5	CCPM-I	Core Course Practical in Mathematics - I	50 (Practical)

B.Sc. (Mathematics) (Part I) (Semester – I)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2022-23

Course code: **DSC – A5**
Title of course: **Calculus**
Theory: **32 Hrs. (40 lecturers)**
Marks: **50 (Credit: 02)**

Course Learning Outcomes: Upon successful completion of the course students will able to:

1. Evaluate the limit and examine the continuity of a function at a point.
2. Understand the consequences of mean value theorems for differentiable functions.
3. Apply Leibnitz theorem to obtain higher derivatives of product of two differentiable functions.

Unit – 1: Limit, Continuity and Differentiability **(20 lect.)**

1.1 Limits: ε – δ definition, infinite limit ($f \to \infty$ as $x \to c$), limit at infinity ($f \to l$ as $x \to \infty$ and $f \to \infty$ as $x \to \infty$) .

1.2 Left hand and Right hand limits: definition and examples.

1.3 Properties of limits:

Theorem: If f and g are two functions defined on some neighbourhood of c such that $\lim_{x \to c} f(x) = l$, $\lim_{x \to c} g(x) = m$ then

(i) $\lim_{x \to c}(f+g)(x) = l + m$

(ii) $\lim_{x \to c}(f-g)(x) = l - m$

(iii) $\lim_{x \to c}(f \cdot g)(x) = lm$

(iv) $\lim_{x \to c}(f/g)(x) = l/m \ \ if\ m \neq 0$ (without proof)

1.4 Evaluation of limit: Examples (using techniques like factorization, rationalization, Left hand and Right hand limits etc.).

1.5 Continuous functions: definition of Continuity at a point, definition of continuity in an interval.

1.6 Properties of continuous functions:

1.6.1 Theorem: Let f and g be two functions continuous at a point c, then the functions $f+g$, $f-g$, fg are also continuous at c and if $g(c) \neq 0$, then f/g is also continuous at c.

Functions continuous on closed intervals:

1.6.2 Definition of bounded function

1.6.3 Theorem (Statement only): If a function f is continuous in a closed interval, then it is bounded therein.

1.6.4 Theorem: If a function f is continuous on a closed interval $[a,\ b]$, then it attains its bounds at least once in $[a,\ b]$.

1.6.5 Theorem: If a function f is continuous at an interior point c of an interval $[a,\ b]$ and $f(c) \neq 0$, then $\exists$ a $\delta > 0$ such that $f(x)$ has the same sign as $f(c)$, for every $x \in]c-\delta,\ c+\delta[$.

1.6.6 Corollary (Statement only): If f is continuous at the end point b of $[a,\ b]$ and $f(b) \neq 0$, then there exists an interval $]b-\delta,\ b[$ such that $f(x)$ has the sign of $f(b)$ for all x in $]b-\delta,\ b]$.

1.6.7 Corollary (Statement only): If f is continuous at the end point a of $[a,\ b]$ and $f(a) \neq 0$, then there exists an interval $[a,\ a+\delta[$ such that $f(x)$ has the sign of $f(a)$ for all x in $[a,\ a+\delta[$.

1.6.8 Theorem: If a function f is continuous on a closed interval $[a,\ b]$ and $f(a)$ and $f(b)$ are of opposite signs ($f(a) \cdot f(b) < 0$), then there exists at least one point $\alpha \in]a,\ b[$ such that $f(\alpha) = 0$.

1.6.9 Intermediate Value Theorem.

1.6.10 Corollary (Statement only): A function f, which is continuous on a closed interval $[a, b]$, assumes every value between its bounds.

1.7 Discontinuous functions: Definition, Types of discontinuities – (i) removable discontinuity (ii) discontinuity of first kind (iii) discontinuity of second kind.

1.8 Examples on 1.5 and 1.7

1.9 Uniform continuity: definition and simple examples

1.10 Theorem: A function which is uniformly continuous on an interval is continuous on that interval.

1.11 Differentiability at a point and Differentiability in an interval: definitions.

1.12 Examples on 1.11

1.13 (Differentiability and continuity) Theorem: A function which is derivable at a point is necessarily continuous at that point

Unit – 2: Mean Value Theorems, Successive Differentiation, Expansions of functions

(20 lect.)

2.1 Mean Value Theorems

2.1.1 Rolle's Mean Value Theorem, Geometrical interpretation.

2.1.2 Lagrange's Mean Value Theorem, Geometrical interpretation.

2.1.3 Cauchy's Mean Value Theorem.

2.1.4 Examples on 2.1.1, 2.1.2, 2.1.3.

2.2 Successive Differentiation

2.2.1 Higher order derivatives: notations.

2.2.2 Calculation of n^{th} derivative: Standard results

$(ax+b)^m$, $1/(ax+b)$, $\log(ax+b)$, a^{mx}, e^{mx}, $\sin(ax+b)$, $\cos(ax+b)$, $e^{ax}\sin(bx+c)$, $e^{ax}\cos(bx+c)$.

2.2.3 Determination of n^{th} derivative: examples.

2.2.4 Leibnitz's Theorem.

2.2.5 Examples on 2.2.4.

2.3 Expansion of functions

2.3.1 Maclaurin's theorem (Statement only), examples using Maclaurin's theorem.

2.3.2 Taylor's theorems (Statement only), examples using Taylor's theorem.

Recommended Books:

1. **Mathematical Analysis**, S. C. Malik and Savita Arora, New Age International Publishers, 4^{th} Edition (2012) – For Unit 1
2. **Differential Calculus,** Shanti Narayan and P.K. Mittal, S. Chand publishing, 15^{th} edition (2016) – For Unit 2.

Reference Books:

1. **Differential Calculus**, Gorakh Prasad, Pothishala Pvt. Ltd., 19th edition (2016).
2. **Aspects of Calculus**, Gabriel Klambauer, Springer-Verlag.(1986)
3. **Calculus with Maple Labs**, Wieslaw Krawcewicz & Bindhyachal Rai, Narosa (2003).
4. **Calculus**, George B. Thomas Jr., Joel Hass, Christopher Heil & Maurice D. Weir Pearson Education, 14th edition (2018).

B.Sc. (Mathematics) (Part I) (Semester – I)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2022-23

Course code: **DSC – A6**
Title of course: **Differential Equations**
Theory: **32 Hrs. (40 lecturers)**
Marks: **50 (Credit: 02)**

Course Learning Outcomes: Upon successful completion of the course students will able to:

1. Understand types of differential equations.
2. Solve different types of ordinary differential equations.
3. Understand applications of differential equations.

Unit – 1: Ordinary differential equations of first order and first degree (22 lect.)

Definition, Order and Degree, Exact differential equations, Necessary and sufficient condition for exactness, Differential equations reducible to exact, Integrating factors with rules, Linear differential equations, Differential equations reducible to linear differential equation, Bernoulli's differential equations.

Orthogonal trajectories, orthogonal trajectories to Cartesian and polar curves. Differential equations of first order but not of first degree: Equations that can be factorized, Equations solvable for p, Equations that cannot be factorized, Equations solvable for x, Equations solvable for y and Clairaut's form.

Unit – 2: Linear differential equations with constant coefficients (18 lect.)

Definition, General solution, Auxiliary equation, Complementary function, Types of complementary function: real and distinct roots, real and repeated roots , complex roots, complex and repeated roots, mixed roots, Examples on different types of complementary function, Particular integral, Particular integrals of the functions: e^{ax}, sin ax, cos ax, x^m, $e^{ax}\,V$, x.V and general method.

Recommended Books:

1. **Ordinary and partial differential equations**, M. D. Raisinghania, S. Chand and Company Pvt. Ltd, New Delhi, 18th Revised Edition (2016).

Reference Books:

1. **Introductory course in differential equations**, D. A. Murray, Khosala Publishing House, Delhi.
2. **An Introduction to Differential Equations**, R. K. Ghosh and K. C. Maity. Book and Allied (P) Ltd., Seventh Edition (2000).
3. **Differential Equations and Their Applications**, Zafar Ahasan, PHI, Second Edition (2004).

B.Sc. (Mathematics) (Part I) (Semester – II)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2022-23

Course code: **DSC – B5**
Title of course: **Multivariable Calculus**
Theory: **32 Hrs. (40 lecturers)**
Marks: **50 (Credit: 02)**

Course Learning Outcomes: Upon successful completion of the course students will able to:

1. Learn conceptual variations while advancing from one variable to several variables in calculus.
2. Set up and solve optimization problems involving several variables.
3. Learn the concept of Jacobian of a transformation.

Unit – 1: Partial differentiation **(20 lect.)**

Functions of two variables: domain, Neighbourhood of a point, Continuity of functions of two variables (at a point), Limit of functions of two variables, Partial derivatives: first order partial derivatives, partial derivatives of higher order, Geometrical interpretation of partial derivatives, examples,

Homogeneous functions: definition, Euler's theorem on homogeneous functions (Case of two and three variables), examples using Euler's theorem. Total Differentials, Differentiation of composite functions, examples, Implicit function: first and second order derivative of implicit functions and its examples. Taylor's theorem for a function of two variables, its examples.

Unit – 2: Extreme values and Jacobian **(20 lect.)**

Maxima and minima of functions of two variables: Condition for existence of maxima or minima, stationary and extreme points, Sign of quadratic expression, Lagrange's condition for maximum and minimum values of a function of two variables, examples, Lagrange's method of undetermined multipliers, examples using Lagrange's method.

Jacobian: Definition, examples. Jacobian of function of function (for the case of two and three variables and proof of the corollary $J.J' = 1$ is expected), Jacobian of implicit functions, examples using these properties.

Recommended Books:

1. **Differential Calculus**, Shanti Narayan and P.K. Mittal, S. Chand publishing, 15th edition (2016).

Reference Books:

1. **Basic Multivariable Calculus**, J. E. Marsden , A. J Tromba & A. Weinstein; Springer Verlag, New New York, 1993.
2. **Calculus, Early Transcendental**, H. Anton, I. Birens and Davis, John Wiley and Sons, 11th Edition (2015).
3. **Differential Calculus,** Maity and Ghosh, New Central Book Agency (P) limited, Kolkata, India. 2007.
4. **Calculus: Early transcendental,** James Stewart, Brooks/ Cole Cengage Learning, 7th edition (2012).

B.Sc. (Mathematics) (Part I) (Semester – II)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2022-23

Course code: **DSC – B6**
Title of course: **Basic Algebra**
Theory: **32 Hrs. (40 lecturers)**
Marks: **50 (Credit: 02)**

Course Learning Outcomes: Upon successful completion of the course students will able to:

1. Use fundamental concepts in Mathematics like sets, relations and functions.
2. Use fundamental concepts in Number theory.
3. Solve examples on congruence.
4. Determine n^{th} roots of unity.
5. Understand various properties of hyperbolic functions.

Unit – 1: Functions, divisibility and congruence **(20 lect.)**

1.1 Set, Relations on sets, type of relations, equivalence relations, Equivalence classes and partitions of a set.

1.2 Functions: One-one, onto functions and bijections, composition of functions (Definitions and examples).

1.3 The induction principle and strong induction principle.

1.4 Divisibility and congruence:

1.4.1 The division algorithm: Theorem and its applications.

1.4.2 Definitions of Greatest common divisor least common multiple.

1.4.3 Euclidean Algorithm.

1.4.4 Fundamental Theorem of Arithmetic.

1.4.5 The theory of Congruence: Basic Properties of congruence.

Unit – 2: Complex numbers **(20 lect.)**

2.1 Complex numbers (Revision): Sums and Products, Basic Algebraic Properties, Moduli, complex conjugates and polar representation of complex numbers.

2.2 Theorem: De Moivre's theorem.

2.2.1 n^{th} roots of unity.

2.2.2 Examples.

2.3 Complex logarithm and complex power.

2.4 Hyperbolic functions and identities.

2.5 Relation between hyperbolic and trigonometric functions.

2.6 Identities of hyperbolic functions.

2.7 Hyperbolic equations.

2.8 Inverses of hyperbolic functions.

2.9 Derivative of hyperbolic and inverse hyperbolic functions

Recommended books:

1 **A Foundation Course in Mathematics**, Ajit Kumar, S. Kumeresan and Bhaba Kumar Sarma, Narosa Publication House.
Unit 1 (1.1): Chapter 4: 4.1 to 4.4, (1.2): Chapter 3: 3.1 to 3.3, (1.3): Chapter 5: 5.1 to 5.2.

2 **Elementary Number Theory**, Seventh edition: David M. Burton, McGraw-Hill.
Unit 1 (1.4): Chapter 2: 2.2 to 2.4, Chapter 3: 3.1, Chapter 4: 4.2.

3 **Foundation Mathematics for the Physical Sciences**, Riley and Hobson, Cambridge University press, 2011.
Unit 2 (2.1 to 2.9): Chapter 5: 5.1 to 5.7.

Reference Books:

1 **Foundations of Complex Analysis**, S. Ponnusamy, Narosa Publishing House, India, Second Edition Reprint 2019.

2 **Introduction to Real Analysis**, R.G. Bartle and D.R. Sherbert, John Wiley and Sons Inc, Fourth Edition.

Core Course Practicals in Mathematics (CCPM - I)

Marks – 50, Credits – 4

Pr. No	Title
1.	Properties of Tracing of Cartesian Curves
2.	Tracing of Cartesian Curves – I
3.	Tracing of Cartesian Curves – II
4.	Properties of Tracing of Polar Curves
5.	Tracing of Polar Curves – I
6.	Tracing of Polar Curves – II
7.	Examples on Leibnitz's theorem
8.	Extreme values of functions of two variables
9.	Lagrange's method of undetermined multipliers
10.	Jacobian
11.	Euclidean Algorithm
12.	Examples on Fermat's theorem
13.	Law of growth
14.	Law of decay
15.	Newton's law of cooling
16.	Electrical circuits
17.	Plotting 2D curves (Use any open source software).
18.	Plotting 3D graphs (Use any open source software).

B.Sc. (Mathematics) (Part II) (Semester – III)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2023–24

Course code	**:**	DSC – C5
Title of course	**:**	Elements of Differential Equations
Theory	**:**	32 Hrs. (40 lecturers of 48 min.)
Marks	**:**	50 (Credit: 02)

Course Learning Outcomes: This course will enable the students to:

CO1: identify types of higher order ordinary differential equations.
CO2: solve different types of higher order ordinary differential equations.
CO3: understand geometrical interpretation of simultaneous and total differential equations.

Unit 1: **(20 Hrs.)**

1.1. **Homogeneous linear differential equations**
- 1.1.1. Definition: Homogeneous linear differential equation (Cauchy - Euler differential equation).
- 1.1.2. Method of solution and examples.
- 1.1.3. Definition: Legendre's linear differential equation.
- 1.1.4. Method of solution of Legendre's linear differential equation and examples.

1.2. **Second order linear differential equations**
- 1.2.1. Definition (general form): Second order linear differential equation.
- 1.2.2. Methods of solution of Second order linear differential equation.
  - 1.2.2.1. Complete solution when one integral is known: method and examples.
  - 1.2.2.2. Transformation of the equation by changing the dependent variable (removal of first order derivative) and examples.
  - 1.2.2.3. Transformation of the equation by changing the independent variable and examples.
  - 1.2.2.4. Method of variation of parameters and examples.

Unit 2: **(12 Hrs.)**

2.1. Ordinary Simultaneous linear differential equations
- 2.1.1. Definition: Ordinary Simultaneous linear differential equations.
- 2.1.2. Geometrical interpretation of ordinary simultaneous differential equations.
- 2.1.3. Methods of Solving Simultaneous Linear Differential Equations and examples.

2.2. Total differential equations.
- 2.2.1. Definition: Total differential equation.
- 2.2.2. Necessary condition for integrability of total differential equation

2.2.3. Geometrical interpretation of total differential equation. Geometrical relation between total differential equations and simultaneous Linear differential equations

2.2.4. Methods of solving total differential equations:

a) Method of Inspection.
b) Treating one variable as a constant.
c) Method of substitution.

Recommended book:

Ordinary and Partial Differential Equations, M. D. Raisinghania, Eighteenth revised edition 2016; S. Chand and Company Pvt. Ltd. New Delhi.

Scope:

Reference books:

1. Differential Equations, Shepley L. Ross, Third Edition 1984; John Wiley and Sons, New York.
2. Elements of Partial Differential Equations, Ian Sneddon, Seventeenth Edition, 1982; Mc-Graw-Hill International Book Company, Auckland
3. Introductory course in Differential Equations, D. A. Murray, Khosala Publishing House, Delhi.

Course code	**:**	DSE – C6
Title of course	**:**	Numerical Methods
Theory	**:**	32 Hrs. (40 lecturers of 48 min.)
Marks	**:**	50 (Credit: 02)

Course Learning Outcomes: This course will enable the students to:

CO1: find numerical solutions of algebraic, transcendental and system of linear equations.

CO2: learn about various interpolating methods to find numerical solutions.

CO3: find numerical solutions of integration and ODE by using various methods.

CO4: apply various numerical methods in real life problems.

Unit- 1 **(16Hrs.)**

1.1 Solutions of Algebraic and Transcendental Equations:

1.1.1 Introduction
1.1.2.Mathematical Preliminaries
1.1.3 Bisection Method
1.1.4 Method of False position
1.1.5 Newton- Raphson method
1.1.6 Examples based on art.1.1.3 to 1.1.5

1.2 Interpolation

1.2.1 Introduction
1.2.2 Finite differences
1.2.3 Forward differences
1.2.4 Backward differences
1.2.5 Symbolic relations and Separation of symbols
1.2.6 Newton's formulae for Interpolation
    1.2.6.1 Newton's forward difference interpolation formula
    1.2.6.2 Newton's backward difference interpolation formula
1.2.7 Interpolation with Unevenly Spaced Points
    1.2.7.1 Lagrange's Interpolation Formula
1.2.8 Examples based on art.1.2.2 to 1.2.7

Unit- 2 **(16Hrs.)**

2.1 Numerical Integration

2.1.1 General formula
2.1.2 Trapezoidal rule
2.1.3 Simpson's 1/3- rule
2.1.4 Simpson's 3/8- rule
2.1.5 Examples based on art. 2.1.2 to 2.1.4.

2.2 Solutions of Linear system of equations

2.2.1 Solutions of linear system - Direct method
    2.2.1.1 Gauss Elimination Method
2.2.2 Solutions of linear system - Iterative method
    2.2.2.1 Gauss-Seidel Method
2.2.3 Examples based on art. 2.2.1 to 2.2.2.

2.3 Numerical Solutions of ODE:

- 2.3.1 Introduction
- 2.3.2 Solution by Taylor's series method
- 2.3.3 Picard's method of successive approximation
- 2.3.4 Euler's method
- 2.3.5 Modified Euler's method
- 2.3.6 Runge-Kutta methods
  - 2.3.6.1 second order Runge-Kutta (without proof)
  - 2.3.6.2 fourth order Runge-Kutta (without proof)
- 2.3.7 Examples based on art. 2.3.2 to 2.3.6.

Recommended Book -

1. S. S. Sastry - Introductory Methods of Numerical Analysis: Fifth Edition, Prentice Hall India Learning Private Limited, New Delhi (2012).

Scope: [**Chapter-1:** 1.1(a,b,d,c,f), 1.2**; Chapter-2:** 2.1, 2.2, .2.3, 2.5; **Chapter-3:** 3.1, 3.3, 3.6, 3.9; **Chapter-6:** 6.4; **Chapter-7:** 7.5, 7.6; **Chapter-8:** 8.1, 8.2, 8.3, 8.4, 8.5]

Reference Books -

1. M.K.Jain, S.R.K.Iyengar & R.K.Jain - Numerical Methods (Problems and Solutions): Revised Second Edition, New Age International Pvt Ltd Publishers, Mumbai.
2. H.C. Saxena - Finite Differences and Numerical Analysis, S. Chand & Company Ltd.(2005).
3. G.Haribaskaran, Numerical Methods, Laxmi Publications Pvt. Ltd, New Delhi, First Edition (2006).

B.Sc. (Mathematics) (Part II) (Semester – IV)
Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)
Syllabus to be implemented from Academic Year 2023–24

Course code	**:**	DSE – D5
Title of course	**:**	Vector Calculus
Theory	**:**	32 Hrs. (40 lecturers of 48 min.)
Marks	**:**	50 (Credit: 02)

Course Learning Outcomes: This course will enable the students to:

CO1**:** understand and evaluate the concepts of gradient, divergence and curl of point functions in terms of cartesian co-ordinate axes.

CO2**:** understand and evaluate different types of line, surface and volume integrals and the two integral transformation theorems of Gauss and Stokes.

Unit 1 Differential Operators **(16 Hrs.)**

1.1 Point functions
- 1.1.1 Scalar valued Point Functions
- 1.1.2 Vector Valued Point Functions

1.2 Limits
- 1.2.1 Limit of a Scalar Point Function $\emptyset(P)$
- 1.2.2 Limit of a Vector Point Function $f(P)$
- 1.2.3 Continuity

1.3 Directional Derivatives
- 1.3.1 Scalar Point Functions
- 1.3.2 Vector Point Functions

1.4 Cartesian Representation of Point Functions and their Directional Derivatives
- 1.4.1 Directional Derivatives of Scalar Point Functions along Co-ordinate Axes
- 1.4.2 Directional Derivative along any Line

1.5 Directional Derivatives of Vector Point Functions along Co-ordinate Axes

1.6 Directional Derivative along any Line

1.7 Gradient of a Scalar Point Function
- 1.7.1 Gradient of a Constant
- 1.7.2 Derivative along a Curve
- 1.7.3 Differential $d\emptyset$

1.8 Geometrical Interpretation of Grad $\emptyset$
- 1.8.1 Level surfaces

1.9 Character of Gradient as a Point Function

Theorem: The gradient of a scalar point function is a vector point function

1.10 The Operator ∇

1.11 Operator $a \cdot \nabla$, a being any vector and Examples

1.12 Divergence and Curl
- 1.12.1 Expressions for $div\ f$ and $curl\ f$ in terms of the components of f
- 1.12.2 Characters of $div\ f$ and $curl\ f$ as Point Functions

1.13 Illustrations of Curl f and Div. f

1.13.1 The curl of the velocity of any particle of a rigid body equals twice the angular velocity of the body

1.13.2 The amount of fluid per unit volume per unit time that passes through point $(x, y, z) = \rho\ div\ q$, where vector point function q denote the velocity of any homogeneous and incompressible fluid at any time t.

