PROGRAMME OUTCOMES

PO1: To attract young minds to the potentially rich & employable field of computer applications.

PO2: To be a foundation graduate programme which will act as a feeder course for higher studies in the area of Computer Science/Applications.

PO3: To develop skills in software development so as to enable the graduates to take up self – employment in the Indian & global software market.

PO4: To Train & Equip the students to meet the requirement of the Industrial standards.

PROGRAMME SPECIFIC OUTCOMES

PSO1: Students will be able to understand, analyse and develop computer programs in the areas related to algorithm, system software, web design and networking for efficient design of computer-based systems.

PSO2: Apply standard software engineering practices and strategies in software project development using open source programming environments and in different Programming languages, to cope with the needs of today's IT industry.

PSO3: Students will be able to know various issues, latest trends in technology development and thereby innovate new ideas and solutions to the problems that arise in today's field.

COURSE OUTCOMES

SEMESTER I

EN1CCT01: Fine Tune Your English

CO1: The student gain confidence to use English in both written and spoken forms

CO2: Learns to write effective sentences

CO3: Learns to produce grammatically correct sentences

CO4: Identifies the grammatical errors in speech and writing.

MM1CMT03: DISCRETE MATHEMATICS (I)

After completion of course students are expected to be able to:

CO1: Study about logic, predicates and quantifiers.

CO2: Introduce the basic concepts such as sets, set operations, functions, sequences and summations.

CO3: To get an idea of integers and properties of congruence.

CO4: Introduction of relations and partial ordering

ST1CMT31: BASIC STATISTICS AND INTRODUCTORY PROBABILITY THEORY

On completion of the course the student should be able to:

CO1: Learn about sampling theory.

CO2: Correlation and Regression concepts to analyse data.

CO3: Familiar with Probabilities and Conditional probabilities

CO4: Learn about random variables and its types

CA1CRT01: Computer Fundamentals and Digital Principles

This subject covers basics in computer science. After completing this course students will become familiar with the fundamentals of the computer system.

CO1: Understand the fundamental concepts of computers including hardware and software

CO2: Explain operating systems, networking, and working of internet

CO3: Understand binary, hexadecimal and octal number systems and their arithmetic

CO4: Understand how logic circuits and Boolean algebra forms the basics of digital computer

CO5: Demonstrate the building up of Sequential and combinational logic from basic gates

CA1CRT02: Methodology of Programming and C Language

CO1: Illustrate the flowchart and design an algorithm for a given problem and to develop programs using operators

CO2: Understand character set, data types, operators

CO3: Develop conditional and iterative statements to write C programs

CO4: Inscribe C programs to access arrays, strings, pointers.

CO5: Exercise user defined functions, structures and unions to solve real time problems and understand how to allocate memory using dynamic memory management functions.

CA1CRP01: Software Lab I

CO1: Use the fundamentals of C programming in trivial problem solving
CO2: Choose the loops and decision making statements to solve problems.
CO3: Demonstrate the use of Strings, string handling functions and pointers
CO4: Understand structures and unions.
CO5: Distinguish the strategy of dynamic memory allocation and use functions to solve problems.

SEMESTER II

EN2CCT03: Issues that Matter

CO1: The students identify the major issues of contemporary significance
CO2: Respond rationally and positively on contemporary issues.
CO3: The students understand the world in a better way and acquire the ability to differentiate good and evil.

MM2CMT03: DISCRETE MATHEMATICS (II)

After completion of course students are familiar with:
CO1: Able to apply mathematical logic to solve problems.
CO2: Able to model and solve real world problems using graphs and trees.
CO3: To solve linear equations in matrix form.
CO4: Able to describe computer programs in a formal mathematical manner

CA2CRT03: Data Base Management Systems

CO1: Characterise the database approach
CO2: Discuss the relations, relationship models and relational database schemas in detail
CO3: Practice with the SQL queries
CO4: Understand the Normalization and Indexing Structures for Files
CO5: Discuss Transaction Processing and Database Security

CA2CRT04: Computer Organization and Architecture

CO1: Computer organization and architecture provide ideas about fundamentals of computer operations.
CO2: It introduces the register organization and its function.
CO3: Topics covering Instruction sequencing and branching are helpful in programming.
CO4: Concept of memory covers primary and secondary memory. Virtual memory and cache

memory gives an idea about memory management and mapping.
CO5: Parallel programming concepts give an idea about emerging techniques.

