

Estd. : July, 1999

॥ प्रज्वलितो ज्ञानमय प्रदीपः ॥

UGC (2F & 12B) Dt. 16-8-2011

Shri. Shahu Shikshan Prasarak Seva Mandal, Peth Vadgaon's

Perm. Aff. No. SU/AFFI/T-2/UMK/4818 Dt. 15-7-2010



NAAC Accredited - 'A+' (3.41)  
Feb. 2023

# SHRI. VIJAYSINHA YADAV COLLEGE

Peth Vadgaon, Tal. Hatkanangale. Dist. Kolhapur.

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Affiliated to Shivaji University, Kolhapur



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President : **Shri. Gulabrao Pol**  
I.P.S.

Secretary : **Sou. Vidya Gulabrao Pol**  
M.A., B.Ed.

Vice President : **Smt. Vijayadevi V. Yadav**

Principal : **Dr. Ashok S. Chavan**  
M.A.Ph.D.SET

## 1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

B. A. Part-III

Special English

Semester - VI (Paper - XIII)

Understanding Poetry

June 2015 onwards

Syllabus	Values
Romantic Poetry William Wordsworth- Daffodils S T Coleridge- Kubla Khan	Environment and Sustainability Environment and Sustainability
Lord Byron- She Walks in Beauty	Gender Equality
Twentieth Century Poetry W B Yeats: A Prayer for My Daughter D H Lawrence: The Mosquito Philip Larkin: Church Going Modern Indian Poetry Muhammad Iqbal: Listen to me!	Human Values Human Values Human Values Human Values
Shiv K Kumar: Indian Women	Gender Equality
Imtiaz Dharker: Postcards from God C L Khatri: Two-Minute Silence	Human Values

  
Head

Department of English  
Shri. Vijaysinha Yadav College  
Peth Vadgaon, Dist. Kolhapur.



B. A. Part-III  
Special English  
Semester - V (Paper - IX)  
Understanding Drama  
June 2015 onward

Syllabus	Values
1 William Shakespeare - The Tempest	Human Values
2. Tennessee Williams - The Glass Menagerie	Human Values
3. Mahesh Dattani - Bravely Fought the Queen	Gender Equality

B.A. III (SPECIAL ENGLISH)  
UNDERSTANDING NOVEL  
(Semester-wise revised syllabus)  
Introduced from June 2015

Syllabus	Values
1. Anita Desai: Journey to Ithaca	Human Values
2. J. M. Coetzee: Disgrace.	Human Values
3. Sadanand Deshmukh: Baromas : Twelve Enduring Month	Human Values

**B.A. Part I – Ability Enhancement Compulsory Course (AECC 1)**

**(Compulsory English) (CBCS)**

**English for Communication**

**Detailed Syllabus**

**June 2018 onwards**

Syllabus	Values
Module I A) Developing Vocabulary B) On Saying Please - A. G. Gardiner	Professional Ethics
Module II A) Narration  B) In Passion's Shadow - Mohan Rakesh	Human Values
Module III  A. English for General Purposes	Professional Ethics
B. The Solitary Reaper -William Wordsworth	Environment and Sustainability  Human Values
Module IV A. My School, by Rabindranath Tagore B. All the World is a Stage - William Shakespeare C. The Street – Kusumagraj	Human Values   Human Values
Module V A. Making Inquiries B. The Lost Child - Mulk Raj Anand	Professional Ethics  Human Values
Module VI A. Telephonic Communication  B. To My Countrymen - APJ Abdul Kalam	Professional Ethics  Human Values
Module VII A. Description  B. A Village Girl - Mohan Singh	Professional Ethics  Gender Equality
Module VIII A. My Elder Brother - Premchand B. The Tiger- William Blake C. A Poet -Chandrakant Patil	Environment and Sustainability Professional Ethics

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B.Sc. Part I Ability Enhancement Compulsory Course (AECC –A)

(Compulsory English) (CBCS)

English for Communication

Detailed Syllabus

June 2018 onwards

Syllabus	Values
<b>Module I</b> A) Developing Vocabulary	Professional Ethics
B) Technology with a Human Face – E.F. Schumacher	Human Values Human Values
C) How Beautiful - P. K. Padhy	
<b>Module II</b> A) Narration	Professional Ethics
B) As a Flower I Come - by Sundaram	Environment and Sustainability
<b>Module III</b> A. Description	Professional Ethics
B. I Have a Dream - Martin Luther King	Human Values
<b>Module IV</b> A) The Auspicious Vision- Tagore	Human Values
B. The Book - Iftikar Rizvi	Human Values
<b>Module V</b> A) Telephonic Communication	Professional Ethics
B) Lost Forest - Johannes Jensen	Environment and Sustainability
C) Stopping by Woods - Robert Frost	Environment and Sustainability
<b>Module VI</b> A) English for Specific Purposes	Professional Ethics
B) Putting Data to Effective Use - Satish Tripathi	
<b>Module VII</b> A) English for Advertising	Professional Ethics
B) An Epithet- W.H.Davies	
<b>Module VIII</b> A) The Golden Touch -Nathaniel Hawthorne	Human Values Human Values
B) Offering in the Temple -Desika Vinayakam Pillai	Human Values

B. A. Part II  
 ABILITY ENHANCEMENT COMPULSORY COURSE (AECC)  
 (CBCS)  
 ENGLISH FOR COMMUNICATION  
 (Compulsory English)  
 (June 2019 Onwards)

Syllabus	Values
<b>Semester III</b>	
<b>Module I</b>	<b>Professional Ethics</b>
A) Oral Skills	
B) A Real Good Smile – Bill Naughton	Human Values
C) Mending Wall – Robert Frost	Human Values
<b>Module II</b>	
A) Conversation Skills	Professional Ethics
B) The Highway – Ray Bradbury	Human Values
<b>Module III</b>	
A) Developing Writing Skills	Professional Ethics
B) Whitewashing the Fence – Mark Twain	Human Values
<b>Module IV</b>	
A) Father Returning Home – Dilip Chitre	Human Values
B) There is a Garden in Her Face – Thomas Campion	Environment and Sustainability
<b>Module V</b>	
A) E-Communication	Professional Ethics
B) Preparation for England – M.K. Gandhi	Human Values
<b>Module VI</b>	
A) Information Transfer and Interpretation of Data	Professional Ethics
B) The Selfish Giant – Oscar Wilde	Human Values
C) Auto Wreck – Karl Shapiro	Human Values
<b>Module VII</b>	
A) English for Banking and Industries	Professional Ethics
B) The Journey – Mary Oliver	Human Values
<b>Module VIII</b>	
A) An Old Man's Wisdom – Sudha Murty	Human Values
B) My Soul has a Hat – Mário de Andrade	Human Values

B. A. Part II  
(Discipline Specific Core) (DSC-C5)  
English (Paper III) (Semester III)  
**LITERATURE AND CINEMA (CBCS)**  
June 2019 Onwards

Syllabus	Values
Module I Theories of Adaptation	Professional Ethics
Module II Adaptation as Interpretation	Professional Ethics
Module III William Shakespeare's Comedy of Errors and its Adaptation Angoor (dir. Gulzar, 1982)	Human Values
Module IV William Shakespeare's Comedy of Errors and its Adaptation Angoor (dir. Gulzar, 1982)	Human Values

B. A. Part II  
(Discipline Specific Core) (DSC-C29)  
English (Paper V) (Semester IV)  
**LITERATURE AND CINEMA**  
(CBCS)  
June 2019 Onwards

Syllabus	Values
Module I Transformation and Transposition	Professional Ethics
Module II Hollywood and 'Bollywood'	
Module III Chetan Bhagat's Five Point Someone and its Adaptation 3 Idiots (dir. Rajkumar Hirani, 2009)	Human Values
Module IV Chetan Bhagat's Five Point Someone and its Adaptation 3 Idiots (dir. Rajkumar Hirani, 2009)	Human Values

B. A. Part II  
(Discipline Specific Core) (DSC-C6)

English (Paper IV) (Semester III)

**PARTITION LITERATURE (CBCS)**

June 2019 Onwards

Syllabus	Values
Module I Partition: Causes and Effects	Human Values
Module II Communal conflicts and Violence	Human Values
Module III Khushwant Singh's A Train to Pakistan	Human Values
Module IV Khushwant Singh's A Train to Pakistan	

B. A. Part II  
(Discipline Specific Core) (DSC-C30)

English (Paper VI) (Semester IV)

**PARTITION LITERATURE (CBCS)**

Detailed Syllabi

June 2019 Onwards

Syllabus	Values
Module I Impact of Partition on Women	Gender Equality
Module II Home and Exile	Gender Equality
Module III Short Stories: Toba Tek Singh - Saadat Hasan Manto The Final Solution - Manik Bandopadhyay	Human Values Gender Equality
Module IV Short Stories: Defend Yourself Against Me - Bapsi Sidhwa A Leaf in the Storm - Lalithambika Antharjanam	Human Values Human Values Human Values



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B. A.III

Compulsory English

Ability Enhancement Compulsory Course (CBCS)

ENGLISH FOR COMMUNICATION

From June 2020 Onwards

Syllabus	Values
<b>MODULE I</b> A. Interview Skills B. The Interview -V.V. John	Professional Ethics
<b>MODULE II</b> A. Grammar for Competitive Examinations B. The Lottery - Shirley Jackson	Professional Ethics Human Values
<b>MODULE III</b> A. Writing Skills for Competitive Examinations B. After Twenty Years - O' Henry C. MODULE IV D. A. I Shall Return To This Bengal - Jibananda Das E. B.(i) Song of Youth - A. P. J. Abdul Kalam F. (ii) The Orphan Girl - Henry Derezio	Professional Ethics Human Values Human Values Human Values Gender Equality
<b>MODULE V</b> A. Group Discussion B. The Lighthouse Keeper of Aspinwall - Henry Sienkiewicz	Professional Ethics Human Values
<b>MODULE VI</b> A. Note Making and Note Taking B. Three Questions - Leo Tolstoy	Professional Ethics Human Values
<b>MODULE VII</b> A. Media Writing B. Eight Rupees - Murli Das Melwani	Professional Ethics Human Values
<b>MODULE VIII</b> A. The Mystic Drum - Gabriel Okara B. (i) Two Dead Soldiers- Jean Arasanayagam C. (ii) Bora Ring - Judith Wright	Human Values Human Values Human Values

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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)

Syllabus	Values
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	Human Values
2. Sonnet To The Moon Sir Philip Sydney 3. Full Many A Glorious Morning... (Sonnet 33) William Shakespeare	Environment and Sustainability Environment and Sustainability
III. Selections from Metaphysical Poetry: 1. The Sun Rising John Donne 2. The Retreat Henry Vaughan 3. The Collar George Herbert	Environment and Sustainability Human Values Human Values
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	Human Values Human Values Human Values Human Values
V. Topics For Background Readings: 1. Victorian Poetry 2. Modern English Poetry 3. Modern Indian English Poetry	Human Values
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	Gender Equality Human Values
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	Human Values Human Values Human Values
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	Environment and Sustainability Human Values

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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

Syllabus	Values
MODULE I Definition and Elements of Drama	Human Values
MODULE II Tragedy as a Form	
MODULE III The Importance of Being Earnest - Oscar Wilde	
MODULE IV Hamlet – William Shakespeare	Human Values
MODULE V Types of Drama	
MODULE VI Comedy as a Form	
MODULE VII Nagmandala – Girish Karnad	Gender Equality
MODULE VIII Harvest – Manjula Padmanabhan	Gender Equality

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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

Syllabus	Values
MODULE I Rise and Development of the Novel	Human Values
MODULE II Aspects of the Novel	
MODULE III The Old Man and the Sea – Ernest Hemingway	Environment and Sustainability
MODULE IV The Power and the Glory – Graham Greene	Human Values
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	

  
CDR. S. P. Patil  
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**Shri. Vijaysinha Yadav College, Peth Vadgaon**

**Department of English**

Syllabus covering following values:

- 1] Professional Ethics
- 2] Gender Equality
- 3] Human Values
- 4] Environment and Sustainability

**B. A. Part III English (Compulsory)**

June 2015 onwards

Syllabus	Values
Section I: Communication Skills	
Unit 1: How to Face an Interview	Professional Ethics
Unit 2: Developing Vocabulary	Professional Ethics
Unit 3: Avoiding Common Errors in Written English	Professional Ethics
Section II: Reading Comprehension]	
Unit 4: Empowering Three Billion by Dr. A. P. J. Abdul Kalam	Human Values
Unit 5: Riding Fate by Ishwar Chander	Human Values
Unit 6: Happy Prince by Oscar Wilde	Human Values
Unit 7: The Sick Rose by William Blake	
Unit 8: Stopping by Woods on a Snowy Evening by Robert Frost	Environment and Sustainability
Unit 9: Writing Official Letters	Professional Ethics
Unit 10: English For Journalism	Professional Ethics
Unit 11: Group Discussion	Professional Ethics
Section II: Reading Comprehension	
Unit 12: Building an Indian Innovation Ecosystem by Dr. Raghunath Mashelkar	Environment and Sustainability
Unit 13: No Man is an Island by Minoo Masani	Human Values
Unit 14: Khadi by M. K. Gandhi	Human Values
Unit 15: The Mettle of Soldiers by R. Singh	Human Values
Unit 16: The Banyan Tree by Rabindranath Tagore	Environment and Sustainability

B. A. Part-III  
Special English  
Semester - V (Paper - VIII)  
Understanding Poetry  
June 2015 onwards

Syllabus	Values
* Poems Prescribed:	
Elizabethan Poetry	Human Values
Sir Philip Sydney- Let Not Old Age Disgrace My High Desire	Human Values
Christopher Marlowe- The Passionate Shepherd to His Love	Human Values
William Shakespeare- Shall I Compare Thee to a Summer's Day?	Environment and Sustainability
Metaphysical Poetry	
John Donne- The Flea	Human Values
George Herbert- The Pulley	Human Values
Andrew Marvell- To His Coy Mistress	Human Values
Neoclassical Poetry	
John Dryden: Song To Fair Young Lady, Going Out Of The Town in the Spring	Environment and Sustainability
Alexander Pope: To Mrs. M.B on Her Birthday	Human Values
Thomas Gray: The Elegy Written in a Country Church Yard	Environment and Sustainability
William Blake: A Poison Tree	Human Values

  
(Dr. S. P. Patil)

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Shri. Vijaysinha Yadav College, Peth Vadgaon

Department of Hindi

New Syllabus Introduced from June 2018

Class: B.A.I

Semester No: I & II

Title of the Paper: हिंदी कविता और हिन्हीडी गद्य साहित्य (Paper No: I & II)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	भिक्षुक, तेरी खोपडी के अंदर	Sustainability Ethics Human Values
2.	बालिका का परिचय, बेजागह, स्त्री मुक्ती की माशाल् हो, बाजार	Gender Equality
3.	बसंत आ गया	Environment Ethics
4.	नया बँक, सत्ता, एकलव्य	Professional Ethics
5.	जीवन और शिक्षण, भागत की गत, अकेली	Sustainability Ethics Human Values
6.	रजिया, चीफ कि दावात, अकेली	Gender Equality
7.	विज्ञापण युग, संस्कार और भावना	Professional Ethics & Sustainability Ethics
8.	किसान के घर से, पंचलाईट	Environment Ethics

Head,  
Department of Economics  
**Head**  
Department of Hindi  
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Shri. Vijaysinha Yadav College, Peth Vadgaon


Department of Hindi

New Syllabus Introduced from June 2019

Class: B.A.IISemester No: II& III

Title of the Paper: अस्मितामूलक विमर्श और हिंदी गद्य साहित्य (Paper No: III & V)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	ग्रह प्रवेश, सिक्का बदल गया	Human Values
2.	जिती बाजी की हार, आखबारी विद्यापण	Gender Equality, Professional Ethics, Environment Ethics
3.	जॉर्ज पंचम की नाक, वकील साहब महात्मा गांधी	Professional Ethics
4.	पहाड, घर लोटते हुए, धरती और धान	Environment Ethics
5.	रोजगारपरक हिंदी	Professional Ethics
6.	रोजगारपरक हिंदी	Professional Ethics
7.	रोजगारपरक हिंदी	Professional Ethics
8.	अनुवाद	Professional Ethics

  
Head,  
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Shri. Vijaysinha Yadav College, Peth Vadgaon

Department of Hindi

New Syllabus Introduced from June 2020

Class: B.A.III Semester No: V & VI

Title of the Paper: विधा विशेष का अध्ययन (VII&XII)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	है दिल्ली उंचा सुनती (नाटक)	Sustainability Ethics, Human Values. Environment Ethics
2.	है दिल्ली उंचा सुनती (नाटक)	Sustainability Ethics, Human Values. Environment Ethics
3.	है दिल्ली उंचा सुनती (नाटक)	Sustainability Ethics, Human Values. Environment Ethics
4.	है दिल्ली उंचा सुनती (नाटक)	Sustainability Ethics, Human Values. Environment Ethics
4.	अंतिम साक्ष (उपन्यास )	Sustainability Ethics, Human Values. Environment Ethics
5.	अंतिम साक्ष (उपन्यास )	Sustainability Ethics, Human Values. Environment Ethics
6.	अंतिम साक्ष (उपन्यास )	Sustainability Ethics, Human Values. Environment Ethics
7.	अंतिम साक्ष (उपन्यास )	Sustainability Ethics, Human Values. Environment Ethics

  
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Department of Hindi

Class: B.A.III Semester No: V & VI

Title of the Paper: साहित्यशास्त्र (VIII& XIII)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	काव्य व साहित्य स्वरूप तत्व प्रयोजन	Sustainability, Human Values
2.	काव्य के प्रकार, गुण, दोष	Sustainability
3.	रस- स्वरूप, रस के अंग. रस के भेद	Sustainability, Human Values
4.	अलंकार- शब्दालंकार, अनुप्रास, वक्रोक्ति, यमक, वीप्सा, अर्थालंकार	Human Values, Sustainability
5.	महाकाव्य, प्रगीत, गजल	Sustainability Ethics, Human Values. Environment Ethics
6.	एकांकी, कहानी, उपन्यास	Sustainability Ethics, Human Values. Environment Ethics
7.	रेखाचित्र, आत्मकथा यात्राव्रत	Sustainability Ethics, Human Values. Environment Ethics
8.	आलोचना- स्वरूप, गुण, प्रकार	Sustainability Ethics, Human Values. Environment Ethics

  
Head,  
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Department of Hindi

New Syllabus Introduced from June 2020

Class: B.A.III Semester No: V & VI

Title of the Paper: हिंदी साहित्य का इतिहास (IX & XIV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	आदिकाल- नामकरण, परिस्थितियां, प्रथ्वीराज रासो, बीसलदेव रासो	Sustainability Ethics, Human Values. Environment Ethics
2.	भक्तिकाल- , परिस्थितियां, नामदेव, रविदास, मीराबाई, नानक सामान्य परिचय	Sustainability Ethics, Human Values. Environment Ethics
3.	निर्गुण भक्ति धारा- कबीर, जायसी- जीवन परिचय	Sustainability Ethics, Human Values. Environment Ethics
4.	सगुण भक्ति धारा- तुलसीदास, सूरदास- जीवन परिचय	Sustainability Ethics, Human Values. Environment Ethics
5.	रीतिकाल- परिस्थितियां, केशवदास, बिहारी, भूषण, घानानंद सामान्य परिचय	Sustainability Ethics, Human Values. Environment Ethics
6.	आधुनिक काल- परिस्थितियां, भारतेन्दू हरिचंद्र , जयशंकर प्रसाद, मोहन राकेश सामान्य परिचय	Sustainability Ethics, Human Values. Environment Ethics
7.	हिंदी उपन्यास, नाटक, यात्रा साहित्य उद्भव और विकास	Sustainability Ethics, Human Values. Environment Ethics
8.	छायावाद, प्रगतिवाद, समकालीन कविता विशेषताएं	Sustainability Ethics, Human Values. Environment Ethics

  
Head.

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Shri. Vijaysinha Yadav College, Peth Vadgaon

Department of Hindi

Class: B.A.III Semester No: V & VI

Title of the Paper: प्रयोजनमूलक हिंदी (X& XV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	पारिभाषिक शब्दावली	Sustainability and Professional Ethics
2.	सरकारी कार्यालयीन पत्राचार - कार्यालय ज्ञापन, परिपत्र. कार्यालय आदेश, सूचना, अनुस्मारक पत्र	Sustainability and Professional Ethics
3.	हिंदी भाषा में रोजगार के अवसर- रेडीओ, विज्ञापन, अनुवाद, पत्रकारिता, फिल्म में रोजगार के अवसर	Sustainability and Professional Ethics
4.	महाविद्यालयीन समारोह, सामाजिक समारोह, प्राकृतिक अपदाओं दुर्घटनाओं का व्रतांत लेखन	Sustainability and Professional Ethics
5.	पारिभाषिक शब्दावली	Sustainability and Professional Ethics
6.	इंटरनेट, फेसबुक, व्हाटसअप, टीयुटर, ब्लोग सामान्य परिचय	Sustainability and Professional Ethics
7.	दूरदर्शन, इंटरनेट, डाकुमेटरी, व्हिडिओ कोन्फरन्स, यु टूब सामान्य परिचय	Sustainability and Professional Ethics
8.	अनुवाद- स्वरूप, महत्व, उपयोगिता, प्रकार और अनुवादक के गुण	Sustainability and Professional Ethics

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Department of Hindi

New Syllabus Introduced from June 2020

Class: B.A.III Semester No: V & VI

Title of the Paper: भाषा विज्ञान और हिंदी भाषा (XI & XVI)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	भाषा की विशेषताएँ , परिभाषा, उत्पत्ति संबंधी विविध वाद	Sustainability, Human Values & Professional Ethics
2.	भाषा परिवर्तनशीलता के कारण भाषा के विविध रूप- बोली और परिनिष्ठीट भाषा	Sustainability, Human Values & Professional Ethics
3.	हिंदी भाषा का उद्भव और विकास - राष्ट्रभाषा, राजभाषा, संपर्क भाषा	Sustainability, Human Values & Professional Ethics
4.	विविध बोलियाँ, अवधी, ब्रज, खड़ीबोली, भोजपुरी	Sustainability, Human Values & Professional Ethics
5.	भाषाविज्ञान की परिभाषा अध्ययन का महत्व वेदज्ञानिकता	Sustainability, Human Values & Professional Ethics
6.	प्रधान अंग पद, शब्द, वाक्य, अर्थ विज्ञान का परिचय	Sustainability, Human Values & Professional Ethics
7.	भाषा विज्ञान का अन्य ज्ञान विज्ञानों से संबंध	Sustainability, Human Values & Professional Ethics
8.	कारक, अर्थ प्रयोग पदकर्म विरामचिन्ह	Sustainability, Human Values & Professional Ethics

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**Department Activity Covered Ethics**

**2022-23**

<b>Sr. No.</b>	<b>Activity Title</b>	<b>Covered Ethics</b>
1.	Conducted Interview (Shri. Appasaseb Khot) Marathi Writer	<b>Human Values</b> <b>Professional Ethics</b>
2.	Celebration of Hindi Divas	<b>Professional Ethics</b> <b>Environment Ethics</b>

  
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Department of Marathi

New Syllabus Introduced from June 2018

Class: B.A.I Semester No: I & II

Title of the Paper:अक्षरबंध (Paper No: I & II)

( DSC -A1) \$ ( DSC -A13) \$

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	विभाग १ कथा-निवडक भास्कर चंदनशिव उमाळं जांभळडव्ह तडा	Sustainability Ethics Human Values
2.	वासना लाल चिखल पाणी	Gender Equality
3.	चित्रपट म्हणजे काय? चित्रपट : एक दृकश्राव्य माध्यम दिग्दर्शकाचा दृष्टिकोन छायाचित्रण	Environment Ethics
4.	विभाग ४ चित्रपट : कथा छिन्नपटाचे संगीत अभिनय ध्वनी-प्रकाश योजना-वेशभुषा संकलन-संपादन चित्रपटाचा आशावाद	Professional Ethics

5.	<p>विभाग १</p> <p>बाकी सर्व ठिक आहे</p> <ol style="list-style-type: none"> <li>१. जीवाचा आटापिटा</li> <li>२. मुख्यप्रवाह</li> <li>३. एका वृक्षाची गोष्ट</li> <li>४. राग</li> <li>५. जीवन सुंदर आहे</li> <li>६. भविष्य</li> <li>७. तडजोड</li> </ol> <p>पर्सनल मुलाखत</p>	<p>Sustainability Ethics</p> <p>Human Values</p>
6.	<p>विभाग २</p> <ol style="list-style-type: none"> <li>९.गौडबंगाल</li> <li>१०.पर्यावरण</li> <li>११.सोन्याचा दात</li> <li>१२.मांजर</li> <li>१३.स्पर्श</li> <li>१४.युध्द असे सुरु होते</li> <li>१५.जन्म आईचा</li> <li>१६. शेतमजूर</li> </ol>	<p>Gender Equality</p> <p>Human Values</p>
7.	<p>विभाग ३</p> <p>बातमी</p> <p>अग्रलेख</p> <p>वाचकांचा पत्रव्यवहार</p> <p>नाटक / चित्रपट/ परिक्षण</p>	<p>Professional Ethics &amp; Sustainability Ethics</p>
8.	<p>विभाग ४</p> <p>उपयिजित व स्पर्धा परिक्षेसाठी लेखन</p> <p>अ) पत्रलेखन</p> <p>आकलन</p>	<p>Environment Ethics</p>

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Class: B.A.I Semester No: I & II

Title of the Paper: **शब्दसंहिता** (Paper No: I & II)

( CEG \$ ( CEG 2 ) \$

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	विभाग १ १.निवड-यशवंतराव चव्हाण २.वाटेवरच्या सावल्या - कुसुमाग्रज ३.पन्नास पैकी शून्य मार्कस शांताबाई शेळके	Sustainability Ethics Human Values
2.	४ शब्दांचे मोल- चंद्रशेखर धर्माधिकारी ५. संगमनेरचे दिवस-दया पवार ६.संकल्प सिद्धीला नेणारा महापुरुष - डॉ.बापूजी साळुंखे	Gender Equality Human Values
3.	विभाग ३ व्यक्तिमत्त्व संकल्पना व्यक्तिमत्त्व विकासासाठी आवश्यक घटक व्यक्तिमत्त्व विकासात भाषेचे महत्त्व	Environment Ethics Professional Ethics
4.	विभाग ४ भाषिक कौशल्ये श्रवण वाचन लेखन भाषण कौशल्ये	Professional Ethics