1.14 Gradient, Divergence and Curl of Sums

1.15 Gradient, Divergence and Curl of Products

1.16 Second Order Differential Operators

1.17 The Laplacian Operator, ∇^2

Unit 2 Integral Transformations **(16 Hrs.)**

2.1 Line Integrals

2.1.1 Tangential Line Integral

2.1.2 Other Types of Line Integrals

2.2 Surface Integrals

2.2.1 Normal Surface Integral

2.2.2 Other Forms of Surface Integrals

2.3 Flux across a Surface: Solenoidal Vector Point Functions

2.4 Volume Integrals

2.5 Reduction of Volume to Surface Integrals

2.6 Physical Interpretation of Gauss's Theorem

2.7 Stoke's Theorem

2.8 Condition for Irrotational Vector Functions

2.8.1 The determination of a scalar function $\emptyset$ such that $F = \nabla\emptyset;\ F$ being a given irrotational vector function.

2.9 Condition for Solenoidal Vector Point Functions

2.9.1 Every solenoidal vector point function is the curl of some vector function

2.10 Green's Theorem

2.10.1 Green's Formula

Recommended Book:

1) Shanti Narayan & P. K. Mittal: Vector Calculus, S. CHAND & CO (Pvt) LTD, RAM NAGAR, NEW DELHI-110055.
2) M. L. Khanna: Vector Calculus, Jai Prakash Nath & Co. Meerut
3) J. N. Sharma & A. R. Vasishtha: Vector Calculus, KRISHNA Prakashan Media (P) Ltd., Meerut.

Scope:

Reference Books:

1. P. N. Wartikar and J. N. Wartikar: A text book of Applied Mathematics (Vol-II), Vidhyarthi Griha Prakashan, Pune.
2. B. S. Grewal: Higher Engineering Mathematics, Khanna Publishers, New Delhi-110002.
3. R. K. Jain & S. R. K. Iyengar: Advanced Engineering Mathematics, fourth edition, Narosa Publishing House New Delhi.

Course code	**:**	DSE – D6
Title of course	**:**	Integral Calculus
Theory	**:**	32 Hrs. (40 lecturers of 48 min.)
Marks	**:**	50 (Credit: 02)

Course Learning Outcomes: This course will enable the students to:

CO1: understand special functions.
CO 2: understand types of multiple integrals.
CO 3: apply special functions in applications.
CO 4: apply multiple integrals in real life problems.

Unit 1. Gamma and Beta Function. (16Hrs.)

1.1 Gamma function.

1.1.1 Definition of Gamma function and examples.

1.1.2 Properties of Gamma function.

1.1.2.1 $\Gamma(1) = 1$

1.1.2.2 $\Gamma(n+1) = n\,\Gamma(n)$ in general.

1.1.2.3 $\Gamma(n+1) = n!$ if n is positive integer.

1.1.2.4 $\Gamma(0) = \infty$, $\Gamma(\infty) = \infty$

1.1.2.5 $\Gamma(n) = 2\int_0^\infty e^{-x^2} x^{2n-1} dx$, $n > 0$

1.1.2.6 $\Gamma(n) = k^n \int_0^\infty e^{-kx} x^{n-1} dx$, $n, k > 0$

1.1.2.7 Examples based on article 1.1.2

1.2 Beta function.

1.2.1 Definition of Beta function and examples.

1.2.2 Properties of Beta function.

1.2.2.1 $\beta(m,n) = \beta(n,m); \quad m, n \geq 0$

1.2.2.2 $\beta(m,n) = 2\int_0^{\frac{\pi}{2}} sin^{2m-1}\theta cos^{2n-1}\theta\, d\theta$; $m, n \geq 0$

1.2.2.3 $\int_0^{\frac{\pi}{2}} sin^p\theta\, cos^q\theta\, d\theta = \frac{1}{2}\beta\left(\frac{p+1}{2}, \frac{q+1}{2}\right)$ p, q > -1

1.2.2.4 $\beta(m,n) = \frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$, m, n > 0

1.2.2.5 $\left[\left(\frac{1}{2}\right) = \sqrt{\pi}\right.$

1.2.2.6 $\beta(m,n) = \int_0^\infty \frac{x^{m-1}}{(1+x)^{m+n}}\,dx$

1.2.2.7 $\beta(m,n) = a^n b^m \int_0^\infty \frac{x^{m-1}}{(a+bx)^{m+n}}\,dx$

1.2.2.8 Duplication formula of Gamma function.

1.2.2.9 Examples based on article 1.2.2

Unit 2. Differentiation under integral sign, Error functions and Multiple integrals (16Hrs.)

2.1 Differentiation under integral sign

2.1.1 Leibnitz first rule of differentiation under integral sign**.**

2.1.2 Leibnitz second rule of differentiation under integral sign**.**

2.1.3 Examples based on articles 2.1.1 and 2.1.2

2.2 Error functions

2.2.1 Definition of $\text{erf}(x)$, $\text{erf}_c(\text{x})$ and examples.

2.2.2 Properties of error functions.

2.2.2.1 $\text{erf}(0) = 0,\ \text{erf}(\infty) = 1$

2.2.2.2 $\text{erf}(x) + \text{erf}_c(\text{x}) = 1$

2.2.2.3 $\text{erf}(-x) = -\text{erf}(x)$

2.2.2.4 $\text{erf}_c(-\text{x}) = 1 + \text{erf}(\text{x})$

2.2.2.5 $\text{erf}_c(\text{x}) + \text{erf}_c(-\text{x}) = 2$

2.2.2.6 Examples based on article 2.2.2

2.3 Multiple Integrals

2.3.1 Evaluation of double integrals in Cartesian form.

2.3.2 Evaluation of double integrals in Polar form.

2.3.3 Evaluation of double integrals in Cartesian form over the given region.

2.3.4 Evaluation of double integrals in Cartesian form by changing order of integration.

2.3.5 Evaluation of double integrals from Cartesian form to Polar form.

2.3.6 Proof of 1.2.2.4

Recommended Books:

1. P. N. Wartikar and J. N. Wartikar, A text book of Applied Mathematics, Vidhyarthi Griha Prakashan, Pune.
2. Shantinarayan, Integral Calculus, S. Chand and Company, New Delhi.
3. B. S. Grewal, Higher Engineering Mathematics, Khanna Publishers, Delhi.

Scope:

Reference books:

Core Course Practical in Mathematics (CCPM – II) (NEP-2020)
Marks 50 (Credit 04)
(Differential equations, Numerical methods, Vector and Integral Calculus)

Course Learning Outcomes: This course will enable the students to:
CO1: solve different types of differential equations.
CO2: apply various numerical methods to find approximate solutions of problems.
CO3: understand different types of line, surface and volume integrals.
CO4: understand special functions.

Sr. No.	Title of Experiment	No. of Practical
1	Cauchy – Euler Differential Equation.	1
2	Second order differential equation when one integral is known.	1
3	Second order differential equation by removal of first order derivative.	1
4	Simultaneous linear differential equation.	1
5	Method of false position.	1
6	Lagrange's interpolation method.	1
7	Gauss-Seidel method.	1
8	Picard's and Taylor series method.	1
9	Gamma function.	1
10	Beta function.	1
11	Evaluation of Double integral by change of order.	1
12	Evaluation of Double integral in Cartesian form over a given region.	1
13	Examples on Curl, Divergence and Gradient.	1
14	Solenoidal and Irrotational vector field.	1
15	Evaluation of Line Integral and work done	1
16	Examples on Green's theorem.	1

Recommended books:

1. Ordinary and Partial Differential Equations, M. D. Raisinghania, Eighteenth revised edition 2016; S. Chand and Company Pvt. Ltd. New Delhi.
2. Introductory Methods of Numerical Analysis, S. S. Sastry, Fifth Edition, Prentice Hall India Learning Private Limited, New Delhi (2012).

3. A text book of Applied Mathematics, J. N. Wartikar and P. N. Wartikar, Vidhyarthi Griha Prakashan, Pune.
4. Higher Engineering Mathematics, B. S. Grewal, Khanna Publishers, Delhi.

Reference books:

1. Differential Equations, Shepley L. Ross, Third Edition 1984; John Wiley and Sons, New York.
2. Numerical Methods (Problems and Solutions), M. K. Jain, S. R. K. Iyengar & R. K. Jain, Revised Second Edition, New Age International Pvt Ltd Publishers, Mumbai.
3. Integral Calculus, Shanti Narayan and P. K. Mitta, 11^{th} revised edition (reprint 2016), S. Chand and company Pvt. Ltd., New Delhi.
4. A text book of Vector Calculus, Shanti Narayan & P. K. Mittal, S. Chand & Company
5. M. L. Khanna: Vector Calculus, Jai Prakash Nath & Co. Meerut [Unit-1]
6. J. N. Sharma & A. R. Vasishtha: Vector Calculus, KRISHNA Prakashan Media (P) Ltd., Meerut. [Unit-2]

Core Course Practical in Mathematics (CCPM – III)(NEP-2020)
Marks 50 (Credit 04)
(Numerical Recipes in Scilab)

Course Learning Outcomes: This course will enable the students to:

CO1: understand and implement basic numerical algorithms using Scilab, including root-finding, interpolation, differentiation, and integration.

CO2: learn how to use Scilab built-in functions and programming tools to solve mathematical problems, and how to create custom functions and scripts for more complex tasks.

CO3: gain practical experience with real-world applications of numerical methods, such as data analysis, optimization, and simulation.

CO4: develop critical thinking skills and the ability to analyze and interpret numerical results.

Sr. No	Title of Experiment	No. of Practicals
1	Introduction: Application, feature, Scilab environment, workspace,working directory, Scilab as a calculator, Scilab operators, mathematical predefined functions, constants, variables and their types.	1
2	Matrix: Row matrix, column matrix, general matrix, operation like matrix addition, matrix subtraction, matrix product.	1
3	Accessing element of matrix: Size of Matrix, Length of matrix, accessing element using one index, two indices	1
4	Sub Matrix: Accessing sub matrix of given matrix using ':' operator &'$' operator	1
5	Advanced matrix operations: Matrix functions: eye(), zero (), ones(), spec(), empty matrix, element-wise operation, determinant, inverse, trace of matrix& diagonal element of matrix.	1
6	Polynomial: Creating a polynomial 1) using roots 2) using coefficients, Find roots of polynomial, derivative companion matrix, numerator & denominator of rational, simplifying rational.	1
7	Plotting graph: Creating graphs of simple functions.	1
8	Introduction Scilab programming: disp(), Boolean operators, conditional statement (if select), find() and() or(), looping statement.	1
9	Advanced Scilab programming using function: Creating Scilab function and its execution.	1
10	Numerical Methods to find roots of a given algebraic or transcendental equation: a) Bisection Method b) Newton-Raphson Method.	1
11	Interpolation(Unequally Spaced Data) Lagrange's interpolation formula	1
12	Interpolation(Equally Spaced Data) a) Newton Gregory forward interpolation formula. b) Newton Gregory backward interpolation formula.	1

Sr. No	Title of Experiment	No. of Practicals
13	Numerical Integration: a) Trapezoidal Rule. b) Simpson's $1/3^{rd}$ Rule. c) Simpson's $3/8^{th}$ Rule.	1
14	Numerical Methods for solution of Ordinary Differential Equations: a) Euler Method. b) Euler's Modified Method.	1
15	Numerical Methods for solution of Ordinary Differential Equations: a) Runge-Kutta Second Order Method b) Runge-Kutta Fourth Order Method.	1
16	Numerical Methods for solution of a system of Linear Equations: (Unique solution case only) Gauss-Elimination Method.	1

Recommended Books:

Introduction to Scilab: For Engineers and Scientists **Book by Sandeep Nagar**

Reference Books:

1. Scilab: A Practical Introduction to Programming and Problem Solving Kindle Edition by Tejas Sheth (Author)
2. Scilab A Hands on Introduction by Satish Annigeri .
3. Engineering and Scientific Computing with Scilab 1999th Edition by Claude Gomez (Editor), C. Bunks (Contributor), J.-P. Chancelier (Contributor), F. Delebecque (Contributor), M. Goursat (Contributor), R. Nikoukhah (Contributor), S.Steer (Contributor)
4. Scilab: from Theory to Practice - I. Fundamentals Book by Philippe Roux
5. Advanced Programming in SciLab: Chetana Jain , Alpha Science International Ltd (2020)

SHIVAJI UNIVERSITY, KOLHAPUR

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part -III Mathematics

SEMESTER V AND VI

(Syllabus to be implemented from June, 2020 onwards.)

B.Sc.Part-III [Semester V] (Credit - 8]

Course code	Title o the course	Instructions Lectures /Week	Duration of term end exam	Marks of Term end exam	Marks (Internal) Of Continuous Assessment	Credit
DSE E9	Mathematical Analysis	3	2 hours	40	10	2
DSE E10	Abstract Algebra	3	2 hours	40	10	2
DSE E11	Optimization Techniques	3	2 hours	40	10	2
DSE E12	Integral Transforms	3	2 hours	40	10	2

B.Sc.Part-III [Semester VI] (Credit - 8]

Course code	Title o the course	Instructions Lectures/Week	Duration of term end exam	Marks Term end exam	Marks (Internal) Of Continuous Assessment	Credit
DSE F9	Metric Spaces	3	2 hours	40	10	2
DSE F10	Linear Algebra	3	2 hours	40	10	2
DSE F11	Complex Analysis	3	2 hours	40	10	2
DSE F12	Discrete Mathematics	3	2 hours	40	10	2

Core Course Practical in Mathematics [CCPM IV to VII]

The practical examination will be conducted at the end of second term that is annual pattern

Total Credit 16

Course code	Title o the course	Instructions Lectures/Week	Duration of term end exam	Marks [End of academic year]	Credit
CCPM IV	Operations Research	5	6 hours	50	4
CCPM V	Laplace and Fourier Transforms	5	6 hours	50	4
CCPM VI	Mathematical Computation Using Python	5	6 hours	50	4
CCPM VII	Project, sturdy tour, viva.	5	6 hours	50	4

EQIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS (FOR REVISED SYLLABUS

Sem - V

Old Paper number	Equivalence	New Course code	Title of the course
IX	Real Analysis	DSE E9	Mathematical Analysis
X	Abstract Algebra	DSE E10	Abstract Algebra
XII	Numerical Methods - I	DSE E11	Optimization Techniques
XI	Partial Differential Equations	DSE E12	Integral Transforms

Sem - VI

Old Paper number	Equivalence	New Course code	Title of the course
XIII	Metric spaces	DSE F9	Metric Spaces
XIV	Linear Algebra	DSE F10	Linear Algebra
XV	Complex Analysis	DSE F11	Complex Analysis
XVI	Numerical Methods	DSE F12	Discrete Mathematics

CCPM

Old course code	Equivalence	New Course code	Title of the course
CML – IV	Operations Research Techniques	CCPM IV	Operations Research
CML – V	Numerical Methods	CCPM V	Laplace and Fourier Transforms
CML – VI	Numerical Recipes in C++, SciLab	CCPM VI	Mathematical Computation Using Python
CML – VII	Project, study tour, viva.	CCPM VII	Project, study tour, Seminar, viva.

B.Sc. (Mathematics) (Part-III) (Semester–V)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – E9 **Title of Course: Mathematical Analysis**
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course Objectives: The objectives of course is to understand and learn about

1. The integration of bounded function on a closed and bounded interval
2. Some of the families and properties of Riemannintegrablefunctions
3. The applications of the fundamental theorems of integration
4. Extension of Riemann integral to the improper integrals when either the interval of integration is infinite or the integrand has infinite limits at a finite number of pointson the interval of integration
5. The expansion of functions in Fourier series and half range Fourier series

Unit -1 : Riemann Integration (16 hours)

Definition of Riemann integration, Inequalities for lower and upper Darboux sums, Necessary and sufficient conditions for Riemann integrability, Definition of Riemann integration by Riemann sum and equivalence of the two definitions, Riemann integrability of monotonic functions and continuous functions, Algebra and properties of Riemann integrable functions, First and second fundamental theorems of integral calculus, and the integration by parts.

Unit -2 : Improper Integrals and Fourier Series (16 hours)

Improper Integrals: Definition of improper integral of first kind, Comparison test,μ – test for Convergence, Absolute and conditional convergence, Integral test for convergence of series, Definition of improper integral of second kind and some tests for their convergence, Cauchy principle value.
Fourier Series: Definition of Fourier series and examples on the expansion of functions in Fourier series, Fourier series corresponding to even and odd functions, half range Fourier series, half range sine and cosine series

Recommended Books:

1. **Kenneth.A.Ross**, Elementary Analysis: The Theory of Calculus, Second Edition,Undergraduate Texts in Mathematics, Springer , 2013.
   (Chapter 6, Art. 32.1 to 32.11, 33.1 to 33.6 and 34.1 to 34.4)
2. **D Somasundaram and B Choudhary**, First Course in Mathematical Analysis, Narosa Publishing House New Delhi, Eighth Reprint 2013 (Chapter 8, Art. 8.5 and Chapter 10, Art. 10.1)

Reference Books:

1. **R.R.Goldberg**, Methods of Real Analysis, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
2. **R.G.Bartle and D.R.Sherbert**, Introduction to Real Analysis, Wiley India Pvt. Ltd., Fourth Edition 2016.
3. **Shanti Narayan and Dr.M.D.Raisinghania,** Elements of Real Analysis, S.Chand& Company Ltd. New Delhi, Fifteenth Revised Edition 2014
4. **Shanti Narayan and P.K.Mittal,** A Course of Mathematical Analysis, S.Chand& Company Ltd. New Delhi, Reprint 2016.
5. **Kishan Hari**, Real Analysis, PragatiPrakashan, Meerut, Fourth Edition 2012.

B.Sc. (Mathematics) (Part-III) (Semester–V)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – E10 **Title of Course: Abstract Algebra**
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course Objectives: After successful completion of this course the students will able to

1. Basic concepts of group and rings with examples
2. Identify whether the given set with the compositions form Ring, Integral domain or field.
3. Understand the difference between the concepts Group and Ring.
4. Apply fundamental theorem, Isomorphism theorems of groups to prove these theorems for Ring.
5. Understand the concepts of polynomial rings, unique factorization domain.

Unit -1:Groups and Rings **16 hours**

Groups: Definition and examples of groups, group S_3 and Dihedral group D_4,Commutator subgroups and its properties, Conjugacy in group and class equation.
Rings: Definition and example of Rings, Ring with unity. Zero divisor, Integral Domain, Division Ring, Field, Boolean ring, Subring, Characteristic of a ring: Nilpotent and Idempotent elements. Ideals, Sum of two ideals, Examples. Simple Ring**.**

Unit-2: Homomorphism and Imbedding of Ring , Polynomial Ring and Unique Factorization Domain. **16 hours**

Quotient Rings, Homomorphism, Kernel of Homomorphism ,Isomorphism theorems,imbedding of Ring. Maximal Ideals. Polynomial Rings, degree of Polynomial, addition and multiplication of Polynomials and their properties, UFD, Gauss' Lemma.

Recommended Books:

1) Vijay K. Khanna, S.K. Bhambri, A Course In Abstract Algebra, Vikas publishing House Pvt.Ltd., New –Delhi-110014, Fifth Edition 2016.
(Chap. 3 Art. The Dihedral Group, commutator, Chap. 4 Art. Conjugate elements, Chap.7 Art. Subrings, characteristic of a ring, Ideals, Sum of Ideals, Chap. 8 Art. Quotient rings, Homomorphisms, Embedding of Rings, More on Ideals, Maximal Ideals, Chap 9 Polynomial Rings, Unique Factorization Domain.)

Reference Books:

1.Jonh B. Fraleigh, A First Course in Abstract Algebra Pearson Education, Seventh Edition(2014).
2. Herstein I. N, Topics in Algebra, Vikas publishing House,1979.
3.Malik D. S. Moderson J. N. and Sen M. K., Fundamentals of Abstract Algebra, McGrew Hill,1997.
4.Surjeet Sing and QuaziZameeruddin, Modern Algebra, Vikas Publishing House,1991.
5.N.Jacobson, Basic Algebra Vol. I&II, Freeman and Company, New York 1980.

B.Sc. (Mathematics) (Part-III) (Semester–V)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – E11 **Title of Course: Optimization Techniques**

Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course Objectives: The aim of this course is to

1. provide studentbasic knowledge of a range of operation research models and techniques, which can be applied to a variety of industrial and real life applications.
2. Formulate and apply suitable methods to solve problems.
3. Identify and select procedures for various sequencing, assignment, transportation problems.
4. Identify and select suitable methods for various games .
5. To apply linear programming and find algebraic solution to games.

