Program Outcome

- Acquired the knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science etc.
- Understood the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.
- Acquired the skills in handling scientific instruments, planning and performing in laboratory experiments
- The skills of observations and drawing logical inferences from the scientific experiments. Analyzed the given scientific data critically and systematically and the ability to draw the objective conclusions.
- Been able to think creatively (divergently and convergent) to propose novel ideas in explaining facts and figures or providing new solution to the problems.
- Realized how developments in any science subject helps in the development of other science subjects and vice-versa and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- Developed scientific outlook not only with respect to science subjects but also in all aspects related to life.
- Realized that knowledge of subjects in other faculties such as humanities, performing arts, social sciences etc. can have greatly and effectively influence which inspires in evolving new scientific theories and inventions.
- Imbibed ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.
- Developed various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.
- Realized that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.

Program Specific Outcomes

Computer Science

- Serve as the Programmers or the Software Engineers with the sound knowledge of practical and theoretical concepts for developing software.
- Serve as the Computer Engineers with enhanced knowledge of computers and its building blocks.
- Work as the Hardware Designers/Engineers with the knowledge of Networking Concepts.
- Work as the System Engineers and System integrators
- Serve as the System Administrators with thorough knowledge of DBMS. To Give Technical Support for the various systems.
- Work as the Support Engineers and the Technical Writers Work as Consultant and Management officers for system management.
- Work as IT Sales and Marketing person.
- Serve as the IT Officers in Banks and cooperative societies.
- Work as DTP Operator in small-scale industries.
- Serve as the Web Designers with latest web development technologies.

COURSE OUTCOMES

B.Sc I

DSC-11A: PROBLEM SOLVING USING COMPUTERS

On completion of the course, students are able to:

- Understand the Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.
- Understand Linux Operating System and CLanguage, Introduction to GCC Compiler, Components of Compilation Process.
- Decision Making and Looping Constructs.
- Understand Arrays.

DSC-12A: Database Management System

On completion of the course, students are able to:

- Characteristics of database approach. Data models: Hierarchical, Network, Relational.
- Data independence.
- Entity: Entities: Domain, Attributes, Tuples, Relations,Entity Relationships.
- SQL-99: Schema Definition.

DSC-11B: Programming Skills Using 'C'.

On completion of the course, students are able to:

- Pointers: Pointer Data Type, Pointer Declaration, Pointer Initialization
- Programming for Functional Functions.
- Structure and Dynamic Memory Allocation.
- File Handling.

DSC-12B: Relational Database Management System

On completion of the course, students are able to:

- Basic concept, Relational constraint.
- SQL Clauses:
- Entity Relationship (ER)
- Functional dependencies.
- Functional Decomposition. Normal forms

Practical Paper I

On completion of the course, students are able to develop programs using C to meet real World needs and able to develop their own websites. This course provides platform to Enhance student's basic skills required for advanced programming.

B.Sc II

Paper no DSC-11C PHP and MYSQL

On completion of the course, students are able to:

- Understand how PHP works with lexical structure of it.
- Program for different applications using arrays, functions and strings.
- Aware about different web techniques used in PHP.
- Integrate PHP with MYSQL

DSC-12C Object oriented Programming using C++

On completion of the course, students are able to:

- Be familiar with Object Oriented Programming Environment.
- Differentiate between Structures oriented programming and object oriented
- Programming.
- Understand different object modeling techniques and analysis like Generalization,
- Aggregation and Metadata.
- Write Reusable, Extensible and Robust programs in C++.

Practical Paper DSC-12C Object oriented Programming using C++

On completion of the course, students are able to develop programs using C++ based on Object oriented concepts and write the ROBUST, EXTENSIBLE and EFFICIENT programs and database system using oracle 10g

DSC-11D Cyber Security Essential-I

- The learner will gain knowledge about securing both clean and corrupted systems, protect personal data, and secure computer networks.
- The learner will understand key terms and concepts in cyber law, intellectual property and cybercrimes, trademarks and domain theft.
- The learner will be able to examine secure software development practices.
- The learner will understand principles of web security.
- The learner will be able to incorporate approaches for incident analysis and response.
- The learner will be able to incorporate approaches for risk management and best practices.
- The learner will gain an understanding of cryptography, how it has evolved, and some key encryption techniques used today.
- The learner will develop an understanding of security policies (such as confidentiality, integrity, and availability), as well as protocols to implement such policies.

- The learner will gain familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.

DSC_11 Data Stature

- Select appropriate data structures as applied to specified problem definition.
- Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures. 3Students will be able to implement linear and Non-Linear data structures.
- Implement appropriate sorting/searching technique for given problem.
- Design advance data structure using Non-Linear data structure.
- Determine and analyze the complexity of given Algorithms.

Practical Paper

- Students will try to learn:1. Understand and remember algorithms and its analysis procedure.
- Introduce the concept of data structures through ADT including List, Stack, Queues
- To design and implement various data structure algorithms.
- To introduce various techniques for representation of the data in the real world.
- To develop application using data structure algorithms. 6. Compute the complexity of various algorithms.