	<p>कार्यक्रमाचे संयोजन  -स्वागत,प्रास्ताविक परिचय,  मनोगत,आभार,सूत्रसंचालन आणि  कार्यक्रमाचे फलकलेखन</p>	
5.	<p><b>विभाग १</b>  १.संत नामदेव १.पतितपावन  २. पंढरीस जावे  २ अनंत फंदी १.जमाना आला ऊफराटा  २.हे मुख्या खूण तर्का  ३. महात्मा फुले १.मानवांचा धर्म  २ धीर  ४ बालकवी १.फुलराणी २.अप्सरांचे गाणे</p>	<p>Sustainability Ethics  Human Values</p>
6.	<p><b>विभाग २</b>  विंदा करदीकर  १.माझ्या मना बन दगड  २.झपताल  वाहरू सोनवणे  १.गोधड  २.चळवळ म्हणजे  प्रज्ञा दया पवार  १.माणसासारखा माणूस असूनही  २.आग आणि फुफाटा  एकनाथ पाटील  १ शहर एक उदास पोकळी  २ शोधयात्रा</p>	<p>Gender Equality  Human Values</p>
7.	<p><b>विभाग ३</b>  निबंधाचे स्वरूप,व्याप्ती</p>	<p>Professional Ethics &amp; Sustainability  Ethics</p>



	निबंधाचे घटक निबंधाचे प्रकार निबंधाची वैशिष्ट्ये	
8.	विभाग ४ निबंध लेखन प्रात्यक्षिक सराव	Environment Ethics Professional Ethics

  
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New Syllabus Introduced from June 2019

Class: B.A.IISemester No: II& III

Title of the Paper: काव्यगंध (Paper No: III & V)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	विभाग १ केशवसुत- १.अंत्यजाच्या मुलाचा पहिला प्रश्न २.नवा शिपाई ३.तुतारी ४.मजुरावर उपासमारीची पाळी ५.गोफण केली छान वसंत बापट- १.फुंकर २.जपावयाला शिकली होतीस ३.आज अचानक ४.नाजूक रुपडे ५.विस्मृती	Human Values
2.	विभाग २ नारायण सुर्वे-१.दोन दिवस २.माझी आई ३.गिरणीची लावणी ४.पोष्टर ५. नेहरु गेले त्यावेळची गोष्ट वसंत आबाजी डहाके-१.त्या संध्याकाळी समुद्र २.आख्यान ३.खेळ ४.पुतळे ५.वास्तववाद	Gender Equality, Professional Ethics, Environment Ethics
3.	विभाग ३ अजीम नवाज राही-१.दुष्काळ ; काही संदर्भ २.जातीय दंगल ; बारा भानगडी तेरा वळणे ३.सुरक्षेची हमी देणारा कळपवाद ४.मोडीतोडीतून डागडुजीची भाषा शिकताना	Professional Ethics Human Values

	५.मोहल्ला,पक्षी आणि कातरवेळ कल्पना दुधाळ १.बाय आणि गाय २.झुलत्या फांदीला ३.घोषणा ४.खस्ता ५.धग असतेच आसपास	
4.	विभाग ४ उपयोजित मराठी-काव्यनिर्मिती प्रक्रिया १.प्रसंगावर २.घटनेवर ३.चित्रावर ४.अनुभवावर	Environment Ethics
5.	विभाग १ जुगाड - आशयसूत्रे	Professional Ethics Human Values
6.	विभाग २ जुगाड - घटना,प्रसंग आणि व्यक्तिरेखांचे स्वरूप व पर्यावरण	Professional Ethics Human Values
7.	विभाग ३ जुगाड - वाङ्मयीन विशेष	Professional Ethics
8.	विभाग ४ उपयोजित मराठी - वृत्तांत लेखन 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	Professional Ethics

  
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New Syllabus Introduced from June 2019

Class: B.A.IISemester No: II& III

Title of the Paper: **काय डेंजर वारा सुटलाय!** (Paper No: IV & VI)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	विभाग १ काय डेंजर वारा सुटलाय! - आशयसूत्रे	Sustainability Ethics. Human Values Human Values
2.	विभाग २ काय डेंजर वारा सुटलाय! पात्रे, घटना- प्रसंग संवाद व संघर्षाचे स्वरूप	Human Values,Sustainability Ethics Human Values
3.	विभाग ३ काय डेंजर वारा सुटलाय! नाट्यविशेष व भाषाविशेष	Sustainability Ethics, Human Values
4.	विभाग ४ उपयोजित मराठी - संवाद लेखन संवाद : स्वरूप आणि व्याख्या संवाद कौशल्यासाठी आवश्यक बाबी	Sustainability Ethics,Human Values. Environment Ethics

	संवादाचे प्रकार	
5.	विभाग १ माती,पंख आणि आकाश - जीवनानुभवाचे स्वरूप	Sustainability Ethics, Environment Ethics Human Values
6.	विभाग २ माती,पंख आणि आकाश - शैक्षणिक,सामाजिक आणि सांस्कृतिक पर्यावरण	Sustainability Ethics Environment Ethics Human Values
7.	विभाग ३ माती,पंख आणि आकाश - वाङ्मयीन गुणविशेष	Sustainability Ethics,Human Values. Environment Ethics
8.	विभाग ४ उपयोजित मराठी - आत्मवृत्ताचे स्वरूप १.आत्मकथन/स्वकथन २ प्रवास वर्णन ३ रोजनिशी	Sustainability Ethics,Human Values. Environment Ethics

  
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New Syllabus Introduced from June 2020

Class: B.A.III Semester No: V & VI

Title of the Paper: साहित्यविचार (VII&XII)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	साहित्याचे स्वरूप	Sustainability Ethics, Human Values. Environment Ethics
2.	साहित्याचे प्रयोजन	Sustainability Ethics, Human Values. Environment Ethics
3.	साहित्यनिर्मितीची कारणे	Sustainability Ethics, Human Values. Environment Ethics
4.	अलंकार	Sustainability Ethics, Human Values. Environment Ethics
5	शब्दशक्ती	Sustainability Ethics, Human Values. Environment Ethics
6.	रसविचार	Sustainability Ethics, Human Values. Environment Ethics
7.	साहित्याची भाषा	Sustainability Ethics, Human Values. Environment Ethics
8.	छंद व वृत्ते	Sustainability Ethics, Human Values. Environment Ethics

  
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Class: B.A.III Semester No: V & VI

Title of the Paper: **मराठी भाषा व भाषाविज्ञान (VIII& XIII)**

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	भाषोत्पत्ती विचार	Sustainability, Human Values
2.	भाषेचे स्वरूप, व्याख्या आणि वैशिष्ट्ये	Sustainability
3.	स्वनिम व रूपिम विचार	Sustainability, Human Values
4.	वाक्यविचार	Human Values, Sustainability
5.	मराठीची वर्णमाला	Sustainability Ethics, Human Values. Environment Ethics
6.	मराठीचे ध्वनी परिवर्तन	Sustainability Ethics, Human Values. Environment Ethics
7.	मराठीचे अर्थ परिवर्तन	Sustainability Ethics, Human Values. Environment Ethics
8.	प्रमाण मराठी भाषा आणि तिच्या बोली	Sustainability Ethics, Human Values. Environment Ethics

  
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New Syllabus Introduced from June 2020

Class: B.A.III Semester No: V & VI

Title of the Paper: मध्ययुगीन

मराठी वाङ्मयाचा इतिहास ( प्रारंभ ते इ.स.१५००

(IX & XIV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	घटक मराठी वाङ्मयाचा प्रारंभकाळ ते इ.स.१२०० पर्यंत	Sustainability Ethics, Human Values. Environment Ethics
2.	घटक मराठी वाङ्मयाचा प्रारंभकाळ ते इ.स.१२०० ते १३०० पर्यंत महानुभावीय पध्य वाङ्मय	Sustainability Ethics, Human Values. Environment Ethics
3.	ज्ञानेश्वर ते नामदेव वाङ्मयीन कार्य	Sustainability Ethics, Human Values. Environment Ethics
4.	अन्य संप्रदायातील प्रमुख ग्रंथकार आणि ग्रंथराचना	Sustainability Ethics, Human Values. Environment Ethics
5.	एकनाथांची साहित्य संपदा	Sustainability Ethics, Human Values. Environment Ethics
6.	तुकारामांची साहित्य संपदा	Sustainability Ethics, Human Values. Environment Ethics
7.	निवडक पंडित कवींच्या काव्याचा अभ्यास	Sustainability Ethics, Human Values. Environment Ethics
8.	बखर वाङ्मय शाहिरी वाङ्मय	Sustainability Ethics, Human Values. Environment Ethics

  
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Class: B.A.III Semester No: V & VI

Title of the Paper: मराठी भाषा व अर्थार्जनाच्या संधी (X & XV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	सर्जनशील लेखन : संकल्पना.स्वरूप	Sustainability and Professional Ethics
2.	वैचारिक लेखन	Sustainability and Professional Ethics
3.	शोधनिबंध व प्रकल्प लेखन	Sustainability and Professional Ethics
4.	आंतरजालावरील मराठी	Sustainability and Professional Ethics
5.	प्रसारमाध्यमांतील अर्थार्जनाच्या संधी व भाषिक कौशल्ये	Sustainability and Professional Ethics
6.	उद्योग सेवा क्षेत्र व मराठी भाषा	Sustainability and Professional Ethics
7.	मुद्रितशोधन	Sustainability and Professional Ethics
8.	स्पर्धा परीक्षांसाठी मराठी	Sustainability and Professional Ethics

  
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Class: B.A.III Semester No: V & VI

Title of the Paper: वाङ्मयप्रवाहांचे अध्ययन : मध्ययुगीन (XI & XVI)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	मध्ययुगीन साहित्य आणि महानुभावीय साहित्य	Sustainability, Human Values & Professional Ethics
2.	दृष्टांतपाठातील आशयसूत्रे	Sustainability, Human Values & Professional Ethics
3.	दृष्टांतपाठातील अभिव्यक्ती विशेष	Sustainability, Human Values & Professional Ethics
4.	दृष्टांतपाठातील भाषावैभव	Sustainability, Human Values & Professional Ethics
5.	ललित गध्य, व्यक्तिचित्रे संकल्पना आणि स्वरूप	Sustainability, Human Values & Professional Ethics
6.	रामा मैलकुली, मृत्युचे चुंबन घेणारा महाकवी, निळू मांग, मोरणी	Sustainability, Human Values & Professional Ethics
7.	जमीला जावद, व्यंकट अण्णा, दगडू मामा, मुंबईचा चित्रकार	Sustainability, Human Values & Professional Ethics
8.	हिरा, बाबा मास्तर, दादासाहेब वस्ताद, डोकेवाला संशोधक	Sustainability, Human Values & Professional Ethics

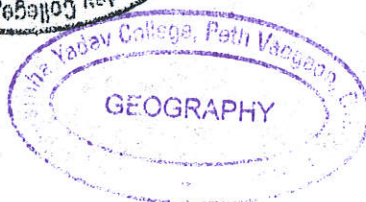
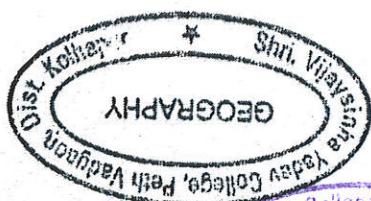
  
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**Syllabus Values**  
**B. A. I Semester I**  
**Paper No. I, Geography (Physical Geography)**

Year	Syllabus	Values
2016	<b>Module – I Introduction to Physical Geography</b> 1.3 Branches of Physical Geography 1.4 Importance of Physical Geography <b>Module V – Map (Practical)</b> 5.1 Map: Definition, Elements and Types 5.2 Maps and Globe- Similarities and Differences 5.3 Significance and Use of Maps and Globe	Professional Ethics
	<b>Module- II Atmosphere</b> 2.1 Composition and Structure of Atmosphere 2.2 Insolation: Factors affecting on Insolation 2.3 Temperature: Distribution of temperature (Vertical and Horizontal) 2.4 Atmospheric Pressure: Belts and Planetary Winds. <b>Module – III Lithosphere</b> 3.1 Interior of the earth 3.2 Wagner's Continental Drift Theory 3.3 Earthquakes – Causes and Effects 3.4 Volcano – Causes and Effects <b>Module – IV Denudation</b> 4.1 Weathering: Concept and Types 4.2 Davis Concept of Cycle of erosion 4.3 Erosional Landforms of river, 4.4 Depositional Landforms of river	Environmental and Sustainability

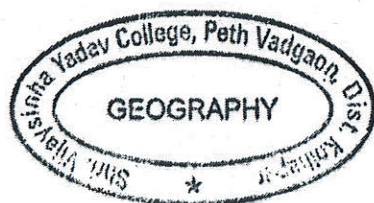


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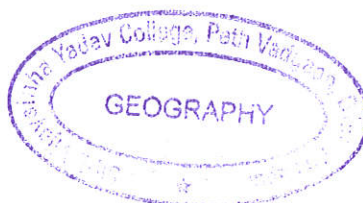


**B. A. I Semester II**  
**Paper No. II, Geography (Human Geography)**

Year	Syllabus	Values
2016	<b>Module- I Human Geography</b> 1.2 Scope of Human Geography 1.3 Branches of Human Geography 1.4 Importance of Human Geography <b>Module –III Settlement</b> 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 <b>Module – IV Agriculture</b> 4.1 Origin and History of Agriculture 4.2 Types of Agriculture 4.3 Factors affecting on agriculture 4.4 Problems of Agriculture <b>Module – V Google Earth</b> 5.1 Concept of Google Earth 5.2 Application of Point, Line and Polygon according to Feature 5.3 Exercises with Google Earth Programme	Professional Ethics, Human Values and Environmental Sustainability
	<b>Module –II Population</b> 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	Gender Equality, Human Values and Environmental Sustainability



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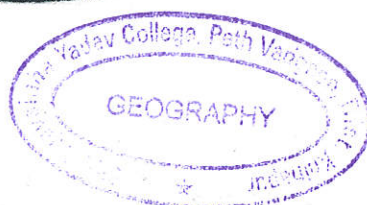
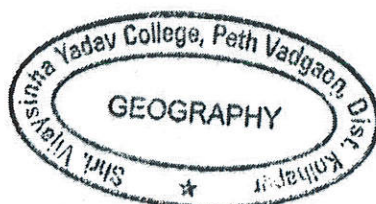
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**Syllabus Values**

**B. A. II Semester III**

**Paper No. III, Geography (Soil Geography)**

<b>Year</b>	<b>Syllabus</b>	<b>Values</b>
<b>2019</b>	<b>Module I: Basics of Soil Geography</b> 1.2 History of Soil Geography and Pedology 1.3 Significance of Soil Geography	Professional Ethics
	<b>Module II: Soils: Formation and Properties</b> 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. 2.4 Chemical Properties of Soils: $\text{pH}$ , Organic Matter, NPK (Nitrogen, Phosphorous and Potassium). <b>Module III: Soils: Classifications and Distribution</b> 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 <b>Module IV: Practical's (Theory Only)</b> 4.1 Soil Profile 4.2 Soil Sample: Tools 4.3 Soil Analysis: Saline and Alkaline 4.4 Vermicompost	Environmental and Sustainability



  
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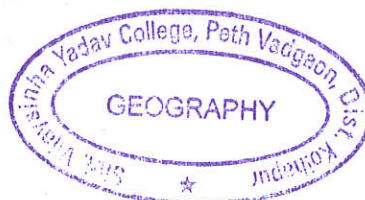
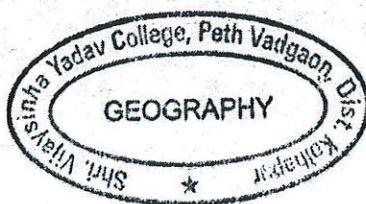
Department of Geography


Syllabus Values

B. A. II Semester III

Paper No. IV, Geography (Resource Geography)

Year	Syllabus	Values
2019	<b>Module I: Introduction to Resource Geography</b> 1.2 Resource: Concept and Classification 1.3 Importance of Resource Geography	Professional Ethics
	<b>Module II: Major Resources</b> 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 <b>Module III: Sustainable Resource Development</b> 3.1 Concept of Sustainable Resource Development 3.2 Sustainable Natural Resource Development: Water, Forest and Energy 3.3 Sustainable Human Resource Development <b>Module IV: Practical (Theory Only)</b> 4.1 Proportional Circle 4.2 Choropleth Map 4.3 Dot Map 4.4 Isopleth Map	Environmental and Sustainability



  
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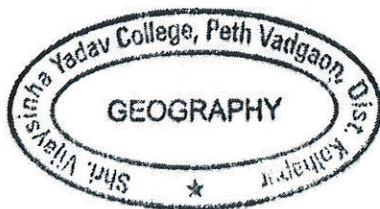
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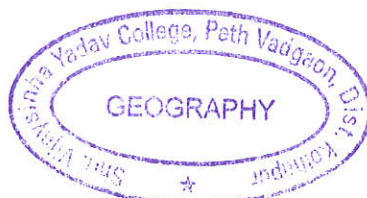
B. A. II Semester III

Paper No. IV, Geography (Resource Geography)

Year	Syllabus	Values
2019	<b>Module I: Introduction to Resource Geography</b> 1.2 Resource: Concept and Classification 1.3 Importance of Resource Geography	Professional Ethics
	<b>Module II: Major Resources</b> 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 <b>Module III: Sustainable Resource Development</b> 3.1 Concept of Sustainable Resource Development 3.2 Sustainable Natural Resource Development: Water, Forest and Energy 3.3 Sustainable Human Resource Development <b>Module IV: Practical (Theory Only)</b> 4.1 Proportional Circle 4.2 Choropleth Map 4.3 Dot Map 4.4 Isopleth Map	Environmental and Sustainability



  
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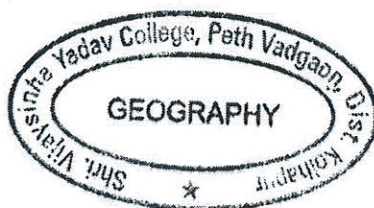
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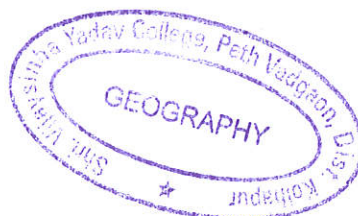
B. A. II Semester III

IDS Paper No. I, Introduction to Tourism Geography

Year	Syllabus	Values
2019	<p><b>Module I: Introduction to Tourism Geography</b></p> <p>1.3 Scope of Tourism Geography</p> <p>1.4 Historical development of Tourism</p> <p>1.5 Significance of Tourism Geography</p> <p><b>Module II: Component of Tourism</b></p> <p>2.1 Geographical components</p> <p>2.2 Social components</p> <p>2.3 Cultural components</p> <p>2.4 Other components</p> <p><b>Module III: Classification and Recent Trends in Tourism</b></p> <p>3.1 Classification on the basis of Nationality, Time, Number of tourist, Objectives, Transportation, Season, and Nature of Tourism.</p> <p>3.2 Recent trends in Tourism</p> <p><b>Module IV: Impact of Tourism</b></p> <p>4.1 Economic impact</p> <p>4.2 Socio-Cultural impact</p> <p>4.3 Impact on Environment</p> <p>4.4 Sustainable development of Tourism</p>	Professional Ethics , Human Values and Environmental and Sustainability



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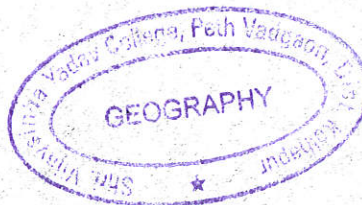
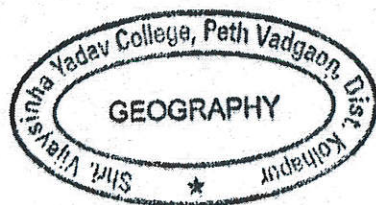
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B. A. II Semester IV

Paper No. V, Geography (Oceanography)

Year	Syllabus	Values
2019	<b>Module I: Introduction to Oceanography</b> 1.2 Oceanography and Physical Sciences 1.3 Branches of Oceanography 1.4 Significance of Oceanography	Professional Ethics
	<b>Module II: Properties and Dynamics of Ocean</b> 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	Professional Ethics, Human Values and Environmental and Sustainability
	<b>Module III: Applied Oceanography</b> 3.1 Ocean or Marine deposits: Sources and Classification 3.2 Ocean Resources – Biotic- Mineral and Energy Resources 3.4 Ocean Pollution – Causes, Effects and Measures	
	<b>Module IV: Practical's (Theory Only)</b> 4.1 Hypsographic Curve 4.2 Wind rose 4.3 Isohalines 4.4 Isotherms	Professional Ethics



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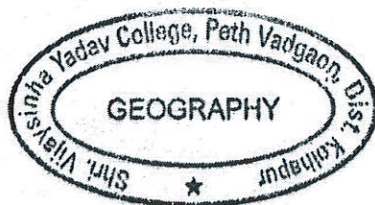
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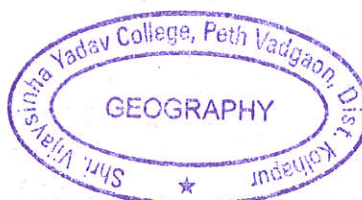
B. A. II Semester IV

Paper No. VI, Geography (Agricultural Geography)

Year	Syllabus	Values
2019	<b>Module I: Introduction to Agricultural Geography</b> 1.1 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)	Professional Ethics
	<b>Module II: Agriculture: Systems and Land-use Theory</b> 2.1 Major Agricultural Systems: Nomadic Herding, Livestock Ranching, Shifting Cultivation, Intensive Subsistence Farming, Commercial Farming and Horticulture 2.1 Von Thunen's Theory of Agricultural land-use <b>Module III: Regionalization, Problems and Modern Concepts in Agriculture</b> 3.1 Methods of Agricultural Regionalization: Crop Combination and Crop Diversification 3.2 Agricultural Problems: Physical and Non-Physical (Economic, Social, Cultural, Political and Administrative) 3.3 Sustainable Agriculture	Professional Ethics, Human Values and Environmental and Sustainability
	<b>Module IV: Practical (Theory Only)</b> 4.1 Line Graphs 4.2 Bar Graphs 4.3 Divided Circle 4.4 Proportional Square	Professional Ethics



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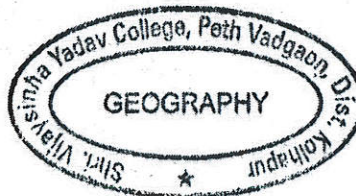
Department of Geography

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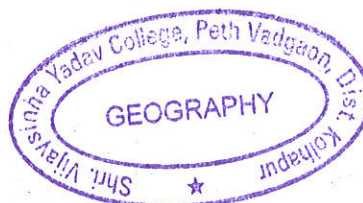
B. A. II Semester IV

IDS Paper No. II, Development and Planning of Tourism

Year	Syllabus	Values
2019	<p><b>Module I: Development and Planning of Tourism in India</b></p> <p>1.1 Tourism in ancient period</p> <p>1.2 Tourism in modern period</p> <p>1.3 Role of tourism in national economy</p> <p>1.4 Tourism planning in India</p> <p><b>Module II: Tourism Centers in India</b></p> <p>2.1 Natural tourism centers in India</p> <p>2.2 Religious tourism centers in India</p> <p>2.3 Cultural tourism centers in India</p> <p>2.4 Historical tourism centers in India</p> <p><b>Module III: Development and Planning of Tourism in Maharashtra</b></p> <p>3.1 Development of tourism in Maharashtra</p> <p>3.2 Planning of tourism in Maharashtra</p> <p><b>Module IV: Tourism Centers in Maharashtra</b></p> <p>4.1 Natural tourism centers in Maharashtra</p> <p>4.2 Religious tourism centers in Maharashtra</p> <p>4.3 Cultural tourism centers in Maharashtra</p> <p>4.4 Historical tourism centers in Maharashtra</p>	Professional Ethics , Human Values and Environmental and Sustainability



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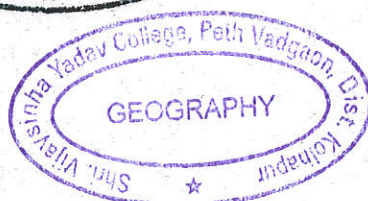
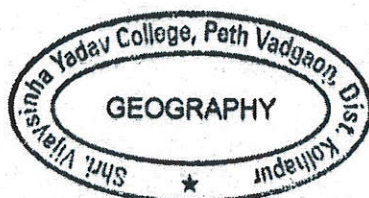
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Syllabus Values

B. A. III Semester V

Paper No. VII, Geography (Evolution of Geographical Thoughts)

Year	Syllabus	Values
2020	<p><b>Module – I Geography in Ancient Period</b></p> <p>1.1 Contribution of Greeks and Romans</p> <p>1.2 Arab Geographical Thoughts</p> <p>1.3 Indian Geographical Thoughts</p> <p>1.4 Exploration and Development of Geography</p> <p><b>Module – II Schools of Geography</b></p> <p>2.1 German School of Geography – Alexander von Humboldt</p> <p>2.2 French School of Geography – Vidal de la Blache</p> <p>2.3 American School of Geography – William Morris Davis</p> <p>2.4 British School of Geography – Halford J. Mackinder</p> <p><b>Module – III Dualisms in Geography</b></p> <p>3.1 Determinism Vs Possibilism</p> <p>3.2 Systematic Vs Regional geography</p> <p>3.3 Physical Vs Human geography</p> <p>3.4 Historical Vs Contemporary</p> <p><b>Module – IV Trends in Geography</b></p> <p>4.1 Quantitative Revolution</p> <p>4.2 Model Building in Geography</p> <p>4.3 Man-nature relationship: Radicalism, Behaviourism and Humanism</p> <p>4.4 Future of Geography</p>	Professional Ethics and Human Values