CA2CRT05: Object oriented programming using C++
CO1: Understand the difference between the top-down and bottom-up approach
CO2: Describe the object-oriented programming approach in connection with C++
CO3: Apply the concepts of object-oriented programming
CO4: Illustrate the process of data file manipulations using C++
CO5: Apply virtual and pure virtual function & complex programming situations

CA2CRP02: Software Lab- II
SQL and Object Oriented Programming in C++
CO1: Students get practical knowledge on designing and creating relational database systems.
CO2: Understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger, views and embedded SQL.
CO3: Implement the concept of C++ classes and objects.
CO4: Create simple C++ programs based on the concept of default arguments, function overloading, array of objects and friend functions.
CO5: Implement the concept of inheritance and different types of constructors in C++.

SEMESTER III

ST3CMT32: ADVANCED STATISTICAL METHODS
on completion of the course, the student will be able to:
CO1: Familiarize the students basic discrete and continuous probability distributions, their properties and uses.
CO2: To know the sampling distributions, their applications and the relationship between them.
CO3: Demonstrate computational skills to implement various statistical inferential approaches.
CO4: Use statistical tools to analyze data, draw conclusions and predictions of the future.

CA3CRT06: Computer Graphics
CO1: Knowledge of working of display systems
CO2: Skills to execute various scan conversion algorithm so as to draw graphics primitive
CO3: Familiarization with 2D and 3D graphics
CO4: Ability to implement 2D geometric transformation on computer systems.
CO5: Understand the concept of Animation

CA3CRT07: Microprocessor and PC Hardware

CO1: To introduce students with the architecture and operation of typical microprocessors and microcontrollers.
CO2: To familiarize the students with the programming and interfacing of microprocessors and microcontrollers.
CO3: To study in detail about motherboard
CO4: To get a knowledge about external storage and hard disk
CO5: To familiarize with different types of memories in computer

CA3CRT08: Operating Systems

CO 1: Discuss fundamental concepts, structure and design of operating Systems
CO 2: Explain inter-process communication, Inter-process scheduling and scheduling algorithms
CO 3: Describe process coordination and synchronization
CO 4: Explain different approaches to memory management.
CO 5: Describe secondary storage management and disk scheduling

CA3CRT09: Data Structures using C++

Upon completion of this course, students should be able to:
CO1: Identify fundamental data structures and algorithms and summarize their typical uses, strengths, complexity and weaknesses
CO2: Understand the concept of Stack, Queue and their applications
CO3: Implement the concept of linked list
CO4: Ability to have knowledge of tree and graphs concepts
CO5: Understand the concept of file and hashing

CA3CRP03: Software Lab III

After the successful completion of the Data Structures lab course the student will be able to
CO1: Write programs to implement Searching and Sorting techniques.
CO2: Write programs to implement Stack and Queue
CO3: Implement Linked List
CO4: Implement tree and its traversal
CO5: Binary Search Tree implementation

SEMESTER IV

MM4CMT03: OPERATIONS RESEARCH

On completion of the course, the student will be able to:

CO1: To understand meaning, applications, uses and limitations of Operations Research.

CO2: To apply operations research techniques to solve real life problems.

CO3: To develop skills in analysis of Operations research objectives and mathematical methods.

CO4: To develop logical reasoning ability in decision making.

CA4CRT10: Design and Analysis of Algorithms

CO1: Ability to analyse the performance of algorithms

CO2: Understand various algorithm design techniques and the ability to adopt the appropriate technique while approaching a problem.

CO3: Analyse the divide and conquer strategy and greedy method in problem solving.

CO4: Analyse the concept of dynamic programming with the help of various problems.

CO5: Understand some graph based concepts and analyse backtracking with suitable examples.

CA4CRT11: System Analysis & Software Engineering

CO1: Understand the significance of system analysis, design and development

CO2: Understand the process of system modelling in detail

CO3: Use the engineering technique of requirement elicitation and understand cost model techniques in software engineering

CO4: Interpret the standardized system design methods in software production

CO5: Make use of system testing and validation in the development life cycle

CA4CRT12: Linux Administration

On completion of the course, the student will be able to:

CO1: To know the basic concepts of Linux Operating System.

CO2: Familiar with Linux commands.

CO3: Understand shell programming

CO4: Familiar with system administration

CO5: Understand various types of servers

CA4CRT13: Web Programming using PHP

Upon completion of this course, students will be able to

CO1: To know the basic concepts of HTML

CO2: Getting Familiar with CSS, JavaScript
CO3: Understand data types, controls and other structures in the Language PHP
CO4: Test, Debug and deploy web pages containing PHP
CO5: Understand MySQL.

