Programme : BCA

Course Outcomes of the Course "Fundamentals of Information Technology"

CO1. Understand the fundamentals of computer system
CO2. Identify different components within the computer system
CO3. Understand different types of input and output devices
CO4. Demonstrate the working concepts of different devices connected to computer
CO5. Explain different generations of programming languages and their significance
CO6. Understand the use of Word processing, Spreadsheet, Presentation and DBMS applications

Course Outcomes of the Course "Problem Solving Using C"

CO1. Understand the two problem solving techniques, namely Algorithms and Flowcharts
CO2. Write algorithms and create flowcharts to solve simple problems
CO3. Understand specific tokens of C Programming Language
CO4. Explain the use of input, output, decision making and looping statements for various problems
CO5. Demonstrate the use of Arrays, Strings, Structures, Unions and Pointers
CO6. Analyse the purpose of user defined functions, recursion, files and pre-processors

Course Outcomes of the Course "Computer Organisation"

CO1. Understand conversions and arithmetic operations using Binary, Decimal, Octal and Hexadecimal number systems
CO2. Perform addition and subtraction using 1's Complement, 2's Complement, 9's Complement and 10's Complement methods
CO3. Analyse the functioning of various logic gates and simplify Boolean functions using postulates, theorems and K-maps
CO4. Analyse the working of combinational circuits such as Adders, Subtrctors, Code converters, Magnitude comparators, Decoders, Encoders, Multiplexers and Demultiplexers
CO5. Analyse the design of different types of Flip Flops
CO6. Design circuits for various counters and registers

Course Outcomes of the Course "Internet Basics and HTML"

CO1. Understand various Internet related terminologies
CO2. Explain features and evolution of Internet
CO3. Demonstrate the use of e-mail and messengers
CO4. Explain the use of search engines
CO5. Know the use of different tags available in HTML
CO6. Create simple Web pages using HTML and Style sheets

Course Outcomes of the Course "Basic Mathematics"

CO1. Solve simple problems using laws of Logarithms and Binomial Theorem
CO2. Solve problems based on analytical geometry, straight lines and circles
CO3. Demonstrate the use of trigonometric functions, limits, continuity, differentiation and integration
CO4. Understand the Principles of set theory, Venn diagrams, Cartesian products, relations and functions
CO5. Construct truth tables for negation, compound statements, tautologies, fallacies, propositions, conditions, bi-conditional statements, arguments and joint denial
CO6. Solve problems on matrix addition, subtraction, multiplication, transpose, Cramer's rule, and finding the inverse of square matrices

Course Outcomes of the Course "Object Oriented Programming Using C++"

CO1. Understand the principles of Object Oriented Programming

CO2. Demonstrate the use of different tokens, expressions, operators and control structures in C++

CO3. Write programs to illustrate the use of functions, function overloading, classes, objects, access modifiers, and inline functions

CO4. Illustrate the use of constructors, destructors and operator overloading

CO5. Write programs to demonstrate single, multiple, multi-level, hierarchical and hybrid inheritances

CO6. Analyse containership, virtual base classes, pointers and virtual functions

Course Outcomes of the Course "Database Concepts and Oracle"

CO1. Describe the features of databases, the advantages, the various data models used in DBMS and the database schema

CO2. Demonstrate the use of E-R diagrams and relational model operations

CO3. Explain the importance of First Normal Form, Second Normal Form, Third Normal Form and Boyce-Codd Normal Forms with illustrations

CO4. Understand different techniques used to store information on the secondary storage media

CO5. Demonstrate the use of different SQL commands to perform various database operations

CO6. Write simple programs using PL/SQL to illustrate the use of Cursors, Triggers, Exception handling, Functions and Packages

Course Outcomes of the Course "Internet of Things"

CO1. Understand the basic concepts of IoT, architecture, components of IoT systems and IoT examples

CO2. Understand various tools available to build IoT applications

CO3. Analyse different protocols used in IoT

CO4. Understand Internet based communication and IP addresses

CO5. Analyse various tools available for data acquisition and processing

CO6. Explain how to analyse stored data in IoT

Course Outcomes of the Course "Operating System & Linux"

CO1. Understand the different types of Operating Systems

CO2. Analyse CPU scheduling, Process scheduling, Scheduling algorithms, Critical sections and Semaphores

CO3. Illustrate the methods of handling deadlocks, deadlock prevention, detection and avoidance

CO4. Understand page replacement algorithms, file concepts and access methods

CO5. Explain the basics, features and distributions of Linux operating system

CO6. Demonstrate the use of various commands used in Linux

Course Outcomes of the Course "Data Structures"

CO1. Comprehend algorithmic notations and their applications.