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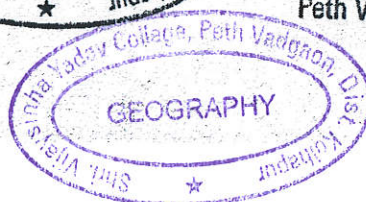
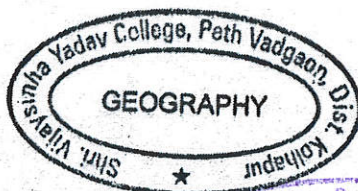
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Syllabus Values

B. A. III Semester V

Paper No. VIII, Geography (Geography of India)

Year	Syllabus	Values
2020	<p><b>Module –I: Physical Profile of India</b></p> <p>1.1) Location (Absolute and Relative)</p> <p>1.2) Physiographic Divisions (Characteristics and Importance)</p> <p>1.3) Climate: Summer, Rainy and Winter Seasons in India (weather conditions and Characteristics)</p> <p>1.4) Major Drainage Systems:</p> <p>a) Northern River Systems (Sindhu, Ganga &amp; Brahmaputra)</p> <p>b) Southern River Systems (Godavari, Krishna &amp; Cauvery) (Characteristics and Importance)</p> <p><b>Module –II: Soils and Forests</b></p> <p>2.1 Major soil types, characteristics and its distribution in India</p> <p>2.2 Soil degradation and soil conservation in India</p> <p>2.3 Major forest types: characteristics and their distribution</p> <p>2.4 Deforestation and conservation of forests in India</p> <p><b>Module –III: Mineral and Power Resources</b></p> <p>3.1 Conventional Resources: Iron Ore and Manganese (Distribution, Production and Trade)</p> <p>3.2 Power Resources: Coal and Mineral Oil (Distribution, Production and Trade)</p> <p>3.2 Non Conventional Resources: Solar and Wind (Distribution, Production and Trade)</p> <p><b>Module –IV: Agriculture and Industry</b></p> <p>4.1 Importance of Agriculture in Indian Economy.</p> <p>4.2 Major Crops: Rice and Sugarcane (Distribution, Production and Trade)</p> <p>4.3 Importance of Industries in Indian Economy.</p> <p>4.4 Industries: Location Factors, Sugar Industry, Iron and Steel Industry and Fertilizer Industry (Distribution, Production and Trade)</p>	Professional Ethics, Environmental and Sustainability



  
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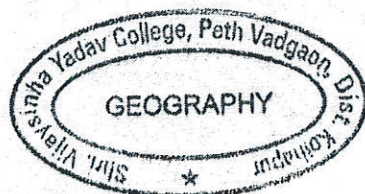
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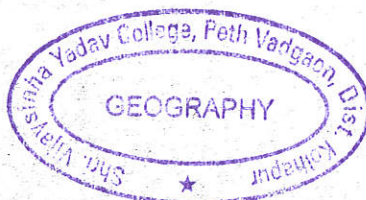
B. A. III Semester V

Paper No. IX, Geography (Population Geography)

Year	Syllabus	Values
2020	<b>Module I: Introduction to Population Geography</b> 1.3 Significance of Population Geography 1.4 Sources of Population Data	Professional Ethics
	<b>Module II: Population Growth and Distribution</b> 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	Professional Ethics, Gender Equality, Human Values and Environmental and Sustainability
	<b>Module III: Population Dynamics</b> 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	
	<b>Module IV: Population Composition</b> 4.1 Age 4.2 Sex 4.3 Literacy 4.4 Rural and Urban Population	Gender Equality, Human Values



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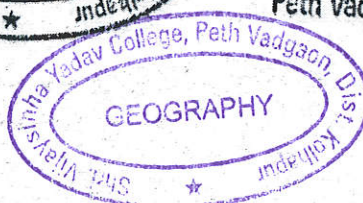
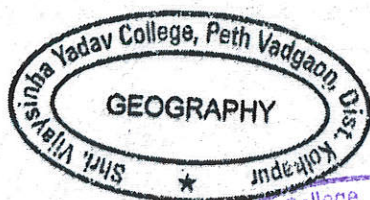
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B. A. III Semester VI

Paper No. XI, Geography (Economic Geography)

Year	Syllabus	Values
2020	<b>Module – I Introduction to Economic Geography</b> 1.2 Concept and Classification of Economic Activity 1.3 Branches of Economic Geography 1.4 Significance of Economic Geography	Professional Ethics
	<b>Module – II Economic Activity</b> 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 <b>Module – III Manufacturing Activity</b> 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 <b>Module – IV Transport and Trade</b> 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	Professional Ethics, and Environmental and Sustainability



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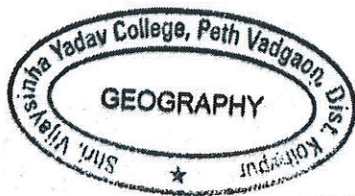
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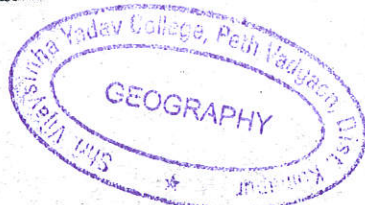
B. A. III Semester VI

Paper No. XI, Geography (Urban Geography)

Year	Syllabus	Values
2020	<b>Module-I: Introduction to Urban Geography</b> 1.3 Approaches of Urban Geography 1.4 Significance of Urban Geography	Professional Ethics
	<b>Module-II: Urbanization</b> 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) <b>Module-III: 3 Structure and Morphology of Urban Centers</b> 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 <b>Module-IV: Urban Problems and Issues</b> 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	Professional Ethics, Human Values and Environmental and Sustainability



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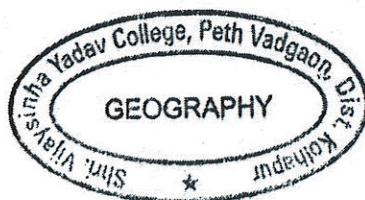
Department of Geography


Syllabus Values

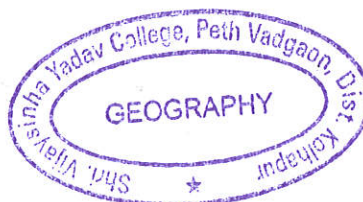
B. A. III Semester VI

Paper No. XII, Geography (Political Geography)

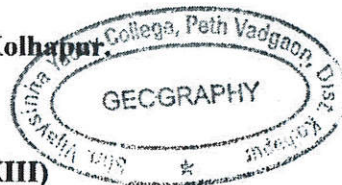
Year	Syllabus	Values
2020	<b>Module I: Introduction to Political Geography</b> 1.3 Approaches of Political Geography 1.4 Significance of Political Geography	Professional Ethics
	<b>Module II: Concepts in Political Geography</b> 2.1 State 2.2 Nation 2.3 Boundary 2.4 Frontier	Professional Ethics, Human Values and Environmental and Sustainability
	<b>Module III: Theories in Political Geography</b> 3.1 Hartland Theory - Halford J. Mackinder 3.2 Rimland Theory – Nicholas J. Spykeman	
	<b>Module IV: Resource Disputes and Conflicts</b> 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	



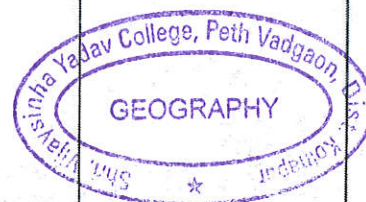
  
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Year	Syllabus	Values
2020	<p><b>Module – I: Introduction to Map and Scales:</b></p> <p>1.1 Map</p> <p>1.1.1 Map: Definition and Elements</p> <p>1.1.2 Classification of Maps: Based on Scale and Purpose</p> <p>1.2 Scale</p> <p>1.2.1 Meaning and Definition,</p> <p>1.2.2 Methods of Representation of scale - Verbal, Numerical and Graphical.</p> <p>1.2.3 Scale Conversion</p> <p>1.2.4 Construction of Graphical Scale –</p> <p>i) Simple (Plane Scale)</p> <p>ii) Time and Distance Scale</p> <p>iii) Diagonal Scale</p> <p><b>Module II: Map Projection Periods</b></p> <p>2.1 Definition, Classification of Projections:</p> <p>a) Based on the methods of Construction: Perspective and Non-perspective</p> <p>b) Based on Developable Surface used: Conical, Cylindrical, Zenithal, Conventional.</p> <p>c) Based on Position of Tangent Surfaces: Polar, Equatorial (normal), Oblique.</p> <p>d) Based on Position of view point or light: Gnomonic, Stereographic, Orthographic</p> <p>e) Based on Preserved qualities:</p> <p>i) Equal area projection (Homolographic)</p> <p>ii) Orthographic Projection</p> <p>iii) Azimuthal Projection (True Bearing Projection)</p> <p>2.2 Graphical Construction of the following Projections with Properties and Use;</p> <p>i) Zenithal Polar Gnomonic Projection</p> <p>ii) Zenithal Polar Equal Area Projection</p> <p>iii) Simple Conical Projection with one standard Parallel</p> <p>iv) Cylindrical Equal Area Projection</p> <p>v) Mercator's Projection and Reference to Universal Transverse Mercator (UTM) Projection</p> <p><b>Module – III : Identification, Mapping of Slope, Relief Features and Profiles</b></p> <p>3.1 Slope and Gradient</p> <p>3.1.1 Types of Slope: Gentle, Steep, Even, Uneven, Convex, Concave, Terraced.</p> <p>3.1.2 Expression of Slopes: a) Gradient b) Degree c) Per Cent d) Mills</p>	<p>Professional Ethics, Environmental and Sustainability</p>





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

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

Professional  
Ethics,  
Environmental  
and  
Sustainability

### Module V: Weather Instruments and IMD Maps

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

a) Divided Rectangle

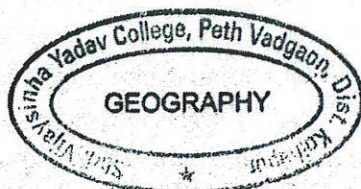
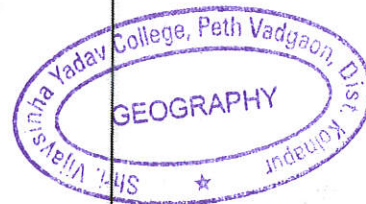
b) Proportional Circle

c) Proportional Square

d) Choropleth Map

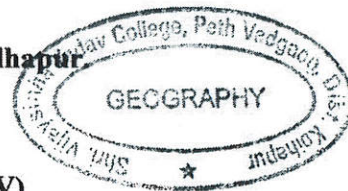
e) Dot Map

f) Isopleths

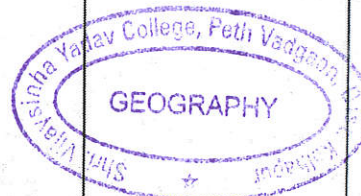


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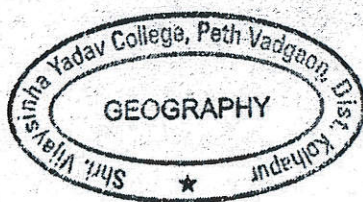


Year	Syllabus	Values
2020	<p><b>Module-I: Introduction to Computer</b></p> <p>1.1: Introduction to Computer</p> <p>1.2: Application of computer in geography</p> <p>1.2.1: Construction of Line Graphs, Bar Graphs</p> <p>1.2.2: Construction of Pie Diagram and Scatter Diagram</p> <p>1.3: Application of Excel for Data Analysis</p> <p><b>Module-II: Remote Sensing</b></p> <p>2.1 Definition of Remote Sensing</p> <p>2.2 Fundamentals of Remote Sensing: EMR, Sensors and Platforms</p> <p>2.3 Application of Remote Sensing in Geography</p> <p>2.4 Aerial photographs and Satellite imagery: Definition, types and difference between them</p> <p>2.5 Determination of Photo Scale</p> <p>2.6 Elements of image interpretation</p> <p>2.7 Identification of Physical and cultural features from Aerial Photographs or Satellite Imagery</p> <p><b>Module-III: GIS and GNSS</b></p> <p>3.1 Geographical Information System (GIS)</p> <p>3.1.1 Definition and components</p> <p>3.1.2 GIS Data Structure: Types (spatial and non-spatial), Raster and Vector data</p> <p>3.1.3 Georeferencing, Digitization, Map Layout Preparation</p> <p>3.1.4 Application of GIS in Geography: Land use or Land Cover, Urban Sprawl Analysis, Forests Monitoring</p> <p>3.2 Global Navigation Satellite System</p> <p>3.2.1 Definition and components</p> <p>3.2.2 GPS and its applications in Geography</p> <p>3.2.3 Field work in GPS: Determining latitude, longitude and altitude</p> <p>3.3: Exercise with Google earth Program.</p> <p><b>Module-IV: Statistical methods and techniques</b></p> <p>4.1 Measures of Central Tendency: Mean, Median and Mode</p> <p>4.2 Dispersion: Mean Deviation and Standard Deviation</p> <p>4.3 Association and Correlation: Karl Pearson's Method (Product Moment)</p> <p>4.4 Analysis of Time Series: Semi-average Method</p> <p><b>Module-V: Surveying</b></p> <p>5.1 Introduction to Survey: Meaning and types</p> <p>5.2 Preparation of plans of the given area with the following survey method (Any one methods among them)</p> <p>A- Plane Table survey (Radial, Intersection, and Traverse</p>	<p>Professional Ethics, Environmental and Sustainability</p>

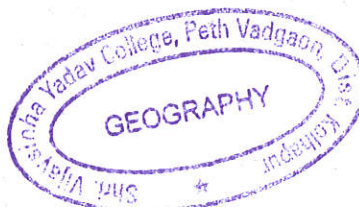




	<p>method)</p> <p>B- Dumpy Level survey</p> <p>C- Theodolite survey</p> <p>D- Total Station</p> <p>E- Abony Level Survey</p> <p>5.3 Preparation of plans Prismatic compass survey (Radical, Intersection and Traverse method)</p> <p>5.3.1 Types and conversion of bearings.</p> <p>5.3.2 Correction of bearing.</p>	
	<p><b>Module-VI: Project work based on field work any one of following:</b></p> <p>Resource survey, Population survey, Agricultural survey, Settlement Survey, Environmental issues, Industrial visit, Health survey, Natural Hazard or Disaster</p> <p>1. Project Report must be content of following points:</p> <p>Introduction – Aims – Objectives - Review of the literature</p> <p>- Data collection – Methodology - Data Analysis –</p> <p>Interpretation - Findings – Suggestions - Bibliography</p> <p><b>Module- VII: Study Tour</b></p> <p>Maximum 15 days of Study Tour and preparation of Tour Report.</p> <p>The Study Tour Report must be content of following points:</p> <p>Introduction – Necessity – Importance - Route map – Objectives –</p> <p>Methodology - Geographical Profile (Natural, Socio-economic and Cultural) - Geographical importance of visited tourist places –</p> <p>Conclusion – References</p>	<p>Professional Ethics, Human Values, Environmental and Sustainability</p>



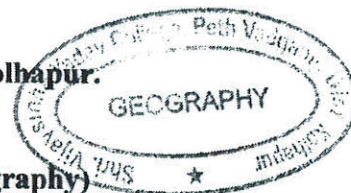
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**Department of Geography**  
**Syllabus Values**

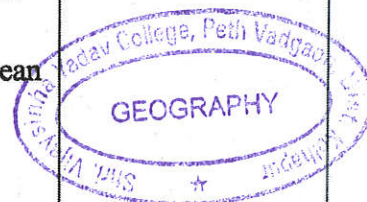
**B. Sc. I Semester I Paper I, Geography (Physical Geography)**



Year	Syllabus	Values
<b>2016</b>	<b>Module I: Introduction to Physical Geography and Atmosphere</b> 1.2 Branches of Physical Geography 1.3 Recent Trends in Physical Geography 1.4 Importance of Physical Geography 1.5 Composition and Structure of Atmosphere, Weather and Climate <b>Module II: Insolation, Temperature, Atmospheric Pressure and Indian Monsoon</b> 2.1 Insolation: Definition, Factors Affecting on Distribution of Insolation, World Distribution of Insolation, Heat Balance of the Earth 2.2 Temperature: Factors Controlling Temperature, Distribution of Temperature: Horizontal and Vertical 2.3 Pressure: Definition, Vertical and Horizontal Distribution, Pressure Belts, Shifting of Pressure Belts 2.4 Indian Monsoon: Indian Monsoon and Tibet Plateau, Jet Stream and El-Nino 2.5 Seasons in India: Summer, Rainy and Winter	Professional Ethics and Environmental Sustainability

**B. Sc. I Semester I Paper II, Geography (Physical Geography)**

Year	Syllabus	Values
<b>2016</b>	<b>Module I: Lithosphere and Earth's Movements</b> 1.1 Interior of the Earth: Structure of the Earth's Interior, Density and Temperature in the interior of the earth 1.2 Rocks: Definition, Classification of Rocks, Igneous Rocks, Sedimentary Rocks and Metamorphic Rocks (Characteristics, Classification and Landforms) 1.3 Endogenetic Forces, Diastrophic Forces and Movements: Folds and Faults 1.4 Wegener's Theory of Continental Drift <b>Module II: Fluvial Geomorphology and Hydrosphere</b> 2.1 Cycle of Erosion - W, M. Davis 2.2 Running Water or River: Major Landforms Formed by Erosion, Transportation and Depositional Processes of River 2.3 Temperature of Ocean Water: Factors Affecting on Horizontal and Vertical Distribution of Temperature of Ocean Water 2.4 Salinity of Ocean Water: Affecting Factors on salinity of Ocean Water, Distribution of Salinity- Horizontal and Regional	Professional Ethics and Environmental Sustainability





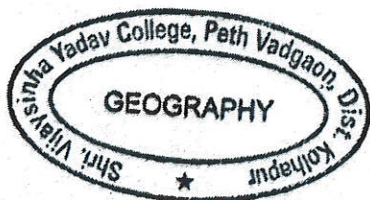
**Shri Vijaysinha Yadav College, Peth Vadgaon, Dist. Kolhapur.**  
**Department of Geography**  
**Syllabus Values**

**B. Sc. I Semester II, Paper III, Geography (Human Geography)**

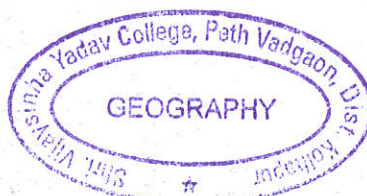
Year	Syllabus	Values
2016	<b>Module I: Human Geography and Human Race</b> 1.2 Branches of Human Geography 1.3 Recent Trends in Human Geography 1.4 Importance of Human Geography 1.5 Human Races – Major Racial Groups and Classification 1.6 Religious and Ethnic Groups in the World <b>Module II: Population</b> 2.1 World Growth of Population 2.2 Factors Affecting on the Distribution of the World Population 2.3 Distribution of the World Population 2.4 Theory of Population Growth – Malthus 2.5 Demographic Transition Theory	Gender Equality, Human Values and Environmental Sustainability

**B. Sc. I Semester II, Paper IV, Geography (Human Geography)**

Year	Syllabus	Values
2016	<b>Module I: Human Geography and Human Race</b> 2.2 Branches of Human Geography 2.3 Recent Trends in Human Geography 2.4 Importance of Human Geography 2.5 Human Races – Major Racial Groups and Classification 2.6 Religious and Ethnic Groups in the World <b>Module II: Population</b> 2.1 World Growth of Population 2.2 Factors Affecting on the Distribution of the World Population 2.3 Distribution of the World Population 2.4 Theory of Population Growth – Malthus 2.5 Demographic Transition Theory	Gender Equality, Human Values and Environmental Sustainability

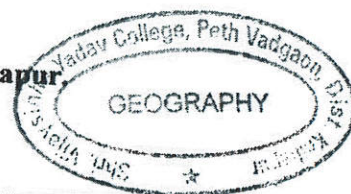


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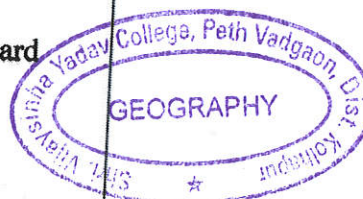


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**Syllabus Values**



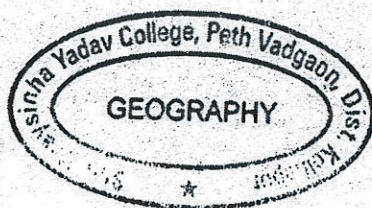
**B. Sc. I Semester I and II (Practical Paper I)**  
**Syllabus**


Year	Syllabus	Values
2016	<p><b>Unit I Map</b></p> <p>1.1 Map: Definition, Elements and Types ,</p> <p>1.2 Maps and Globe – Similarities and Differences,</p> <p>1.3 Significance and uses of Maps and Globes.</p> <p><b>Unit II Map Scale</b></p> <p>2.1 Meaning and Definition,</p> <p>2.1 Methods of Representation of scale</p> <p>    i) Verbal</p> <p>    ii) Numerical</p> <p>    iii) Graphical</p> <p>2.3 Scale Conversion</p> <p>    i) Verbal to Numerical</p> <p>    ii) Numerical to Verbal</p> <p>2.4 Construction of Graphical Scale</p> <p>    i) Simple (Plane Scale)</p> <p>    ii) Comparative Scale</p> <p>    iii) Time and Distance Scale</p> <p>    iv) Diagonal Scale</p> <p><b>Unit III Map Projection</b></p> <p>3.1 Definition and Classification of Map Projection</p> <p>i) Based on the methods of Construction –</p> <p>    Perspective and Non-perspective</p> <p>ii) Based on Developable Surface used -</p> <p>    Conical, Cylindrical, Zenithal, Conventional.</p> <p>iii) Based on Position of Tangent Surfaces –</p> <p>    Polar, Equatorial (normal), Oblique.</p> <p>iv) Based on Position of view point or light –</p> <p>    Gnomonic, Stereographic, Orthographic</p> <p>v) Based on Preserved qualities -</p> <p>    i) Equal area projection (Homolographic)</p> <p>    ii) Orthographic Projection</p> <p>iii) Azimuthal Projection (True Bearing Projection)</p> <p>3.2 Graphical Construction of the following Projections:</p> <p>    i) Zenithal Polar Gnomonic Projection</p> <p>    ii) Zenithal polar Equidistant Projection</p> <p>    iii) Zenithal Polar Equal Area Projection</p> <p>    iv) Cylindrical Equal –Area Projection</p> <p>    v) Simple Conical Projection with one standard Parallel</p> <p>    vi) Mercator's Projection</p> <p>    vii) Bonne's Projection.</p> <p><b>Unit IV Representation of Statistical Data</b></p> <p>4.1 Graphs and Diagrams</p>	<p align="center">Professional Ethics</p>

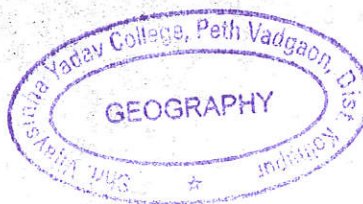




	i) One Dimensional Diagrams: a) Band Graph b) Climograph c) Hythergraph 4.2 Two Dimensional Diagrams: a) Proportional Circle b) Proportional Spheres 4.3 Three Dimensional Diagram: Cube Diagram 4.4 Distributional Diagram a) Choropleth Map b) Isopleths Map	
	<b>Unit V Remote Sensing</b> 5.1 Definition, Concept and history of Remote Sensing 5.2 Elements of Remote Sensing: EMR, Sensors and Platforms. 5.3 Application of Remote Sensing in Geography 5.4 Aerial photographs and Satellite imagery: Definition, types and difference between them. 5.5 Identification of Physical and cultural features from Aerial Photographs or Satellite Imagery with the help of stereoscope. 5.6 Determination of Photo Scale.	Professional Ethics , Human Values and Environmental and Sustainability



  
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**Shri Vijaysinha Yadav College Peth Vadgaon**

**Department of Political Science**

**Syllabus Covering Values 2022 to 2023**

<b>Class</b>	<b>Year</b>	<b>Professional Ethics</b>	<b>Gender Equality</b>	<b>Human Values</b>	<b>Environmental and Sustainability</b>
B.A. I	<b>2016</b>	I - Fundamental Duties	I - Fundamental rights	I - Fundamental rights, Fundamental Duties	I - Directive Principles II- Fundamental Duties
	<b>2021</b>	I –Key concepts of Political Science	I –Key concepts of Political Science	I – Democracy	I - Directive Principles II- Fundamental Duties
B.A. II	<b>2016</b>	III- Political Concept VI – Political Thinker	III- Equality V- Feminist Movement VI – Political Thinker	III- Justice VI – Political Thinker	V- Environmental Movement
	<b>2021</b>	III – Caste, Religion IV – Koutilya V – Constitutional Amendment	IV – Mahatma Phule V – Constitutional Amendment	III – Caste, Religion IV – Mahatma Phule V – Constitutional Amendment	IV – Mahatma Phule
B.A. III	<b>2016</b>	VIII – Good Governance XI – Plato XII – Civil Society	VII – Women Suffrage XI – Plato XII – Feminism	XI – Plato XVI – Karl Marks	VII- Right to Information XII – Environmentalism
	<b>2021</b>	IX – WTO, BRICS XI – Plato XII – Civil Society	VII – Citizen Charter XI – Plato XII – Feminism XIV – Movements in Maharashtra	VII – Citizen Charter X – USA Constitution XI – Plato XIV – UK, USA Constitution	IX – WTO, BRICS XII – Environmentalism

  
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**Department of Sociology**  
**Criterion-01 (NAAC)**

**Syllabus covering following values**

B.A.I Sociology [Semester-I] June 2022 onwards based on NEP-2020

**Paper No.-I, INTRODUCTION TO SOCIOLOGY**

Sr. No.	Syllabus	Covering values	Remark
Module-I	<b>Nature of Sociology</b> A) Sociology: Meaning and Subject matter B) Brief outline of Development of Sociology: C) Importance of Sociology	Human Values	
Module II	<b>Basic Concepts of Sociology</b> A) Social Interaction: Meaning and Types B) Society: Meaning, Characteristics and Types	Human Values	
Module III	<b>Social Institution</b> A) Social Institution: Meaning, Characteristics B) Importance of Social institution C) Social Institution: and their functions [Family, Marriage, Religion, Education]	Gender Equality Human Values Sustainability	
Module IV	<b>Social Groups:</b> A) Social Groups: Meaning, Characteristics B) Basic Classification of Groups C) Primary and Secondary group	Human Values Environment and sustainability	