Unit-1 Network optimization models : [16 hours]

Introduction ,Formulation of Linear Programming Problems., Graphical methods for Linear Programming problems. General formulation of Linear Programming problems, Slack and surplus variables,Canonical form, Standard form of Linear Programmingproblems. Transportation problem:Introduction, Mathematical formulation ,Matrix form of Transportation problem.Feasible solution, Basic feasible solution and optimal solution, Balanced and unbalanced transportation problems. Methods of Initial basic feasible solutions: North west corner rule [Stepping stone method], Lowest cost entry method [Matrix minima method], Vogel's Approximation method [Unit Cost Penalty method] ,The optimality test.[MODI method], Assignment Models :Introduction ,Mathematical formulation of assignment problem, Hungarian method for assignment problem. Unbalanced assignment problem.Travelling salesman problem.

Unit-2Quantitative techniques: [16 hours]

Game theory: Basic definitions , Minimax [Maximin] Criterion and optimal strategy, Saddle point , optimal strategy and value of game. Solution of games with saddle point. Fundamental theorem of game theory [Minimax theorem] , Two by two (2 X 2) games without saddle point.Algebraic method of Two by two (2 X 2) games.Arithmetic method of Two by two (2 X 2) games.Graphical method for 2 x n games and m x 2 games.Principle of dominance, Job sequencing : Introduction. Terminology and notations.Principal assumptions.Solution of sequencing problems.Processing n jobs through 2 machines.Processing n jobs through 3 machines.Processing 2 jobs through m machines.Processing n jobs through m machines.

Recommended Book:

1. Sharma S.D., Operations Research - Theory Methods and Applications"Kedarnath, Ramnath Meerut, Delhi Reprint 2015.

Reference Books:

1. Mohan, C. and Deep, Kusum, Optimization Techniques, New Age,2009.
2. Mittal, K. V. and Mohan, C., Optimization Methods in Operations, Research and Systems Analysis, New Age, 2003.
3. Taha, H.A. :Operations Research – An Introduction, Prentice Hall, (7th Edition), 2002.
4. Ravindran, A. , Phillips, D. T and Solberg, J. J., Operations Research: Principles and Practice, John Willey and Sons, 2nd Edition, 2009.
5.J.K.Sharma : Operation Research: Theory and Applications, Laxmi Publications, 2017.
6.KantiSwarup,P.K.Gupta and Manmohan,Operation Research, S.Chand& Co.
7. G.Hadley: Linear programming , Oxford and IBH Publishing Co.

B.Sc. (Mathematics) (Part-III) (Semester–V)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – E12 **Title of Course: Integral Transforms**
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course Objective : Students be able to

1. understandconcept of Laplace Transform.
2. apply properties of Laplace Transform to solve differential equations.
3. understand relation between Laplace and Fourier Transform.
4. understand infinite and finite Fourier Transform.
5. apply Fourier transform to solve real life problems.

Unit: 1 Laplace and Inverse Laplace Transform. 16 Hours

Laplace Transform **:** Definitions; Piecewise continuity, Function of exponential order, Function of class A ,Existence theorem of Laplace transform. Laplace transform of standard functions.First shifting theorem and Second shifting theoremand examples,Change of scale propertyand examples, Laplace transform of derivativesand examples, Laplace transform of integralsand examples.Multiplication by power of tand examples.Division by tand examples.Laplace transform of periodic functions and examples.Laplace transform of Heaviside's unit step function. Inverse Laplace Transform: Definition Standard results of inverse Laplace transform, Examples , First shifting theorem and Second shifting theoremand examples.Change of scale propertyand Inverse Laplace of derivatives, examples.The Convolution theorem and Multiplication by S, examples.Division by S,inverse Laplace by partial fractions ,examples, Solving linear differential equations with constant coefficients by Laplace transform.

Unit 2 Fourier Transform 16Hours

The infinite Fourier transform and inverse:1Definition examples Infinite Fourier sine and cosine transform and examples.Definition: Infinite inverse Fourier sine and cosine transform and examples.Relationship between Fourier transform and Laplace transform.Change of Scale Propertyand examples.Modulation theorem.The Derivative theorem.Extension theorem.

Convolution theoremand examples.Finite Fourier Transform and Inverse, Fourier Integrals :

Finite Fourier sine and cosine transform with examples.Finite inverse Fourier sine and cosine transform with examples.Fourier integral theorem.Fourier sine and cosine integral (without proof) and examples.

Recommended Book:

1. J.K.Goyal, K.P.Gupta, Laplace and Fourier Transforms, A Pragati Edition (2016).

Reference Books:

1. Dr.S.Shrenadh, Integral Transform, S.ChandPrakashan.
2. B.Davies, Integral Transforms and Their Applications, Springer Science Business Media LLC(2002)
3. Murray R. Spiegel, Laplace Transforms,Schaum's outlines.

B.Sc. (Mathematics) (Part-III) (Semester–VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – F9 **Title of Course:Metric Spaces**
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course objectives :Upon successful completion of this course, the student will be able to:
1. acquire the knowledge of notion of metric space, open sets and closed sets.
2. demonstrate the properties of continuous functions on metric spaces,
3. apply the notion of metric space to continuous functions on metric spaces.
4.understand the basic concepts of connectedness, completeness and compactness of metric spaces,
5. appreciate a process of abstraction of limits and continuity to metric spaces,

Unit –1 Limits and Continuous Functions on Metric Spaces 16 hours

Limit of a function on the real line, Metric Spaces, Limitsin Metric Spaces, Functions continuous at a point on the real line, Reformulation, Functions continuous on a metric space, Open Sets, Closed Sets, More about open sets.

Unit 2: Connectedness, Completeness and Compactness 16 hours

Connected Sets, Bounded sets and totally bounded sets,Complete metric spaces, Compact metric spaces, Continuous functions on compact metric spaces.

Recommended Book:

1. R. R. Goldberg, Methods of Real Analysis,Oxford and IBH Publishing House.(2017).

Reference Books:

1. T. M. Apostol, Mathematical Analysis,Narosa Publishing House.(2002)
2. Satish Shirali, H. L. Vasudeva, Mathematical Analysis,Narosa Publishing House.(2013)
3. D. Somasundaram, B. Choudhary, First Course in Mathematical Analysis, Narosa Publishing House,(2018).
4. W. Rudin, Principles of Mathematical Analysis,McGraw Hill BookCompany(1976).
5. Shantinarayan, Mittal, A Course of Mathematical Analysis,S.Chand and Company(2013).
6. J.N. Sharma, Mathematical Analysis-I, Krishna PrakashanMandir, Meerut.(2014)
7. S.C. Malik, Savita Arora,Mathematical Analysis,New age International Ltd(2005).

B.Sc. (Mathematics) (Part-III) (Semester–VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – F10
Title of Course: Linear Algebra
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)
Course Objectives: Upon successful completion of this course, the student will be able to:

1. understandnotion of vector space, subspace, basis.
2. understand concept of linear transformation and its application to real life situation.
3. work out algebra of linear transformations.
4. appreciate connection between linear transformation and matrices.
5. work out eigen values, eigen vectors and its connection with real life situation.

Unit 1: Vector Spaces and Linear Transformations (16 hours)

Vector space: Subspace**,** Sum of subspaces, direct sum, Quotient space, Homomorphism or Linear transformation, Kernel and Range of homomorphism, Fundamental Theorem of homomorphism, Isomorphism theorems, Linear Span, Finite dimensional vector space, Linear dependence and independence, basis, dimension of vector space and subspaces.

Linear Transformation: Rank and nullity of a linear transformation, Sylvester's Law, Algebra of Linear Transformations , Sum and scalar multiple of Linear Transformations. The vector space of Homomorphisms, Product (composition) of Linear Transformations, Linear operator, Linear functional, Invertible and non-singular Linear Transformation, Matrix of Linear Transformations and its examples.

Unit 2: Inner Product Spaces, Eigen values and Eigen vectors (16 hours)

Inner product spaces: Norm of a vector, Cauchy- Schwarz inequality, Orthogonality, Generalized Pythagoras Theorem, orthonormal set, Gram-Schmidt orthogonalization process, Bessel's inequality, Eigen values and Eigen vectors: Eigen space, Characteristic Polynomial of a matrix and remarks on it, similar matrices, Characteristic Polynomial of a Linear operator, Examples and real life (Predatory – Prey problem), examples on eigen values and eigen vectors.

Recommended Book:

1. Khanna V. K. and Bhambri S. K., **ACourseinAbstractAlgebra,**Vikas Publishing House PVT Ltd., New Delhi , 2016, 5th edition,

Reference Books:

1. H. Anton & C. Rorres, **Elementary Linear Algebra** (with Supplemental Applications), Wiley India Pvt. Ltd (Wiley Student Edition), New Delhi , 2016, 11th Edition.
2. S. Friedberg, A. Insel and L. Spence, **Linear Algebra**, Prentice Hall of India, 2014, 4th Edition.
3. Holfman K. and Kunze R., **Linear Algebra,** Prentice Hall of India, 1978.
4. Lipschutz S., **LinearAlgebra,**Schaum's Outline Series, McGraw Hill, Singapore, 1981.
5. David Lay, Steven Lay, Judi McDonald, **LinearAlgebra and its Applications,** Pearson Education Asia, IndianReprint, 2016, 5th Edition.

B.Sc. (Mathematics) (Part-III) (Semester–VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – F11 **Title of Course: Complex Analysis**
Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course objectives: Upon successful completion of this course, Students will

1. learn basic concepts of functions of complex variable.
2. be introduced to concept of analytic functions.
3. learn concept of complex integration and basic results thereof.
4. be introduced to concept of sequence and series of complex variable.
5. learn to apply concept of residues to evaluate certain real integrals.

Unit 1 :Analytic functions and Complex Integration 16 hours

Basic algebraic and geometric properties of complex numbers, Function of complex variable, Limits, continuity and differentiation, Cauchy Riemann equations, Analytic functions and examples of analytic functions, Exponential function, Logarithmic function, Trigonometric function, Definite integrals of functions, Contours, Contour integrals and its examples, upper bounds for moduli of contour integrals, Cauchy-Goursat theorem and examples, Cauchy integral formula and examples, Liouville's theorem and the fundamental theorem of algebra.

Unit 2 : Sequences, Series and Residue Calculus 16 hours

Convergence of sequences and series of complex variables, Taylor series and its examples, Laurent series and its examples, absolute and uniform convergence of power series, Isolated singular points, Residues, Cauchy's residue theorem, Residue at infinity, The three types of isolated singularities, Residues at poles and examples, Zeros of analytic functions, Zeros and poles, Application of residue theorem to evaluate real integrals.

Recommended book:

1. James Ward Brown and Ruel V. Churchill, *Complex Variables and Applications,* 8th Ed., McGraw – Hill Education (India) Edition, 2014. Eleventh reprint 2018.

Reference books:

1. S.Ponnusamy, Foundations of Complex Analysis, Narosa Publishing House, Second Edition , 2005, Ninth reprint 2013.
2. Lars V Ahlfors, Complex Analysis, McGraw-Hill Education; 3 edition (January 1, 1979).
3. S.B.Joshi, T.Bulboaca and P.Goswamy, Complex Analysis, Theory and Applications, DeGruyter, Germany(2019).

B.Sc. (Mathematics) (Part-III) (Semester–VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: DSE – F12 **Title of Course: Discrete Mathematics**

Theory: 32 Hrs. (40 Lectures of 48 minutes) Marks – 40 (Credits: 02)

Course Objectives: Upon successful completion of this course, Students will be able to

1. use classical notions of logic: implications, equivalence, negation, proof by contradiction, proof by induction, and quantifiers.
2. apply notions in logic in other branches of Mathematics.
3. knowelementary algorithms : searching algorithms, sorting, greedy algorithms, and their complexity.
4. apply concepts of graph and trees to tackle real situations.
5. appreciate applications of shortest path algorithms in computer science.

Unit 1 : Mathematical Logic **[16 hours]**

The logic of compound statements: Statements, compound statements, truth values, logical equivalence, tautologies and contradictions, Conditional statements: Logical equivalences involving implication, negation.The contrapositive of a conditional statements, converse, inverse of a conditional statements, biconditional statements.Valid and invalid arguments: Modus Ponens and modus Tollens, Additional valid argument forms, rules of inferences, contradictions and valid arguments, Number system: Addition and subtraction of Binary, decimal, quintal, octal, hexadecimal number systems and their conversions.

Unit 2:Graphs and trees **[16 hours]**

Graphs :Definitions, basic properties,examples, special graphs, directed and undirected graphs, concept of degree, Trails, Paths and Circuits: connectedness, Euler circuits, Hamiltoniancircuits,
Matrixrepresentation of graphs,Isomorphism of graphs,isomorphicinvariants,graph isomorphism for simple graphs.

Trees: Definitions and examples of trees, rooted trees, binary trees and their properties. spanning trees , minimal spanning trees, Kruskal'salgorithm , Prim's algorithm, Dijkstra's shortest path algorithm.

Recommended Book:

1. Susanna S. Epp, Discrete Mathematics with Applications,PWS Publishing Company, 1995. (Brooks/Cole, Cengage learning, 2011)

ReferencesBooks :

1. Kenneth H. Rosen, Discrete Mathematics and its Applications, McGraw Hill, 2002.
2. J.P.Tremblay and R. Manohar, Discrete Mathematical Structure with Applications, McGraw– Hill.
3. V. Krishnamurthy, Combinatories:Theory and Applications", East-West Press.
4. Kolman, Busby Ross, Discrete Mathematical Structures, Prentice Hall International.
5. R M Somasundaram, Discrete Mathematical Structures, (PHI) EEE Edition 7.
6. A.B.P.Rao and R.V.Inamdar, A Graduate Text in Computer Mathematics,SUMS [1991]
7. Seymour Lipschutz and Marc Lipson,Discrete Mathematics, Schaum's Outlines Series, Tata McGraw - Hill.
8. Mathematical Foundations of Computer Science: professional publications, JNTU Hyderabad.
11. Liu C. L, Elements of Discrete Mathematics, McGraw – Hill.

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B.Sc. (Mathematics) (Part-III) (Semester–V & VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: CCPM IV **Title of Course: Operation Research**

Sr.No.	Title of the experiment	Sessions
1	Graphical method for linear programming problems	1
2	Transportation Problems[North west corner rule]	1
3	Transportation Problems[Lowest Cost Entry Method]	1
4	Transportation Problems[Vogel Approximation Method]	1
5	Transportation Problems[Test for Optimality MODI method]	1
6	Assignment Problems [Hungarian Method]	1
7	Assignment Problems [Maximization Case]	1
8	Assignment Problems[Travelling Salesman Problem]	1
9	Assignment Problems[Unbalanced Problem]	1
10	Two by two (2 X 2) games without saddle point.	1
11	Algebraic method of Two by two (2 X 2) games.	1
12	Arithmetic method of Two by two (2 X 2) games.	1
13	Graphical method for 2 x n games and m x 2 games.	1
14	Processing n jobs through 2 machines.	1
15	Processing n jobs through 3 machines.	1
16.	Processing 2 jobs through m machines. Processing n jobs through m machines.	1
	Total	**16**

B.Sc. (Mathematics) (Part-III) (Semester–V & VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: CCPM V **Title of Course: Laplace and Fourier Transform**

Sr.No.	Title of the experiment	Sessions
1	Laplace transform of elementary functions	1
2	Evaluation of integrals using properties of Laplace transform	1
3	Effect of multiplication	1
4	Effect of division	1
5	Laplace transform of integrals	1
6	Laplace transform of periodic functions	1
7	Inverse Laplace by using standard results	1
8	Inverse Laplace by Convolution theorem	1
9	Inverse Laplace by partial fractions	2
10	Infinite Fourier sine transform and inverse	1
11	Infinite Fourier cosine transform and inverse	1
12	Change of scale property of Fourier transform	1
13	Convolution theorem of Fourier transform	1
14	Finite Fourier sine transform and inverse	1
15	Finite Fourier cosine transform and inverse	1
	Total	16

B.Sc. (Mathematics) (Part-III) (Semester–V & VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: CCPM VI **Title of Course: Mathematical Computation Using Python**

1.

Sr. No.	Topic	No. Of Practicals
1	**Introduction to Python:** Python, Anaconda, Spyder IDE, Python Identifiers and Keywords , data types, simple mathematical operation, Indentation and Comments., Input and Output, First Python program.	**1**
2	**Expression and operators:** Expression, Boolean expression, logical operations: comparison operator, membership operator, identity operator, bitwise operator. Order of evaluation. File Handling : open, read, write, append modes of file.	**1**
3	**Conditional Statements:** if-else, nested if-else, if-elif-else, try-except block.	**1**
4	**Looping Statements, Control statements:** Looping Statements: for loop, while loop , Nested loops Control Statements: break, continue and pass.	**1**
5	**Functions:** Built-in functions, User-defined functions, Arguments, recursive function, Python Anonymous/Lambda Function, Global, Local and Nonlocal variables and return statement.	**1**
6	**Modules and packages in Python :** Modules, import, import with renaming, from-import statement, math module ,cmath module , random module, packages.	**1**
7	**Python Data structure:** Strings, list, tulpes, dictionary, set and array.	**1**
8	**Operations on set and array:** Set operations, Intersection, union, difference, symmetric difference, searching and sorting.	**1**
9	**Systems of linear algebraic equations:** Gauss Elimination Method, LU Decomposition Methods	**1**
10	**Roots of Equations:** Bisection, Newton-Raphson Method	**1**
11	**Initial Value Problems:** Euler's Method, Runge-Kutta Methods.	**1**
12	Magic square and Area calculation without measurement.	**1**
13	**Graph Theory : Networkx** Grpah, nodes, edges, directed graph, multigraph, drawing graph, Google page rank by random walk method	**1**
14	**Collatz conjecture and Monte Hall problem**	**1**
15	**Data compression using Numpy**	**1**
16	**Data visualization in Python:** 2D and 3D plot in python : line plot, bar plot, histogram plot, scatter plot, pie plot, area plot, Mandelbrot fractal set visualization.	**1**
	Total	**16**

Recommended Book:

1.JaanKiusalaas, ***Numerical Methods in Engineering with Python3***, Cambridge University Press.
2. Amit Saha, ***Doing Math with Python***, No Starch Press, 2015.
3. YashwantKanetkar and Aditya Kanetkar,***Let Us Python***, BPB Publication, 2019.

B.Sc. (Mathematics) (Part-III) (Semester–V & VI)
(Choice Based Credit System)
(Introduced from June 2020)

Course Code: CCPM VII **Title of Course: Project, Study- Tour, Viva – Voce**

A :PROJECT [30 Marks]

Each student of B.Sc. III is expected to read, collect, understand the culture ofMathematics, its historic development. He is expected to get acquainted withMathematical concepts, innovations, relevance of Mathematics. Report of the projectwork should be submitted through the respective Department of Mathematics.Evaluation of the project report will be done by the external examiners at the time ofannual examination.

B. STUDY TOUR [05 Marks] :

It is expected that the tour should contain at least renown academic institution so that the visiting students will be inspired to go for higher studies in Mathematics.

C. SEMINARS: [05 Marks]

Students should present a seminar before the B.Sc.III class on some topic in Mathematics.

D. VIVA-VOCE (on the project report). [10 Marks]

Nature of Question papers (Theory)

Common nature of question for theory paper mentioned separately:
There will be practical at the end of second term that is annual pattern,

Nature of Practical Question Paper

(1) Core Course Mathematics Practicals - IV
This carries 50 marks.
Examination : 40 Marks
Journal : 10 Marks

(2) Core Course Mathematics Practicals - V
This carries 50 marks.
Examination : 40 Marks
Journal : 10 Marks

(3) Core Course Mathematics Practicals - VI
This carries 50 marks.
Examination : 40 Marks
Journal : 10 Marks

(4) Core Course Mathematics Practicals - VII
This carries 50 marks.
Project : 30 Marks (External Examiner)
Study Tour : 05 Marks (External Examiner)
Seminar : 05 Marks (External Examiner)
Viva Voce : 10 Marks (External Examiner)

Note : Each student of a class will select separate topic for project work. He/ Sheshould submit the reports of his / her project work , Study tour reportto the department and get the same certified.

Teaching Periods :

(i) Total teaching periods for Paper –DSE E-9. E-10,E-11,E-12, F-9,F-10, F-11,F-12 are 12 (Twelve) per week.3 (Three) periods per paper per week.
(ii) Total teaching periods for CCPM-IV, V,VI,VII for the whole class are 20 (Twenty) per week. 5 (Five) periods per Lab. Perweek.

SHIVAJI NIVERSITY
KOLHAPUR

ESTD. 1962
NAAC A++ Grade

Bachelor of Commerce (B. Com.)

Under the Faculty of Commerce and ManagementChoice Based Credit System (CBCS)

(Regulations in accordance with **National Education Policy**with effect from Academic Year2022-23)

B. Com. Part-I (Level-5) SEMESTER-I

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–I)

Course Code: DSC-1 Discipline Specific Course
Financial Accounting Paper-I

Credits: 4

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	After completing this course, students will be able: 1. To get an idea about the basic of accounting, accounting concepts and conventions and accounting process. 2. To acquaint with skill of recording transactions related to amalgamation of partnership firm. 3. To apply skills of accounting for consignment transactions. 4. To make use of knowledge and skill for accounting of professionals.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Introduction to Accounting:**	**(15 hours)**
	BasicAccountingConceptsandConventions,AccountingProcess ,AccountingStandards-Need&Procedure,ConceptofIFRS	
Unit-II:	**Accounting for Amalgamation of Partnership:**	**(15 hours)**
	AmalgamationofPartnershipFirms	
Unit-III:	**ConsignmentAccounting:**	**(15 hours)**
	ConsignmentAccounts-ImportantTermsandAccountinginthebooksofConsignorandConsignee.	
Unit-IV:	**Accounting ofProfessionals:**	**(15 hours)**
	AccountsofProfessionals-preparationofReceiptsandExpenditureAccountandBalancesheetofMedicalPractionersandProfessionalAccountants.	