B.Sc III

Paper IX Computer Networking

On completion of the course, students are able to:

- Understand applications of network, network structures and protocol hierarchy
- Aware about details of physical, data link, network and transport layer of TCP/IP
- Network model.
- Understand about different aspects of network security like firewalls, IP security and
- VPNs.
- Aware about attacks and Confidentiality used in cryptography.

Paper No X Visual Programming Using c#

On completion of the course, students are able to:

- By using c# code and ASP.Net create dynamic web pages.
- Using MS Visual Studio.NET IDE and Create Console Applications.
- Know about Basic Principal of OOP, Defining Class and using functions.
- Able to use constructor and destructor.

- Use Polymorphism, MethodOverriding, Method hiding

Paper XI Linux Operating System

On completion of the course, students are able to:

- To provide introduction to UNIX Operating System and its File System

- Describe the architecture and features of UNIX Operating System and distinguish it from other Operating System
- Understand the basics of operating systems like kernel, shell, types and views of operating systems
- Demonstrate UNIX commands for file handling and process control
- Understand the significance of the seven fields of the ls – l output
- Demonstrate changing of file permissions and ownership
- Discuss various modes in which Vi editor operates

Paper No XII PHP and MYSQL

On completion of the course, students are able to:

- Understand how PHP works with lexical structure of it.
- Program for different applications using arrays, functions and strings.
- Aware about different web techniques used in PHP.
- Integrate PHP with MYSQL

Paper No XIII Network Technology and Win server 2008

On completion of the course, students are able to:

- Understand computer network basics, network architecture, TCP/IP and OSI reference models.
- Identify and understand various techniques and modes of transmission
- Describe data link protocols, multi-channel access protocols and IEEE 802 standards for LAN
- Describe routing and congestion in network layer with routing algorithms and classify IPV4 addressing scheme
- Discuss the elements and protocols of transport layer
- Understand network security and define various protocols such as FTP, HTTP, Telnet, DNS

Paper No XIV Java Programming

On completion of the course, students are able to:

- Get knowledge JDK Environment.
- Explore polymorphism using Function and Operator Overloading, overriding.
- Understand the different aspects of hierarchy of classes and their extensibility.

- Understand the concepts of streams and files.
- Write programs for handling runtime errors using exception.

Paper No XV Advanced Linux Application

On completion of the course, students are able to:

- Discuss the importance of filters and their need in UNIX
- Demonstrate the use of various Sed commands
- Demonstrate splitting a line into fields and format the output
- Write a shell script for specific problem definition
- Demonstrate the use of positional parameters.
- Employ decision making and looping construct to write a shell script
- Demonstrate the use of positional parameters.

Paper No XVIEcommerce

On completion of the course, students are able to:

- Know about basics of cybernetics.
- Understand theory of cyber crime like web jacking and hacking.
- Aware about cyber laws and IT acts 2000 in India.
- Know about intellectual property rights.

Practical Paper III

On completion of the course, students are able to develop Asp.net, Java, Networking using features and services provided by MS visual Studio and win server 2008, JDK.

Practical Paper IV

On completion of the course, students are able to develop Linux, Advanced Linux, PHP & MYSQL using features and services provided by Redhat, ubuntu, dreamviewer, wampserver.

Attainment of PO, PSO, CO

Attainment of PO and PSO-:

Delivery details of content beyond syllabus

- Library/ internet assignments on contemporary issues.
- Additional laboratory experiments
- Pre-placement Training
- Training on Soft skills and value add programs
- Creative /Projects
- Guest lectures
- Workshops/conference
- Industrial Visits

Attainment of CO-:

The key aspects in Outcome-Based Education (OBE) are the assessment of course outcomes. At the initial stage of OBE implementation, the Course Outcomes (CO's) for each course are defined based on the Programmer Outcome (PO's) and other requirements. At the end of each course, the COs needs

It can be determined from the performance of the students in all the relevant assessment instruments – like internal assessments, assignments, quiz and final university examination. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. Indirect methods such as surveys and interviews ask the stakeholders to reflect on student's learning. They assess opinions or thoughts about the graduate's knowledge or skills. Indirect measures can provide information about graduate's perception of their learning and how this learning is valued by different stakeholders.

(A) Internal Tests/Exams:

- The Internal Assessment marks in theory papers shall be based on two tests generally

- Conducted twice in each semester as per the academic calendar stipulated by the affiliated university.
- There shall be a maximum of 10 Internal Assessment Marks in each theory subjects.
- Question papers for the corresponding course will be prepared by the respective course faculty and will be submitted to the Internal Test Coordinator well in advance.

(B) Laboratory Exam Evaluation:

- The laboratory in-charge will conduct the practical test.
- The evaluation procedure for laboratory courses are done by the laboratory In-Charge(s) based.

(C) Seminar Work Evaluation:

One seminar will be conducted per student in the final year by a committee consisting of the Head of the Department and three senior faculty members of the department whom shall be the Seminar Coordinator(s).

(D) Project Work Evaluation:

- Project work at 6th semester shall be completed batch wise, each batch consisting of a maximum of TWO candidates.
- The Project Coordinator(s) gives the instructions to the students by the end of 5th semester and project batches are formed among the student

- Viva-voce examination in project work shall be conducted batch-wise by the panel of members assigned by the university. Based on the performance of the students, the external viva voce marks are awarded and the same is submitted to the university.