  
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**Syllabus covering following values**

B.A.I Sociology [Semester-I] June 2022 onwards based on NEP-2020

**Paper No.-I, PRINCIPLES OF SOCIOLOGY**

Sr.No.	Syllabus	Covering values	Remark
Module - I	<b>Culture:</b> A) Culture: Meaning, Characteristics B) Elements of Culture: C) Importance of Culture	Gender Equality Human Values	
Module -II	<b>Socialization</b> A) Socialization: Meaning, Stages in the process of Socialization B) Agencies of Socialization C) Importance of Socialization	Professional Ethics Human Values Environment and sustainability	
Module - III	<b>Social Control:</b> A) Social Control: Meaning and Nature B) Functions of Social Control C) Types of Social Control	Gender Equality Human Values	
Module -IV	<b>Social Change:</b> A) Social Change: Meaning and Characteristics B) Factors of Social Change C) Obstacles of Social Change	Gender Equality Human Values Environment and sustainability	

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Department of sociology

Criterion-01 (NAAC)

Syllabus covering following values

B.A.I Science, Technology and Development {STD} [Semester-I]  
June 2022 onwards based on NEP-2020

Sr. No.	Syllabus	Covering values	Remark
Module-I	<b>Introduction to Science and Technology</b> A) Science and Technology: Definitions, Nature, Scope B) Fundamental Concepts in Scientific Thinking C) Stages in the Study of Science Observation, Experiment – D) Analysis Result and Hypothesis. E) Development of Science and Technology F) Impact on Science and Technology on Society	Human Values Environment and sustainability	
Module II	<b>Eminent Scientistics:</b> Louis Pasteur Einstein Edison Dr. Homi Bhabha Dr. M.S. Swaminathan Dr. A.P.J Abdul Kalam	Human Values Environment and sustainability	

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Module-III	<b>Resources: Concept and Importance of Power Resources</b> A) Classification Resource B) Non -Conventional Power Resources C) Solar Energy D) Wind Energy E) Nuclear Energy F) Bio Energy G) Geo-Thermal Energy H) Tidal Energy	Environment and sustainability
Module-IV	<b>Science, Technology and Human Health</b> A. Impact of Science and Technology on Human Health B. Human Blood – Blood Groups Importance of Matching Blood Groups in Human Health C. AIDS – A Challenge before World Facts Figures Causes, Effects, Treatment, Social Outlook. D. Addiction a Social Problem, types, Causes Effects and Solution. E. Need of Cleanliness: “Swachh Bharat Abhiyan” (Clean India Mission)	Human Values Environment and sustainability

  
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Criterion-01 (NAAC)

**Syllabus covering following values**

B.A.I Science, Technology and Development {STD} [Semester-II]

June 2022 onwards based on NEP-2020

Sr. No.	Syllabus	Covering values	Remark
<b>Module I</b>	<b>Disaster Management</b> 1.1 Types of Disaster 1.2 Earthquake 1.3 Flood 1.4 Drought 1.5 Fire 1.6 Accident 1.7 Crowd	Human Values Environment and sustainability	
<b>Module II</b>	<b>Means of Communication and Information Technology</b> 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	Human Values Environment and sustainability	
<b>Module III</b>	<b>Science Technology in Spaces, Defense and Ocean Research</b> 3.1 Artificial Satellite 3.2 Indian Space Research Organization 3.3 GIS and GNSS	Environment and Sustainability Human Values	

  
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	3.4 Science and technology and National defense 3.5 Defense Research and Development Organization (DRDO) 3.6 Importance of Ocean Study 3.7 Indian Institute of Oceanography		
Module IV	<b>Science and Technology in Agriculture</b> 4.1 Importance to Agriculture 4.2 Modern tools and Technology in Agriculture 4.3 Fertilizer chemical and Bio Fertilizer 4.4 Issues and Challenges in Modern Agriculture 4.5 Sustainable Agriculture	Human Values Environment and Sustainability	

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**Criterion-01 (NAAC)**  
**Syllabus covering following values**

SYLLABUS - Choice Based Credit System

**B.A. Part – II – DSC – D3, Semester - III, Paper No. III - Social Issues in India**

Sociology Course - 3, June 2019 onwards

	Syllabus	Covering values	Remark
<b>Model - I</b>	<b>Social Issues</b> A) Nature of Social Issues B) Classification of Social Issues C) Need for study for Social Issues	Human Values	
<b>Model - II</b>	<b>Socio-Cultural Issues</b> A) Communalism: Meaning, Causes and Remedies A) Female -Foeticide : Meaning, Causes and Remedies	Human Values Gender Equality	
<b>Model - III</b>	<b>Socio-Economic Issues</b> A) Poverty: Meaning, Causes and Remedies B) Unemployment : Meaning and Remedies	Human Values Professional Ethics	
<b>Model - IV</b>	<b>Socio-Legal Issues:</b> A) Human Rights: History, Fundamental Rights India Constitution A) Cyber Crime: Meaning, Causes and Remedies	Human Values Gender Equality	

  
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**Criterion-01 (NAAC)**  
**Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**  
**B.A. Part – II – DSC – D4, Semester - III, Paper No. IV - Social Movement in India**  
**Sociology Course - 4, June 2019 onwards**


	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Social Movement:</b> A) Meaning and Characteristics of Social Movement B) Elements of Social Movements C) Importance of Social Movement.	Human Values Environment and sustainability	
<b>Model – II</b>	<b>Peasant Movement</b> A) Peasant Problems in India Major peasant Movement C) Impact of Peasant Movement	Human Values Environment and sustainability	
<b>Model – III</b>	<b>Dalit Movement:</b> A) Dalit Problems in India A) Major Dalit Movement. B) Impact of Dalit Movement	Gender Equality Human Values	
<b>Model – IV</b>	<b>Tribal Movement</b> A) Tribal Problems in India B) Major Tribal Movement C) Impact of Tribal Movement	Gender Equality Human Values Environment and sustainability	

  
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**Criterion-01 (NAAC)**  
**Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**

**B.A. Part - II - DSC - D31, Semester - IV, Paper No. V - Gender and Violence**  
**Sociology Course - 5, June 2019 onwards**

Sr. No.	Syllabus	Covering values	Remark
<b>Module - I</b>	<b>Gender and Violence</b> A) Meaning of Gender B) Nature of Gender Violence C) Major Gender Issues.	Gender Equality Human Values	
<b>Module - II</b>	<b>Domestic Violence:</b> A) Meaning of Domestic Violence B) Dowry: Causes and Remedies D) Divorce: Causes and Remedies	Gender Equality Human Values	
<b>Module - III</b>	<b>Violence Against Women:</b> A) Tribal Women: Nature and Remedies B) Rural Women: Nature and Remedies C) Urban Women: Nature and Remedies	Gender Equality Human Values	
<b>Module - IV</b>	<b>Women's' Harassment at workplace</b> A) Nature of Women's Harassment B) Types of Women's Harassment C) Remedies and Vishakha Guidelines Acts, 2013	Gender Equality Human Values	

  
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**Criterion-01 (NAAC), Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**

**B.A. Part – II - DSC – D32, Semester - IV, Paper No.VI - Sociology of Health**  
**Sociology Course - 6, June 2019 onwards**

	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Introduction to Sociology of Health</b> A) Meaning and Nature of Sociology of Health B) Subject Matter of Sociology of Health C) Importance of Sociology of Health	Gender Equality Human Values	
<b>Model – II</b>	<b>Major Diseases in India: A) Diabetes - Causes and Remedies</b> B) Heart Diseases - Causes and Remedies C) Cancer - Causes and Remedies	Gender Equality Human Values Environment and sustainability	
<b>Model – III</b>	<b>Lifestyle and Health: A) Traditional Lifestyle and Health</b> A) Modern Lifestyle and Health B) Remedies on Health Problems	Gender Equality Human Values Environment and sustainability	
<b>Model – IV</b>	<b>Health Policy in India: A) Health Policy for Children and Women, B) Health Policy for Old Age</b> A) Health Policy for People Below Poverty Line (BPL)	Gender Equality Human Values Environment and sustainability	

  
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**Criterion-01 (NAAC), Syllabus covering following values**

Choice Based Credit System (CBCSB)

B.A.-III SEMESTER-V, DSE- E66, SOCIOLOGY-VII

**WESTERN SOCIOLOGICAL THINKERS (JUNE, 2020 ONWARDS)**

Model	Syllabus	Covering values	Remark
<b>Model - I</b>	<b>AUGUSTE COMTE</b> A) Law of Three Stages B) Concept of Positivism. C) Social Statics and Social Dynamics	Professional Ethics Human Values	
<b>Model - II</b>	<b>KARL MARX</b> A) Dialectical Materialism B) Theory of Class Conflict C) Theory of Alienation	Professional Ethics Human Values Environment and sustainability	
<b>Model - III</b>	<b>EMILE DURKHEIM</b> A) The Study of Social Facts B) Theory of Division of Labour C) Theory of Suicide	Professional Ethics Human Values	
<b>Model - IV</b>	<b>MAX WEBER</b> A) The Ideal Type B) Theory of Social Action C) Types of Authority	Professional Ethics Human Values	




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**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**

**SEMESTER – V, DSE – E67 SOCIOLOGY- VIII**

**METHODS OF SOCIAL RESEARCH (PART-I) (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Introduction to social Research</b> a. Philosophy of social science b. Meaning and objectives of social research c. Scientific Steps in Social Research d. Relation between theory and fact	Professional Ethics Human Values	
<b>Model – II</b>	<b>Research Design</b> a. Meaning and Nature of Research Design b. Explorative c. Descriptive d. Experimental	Professional Ethics Human Values	
<b>Model – III</b>	<b>Basic Elements of Social Research</b> a.) Concepts-meaning and characteristics b) Variable- meaning and Types c)Hypothesis- meaning and Sources	Human Values	
<b>Model – IV</b>	<b>Modes of Enquiry</b> a) Quantitative Research: meaning & characteristics b) Qualitative Research: meaning & characteristics C) Importance of Quantitative and Qualitative Research	Professional Ethics Human Values	

  
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**Department of Sociology**

**Criterion-01 (NAAC), Syllabus covering following values**

Choice Based Credit System (CBCSB)

SEMESTER - V, DSE - E68 SOCIOLOGY - IX,

**POLITICAL SOCIOLOGY (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model - I</b>	<b>Nature of Political Sociology</b> A) Definition and Subject Matter of Political Sociology B) Emergence of Political Sociology C) Importance of Political Sociology	Human Values Professional Ethics	
<b>Model - II</b>	<b>Basic Concepts in Political Sociology</b> A) Power: Meaning and Nature B) State: Meaning and Nature C) Civil Society: Meaning and Nature	Human Values Professional Ethics	
<b>Model - III</b>	<b>Study of Perspectives to Political Sociology</b> A) Perspectives on Power: Weberian, Marxist and Ambedkarian B) Perspectives on State: Liberal, Pluralist, Power-elite, post-modernist	Human Values Professional Ethics	
<b>Model - IV</b>	<b>Political parties in India</b> A) Political parties: characteristics & social composition. B) Pressure groups and Interest groups: characteristics and political significance. C) Major Political Parties and Their Principles	Human Values Professional Ethics	

  
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**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCSB)**

**SEMESTER – V, DSE – E69 – SOCIOLOGY – X**

**HUMAN RIGHTS (JUNE, 2020 ONWARDS)**

Syllabus		Covering values	Remark
<b>Model – I</b>	<b>HUMAN RIGHTS</b> 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 -JeromiJ. Shestoak)	Human Values Professional Ethics Gender Equality	
<b>Model – II</b>	<b>UNITED NATIONS ORGANIZATIONS AND HUMANRIGHTS</b> A) Universal Declaration of Human Rights, 1948 B) International Covenant on Economic, Social and culturalRights, 1966 C) International Covenant on civil and Political Rights, 1966	Human Values Professional Ethics Gender Equality	
<b>Model – III</b>	<b>HUMAN RIGHTS IN INDIA</b> A) Indian Constitutions and Human Rights B) National Human Rights Commission in India (Structureand Role) Function of National Scheduled Castes and ScheduledTribe commission in India	Human Values Professional Ethics Gender Equality	
<b>Model – IV</b>	<b>VIOLATION OF HUMAN RIGHTS IN INDIA</b> A) Human Trafficking B) Mob Lynching and Honor Killing	Human Values Professional Ethics Gender Equality	



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**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**  
**SEMESTER – V, DSE – E70 SOCIOLOGY – XI**  
**SOCIOLOGY OF RELIGION (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Understanding Religion</b> 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	Human Values Professional Ethics Gender Equality	
<b>Model – II</b>	<b>Perspectives to Study of Religion</b> A) Perspectives of Religion: Durkheim and Weber B) Perspectives of Religion in India: Mahatma Phule and Dr. B. R. Ambedkar	Human Values Professional Ethics Gender Equality	
<b>Model – III</b>	<b>Religions in India</b> A) Hinduism, Islam B) Buddhism, Christianity C) Jainism, Sikhism D) Satya Dharma and Shiv Dharma	Human Values Professional Ethics Gender Equality	
<b>Model – IV</b>	<b>Religion and Social Change</b> A) Socio-Religious Movements B) Religion and Violence C) Religion and Commercialization D) Secularism and National Integration	Human Values Professional Ethics Gender Equality	

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**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**  
**SEMESTER – VI, DSE – E191 SOCIOLOGY – XII**  
**INDIAN SOCIOLOGICAL THINKERS (JUNE 2020 ONWARDS)**

Model	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>G.S.GHURYE</b> A. Ideas on National Unity and Interaction B. Study on Caste C. Study on Indian Tribes	Human Values Gender Equality	
<b>Model – II</b>	<b>A.R. DESAI</b> A) Study of Village Structure in India B) Study of Indian Nationalism C) Analysis of Indian Society through Marxist Perspective	Human Values Environment and sustainability Gender Equality	
<b>Model – III</b>	<b>M. N. SRINIVAS</b> A) Concept of Sanskritization B) Concept of Westernization C) Concept of Dominant Caste	Human Values Gender Equality	
<b>Model – IV</b>	<b>IRAWATI KARVE</b> A) Concept of Kinship Relations B) Hindu Culture: An Interpretation C) Views on Maharashtra	Human Values Gender Equality	

  
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Criterion-01 (NAAC), Syllabus covering following values

Choice Based Credit System (CBCSB)

SEMESTER - VI, DSE - E192, SOCIOLOGY - XIII

**METHODS OF SOCIAL RESEARCH (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model - I</b>	<b>Sampling and Data collection</b> a. Meaning and Purpose of Sampling b. Types of sampling c. Advantages and Limitation of Sampling d. Primary and secondary Data collection	Professional Ethics Human Values	
<b>Model - II</b>	<b>Observation</b> a. Observation: Meaning and characteristics b. Types of Observation c. Advantages and limitations of observation	Professional Ethics Human Values	
<b>Model - III</b>	<b>Interview and Questionnaire</b> a. Interview-meaning and Types b. Advantages and limitations of interview c. Questionnaire- meaning and Types d. Advantages and limitations of Questionnaire	Human Values	
<b>Model - IV</b>	<b>a. Data Analysis and Report Writing</b> b. Use of computer in data analysis c. Statistical methods d. Report Writing	Professional Ethics Human Values	

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**Choice Based Credit System (CBCSB)**

SEMESTER – VI, DSE – E193, SOCIOLOGY – XIV

**SOCIAL ANTHROPOLOGY (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>INTRODUCTION TO SOCIAL ANTHROPOLOGY</b> 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	Professional Ethics Human Values Environment and sustainability	
<b>Model – II</b>	<b>TRIBAL SOCIETY IN INDIA</b> A) Tribal Society: meaning and Characteristics B) Social life: Family, and Marriage -Characteristics C) Economic Life: Characteristics D) Religious Life: Beliefs and practices	Professional Ethics Human Values Environment and sustainability	
<b>Model – III</b>	<b>TRIBAL PROBLEMS</b> A) Poverty and Indebtedness B) Land and Alienation C) Illiteracy and Exploitation D) Religious Crisis	Human Values Professional Ethics Environment and sustainability	
<b>Model – IV</b>	<b>Tribal Community in Maharashtra: Pardhi</b> 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	Professional Ethics Human Values Environment and sustainability	

  
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**Choice Based Credit System (CBCSB)**

SEMESTER – VI, DSE – E194, SOCIOLOGY – XV,

**RURAL SOCIOLOGY (JUNE, 2020 ONWARDS)**

Model	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Introduction to Rural Sociology</b> A) Meaning of Rural Sociology B) Origin: Scope and Subject Matter of Rural Sociology C) Importance of Rural Sociology with the reference of India	Human Values Environment and sustainability	
<b>Model – II</b>	<b>Indian Rural Community</b> A) Village studies in India B) Classification of Indian Villages C) Changing Nature of Rural Community in India	Human Values Environment and sustainability	
<b>Model – III</b>	<b>Social Institutions in Rural Society</b> A) Marriage, Family and kinship Institution B) Caste and Balutedari C) Political life: structure and change	Human Values Environment and sustainability	
<b>Model – IV</b>	<b>Changing Indian Agrarian Society</b> A) Rural Cooperative and Rural Industry B) Markets, Land Reforms and Green Revolution C) The Agrarian Issues	Human Values Environment and sustainability	

  
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**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**  
**SEMESTER – VI, DSE – E195 SOCIOLOGY – XVI**

**URBAN SOCIOLOGY, (JUNE, 2020 ONWARDS)**

	Syllabus	Covering values	Remark
<b>Model – I</b>	<b>Introduction to Urban Sociology</b> A) Definition, Meaning & Nature of Urban Sociology. B) Subject Matter of Urban Sociology. C) Importance of the Study of Urban Sociology	Human Values Environment and sustainability	
<b>Model – II</b>	<b>Major Concepts in Urban Sociology</b> A) Urban- Community. B) Urbanism C) Rural- Urban differences- continuum	Human Values Environment and sustainability	
<b>Model – III</b>	<b>Process of Urbanization</b> A) Meaning and Nature of Urbanization B) Causes of Urbanization. C) Consequences of Urbanization	Human Values Environment and sustainability	
<b>Model – IV</b>	<b>Urban Social Structure.</b> A) Urban Family: Characteristics and Change B) Urban Social stratification: Caste & Class. C) Urban Occupations: Characteristics and Change	Human Values Environment and sustainability	

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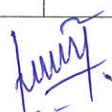
# Shri vijaysinha Yadav college peth vadgaon

## DEPARTMENT OF SOCIOLOGY

2022-2023

### ETHICS COVERED IN THE SYLLABUS REPORT

Sr. No.	Name of Activity	Date	Following Ethics Covered in the Syllabus
01	Guest Lecture Guest :- Nobin Bhowmik Kalkata Theme :- Data Collection in Social Research	03 March 2023	1) Professional Ethics
02	Guest Lecture Guest :- Dr. Jayant Ghatage Theme :- Importants of Applied Sociology	24 Aug. 2022	1) Professional Ethics 2) Human Values
03	Seminar for Students Theme :- Human Rights, Sociology of Religion, Political Sociology	20 June 2022	1) Professional Ethics 2) Human Values 3) Gender Equality
04	Group Discussion Theme :- Sociology- Present and Future Target Group :- B.A.II & III Students	12 Dec 2022	1) Professional Ethics 2) Human Values 3) Gender Equality
05	Wall Paper Theme :- Birsa Munda Barth Anniversary	24 Nov. 2022	1) Professional Ethics
06	Project Writing Theme :- Project Writing on Social Issues Target Group :- B.A.III (Sociology Students)	05 March 2023 To 20 April 2023	0) Professional Ethics
07	Study Tour With Field Work Theme :- Socio-Historical Understanding of Some Places	25 arch 2023	1) Professional Ethics 2) Human Values 3) Gender Equality

  
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# Shri. Vijaysinha Yadav College, Peth Vadgaon

## Department of Economics

New Syllabus Introduced from June 2022

Class: B.A.I

Semester No: I & II

Title of the Paper: Indian Economy (Paper No: I & II)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Economic Development Since Independence	Sustainability Ethics
2.	Challenges before Indian Economy - I	Human Values & Gender Equality
3.	Challenges before Indian Economy - II	Human Values & Gender Equality
4.	Population in India	Gender Equality & Human Values
5.	Policies and Performance in Agriculture	Professional Ethics & Environment Ethics
6.	Policies and Performance in Industry	Professional Ethics & Sustainability Ethics
7.	Service Sector in India	Professional Ethics & Sustainability Ethics
8.	Economic Reforms	Professional Ethics

  
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Department of Economics

New Syllabus Introduced from June 2019

Class: B.A.II

Semester No: II & III

Title of the Paper: Macro Economics (Paper No: III & V)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Introduction to Macro Economics	Human Values
2.	National Income	Sustainability Ethics
3.	Money and Value of Money	Sustainability Ethics
4.	Output and Employment	Professional Ethics
5.	Inflation	Sustainability Ethics
6.	Trade Cycles	Professional Ethics
7.	Public Finance – I	Sustainability Ethics
8.	Public Finance – II	Sustainability Ethics

  
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Shri. Vijaysinha Yadav College, Peth Vadgaon

Department of Economics

New Syllabus Introduced from June 2019

Class: B.A.II

Semester No: II & III

Title of the Paper: Bank and Financial Institutions (Paper No: IV & VI)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Introduction to Banking	Sustainability Ethics
2.	Practical Banking	Professional & Sustainability Ethics
3.	Reserve Bank of India	Sustainability Ethics
4.	Banking Practices in India	Professional & Sustainability Ethics
5.	Financial System in India	Professional Ethics
6.	Indian Financial Institutions	Professional Ethics
7.	Banking Reform	Sustainability Ethics
8.	E-Banking Service	Professional Ethics

  
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Shri. Vijaysinha Yadav College, Peth Vadgaon

Department of Economics

New Syllabus Introduced from June 2020

Class: B.A.III

Semester No: V & VI

Title of the Paper: Principles of Micro Economics I & II (VII&XII)

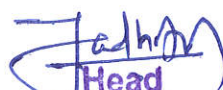
Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Consumer's Behaviour	Human and Professional Ethics
2.	Theory of Production	Professional Ethics
3.	Demand and Supply Analysis	Sustainability & Professional Ethics
	Theory of Production	Professional Ethics
4.	Perfect Competition	Professional Ethics
5.	Monopoly	Professional Ethics
6.	Imperfect Competition	Professional Ethics
7.	Factor Pricing	Human Values

Class: B.A.III

Semester No: V & VI

Title of the Paper: Economics of Development (VIII) Economics of Planning (XIII)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Basic Concept of Economic Development	Sustainability & Environment Ethics
2.	Developing and developed countries	Sustainability
3.	Theories of economic development	Sustainability
4.	Resources for economic development	Human Values & Sustainability
5.	Introduction to economic planning	Professional Ethics
6.	Issues in economic planning	Professional Ethics & Sustainability
7.	Planning in India- I	Sustainability
8.	Planning in India- II	Sustainability

  
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Department of Economics

New Syllabus Introduced from June 2020

Class: B.A.III

Semester No: V & VI

Title of the Paper: International Economics (IX & XIV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Trade and Trade Theories	Professional Ethics
2.	Gains from International Trade	Professional Ethics
3.	Exchange Rate	Professional Ethics
4.	Tariffs and Quotas	Professional Ethics
5.	Balance of Trade and Balance of Payments	Professional Ethics
6.	Foreign Trade of India since 1991	Professional Ethics
7.	Foreign Capital in India	Professional Ethics
8.	International Institutions and India	Professional Ethics

Class: B.A.III

Semester No: V & VI

Title of the Paper: Research Methodology in Economics (X& XV)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Research design	Sustainability and Professional Ethics
2.	Hypothesis and concept	Sustainability and Professional Ethics
3.	Data collection	Sustainability and Professional Ethics
4.	Sampling	Sustainability and Professional Ethics
5.	Processing and representation of data	Sustainability and Professional Ethics
6.	Techniques of data analysis	Sustainability and Professional Ethics

  
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Department of Economics

New Syllabus Introduced from June 2020

Class: B.A.III

Semester No: V & VI

Title of the Paper: History of Economics Thought (XI & XVI)

Sr.No.	Topic in the Syllabus	Covered Ethics
1.	Origin of Economic Thoughts	Sustainability
2.	Classical Economic Thoughts	Human Values & Environment Ethics
3.	Economic Thoughts of Fredrick List	Sustainability
4.	Economic Thoughts of Karl Marx	Human Values & Sustainability
5.	Neo- Classical Economic Thought – Alfred Marshall	Human Values & Professional Ethics
6.	Indian Economic Thought	Professional Ethics & Sustainability
7.	Mahatma Gandhi	Human Values & Sustainability
8.	Economic Thoughts of Modern Indian Economist	Sustainability & Human Values

  
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**Shri. Vijaysinha Yadav Mahavidyalaya, Peth Vadgaon**  
Tal-Hatkanangale. Dist-Kolhapur.