CO2. Write algorithms for problems using different data structures

CO3. Describe the use of various data structures and different data structure operations

CO4. Demonstrate the use of suitable data structure for a particular problem

CO5. Explain various searching and sorting techniques

CO6. Use data structures to implement various algorithms

Course Outcomes of the Course "Visual Basic .NET Programming"
CO1. Demonstrate the importance of GUI and event-driven programming
CO2. Understand various statements used in Visual Basic .NET programming and their use
CO3. Understand the different controls available in Visual Basic.NET
CO4. Explain the importance of exception handling, procedures and functions of Visual Basic .NET
CO5. Choose best control for a specific problem and develop programs to solve the problem
CO6. Develop small applications using Visual Basic.NET as front end and Oracle/MS-Access as back end tools.

Course Outcomes of the Course "Hardware and PC Maintenance"
CO1. Understand the use of different networking devices
CO2. Establish and maintain Local Area Networks
CO3. Install various operating systems and other softwares based on requirements
CO4. Configure the networks and different network devices such as printers.
CO5. Perform troubleshooting of computer systems as well as Local Area Network
CO6. Manage connectivity to the Internet and provide necessary security to the Local Area Network

Course Outcomes of the Course "Computer Graphics and Animations"
CO1. Demonstrate the use of various input and output technologies used for Computer Graphics
CO2. Implement algorithms to scan convert basic graphic primitives such as straight-line, circle and ellipse
CO3. Explain the different types of transformations and viewing in case of 2D Graphics
CO4. Describe different clipping techniques and algorithms used in 2D Graphics
CO5. Define the fundamentals of animation, virtual reality and its related technologies
CO6. Explain graphic rendering, applications of Virtual reality and modeling techniques for Virtual reality

Course Outcomes of the Course "Java Programming"
CO1. Explain the structure of Java program and feature of Java Programming Language
CO2. Demonstrate the use of various tokens of Java and different statements used in Java
CO3. Illustrate use of various concepts such as Inheritance, Packaging, Interfaces, Threads and exception handling in Java
CO4. Understand the use of different Swing components and choose appropriate Swing control for specific program
CO5. Demonstrate the concepts of JDBC and use them to develop applications
CO6. Develop applications in Java Using Embedded SQL to perform different database operations

Course Outcomes of the Course "Computer Oriented Numerical Analysis"
CO1. Apply numerical methods for finding solution to Algebraic and Transcendental Equations
CO2. Apply various interpolation methods and divided difference methods to solve problems
CO3. Solve problems based on Numerical differentiation and integration using Trapezoidal rule, Simpson's and rules
CO4. Demonstrate the solution of equations using various Matrix methods
CO5. Apply various iterative methods to solve linear system of equations
CO6. Apply various methods to solve Ordinary differential equations

Course Outcomes of the Course "Fundamentals of ICT"

CO1. Explain Characteristics, evolutions, generations and classifications of computers
CO2. Understand the uses of different components of computers
CO3. Understand different types of softwares, installation and uninstalling of softwares
CO4. Demonstrate conversion of numbers from one base to another and arithmetic operations on numbers in different number systems
CO5. Explain different generations of programming languages and their significance
CO6. Understand the use of Word processing, Spreadsheet, Presentation and DBMS applications

Course Outcomes of the Course "Software Engineering"

CO1. Explain the importance of software engineering in software development process
CO2. Understand the importance of various processes used in Software Development Life Cycle
CO3. Alanlyse different models used in software development
CO4. Realize the importance of different steps involved in software development
CO5. Explain different products of software development and the process of verification and validation of the products
CO6. Explain different testing techniques used and different testing tools available