Reference Books:

1. GuptaR.L.andRadhaswamyM– 'FinancialAccounting'SultanchandSons,NewDelhi.
2. ShuklaM.C.GrewalT.S.andGuptaS.C.–'AdvancedAccounts'S.Chandand Company,NewDelhi.
3. AgarwalaA.N.AgarwalaK.N.- 'HigherScienceofAccountancy'KitabMahalAllahabad.
4. JainandNarang–'AdvancedAccountancy'KalyaniPublications,NewDelhi.
5. S.N.Maheswari–'AdvancedAccountancy'
6. CompendiumofstatementandstandardofAccounting.TheinstituteofCharteredAccountsofIndia.
7. RajanChougule,DhavalChougule- "TheoryandpracticeofComputerAccounting"ModernPublication,Kolhapur.

Note- College should make a provision of necessary computers for commercedepartmenttotrainthestudentsincomputerAccountingasprescribedinthe syllabus.

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–I)

Course Code: DSC-2: Discipline Specific Course
Management Functions and Application-Paper-I

Credits: 04

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	After completing this course, students will be able: 1. To get an idea about the basic managerial process and planning works in real life 2. To develop decision making skills to evaluate various alternatives and situations. 3. To acquaint with the knowledge of organizing various resources. 4. To understand the concepts of authority and process of delegation of authority. 5. To understand importance of proper direction and to develop their communication skill.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Introduction to the Management:**	**(15 hours)**
	Meaning, Definition, Concept, Characteristics, Need for Management Study, Levels of Management, **Contribution Towards Development of Management Theory** a) Elton Mayo- Hawthorne Experiments and their findings. b) Peter Drucker- Management by Objectives (8), Its Merits and Demerits. **c)** C.K Prahlad- Core Competence	
Unit-II:	**Planning and Decision Making:**	**(15 hours)**
	Meaning and techniques of Forecasting, SWOC Analysis. Meaning and Definition of Planning - Types of Planning – Steps in Planning Process Decision Making- Concept, Importance, Decision-making Process, Techniques of Decision making -qualitative and quantitative, Six Thinking Hats.	
Unit-III:	**Organizing and Staffing Organizing**:	**(15 hours)**
	Meaning, Concept, Steps of organization, Principles of organizing Delegation of Authority: Meaning, Elements, Difficulties in delegation, Guidelines for making effective delegation. Centralization and Decentralization: Meaning, Merits and Demerits **Staffing**: Concept Need and importance of Staffing, Sources of Recruitment, Scientific Selection Process	
Unit-IV:	**Direction and Communication Direction**:	**(15 hours)**
	Direction: Meaning, Elements, Principles & Techniques of Direction Concept of Team Work, Group Dynamics **Communication**: Meaning and Process of Communication, Types of Communication, Barriers to Communication, Overcoming Barriers to Communication	

List of Reference Books - Management Functions and Application **Paper- I (Semester I)**

1. George Terry, Principles of Management, Richard D. Irwin
2. Newman, Summer, and Gilbert, Management, PHI
3. James H. Donnelly, Fundamentals of Management, Pearson Education.
4. B.P. Singh and A.K.Singh, Essentials of Management, Excel Books
5. Griffin, Management Principles and Application, Cengage Learning
6. Robert Kreitner, Management Theory and Application, Cengage Learning
7. Peter F Drucker, Practice of Management, Mercury Books, London
8. Organisation and Management- Dr. C.B. Gupta
9. Business Organisation and Management –M.C.Shukla
10. Essentials of Management- Koontz and O' Donnell
11. Management: Stoner
12. Principles of Management- P.C. Tripathi and P.H.Reddy
13. Management- Principles and practice- Shriniwas&Chunawala

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–I)

DSC-3: Discipline Specific Course
Subject– Micro Economics Paper I

Objective:

1. Objective of the course is to acquaint students with the concepts of micro economics dealing with consumer behaviour. The course also makes the student understand the supply side of the market through the production and the cost behaviour of firm.
2. Learning outcomes –The student should be able to apply tools of consumer behavior and firm theory to business situation.

Credits: 04

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes:	The student should be able to apply tools of consumer behavior and firm theory to business situation.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Demand and consumer behavior**	**(15 hours)**
	1.1 Concept of demand, Defects of Cardinal Approach 1.2 Indifference Curve Analysis – Meaning, indifference curve map, properties, Marginal rate of substitution (MRS) 1.3 Consumer's equilibrium and Consumer Surplus 1.4Application of indifference curve.	
Unit-II:	**Demand forecasting:**	**(15 hours)**
	2.1 Meaning and Objectives 2.2 Factors influencing demand forecasting 2.3 Methods of Demand Forecasting – Market Survey, Time series and Graphical method. 2.4 Importance of demand forecasting in Business decision making.	
Unit-III:	**Production function:**	**(15 hours)**
	3.1 Concept of production function - fixed and variable inputs. 3.2 Theories of production: Law of variable proportions and Law of	

	Returns to scale 3.3 Internal and External economies and diseconomies of scale. 3.4 Isoquants- Concept, Economic region of production, optimal combination of resources	
Unit-IV:	**Cost of production and revenue:**	**(15 hours)**
	4.1 Cost of production – Money and Real cost, Private and Social cost, Opportunity cost. 4.2 Short and long run cost curves. 4.3 Modern approach of cost curves. 4.4 Revenue – Total, Average and Marginal revenue- Revenue curves in perfect competition and imperfect competition.	

List of Reference Books:

1) Ahuja H.L. (2010). Business Economics.S. Chand & Company New Delhi-110055
2) Mithani D.M. and Murthy G.K. (2007). Fundamentals of Business Economics. Himalaya Publishing House, New Delhi.
3) Zambre G.N. (2004). Business Economics. Pimplapure Publisher, Nagpur.
4) Mankar V.G. (2000).Business Economics. Himalaya Publishing House, New Delhi.
5) Koutsoyiannis (1979). Modern Micro Economics. MacMillan Press Ltd. Londan.
6) Dewett K. K. (2006). Modern Economic Theory. S.Chand and Company Ltd., New Delhi.
7) Jhingan M. L.(2012) Micro Economic Theory.Vrinda Publication (p) Ltd.
8) Dominick Salvatore (2011). Microeconomics. Shaum series, McGraw Hill Education.
9) Mithani D.M. (2011) Managerial Economics. Himalaya Publishing House, New Delhi,
10) Seth M. L. (1996).Micro Economics. Lakshmi NarainAgarwalEdn. Publishers, Agra.
11) Patil K.E. (2007) UchattarArthikSidhant.Mangesh Publication, Nagpur.
12) Zamare G.N. (2011) SukshamaArthashastra. Pimpalapure and Company Publishers, Nagpur

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester-I)

GEC-AA1: General Elective Course
Principles of Marketing Paper-I

Objective:
1. To provide basic knowledge of concepts and principles of marketing.
2. To make aware to students about rural marketing, recent Developments and marketing information system.

Credits: 04

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes:	1. The students will know various marketing concepts, basics of marketing and he or she will be able to assess consumer behaviour. 2. The students will understand rural market, consumers and he or she will also enlighten about various recent trends and development in marketing.	(Marks: 40 for Examination 10 for Internal Assessment)

Unit-I:	**Introduction:**	**(15 hours)**
	Nature, Scope and importance of marketing; Evolution of marketing concepts; marketing environment.	
Unit-II:	A. Consumer Behaviour: B. Market Selection :	**(15 hours)**
	A. An Overview: consumer buying process; factors influencing consumer buying decisions. B. Market segmentation - concept, importance and bases: Target market selection; positioning concept and importance product differentiation vs. market segmentation.	
Unit-III:	**Rural marketing:**	**(15 hours)**
	Growing importance; Distinguishing characteristics of rural marketing; Understanding rural consumers and rural markets. Marketing mix planning for rural markets.	
Unit-IV:	**Recent developments in marketing:**	**(15 hours)**
	Social Marketing, Online marketing, green marketing. Marketing Information System-concept and components: Marketing Research and its process.	

List of Reference Books:

1. KotlerPhilip,Gary Armstrong, PrafullaAgnihotri and AhsanUIHaque. Principles of Marketing. 13thedition. Pearson Education.
2. Michael, J. Etzel, Bruce J. Walker, William J Stantion and Ajay Pandit. Marketing Concept sand Cases.(Special Indian Edition)
3. McCarthy, E Jerome and William D.Perreault, Basic Marketing, Richard D. Irwin.
4. Lamb, Charles W, Joseph F. Hair, Dheeraj Sharma and Carl Mc Daniel Marketing: A South Asian Perspective Cengage Learning.
5. Pride William M. D. C. Ferell Marketing: Planning, Implementation &Control, Cengage Learning.
6. Majaro, Simon The Essence of Marketing Perentice Hall, New Delhi
7. Zikmund William GandMichaelD'sAmico Marketing: Creaingand Keeping Customers in an E- Commerce World. Thomson Learning.
8. Chhabra, T.N, and S.K. Grover Marketing Management. Fourth Edition DhanpatRai& Company.
9. TheConsumerProtectionAct-1986.
10. Iacobucci and Kapoor, Marketing Management : A South Asian Perspective, Engage Learning

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester-I)

GEC-BB1: General Elective Course
Insurance Paper-I

Objectives:
1. The objective of this course is to provide basic knowledge ofPrinciples and practice insurance and life insurance.

Credits: 04

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes:	1. To enable the students to know the fundamentals of Insurance. 2. To give exposure to the students about life insurance products, Procedural part and life insurance business in India.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Introduction to Insurance:**	**(15 hours)**
	Definition, characteristics and need of insurance, Economic and commercial significance of insurance, Insurance as a social security tool, Types of insurance in brief, Principles of insurance. Insurance contract and wagering contract.	
Unit-II:	**Life Insurance:**	**(15 hours)**
	Meaning and Nature of life insurance. Life insurance products, -whole life, endowment, term plans, pension and annuity plans, unit linked Insurance plans.	
Unit-III:	**Life Insurance Policy:**	**(15 hours)**
	Meaning, Procedure of taking life insurance policy, policy conditions, settlement of claims.	
Unit-IV:	**Life Insurance Business in India:**	**(15 hours)**
	Growth of life insurance business after privatization, Evaluation of performance of LIC of India and private companies, Insurance Regulatory and Development Authority Act, 1999- structure. Organizational setup and functions.	

Note-visit to Life Insurance Company&/ or Guest lecturers may be arranged.

List of Reference books:

1. G.S. Panda-' Principles and Practices of Insurance' Kalyani Publishers, Ludhiana
2. M. Arif khan' and Practice of Insurance' Educational Book House, Aligarh.
3. M.N. Mishra-'Insurance Principles and Practice' S. Chand & Company Ltd. New Delhi.
4. Kothari &Bahl, Principles and Practice of Insurance' SahityaBhawan, Agra.
5. S. Balachandran, General Insurance, Insurance Institute of India, Mumbai.
6. S. Balachandran, Life Insurance, Insurance Institute of India, Mumbai.
7. Insurance Regulatory Development Authority Act-1999.

Note- Latest edition of text books may be used.

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–I)

AECC-C1: Ability Enhancement Compulsory Course
Business Communication Paper-I
(English for Business Communication)

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	1. Toacquaintstudentswithcommunicationskills. 2. Toinculcatehumanvalues amongthestudentsthroughpoemsandprose. 3. Toimprovethelanguageandbusinesscompetenceofthestudents.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I	a) DevelopingVocabulary b) OnSmiles–A.G.Gardiner	**15 hours**
Unit-II	a) Description b) TheUnknownCitizen-W.H.Auden	**15 hours**
Unit-III	a) Narration b) PanchParameshvar-Premchand	**15 hours**
Unit-IV	a) Kabuliwala- Rabindranath Tagore b) OfferingintheTemple-DesikaPillai c) Felling ofthe BunyanTree-DilipChitre	**15 hours**

DivisionofTeachinghours(Total60Periods):

1. CommunicationSkills:3X12= 36periods
2. ReadingComprehension:6X4=24periods

Note: InternalEvaluationof10marks:HomeAssignment.

Nature ofQuestionPaperFor Business Communication Paper-I

Total Marks:40

Que. No.	Sub. Que.	Type ofQuestion	BasedonUnit	Marks
Q.1	A	Fourmultiplechoicequestionswithfour alternatives to beset.	**Prose andpoetryunits.**	04
	B	Answerinoneword/phrase/sentenceeach.(Skimmingandscanningquestionsto be set).	**Prose andpoetryunits.**	04
Q.2	A	Answer the following questions in 3 to4sentenceseach (3 outof5)	**Prose andpoetryunits.**	06
	B	Writeshortnotesonthefollowinginabout7to8sentenceseach(2outof4)	**Prose andpoetryunits.**	06

Q.3	-- -	Doas directed. 3 different exercises to be set for 2markseach.	**Unit I-A**	06
Q.4	A	I) Describingplaces/dailyroutine II) Describingobjects/persons(4 markseach).	**Unit II - ADescription**	**08**
	B	QuestiontobesetonNarration	**Unit III-A**	06

B. COM. PART-I (LEVEL-5) SEMESTER-II

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–II)

Course Code: DSC-4 Discipline Specific Course
Financial Accounting Paper-II

Credits: 4

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	After completing this course, students will be able: 4. To acquaint with skill of recording transactions related to single entry system. 5. To apply skills of accounting for conversionofp artnershipfirmintoalimitedcompany. 6. To make use of knowledge and skill for accounting of branches. 7. To understand the knowledge about computerized accounting.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Accounting for Incomplete Record:**	**(15 hours)**
	SingleEntry System-ConversionMethodonly	
Unit-II:	**Accounting for Conversion of Partnership into a Limited Company:**	**(15 hours)**
	ConversionofPartnershipFirmintoaLimitedCompany-Accountinginthebooksofpartnership Firmonly	
Unit-III:	**Branch Accounting:**	**(15 hours)**
	BranchAccounts-DependentBranch-preparationofBranchAccount,BranchTradingandProfitandLossAccountandStockandDebtorsMethod	
Unit-IV:	**Computerized Accounting System:**	**(15 hours)**
	ComputerizedAccountingSystem: IntroductiontoComputerizedAccounting, Accounting softwares'Tally'-preparationofVouchers,FeedingofDataand GeneratingofvariousReports	

Reference Books:

1. GuptaR.L.andRadhaswamyM– 'FinancialAccounting'SultanchandSons,NewDelhi.
2. ShuklaM.C.GrewalT.S.andGuptaS.C.– 'AdvancedAccounts'S.ChandandCompany,NewDelhi.
3. AgarwalaA.N.AgarwalaK.N.- 'HigherScienceofAccountancy'KitabMahalAllahabad.

4. JainandNarang–'AdvancedAccountancy'KalyaniPublications,NewDelhi.
5. S.N.Mheswari–'AdvancedAccountancy'
6. CompendiumofstatementandstandardofAccounting.TheinstituteofCharteredAccountsofIndia.
7. RajanChougule,Dhavalchougule– "TheoryandpracticeofComputerAccounting"ModernPublication,Kolhapur.

Note- College should make a provision of necessary computers for commercedepartmenttotrainthestudentsincomputerAccountingasprescribedinthesyllabus.

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–II)

DSC-5: Discipline Specific Course
Management Functions and Application-Paper-II

Credits: 04

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	After completing this course, students will be able: 1. To get an idea about motivation concept and theories 2. To develop their leadership skill 3. To understand and utilize techniques of coordination and control 4. To understand various emerging issues in management like green management and to understand concept of Change	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Motivation**	**(15 hours)**
	Motivation: Concept, Importance, Financial and Non - financial Motivation, Human Relationship approach. Theories of Motivation - Maslow's Need-Hierarchy Theory; Hertzberg's Two-factor Theory, Douglas McGregor's Theory X and Y	
Unit-II:	**Leadership**	**(15 hours)**
	Leadership - Concept, Importance, Qualities of Leader, Styles of Leadership, Case study of leadership of ShivajiMaharaj, Mahatma Gandhi and Dr. BabasahebAmbedkar.	
Unit-III:	**Co-ordination and Control Co-ordination**:	**(15 hours)**
	Concept, Need and Techniques of Co-ordination. **Contro**l-Concept, Need of control, Process of Controlling, Techniquesof Control –Traditional and Modern.	
Unit-IV:	**Emerging issues in Management Corporate Social Responsibility**:	**(15 hours)**
	Meaning and Importance. **Green Management** – Concept and Importance. **Change Management**: Concept, Need for Change, Resistance to Change, Overcoming Resistance to Change	

List of Reference Books - Management Functions and Application **Paper- II**
(Semester II)

1. Harold Koontz and Heinz Weihrich, Essentials of Management: AnInternational and Leadership Perspective, McGraw Hill Education.
2. Stephen P Robbins and Madhushree Nanda Agrawal, Fundamentals ofManagement: Essential Concepts and Applications, Pearson Education.
3. George Terry, Principles of Management, Richard D. Irwin

4. Newman, Summer, and Gilbert, Management, PHI
5. James H. Donnelly, Fundamentals of Management, Pearson Education.
6. B.P. Singh and A.K.Singh, Essentials of Management, Excel Books
7. Griffin, Management Principles and Application, Cengage Learning
8. Robert Kreitner, Management Theory and Application, Cengage Learning
9. TN Chhabra, Management Concepts and Practice, DhanpatRai& Co. (Pvt. Ltd.),New Delhi
10. Peter F Drucker, Practice of Management, Mercury Books, London
11. SharuRanganekar–In the World of Cororate Managers.
12. Organisation and Management- Dr. C.B. Gupta
13. Business Organisation and Management –M.C.Shukla
14. Essentials of Management- Koontz and O' Donnell
15. Management: Stoner
16. Principles and Practice of Management- L.M. Prasad
17. Management: Moshal
18. Principles of Management- P.C. Tripathi and P.H. Reddy
19. Management- Principles and practice- Shriniwas&Chunawala
20. Principles of management: Terry, G.R. and Stephen Franklin

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–II)

DSC-6: Discipline Specific Course
Micro Economics Paper II

Objective:

1. Objective of the course is to acquaint students with the concepts of microeconomics dealing with consumer behaviour. The course also makes the studentunderstand the supply side of the market through the production and the cost behaviour offirm.

Credits: 04

60 hours Course	Course Content	**Total 50 Marks**
Course Outcomes:	The student should be able to apply tools of consumer behaviourand firmtheory to business situation.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	Perfect competition:	**(15 hours)**
	1.1Meaningand characteristics 1.2 Equilibrium of firm in short run and long run. 1.3 Equilibriumofindustryinshortrunandlongrun. 1.4 Measuringproducer's surplusunderperfectcompetition.	
Unit-II:	Monopoly:	**(15 hours)**
	2.1MeaningandCharacteristis 2.2Pricedetermination under monopoly. 2.3 Conceptand degree of price discrimination. 2.4 Measurementofmonopolypower	
Unit-III:	Monopolistic competitionandOligopoly	**(15 hours)**
	3.1 Monopolistic competition – Meaning and Characteristics	

	3.2 Equilibrium of firm in short run and longrun. 3.3 Oligopoly market- Meaning and Characteristics. 3.4 Duopoly Market- Meaning and Characteristics	
Unit-IV:	Factor Pricing	**(15 hours)**
	4.1 Rent-Meaning-Ricardo's&Moderntheoryofrent 4.2 Wage-Meaning-MoneyandRealwage.Wagedifferentials. 4.3 Interest–MeaningLiquiditypreferencetheoryofinterest 4.4 Profit – Meaning. Gross and Net profit – Risks – Bearing and Uncertainty theories of profit.	

List of Reference Books:

13) Ahuja H.L. (2010). Business Economics.S. Chand & Company New Delhi-110055
14) Mithani D.M. and Murthy G.K. (2007). Fundamentals of Business Economics. Himalaya Publishing House, New Delhi.
15) Zambre G.N. (2004). Business Economics. Pimplapure Publisher, Nagpur.
16) Mankar V.G. (2000).Business Economics. Himalaya Publishing House, New Delhi.
17) Koutsoyiannis (1979). Modern Micro Economics. MacMillan Press Ltd. Londan.
18) Dewett K. K. (2006). Modern Economic Theory. S.Chand and Company Ltd., New Delhi.
19) Jhingan M. L.(2012) Micro Economic Theory.Vrinda Publication (p) Ltd.
20) Dominick Salvatore (2011). Microeconomics. Shaum series, McGraw Hill Education.
21) Mithani D.M. (2011) Managerial Economics. Himalaya Publishing House, New Delhi,
22) Seth M. L. (1996).Micro Economics. Lakshmi NarainAgarwalEdn. Publishers, Agra.
23) Patil K.E. (2007) UchattarArthikSidhant.Mangesh Publication, Nagpur.
24) Zamare G.N. (2011) SukshamaArthashastra. Pimpalapure and Company Publishers, Nagpur

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester-II)

GEC-AA2: General Elective Course
Principles of Marketing Paper-II

Objective:

1. To understand 4 Ps of marketing in detail.
2. To know management of retailing and changing scenario of retailing business.

Credits: 04

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes:	1. The students will be aware with four basic elements of marketing i.e.4Ps in detail and he will be armed with various Skills about branding, labeling and advertisement. 2. The students will know about management of retailing operations and changing scenario of retail business in India.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Product:**	**(15 hours)**
	Meaning and importance, Product classifications; Concept of product mix; Branding, packaging and labeling; Product-Support; Product life-cycle; New Product Development..	
Unit-II:	**Pricing and Promotion:**	**(15 hours)**
	A. Pricing: Significance, Factors affecting price of a product. Pricing policies and Strategies.	