**Dept. of History - 2022-23**

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

Sr. No.	Class	Unit	Institution integrates crosscutting issues
<b>1.</b>	<b>B.A. I</b>		
<b>1</b>	Sem.-1 Semester I, Paper I: Rise of the Maratha Power (1600-1707)	Module -1-Chhatrapati Shivaji Maharaja's achievement till 1664	Gender Ethics
		Module -2-Chhatrapati Shivaji Maharaja's achievement till 1680	Gender Ethics
		Module -3- Maratha War of Independence (1681-1707)	Professional Ethics
		Module- 4-Importance of Sources for understanding Maratha history	Professional Ethics
<b>2</b>	Semester II, Paper II: Polity, Society and Economy under the Marathas (1600-1707)	Module 1- Polity	Environment Ethics
		Module 2- Economy	Professional Ethics
		Module 3- Society and Religion	Environment
		Module 4-Chhatrapati Shivaji Maharaj: Policy and Contribution	Human Values
<b>2.</b>	<b>B.A. II</b>		
<b>1</b>	SEMESTER - III PAPER III- HISTORY OF MODERN MAHARASHTRA (1900 to 1960)	MODULE-1 Rise and Growth of Nationalism	Environment
		MODULE -2 Role of Maharashtra in the National Movement	Human Ethics
		MODULE -3 Social Movements	Professional Ethics
		MODULE -4 Samyukta Maharashtra Movement	Human Values
<b>2</b>	SEMESTER - III PAPER IV: HISTORY OF INDIA (1757-1857)	Module- 1 Establishment of Company rule in India	Gender Ethics
		Module -2 Making of a Colonial Policy	Professional Ethics
		Module -3 Making of a Colonial Economy	Gender Ethics
		Module -4 Revolts against Company Rule	Human Values
<b>3</b>	SEMESTER - III IDS PAPER I: SOCIAL REFORMS IN INDIA	MODULE-1 Socio-Religious Reform Movements	Human Values
		MODULE-2 Mahatma Phule	Environment
		MODULE-3 Rajashri Shahu Maharaj	Gender Ethics
		MODULE-4 Dr Babasaheb Ambedkar	Professional Ethics
<b>4</b>	SEMESTER - IV PAPER- V: HISTORY OF MODERN MAHARASHTRA (1960-2000)	MODULE -1 Leaders:	Professional Ethics
		MODULE -2 Major Issues and Events	Human Values
		MODULE -3 Social Movements	Human Values
		MODULE -4 Educational Development	Human Values
<b>5</b>	SEMESTER - IV PAPER VI: History of Freedom Struggle (1858-1947)	Module- 1 Rise of Nationalism	Environment
		Module -2 Gandhian Era	Professional Ethics
		Module -3 Other Strands	Professional Ethics
		Module -4 Communalism and Partition	Human Values
<b>6</b>	SEMESTER - IV IDS PAPER- II: SOCIAL REFORMS IN MAHARASHTRA	MODULE-1 Beginnings of Social Reform	Human Values
		MODULE -2 Women Reformers	Environment
		MODULE -3 Social Reformers	Professional Ethics
		MODULE -4 Educational Reforms	Professional Ethics
<b>3.</b>	<b>B.A. III.</b>		
<b>1</b>	Semester -V, Course VII. Paper VII : Early India (from beginning to 4th c. BC)	Module I: The Beginning	Human Values
		Module II: The Vedic Age and Epics	Environment
		Module III: The Second Urbanization	Gender Ethics
		Module IV: The Mauryan Empire	Human Values
<b>2</b>	Semester V, Course /Paper No: VIII History of Medieval India (1206-1526)	Module I - Sources:	Human Values
		Module II - Major Rulers	Professional Ethics
		Module III - Administration and Economy(Delhi Sultanate and Vijaynagar)	Professional Ethics
		Module IV) Religion, Society and Culture:	Human Values
<b>3</b>	Semester V, Course /Paper No: IX Age of Revolutions	Module I: Reformation (16th Century)	Human Values
		Module II: Industrial Revolution (18th Century)	Environment
		Module III: American Revolution (1776)	Gender Ethics
		Module IV: French Revolution (1789)	Professional Ethics
<b>4</b>	Semester V, Course/Paper No. X Political History of the Marathas	Module I: Political condition up to 1740	Professional Ethics
		Module II: Balaji Bajirao and Battle of Panipat(1761)	Gender Ethics
		Module: III Political condition after 1761	Human Values
		Module IV: Decline of the Maratha Power	Human Values
<b>5</b>	Semester V, Course	Module I: History: Definition and Scope	Environment

	/Paper No. XI History : Its Theory	Module II: Acquisition of Historical Data	Gender Ethics
		Module III: Process of presenting and writing history	Professional Ethics
		Module IV: Methods of History writing	Professional Ethics
6	Semester VI. Course /Paper No. XII Ancient India (From 4th c. BC to 7th AD)	Module I: Early Historic India	Professional Ethics
		Module II: The Classical Age	Environment
		Module III: The Post-Gupta Period	Gender Ethics
		Module IV: Society and Culture	Professional Ethics
7	Semester VI. Course/Paper No. XIII History of Medieval India ( 1526-1707 AD )	Module I: Sources	Professional Ethics
		Module II - Major Rulers	Human Values
		Module III- Administration and Economy	Human Values
		Module IV: Religion, Society and Culture	Environment
8	Semester VI . Course /Paper No: XIV. Making of the Modern World (16th to 19th Century)	Module I: Glorious Revolution	Gender Ethics
		Module II: Nationalism	Professional Ethics
		Module III : Imperialism	Professional Ethics
		Module IV: Important Personalities	Human Values
9	Semester VI. Course /Paper No. XV Polity, Economy and Society under the Marathas	Module I: Sources	Gender Ethics
		Module II: Polity under the Marathas	Professional Ethics
		Module III: Economic condition	Professional Ethics
		Module IV: Social condition	Human Values
10	Semester VI . Course No. XVI Methods and Applications of History	Module I: Archival Sources	Human Values
		Module II: Recent Trends in History	Environment
		Module III: Museology	Professional Ethics
		Module IV -Understanding Heritage Tourism	Professional Ethics

  
**Head**  
 Department of History  
 Shri. Vijaysinha Yadav College  
 Peth Vadgaon, Dist. Kolhapur.

Principal

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC)**

**Syllabus covering following values**

**DSC-3A- Chemistry paper I (Inorganic Chemistry)  
2022-23**

Sr. No.	Syllabus	Covering values
<b>Unit I</b>	<b>Atomic Structure and Periodicity of Elements</b> 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 orbitals 1.6 Electrons filling rules in various orbitals: a) Aufbau's principle b) Hund's 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	Scientific Values (Human Values)
<b>Unit II</b>	<b>Chemical Bonding and Molecular structure (A) Ionic Bonding</b> 2:1 Definition and formation of ionic bond. General characteristics of ionic bonding 2:2 Energetic in Ionic bond formation 2:3 Born-Haber cycle for NaCl and its applications 2:4 Fajan's Rule, Applications of Fajan's rule for	Scientific Values (Human Values)
<b>Unit III</b>	<b>Chemical Bonding and Molecular structure (B) Valence bond theory (VBT).</b> 3.1 Concept of hybridization, different types of hybridization and geometry of following molecules, • Linear geometry- BeCl <sub>2</sub> ( sp hybridization ) • Planer trigonal geometry- BF <sub>3</sub> (sp <sup>2</sup> hybridization ) • Tetrahedral geometry- SiCl <sub>4</sub> (sp <sup>3</sup> hybridization) • Trigonal bipyramidal geometry- PCl <sub>5</sub> (sp <sup>3</sup> d hybridization ) • Octahedral geometry- SF <sub>6</sub> ( sp <sup>3</sup> d <sup>2</sup> hybridization ) • Pentagonal bipyramidal geometry -IF <sub>7</sub> ( sp <sup>3</sup> d <sup>3</sup> hybridization)	Scientific Values (Human Values)
<b>Unit IV</b>	<b>Chemical Bonding and Molecular structure (C) Molecular orbital theory (MOT)</b> 4.1 LCAO method, formation of bonding, anti bonding and nonbonding molecular orbitals. 4.2 Conditions for successful overlap, Types of overlaps - S-S, S-px, Px-Px, Py-Py and Pz-Pz overlaps. 4.3 Bond order and its significance. 4.4 Energy level sequence for molecular orbital when n=1&2. 4.5 MO diagrams for homonuclear diatomic molecule of 1st & 2nd period Elements ( He <sub>2</sub> , Li <sub>2</sub> , B <sub>2</sub> , N <sub>2</sub> , O <sub>2</sub> ). 4.6 Molecular orbital diagrams for heteroatomic diatomic molecules. (CO, NO )	Scientific Values (Human Values)



Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon  
Department of Chemistry  
Criterion-01 (NAAC)  
Syllabus covering following values  
DSC-4A- Chemistry paper II (Organic Chemistry)  
2022-2023

Sr. No.	Syllabus	Covering values
<b>Unit I</b>	<b>Fundamentals of Organic Chemistry</b> Introduction, Curved arrow notations, Cleavage of Bonds: Homolysis and Heterolysis. Organic molecular species: Nucleophiles and electrophiles. Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyperconjugation effect, Reactive Intermediates: Generation, Structure, Stability and Reactions of Carbocations, Carbanions and carbon free radicals.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit II</b>	<b>Stereochemistry</b> Introduction, Types of Stereoisomerism, Optical Isomerism: Concept of Chirality, Elements of Symmetry, Optical Isomerism in tartaric acid, 2, 3 Dihydroxybutanoic 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.	Scientific Values (Human Values)
<b>Unit III</b>	<b>Aromaticity</b> Introduction, Characteristics properties of organic compounds, Meaning of terms: Aromatic, Non aromatic, Antiaromatic, Pseudoaromatic, Structure of Benzene: Kekule structure, Resonance structure, M.O. picture, Modern theory of Aromaticity, Mechanism of Electrophilic substitution reactions: Nitration, Sulphonation, Halogenation and Friedel-craft reaction.	Scientific Values (Human Values)
<b>Unit IV</b>	<b>Cycloalkanes, cycloalkenes and Alkadienes</b> Cycloalkanes Cycloalkenes Alkadienes	Scientific Values (Human Values)

Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon

Department of Chemistry

Criterion-01 (NAAC)

Syllabus covering following values

B. Sc. I DSC 3B: Chemistry Paper III, Physical Chemistry 2022-2023

Sr. No.	Syllabus	Covering values
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<b>Unit I</b>	Chemical Energetics A) Thermodynamics B) Thermochemistry	Scientific Values (Human Values) Environment and sustainability
<b>Unit II</b>	Chemical Equilibrium Chemical Equilibrium: Free energy change in a chemical reaction. Thermodynamic derivation of the law of chemical equilibrium. Distinction between $\Delta G$ and $\Delta G^\circ$ , Le Chatelier's principle. Relationships between $K_p$ , $K_c$ and $K_x$ for reactions involving ideal gases	Scientific Values (Human Values) Environment and sustainability
<b>Unit III</b>	Kinetic Theory of Gases Postulates of Kinetic Theory of Gases and derivation of the kinetic gas equation. Ideal and Non ideal gases, Deviation of real gases from ideal behaviour, compressibility factor, causes of deviation. Van der Waals equation of state for real gases. Explanation of real gas behaviour by Van der Waal's equation, Boyle temperature (derivation not required). Critical Phenomena: PV-isotherms of real gases (Andrew's isotherms), Continuity of state, Critical constants and their calculation from vander Waals equation. Maxwell Boltzmann distribution laws of molecular velocities and molecular energies (graphic representation – derivation not required) and their importance. Temperature dependence of these distributions. Most probable, average and root mean square velocities (no derivation). Numerical Problems.	Scientific Values (Human Values) Environment and sustainability
<b>Unit IV</b>	Chemical Kinetics Introduction, Rate of reaction, Definition and units of rate constant, Factors affecting rate of reaction. (Nature of reactant, Concentration, pressure, temperature and catalyst.) Order and Molecularity of reaction, Zero order reaction, First order reaction, Characteristics of first order reaction. examples, Pseudo-unimolecular reactions, examples. Second order reaction: Derivation of rate constant for equal and unequal concentration of the reactants. Characteristics of Second order reaction., Determination of order of reaction by i) integration method ii) graphical method iii) Half life method, Effect of temperature on rate of reaction, Arrhenius equation, Concept of energy of activation. Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only). Numerical problems	Scientific Values (Human Values) Environment and sustainability

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC)**

**Syllabus covering following values**

**B. Sc. I DSC 4B: Chemistry Paper IV, Analytical Chemistry 2022-2023**

Sr. No.	Syllabus	Covering values
<b>Unit I</b>	<b>Introduction to analytical Chemistry</b> 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	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

	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)	
<b>Unit II</b>	<b>Chromatography</b> 2.1 Introduction, Basic Principle of Chromatography, Basic terms, Classification of Chromatography 2.2 Paper Chromatography- Principle, Methodology-types of papers and treatment, sample loading, choice of solvent, development- ascending, descending, circular, location of spots, determination of R <sub>f</sub> value, Applications, advantages and disadvantages 2.3 Thin layer chromatography; Principle, Solvent system, stationary phases, preparation of TLC plate, Detecting reagents, methodology- sample loading, development, detection of spot, R <sub>f</sub> value, Applications, advantages and disadvantages 2.4 Comparison of paper chromatography and TLC	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit III</b>	<b>Theory of titrimetric Analysis</b> 3.1 Introduction 3.2 Acid-base indicators 3.3 Theory of indicators w.r.t. Ostwald's ionization theory and quinoid theory 3.4 Neutralization curves and choice of indicators for 3.5 Complexometric titrations	Environment and sustainability Scientific Values, Professional Ethics (Human Values)
<b>Unit IV</b>	<b>Water Analysis</b> 4.1 Physical analysis of water – pH, Conductance, Colour, odour, Turbidity and taste 4.2 Chemical Analysis – Total Dissolved solids, Hardness, Salinity, Alkalinity, Acidity, Sulphates, Nitrates, Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit V</b>	<b>Analysis of Fertilizers</b> 5.1 Introduction 5.2 Types of fertilizers 5.3 Necessity and requirements of good fertilizers 5.4 Sampling and sample preparation 5.5 Analysis of Nitrogen by Kjeldahl's method 5.6 Analysis of Phosphorus by phosphomolybdate method 5.7 Analysis of Potassium by sodium tetraphenyl borate method	Scientific Values, Professional Ethics (Human Values)

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**  
**Department of Chemistry**  
**Criterion-01 (NAAC)**

**Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**  
**B.Sc. Part – II, DSC C3 Paper V Physical Chemistry**

	<b>Syllabus</b>	<b>Covering values</b>
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<b>Unit I</b>	<b>Electrolytic Conductivity</b> Introduction, Types of conductors, Conductivity, Equivalent and Molar conductivity and their variation with dilution for weak and strong electrolytes in aqueous solution. Equivalent conductivity at infinite dilution, Measurement of conductance by using Wheatstone bridge. Kohlrausch law of independent migration of ions and its applications such as Ionic mobility, determination of degree of ionization of weak electrolyte, solubility and solubility products of sparingly soluble salts, ionic product of water, hydrolysis constant of salt. Conductometric titrations (only acid base titrations). Advantages of conductometric titrations. Transference number, Hittorf's rule, determination of transport number using Moving boundary method, factors affecting transport numbers. Numerical problems	Scientific Values, (Human Values)
<b>Unit II</b>	<b>Physical Properties of Liquids</b> Introduction, Classification of physical properties, Surface tension and its determination using Stalagmometric and differential capillary rise methods, Viscosity and its determination using Ostwald's viscometer, Refractive index (Snell's law), Specific and Molecular refractivities and its determination using Abbe's refractometer.	Scientific Values, (Human Values)
<b>Unit III</b>	<b>Surface Chemistry</b> Introduction, Adsorption as a surface phenomenon, Definition of adsorption, adsorbent, adsorbate, adsorbent. factors affecting adsorption, Types of adsorption, Distinction between physical and chemical adsorption, Adsorption isotherms: Freundlich adsorption isotherm, Langmuir adsorption isotherm. Types of physical adsorption isotherms, applications of adsorption.	Scientific Values, (Human Values)
<b>Unit IV</b>	<b>Nuclear Chemistry</b> Introduction, Types of Nuclear radiation, properties of $\alpha$ , $\beta$ and $\gamma$ radiations, Detection and measurement of nuclear radiations by Scintillation and Geiger Muller counter methods, radioactive equilibrium and range of $\alpha$ - particles, Geiger Nuttal relations, determination of radioactive constant (decay constant).	Scientific Values, (Human Values) Environment and sustainability
<b>Unit V</b>	<b>Chemical Kinetics</b> Introduction, Third order reactions: derivation of rate constant, characteristics and examples of third order reaction. Theories of reaction rates as Collision theory and Transition state theory (only quantitative aspect, derivation not expected)	Scientific Values (Human Values) Environment and sustainability

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC)**

**Syllabus covering following values**

**SYLLABUS - Choice Based Credit System**

**B.Sc. Part – II, DSC C4 Paper VI Industrial Chemistry**

Sr. No.	Syllabus	Covering values
<b>Unit I</b>	<b>Basic Concepts in Industrial Chemistry</b> The difference between classical chemistry and industrial chemistry, Raw material for the Chemical Industry, Material Safety data sheets, Units that make up a chemical process-unit operation and unit processes, Flow Diagrams, Block Diagram, Process flow diagram / flow sheets, Material Balances-The purpose of mass balance calculations, Material Balance Equations, Mass balance calculation procedure and simple example Definition and Explanation of terms -Normality, Equivalent weight, Molality, Molecular weight, Molarity, 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit II</b>	<b>Unit Operations</b> Size reduction- Principle, Jaw crusher, ball mill Size Enlargement –Principle, Pellet mill, tumbling agglomerators Separation – Magnetic separation, Froth flotation, Distillation-Distillation of liquid mixtures, Types of distillation, Types of columns and packings, Condensers, Vacuum distillation, Spinning-band distillation, Steam distillation.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit III</b>	<b>Corrosion and Electroplating</b> 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, Electroplating: Electrolysis, Faraday's laws, Cathode current Efficiency, Basic principles of electroplating, Cleaning of articles, Electroplating of chromium, Anodising	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit IV</b>	<b>Paper Industry</b> Manufacturing of Pulp, Types of pulp-Sulphate and soda, Manufacturing of paper, calendaring, ecological problems of Indian Paper industry, Features of good paper industry	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit V</b>	<b>Soaps and Detergents</b> Introduction, Soaps - Raw materials, Types of soaps, Cleansing action of soap, Manufacture of soap - Boiled or Hot Process, Detergents - Raw Materials, Types	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

of Detergents: Anionic, cationic and amphoteric,  
Preparation of Teepol and Deriphat, Comparisons between  
soaps and detergents.

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**  
**Department of Chemistry**  
**Criterion-01 (NAAC)**  
**Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**  
**B.Sc. Part – II, DSC D3 Paper VII Inorganic Chemistry**

Sr. No.	Syllabus	Covering values
<b>Unit I</b>	<b>Co-ordination chemistry</b> 1.1 Introduction-Definition and formation of co-ordinate covalent bond in $\text{BF}_3 - \text{NH}_3$ , $[\text{NH}_4]^+$ and $\text{H}_2\text{O}$ 1.2 Distinguish between double salt and complex salt 1.3 Werner's theory- 1.3.1. Postulates 1.3.2. The theory as applied to cobalt amines viz. $\text{CoCl}_3.6\text{NH}_3$ , $\text{CoCl}_3.5\text{NH}_3$ , $\text{CoCl}_3.4\text{NH}_3$ , $\text{CoCl}_3.3\text{NH}_3$ 1.4 Description of the terms- ligand, co-ordination number, co-ordination sphere, Effective atomic number 1.5 IUPAC nomenclature of coordination compounds. 1.6 Isomerism in complexes with C.N. 4 and 6 1.6.1 Geometrical Isomerism 1.6.2 Optical Isomerism 1.6.3 Structural Isomerism-Ionisation Isomerism, Hydrate Isomerism, Coordination Isomerism, Linkage Isomerism and Co-ordination position Isomerism 1.7 Valence bond theory of transition metal complex with respect to, C.N. 4, complexes of Cu and Ni C.N. 6 complexes of Fe and Co.	Scientific Values (Human Values)
<b>Unit II</b>	<b>Chelation (05)</b> 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	Scientific Values (Human Values)
<b>Unit III</b>	<b>P- Block elements ( Group 13, 14 and 15 )</b> 3.1. Position of elements in periodic table 3.2. Characteristics of p-block elements with special reference to Electronic configuration and Periodic properties 3.3. Compounds of group 13,14 and 15 3.3.1 Boron-Diborane method of preparation and nature of	Scientific Values (Human Values)



	bonding (structure) 3.3.2 Borazine method of preparation and nature of bonding (structure) 3.3.3 Allotropes of carbon and phosphorus 3.3.4 Oxyacids of nitrogen – HNO <sub>2</sub> , HNO <sub>3</sub> . 3.3.5 Hydrides of Nitrogen- NH <sub>3</sub> and N <sub>2</sub> H <sub>4</sub>	
<b>Unit IV</b>	<b>Chemistry of elements of 3d series elements</b> 4.1 Position of elements in periodic table 4.2 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	Scientific Values (Human Values)
<b>Unit V</b>	<b>Inorganic semi-micro qualitative analysis (08)</b> 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 Application 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 <sup>-</sup> , Br <sup>-</sup> , I <sup>-</sup> . e) Detection of NO <sub>2</sub> <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> (Brown ring test). 5.4 Application of oxidation and reduction in a) Separation of Cl <sup>-</sup> , Br <sup>-</sup> , I <sup>-</sup> in mixture b) Separation of NO <sub>2</sub> – and NO <sub>3</sub> – in mixture. 5.5 Spot test analysis.	Scientific Values (Human Values)

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**

**SYLLABUS - Choice Based Credit System**

**B.Sc. Part – II, DSC D4 Paper VIII Organic Chemistry**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Chapter I</b>	Carboxylic acids and their derivatives. 1.1 Monocarboxylic acid: 1.2 Formation of Halo Acids, Mono, Di, Tri- chloro acetic acid. Substitution reaction of Monochloro acetic acid by Nucleophile OH <sup>-</sup> , I <sup>-</sup> , CN <sup>-</sup> and NH <sub>3</sub> 1.3 Hydroxy acids: Malic and Citric acid 1.4 Unsaturated acid: 1.5 Dicarboxylic acid: Succinic and phthalic acid 1.6 Carboxylic acid derivatives	Scientific Values (Human Values)
<b>Chapter II</b>	<b>Amines and Diazonium Salts</b> 2.1 Introduction, Classification, Nomenclature, structure. 2.2 Methods of preparation: a) From Alkyl halide by Amonolysis, b) By Reduction of Nitriles or Cyanides, c)	Scientific Values (Human Values)

	<p>From Unsubstituted amides (Hoffmann degradation), d) By Gabriel Synthesis (From Phthalamide).</p> <p>2.3 Reactions: Carbylamine reaction, Schotten-Baumann reaction, Electrophilic substitution (Aniline), Nitration, Bromination, Sulphonation.</p> <p>2.4 Diazonium salt: Introduction, Preparation of Benzene diazonium chloride.</p> <p>2.5 Reactions: Replacement by Halogen (Sandmeyer), Replacement by Iodine, Replacement by <math>-OH</math>, C and N Coupling reactions: Synthesis of Methyl orange and Congo red. Reduction of BDC.</p>	
<b>Chapter III</b>	<p><b>Carbohydrates</b></p> <p>Classification of carbohydrates, reducing and non-reducing sugars, General properties of glucose and fructose, their open chain structure. Epimers, mutarotation and anomers.</p> <p>Determination of configuration of Glucose (Fischer proof). Ring structure of glucose Determination of size of the ring of Glucose by methylation method.. Haworth projections. Cyclic structure of fructose. Linkage between monosachharides, structure of disacharrides (sucrose, maltose, lactose) and polysacharrides (starch and cellulose) excluding their structure elucidation.</p>	<p>Scientific Values (Human Values)</p> <p>Environment and sustainability</p>
<b>Chapter IV</b>	<p><b>Carbonyl Compounds- Aldehydes and Ketone</b></p> <p>4.1 Introduction, Nomenclature, structure.</p> <p>4.2 Reactivity of Carbonyl group, mechanism of Nucleophilic addition to Carbonyl group</p> <p>4.3 Reactions: mechanism and application of Aldol condensation, Perkin reaction, Cannizaros reaction, Knoevenagel condensation, Reformatsky reaction.</p>	<p>Scientific Values (Human Values)</p>
<b>Chapter V</b>	<p><b>Stereochemistry</b></p> <p>5.1 Conformational isomerism – Introduction.</p> <p>5.2 Representation of conformations of ethane by using Saw- Horse, Fischer (dotted line wedge) and Newmann's projection formulae.</p> <p>5.3 Conformations and conformational analysis of ethane and n-butane by Newmann's Projection formula with the help of energy profile diagrams.</p> <p>5.4 Cycloalkanes relative stability - Baeyer's strain theory, Theory of strainless rings.</p> <p>5.5 Conformations and stability of cyclohexane and monosubstituted cyclohexanes Cyclohexanol, bromocyclohexane and methyl cyclohexane.</p> <p>5.6 Locking of conformation in t-butyl cyclohexane.</p>	<p>Scientific Values (Human Values)</p>

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**  
**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**  
**SYLLABUS - Choice Based Credit System**