CA4CRP04: Software Lab IV
CO1: Understand the Linux Architecture and command usage
CO2: Practice shell scripting and essential shell programming
CO3: Implement HTML and Java script for web designing
CO4: Aware and apply server side scripting language PHP.
CO5: Understand and Apply MySQL

SEMESTER V

CA5CRT14: Computer Networks
After completing the course the student must demonstrate the knowledge and ability to:
CO1: Understanding basic concepts, OSI reference model, services and role of each layer of OSI model and TCP/IP, networks devices and transmission media, Analog and digital data transmission
CO2: Understanding about bandwidth, transmission media and switching.
CO3: Apply framing, error and flow control techniques and Multiple Access Protocols
CO4: Explain the functions offered by network and transport layer and have a basic knowledge of the use of cryptography

CA5CRT15: IT and Environment
CO1: Multidisciplinary nature of environmental studies: Definition, scope and importance, Need for public awareness, familiar about - Natural Resources, Mineral resources, Ecosystems etc.
CO2: Biodiversity and its conservation, Environmental Pollution, Social Issues and the Environment.
CO3: IT & Society- issues and concerns- digital divide, IT & development, the free software movement, IT industry.
CO4: To know about E-Waste, its impact and management of E-waste in India, Green computing and its scope.
CO5: To know about Human Right and basic international Human Right Document.

CA5CRT16: Java Programming using Linux

CO1: Understand platform independent pure object oriented programming paradigm through Java
CO2: Understand the concepts of packages, multithreading and exception handling for effective programming
CO3: Apply GUI components in event handling for user friendly program interface
CO4: Use applets in Java for internet programming
CO5: Obtain back-end connectivity using JDBC in Java programming

CA5OPT: Open Course - Informatics and Cyber Ethics

CO1: Explain the concepts of Internet and its major components
CO2: Explain different academic knowledge repositories and the use of use of IT in teaching and learning
CO3: Understand the concept of Intellectual property with focus on Information Technology
CO4: Understand the concepts of cyber ethics, cyber addictions and cybercrimes
CO5: Explain the concepts of e-Waste and Green computing, use of IT in localization and e-Governance

CA5CRP05: Software Lab V

CO1: Write computer programs in Java using object oriented features to solve real world problems
CO2: Create interfaces and packages in java
CO3: Develop multithreaded applications with synchronization in java
CO4: Develop GUI applications in Java using Swing components and to create Java applets
CO5: Develop Java applications with MySQL as back-end

CA5CRP06: Software Development Lab I

CO1: Make the student confident in designing a system based on Software Engineering principles.
CO2: Enable the student to develop a dynamic website based on PHP and MySQL.
CO3: Strengthen the understanding of programming fundamentals through effective application of theoretical concepts.
CO4: Help students to boost skills and widen the horizon of thinking.
CO5: Build solutions for real world problems.

SEMESTER VI

CA6CRT17 -Cloud Computing

CO1: Study the basics of cloud computing and analyse the improved efficiency offered by cloud computing platform in the modern day computing environment.
CO2: Understand the concept of virtualization along with their technologies
CO3: Understand cloud computing architecture.
CO4: Explore data intensive computation and analyse a cloud application platform, Aneka
CO5: Compare various industrial cloud platforms.

CA6CRT18: Mobile Application development- Android

Upon completion of the subject, students will be able to:
CO1: Understand the various components of Android
CO2: Understand the Android Layout and basic User Interface Components
CO3: Apply android concepts for building simple mobile applications
CO4: Understand the concepts of Activity, service and multimedia architecture
CO5: Understand the SQLIte database concepts, JSON Telephony, Wifi and Maps

CA6PET01: Data Mining

CO1: Understand the fundamental concepts in data mining.
CO2: Understand the difference between operational database and data warehouse.
CO3: Explain association rule mining and classification tasks.
CO4: Explain clustering and its applications.
CO5: Understand mining of data from multimedia databases including text, image, audio, video and WWW.

CA6CRP07: Software Lab VI & Seminar

On completion of the course students will be able to
CO1: Familiarize with new technologies
CO2: Improve presentation skills
CO3: Improve discussion skills
CO4: Improve oral communication skills
CO5: Improve argumentative skills and critical thinking

CA6CRP08: Software Development Lab II

CO1: To acquire practical knowledge on the implementation of programming concepts studied

CO2: To make the student confident in designing a software project
CO3: Review the literature and develop solutions for framed problem statement
CO4: To apply software engineering principles on a real software project
CO5: Apply, analyze, design and develop the software project.

CA6VVT01: Viva Voce

CO1: Evaluate how much learning outcomes have been met at the end of the UG programme.
CO2: Prepare for interviews both at the academic and the industrial sector.
CO3: Explore their field of knowledge, which includes a critical awareness of current problems and /or new insights at the forefront of that field.
CO4: Understanding of techniques applicable to their own area of professional practice.
CO5: Specific and measurable statements that define the knowledge, skills, and attitudes learners