	B. Promotion: Nature and Importance of promotion Promotion tools: advertising, personal selling, public relation & sales promotion –concept and their distinctive characteristics; Promotion mix and factors affecting promotion mix decisions.	
Unit-III:	**Distribution: Channels of distribution–meaning and importance:**	**(15 hours)**
	Types of distribution channels; Wholesaling and retailing; Factors affecting choice of distribution channel; Physical Distribution. Direct marketing and Services marketing-concept and characteristics.	
Unit-IV:	**Retailing:**	**(15 hours)**
	Types of retailing: store -based and non-store based retailing, chain stores, specialty stores, supermarkets, retail vending machines, mail order houses, retail cooperatives; Management of retailing operations; an over view; Retailing in India: changing scenario.	

List of Reference Books:

11. KotlerPhilip,Gary Armstrong, PrafullaAgnihotri and AhsanUIHaque. Principles of Marketing. 13thedition. Pearson Education.
12. Michael, J. Etzel, Bruce J. Walker, William J Stantion and Ajay Pandit. Marketing Concept sand Cases.(Special Indian Edition)
13. McCarthy, E Jerome and William D.Perreault, Basic Marketing, Richard D. Irwin.
14. Lamb, Charles W, Joseph F. Hair, Dheeraj Sharma and Carl Mc Daniel Marketing: A South Asian Perspective Cengage Learning.
15. Pride William M. D. C. Ferell Marketing: Planning, Implementation &Control, Cengage Learning.
16. Majaro, Simon The Essence of Marketing Perentice Hall, New Delhi
17. Zikmund William GandMichaelD'sAmico Marketing: Creaingand Keeping Customers in an E- Commerce World. Thomson Learning.
18. Chhabra, T.N, and S.K. Grover Marketing Management. Fourth Edition DhanpatRai& Company.
19. TheConsumerProtectionAct-1986.
20. Iacobucci and Kapoor, Marketing Management : A South Asian Perspective, Engage Learning

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester-II)

GEC-AB1: General Elective Course
History of Civilization Paper-II
(Introduction to History of Civilization- II)

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	Western Civilization has evolved considerably over the centuries. The political, artistic and intellectual contributions of the Greeks and Romans were crucial to the foundation of Western Civilization. During the medieval period the Western Civilization witnessed the two most important movements –the Renaissance and Reformation- that have shaped the modern period. The course will introduce the students to important changes that happened in Western Civilization	(Marks: 40 for Examination 10 for Internal Assessment)

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester-II)

GEC-BB2: General Elective Course
Insurance Paper-II

Objectives:The objective of this course is to enable students to know the fundamentals of general insurance. Credits: 04

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:	1. To enables the students to know the fundamentals of General Insurance. 2. To give exposure to the students about general insurance, procedural part, general insurance business and FDI in insurance in India.	(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	**Fire Insurance:**	**(15 hours)**
	Meaning, Procedure of taking fire Insurance policy, Policy conditions, kinds of policies, cancellation and forfeiture of policy, Renewal of policy, settlement of claims.	
Unit-II:	**Marine Insurance:**	**(15 hours)**
	Meaning, Procedure of taking marine insurance policy, Difference between fire and marine Insurance, clauses of marine insurance policy, marine losses and perils ,Types of policies	
Unit-III:	**Miscellaneous Insurance** (only nature & cover)	**(15 hours)**
	(A) Personal Accident Insurance (B) Health Insurance (C) Motor Insurance (D) Burglary Insurance (E) Liability Insurance (F) Fidelity Guarantee Insurance (G) Cattle Insurance (H) Crop Insurance	
Unit-IV:	**General Insurance Business in India**	**(15 hours)**
	Growth of general insurance business after privatization, Evaluation of performance of public and private companies, Foreign Direct Investment (FDI) in insurance business, merits and demerits, current scenario, Banc assurance.	

Note: Visit to general insurance company and/or a Guest lecturer may be arranged.

List of Reference books:

1. G.S. Panda-' Principles and Practices of Insurance' Kalyani Publishers, Ludhiana
2. M. Arif khan' and Practice of Insurance' Educational Book House, Aligarh.
3. M.N. Mishra-'Insurance Principles and Practice' S. Chand & Company Ltd. New Delhi.
4. Kothari &Bahl, Principles and Practice of Insurance' SahityaBhawan, Agra.
5. S. Balachandran, General Insurance, Insurance Institute of India, Mumbai.
6. S. Balachandran, Life Insurance, Insurance Institute of India, Mumbai.
7. Insurance Regulatory Development Authority Act-1999.

Note- Latest edition of text books may be used.

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020
with effect from Academic Year 2022-23
B.Com-I (Semester–II)

AECC-C2: Ability Enhancement Compulsory Course
Business Communication Paper-II
(English for Business Communication)

60 hours Course	Course Content	Total 50 Marks
Course Outcomes:		(Marks: 40 for Examination 10 for Internal Assessment)
Unit-I:	a) BusinessCorrespondence **b) Whydoes thechildCry–MulkRaj Anand**	**15 hours**
Unit-II:	a) TelephonicCommunication b) **TheNecklace**-Guy deMaupassant	**15 hours**
Unit-III:	a) EnglishforSpecificPurposes b) **IThankYouGod –**BernardDadie	**15 hours**
Unit-IV:	a) **War**-LuigiPirandello b) **TheCuckoo**-WilliamWordsworth **c) LetMe Not….** -WilliamShakespeare	**15 hours**

DivisionofTeaching(Total60Periods)

1. CommunicationSkills:3X12= 36periods
2. ReadingComprehension: 6X4=24periods

SEMESTERII(Paper–B)

Total Marks:40

Que. No	Sub. Que	Type ofQuestion	Based onUnit	Marks
Q.1	A	Fourmultiplechoicequestionswithfouralternativesto beset.	**Prose andpoetryunits.**	04
	B	Answerinoneword/phrase/sentenceeach. (Skimmingandscanningquestionsto be set).	**Prose andpoetryunits.**	04
Q.2	A	Answer the following questions in 3 to4 sentenceseach (3 outof5)	**Prose andpoetryunits.**	06

	B	Writeshortnotesonthefollowinginabout7 to 8 sentenceseach(2 outof4)	**Prose andpoetryu nits.**	06
Q.3		Questions to be set on **BusinessCorrespondence**	**Module V-A**	08
	A	Question on Business / MassCommunicationletters(4 marks)		
	B	Question on Social Communicationletters.(4 marks)		
Q.4	A	Question to be set on **TelephonicCommunication**	**ModuleVI-A**	06
	B	Question to be set on English forSpecific Purposes	**ModuleVII-A**	**06**

Shivaji University, Kolhapur

B.Com. (CBCS Pattern)

Part-I (Semester I)

COMMERCIAL GEOGRAPHY- Paper I

Introduce from June-2022- 23

Marks – 50 Credits : 4

GENERAL OBJECTIVES OF THE PAPER: The objective of this course is to introduce Commercial Geography, Classification of Economic activities**,** Correlation between Economic activities and Geographical factors, Conservation of Resources & sustainable economic development, Trade and Trade Organizations.

LEARNING OUTCOMES:

The student should be knowing the bases of commercial activities related to the earth.

PATTERN:

Pattern of Examination will be Semester for Theory.

ELIGIBILITY FOR ADMISSION:

As per eligibility criteria prescribed for each course and the merit list in qualifying examination.

SCHEME OF EXAMINATION:

SHIVAJI UNIVERSITY, KOLHAPUR

Estd. 1962

"A^{++}" Accredited by NAAC (2021) With CGPA 3.52

Faculty of Commerce and Management

Revised Syllabus in accordance with NEP, 2020

Syllabus for

B. Com. Part II (Sem. III & IV)

(Revised Syllabus to be implemented from June, 2023 onwards)

Shivaji University, Kolhapur
B.Com (NEP) Part-II (Semester-III)

Corporate Accounting Paper - I
Core Course

Introduced from June-2023-24

Course Outcomes:

Students will be able to -

1. Demonstrate accounting for issue of bonus shares, rights shares and sweat equity.
2. Demonstrate accounting for issue of debentures and redemption of debentures.
3. Explain the accounting of profit/loss prior to and after incorporation.
4. Practice the fundamental accounting process on Tally ERP.

Syllabus Contents

Unit I: Issue of Bonus Shares, Rights Shares and Sweat Equity. (15 Periods)

Unit II: Issue of Debentures, Interest on Debentures and Amortisation of Discount and loss on Issue of Debentures. Redemption of Debentures (Sinking Fund Method only) (20 Periods)

Unit III: Profit /Loss Prior to Incorporation. (in vertical format only) (15 Periods)

Unit IV: Practical of Fundamental Computerised Accounting (10 Periods)

a) Introduction to Tally ERP.9, Technological Advantages, Getting Functional with Tally ERP.9, Tally ERP.9 Start-up, Mouse/Keyboard Conventions, Switching between Screen Areas, Quitting Tally ERP.9, Setting up of Company in Tally ERP.9,
b) Create a Company- Select a Company, Alter a Company, Shut a Company, Creating Accounting Masters in Tally ERP.9, Chart of Accounts,
c) Pre-defined Groups of Accounts, Groups- Creating Single Group, Creating Multiple Group, Displaying Group, Altering Group,
d) Ledgers, Creating Single Ledger, Creating Multiple Ledger, Displaying Ledger, Altering Ledger, Voucher Entry in Tally ERP.9,
e) Accounting Vouchers- Contra Voucher (F4), Payment Voucher (F5), Receipt Voucher (F6), Journal Voucher (F7), Purchase (F9), Sales (F8), Debit Note (Ctrl + F9), Credit Note (Ctrl + F8),
f) Financial Statements- Balance Sheet, Profit & Loss A/c., Trial Balance,
g) Accounting Books and Registers- Cash Book, Bank Book, Purchase Register, Sales Register, Journal Register, Debit Note Register, Credit Note Register and Day Book.

Notes:

1) College should make a provision of necessary computers and accounting software for commerce department to train the students in Computerised Accounting as prescribed in the syllabus.
2) A visit should be arranged for increasing awareness of students regarding Corporate Accounting either in any Company Office or the Office of any Chartered Accountant/ Professional Accountant.

Reference Books:-

1) Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, New Delhi: S. Chand & Company.
2) Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, New Delhi: S. Chand & Company.
3) Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Mumbai: Himalaya Publishing House.
4) Gupta, R. L. andRadhaswamy, M. (2018). Advanced Accountancy Vol. II, New Delhi: Sultan Chand and Sons.
5) Maheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. New Delhi: Vikas Publication House.
6) Shukla M. C. ; Grewal T.S. and Gupta S.C. - Advanced Accounts, New Delhi: S.Chand and Co.
7) Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced Accountancy (Corporate Accounting) Vol. II, New Delhi: Kalyani Publishers.
8) Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, Noida: McGraw Hill Education India (Private) Ltd.
9) Chakraborty, Hrishikesh, Advanced Accountancy, Oxford University Press
10) Chougule,Rajan (2011). Computerized Accounting, Kolhapur.
11) Tulsian, P. C. and Tulsian, Bharat (2015). Corporate Accounting, New Delhi: S. Chand Publishing.

Nature of Question Paper for Paper I

Instructions:

1) Question number 1 and 2 are compulsory.
2) Attempt any Three questions from question number 3 to 6
3) Use of simple calculator is allowed.

Total Marks : 40

Q.No	Nature of Question	Marks
1.	MCQ (8 MCQs each for one mark)	08
2.	Short Notes (2 out of 3)	08
3.	Problem based question	08
4.	Problem based question	08
5.	Problem based question	08
6.	Problem based question	08

Note : Two problems will be asked on Unit No.II

Shivaji University, Kolhapur
B.Com. (NEP) Part-II (Semester-IV)

Corporate Accounting Paper - II
Core Course

Introduced from June-2023-24

Course Outcomes:

Students will be able to -

1. Demonstrate accounting for redemption of Preference Shares.
2. Compute the value of shares as per distinct methods and differentiate between them.
3. Simulate practice of preparing financial statements as per the provisions of Indian Companies Act, 2013.
4. Practice the store accounting through Tally ERP.

Unit -I: Redemption of Preference Shares. **(15 Periods)**

Unit-II: Valuation of shares: Intrinsic value method, Market value Method (Capitalization of profit and dividend basis) Fair value. **(15 Periods)**

Unit III: Preparation of Final Accounts of Companies. **(20 Periods)**

Unit-IV: Store Accounting with Practical using Tally. **(10 Periods)**

Theory:

a) Basic Concepts of Store Accounting- Importance of Material Management and Inventory Control, Objectives of Inventory Control System, Functions and Duties of Store-keeper,
b) Key Terms- Stock items, Category of item, Item Name, Unit of Measurement- Purchase Rate per Unit, Current Stock Quantity, Current Valuation Rate, Opening Stock Quantity, Opening Valuation Rate, Purchase Returns, Sales Returns
c) Stock Valuation Methods- Source document, Types of Source documents, Purchase Invoice, Goods Received Note, Sales Invoice, Delivery Challan

d) Tally Reports of Store Accounting- Bill-wise List of Stock Items, Stock Statement, Material Receipts/ Purchases Register, Material Issues/ Sales Register, Material Return Report, Slow Moving Items Report, Fast Moving Items Report.

Practical:

a) Creating Inventory Masters in Tally. ERP 9, Stock Groups- Creating Single Stock Group, Creating Multiple Stock Group, Displaying Stock Group, Altering Stock Group,
b) Units of Measure- Simple Units, Creating Simple Units, Displaying Units of Measure, Deleting Units of Measure
c) Stock Items- Creating Single Stock Items, Creating Multiple Stock Items, Displaying Stock Items, Altering Stock Items,
d) Voucher Entry in Tally. ERP 9- Purchase Voucher (F9), Sales Voucher (F8),

Credit Note Voucher (Ctrl + F8), Debit Note Voucher (Ctrl + F9)

e) Financial Statements- Balance Sheet, Profit & Loss A/c., Trial Balance,
f) Accounting Books & Registers- Cash Book, Bank Book, Purchase Register, Sales Register, Journal Register, Debit Note Register, Credit Note Register, Day Book, Statistics,
g) Inventory Books & Reports- Stock Summary, Stock Item Summary, Stock Group Summary, Exception Reports- Negative Stock, Negative Summary.

Notes:

1) College should make a provision of necessary computers and accounting software for commerce department to train the students in Computerised Accounting as prescribed in the syllabus.
2) A visit should be arranged for increasing awareness of students regarding Corporate Accounting either in any Company Office or the Office of any Chartered Accountant/ Professional Accountant.

Reference Books:-

12) Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, New Delhi: S. Chand & Company.
13) Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, New Delhi: S. Chand & Company.
14) Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Mumbai: Himalaya Publishing House.
15) Gupta, R. L. andRadhaswamy, M. (2018). Advanced Accountancy Vol. II, New Delhi: Sultan Chand and Sons.
16) Maheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. New Delhi: Vikas Publication House.
17) Shukla M. C. ; Grewal T.S. and Gupta S.C. - Advanced Accounts, New Delhi: S.Chand and Co.
18) Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced Accountancy (Corporate Accounting) Vol. II, New Delhi: Kalyani Publishers.
19) Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, Noida: McGraw Hill Education India (Private) Ltd.
20) Chakraborty, Hrishikesh, Advanced Accountancy, Oxford University Press
21) Chougule,Rajan (2011). Computerized Accounting, Kolhapur.
22) Tulsian, P. C. and Tulsian, Bharat (2015). Corporate Accounting, New Delhi: S. Chand Publishing.

Equivalence

Sr.No.	Old Name	New Name
1	Corporate Accounting Paper I	Corporate Accounting Paper I
2	Corporate Accounting Paper II	Corporate Accounting Paper II

Q.No	Nature of Question	Marks
1.	MCQ (8 MCQs each for one mark)	08
2.	Short Notes (2 out of 3)	08
3.	Problem based question	08
4.	Problem based question	08
5.	Problem based question	08
6.	Problem based question	08

Total Marks : 40

Nature of Question Paper for Paper II

Instructions:

1. Question number 1 and 2 are compulsory.
2. Attempt any Three questions from question number 3 to 6
3. Use of simple calculator is allowed.

Note : Two problems will be asked on Unit No.III

Shivaji University, Kolhapur
B.Com (NEP)
Part – II Semester-III
Fundamentals of Entrepreneurship- Paper-I
Discipline Specific Elective - 8
Introduced from June-2023-24

Credits-4

Objectives-

1. To impart theoretical knowledge of Entrepreneurship
2. To develop Entrepreneurship qualities and skills
3. To acquaint students with Steps involved in the formation of SmallEnterprises
4. To enlighten students with Recent Trends and Concepts in Entrepreneurship

Unit-I	**Entrepreneur:-** Evolution, Meaning and Definition, Functions, Qualities of successful entrepreneur, Types of Entrepreneur, Obstacles to become an Entrepreneur, Challenges before existing entrepreneur in modern era.	15 Hours
Unit-II	**Entrepreneurship and Entrepreneurship Development:** Concept, Definitions, Importance, Theories- Joseph Schumpeter's Theory of Innovation, Hagen's theory of Status Withdrawal, David McClelland's Need for Achievement theory, Knight's Risk-Taking theory, Entrepreneurship Development- Concept and Process. Introduction, Functions and Performance of – EDI, MCED And DIC	15 Hours
Unit-III	**Micro, Small and Medium Enterprises (MSME):** Definition, Importance, Problems of MSME and Remedies, Government Policy and Support, Steps involved in the formation of Small Enterprises- Location, Clearances, Permits required, Formalities, Licensing and Registration Procedure.	15 Hours
Unit-IV	**Recent Trends and Concepts in Entrepreneurship:** Recent Trends- Start up, Stand up, Skill India, Make in India, Incubation Centre- Concept and Importance. Concepts- Sociopreneur, Edupreneur, Ecopreneur, Netpreneur, Intrapreneur(Only concept and Characteristics)	15 Hours

Note – Group Activity should be taken for 10 marks as Internal Evaluation

Shivaji University, Kolhapur
B.Com (NEP)
Part -II Semester- IV
Fundamentals of Entrepreneurship- Paper-II
Discipline Specific Elective - 8
Introduced from June-2023-24

Credits-4

Objectives-

1. To acquaint students with family business in India
2. To impart conceptual knowledge of Service and Agro Entrepreneurship
3. To aware students about Business Plan and Project Report
4. To inspire the students through successful stories of Entrepreneurs

Unit-I	**Family Business:** Meaning, Types, Advantages and Disadvantages of Family Business, Challenges before family business in India, Business Succession Planning, Making family business moreeffective.	15 Hours
Unit-II	**Service and Agro Entrepreneurship:** A) Service Entrepreneurship- Meaning and Concept, Role of Service sector in National Economy, Opportunities in Servicesector. B) Agro Entrepreneurship- Meaning and Concept, Importance, Entrepreneurial Opportunities in Agro Sector,Challenges before Agro Entrepreneurship	15 Hours
Unit-III	**Business Plan and Project Report:** Meaning and Concept of Business Plan, Key elements of business plan Meaning, Concept and classification of project. Project for Retail store, Beauty parlor, Oil Mill, Cold Storage,Eco friendly Bag production- Reasons for failure of project.	15 Hours
Unit-IV	**Women Entrepreneurship and Successful Entrepreneurs** Women Entrepreneur- Concept and causes of limited growth of women entrepreneurs in India. Successful Entrepreneurs- Male- Jeff Bezos(Amazon), Hanmantrao Gaikwad (BVG), Chitale Brothers (Chitale Dairy), Ramdas Mane (Mane Groupof Industries) Female- Aditi Gupta (Whisper Girl), Chetana Gala-Sinha (Manadeshi Foundation), Vandana Luthra (VLCC),	15 Hours

Note – Case Study/Oral Exam. should be taken for 10 marks as Internal Evaluation.