**B.Sc. III, Paper No. DSE-E5, Chemistry Paper No. -IX (Inorganic Chemistry)**

	Syllabus	Covering values
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<b>Unit I</b>	<p>Acids, Bases and Non aqueous Solvents</p> <p>1.1 Introduction to theories of Acids and Bases-Arrhenius concept, Bronsted-Lowry concept, Lewis Concept, Lux-Flood Concept (definition and examples)</p> <p>1.2 Hard and Soft Acids and Bases. (HSAB Concept)</p> <p>1.2.1 Classification of acids and bases as hard, soft and borderline.</p> <p>1.2.2 Pearson's HSAB concept.</p> <p>1.2.3 Acid-Base strength and hardness-softness.</p> <p>1.2.4 Applications and limitations of HSAB principle.</p> <p>1.3 Chemistry of Non aqueous Solvents.</p> <p>1.3.1 Introduction, definition and characteristics of solvents.</p> <p>1.3.2 Classification of solvents.</p> <p>1.3.3 Physical properties and Acid-Base reactions in Liquid Ammonia (NH<sub>3</sub>) and Liquid Sulphur Dioxide (SO<sub>2</sub>).</p>	<p>Scientific Values, Professional Ethics (Human Values) Environment and sustainability</p>
<b>Unit II</b>	<p><b>Metal Ligand bonding in Transition Metal Complexes</b></p> <p>2.1 Crystal field theory (CFT)</p> <p>2.1.1 Introduction: Shapes of d-orbitals, Basic assumptions of CFT.</p> <p>2.1.2 Crystal field splitting of d-orbitals of metal ion in octahedral, tetrahedral, squareplanar complexes and John-Teller distortion.</p> <p>2.1.3 Factors affecting the Crystal field splitting.</p> <p>2.1.4 High spin and low spin octahedral complexes w.r.t. Co (II).</p> <p>2.1.5 Crystal Field stabilization energy (CFSE), Calculation with respect to octahedral complexes only.</p> <p>2.1.6 Limitations of CFT.</p> <p>2.2 Molecular orbital theory (MOT).</p> <p>2.2.1 Introduction.</p> <p>2.2.2 MOT of octahedral complexes with sigma bonding such as [Ti(H<sub>2</sub>O)<sub>6</sub>]<sup>3+</sup>, [CoF<sub>6</sub>]<sup>3-</sup>, [Co(NH<sub>3</sub>)<sub>6</sub>]<sup>3+</sup>.</p> <p>2.2.3 Merits and demerits of MOT.</p>	<p>Scientific Values, Professional Ethics (Human Values) Environment and sustainability</p>
<b>Unit III</b>	<p><b>Metals, Semiconductors and Superconductors</b></p> <p>3.1 Introduction.</p> <p>3.2 Properties of metallic solids.</p> <p>3.3 Theories of bonding in metal.</p> <p>i. Free electron theory.</p> <p>ii. Molecular orbital theory (Band theory).</p> <p>3.4 Classification of solids as conductor, insulators and semiconductors on the basis of band theory.</p> <p>3.5 Semiconductors- Types - intrinsic and extrinsic and applications of semiconductors.</p> <p>3.6 Superconductors: Ceramic superconductors - Preparation and structures of mixed oxide YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub>.</p> <p>3.7 Applications of superconductors.</p>	<p>Scientific Values, Professional Ethics (Human Values) Environment and sustainability</p>
<b>Unit IV</b>	<p><b>Organometallic Chemistry</b></p> <p>4.1 Definition, Nomenclature of organometallic compounds.</p> <p>4.2 Synthesis and structural study of alkyl and aryl compounds of Be and Al.</p> <p>4.3 Mononuclear carbonyls -Nature of bonding in simple mononuclear carbonyls: [Ni(CO)<sub>4</sub>], [Fe(CO)<sub>5</sub>], [Cr(CO)<sub>6</sub>].</p>	<p>Scientific Values, Professional Ethics (Human Values) Environment and sustainability</p>



<b>Unit V</b>	<b>5. Catalysis</b> 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
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**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCS)**

**B.Sc. III, Paper No. DSE-E6, Chemistry Paper No. -X (Organic Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit I</b>	<b>Introduction to Spectroscopy</b> 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.	Scientific Values, Professional Ethics (Human Values)
<b>Unit II</b>	<b>UV-Vis Spectroscopy</b> 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 $\lambda_{max}$ by Woodward and Fischer rules for dienes and enones. 2.7 Colour and visible spectrum. 2.8 Applications of UV Spectroscopy.	Scientific Values, Professional Ethics (Human Values)
<b>Unit III</b>	<b>IR Spectroscopy</b> 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.	Scientific Values, Professional Ethics (Human Values)

<b>Unit IV</b>	<b>NMR Spectroscopy</b> 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.	Scientific Values, Professional Ethics (Human Values)
<b>Unit V</b>	<b>Mass Spectroscopy.</b> 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 rule 5.6 Fragmentation patterns of: alkanes, alkenes, aromatic hydrocarbons, alcohols, phenols, amines and carbonyl compounds. 5.7 McLafferty rearrangement. 5.8 Applications.	Scientific Values, Professional Ethics (Human Values)

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Sociology**

**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCSB)**

**B.Sc. III, Paper No. DSE-E7, Chemistry Paper No. –XI (Physical Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit 1</b>	Elementary quantum mechanics 1.1 Introduction. 1.2 Drawbacks of classical mechanics, Black body radiation, Photoelectric effect, Compton effect, Dual 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 $\psi$ and $\psi^2$ . 1.7 Particle in a one dimensional box. 1.8 Numerical problems.	Scientific Values, (Human Values)
<b>Unit II</b>	Spectroscopy 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,	Scientific Values, Professional Ethics (Human Values)

	moment of inertia, energy levels of rigid rotor, selection rules, Intensity of spectral lines, determination of bond length, isotope effect, Microwave oven	
<b>Unit III</b>	Photochemistry 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.	Scientific Values, (Human Values)
<b>Unit IV</b>	Solutions 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.	Scientific Values (Human Values)
<b>Unit V</b>	Electromotive force (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:	Scientific Values (Human Values)

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**  
**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**

**B.Sc. III, Paper No. DSE-E8, Chemistry Paper No. –XII (Analytical Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit 1</b>	Theory of Gravimetric Analysis 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability



<b>Unit II</b>	Flame Photometry 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit III</b>	Colorimetry and Spectrophotometry 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit IV</b>	Potentiometric titrations 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit V</b>	Chromatographic techniques and Quality control 5.1 Introduction, classification. 5.2 Column chromatography 5.3 Ion exchange chromatography 5.4 Concepts in Quality control	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**  
**Department of Chemistry**  
**Criterion-01 (NAAC), Syllabus covering following values**  
**Choice Based Credit System (CBCSB)**  
**B.Sc. III, Paper No. DSE-F5, Chemistry Paper No. –XIII (Inorganic Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit 1</b>	Inorganic Reaction mechanism 1.1 Introduction. 1.2 Classification of Mechanism: Association, dissociation, interchange and the rate determining steps. 1.3 SN1 and SN2 reactions for inert and labile complexes. 1.4 Mechanism of substitution in cobalt (III) octahedral complexes.	Scientific Values (Human Values)

	1.5 Trans effect and its theories. 1.6 Applications of trans effect in synthesis of Pt (II) complexes.	
<b>Unit II</b>	Nuclear Chemistry 2.1 Nuclear reactions and energetic of nuclear reactions. 2.2 Types of nuclear reactions 2.3 Use of Thorium, Uranium and Plutonium in atomic energy 2.4 Applications of radio-isotopes as tracers. iv. Age determination – Dating by C14.	Scientific Values (Human Values)
<b>Unit III</b>	Chemistry of f- Block Elements A ] Lanthanides B] Actinides	Scientific Values (Human Values)
<b>Unit IV</b>	Iron and Steel. 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit V</b>	Unit 5. Bio-inorganic Chemistry. 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 <sup>+</sup> , K <sup>+</sup> A)and Ca <sup>2+</sup>	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCSB)**

**B.Sc. III, Paper No. DSE-F6, Chemistry Paper No. –XIV (Organic Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit I</b>	Reagents and Reactions in Organic Synthesis [10] A] Reagents Preparation and Applications of reagents. B] Reactions Statement, General Reaction, Mechanism and Synthetic applications	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit II</b>	Retrosynthesis 2.1 Introduction. 2.2 Recapitulation of basics of reaction mechanism and reagents. 2.3 Terms used- Target molecule (TM), Disconnection, Synthons,	Scientific Values, Professional Ethics (Human Values) Environment and

	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, $\alpha,\alpha$ -dimethyl benzyl alcohol, Paracetamol.	sustainability
<b>Unit III</b>	Electrophilic addition to $>C=C<$ and $-C\equiv C-$ bonds [08] A. Addition to Carbon-Carbon double ( $>C=C<$ ) bond: B. Addition to Carbon-Carbon triple ( $-C\equiv C-$ ) bond	Scientific Values (Human Values)
<b>Unit IV</b>	Natural Products A] Terpenoids B] Alkaloids	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit V</b>	Pharmaceuticals 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

**Department of Chemistry**  
**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCSB)**  
**B.Sc. III, Paper No. DSE-F7, Chemistry Paper No. –XV (Physical Chemistry)**

	Syllabus	Covering values
<b>Unit 1</b>	Phase Equilibria 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: 1.5 Two component systems: 1.6 Three component solid-liquid system	Scientific Values (Human Values)
<b>Unit II</b>	Thermodynamics 2.1 Introduction. 2.2 Free energy: Gibbs function (G) and Helmholtz function (A), Criteria for thermodynamic equilibrium and spontaneity. 2.3 Relation between $\Delta G$ and $\Delta H$ : 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability



<b>Unit III</b>	The Solid State 3.1 Introduction: Space lattice, lattice sites, lattice planes, unit cell. 3.2 Laws of crystallography: 3.3 Weiss indices and Miller indices.	Scientific Values (Human Values)
<b>Unit IV</b>	Chemical Kinetics 4.1 Introduction. 4.2 Simultaneous reactions	Scientific Values (Human Values) Environment and sustainability
<b>Unit V</b>	Distribution law 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	Scientific Values, Professional Ethics (Human Values) Environment and sustainability

**Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon**

**Department of Chemistry**

**Criterion-01 (NAAC), Syllabus covering following values**

**Choice Based Credit System (CBCSB)**

**B.Sc. III, Paper No. DSE-F8, Chemistry Paper No. –XVI (Industrial Chemistry)**

	<b>Syllabus</b>	<b>Covering values</b>
<b>Unit 1</b>	<b>Sugar Industry</b> 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.	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit II</b>	<b>Manufacture of Industrial Heavy Chemicals</b> 2.1 Introduction 2.2 Manufacture of Ammonia (NH <sub>3</sub> ) 2.3 Manufacture of Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> ) 2.4 Manufacture of Nitric acid (HNO <sub>3</sub> ) 2.5 Manufacture of Sodium carbonate (Na <sub>2</sub> CO <sub>3</sub> ) (Washing soda).	Scientific Values, Professional Ethics (Human Values) Environment and sustainability
<b>Unit III</b>	<b>Synthetic Polymers</b> 3.1 Introduction. 3.2 Classification. 3.3 Addition Polymerization: Free radical addition and ionic addition polymerization. 3.4 Ziegler Natta 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	Scientific Values, Professional Ethics (Human Values) Environment and sustainability



Shri Shahu Shikshan Prasarak Seva Mandal's  
**Shri Vijaysinha Yadav College, Peth Vadgaon**

**Department of Botany**  
**Syllabus Covering Values**  
**Academic Year 2022-23**

**SYLLABUS OF BOTANY AT B. Sc. Part- I**

Module	Syllabus	Values Covered
<b>B. Sc. Part-I, Semester-I</b>		
<b>BOTANY Paper-I: DSC-13 A: Microbes, Algae and Biofertilizers</b>		
<b>Module 1 to 2</b>	<b>Microbes:</b> Discovery, General characteristics, Structure, Reproduction, Economic importance of <b>Viruses, Bacteria.</b> <b>Algae:</b> General characteristics, Structure, Reproduction, Economic importance and Life cycle of <i>Nostoc</i> and <i>Spirogyra</i> <b>Biofertilizers:</b> Microbes used as Biofertilizers, Procedure for preparation of Biofertilizers	Professional Ethics, Environment and Sustainability, Human Values
<b>B. Sc. Part - I, Semester - I</b>		
<b>BOTANY Paper-II: DSC-14 A: Cell biology and Analytical techniques</b>		
<b>Module 1 to 2</b>	<b>Cell Structure and functions-</b> Cell as a biochemical entity, Structure and difference between Prokaryotic and Eukaryotic cell, Plant cell wall- structure and functions <b>Cell organelles -</b> Ultrastructure and functions of Chloroplasts, Mitochondria Ribosomes, Endoplasmic reticulum Lysosomes, Peroxisomes <b>Cell membrane -</b> Structure, Fluid Mosaic model, role of cell membrane. <b>Microscopy-</b> Principles of microscopy, Light microscopy, Fluorescence microscopy, Electron microscopy (SEM). <b>Chromatography-</b> Principles and applications of chromatography, Ascending Paper Chromatography, Thin Layer Chromatography (TLC)	Professional Ethics, Environment and Sustainability
<b>B. Sc. Part – I Semester – II</b>		
<b>BOTANY Paper-I: DSC-13 B: Mycology, Phytopathology and Mushroom cultivation</b>		
<b>Module 1 to 2</b>	<b>1. Mycology-</b> <b>Fungi-</b> General characters of fungi, Classification as per Ainsworth (1973) upto class, Economic importance and Life cycle of <i>Mucor</i> and <i>Penicillium</i> . <b>Lichens-</b> Occurrence and General characters, Nature of association, Types of lichens, Economic importance. <b>2. Phytopathology and Mushroom cultivation-</b> <b>Phytopathology-</b> Introduction and General symptoms of plant diseases w.r.t Viral - Yellow vein mosaic of Bhendi, Bacterial Blight of Pomegranate, Fungal - White rust of crucifers, Mycoplasma (MLO) - Grassy shoot of sugarcane. <b>Mushroom cultivation-</b> Introduction and History, Steps in cultivation of <i>Pleurotus sajorajju</i> , Commercial importance.	Professional Ethics, Environment and Sustainability
<b>B. Sc. Part – I Semester – II</b>		
<b>Botany Paper IV: DSC-14B: Archegoniate (Bryophytes, Pteridophytes and Gymnosperms)</b>		



<b>Module 1 to 2</b>	<p><b>1. Archegoniate and Bryophytes</b>  <b>Archegoniate-</b> Introduction, Diagnostic features of archegoniate, Transition to land habit, Alternation of generation.  <b>Bryophytes-</b> General characters, Classification as per G.M. Smith (1955) upto classes, Ecological &amp; Economic importance, Morphology, Anatomy and life cycle of <i>Anthoceros</i>.</p> <p><b>2. Pteridophytes and Gymnosperms</b>  <b>Pteridophytes -</b> General characters, Classification as per G.M. Smith (1955) upto classes, Ecological and Economic importance, Morphology, anatomy and life cycle Lycopphyta - <i>Selaginella</i>, Heterosporous &amp; Seed habitat.  <b>Gymnosperms -</b> General characters, Classification as per Sporne (1965) upto classes, Ecological and Economic importance, Morphology, Anatomy and life cycle of Gnetopsida – <i>Gnetum</i>, Connecting link between Pteridophytes and Angiosperms.</p>	Professional Ethics, Human value
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### SYLLABUS OF BOTANY AT B. Sc. II

Unit	Syllabus	Values Covered
<b>B. Sc. Part II Semester- III</b>		
<b>BOTANY Paper V: DSC-C13: Embryology of Angiosperms</b>		
<b>Unit 1 to 2</b>	<p><b>1. Structural organization of flower, pollination and fertilization-</b> Concept of Flower, Mechanism of pollination in angiosperm, Microsporogenesis, Megasporeogenesis, Fertilization: Entry of pollen tube, double fertilization and triple fusion, Significance of double fertilization.</p> <p><b>2. Embryo and Endosperm Development; Polyembryony and Apomixis-</b> Structure of embryo sac, Embryo and Endosperm development and Types of endosperms- Nuclear, Helobial and Cellular, Polyembryony and Apomixis.</p>	Professional Ethics Environment and Sustainability
<b>B. Sc. Part II Semester- III</b>		
<b>Paper VI: DSC-C14: Plant Physiology</b>		

Unit 1 to 2	<p><b>1. Plant Water Relationship and Mineral Nutrition</b>  <b>Plant Water Relationship-</b> Physiological importance of water, Water transport process, Mechanism of water absorption, active and passive absorption theories, water transport through xylem and tracheids. Transpiration: Definition, Types of transpiration, Mechanism of stomatal movement, Starch-sugar hypothesis, Factors affecting transpiration, Significance of transpiration.</p> <p><b>Mineral Nutrition-</b> Macro and Micronutrients  Criteria of essentiality, Mineral nutrient uptake- Passive uptake (Diffusion), Active uptake (Carrier Concept)  Role and Deficiency Disorders of Macronutrients (P, K, Ca, Mg) and Micronutrients (Fe, Mn) in plants and its recovery.</p> <p><b>Photosynthesis-</b> Photosynthetic pigments- (Chlorophylls, Carotenoids and Phycobilins), Mechanism of Photosynthesis  Light reaction- Photolysis of water,  Photosystem I and Photosystem II, Electron transport and Photophosphorylation- Cyclic and Non-cyclic.  Dark reaction: C<sub>3</sub>, C<sub>4</sub> and CAM pathways of carbon fixation.  Significance of photosynthesis</p> <p><b>Plant Growth and Development</b>  Phytohormones- IAA, GA, ABA, Photoperiodism, Concept, Definition, Photoperiodic classification of plants- LDP, SDP, DNP. Mechanism of photoperiodism: Photoperiodic induction, perception of stimulus, role of Phytochrome, flowering hormone-Floregein concept, significance of photoperiodism.  Vernalization: Concept, mechanism, site Vernalization, vernalization and its significance.</p>	Professional Ethics Environment and Sustainability, Human values
<p align="center"><b>B. Sc. Part II, Semester- IV</b>  <b>Botany Paper VII: DSC-D 13 Plant Anatomy</b></p>		
Unit 1 to 2	<p><b>1. Organization of higher plant body-</b>  The Plant organs Development of plant body Internal organization.</p> <ul style="list-style-type: none"> <li>• <b>Meristematic and Permanent Tissue-</b>  Meristem: meristem classification, primary and secondary structure of plant body, tissue systems. Introduction, Characteristics and Classification of meristems based on Position.  Theories of structural development Apical cell theory, Histogen theory, Tunica Corpus theory.  Permanent tissue: Simple tissue- Parenchyma, Collenchyma and Sclerenchyma  Complex tissue: Xylem and Phloem,  Types of Vascular bundles.</li> </ul> <p><b>2. Primary and secondary structure of plant body and tissue system</b>  Primary structure of Monocotyledon and Dicotyledon root, stem and leaf. Normal secondary growth in Dicotyledon root and stem. Anomalous secondary growth in <i>Bignonia</i> (Dicot.) and <i>Dracaena</i> (Monocot.) stem. Periderm and Lenticel.</p>	Environment and Sustainability

	Tissue systems- Epidermal tissue system, Secretary tissue system Mechanical tissue system	
<b>B. Sc. Part II Semester- IV</b> <b>Botany Paper VIII: DSC D14: Plant Physiology, Nursery and Gardening Techniques</b>		
<b>Unit 1 to 2</b>	<b>1. Enzymes and Nitrogen Metabolism</b> <b>Enzymes</b> – Introduction, Classification and Nomenclature of enzymes, Structure and properties of enzymes, Mechanism of enzyme action- Lock and Key hypothesis and induced fit hypothesis. Factors affecting enzyme activity temperature and pH. Enzyme inhibition. <b>Nitrogen Metabolism-</b> Introduction, Biological Nitrogen Fixation- Asymbiotic and Symbiotic, Mechanism of Nitrogen Fixation, Nitrate reduction, Ammonia assimilation, nif genes. <b>2. Respiration, Seed Dormancy and Germination</b> <b>Respiration-</b> Introduction, Types of respiration, Glycolysis, Formation of Acetyl Co A, TCA cycle, ETS in mitochondria, Fermentation. <b>Seed Dormancy and Germination-</b> Concept of dormancy, causes of dormancy, Methods of breaking of seed dormancy. Seed germination- Introduction and types (Epigeal, Hypogeal and Viviparous). Factors affecting seed germination. Biochemical changes during seed germination.	Professional Ethics, Environment and Sustainability, Human values

### SYLLABUS OF BOTANY AT B.Sc. Part-sIII

Unit	Syllabus	Values Covered
<b>B. Sc. Part III Semester- V BOTANY Paper IX: DSC-E 25 Genetics and Plant Breeding</b>		
<b>Unit 1 to 4</b>	<b>Mendelism-</b> Linkage and recombination- Mutation- Significance of mutagens. Chromosome's structure and variation- Quantitative inheritance, multiple allelism, population genetics <b>Plant breeding-</b> Methods of plant breeding, mass selection, pure line selection, hybridization technique, Gama- Garden	Professional Ethics Environment and Sustainability
<b>B. Sc. Part III Semester- V BOTANY Paper- X: Genetics and Analytical Techniques in Plant Science</b> <b>Paper X: DSC-E26 Microbiology, Plant Pathology and Mushroom Culture Technology</b>		
<b>Unit 1 to 4</b>	Sex chromosomes, determination of sex and population genetics. Quantitative inheritance in Wheat and Maize Plastid and Mitochondrial inheritance Variation in chromosome number and structure- Euploidy and Aneuploidy, Mutation Microscopy, Chromatography, micrometry, microtomy, Microphotography	Professional Ethics Environment and Sustainability

	<b>Microbiology-</b> Staining techniques for Microbes, Preparation of Culture Media, Pure Culture Techniques. <b>Industrial Microbiology-</b> Synthesis of Antibiotics- Penicillin, Organic Acid- Lactic Acid, Alcohol- Ethanol, Significance of Biopesticides <b>Plant Pathology-</b> Prevention and Control Measures of Plant Diseases, Role of Quarantine <b>Mushroom Technology-</b> Values of Mushrooms, Cultivation techniques- Pure culture, preparation spawn, mushroom bed preparation, composting, long storage	
<b>B. Sc. Part III Semester- V BOTANY Paper- XI: Fundamentals of Plant Physiology and Ecology</b> <b>Paper XI: DSC-E27 Cytology and Research Techniques in Biology</b>		
Unit 1 to 4	Mineral Nutrition & Nitrogen metabolism. Photosynthesis and Respiration. Population Ecology, Ecosystem, food chain, ecological pyramids, Energy flow in ecosystem, biogeochemical cycles. Cell as a unit of life, Cell cycle and Apoptosis, Cell organelles, Sub-cellular structures and cell membrane, Research Techniques in biology- Microscopy, Colorimetry, Spectrophotometry, Micrometry, Photo micrometry, Concept of Intellectual property right (IPR), Patents.	Professional Ethics Environment and Sustainability
<b>B. Sc. Part III Semester- V BOTANY Paper- XII Plant Biochemistry</b> <b>Botany Paper- XII DSE-E28 Horticulture and Gardening</b>		
Unit 1 to 4	<b>Carbohydrate Metabolism-</b> Broad classification, Isomers, Enantiomers, Epimers and significance. <b>Lipid Metabolism-</b> Classification, B-oxidation, Properties of Saturated and unsaturated fatty acids, Significance. <b>Protein Metabolism-</b> Biosynthesis of proteins. <b>Nucleic acids-</b> Structure and composition of DNA, Forms of DNA, Types of RNA, etc. Importance and divisions of Horticulture, Horticultural Produce and Management of Pest & Diseases, Nursery Techniques, <b>Landscape gardening-</b> Indoor & Outdoor gardening	Environment and Sustainability Professional Ethics
<b>B. Sc. Part III Semester- VI BOTANY Paper- XIII Biology of Vascular Plants</b> <b>Botany Paper- XIII DSE-F25 Plant Biochemistry and Molecular Biology</b>		
Unit 1 to 4	<b>Pteridophytes-</b> <i>Marsilea</i> <b>Gymnosperms-</b> <i>Gnetum</i> , Evolutionary significance <b>Angiosperm-</b> Phylogeny of angiosperm & embryology <b>Pollination biology</b> , Plant anatomy Carbohydrates, lipids, protein and Nucleic acids	Professional Ethics Gender Equality
<b>B. Sc. Part III Semester- VI BOTANY Paper- XIV Microbiology and Plant Pathology</b> <b>Botany Paper- XIV DSE-F26 Bioinformatics, Biostatistics and Economic Botany</b>		



<b>Unit 1 to 4</b>	<b>Microbiology-</b> Methods of Staining, Sterilization, Cultures, Industrial applications of micro-organisms with reference to antibiotics and pesticides. <b>Microbial Genetics-</b> Bacterial genome, Recombination in Bacteria. <b>Plant Pathology and Plant Diseases-</b> Phytoplasma, Viruses, Bacterial, Fungal diseases. <b>Bioinformatics-</b> Biological Databases (NCBI/BLAST). <b>Biostatistics-</b> Collection, analysis and presentation of biological data, statistical methods for testing the hypothesis (t-test / Chi-square test). <b>Economic Botany-</b> Cereals, Legumes and Oils., Spices, Beverages and Fibres.	Professional Ethics Human values Environment and Sustainability
<b>B. Sc. Part III Semester- VI BOTANY Paper- XV Plant Breeding, Biostatistics, Ethnobotany and Horticulture</b> <b>Botany Paper- XV DSE-F27 Plant Biotechnology and Paleobotany</b>		
<b>Unit 1 to 4</b>	<b>Methods of Plant Improvements-</b> Mass Selection, Clonal selection, Pure line selection. <b>Ethnobotany-</b> Role of Ethnobotany in modern Medicines w.r.t. <i>Vitex negundo</i> , <i>Tribulus terrestris</i> , <i>Morinda sps.</i> , <i>Agel sps.</i> <b>Plant Biotechnology-</b> Scope and importance. <b>Recombinant DNA Technology-</b> Cloning Vectors, Southern Blotting, Northern Blotting, DNA-Fingerprinting, Molecular Markers (RAPD, RFLP), PCR-tech. Gene Bank, etc. <b>Plant Tissue Culture-</b> Preparation of culture media, Micropropagation, Embryogenesis, Somaclonal variations.	Professional Ethics Environment and Sustainability
<b>B. Sc. Part III Semester- VI BOTANY Paper- XVI Molecular Biology and Biotechnology</b> <b>Botany Paper- XVI DSE-F28 Plant Bio Fertilizers and Herbal Drug Technology</b>		
<b>Unit 1 to 4</b>	<b>Genetic Engineering-</b> Methods of Gene transfer, Reporter Gene, Transgenic plants. <b>Biofertilizers-</b> BGA, VAM, Trichoderma. <b>Herbal Medicines-</b> Identification, authentication, Collection, Processing and storage of medicinal plants. <b>Herbal Cosmetology-</b> Herbal cosmetics- Shampoos, Hair dyes, Facemask, bath oil, perfume. <b>Pharmacognosy-</b> Drug adulteration, Plant antioxidants.	Professional Ethics Environment and Sustainability



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## CRITERION I: POINT 5

## CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. I</b>	1. Calculus DSC5A	Sustainability
	2. Diff.Equations. DSC 6A	Sustainability
	3.Multivariable Calculus. DSC 5B	Sustainability , Professional Ethics
	4.Higher Order Differential Equations DSC 6B	Sustainability , Professional Ethics