Course Outcomes of the Course "Computers and Communication Networks"

CO1. Understand types of networks, topologies used in networks and different networking devices
CO2. Explain the functions of different layers of OSI and TCP/IP reference models
CO3. Understand different protocols used in Local Area Networks
CO4. Analyze different addressing methods used and datagram formats
CO5. Understand different communication techniques used in Wireless and Mobile networks and network security issues
CO6. Explain various tasks, protocols and services of Session, Presentation and Application layers

Course Outcomes of the Course "Distributed Computing"

CO1. Explain different forms of computing, advantages and disadvantages of distributed computing
CO2. Understand issues related to different paradigms of distribute computing
CO3. Explain the importance of Sockets in distributed applications, different types of sockets and protocols used in socket APIs
CO4. Importance of Group communication, different types of multicasting and protocols used for group communication
CO5. Demonstrate the use of different distributed objects
CO6. Build applications using Java programming language to illustrate the use of Remote Method Invocation

Course Outcomes of the Course "Web Technology"

CO1. Understand the use various HTML5 elements
CO2. Select and apply markup language for presenting information on Web pages
CO3. Understand the use of scripting languages and use them to create dynamic web pages
CO4. Explain web services for developing interactive web pages
CO5. Design and implement websites with good aesthetic sense of designing
CO6. Design reusable software components in variety of environments

Course Outcomes of the Course "Python Programming"
CO1.   Explain the features of Python, installation of Python for Windows Operating System
CO2.   Explain different data types, operators, input-output statements and control statements available
CO3.   Demonstrate use of arrays, stings user-define functions, lists and tuples in Python
CO4.   Understand Object-oriented concepts, threads and exception handling in Python
CO5.   Demonstrate the use of regular expressions, Networking, database connectivity and GUI tools
CO6.   Develop small applications using Python to illustrate the use of different   tools available in Python

Course Outcomes of the Course "Android Application Development"
CO1.   Understand architecture, features and applications and installation of Android
CO2.   Work with various tools and objects to build Android applications
CO3.   Demonstrate the importance of User interface and ViewGroups in Android
CO4.   Work with pictures, menus and data in Android
CO5.   Use location services, maps, Graphics, Animations, Audio and Video data in Android
CO6.   Handle phone Information, SMS, Sensors and Live Wallpapers in Android

Course Outcomes of the Course "E-Commerce"
CO1.   Know about the benefits, drawbacks, features and types of E-Commerce
CO2.   Understand components, functions and role of Electronic commerce environment
CO3.   Understand various services of Internet
CO4.   Analyse various electronic payments systems available for E-Commerce
CO5.   Understand Security issues and techniques used in E-Commerce
CO6.   Explain the Architecture, models and benefits of Mobile Commerce

Course Outcomes of the Course "Network Security and Management"
CO1.   Understand various factors related to network and data security
CO2.   Explain different techniques used in cryptography
CO3.   Analyse issues, advantages and disadvantages of various hardware security techniques
CO4.   Illustrate physical points of vulnerability in a network and the importance of information security
CO5.   Explain different protocols used in secured transmission of data across the network
CO6.   Understand risks associated information security and various laws related to Information Security

Course Outcomes of the Course "Software Testing"
CO1.   Understand the significance of software testing
CO2.   Analyse different tools and techniques available for testing a software
CO3.   Create test strategies and test plans for testing a software
CO4.   Design test cases, prioritize them and execute the test plan
CO5.   Prepare various types of test reports
CO6.   Contribute to efficient delivery of software solutions and implement improvements in the software development process

Course Outcomes of the Course "Programming for Analytics"
CO1.   Know about various tools of R Programming that are used to represent data
CO2.   Understand different analyzing techniques used to convert information into knowledge
CO3.   Understand architecture, data models and characteristics of Relational Database Management System
CO4.   Demonstrate various data definition and data manipulation commands used in SQL
CO5.   Explain the basics, architecture, tools, libraries and factions of SAS
CO6.   Use appropriate models to analyse the input and derive results