References:

1. Dynamics of Entrepreneurial Development and Management- by VasantDesai
2. Udyojakata- by Prabhakar Deshmukh
3. Entrepreneurship Development in India- by C.B. Gupta and N.P. Shrinivasan
4. Entrepreneurship and Small Business Management- by Shukla M.B.
5. Entrepreneurial Development- by Dr. S.S. Khanka
6. Entrepreneurial Development- by Godron E. and Natrajan K.
7. Entrepreneurial Development- by Taneja Satish and Gupta S.L.
8. Current Trends in Entrepreneurship - by Mohan S. Elangovan R.
9. Project Preparation Appraisal, Implementation- by Prasanna Chandra
10. Formulation of a Project Report- by Vinod Gupta

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B.Com.II (NEP)

Semester III and IV

Fundamentals of Entrepreneurship Paper I & II

Nature of Question Paper

Total Marks: 40

Instructions:

1. All questions carry equal marks.
2. All questions are compulsory.

Q.1	Multiple Choice Questions (Eight Questions for 1 mark each)	08 Marks
Q.2	Broad Question	08 Marks
	OR	
	Broad Question	08 Marks
Q.3	Broad Question	08 Marks
	OR	
	Broad Question	08 Marks
Q.4	Write answers in Short (Any Two out of Three)	08 Marks
	A)	04 marks
	B)	04 marks
	C)	04 marks
Q.5	Short Notes (Any Two out of Three)	08 Marks
	A)	(04 marks)
	B)	04 marks
	C)	04 marks

Equivalence

Sr.No.	Old Name	New Name
1	Fundamentals of Entrepreneurship Paper - I	Fundamentals of EntrepreneurshipPaper - I
2	Fundamentals of Entrepreneurship Paper - II	Fundamentals of EntrepreneurshipPaper - II

Shivaji University, Kolhapur

B.Com. Semester-III **NEP**

Syllabus to be introduced from June 2023

Money and Financial System

B.Com. II SEM III Money and Financial System (DSC 09) (Paper No – 1)

Course Outcomes:

1. Students explain the concept of money, its new incarnations and flow in to the economy
2. Students understood the financial system and its operation
3. Students understand the nature of banking business and practices

Marks : 50 Credits : 4

Unit No	Unit Name	Lectures
Unit 1	**Introduction to Money** 1.1 Evolution, Meaning and Functions of Money 1.2 Meaning and Features of Crypto Currency, Digital Rupee 1.3 Approaches to the Measurement of Money supply; RBI's Measures of Money Supply 1.4 Factors affecting Money Supply	15
Unit 2	**Financial System** 2.1 Structure and Importance of Financial System 2.2 Features and structure of Money Market in India 2.3 Features and structure of Capital Market in India 2.4 Important Reforms in Indian Money and Capital Market	15
Unit 3	**Introduction to Banking** 3.1Meaning and Functions of Commercial Banks 3.2Types and Features of Banks - Commercial, Cooperative, Public and Private, Foreign. 3.3Payment Banks, Small Finance Banks 3.4 Process of Credit Creation and its limitations	15
Unit 4	**Banking Business and Practices** 4.1 Meaning, Types and Features of Bank Deposits 4.2 Meaning, Types and Features of Bank Loans 4.3 Sources of Funds and Income for Banks 4.4 Changing nature of Banking Business	15

References

1. Bhole L.M. (2009), Financial Institutions and Market, Tata McGraw Hill, New Delhi
2. Bhasin Nitin (2010), Financial Institutions and Financial Markets in India :Functioning and Reforms. New Century Publications, New Delhi
3. Berg Braam van den (2015),Understanding Financial Markets & Instruments, Academy of Financial Market, https://eagletraders.com/books/afm/afm4.php
4. Cade, Eddie (1998) Managing Banking Risks, Woodhead Publishing Ltd., in association with The Chartered Institute of Bankers, England.
5. Gupta, L.C (1997),Stock Exchange Trading in India; Society for Capital Market Research and Development
6. Sethi Jyotsna and Bhatia Nishwan (2003),Elements of Banking and Insurance, Prentice Hall of 4 India,New Delhi
7. National Stock Exchange (2015), Securities Market (Basic) Module, NCFM, National Stock Exchange of India Limited
8. Joshi Vasant C. and Joshi Vinay V (1998), Managing Indian Banks: The Challenges Ahead, Response Books, New Delhi.
9. Vyuptakesh Sharan (2009) India's Financial Sector: An Era of Reforms, SAGE Publications

India Pvt Ltd
10. Prabhu Ghate (2007) Indian Microfinance: The Challenges of Rapid Growth, SAGE Publications India Pvt Ltd
11. H.R. Machiraju (2019) Indian Financial System, Vikas Publishing house
12. Sujatra Bhattacharyya (2017) Indian Financial System, Oxford University Press
13. Pathak Bharati (2018) Indian Financial System, Pearson Education
14. Frederic S. Mishkin, Stanley Eakins (2017) Financial Markets and Institutions, Pearson Education
15. Anil Varma & Pramod Rao (2007) Globalization: Indian Financial Sector Reforms, Prabhat Prakashan
16. Durgadas Roy (2009) Financial Intermediation In Economic Development: The Indian Perspective, Rajat Publications
17. Charles A.E. Goodhart (1995) The Central Bank and the Financial System, Palgrave Macmillan

Shivaji University, Kolhapur

B.Com. (Semester IV) **NEP**

Syllabus to be introduced from June 2023

Money and Financial System

B.Com. II SEM IV Money and Financial System (DSC 13) (Paper No – 2)

Course Outcomes:

1. Students understand the changing nature of financial system
2. Students equipped explain and make use of the E- Banking services
3. Students enable to analyse the stance of RBI's monetary policy

Marks : 50 Credits : 4

Unit No	Unit Name	Lectures
Unit 1	**E-Banking Services** 1.1 Internet Banking: Meaning, Features and Services 1.2 Credit and Debit Card : Features, Importance &Precautions 1.3 NEFT, RTGS, IMPS, UPI & Cheque Truncation System 1.4 Mobile Banking: Meaning, Features and Services	15
Unit 2	**Recent Developments in Indian Financial System** 2.1 Micro Finance Institutions: Functions and Importance 2.2 Licensing and functioning of Payment Banks and Small Finance Banks 2.3 NBFCs: Meaning, Features and Types 2.4 Mutual Funds : Meaning, Types	15
Unit 3	**Reserve Bank of India** 3.1 Organizational Structure and Functions of RBI 3.2 Meaning and Objectives Monetary Policy 3.3 Instruments of Monetary Policy 3.4 Monetary Policy Committee; RBI's Autonomy & Section-7 of RBI Act 1934	15
Unit 4	**All India Financial Institutes and Issues in Indian Banking** 4.1 Administrative Structure and Functions of NABARD and SIDBI 4.2 Administrative Structure and Functions of NHB and EXIM Bank 4.3 Meaning, Causes and Remedies for NPA, Prompt Correctives Action, Asset Reconstruction Companies 4.4 Consolidation in Indian Banking – Meaning and Forms	15

References

1. Bhole L.M. (2009), Financial Institutions and Market, Tata McGraw Hill, New Delhi
2. Bhasin Nitin(2010), Financial Institutions and Financial Markets in India :Functioning and Reforms. New Century Publications, New Delhi
3. Berg Braam van den (2015),Understanding Financial Markets & Instruments, Academy of Financial Market, https://eagletraders.com/books/afm/afm4.php
4. Cade, Eddie (1998) Managing Banking Risks, Woodhead Publishing Ltd., in association with The Chartered Institute of Bankers, England.
5. Gupta, L.C (1997),Stock Exchange Trading in India; Society for Capital Market Research and Development
6. Sethi Jyotsna and Bhatia Nishwan (2003),Elements of Banking and Insurance, Prentice Hall of 4 India,New Delhi
7. National Stock Exchange (2015), Securities Market (Basic) Module, NCFM, National Stock Exchange of India Limited
8. Joshi Vasant C. and Joshi Vinay V (1998), Managing Indian Banks: The Challenges Ahead, Response Books, New Delhi.

9. Vyuptakesh Sharan (2009) India's Financial Sector: An Era of Reforms, SAGE Publications India Pvt Ltd

10. Prabhu Ghate (2007) Indian Microfinance: The Challenges of Rapid Growth, SAGE Publications India Pvt Ltd
11. H.R. Machiraju (2019) Indian Financial System, Vikas Publishing house
12. Sujatra Bhattacharyya (2017) Indian Financial System, Oxford University Press
13. Pathak Bharati (2018) Indian Financial System, Pearson Education
14. Frederic S. Mishkin, Stanley Eakins (2017) Financial Markets and Institutions, Pearson Education
15. Anil Varma & Pramod Rao (2007)Globalization: Indian Financial Sector Reforms, Prabhat Prakashan
16. Durgadas Roy (2009)Financial Intermediation In Economic Development: The Indian Perspective, Rajat Publications
17. Charles A.E. Goodhart (1995) The Central Bank and the Financial System, Palgrave Macmillan

Shivaji University, Kolhapur
Nature of Question Paper for B.Com. II for paper III and IV (NEP)
Money & Financial System

Semester-end Examination Marks: 40 Internal Marks: 10

Instructions: 1. All questions are compulsory.

Q 1	MCQ (8 MCQs with each carrying one mark)	(8 Marks)
Q 2	Long Answer Question OR Long Answer Question	(8 Marks)
Q 3	Long Answer Question OR Long Answer Question	(8 Marks)
Q 4	Short Answer Question (2 out of 3)	(8 Marks)
Q 5	Short Notes (2 out of 3)	(8 Marks)

EQUIVALENCE OF THE PAPERS / COURSES (B. Com. Part -II) Sem III & IV

Sr.	Existing title of the Paper	Revised Title of the paper
1	Money and Financial System (Paper - I)	Money and Financial System (Paper – I)
2	Money and Financial System (Paper - II)	Money and Financial System (Paper – II)

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SHIVAJI UNIVERSITY,KOLHAPUR
Syllabus B.COM. SEMESTER - III
MACRO ECONOMICS – PAPER- I
Under NEP2020 (CBCS) Credits : 4
Introduced from June 2023

COURSE OUTCOMES:

Studentsenable to explain…

1. The macro variables and nature and scope of macro economics.
2. The relevance of national income concepts and their applications.
3. Process of value of money determination.
4. Theory of output and employment generation.

Unit No.	Unit	Periods
UNIT I	**Introduction to Macro Economics** 1.1 Meaning, Nature and Scope 1.2 Difference between Micro and Macro Economics 1.3 Significance andLimitations of Macro Economics 1.4 Macro Economic Variables	15
UNIT II	**National Income** 2.1 Meaning and concepts- GDP, GNP, NNP, Personal and Disposable income, Per capita Income-Circular Flow of National Income 2.2 Methods of computing National Income- Product, Income and Expenditure methods 2.3 Difficulties in computing National Income 2.4 Applications of National Income Data	15
UNIT III	**Value of Money** 3.1 Concept of Value of Money 3.2 Quantity Theory of Money-, Transaction Approach, Cash Balance Approach 3.3 Inflation: Causes and Remedies, Deflation: Causes and Remedies,Social cost of Inflation 3.4 Index Number : Construction of Simple and Weighted Index Numbers, Importance of Index Number	15
UNIT IV	**Theory ofOutput and Employment** 4.1 J.B. Say's Law of Market 4.2 Keynesian Theory of Employment 4.3 Consumption Function –APC and MPC, Factors influencing consumption function 4.4 Investment Function- Marginal Efficiency of Capital, Investment Multiplier	15

References –

1. Agarwal H.S. (2013), Principles of Economics, Global Professional Publishing

2. Ahuja H.L.(2010), Macro Economics Theory and Policy, S. Chand and Company.

3. Branson William H. (1997), Macro Economics Theory and Policy, harper Collins India Pvt. Ltd.

4. Crowther Geoffrey (1940),An Outline of Money, Thomas Nelson and sons Ltd. London

5. Duesenberry James,S. Business Cycles and national Income, Georg Allen and Union London

6. Derburg and McDougal (1976), Macro Economics, McGraw Hill Education, New York

7. Dewtt K.K.,(2006),Modern Economic Theory, S. Chand and Company.

8. Gupta G.S.(2008),Macro Economics: Theory and Applications, TATA McGraw Hill

Education

9. Gupta S.B.(2010),Monetary Economics, S. Chand and Company.

10. Hanson J.L. An Outline of Monetary Theory, McDonalds and Evans Ltd.London

11. Haberler Gottfried (1968), Theory of International Trade, William Hodge and Company

12. Hanson Alvin H. (1949), Monetary Theory and Policy, McGraw Hill Publication

13. Hanson J.L.(1970),Monetary Theory and Practice, McDonalds and Evans Ltd.London

14. Hicks U.K.(1968), Public Finance, James Nisbet and Company, London

15. Lindauer John (2012) Macro Economics,4thEd. I University Inc. Bloomington USA

16. Jinghan M.L. Macro Economic Theory,Vinda Publication Pvt. Ltd. New Delhi

17. Lekhi R.K,(2015)Public Finance, Kalayani Publishers New Delhi

18. Mithani D.M. (2012), Money, Banking, International Trade and Public Finance,Himalaya Publishing House

19. Musgrave Richard,(2004), Public Finance, McGraw Hill Publication

20. Shapiro Edward (2013),Macro Economic Analysis, Galgotia Publication

21. Samuelsson Paul A .& Nordhaus W.D.(2010),Macro Economics, McGraw Hill Publication

22. Schumpeter J.A.(1939), Business Cycles, McGraw Hill Publication

23. Seth M.L. (2017),Macro Economics, Laximinarayan Agarwal Publication

24. Singh S.B. Macro Economics, Vishvbharti Publication New Delhi

25. Taygi B.P. &Singh H.P(2016), Public Finance, Jayprakash Nath Co.

26.Vaish M.C.(2009).Monetary Policy, Vikas Publishing House New Delhi

SHIVAJI UNIVERSITY,KOLHAPUR
Syllabus B.COM. SEMESTER – IV
MACRO ECONOMICS – PAPER- II
(Under NEP 2020 – (CBCS)
Credits : 4
Introduced from June 2023

COURSE OUTCOMES:
Studentsenable to understand…
1. Theories of trade cyclein connection with business.
2. Theory of Public finance relating to economy, business and citizens.
3. The trade and business practices through international trade theories.
4. The determination of rate of exchange.

Unit No.	Unit	Periods
Unit I	**Theory ofTrade Cycles** 1.1 Meaning Features and Types 1.2 Phases of Trade Cycles 1.3 Theories of Trade Cycles – Hawtrey and Schumpeter 1.4 Control of Trade Cycles	15
Unit II	**Theory of Public Finance** 2.1 Meaning, Nature, Scope and Importance 2.2 Public Revenue: Sources-Tax Revenue-Direct and Indirect Taxes - Merits and Demerits, Non-Tax Revenue Sources 2.3 Public Expenditure- Causes of growth 2.4 Public Debt – Forms and Effects, Deficit Financing- Objectives and Importance.	15
Unit III	**Theory of International Trade** 3.1 Concept of Trade, Internal and International Trade 3.2 Advantage and Disadvantage of International Trade, Ricardian Theory of International Trade, Terms of Trade:Concept and Types 3.3 Balance of Payments: Causes of disequilibrium and Measures. 3.4 Free Trade and Protective Trade: Arguments for and Against.	15
Unit IV	**Rate of Exchange** 4.1 Concept of Rate of Exchange 4.2 Types – Fixed, Flexible, Spot and Future rate of exchange 4.3 Purchasing Power Parity Theory 4.4 Modern Theory of rate of exchange	15

References –

1. Agarwal H.S. (2013), Principles of Economics, Global Professional Publishing

2. Ahuja H.L.(2010), Macro Economics Theory and Policy, S. Chand and Company.

3. Branson William H. (1997), Macro Economics Theory and Policy, Harper Collins India Pvt. Ltd.

4. Crowther Geoffrey (1940),An Outline of Money, Thomas Nelson and sons Ltd. London

5. Duesenberry James,S. Business Cycles and National Income, Georg Allen and Union London

6. Derburg and McDougal (1976), Macro Economics, McGraw Hill Education, New York

7. Dewtt K.K.,(2006), Modern Economic Theory, S. Chand and Company.

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10. Hanson J.L. An Outline of Monetary Theory, McDonalds and Evans Ltd.London

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13. Hanson J.L.(1970),Monetary Theory and Practice, McDonalds and Evans Ltd.London
14. Hicks U.K.(1968), Public Finance, James Nisbet and Comp.London
15. Lindauer John (2012) Macro Economics,4th Ed. I UniversityIncorporated, Bloomington USA
16. Jinghan M.L. Macro Economic Theory,Vinda Publication Pvt.Ltd. New Delhi
17. Lekhi R.K,(2015)Public Finance, Kalayani Publishers New Delhi
18. Mithani D.M. (2012), Money, Banking, International Trade and Public Finance,Himalaya Publishing House
19. Musgrave Richard,(2004), Public Finance, McGraw Hill Publication
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22. Schumpeter J.A.(1939), Business Cycles, McGraw Hill Publication
23. Seth M.L. (2017),Macro Economics, Laximinarayan Agarwal Publication
24. Singh S.B. Macro Economics, Vishvbharti Publication New Delhi
25. Taygi B.P. &Singh H.P.(2016), Public Finance, Jaypraksh Nath Co.
26.Vaish M.C.(2009), Monetary Policy, Vikas Publishing House New Delhi

Nature of Question Paper for paper III and IV

Semester-end Examination Marks: 40 Internal Marks: 10

All questions are compulsory.

Q.1 MCQ (8 MCQs each for one mark) (8 Marks)
Q.2 Long Answer Question (8 Marks)
OR
Long Answer Question
Q.3. Long Answer Question (8 Marks)
OR
Long Answer Question
Q.4.Short Answer Question (2 out of 3) (8 Marks)
Q.5. Short Notes (2 out of 3) (8 Marks)

Equivalence

Semester-III			
Courses as per Pre-revised Syllabus		**Courses as per Revised Syllabus**	
DSC 10	Macro Economics Paper I	**DSC 10**	Macro Economics Paper I
Semester-IV			
DSC 14	Macro Economics Paper II	**DSC 14**	Macro Economics Paper II

Shivaji University, Kolhapur

Syllabus in accordance with NEP- 2020

With effect from Academic Year 2023-24

AECC- C3: Ability Enhancement Compulsory Course

Business Communication Paper-III (C)

(English for Business Communication)

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes	1) To enable the students to develop communication skills in English 2) To equip the students with the language skills for use in their personal, academic and professional lives 3) To develop students' employability skills 4) To help students to enter the job market with confidence and develop their ability to work effectively 5) To help students to learn and practice language skills and soft skills 6) To facilitate and help the students to acquire communication skills 7) To enable the students to cultivate a broad, humane and cultured outlook.	(Marks: 40 for Semester-end Examination &Marks 10 for Internal Assessment)
Module I	A) Oral Skills B) Phenomenal Woman – Maya Angelou	16 hours
Module II	A) Conversation Skills B) The Childless One – Jai Nimbkar C) Those Winter Sundays – Robert Hayden	20 hours
Module III	A) English for Competitive Examination – I B) Four Minutes that Get You Hired –Connie Brown Glaser and Barbara Steinberg Smalley	16 Hours
Module IV	A) Stormy Arrival in South Africa – Mohandas Karamchand Gandhi B) The Road Not Taken – Robert Frost	8 hours

Division of teaching hours (Total 60Periods): 1. Communication Skills: 3X12= 36periods

2. Reading Comprehension: 6X4=24periods

Note: Internal Evaluation of 10marks: Group Activity

Pattern of Question Paper

B.COM. PART II

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC: C-3)

(NEP 20)

Business Communication Paper III (ENGLISH

FOR BUSINESS COMMUNICATION)

Semester III (Paper III- C) Total Marks: 40

Que. No.	Sub. Q.	Type of Question	Based on	Marks
Q.1.	A	Four multiple choice questions with four alternatives to be set	Prose& Poetry	4
	B	Answer in one word/Phrase/Sentence each(4Questions)	Prose& Poetry	4
Q2	A	Answer the following questions in 3 - 4 sentences each (3 out of 5)	3 on Prose and 2 on Poetry	6
	B	Write short notes on the following in about 7 - 8 sentences each (2 out of 3)	1 on Prose and 2 on Poetry	6
Q3	A	Question to be set on ORAL SKILLS	Module I A	4
	B	Question to be set on ORAL SKILLS	Module I A	3
Q4	A	Question to be set on CONVERSATION SKILLs	Module II A	3
	B	Question to be set on CONVERSATION SKILLs	Module II A	3
Q5	A	Question to be set on ENGLISH FOR COMPETITIVE EXAMINATION – I	Module III A	4
	B	Question to be set on ENGLISH FOR COMPETITIVE EXAMINATION – I	Module III A	3

Note: Internal Evaluation of 10marks: Group Activity

Shivaji University Kolhapur

Syllabus in accordance with NEP- 2020

With effect from Academic Year 2023-24

AECC- C6: Ability Enhancement Compulsory Course

(English for Business Communication)

60 hours Course	**Course Content**	**Total 50 Marks**
Course Outcomes	1) To enable the students to develop communication skills in English 2) To equip the students with the language skills for use in their personal, academic and professional lives 3) To develop students' employability skills To help students to enter the job market with confidence and develop their ability to work effectively 4) To help students to learn and practice language skills and soft skills 5) To facilitate and help the students to acquire communication skills 6) To enable the students to cultivate a broad, human and cultured outlook.	(Marks: 40 for Semester-end Examination & Marks 10 for Internal Assessment)
Module V	A) E-Communication B) Breathing Spaces – Rana Nayar	16 hours
Module VI	A) English for Competitive Examination – II B) My Financial Career – Stephen Leacock	16 hours
Module VII	A) English for Banking and Industries B) Senor Payroll – William E. Barrett	16 Hours
Module VIII	A) The Verger – Somerset Maugham B) I Am the People, the Mob – Carl Sandburg C) One Day I Wrote Her Name – Edmund Spenser	12hours

Division of teaching hours (Total 60 Periods): 1. Communication Skills: 3X12= 36periods

2. Reading Comprehension: 6X4=24periods Note:

Internal Evaluation of 10 marks: Case Study / Oral examination

Pattern of Question Paper

B.COM. PART II

ABILITY ENHANCEMENT COMPULSORY COURSE (AECC: C-6)

(NEP 20)

Business Communication Paper IV(D)

(ENGLISH FOR BUSINESS

COMMUNICATION)

Semester IV (PaperIV- D) Total Marks: 40

Que. No.	Sub. Q.	Type of Question	Based on	Marks
Q.1.	A	Four multiple choice questions with four alternatives to be set	Prose& Poetry	4
	B	Answer in one word/Phrase/Sentence each(4Questions)	Prose& Poetry	4
Q2	A	Answer the following questions in 3 - 4 sentences each (3 out of 5)	3 on Prose and 2 on Poetry	6
	B	Write short notes on the following in about 7 - 8 sentences each (2 out of 3)	1 on Prose and 2 on Poetry	6
Q3	A	Question to be set on E-Communication	Module V A	4
	B	Question to be set on E-Communication	Module V A	3
Q4	A	Question to be set on ENGLISH FOR COMPETITIVE EXAMINATION – II	Module VI A	3
	B	Question to be set on ENGLISH FOR COMPETITIVE EXAMINATION – II	Module VI A	3
Q5	A	Question to be set on English for Banking and Industries	Module VII A	4
	B	Question to be set on ENGLISH FOR Banking and Industries	Module VII A	3

Note: Internal Evaluation of 10 marks: Case Study / Oral examination

Equivalence of papers and chances for the students in previous semester pattern:

Two additional chances shall be provided for the repeater students of old B. Com. immediate after their Semester-III or IV. After that the students concerned shall have to appear for the Examination as per this revised pattern. Equivalence of papers shall be provided as per revised syllabus for the pattern in accordance with NEP.