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### CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. II</b>	5. Real Analysis I DSC 5C	Sustainability
	6. Modern Algebra I DSC 6C	Professional Ethics
	7. Real Analysis II DSC5D	Sustainability
	8. Modern Algebra II DSC 6C	Professional Ethics

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	9. Mathematical Analysis DSE 9E	Sustainability
	10. Abstract Algebra DSE 10E	Professional Ethics
	11. Optimization Techniques DSE 11E	Professional Ethics
	12. Integral Transforms DSE 12E	Professional Ethics



**CRITERION I: POINT 2****CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	13. Metric Spaces DSC 9F	Sustainability
	14. Linear Algebra DSE 10F	Professional Ethics
	15. Complex Analysis DSE 11F	Sustainability
	16. Discrete Structure DSE 12F	Professional Ethics
	Practicals	Professional Ethics
	Study Tour	Environment , Sustainability and Human Values
	Projects	Professional Ethics , Human Values

**CRITERION I: POINT 5**

**CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. I</b>	1. Differential Calculus DSC5A	Sustainability
	2. Calculus DSC 6A	Sustainability
	3. Differential Equations DSC 5B	Sustainability , Professional Ethics
	4. Higher Order Differential Equations DSC 6B	Sustainability , Professional Ethics



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**CRITERION I: POINT 2**

**CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. II</b>	5. Real Analysis I DSC 5C	Sustainability
	6. Modern Algebra I DSC 6C	Professional Ethics
	7. Real Analysis II DSC5D	Sustainability
	8. Modern Algebra II DSC 6C	Professional Ethics

**CRITERION I: POINT 2**

**CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

<b>Class</b>	<b>Paper Name and subject code</b>	<b>Cross cutting issues covered</b>
<b>B.Sc. III</b>	9. Mathematical Analysis DSE 9E	Sustainability
	10. Abstract Algebra DSE 10E	Professional Ethics
	11. Optimization Techniques DSE 11E	Professional Ethics
	12. Integral Transforms DSE 12E	Professional Ethics



**CRITERION I: POINT 2****CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

<b>Class</b>	<b>Paper Name and subject code</b>	<b>Cross cutting issues covered</b>
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	14. Linear Algebra DSE 10F	Professional Ethics
	15. Complex Analysis DSE 11F	Sustainability
	16. Discrete Structure DSE 12F	Professional Ethics
	<b>Practicals</b>	<b>Professional Ethics</b>
	<b>Study Tour</b>	<b>Environment , Sustainability and Human Values</b>
	<b>Projects</b>	<b>Professional Ethics , Human Values</b>

**CRITERION I: POINT 2****CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. I</b>	1. Differential Calculus DSC5A	Sustainability
	2. Calculus DSC 6A	Sustainability
	3. Differential Equations DSC 5B	Sustainability , Professional Ethics
	4. Higher Order Differential Equations DSC 6B	Sustainability , Professional Ethics



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## CRITERION I: POINT 2

### CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. II</b>	5. Real Analysis I DSC 5C	Sustainability
	6. Modern Algebra I DSC 6C	Professional Ethics
	7. Real Analysis II DSC5D	Sustainability
	8. Modern Algebra II DSC 6C	Professional Ethics

**CRITERION I: POINT 2**

**CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	9. Mathematical Analysis DSE 9E	Sustainability
	10. Abstract Algebra DSE 10E	Professional Ethics
	11. Optimization Techniques DSE 11E	Professional Ethics
	12. Integral Transforms DSE 12E	Professional Ethics



**CRITERION I: POINT 2****CROSS CUTTING ISSUES: DEPARTMENT OF MATHEMATICS**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	13. Metric Spaces DSC 9F	Sustainability
	14. Linear Algebra DSE 10F	Professional Ethics
	15. Complex Analysis DSE 11F	Sustainability
	16. Discrete Structure DSE 12F	Professional Ethics
	Practicals	Professional Ethics
	Study Tour	Environment , Sustainability and Human Values
	Projects	Professional Ethics , Human Values

**Shri Vijaysinha Yadav College, Peth Vadgaon**

**Department of Zoology**

**Syllabus with Cross cutting Issues**

**B. Sc. Part – I Semester – I ZOOLOGY DSC – 15A (ANIMAL DIVERSITY-I)**

Unit	Syllabus	Values Covered
Unit 1	<b>Kingdom Protista</b> : General characters and classification up to classes; Locomotory Organelles and locomotion in Protozoa <b>Phylum Porifera</b> : General characters and classification up to classes; Canal System in Sycon <b>Phylum Cnidaria</b> : General characters and classification up to classes; Polymorphism in Hydrozoa <b>Phylum Platyhelminthes</b> : General characters and classification up to classes; Life history of Taenia solium and its parasitic adaptations <b>Phylum Nemathelminthes</b> : General characters and classification up to classes; Life history of Ascaris lumbricoides and its parasitic adaptations	Professional Ethics Gender Equality, Human Values Environment and Sustainability
Unit 2	<b>Phylum Annelida</b> : General characters and classification up to classes; Metamerism in Annelida <b>Phylum Arthropoda</b> : General characters and classification up to classes; Vision in Arthropoda, Metamorphosis in Insects <b>Phylum Mollusca</b> : General characters and classification up to classes; Torsion in gastropods <b>Phylum Echinodermata</b> : General characters and classification up to classes; Water-vascular system in Asteroide	Environment and Sustainability
<b>B. Sc. Part – I Semester – I ZOOLOGY DSC – 16 A (Animal Diversity and Insect Vectors)</b>		
Unit 1	<b>Type Study: Rat (<i>Rattus rattus</i>)</b> (Physiology is not expected) Systematic position, Habit and Habitat Morphological Characters Digestive System, Respiratory System Circulatory System (Composition of Blood and Heart) Excretory System Reproductive System, Brain for Rat	Professional Ethics Human Values Environment and Sustainability
Unit 2	<b>Insect Vectors</b> <b>1. Mosquito as an insect vector</b> Mosquito born diseases with respect to causal organism, life cycle and symptoms a. Malaria    b. Dengue    c. Chikungunya f. Control Measures of mosquitoes <b>2. Housefly as an important mechanical vector</b> Housefly born diseases with respect to Causal organism, life cycle, symptoms a. Myiasis b. Control Measure of housefly <b>3. Flea as an insect vector (4 hrs)</b> Flea born diseases with respect to Causal organism, life cycle and symptoms a. Plague    b. Typhus fever    c. Control of fleas	Professional Ethics Human Values Environment and Sustainability

<b>B. Sc. Part – I Semester – II ZOOLOGY</b>		
<b>DSC – 15B (CELLBIOLOGYAND EVOLUTIONARY BIOLOGY)</b>		
<b>Unit 1</b>	<b>Cell structure-</b> Cell theory and diversity in cell size and shape Structure of nucleus Nucleus with reference to Nuclear membrane, Nucleoplasm, Chromatin and nucleolus. Structure of Chromosome With reference to Morphology and organization (Nucleosome), Polytene Chromosomes Ultra structure and functions of the following Plasma membrane (Fluid Mosaic Model) Mitochondria, Endoplasmic reticulum, Golgi complex, Lysosome	Professional Ethics
<b>Unit 2</b>	<b>History of Life</b> Major Events in History of Life Introduction to Evolutionary Theories Lamarckism, Darwinism, Neo-Darwinism Direct Evidences of Evolution Types of fossils, Incompleteness of fossil record, Dating of fossils Extinction Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>B. Sc. Part – I Semester – II ZOOLOGY DSC – 16B (GENETICS)</b>		
<b>Unit 1</b>	<b>Introduction to Genetics</b> Mendel's work on transmission of traits, Genetic Variation, Molecular basis of Genetic Information <b>Mendelian and post Mendelian Genetics</b> Principles of Inheritance, Incomplete dominance and co-dominance, gene interaction, Multiple alleles w.r.t. ABO, Rh blood groups and coat colour in rabbit, sex linked inheritance. <b>Linkage, Crossing Over</b> Linkage and process of crossing over, Coupling and repulsion theory, Cytological evidence of crossing over.	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Mutations</b> Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy, induced gene mutation. <b>Sex Determination</b> Sex Chromosomal theory of sex determination, Genic balance theory, Haploidy Diploidy mechanism, Environmental sex determination, dosage compensation.	Professional Ethics Gender Equality Human Values Environment and Sustainability

**Shri Vijaysinha Yadav College, Peth Vadgaon**

**Department of Zoology**

**Syllabus with Cross cutting Issues**

**B. Sc. Part II Semester- III ZOOLOGY**

**PAPER-V DSC-.. (ANIMAL DIVERSITY-II)**

Unit	Syllabus	Values Covered
<b>Unit 1</b>	<b>Protochordates:</b> General characters and Classification of Protochordata. <b>Agnatha:</b> General characters of Agnatha and Classification of cyclostomes up to classes. <b>Pisces:</b> General characters and Classification up to orders; Respiration in Fishes. <b>Amphibia:</b> General features and Classification up to orders; Parental care.	Professional Ethics Gender Equality, Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Reptiles:</b> General characters and Classification up to orders; Venomous and non-venomous snakes, Biting mechanism in snakes. <b>Aves:</b> General characters and Classification up to orders; digestive and Respiratory systems. <b>Mammals:</b> General characters and Classification up to orders; Circulatory of mammals.	Environment and Sustainability

**B. Sc. Part II Semester- III ZOOLOGY Paper-VI DSC- ..... (BIOCHEMISTRY)**

<b>Unit 1</b>	<b>Nucleic acids:</b> DNA and RNA. Structure and types of RNA .DNA- Secondary structure of Watson and Crick. Forms of DNA <b>Carbohydrate Metabolism:</b> Glycolysis, Krebs Cycle, Pentose phosphate pathway, Gluconeogenesis, Glycogenolysis. Review of electron transport chain.	Professional Ethics Gender Equality Human Values
<b>Unit 2</b>	<b>Lipid Metabolism:</b> Biosynthesis and $\beta$ oxidation of fatty acids. <b>Protein metabolism:</b> Transamination, Deamination and Urea Cycle. <b>Enzymes:</b> Introduction- classification and nomenclature. Mechanism of action, Enzyme Kinetics, Inhibition and Regulation. Isoenzymes, Co-enzymes and Co-factors.	Gender Equality Human Values

**B. Sc. Part II Semester- IV ZOOLOGY Paper-VII DSC- (REPRODUCTIVE BIOLOGY)**

<b>Unit 1</b>	<b>Functional anatomy of female reproduction:</b> Outline and histological structure of female reproductive system in rat and human; Ovary: folliculogenesis, ovulation, corpus luteum formation and regression; Steroidogenesis and secretion of ovarian hormones; Reproductive cycles in human and their regulation, changes in the female tract; Ovum transport in the fallopian tubes; Sperm transport in the female tract, fertilization; Hormonal control of implantation; pregnancy diagnosis Hormonal regulation of gestation, , Mechanism of parturition and its hormonal regulation; Lactation and its	Professional Ethics Gender Equality, Human Values Environment and Sustainability
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<b>Unit 2</b>	<b>Functional anatomy of male reproduction:</b> Outline and histology of male reproductive system in human; Testis: Cellular functions, germ cell; Spermatogenesis: hormonal regulation; epididymal function and sperm maturation; Accessory glands functions; Sperm transportation in male tract.	Professional Ethics Gender Equality, Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Reproductive Health:</b> Infertility in male and female: causes, diagnosis and management; Assisted Reproductive Technology: sex selection, sperm banks, frozen embryos, in vitro fertilization, ET, EFT, IUT, ZIFT, GIFT, ICSI, PROST; Modern contraceptive technologies.	Professional Ethics Gender Equality, Human Values Environment and Sustainability
<b>B. Sc. Part II Semester- IV ZOOLOGY Paper-VIII DSC- ... (APPLIED ZOOLOGY-I)</b>		
<b>Unit 1</b>	<b>Introduction to Host-parasite Relationship:</b> Host, Definitive host, Intermediate host, Parasitism, Symbiosis, Commensalism, Reservoir, Zoonosis.	Professional Ethics Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Epidemiology of Diseases:</b> Transmission, Prevention and control of diseases: Tuberculosis, Typhoid.	Professional Ethics Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Rickettsia and Spirochaetes:</b> Brief account of Rickettsia prowazekii, Borrelia recurrentis and Treponema pallidum.	Professional Ethics Human Values Environment and Sustainability
<b>Unit 4</b>	<b>Insects of Economic Importance:</b> Biology, Control and damage caused by Helicoverpa armigera, Pyrilla perpusilla and Papilio demoleus, Callosobruchus chinensis, Sitophilus oryzae and Tribolium castaneum	Professional Ethics Human Values Environment and Sustainability
<b>Unit 5</b>	<b>Poultry Farming:</b> Principles of poultry breeding, Management of breeding stock and broilers, Processing and Preservation of eggs.	Professional Ethics Human Values Environment and Sustainability

**Shri Vijaysinha Yadav College, Peth Vadgaon**

**Department of Zoology**

**Syllabus with Cross cutting Issues**

**B.Sc. Part III Zoology**

**Paper- IX DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)**

<b>Unit</b>	<b>Syllabus</b>	<b>Values Covered</b>
<b>Unit 1</b>	<b>Integumentary System</b> 1. Generalized structure of integument 2. Functions of Integument 3. Soft and Hard epidermal derivatives 4. Hard epidermal derivatives	Gender Equality, Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Skeletal System</b> 1. Vertebral column 2. Appendicular skeleton	Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Digestive System</b> Brief account of alimentary canal and digestive glands	Gender Equality, Human Values Environment and Sustainability
<b>Unit 4</b>	<b>Respiratory System</b> Brief account of Gills, lungs, air sacs	Human Values Environment and Sustainability
<b>Unit 5</b>	<b>Circulatory System</b> Evolution of heart and aortic arches	Human Values Environment and Sustainability
<b>Unit 6</b>	<b>Evolution of Kidney</b> Succession of kidney	Professional Ethics
<b>Unit 7</b>	<b>Nervous System</b> Comparative account of brain	Professional Ethics
<b>Unit 8</b>	<b>Sense Organs</b> Comparative account of ear and eye of vertebrates	Professional Ethics
<b>Zoology Paper- X DSE-F29 (Molecular Cell Biology and Animal Biotechnology)</b>		
<b>Unit 1</b>	<b>Molecular Biology</b> 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	Professional Ethics Gender Equality Human Values
<b>Unit 2</b>	<b>Protein synthesis</b> 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	Gender Equality Human Values

<b>Unit 3</b>	<b>Molecular Techniques in Gene manipulation</b> 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	Professional Ethics Gender Equality Human Values
<b>Zoology Paper- XI DSE-F30 (Biotechniques and Biostatistics)</b>		
<b>Unit 1</b>	<b>Genetically Modified Organisms</b> 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.	Professional Ethics Environment and Sustainability
<b>Unit 2</b>	<b>Culture Techniques and Applications</b> a. Animal cell culture: Introduction, principle and applications b. Stem Cells: Introduction to stem cells i) Potency of stem cells: Totipotency, Pluripotency, Multipotency, Unipotency ii) Sources of stem cells-Embryo, Fetal, Adult, Bone marrow	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Biostatistics</b> 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.	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Zoology Paper- XII DSE-F31 (AQUATIC BIOLOGY)</b>		
<b>Unit 1</b>	<b>Aquatic Biomes</b> a. Freshwater ecosystem (lakes, wetlands streams & rivers), b. Estuaries                                      c. Intertidal zones d. Oceanic pelagic zone                      e. Marine benthic zone f. Coral reefs	Professional Ethics Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Freshwater Biology</b> 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	Professional Ethics Gender Equality Human Values Environment and Sustainability

	vi. Bicarbonates 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	
<b>Unit 3</b>	<b>Endocrinology</b> 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	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Zoology Paper- XIII DSE-E30 (DEVELOPMENTAL BIOLOGY OF VERTEBRATES)</b>		
<b>Unit 1</b>	<b>Gametogenesis</b> 1. Types of Eggs 2. Fertilization – Types and Process of Fertilization 3. Types of Cleavages	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 2</b>	<b>Early Development of Frog</b> 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	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Chick Embryology</b> 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	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 4</b>	<b>Late Embryonic Development</b> 1. Implantation of embryo in human being 2. Placenta – Formation, types and significance	Professional Ethics Gender Equality Human Values
<b>Zoology Paper- XIV DSE-E32 (IMMUNOLOGY)</b>		
<b>Unit 1</b>	<b>Overview of the Immune System</b> 1. Introduction to basic concept in immunology 2. Principles of innate and adaptive immune system	Professional Ethics Gender Equality Human Values
<b>Unit 2</b>	<b>Cells and Organs of the immune system</b> 1. Haematopoiesis 2. Cells of immune system 3. Organs (Primary and Secondary lymphoid organs) of the	Professional Ethics Gender Equality Human Values



	immune system 4. Immune responses- Humoral and cell mediated	
<b>Unit 3</b>	<b>Antigens</b> 1. Basic properties of antigens 2. B and T cell epitopes	
<b>Unit 4</b>	<b>Immunoglobulin / Antibodies</b> 1. Structure, Classes and Functions of Antibodies 2. Antigen – Antibody interactions 3. Hybridoma Technology: Monoclonal Antibodies in diagnosis and therapeutics	Professional Ethics Human Values
<b>Zoology Paper- XV DSE-E31 (Applied Zoology - II)</b>		
<b>Unit 1</b>	<b>Apiculture</b> 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	Professional Ethics Gender Equality Human Values
<b>Unit 2</b>	<b>Animal Husbandary</b> 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	Professional Ethics Gender Equality Human Values
<b>Unit 3</b>	<b>Pearl culture</b> 1. Species of oyster 2. Process of Pearl formation: natural and artificial 3. Maintenance of oysters 4. Harvesting      5. Importance of Pearl	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 4</b>	<b>Freshwater prawn culture</b> 1. Species of Prawn      2. Site selection 3. Farm Construction 4. Production system: fertilization, Larval Development, Food and feeding 5. Harvesting	Professional Ethics Gender Equality Human Values Environment and Sustainability
<b>Unit 5</b>	<b>Fish Technology</b> Genetic improvements in aquaculture industry: 1. Induced breeding 2. Transportation of fish seed 3. Feeding and development 4. Harvesting and Marketing	Professional Ethics Human Values Environment and Sustainability
<b>Unit 6</b>	<b>Goat Farming</b> 1. Breeds      2. Feeding 3. Housing      4. Economic Importance	Professional Ethics Human Values Environment and Sustainability
<b>Zoology Paper- XVI DSE-F32 (Insect Vectors and Histology)</b>		
<b>Unit 1</b>	<b>Dipteran as Disease Vectors</b> 1. Dipteran as important insect vectors	Professional Ethics Human Values

	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	Environment and Sustainability
<b>Unit 2</b>	<b>Siphonoptera as Disease Vectors</b> 1. Fleas a important insect vectors 2. Host-specificity 3. Study of Flea-borne diseases a. Plague b. Typhus fever 4. Control of fleas	Professional Ethics Human Values Environment and Sustainability
<b>Unit 3</b>	<b>Histology of mammalian organs</b> Tooth, tongue, Salivary glands, Stomach, Duodenum, Ileum, Liver, Pancreas, Kidney	Professional Ethics Human Values Environment and Sustainability

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**List of Courses with Cross cutting issues**  
**2022-23**

Name of Programme		Name and description of the course	Issues covered
Physics	B. Sc. I	Physics Paper I: Mechanics I	Scientific Approach
		Physics Paper II: Mechanics II	Scientific Approach
		Physics Paper III: Electricity and Magnetism I	Environment and Sustainability
		Physics Paper IV: Electricity and Magnetism II	Environment and Sustainability
	B. Sc. II	Physics Paper V: Thermal Physics and Statistical Mechanics I	Environment and Sustainability
		Physics Paper VI: Wave and Optics I	Scientific Approach
		Physics Paper VI I: Thermal Physics and Statistical Mechanics II	Environment and Sustainability
		Physics Paper VIII: Wave and Optics II	Scientific Approach
	B. Sc. III	Physics Paper IX: I Mathematical physics	Scientific Approach
		Physics Paper X: Quantum Mechanics	Scientific Approach
		Physics Paper X I: Classical Mechanics and Classical Electrodynamics	Scientific Approach
		Physics Paper XII: Digital and Analog Circuits and Instrumentation	Environment and Sustainability
		Physics Paper XIII: Nuclear and Particle Physics	Environment and Sustainability
		Physics Paper XIV: Solid State Physics	Scientific Approach
		Physics Paper XV: Atomic and Molecular Physics and Astrophysics	Environment and Sustainability
		Physics Paper XVI; Energy Studies and Materials Science	Environment and Sustainability

  
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CRITERION I: POINT 2

CROSS CUTTING ISSUES: DEPARTMENT OF COMPUTER SCIENCE

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. I</b>	1. Problem solving using computers DSC11A	Sustainability
	2. Database management System DSC 12A	Sustainability
	3. Programming Skills Using C DSC 11B	Sustainability , Professional Ethics
	4. Relational database management system DSC 12B	Sustainability , Professional Ethics

  
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**CRITERION I: POINT 2**

**CROSS CUTTING ISSUES: DEPARTMENT OF COMPUTER SCIENCE**

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. II</b>	5. PHP and MYSQL DSC 11C	Sustainability
	6. Object oriented programming using C++ DSC 12C	Professional Ethics
	7. Cyber Security Essentials-I DSC 11D	Sustainability
	8. Data Structure Using C++ DSC 12D	Professional Ethics

  
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CRITERION I: POINT 2

CROSS CUTTING ISSUES: DEPARTMENT OF COMPUTER SCIENCE

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	9. Core Java DSE 21E	Sustainability
	10. C# Programming DSE 22E	Professional Ethics
	11. Linux Part-I DSE 23E	Professional Ethics
	12. Python Part-I DSE 24E	Professional Ethics

  
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### CRITERION I: POINT 2

#### CROSS CUTTING ISSUES: DEPARTMENT OF COMPUTER SCIENCE

Class	Paper Name and subject code	Cross cutting issues covered
<b>B.Sc. III</b>	13. Advance Java DSC 21F	Sustainability
	14. ASP.NET DSE 22F	Professional Ethics
	15. Linux Part-II DSE 23F	Sustainability
	16. Python part-II DSE 24F	Professional Ethics
	Practicals	Professional Ethics
	Study Tour	Environment , Sustainability and Human Values
	Projects	Professional Ethics , Human Values

  
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**Department Of Microbiology**

Criterion 01( NAAC) Syllabus Covering Values

**Syllabus For  
B.Sc.1 SEMESTER- I  
Paper – I (DSC 25A)  
Introduction to Microbiology**


	<b>Syllabus</b>	<b>Covering Values</b>
Chapter 1	<p>A. History of Microbiology</p> <ol style="list-style-type: none"><li>1. Spontaneous generation vs. biogenesis.</li><li>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.</li></ol> <p>B. Introduction to types of Microorganisms:</p> <ol style="list-style-type: none"><li>1. General characteristics of different groups:<ol style="list-style-type: none"><li>a. Acellular microorganisms-Viruses, Viroids and Prions</li><li>b. Cellular microorganisms- Bacteria, Algae, Fungi and Protozoa - with emphasis on distribution and occurrence, morphology, mode of reproduction and economic importance.</li><li>c. Ultra-structure of Prokaryotic and eukaryotic cell, difference between prokaryotic and eukaryotic microorganisms.</li></ol></li></ol> <p>C. Bacterial Nomenclature and Classification:</p>	Professional Ethics

  
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**Paper II (DSC 26 A)**  
**Basic Techniques in Microbiology**

	<b>Syllabus</b>	<b>Covering Values</b>
Chapter 1	<p><b>A. Stains and staining procedures:</b></p> <ol style="list-style-type: none"> <li>1. Definition and Classification of stains - Acidic, Basic and Neutral</li> <li>2. Principles, Procedure, Mechanism and applications of staining procedures               <ol style="list-style-type: none"> <li>i. Simple staining</li> <li>ii. Negative staining</li> <li>iii. Differential staining: Gram staining and Acid fast staining</li> </ol> </li> <li>3. Special staining methods               <ol style="list-style-type: none"> <li>i. Cell wall (Chance's method)</li> <li>ii. Capsule (Maneaval's method)</li> <li>iii. Volutine granule (Albert's method)</li> </ol> </li> </ol> <p><b>B. General Principles of Microscopy:</b></p> <ol style="list-style-type: none"> <li>a. Types of microscopes: light and electron microscopes</li> <li>b. Light microscopy: Parts, Image formation, Magnification, Numerical aperture (uses of oil immersion objective), Resolving power and Working distance.</li> <li>c. Ray diagram, special features, applications and comparative study of:               <ol style="list-style-type: none"> <li>i. Compound Microscope</li> <li>ii. Electron Microscope</li> </ol> </li> </ol>	Environmental and sustainability
	<b>Control of Microorganisms</b>	:

  
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**SEMESTER- II**  
**Paper - III (DSC 25 B): Bacteriology**

	<b>Syllabus</b>	<b>Covering Values</b>
Chapter 1	<p>A. Nutritional requirements of microorganisms:</p> <ol style="list-style-type: none"> <li>Water</li> <li>Micronutrients</li> <li>Macronutrients</li> <li>Carbon</li> <li>Energy source</li> <li>Oxygen</li> <li>Hydrogen</li> <li>Nitrogen</li> <li>Sulphur</li> <li>Phosphorous</li> <li>Growth factors – auxotroph, prototroph and fastidious organisms.</li> </ol> <p>B. Nutritional types of microorganism based on carbon and energysources:</p> <ol style="list-style-type: none"> <li>Autotrophs</li> <li>Heterotrophs</li> <li>Phototrophs</li> <li>Chemotrophs</li> <li>Photoautotrophs</li> <li>Chemoautorphos</li> <li>Photoheterotrophs</li> <li>Chemoheterotrophs</li> </ol> <p>C. Types of Culture Media:</p>	Environmental and sustainability

  
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**Paper - IV (DSC 26 B): Microbial Biochemistry**

