

BCA IIIrd SEMESTER

BCA-231 Object Oriented Programming Using C++

CO-1	Features of Object-Oriented programming and C++
CO-2	How to define Data members and Member functions & accessing them. Describing the concepts Static Data Members & member functions, Nested and Local Class.
CO-3	Describing benefits of Constructor. How to define Constructors, its types & Destructors
CO-4	Describing Console I/O & Manipulators
CO-5	Implementing Friend Function, Friend Class, Arrays, Array of Objects, Passing and Returning Objects to Functions, Array of Pointers to Objects
CO-6	Dynamic Memory Management & Pointers
CO-7	Polymorphism: Operators in C++, Precedence and Associativity Rules
CO-8	Implementing Operator Overloading, Function Overloading, Inline Functions

BCA – 232 DATA STRUCTURES

CO-1	Defining Data Structure , its Categories ,Operations, Applications & Explaining Algorithms complexity
CO-2	Explaining String Handling & Operations on String
CO-3	Describing Arrays ,its Memory Representation & Operations on Arrays
CO-4	Describing Linked List,its Memory Representation , types & Operations on Linked List
CO-5	Explaining Stack , its Representation & Applications of stacks
CO-6	Explaining Queues , its Representation ,Types & Applications of Queue
CO-7	Tree Introduction ,its Representation & Tree Traversal algorithms
CO-8	Graph Theory

BCA – 233 COMPUTER ARCHITECTURE

CO-1	Describing Basic Computer Organisation and Design
CO-2	Explaining I/O and Interrupt, Design of Basic computer, Design of accumulator logic
CO-3	Explaining Register Transfer Language and Types of Microoperations
CO-4	Detailed Explanation of Microprogrammed Control
CO-5	Central Processing Unit
CO-6	Concepts of Program Control, Program Interrupt& RISC/ CISC
CO-7	Detailed Discussion on Memory Organization:
CO-8	Detailed Discussion on Input Output Organization

BCA – 234 SOFTWARE ENGINEERING

CO-1	Describing What is Software Engineering, Programming paradigms, Software Crisis & Phases in Software development
CO-2	Describing in Detail Software Development Process Models.
CO-3	Explaining Feasibility Study, Software Requirement Analysis and Specifications
CO-4	Detailed discussion on Information gathering tools, Requirement specification, validation and Verification ,SCM
CO-5	Explaining Structured Analysis and Tools
CO-6	Explaining Software Maintenance & its importance
CO-7	Describing What is Software Project Planning
CO-8	Explaining Testing and its Types in detail

BCA – 235 FUNDAMENTALS OF DATABASE SYSTEM

CO-1	Basic Concepts of Database System, Concepts of Traditional file Approach
CO-2	Concepts of DBMS , its Components & Explaining Roles in the Database Environment
CO-3	Describing Database System Architecture & Data Independence
CO-4	Classification of Database Management System, Concept of Centralized and Client Server architecture to DBMS.
CO-5	Explaining in detail Data Models
CO-6	Describing Entity-Relationship Model & its Concepts
CO-7	Describing in brief Relational Data Model & its Concepts
CO-8	Basic Concepts of Hierarchical and Network Data Model

BCA-236: Computer Oriented Numerical Methods

CO-1	How to Perform arithmetic operations with normalized floating number and their consequences
CO-2	Different types of Error in Number Representation
CO-3	Explain different types of Iterative Methods with their convergence
CO-4	How to solve many types of simultaneous linear equations
CO-5	Different Methods of Ordinary Differential Equations
CO-6	How to Use Interpolation
CO-7	Approximation of Functions
CO-8	Chebyshev Polynomial Implementation
CO-9	Differentiation formulae based on polynomial fit
CO-10	Different types of Numerical Integration Methods

BCA IVTH SEMESTER

BCA-241 ADVANCED DATA STRUCTURE

CO1	Introduction & Basic Concepts of Trees
CO2	Introduction to Binary search trees
CO3	Introduction & Basic Concepts of Graphs
CO4	Introduction & Basic Concepts Sorting
CO4	Comparison of various sorting and searching algorithms on the basis of their complexity
CO5	Overview of Files & its various concepts
CO6	Basic concepts of File organization
CO7	Introduction of Hashing

BCA-242 ADVANCED PROGRAMMING USING C++

CO1	Introduction to the concept of Dynamic Polymorphism
CO2	Overview of Type Conversion
CO3	Introduction to Inheritance
CO4	Introduction of Different Forms of Inheritance
CO5	Concept of Genericity in C++
CO6	Introduction to Exception Handling in C++
CO7	Introduction to Files I/O in C++

BCA-243 E-COMMERCE

CO1	Introduction to E-Commerce and its concepts
CO2	Overview of SHTTP, SET, Cyber-cash, Electronic payment systems, Smart cards, Indian payment models.
CO3	Applications of E-Commerce in governance and B2C
CO4	E-Governance applications of Internet & Basics of E-governance models
CO4	Concept of Broker-based & Online travel tourism services
CO5	Benefits and impact of e-commerce on travel industry
CO6	Benefits & Future of Online banking & Online financial services
CO7	Applications of E-Commerce in B2B
CO8	Concept of Internet-based EDI from traditional EDI
CO9	Overview of Emerging Business models
CO10	Introduction to Internet security Issues, Legal aspects of E-commerce

BCA-244 RELATIONAL DATABASE MANAGEMENT SYSTEM

CO1	Concept of Relational Model
CO2	Introduction to Relational Algebra and Relational Calculus
CO3	Introduction to Functional Dependencies and Normalization
CO4	Introduction to SQL, Data Definition, data types and operators
CO4	Basic concepts of DDL, DML and DCL commands in SQL
CO5	Basic of Simple & Nested Queries, Tables, Views, Indexes
CO6	Introduction to Aggregate Functions & Clauses
CO7	Introduction to PL/SQL architecture, PL/SQL and SQL*Plus
CO8	Overview of Generic PL/SQL Block
CO9	Programming using PL/SQL

BCA-245 COMPUTER-ORIENTED STATISTICAL METHODS

CO1	Basic Statistics Concept, Concept of Measure of Dispersion, Concept of Moments
CO2	Probability Distribution Measurement
CO3	Introduction to Correlation, Types of Distribution
CO4	Introduction to Regression, Concept of Curve Fitting
CO4	Overview of Baye's Theorem in Decision Making, Forecasting Techniques
CO5	Introduction to Sampling
CO6	Introduction to Statistical Inference
CO7	Introduction to the types of test of Significance

BCA-246 MANAGEMENT INFORMATION SYSTEM

CO1	Introduction to Basic System Concepts, Overview of Information System
CO2	Sub-Systems of an Information system: EDP and MIS management levels
CO3	Overview of Management Information System, Frame Work for Understanding MIS
CO4	Concept of Structured Vs Un-structured decisions, Formal vs. Informal systems
CO4	Analysis & Design of Information Systems
CO5	Overview of Functional MIS, Pitfalls of MIS
CO6	Introduction to e-business systems, technologies, and its applications
CO7	Decision support systems for planning, control and decision-making