Equivalence

Semester-III			
Courses as per Pre-revised Syllabus		**Courses as per Revised Syllabus**	
AECC-C3	Business Communication Paper III (C)	AECC- C3	Business Communication Paper III (C)
Semester-IV			
AECC-C4	Business Communication Paper IV (D)	AECC: C-6	Business Communication Paper IV (D)

B. Com. Part – II: Semester – III

BUSINESS STATISTICS–I

Theory:60Hrs. Marks:50(Credits:04)

Course Outcomes:

After completion of this course, the students enable

i)to explain the scope of statistics in business and apply sampling techniques in real life.

ii)to summarize data by means of measures of central tendency and dispersion.

iii)to explain the merits and demerits of various measures of central tendency and dispersion.

iv)to carryout analysis of bivariate data using simple correlation and simple linear regression.

CONTENTS:

Unit 1: Introduction to Statistics (15)

1.1 Meaning of Statistics, Scope of Statistics in business.

1.2 Primary and secondary data, Discrete and continuous variables, Classification and its basis, Frequency and frequency distribution, Tabulation. Illustrative problems

1.3 Diagrammatic representation: pie-chart, simple bar diagram, Graphical representation: histogram, ogive curves. Illustrative problems.

1.4 Sampling: Definitions of population, sample, sampling, and census, Principle steps in sample survey, Advantages of sampling over census, Methods of sampling: simple random sampling (with and without replacement), stratified random sampling. Illustrative Examples.

Unit 2: Measures of Central Tendency (15)

2.1 Concept of central tendency, Requirements of a good average.

2.2 Arithmetic mean (A. M.): Definition, Properties of A. M. (without proof), Combined A.M., Merits and demerits. Numerical problems.

2.3 Median and quartiles: Definitions, Merits and demerits of median. Numerical problems.

2.4 Mode: Definition, Merits and demerits, Empirical relation among mean, median, and mode. Numerical problems.

Unit 3: Measures of Dispersion (15)

3.1 Concept of dispersion, Requirements of a good measure of dispersion, Absolute and relative measures of dispersion.

3.2 Range, Coefficient of range, Merits and demerits of range. Numerical problems.

3.3 Quartile deviation (Q. D.), Coefficient of Q. D., Merits and demerits of Q. D. Numerical problems.

3.4 Variance, Standard deviation (S. D), Coefficient of S. D., Coefficient of variation, Merits and demerits of S. D. Numerical problems

Unit-4: Analysis of Bivariate Data: Correlation and Regression (15)

4.1 Concept of correlation, Types of correlation.

4.2 Methods of studying correlation: Scatter plot, Karl Pearson's correlation coefficient (r),Spearman's Rank correlation coefficient (R), Interpretation of r (with special cases r = −1, 0, and 1), Numerical problems on computation of r and R (with and without ties) for ungrouped data.

4.3 Concept of regression, Lines of regression.

4.4 Regression equations, regression coefficients, relation between correlation coefficients and regression coefficient. Numerical problems on ungrouped data.

References:

1. Gupta S. C. (2017) *Fundamentals of Statistics*, Himalaya Publishing House Pvt. Ltd.
2. Gupta S. P. (2018) *Statistical Methods*, Sultan Chand and Sons.
3. Gupta C. B. and Gupta Vijay (2004) *An Introduction to Statistical Methods*, Vikas Publishing House Pvt Limited.
4. Agrawal B. M. (2014) *Essentials of Business Statistics*, Ane Books Pvt. Ltd.
5. B. L. Agarwal (2006) Basic Statistics, New Age International

B. Com. Part – II: Semester – IV

BUSINESSSTATISTICS: PAPER– II

Theory:60Hrs. Marks: 50(Credits:04)

Course Outcomes

After completion of this course, the students enable to

i)understand discrete and continuous random variables, their respective probability distributions.

ii) Identify the applications of Binomial, Poisson and normal distributions.

iii) Measure trend and seasonal variations in time series data.

iv) Compute and interpret simple and weighted index numbers.

v) Construct and apply variable and attribute control charts.

CONTENTS:

Unit 1: Probability Distributions (15)

1.1 Definition of discrete random variable and continuous random variable. Definition of probability mass function (p.m.f.) and probability density function (p.d.f.). Mean and variance of random variable. Illustrative Examples.

1.2 Binomial distribution: Probability mass function, Mean and variance (without proof),Simple numerical problems to find probability and parameters.

1.3 Poisson distribution: Probability mass function, Mean and variance (without proof),Simple numerical problems to find probability and parameters.

1.4 Normal distribution: Probability density function, Mean and variance (without proof),Properties of normal curve, Standard normal distribution, numerical problems to find probabilities for given area under standard normal curve.

Unit 2: Time Series Analysis (15)

2.1 Definition and uses of time series.

2.2 Components of time series.

2.3 Methods of measuring trend: progressive averages method, moving averages methodand least squares method, Numerical problems.

2.4 Measurement of seasonal variations using simple average method. Numerical problems.

Unit 3: Index Numbers (15)

3.1 Need, meaning, and uses of index numbers.Problems involved in construction of index numbers. Applications of index numbers in share market, price, quantity, and value index numbers.

3.2 Simple index numbers by simple aggregate method and simple average of relatives method (using A. M.). Numerical problems.

3.3 Weighted index numbers by Laspeyre's, Paasche's, and Fisher's formulae. Numerical problems.

3.4 Consumer Price Index (C.P.I.) and Purchasing power of money. Numerical Examples.

Unit 4: Statistical Quality Control (15)

4.1 Concept of statistical quality control (SQC), Advantages of SQC, Types of variability: chance cause variability and assignable cause variability.

4.2 Shewhart control chart and its construction.

4.3 Variable control charts: mean ($\bar{X}$) and range (*R)* charts. Numerical problems.

4.4 Attributes control charts: control chart for number of defectives (*np*-chart) for fixed sample size and control chart for number of defects per unit (*c*-chart). Numerical problems.

References:

1. Gupta S. C. (2017) *Fundamentals of Statistics*, Himalaya Publishing House Pvt. Ltd.
2. Gupta S. P. (2018) *Statistical Methods*, Sultan Chand and Sons.
3. Gupta C. B. and Gupta Vijay (2004) *An Introduction to Statistical Methods*, Vikas Publishing House Pvt Limited.
4. Montgomery D. C. (2010) *Statistical Quality Control: A Modern Introduction*, Wiley.
5. Agrawal B. M. (2014) *Essentials of Business Statistics*, Ane Books Pvt. Ltd.
6. Kirchgässner G., Wolters J., Hassler U. (2012) *Introduction to Modern Time Series Analysis (Springer Texts in Business and Economics),* Springer.
7. Parimal Mukhopadhyay (1999) Applied Statistics, Books & Allied(p) l.t.d.

Equivalence

Semester-III			
Courses as per Pre-revised Syllabus		**Courses as per Revised Syllabus**	
AECC-4	Business Statistics Paper I	AECC- 4	Business Statistics Paper I
Semester-IV			
AECC-7	Business Statistics Paper II	AECC: 7	Business Statistics Paper II

SHIVAJI UNIVERSITY, KOLHAPUR.

Estd. 1962

NAAC 'A' Grade

Faculty of Commerce and Management

Syllabus For

B. Com. Part – III (Sem V & VI) (CBCS)

(To be implemented from June 2020 onwards)

(Subject to the modifications that will be made from time to time)

Shivaji University, Kolhapur

B.Com (CBCS Pattern) Part – III (Semester-V)

Modern Management Practice- Paper-I

Core Course

Introduced From June- 2020

Credit - 4

Objectives:

1. To impart knowledge of modern management
2. To understand concepts of CRM
3. To know the concepts of emotional and social intelligence
4. To understand the concept of lean and talent management

Unit-I	**Contribution to Modern Management Practice** a. Concept of Modern Management b. Contribution of Vijay Govindarajan: Three Box Solution and Reverse Innovation c. Contribution of C.K. Pralhad : The Fortune at the Bottom of the Pyramid. d. Michael Porter : competitive advantage.	15 periods
Unit-II	**Emotional and Social Intelligence in Management** a. Emotional Intelligence: Concept, Components, Importance of emotional intelligence in leadership, Advantages and Disadvantages of emotional intelligence, emotional intelligence skills b. Social intelligence: Concept, Importance, Advantages and Disadvantages of social intelligence, Models of emotional and social intelligence:	15 periods
Unit-III	**Customer Relationship Management (CRM) and Supply Chain Management (SCM)** a. Customer Relationship Management (CRM) : Concept, Importance, Elements, Process, e-CRM b. Supply Chain Management (SCM): Concept, Importance, Components, Process, Benefits of SCM	15 periods
Unit-IV	**Lean Management and Talent Management** a. Lean Management: Concept, Principles, Benefits and disadvantages**,** tools of lean Management, lean management best practices b. Talent Management: Concept, Importance, Process, Components, benefits	15 periods

Shivaji University, Kolhapur

B.Com (CBCS Pattern) Part – III (Semester-VI)

Modern Management Practice- Paper-II

Core Course

Introduced From June- 2020

Credit - 4

Objectives:

1. To impart knowledge of total quality management
2. To understand the Japanese and Chinese Management Practices
3. To know the concept of Event and Performance Management
4. To understand the concept of time and stress management

Unit-I	**Total Quality Management (TQM) and Quality Standards** a. Total Quality Management (TQM) : Concept, Principles, Elements of TQM, Benefits and Disadvantages of TQM b. Quality Standards: Benchmarking(concept and types) Six Sigma,(concept and levels) ISO: 9000, (Importance and elements)	15 periods
Unit-II	**Japanese and Chinese Management Practice** a. Japanese Management: Concept, Characteristics and 8 Key Japanese Quality Management techniques b. Chinese management: Concept, Characteristics, Chinese Leadership Style, Difference between Chinese and Western Management	15 periods
Unit-III	**Event and Performance Management** a. Event Management: Concept, Importance, Procedure, Types of events, benefits of event Management b. Performance Management : Concept, Evolution, Need, Process of Performance Management	15 periods
Unit-IV	**Time and Stress Management** a. Time Management: Concept, Importance, Techniques b. Stress Management: Meaning of Stress, Causes, Effects, Techniques of stress management	15 periods

B.Com III (Semester- V) Under CBCS

Paper I : CC-C3 : Business Regulatory Framework

Credit –I	**Law of Contract- 1872**	Hours
	Definition of Business Law and its sources Definition of contract, Essential element and Kinds of Contract Offer and Acceptance, Capacity of Parties, Consideration, Free Consent and Legality of objectives, Void Contracts Discharge of Contract, Remedies for breach of contract	15 Hrs
Credit-II	**Labour Laws**	15 Hrs
	A) Employees Provident Fund Act- 1952- Meaning and its applicability criteria, Rates of Contribution , Periodicity of Payment and Return, Mandatory Records, Consequences of Non compliances	5 Hrs
	B) Employees State Insurance Act-1948- Meaning and its applicability criteria, Rates of Contribution , Periodicity of Payment and Return, Mandatory Records, Consequences of Non compliances	5 Hrs
	C) Payment of Gratuity (Amendment)Act-2018- Meaning and its applicability criteria, Rates of Contribution , Payment calculation, Mandatory Records, Consequences of Non compliances	5 Hrs
Credit-III	**Sale of Goods Act,1932 and Goods and Services Tax(GST)**	15 Hrs
	A) Sale of Goods Act- Contract of Sale of goods concept and essentials, Sale and Agreement to sell, Conditions and Warranties, Performance of Contract of Sale	10 Hrs
	B) Goods and Services Tax- Basic framework of GST, Applicability criteria, General understandings of legal provisions regarding invoices, GST Returns , Consequences of Non compliances	5 Hrs
Credit- IV	**Indian Partnership Act-1932 and Limited Liability Partnership Act-2008**	15 Hrs
	A) Indian Partnership Act-1932- Partnership Deed meaning and general terms and conditions, Role and Responsibilities of Partners.	5 Hrs
	B) Limited Liability Partnership Act- 2008- Nature and Silent features of LLP, Incorporation of LLP, Limitations of liability of LLP and Partners, Difference between Partnership and LLP.	10 Hrs

Reference-

1) Business Law- Kavita Krishnamurthi
2) Essentials of Business and Industrial Laws- B.S. Moshal
3) Business Law- M.C. Kuchhal
4) Elements of Mercantile Law- N.D. Kapoor
5) Mercantile Law- Arun Kumar
6) Mercantile Law- S.S.Gulshan
7) The Principles of Mercantile Law- Avtarsingh
8) Commercial and Industrial Law-A.K. Sen and J.K. Mitra
9) Textbook on Indian Partnership Act with Limited Liability Partnership Act- by Madhusudan Saharay
10) GST – Law and Procedure by Anananday Mishra – Taxman

B.Com III (Semester- VI) Under CBCS

Paper II : CC-C4 : Business Regulatory Framework

Credit- I	**Company Act- 2013** Meaning, Features and Types of Company, Process of Incorporation of Company, Role, Responsibilities and Powers of Directors, Auditors and Company Secretary. Rights of Share holders, Company meetings and Resolutions Winding up of Company	**15 Hrs**
Credit-II	**Security Exchange Board of India Act-1992, Consumer Protection Act-1986 and Competition Act-2002**	**15 Hrs**
	A) Security Exchange Board of India Act-1992(SEBI)- Role , Powers and Functions of SEBI, Listing and Trading of Securities	**5 Hrs**
	B) Consumer Protection Act-1986- Definitions- Consumer, Complaint, Complainant, Unfair Trade Practices, Restrictive Trade Practices, Rights of Consumer, Consumer Redressal Agencies- Composition and Jurisdiction.	**5 Hrs**
	C) Competition Act-2002- Objectives, Powers and duties of Competition Commission	**5 Hrs**
Credit-III	**Business Transactions and Cyber Laws**	**15 Hrs**
	a) E-commerce: Nature, formation, legality and recognition b) Intellectual Property Rights: Patent, Copy Right, Trademark and Industrial Design (only concepts) c) Digital Signature: Need, formation, functions, Digital Significance Certificate and Revocation of Digital Signature d) Cyber crimes and offences e) Penalties for cyber crimes	
Credit-IV	**Negotiable Instrument (Amendment) Act-2015**	**15 Hrs**
	Meaning and Features of Negotiable instrument, Kinds of Negotiable instrument, Promissory Note, Bill of Exchange and Cheque, Crossing of Cheque and Its kinds- Dishonour of Negotiable instrument and its consequences and Remedies thereon	

Reference Books:

1) Business Law- M.C. Kuchhal
2) Business Law- KavitaKrishanmurthi
3) Cyber Laws- Dr. Farooq Ahmed
4) Elements of Company Law- V.S. Datey
5) The Consumer Protection Act- ArshadSubzawari
6) The Consumer Protection Act- C.M. Dhopare
7) Cyber Laws- Krishna Kumar
8) Consumer Protection Act- Niraj Kumar
9) SEBI Act- Agarwal and Baby- Taxman
10) Competition Act- Dr.Rattan- Bharat Publication

Concerned Bare Act should be referred

Nature of Question Paper

Total Marks-40

Instructions – 1) All questions carry equal marks.

2) Attempt any FIVE Questions out of seven

Q.1	Short Notes (Any Two)	4 Marks Each
Q.2	Long Answers	8 Marks
Q.3	Long Answers	8 Marks
Q.4	Long Answers	8 Marks
Q.5	Long Answers	8 Marks
Q.6	Long Answers	8 Marks
Q.7	Short Answers (Any Two)	4 Marks Each

B.Com. Part-III; SEM-V - Under CBCS

Paper-I : CC-C5 : Cooperative Development

Course Outcomes:

1. To study the meaning and principles of Co-operation.
2. To study the agricultural and Non-agricultural Credit Co-operative institutions.
3. To study the Co-operative credit system
4. To Study the important cooperative organizations

Expected Skills Impartation

1. Ability to explain cooperatives principles
2. Ability to applications of cooperative principles
3. Interpretation and comparison of different cooperative organizations

Marks : 40	Total Lectures of Teaching : 60	Credits : 4

Unit-1:	**Introduction to Co-operative movement in India** 1.1. Meaning, definition and features of Co-operation. 1.2. Principles of Co-operation - ICA and Manchester Principles 1.3. Role of Co-operation in economic development. 1.4. Review of Committees on Cooperative Development since 1991 (Vaidhyanathan Committee, Shivajirao Patil Committee and Kuraian and Alagh Committee)	15 Periods
Unit-2:	**Agricultural Co-operatives in India** 2.1. Co-operative Marketing- Types, functions, problems and remedies 2.2. NAFED- Objectives, Management, Functions and Progress 2.3. Co-operative Farming - Types, problems and remedies 2.4. Role of Dairy Cooperatives - National Dairy Development Board.	15 Periods
Unit-3:	**Co-operative Banking & Credit Societies in India** 3.1. Review of Co-operative credit movement - Three Tier and Two Tier Structure 3.2. Primary Agricultural Cooperative Societies -Functions, Problems and Remedies 3.3. DCC Banks - Administrative Structure, Progress, Problems and Remedies 3.4. State Cooperative Banks - Administrative Structure, Progress, Problems and Remedies	15 Periods
Unit-4:	**Important Cooperative Organizations in India** 4.1. Urban Cooperative Banks - Types, Management, Progress and Problems 4.2. Non-Agriculture Credit Cooperatives - Functions and Problems 4.3. Consumer Cooperatives - Types, Role and Problems 4.4. Sugar Co-operatives - Role, Progress, problems and remedies	15 Periods

References :

1. Dwivedi Ramesh Chandra, (2005), 'Hundred Years of Cooperative Movement in India'-Centre for Promotion of Cooperativism
2. Garg M. C. And Joshi N. N., (2009), 'Cooperative Credit And Banking –Strategies For Development', Deep And Deep Publication, New Dehli-110027
3. Hajela T.N., (1994) Cooperation: Principles, Problems and Practice, Konark Publishers, New Delhi.
4. Krishnaswamy O.R. and Kulandhiswamy V., (2000) Cooperation: Concept and Theory, Arudra Academy,
5. Kulkarni P. R. (2007) Laws of Co-operative Banking', Macmillan Publisher India Ltd. pp. 24-25 (2007)
6. Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit http://www.mahanand.in/
7. NAFED http://www.nafed-india.com
8. Nakkiran S (2006) Cooperative Management : Principles and Techniques, Deep and Deep, New Delhi, 2006
9. National Dairy Development Board- https://www.nddb.coop/
10. Review of Co-operative Movement in India's Agricultural Credit Department, RBI. pp. 59-60, (1955)
11. Strickland C.F., (2010) 'An Introduction To Cooperation In India' Humphery Milford Oxford University Press.
12. The Maharashtra Co-operative Quarterly, The Maharashtra Rajya Shahakar Sanghah

B.Com. Part-III; SEM-VI - Under CBCS

Paper-II : CC-C6 : Cooperative Development

Course Outcomes:

1. To study the cooperative legislations and fund management
2. To understand the institutional arrangement for cooperative education and training
3. To understand the nature, registration, legislation and audit of housing cooperatives
4. To understand the cooperative audit system and provisions

Expected Skills Impartation

1. Legal understanding and interpretation skills
2. Ability to explain legal and technical provisions about cooperatives

Marks : 40	Total Lectures of Teaching : 60	Credits : 4

Unit-1:	**Cooperative Laws and Legislation In India** 1.1. Important Provisions under Maharashtra Co-operative Societies Act, 1960 1.2. Salient Features of Multi-State Co-operative Societies Act 2002 1.3. Liquidation Process- Appointment, Rights and Duties of Liquidator 1.4. Legal Provisions regarding Assets and Fund Management of Cooperatives - (Classification of Funds, Profit, Reserve Fund, Dividend, Expenses on social Activities, Investment of Funds etc)	15 Periods
Unit-2:	**Cooperative Education and Training In India** 2.1. Need and Importance of Cooperative Education and Training 2.2. National Council for Cooperative Training- Organizational Structure & Functions 2.3. VAMNICOM -Objectives, Centers, Training Programmes 2.4. Career Opportunities in Cooperative Sector - GDC&A Certification	15 Periods
Unit-3:	**Cooperative Housing Societies In India** 3.1. Meaning, Types and Registration Process of Housing Cooperatives 3.2. Maharashtra Co-operative Housing Society Model Bye Laws 3.3. Importance and Problems of Housing Societies 3.4. Audit of Co-operative Housing Societies- Nature and Elements	15 Periods
Unit-4:	**Cooperative Registrar & Audit In India** 4.1. Powers and responsibilities of registrar 4.2. Cooperative Audit - Concept, Scope, Types of Audits 4.3. Internal Audit-Nature- Duties of Internal Auditor 4.4. Responsibilities and powers of cooperative auditor	15 Periods

References :

1. Hajela T.N., (1994) Cooperation: Principles, Problems and Practice, Konark Publishers, New Delhi.
2. Indian Institute of Banking And Finance, (First Pub. 2007), 'Law of Cooperative Banking', Macmillan India Ltd. New Delhi
3. Kulkarni P. R. (2007) Laws of Co-operative Banking', Macmillan Publisher India Ltd. pp. 24-25 (2007)
4. Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit http://www.mahanand.in/
5. Review of Co-operative Movement in India's Agricultural Credit Department, RBI. pp. 59-60, (1955)
6. Maharashtra Co-operative Societies Act, 1960
7. Maharashtra Co-operative Societies Act, 1960 by G. M.Divekar (Vol-I and II)
8. National Cooperative Development Corporation (NCDC) - http://www.ncdc.in
9. National Cooperative Housing Federation of India- https://www.nchfindia.net/
10. National Federation of State Cooperative Banks Ltd -http://nafscob.org/about_f.htm
11. National Cooperative Consumers` Federation Of India Limited- http://nccf-india.com/
12. National Council for Cooperative Training- http://ncct.ac.in
13. Dhananjayrao Gadgil Institute of Cooperative Management -http://www.dgicmnagpur.com

EQUIVALENCE OF THE PAPERS / COURSES

Sr	Existing title of the Paper	Revised Title of the paper
1	Co-operative Development Paper – I	Co-operative Development Paper – I
2	Co-operative Development Paper – II	Co-operative Development Paper – II

Nature of question paper for B.Com -III Co-operative Development

Semester V & VI (Paper No. I to II)

Attempt any five questions.