	<b>Syllabus</b>	<b>Covering Values</b>
<b>Chapter 1</b>	<p>A. Proteins:</p> <ol style="list-style-type: none"> <li>1. General structure of amino acids, peptide bond.</li> <li>2. Types of amino acids based on R group –               <ol style="list-style-type: none"> <li>a) Nonpolar, aliphatic amino acids.</li> <li>b) Aromatic amino acids.</li> <li>c) Polar, Uncharged amino acids.</li> <li>d) Positively charged (basic) amino acids</li> <li>e) Negatively charged (acidic) amino acids.</li> </ol> </li> <li>3. Peptides - properties</li> <li>4. Structural levels of proteins: primary, secondary, tertiary and quaternary.</li> </ol> <p>B. Carbohydrates: Definition, classification and brief account of-</p> <ol style="list-style-type: none"> <li>a. Monosaccharides: Classification based on aldehyde and ketone groups, structure of ribose, deoxyribose, glucose, galactose and fructose.</li> <li>b. Disaccharides: Glycosidic bond, structure of lactose and sucrose.</li> <li>c. Polysaccharides: Structure and biological role of starch, glycogen and cellulose.</li> </ol>	<b>Human values</b>

  
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## PRACTICAL COURSE

### Paper I & II: Introduction to Microbiology and Basic Techniques in Microbiology


	<b>Syllabus</b>	<b>Covering Value</b>
Chapter 1	<ol style="list-style-type: none"> <li>1. Preparations of-               <ol style="list-style-type: none"> <li>a. Stains (0.5% basic fuchsin &amp; 0.5% crystal violet)</li> <li>b. Buffer (Phosphate buffer of pH 7)</li> <li>c. Reagents (1 N and 1M solutions of HCL and NaOH)</li> <li>d. Physiological saline.</li> </ol> </li> <li>2. Biosafety-               <ol style="list-style-type: none"> <li>a. Aseptic techniques</li> <li>b. Table disinfection</li> <li>c. Hand wash</li> <li>d. Use of aprons</li> <li>e. Proper disposal of used material</li> <li>f. Cleaning and sterilization of glassware</li> </ol> </li> <li>3. Study of parts of light compound microscope, its use and care.</li> <li>4. Staining Techniques -               <ol style="list-style-type: none"> <li>a. Monochrome staining</li> <li>b. Negative staining</li> <li>c. Gram's staining</li> <li>d. Cell wall staining (Chance's method),</li> <li>e. Capsule staining (Maneval's method),</li> <li>f. Volutine granule staining (Albert's method)</li> </ol> </li> </ol>	Human values

  
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## Paper III & IV: Bacteriology and Microbial Biochemistry

	Syllabus	Covering Value
Chapter 1	<ol style="list-style-type: none"> <li>Demonstration of presence of micro flora in / on – <ol style="list-style-type: none"> <li>Air by solid impaction technique on nutrient agar plates</li> <li>Water by direct cultivation method</li> <li>Hand, nails, teeth and skin (swabbing) by direct cultivation methods.</li> </ol> </li> <li>Isolation of pure cultures of bacteria by four quadrant streaking method and study of Colony characteristics, Gram staining and motility of – <ol style="list-style-type: none"> <li><i>Escherichiacoli</i></li> <li><i>Bacillusspecies</i></li> <li><i>Staphylococcus aureus</i></li> </ol> </li> <li>Enumeration of bacteria from water and milk by SPC method.</li> </ol>	Environmental and sustainability
	Syllabus	Covering Value
Chapter 2	<ol style="list-style-type: none"> <li>Indole test</li> <li>Methyl red test</li> <li>Voges Proskauer's test</li> <li>Citrate Utilization test</li> <li>H<sub>2</sub>S production test</li> <li>Sugar fermentation - glucose and lactose</li> <li>Enzyme production - <ol style="list-style-type: none"> <li>Amylase</li> <li>Catalase</li> <li>Caseinase</li> </ol> </li> </ol>	Environmental and sustainability

  
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	<p>A) Catabolism of glucose - EMP, HMP, ED and TCA cycle</p> <p>B) Fermentation - Homolactic &amp; Heterolactic fermentation</p> <p>C) Bacterial electron transport chain – Components, flow of electrons</p> <p>&amp; mechanism of ATP generation - Chemiosmotic hypothesis</p>	Human values
	<b>Syllabus</b>	Covering Values
Chapter 2	<p><b>A) Air Microbiology:</b></p> <p>a) Sources of microorganisms in air.</p> <p>Droplet Definitions of - Infectious dust, Droplets &amp; nuclei</p> <p>c) Sampling methods for microbial examination of air</p> <p>i) Solid impaction - Sieve device</p> <p>ii) Liquid Impingement – Bead-bubbler device</p> <p><b>B) Water Microbiology:</b></p> <p>a) Sources of microorganisms in water.</p> <p>Fecal pollution of water, Indicators of fecal pollution</p> <p>b) of water-</p> <p><i>E. coli</i></p> <p>c) Routine Bacteriological analysis of water.</p> <p>1) SPC &amp; 2) Tests for coliforms -</p> <p>i. Qualitative-Detection of coliforms - Presumptive test,</p> <p>Confirmed Test, Completed test.Differentiation</p> <p>between coliforms - IMViC test, Eijkman test.</p>	Human values

	precursors, growth factors , antifoam agents & chelating agents.	
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## SEMESTER-IV Paper VII

### DSC- 7 : Microbial Genetics & Molecular Biology

	Syllabus	Covering Values
	<p><b>A) Basic concepts -</b></p> <p>a) Forms of DNA</p> <p>b) Gene, genome, genotype, phenotype, mutagen, recon, muton , cistron</p> <p>c) Split genes.</p> <p>d) Genetic code – definition and properties of genetic code.</p> <p><b>B) DNA damage by Mutations –</b></p> <p>a) Basic Concepts of Mutation: Base pair substitutions, Frame shift , Missense , nonsense, neutral, silent , pleiotropic and suppressor</p>	Human Values

	D) Lac operon – structure and working	
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## Paper VII DSC- 8

### Basics in Medical Microbiology & Immunology

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	Syllabus	Covering values
	<p>a) Definitions – Host, Parasite, Saprophytes, Commensal, Infection,</p> <p>Etiological agent, Disease, Pathogen, Opportunistic pathogen, True</p> <p>pathogen, Virulence, Pathogenicity, Fomite, Incubation period,</p> <p>Carriers, Morbidity rate, Mortality rate, epidemiology, etiology,</p> <p>Prophylaxis, Antigen, Antibody, Hapten, Vaccine, Immunity.</p> <p>b) Virulence factors (production of endotoxins, exotoxins, enzymes,</p> <p>escaping of phagocytosis)</p> <p>c) Types of diseases – i) Epidemic, ii) Endemic, iii) Pandemic, iv) Sporadic.</p> <p>d) Types of infections – Chronic, acute, primary, secondary,</p>	Human Values
	<p>reinfection, Iatrogenic, congenital, local, generalized, Covert, Overt,</p>	

  
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	<p>4. Antibody : Types of antibodies – Structure, properties and functions.</p> <p>5. Theories of antibody production.</p> <p>6. Immune Response : Primary and secondary immune responses.</p> <p>7. Mechanism of antigen – antibody reaction- Lattice hypothesis</p> <p>8. Types of antigen-antibody reaction-Precipitation and Agglutination</p>	
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Chapter 2	<p>1) Lysogeny</p> <p>a) Introduction</p> <ul style="list-style-type: none"> <li>• Definition of lysogeny</li> <li>• Temperate phages</li> </ul> <p>b) Lysogeny by lambda phage</p> <ul style="list-style-type: none"> <li>• Adsorption and penetration of <math>\lambda</math> phage</li> <li>• Circularization of lambda genome</li> <li>• Genetic map for lysogenic interaction</li> <li>• Expression of <math>\lambda</math> genes</li> <li>• Establishment of repression</li> <li>• Maintenance of repression</li> </ul> <ul style="list-style-type: none"> <li>• Integration of <math>\lambda</math> genome into host genome</li> </ul> <p>2) Reproduction of animal virus - Adenovirus.</p> <p>3) Reproduction of plant virus - TMV</p> <p>4) Oncogenesis:</p> <p>a) Definition of oncogenesis</p> <p>b) Types of cancers</p> <p>c) Characteristics of cancer cells.</p> <p>d) Hypothesis about cancer.</p> <p>i) Somatic mutation hypothesis</p> <p>ii) Defective immunity hypothesis</p> <p>iii) Viral gene hypothesis</p> <ul style="list-style-type: none"> <li>• Role of DNA viruses in cancer with special emphasis on Papova viruses.</li> <li>• Role of RNA tumor viruses <ul style="list-style-type: none"> <li>○ Provirus theory</li> <li>○ Protovirus theory</li> <li>○ Oncogene theory</li> </ul> </li> </ul>	Human values
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	<p>activation by classical and alternate pathway.</p> <p>ii. Biological consequences of complement activation</p> <p><b>D) Monoclonal antibodies:</b></p> <p>i. Concepts of Polyclonal and monodonal antibodies</p> <p>ii. Production of mouse monoclonal antibodies by hybridoma technology.</p> <p>iii. Types of monoclonal antibodies- Mouse, Chimeric, Humanized and Human antibodies</p> <p>iv. Applications of monoclonal antibodies.</p> <p><b>A) Cytokines:</b></p> <p>i. General characters of cytokines</p> <p>ii. Cytokines produced by different <math>T_H</math> cells and Macrophages.</p> <p>iii. Effects of cytokines</p> <p>iv. Interferon-properties- types, inducers of Interferon, Mechanism of action- antiviral and immunoregulatory</p> <p><b>B) Hypersensitivity:</b></p> <p>i. Basic concept ,Gell and Coombs classification</p> <p>ii. Type I-Anaphylaxis</p> <p>iii. Type II-Blood transfusion reactions</p> <p>iv. Type III-Serum sickness.</p> <p>v. Type IV- Delayed type hypersensitivity –Allergy of infection, Allograft rejection.</p> <p><b>C) Immunological tolerance and Autoimmunity:</b></p> <p>i. Immunological tolerance</p> <p>a) Natural or self tolerance and induced tolerance</p> <p>b) Cellular mechanism of immunological tolerance- Central tolerance</p>	
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	Syllabus	Covering Values
Chapter 1	<p>1) Food Microbiology</p> <ul style="list-style-type: none"> <li>a) Food as a substrate for microorganisms: Intrinsic and extrinsic factors</li> <li>b) Sources of microorganisms to food</li> <li>c) Food spoilage: spoilage wine and beer, spoilage of vinegar</li> <li>d) General Principles and methods of food preservation</li> <li>e) Determination of: TDP, TDT, D, F, and Z values</li> <li>f) Food poisoning: <ul style="list-style-type: none"> <li>a. Role of microorganisms in food poisoning</li> <li>b. Food poisoning: <ul style="list-style-type: none"> <li>i) Staphylococcal</li> <li>ii) Fungal (aflatoxin)</li> </ul> </li> </ul> </li> <li>g) Food infections: food infection: Salmonellosis.</li> <li>h) Probiotics: Concept and applications</li> </ul> <p>2) Industrial Microbiology</p> <ul style="list-style-type: none"> <li>A) Strain Improvement</li> <li>B) Scale up of fermentations</li> <li>C) Microbiological assays</li> </ul>	Human Values

  
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**COURSE XII : DSE - E 52**  
**AGRICULTURAL MICROBIOLOGY**

	Syllabus	Covering Values
Chapter 1	<p>1) Soil Microbiology</p> <ol style="list-style-type: none"> <li>Physical characters.</li> <li>Chemical characters.</li> <li>Types of microorganisms in soil and their role in soil fertility.</li> <li>Microbiological interactions               <ul style="list-style-type: none"> <li>- Symbiosis, Commensalism, Amensalism, Parasitism, and Predation.</li> </ul> </li> </ol> <p>2) Role of microorganisms in elemental cycles</p> <ol style="list-style-type: none"> <li>Carbon cycle.</li> <li>Nitrogen cycle</li> <li>Phosphorous cycle</li> </ol> <p>3) Role of Microorganisms in reclamation of soil.</p> <p>Manure and compost method of production</p> <p style="padding-left: 40px;">Green manure and farm yard manure</p> <ol style="list-style-type: none"> <li>City compost- Windrow and pit method.</li> <li>Vermicompost</li> </ol> <p>II) Optimal conditions for composting with reference to -</p> <p>Composition of organic waste, Availability of microorganisms, Aeration, C:N:P ratio, Moisture content, Temperature, pH and Time.</p> <p>III) Standards of City Compost and Vermicompost as per Fertilizer Control Order.</p>	Environment and sustainability

  
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# B.SC.III MICROBIOLOGY

## SEMESTER VI

### Course XIII DSE F49: MICROBIAL GENETICS


	Syllabus	Covering Values
Chapter 1	<ul style="list-style-type: none"><li>1) Basic concepts of bacterial genome -<ul style="list-style-type: none"><li>a) Structural organization of <i>E. coli</i> chromosome - Folded Fiber model.</li><li>b) One cistron - one polypeptide hypothesis.</li></ul></li><li>2) Molecular mechanism of gene expression<ul style="list-style-type: none"><li>a) Concept of operon</li><li>b) Pribnow box</li><li>c) Genetic regulation in tryptophan operon</li></ul></li><li>3) Mutations<ul style="list-style-type: none"><li>a) Expression of mutations -<ul style="list-style-type: none"><li>i) Time course of phenotypic expression.</li><li>ii) Conditional expression of mutation.</li></ul></li><li>b) Suppressor mutations (with examples) - Genetic and non-genetic.</li></ul></li><li>4) Methods of isolation and detection of mutants based on -<ul style="list-style-type: none"><li>a) Relative survival</li><li>b) Relative growth</li><li>c) Visual detection</li></ul></li></ul>	Gender equality

  
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	<p>white screening, Colony hybridization technique.</p> <p>d) Application of genetic engineering in –</p> <ul style="list-style-type: none"> <li>i) Medicine-</li> <li>ii) Agriculture</li> <li>iii) Industry</li> <li>iv) Environment</li> </ul>	
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## COURSE XIV DSE F50: MICROBIALBIOCHEMISTRY

	Syllabus	Covering Values
Chapter 1	<p>1) Enzymes -</p> <p>A) Definition, properties, structure, specificity, mechanism of action (Lock &amp; Key, Induced fit hypothesis), Basics of enzyme classification.</p> <p>B) Allosteric enzymes - Definition, properties, models explaining mechanism of action (Concerted and sequential models). Patterns of feed back inhibition.</p> <p>2) Extraction and purification of enzymes.</p> <p>A) Methods of extraction of intracellular and extracellular enzymes. i) Choice of source and biomass development</p>	Human values

  
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Chapter 2	<p>1) Factors affecting enzyme activity-</p> <p>a) Factors affecting catalytic efficiency of enzymes- i) Proximity and orientation, ii) Strain and distortion, iii) Acid base catalysis, iv) Covalent catalysis</p> <p>b) Environmental factors influencing enzyme activity- i) Substrate concentration, ii) Temperature, iii) pH, iv) Metal ions</p> <p>2) Kinetics of single substrate- enzyme catalyzed reactions - Derivation of Michaelis-Menten equation, Lineweaver Burk Plot, Significance of <math>K_m</math> and <math>V_{max}</math>.</p> <p>3) Microbial Metabolism</p> <p>I) Basics in carbohydrate metabolism-</p> <p>a) PP pathway, ED pathway, Phosphoketolase pathway</p> <p>b) Pyruvate as a key intermediate</p> <p>c) Glyoxylate bypass</p> <p>II) Assimilation of -</p> <p>a) Carbon</p> <p>b) Nitrogen with respect to <math>N_2</math> and <math>NH_3</math> (GOGAT)</p> <p>c) Sulphur</p> <p>4) Biosynthesis of -</p> <p>a) RNA, b) DNA, c) Proteins, d) Peptidoglycan</p> <p>5) Regulation of enzyme synthesis. i) Positive control - Ara operon, ii) Negative control - Lac operon</p> <p>iii) Catabolite repression</p>	Human values
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**COURSE XV DSE F51:**

**ENVIRONMENTAL MICROBIOLOGY**

*Pratibha*  
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- 1) Biological safety in laboratory
  - a) Good Laboratory Practices
  - b) Bio safety levels (BSL)

Environmental monitoring

Definition and purpose

Cleanroom classification

- c) Routine Environmental monitoring programme in pharmaceutical industries- Air monitoring, Surface monitoring and Personnel monitoring.
- d) Bioburden test

- 2) Environmental Impact Assessment- Concept and Brief introduction

- 3) 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

  
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**COURSE XVI DSE F52:**  
**MEDICAL MICROBIOLOGY**

	<b>Syllabus</b>	<b>Covering Values</b>
Chapter 1	<p><b>BACTERIAL DISEASES</b></p> <p>Morphology, cultural and biochemical characteristics, antigenic structure, modes of transmission, pathogenesis, symptoms, laboratory diagnosis, prevention and control of diseases caused by</p> <p>i) <i>Mycobacterium tuberculosis</i>  ii) <i>Clostridium perfringens</i>  iii) <i>Treponema pallidum</i>  iv) <i>Pseudomonas aeruginosa</i>  v) <i>Vibrio cholera</i> vi) <i>Staphylococcus aureus</i> vii) <i>Leptospira interrogans</i>  viii) <i>Klebsiella pneumonia</i></p> <p><b>UNIT – II / CREDIT II</b></p> <p>A. Morphology, cultural and biochemical characteristics, antigenic structure, modes of transmission and pathogenesis, symptoms, laboratory diagnosis, prevention and control of diseases caused by-</p> <p>1) Protozoa : <i>Plasmodium falciparum</i></p>	Human Values


*(Signature)*

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	mutants (gradient plate technique)	
	Testing of carcinogenicity of a substance by Ame's test	


  
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### Practical - II (Food and Industrial Microbiology)

	Syllabus	Covering values
Chapter 1	<p style="text-align: center;">Assay of amylase by DNSA method ( graphical estimation )</p> <ol style="list-style-type: none"> <li>1. Bio-assay of Vitamin B12</li> <li>2. Bio-assay of Penicillin.</li> </ol> <p>Minor:</p> <ol style="list-style-type: none"> <li>1. Production of wine and examination for pH, colour and alcohol content.</li> <li>2. Citric acid fermentation, recovery and estimation by titration.</li> </ol>	Environment and sustainability

**Practical - III (Agricultural and Environmental Microbiology)**  
**Practical - IV Medical Microbiology**

	<b>Syllabus</b>	<b>Covering values</b>
Chapter 1	<p align="center">Isolation of Azotobacter from soil.</p> <ol style="list-style-type: none"> <li>1. Isolation of Xanthomonas from infected citrus fruit.</li> <li>2. Isolation of Rhizobium from root nodules.</li> <li>3. Isolation of phosphate solubilising bacteria from soil.</li> <li>4. Determination of BOD of sewage</li> </ol> <ol style="list-style-type: none"> <li>1. Estimation of Calcium and Magnesium from soil (EDTA method)</li> <li>2. Determination of organic carbon content of soil (Walkley and Black method)</li> </ol> <p align="center">Determination of COD of sewage</p> <p>Isolation of following pathogens from clinical samples (wherever possible) and identification of the same by morphological, cultural and biochemical characteristics.</p>	Environment and sustainability

  
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10/10/2023

Shri Vijaysinha Yadav College,Peth Vadgaon

Department of Commerce

Syllabus covering following values and Ethics 2022-23

BCOM I

Semester I

Sr.	Subject	Unit in Syllabus	Covered Ethics
1.	Insurance	Unit I - Introduction to insurance Unit II - Life Insurance Unit III - Life Insurance Policy Unit IV - Life Insurance Business in India	Human Ethics  Investment awareness Types of policy  Business Ethics
2.	Financial Account	Unit I - Introduction to Accounting Unit II – Amalgamation of partnership firm Unit III – Consignment Account Unit IV – Accounts of professionals	Accounting standers Business goals  Business Ethics  Professionals Ethics
3.	Principle of Marketing	Unit I – Introduction to Marketing Unit II – Consumer Behavior Unit III – Rural	Evolution of Marketing Human & Professional Ethics Social and



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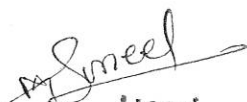
Syllabus covering following values and Ethics 2022-23

BCOM I

Semester I

Sr.	Subject	Unit in Syllabus	Covered Ethics
1.	Insurance	Unit I - Introduction to insurance Unit II - Life Insurance Unit III - Life Insurance Policy Unit IV - Life Insurance Business in India	Human Ethics  Investment awareness Types of policy  Business Ethics
2.	Financial Account	Unit I - Introduction to Accounting Unit II – Amalgamation of partnership firm Unit III – Consignment Account Unit IV – Accounts of professionals	Accounting standers Business goals  Business Ethics  Professionals Ethics
3.	Principle of Marketing	Unit I – Introduction to Marketing Unit II – Consumer Behavior Unit III – Rural	Evolution of Marketing Human & Professional Ethics Social and

		Marketing Unit IV – Recent Development in Marketing	Economic changes Online Marketing Honesty
4.	Management Principles	Unit I - Introduction to Management Unit II – Planning and Decision Making  Unit III – Organizing Unit IV – Direction and Communication	Behavioral Approach Business ,Swoc Analysis, Techniques Human Values Overcoming Barriers to Communication
5.	Micro Economics	Unit I – Demand and Consumer Behavior Unit II – Demand forecasting Unit III – Production Function Unit IV – Cost of Production and Revenue	Marketable  Market Survey  Business  Production
6.	Business Communication	Module I – Module II – Module III – Module IV –	Business Ethics Developing Spoken Skill Human Ethics Developing reading skill

  
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**BCOM I****Semester II**

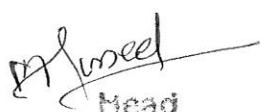
Sr.	Subject	Topics in Syllabus	Covered Ethics
1.	Insurance	Unit I – Fire Insurance Unit II – Marine Insurance Unit III – Miscellaneous Insurance Unit IV - General Insurance business in India	Protection against Fire Human Ethics Business Ethics  Growth of General Insurance
2.	Financial Account	Unit I – Single Entry System Unit II – Conversion Of Partnership Firm into Limited company Unit III – Branch Accounts Unit IV- computerized Accounting system	Double Entry system transaction  Expand Business  Business knowledge Accounting Software Tally
3.	Principle of Marketing	Unit I – Product  Unit II – Pricing and Promotion  Unit III – Distribution channels  Unit IV- Retailing	Consumer Goods and Industrial Goods Trust and brand reputations , Personal Selling Knowledge of Marketing , Direct Marketing , Physical Distributions Store based on

**BCOM II****Semester III**

Sr.	Subject	Topics in Syllabus	Covered Ethics
1.	Co-operative Accounting	Unit I – Issue and Forfeiture of shares Unit II – Issue and Redemption of Debenture Unit III – Preparation of Final Accounts Unit IV- Practical of Fundamentals Computerized Accounting With Tally	Valuation of Right shares ,SEBI guidance Issue of debenture at par,at premium,at discount,  Schedule of Balance Sheet & Profit & Loss A/c Knowledge about Tally Software, Types Voucher
2.	Macro Economics	Unit I – Introduction of Micro economics Unit II – National Income Unit III – Value of Money Unit IV-Out put & Employment	View approach  Types of income  Knowledge of inflation Consumer demand
3.	Money and Finance	Unit I – Introduction to money Unit II – Introduction to Banking Unit III – Banking business & practices	Knowledge of money Banking Business  Income of Banking



		Unit IV-New Trends & Recent	Financial Evolution
4.	Fundamental of Entrepreneurship	Unit I Entrepreneurship Unit II-Entrepreneurship Development Unit III – Micro ,Small &Medium enterprise Unit IV-Recent Trends &Concept on Entrepreneurship	Business Ethics Personal Ethics  Business Ethics  Social responsibility
5.	Business statistics	Unit I – Unit II – Unit III – Unit IV	sustainability and Professional Ethics
6.	Business Communication	Module I –  Module II –  Module III-  Module IV-	Improvement Oral Skills Development of Conversation Skill Competitive Examination Human Ethics

  
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BCOM II

Semester IV

Sr.	Subject	Topics in Syllabus	Covered Ethics
1.	Co-operative Accounting	Unit I – Profit/Loss Prior to Incorporation Unit II – Valuation of Shares Unit III – Accounting for Liquidation of companies Unit IV- Store Accounting with Practical using Tally	Meaning of Preference Share Valuation Methods of Shares Company Ethics, Knowledge of incorporation process Knowledge of Tally ERP 9
2.	Money and Finance	Unit I – Banking Services Unit II – Reserve Bank of India Unit III – Financial Market Unit IV- All India Financial Institute & NBFCs	Modern Banking RBI Information  Government Policy  Mutual Fund & Non banking Finance
3.	Macro Economics	Unit I – Trade Cycles Unit II – Public Finance Unit III – International Trade Unit IV- Rate of exchange	Business Cycles Social Ethics International Trade Money &Commodity Exchange
4.	Fundamental of Entrepreneurship	Unit I – Family Business Unit II – Service &Agro	Business Ethics Long Term Success

		Entrepreneurship Unit III – Business Plan &Project Report Unit IV-Woman Entrepreneurship &Successful Entrepreneurship	Entrepreneurship Ethics Development of Woman Entrepreneurship
5.	Business statistics	Unit I – Unit II – Unit III – Unit IV	sustainability and Professional Ethics
6.	Business Communication	Module-V  Module-VI  Module-VII Module-VIII	E- communication English for Competitive Examination Business Ethics Human Ethics

  
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### BCOM III

### Semester V & VI

Sr.	Subject	Topics in Syllabus	Covered Ethics
1.	Advanced Accountancy I & III	final Account Financial statement Analysis Bank	Professional Ethics Business Ethics
2.	Advanced Accountancy II & IV	Income tax – Income from salary Audit – Internal and external audit of business	Legal Ethics Professional Ethics
3.	Modern Management Practice	Total Quality Management Time Management	Professional Ethics Personal Ethics
4.	Business Regulatory Framework	Company Act 2013 Contract Act 1972	Legal Ethics
5.	Co operation	Maharashtra co- operative Housing society Model cooperation Education and Training	Legal Ethics Social Ethics
6.	Business Environment	Industrial development Agriculture Development	Professional Ethics

  
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