Total marks 40

Q1. Write short answers (any two out of three)	08
Q2. Broad question	08
Q3. Broad question	08
Q4. Broad question	08
Q5. Broad question	08
Q6. Broad question	08
Q7. Write short notes (any two out of three)	08

B.Com Part III Semester – V (CBCS)

Paper I : CC-C7 : Business Environment

(Indian Economic Environment)
(Compulsory Paper)
Credits : 4

COURSE OUTCOMES:

1 Student should able to understand the significance and position of Indian economy at the world level.

2 Students should study the scenario of agricultural and industrial sectors.

3 Student should aware regarding Indian economy is facing some of the fundamental economic problems. They should able to make plans and solutions to these being as a citizen.

4 Student should understand the correlations between economical and social problems.

Unit No.	Unit Name	Periods
1	**Business Environment** 1.1 Concept 1.2 Components 1.3 Importance 1.4 Business environment and sustainable development	15
2	**Agricultural Development** 2.1Present status of Indian Agriculture and Agricultural crisis 2.2 Agricultural Marketing-Problems, Agricultural price policy 2.3 Food security in India 2.4 National Commission on farmers- Agricultural Renewal Action Plan	15
3	**Industrial Development** 3.1 Industrial policy -1991 3.2 Concepts of Micro, Small and Medium Enterprises (MSMEs) 3.3 Progress of industrial sector in globalization era 3.4 Trade union movement – Problems and measures.	15
4	**Problems of Indian Economy** 4.1 Features of Indian population 4.2 Unemployment and poverty – causes and remedies 4.3 Inequality of Income and wealth, Black Money - Causes and remedies 4.4 Problems of rural and urban economy	15

References –

1. Mead R. (2004) International Management: Cross Cultural Dimensions,3rd ed. New York Wily
2. Vyuptakesh Sharan, (2004) International Business: Concept, Environment and Strategy, Pearson education, Singapore
3. Yarbraugh B V (2005) The World Economy: Trade and Finance, 7th Ed Thomas south western USA
4. Manab Adhikari,Global (2006) Business Management(An International economic environment), Macmillan India Ltd
5. Hill C.W. L. and jain A. K.(2007) International Business Competing in Global market Place, McGraw Hill New Delhi
6. Graham John L, Salwan Prashant, Cateora Philip R, (2008)International Marketing 13th Ed. Tata McGraw- Hill,
7. Jeevnandam C. International Business S.Chand New Delhi 2008
8. Paul Justein International Business, 5th Ed (2011)Prentice Hall of India,Pvt Ltd new Delhi
9. Keegan Warren J. and Green Mark C. Global Marketing,4th Ed.(2009) Prentice Hall India,Pvt Ltd
10. Bhalla V. K. and Ramu S.S.(2009)International Business Environment, Anmol Prakashan New Delhi
11. Varshney R.L. and Bhatacharya B, (2012)International Marketing Management -An Indian Perspective, 24th Ed S.Chand New Delhi.

12. Dutt and Sundaram K P M, Indian Economy S. Chand Delhi
13.Dutt Ruddar Economic Reforms in India –A Critique, S Chand , New Delhi.
14.Mishara S K and PuriV K - Indian Economy, Himalaya Publishing House
15. Namboodripad E M S, Indian Planning and Crises, National book Center New Delhi.
16.Sundaram and Black The International Business Environment Prentices New Delhi

Equivalence of the paper

Existing Title of the Paper	Revised Title of the Paper
Business Environment Paper I	Business Environment Paper I

B.Com Part III Semester - VI– (CBCS)

Paper II : CC-C8 : Business Environment

(Indian Economic Environment)

(Compulsory Paper)

Credits : 4

COURSE OUTCOMES:

1. Students will understand the Indian and global economic environment.

2. Students will equip with proper knowledge of Indian economic planning.

3. Students will enable with the knowledge of the plans and strategies toward foreign capital and multinational corporations.

4. Students will get acquainted with the functions, mechanism and performance of international financial, trade and regional cooperation institutions.

Unit No.	Unit Name	Periods
1	**Liberalization, Privatization and Globalization** 1.1 Concepts 1.2 Implementation and impact on Indian Economy. 1.3 Composition and direction of foreign trade in the Globalization era 1.4 Balance of payments crisis	15
2	**Economic Planning and Service Sector** 2.1 Economic planning – Broad objectives 2.2 NITI Aayog – Structure and functions 2.3 Planning process through NITI Aayog 2.4 Service Sector – Importance and progress of service sector in Indian economy.	15
3	**Foreign Capital and Multinational Corporations** 3.1 Need of foreign capital in India, 3.2 Policy of Government of India. 3.3 Multinational corporations- Definition, merits and demerits. 3.4 Exchange rates and Indian Rupee	15
4	**International Institutions** (Objectives and performance) 4.1 IMF 4.2 IBRD 4.3 WTO 3.3 SAARC	15

References

1. Mead R. (2004) International Management: Cross Cultural Dimensions, 3rd ed. New York Wily
2. Vyuptakesh Sharan, (2004) International Business: Concept, Environment and Strategy, Pearson education, Singapore
3. Yarbraugh B V (2005) The World Economy: Trade and Finance, 7th Ed Thomas south western USA
4. Manab Adhikari,Global (2006) Business Management(An International economic environment), Macmillan India Ltd
5. Hill C.W. L. and Jain A. K.(2007) International Business Competing in Global market Place, McGraw Hill, New Delhi
6. Graham John L, Salwan Prashant, Cateora Philip R, (2008)International Marketing 13th Ed. Tata McGraw- Hill.
7. Jeevnandam C. International Business S.Chand, New Delhi 2008
8. Paul Justein International Business, 5th Ed (2011)Prentice Hall of India, Pvt Ltd new Delhi

9. Keegan Warren J. and Green Mark C. Global Marketing, 4th Ed.(2009) Prentice Hall India, Pvt. Ltd.
10. Bhalla V. K. and Ramu S.S.(2009) International Business Environment, Anmol Prakashan, New Delhi.
11. Varshney R.L. and Bhatacharya B, (2012) International Marketing Management -An Indian Perspective, 24th Ed S. Chand, New Delhi.
12. Dutt and Sundaram K P M, Indian Economy, S. Chand, New Delhi.
13. Dutt Ruddar, Economic Reforms in India –A Critique, S Chand , New Delhi.
14. Mishara S K and Puri V K - Indian Economy, Himalaya Publishing House.
15. Namboodripad E M S, Indian Planning and Crises, National Book Center, New Delhi.
16. Sundaram and Black The International Business Environment, Prentices, New Delhi

Equivalence of the papers

Existing Title of the Paper	Revised Title of the Paper
Business Environment Paper II	Business Environment Paper II

Nature of question paper for B.Com - III
Semester V and VI (Paper No. I to II)

Attempt any five questions.
Total Marks 40

Q1. Write short answers (any two out of three) 08
Q2. Broad question 08
Q3. Broad question 08
Q4. Broad question 08
Q5. Broad question 08
Q6. Broad question 08
Q7. Write short notes (any two out of three) 08

B.Com (CBCS) Part-III (Semester-V)
Paper – I : DSE-A1 : Advanced Accountancy
Discipline Specific Course

4 Credits

Course Outcomes:

1. Practice the preparation of financial statements of banks.
2. Demonstrate accounting for farms and hire purchase system.
3. Simulate accounting situations of insurance claim.
4. Explain the accounting process on Tally with GST.

Syllabus Content

Unit- I	Bank Final Accounts (Vertical Format Only)	20 Lectures
Unit- II	a) Farm Accounting	10 Lectures
	b) Hire purchase system-Excluding Hire purchase Trading Account	10 Lectures
Unit- III	Insurance Claim- Loss of stock and Loss of profit policy	10 Lectures
Unit- IV	GST Accounting with practical's using Tally part – I	10 Lectures

Theory

Introduction to GST on Goods, Introduction, Indirect Taxation prior GST, GST Implementation in India, Why GST was introduced in India? Understanding GST Taxation System, Dual GST, Structure of GST, Determination of Tax, Registration, GSTIN Structure, Businesses Liable to Register under GST, Tax Invoice, Bill of Supply, Supplementary Invoice, Input Tax Credit Set Off, GST Returns, Payment of Tax.

Practical:

a) Getting Started with GST (GOODS) in Tally ERP 9, Basic Concepts in GST, Configuring GST in TalIy. ERP 9, Company Setup, Enabling Goods & Services Tax (GST),
b) GST Classifications, Creating Masters, Creating Purchase Ledger, Creating Sales Ledger, Creating GST Ledger, Creating Party Ledger, Creating Stock Items
c) Entering Transactions, Creating Purchase Invoice with GST, Creating Sales Invoice with GST, Printing Sales invoice
d) GST Reports, GST Tax Payment

Reference Books:

1) Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, S. Chand & Company, New Delhi.
2) Shukla, M. C.; Grewal, T. S. and Gupta, S. C.; (2016). Advanced Accounts, S. Chand & Company, New Delhi.
3) Arulnandan, M. A. and Raman, K. S. (2018). Advanced Accountancy (Corporate Accounting) Vol. II, Himalaya Publishing House, Mumbai.
4) Gupta, R. L. and Radhaswamy, M. (2018). Advanced Accountancy Vol. II, Sultan Chand and Sons; New Delhi.
5) Maheshwari, S. N.; Maheshwari, Suneel and Maheshwari, Sharad K. (2018). Corporate Accounting. Vikas Publication House, New Delhi.

6) Jain, S. P.; Narang, K. L.; Agrawal, Simmi and Sehgal, Monik (2018). Advanced Accountancy Vol. I & II, Kalyani Publishers, New Delhi.
7) Hanif, M. and Mukharjee, A (2018). Modern Accountancy Vol. II, McGraw Hill Education India (Private) Ltd., Noida.
8) Chakraborty, Hrishikesh, Advanced Accountancy, Oxford University Press
9) Chougule, Rajan (2011). Computerized Accounting, Kolhapur.

Journals:

1) Indian Journal of Accounting
2) Chartered Accountant
3) Management Accountant

Nature of Question Paper

B.Com (CBCS) Part-III (Semester-V)
Advanced Accountancy Paper-I
Discipline Specific Course
(Introduced from June-2020)

Instructions:	i)	All the questions are compulsory.	Total : 40 Marks
	ii)	Figures to the right indicate full marks.	
	iii)	Use of calculator is allowed.	
Question 1	Problem on Bank Final Accounts (This problem should be on Profit & Loss Account, Balance Sheet alongwith required schedules)		16 Marks
Question 2	Attempt any two questions (out of three): (These questions will be practical problems on Unit-II & III)		16 Marks
Question 3	Write short notes (Attempt any two out of four)		08 Marks

Notes:
1) Practical examination for 10 marks will be conducted on Unit-IV of Paper-I.
2) External examiner will be appointed by the university to conduct this practical examination.
3) There will be 40 marks for University Written examination and 10 marks for practical examination. Thus Total marks will be 50.

B.Com (CBCS) Part-III (Semester-V)
Paper – II : DSE-A2 : Advanced Accountancy (Auditing)
Discipline Specific Course

4 Credits

Course Outcomes:

1. To understand the concept and types of audit
2. To identify the residential status and its implication on tax liability
3. To understand the concept of exemption from income
4. To know the computation of income from various sources as well as total income

Syllabus Content

Unit- I **Nature and Scope of Audit:** 15 Lectures

Audit – Meaning and Nature, Scope of Audit, Objectives of Audit, Relationship of Audit with other disciplines, Difference between Audit and Investigation, Basic Principles Governing Audit, Statutory Audit, Internal Audit, Cost Audit, Tax Audit, Management Audit, Concept of Vouching, Verification and Valuation.

Unit- II **Audit of Specific Items in Financial Statements:** 15 Lectures

A) Audit of sale of Products and Services; Audit of Interest Income, Rental Income, Dividend Income, Net gain/loss on sale of Investments; Audit of Purchases, Depreciation, Interest expense, Rent, Repair to building, Repair to Machinery, Insurance, Taxes, Travelling Expenses, Miscellaneous Expenses

B) Audit of Share Capital, Reserve & Surplus, Long Term Borrowings, Trade Payables (creditors), Provisions, Short Term Borrowings and Other Current Liabilities, Audit of Land, Buildings, Plant and Equipment, Furniture and Fixtures, Goodwill, Brand/Trademarks, Computer Software, Audit of Loans and Advances, Trade Receivables, Inventories, Cash and Cash Equivalents, Other Current Assets, Audit of Contingent Liabilities.

Unit- III **Company Audit:** 15 Lectures

Eligibility, Qualifications and Disqualifications of Auditors; Appointment of auditors; Removal of auditors; Remuneration of Auditors; Powers and duties of auditors; Branch audit; Joint audit; Reporting requirements under the Companies Act, 2013 including CARO.

Unit- IV **Special Audit and Audit Report:** 15 Lectures

Audit of special entities like Bank, Insurance Companies, Charitable Trust, Hotel and Hospital, Elements of Audit Report; Types of Reports – Clean, Qualified, Adverse, Disclaimer of Opinion;

Reference Books:

1) Tandon B.N., : Practial Auditing, S.Chand, New Delhi
2) Kumar, A., Sharma, R.; : Auditing Theory and Practice, Atlantic Publishers, New Delhi
3) Johnson S., Wiley L. : : Auditing – A Practical Approach, Wiley Publishing House
4) Garg Pankaj : Auditing and Assurance, Taxmann Publications, New Delhi
5) Bansal, Surabhi : Auditing and Assurance, Wolters Kluwel Publicattion
6) Sekhar G, Prasath B. : Auditing and Assurance, Taxmann, New Delhi
7) Dinkar Pagare :
8) The Institute of Chartered Accountants of India, Study Material for CA Inter/Final for Auditing

Nature of Question Paper
B.Com (CBCS) Part-III (Semester-V)
Advanced Accountancy Paper-II
(Auditing)
Discipline Specific Course
(Introduced from June-2020)

Instructions:	i)	All the questions are compulsory.	Total : 40 Marks
	ii)	Figures to the right indicate full marks.	
Question 1	Long Answer Questions A) 8 Marks B) 8 Marks		16 Marks
Question 2	Attempt Any Two (out of three)		16 Marks
Question 3	Write short notes (Attempt any two out of four)		08 Marks

B.Com (CBCS) Part-III (Semester-VI)
Paper- III : DSE-A3 : Advanced Accountancy
Discipline Specific Course

4 Credits

Course Outcomes:

1. Practice the preparation of financial statements of banks.
2. Demonstrate accounting for farms and hire purchase system.
3. Simulate accounting situations of insurance claim.
4. Explain the accounting process on Tally with GST.

Syllabus Content

Unit- I Elements of Cost - Material, Labour, & Overheads, Preparation of Cost Sheet, Quotation — 10 Lectures

Unit- II **Financial Statement Analysis:** — 20 Lectures

a) Financial Statement Analysis- Meaning, types, Limitations of financial statements, Meaning and Need of financial statement analysis and Techniques of financial statement analysis.

(b) Ratio Analysis– Meaning, Advantages and Limitations, Classification of Ratios- Profitability Ratios, Turnover Ratios, Solvency Ratios and Liquidity Ratios.

Unit- III **Cash Flow Analysis:** — 15 Lectures

Meaning of Cash Flow Analysis, Classification of Cash flows- Cash flow from Operating Activities, Cash flow from Investing Activities and Cash flow from Financing Activities, Cash and Cash equivalents, Extra-ordinary items, Preparation of Cash Flow Statement (As per AS-3)

Unit- IV GST Accounting with practicals using Tally part - II — 15 Lectures

Theory:

4. Introduction to GST on Services, Existing Registration, Supply of Goods and Services, Scope of Supply, Place of Supply, Time of Supply, Value of Supply ,Mixed Supply and Composition Supply, Accounting for

Return of Goods, Sales Returns, Purchase Returns, Credit Note, Debit Note, GST on Services, GST Reports & GST Returns

Practical:

a) Getting Started with GST in Tally ERP 9, Basic Concepts in GST, Configuring GST in Tally.ERP 9, Company Setup, Enabling Goods & Services Tax (GST), GST Classifications
b) Creating Masters, Creating Purchase Ledger, Creating Sales Ledger, Creating GST Ledger, Creating Party Ledger, Creating Stock Items
c) Entering Transactions, Creating Purchase Invoice with GST, Creating Sales Invoice with GST, Printing Sales invoice, Accounting for Return of Goods, Sales Returns, Purchase Returns
d) Accounting for GST on Services
e) GST Reports, Generating GSTR-1 Report in Tally.ERP 9, Generating GSTR-2 Report in Tally.ERP 9, GST Tax Payment, Time line for payment of GST tax, Modes of Payment, Challan Reconciliation, Exporting returns and uploading To GSTIN

Notes:

1) Practical problems in the university examinations will be asked on Unit-I, II & III (however, problems on Unit-II shall be asked on Ratio Analysis only).
2) College should make a provision of necessary computers and accounting software for commerce department to train the students in Tally with GST as prescribed in the syllabus.
3) A visit should be arranged for increasing awareness of students regarding Tally with GSTeither in any business unit, Company Office or the Office of any Chartered Accountant/ Professional Accountant.

Reference Books:

1) Advanced Cost Accounting - N K Prasad
2) Cost Accounting - Jain & Narang
3) Cost Accounting – Ravi M Kishore Taxman
4) Principles of Management Accounting - Manmohan Goyal
5) Management Accounting - I. M. Pandey
6) Cost & Management Accounting - Jain & Narang
7) Advanced Accountancy - R. R. Gupta
8) Cost and Management Accounting M N Arora Vikas Publication
9) Cost and Management Accounting T Thukaram Rao
10) Fundamentals of Management Accounting- I M Pandey
11) Cost and Management Accounting- Horngreen and Datar and others

Journals:

4) Indian Journal of Accounting
5) Chartered Accountant
6) Management Accountant

Nature of Question Paper

B.Com (CBCS) Part-III (Semester-VI)
Advanced Accountancy Paper-III
Discipline Specific Course
(Introduced from June-2020)

Instructions:	i)	All the questions are compulsory.	Total : 40 Marks
	ii)	Figures to the right indicate full marks.	
	iii)	Use of calculator is allowed.	
Question 1	Problem		16 Marks
Question 2	Attempt any one problem (out of two)		16 Marks
Question 3	Write short notes (Attempt any two out of four)		08 Marks

Notes:

1) Practical examination for 10 marks will be conducted on Unit-IV of Paper-III.
2) External examiner will be appointed by the university to conduct this practical examination.
3) There will be 40 marks for University Written examination and 10 marks for practical examination. Thus Total marks will be 50.

B.Com (CBCS) Part-III (Semester-VI)
Paper – IV : DSE-A4 : Advanced Accountancy (Taxation)
Discipline Specific Course

4 Credits

Course Outcomes:

1. To understand the basic concepts of income tax and basis of charge
2. To identify the residential status and its implication on tax liability
3. To understand the manner of computation of total income
4. To know the basic concepts about GST

Unit- I **Basic Concepts:** 15 Lectures

A) Meaning of Income Tax, Basis of Charge, Rates of Tax, Concepts of Previous Year, Assessment Year, Person, Income, Assessee.
B) Residential Status and Taxability - Meaning of Residential Status, Provisions for determination of Residential status and tax liability in respect of individual and HUF, Determination of Residential Status of Firms and Companies.

Unit- II **Exemptions and Deductions from total income** (in respect of individual only) 10 Lectures

Unit- III **Heads of Income, Computation of total income and tax liability:** 25 Lectures

Income from Salary, Income from House Property, Income from Business/Profession, Income from Capital Gain, Income from Other Sources, Computation of Gross Total Income and Tax Liability in respect of Individuals only.

Unit- IV **Basics of GST:** 10 Lectures

Meaning and Features of GST, Benefits of GST, Need of GST, Constitutional Provisions of GST, Levy and Collection of GST, Introduction to CGST, SGST, IGST, UTGST.

Reference Books:

1) Singhania, V.K. : Students' Guide to Income Tax, Taxmann Publication, New Delhi
2) Manoharan, T.N. : Direct Taxes : Snow White Publications, New Delhi
3) Singhania, Monica : Students' Guide to Income Tax and GST, Taxmann, New Delhi
4) Sury, M.M. : Goods and Services Tax in India,
5) Agarwal, CA VK : GST Guide for Students, Neelam Book House, Delhi
6) Datey, V.S. : GST Ready Reckoner, Taxmann, New Delhi
7) Thakkar, Vishal : GST for the Layman, TV18Broadcast Ltd.,