



BCA Course Outcomes

I Semester-Problem Solving Techniques Using 'C'

CO1 : Gain a comprehensive understanding of the fundamental principles behind designing algorithms and analyzing their performance, including the use of asymptotic notations to describe their efficiency.

CO2 : Comprehend diverse problem-solving approaches and develop effective algorithms to address specific problems efficiently.

CO3 : Understand the fundamental components and control flow mechanisms in C programming, and utilize this knowledge to solve various problems effectively.

CO4 : Create C programs that incorporate functions, arrays, and pointers, and then compile, debug, and execute these programs.

CO5: Grasp different methods for searching, sorting, and manipulating text.

I Semester - Data Structures

CO1 : Understanding the fundamentals Data Structures like types of data structures, memory representation and applications of data structures also understand the efficiency of organizing the data.

CO2 : Well equipped with the knowledge and skills to effectively utilize arrays for storing and managing data.

CO3 : Gain proficiency in defining, representation, traversal, searching, insertion, and deletion operations in linked lists and types of linked lists.

CO4 : Understand, analyze, and implement binary trees, AVL trees, heaps, tries, B-trees, and lexicographic search trees.

CO5 : Grasp different methods for sorting, hashing algorithms efficiently.



I Semester - Discrete Structures

CO1: Comprehend the fundamental principles of sets, operations on sets, relations, and functions.

CO2: Develop proficiency in mathematical reasoning techniques, encompassing induction and recursion.

CO3: Comprehend the principles of matrices and their inverses.

CO4: Executing linear transformations and applying matrix operations.

CO5: Cultivate an understanding of how concepts related to graphs and trees are applied to problem-solving in Computer Science.

II Semester - Object Oriented Programming using java

CO1: Gain comprehension of object-oriented principles and analyze the fundamentals of programming languages. Additionally, proficiently define classes, objects, and execute method invocations.

CO2: Apply and comprehend fundamental concepts such as Inheritance, Polymorphism, and Interfaces, utilizing them effectively in practical applications.

CO3 Design and implement applications featuring Graphical User Interfaces (GUIs) for enhanced user interaction and experience

CO4: Implementing the mechanism for handling exceptions and interpret Input/Output (I/O) functionality in programming.

CO5: Construct multithreaded applications and collections in java.

II Semester - Computer Architecture

CO1: Understand the Number Systems, Conversions between different number systems and basic structure of a computer

CO2: Logic gates, Designing Combinational Circuits and understand instruction codes, timing and control signals

CO3: Understand stack organization and addressing modes in CPU organization

CO4: Understand interrupts, direct memory access in input-output organization

CO5: Understand memory organization, Multithreaded Architecture and its purpose



II Semester -Database Management System

CO1: Comprehend concepts related to databases and DBMS architecture.

CO2: Understanding Data Modelling using Entity – Relationship Model

CO3: Grasp relational algebra principles and the normalization of databases.

CO4: Employ SQL queries for the retrieval and administration of databases.

CO5: Acquire understanding in indexing, transaction processing, and techniques for managing concurrency.

III Semester- Computer Networks

CO1: Understand basic concepts of networks, network hardware and network software and describe various standard network models.

CO2: Understand data communication, various transmission media and familiarize with modulation, multiplexing and switching.

CO3: Analyze error detection and correction, data link protocols, understand the role of medium access control sub layer

CO4: Implement and analyze routing and congestion issues in network design

CO5: Familiarize with network security, DNS, email and QoS

III Semester- Operating System

CO1: Comprehend the organization and operations of an Operating System as well as the fundamental concept of a process.

CO2: Comprehend the various algorithms used for scheduling tasks on the CPU.

CO3: Explain various methods utilized for managing memory in computing systems.

CO4: Outline diverse approaches to allocating disk space and managing free space effectively on storage devices.

CO5: Study real-world examples of Linux and Windows operating systems.



III Semester-Python Programming

CO1 : Introduce the basic concepts of Python Programming.

CO2 : Demonstrate proficiency in the handling of loops and creation of functions.

CO3 : Identify the methods to create and manipulate lists, tuples, dictionaries and sets.

CO4 : Discover the commonly used operations involving file handling.

CO5 : Interpret the concepts of Object-Oriented Programming as used in Python.

CO6 : Develop the emerging applications of relevant fields using Python libraries and modules.

IV Semester- Analysis and Design of Algorithms

CO1: Elucidate the basic principles of designing and analyzing algorithms, including asymptotic notations and diverse algorithmic techniques.

CO2: Utilize algorithmic design strategies to solve different problems and determine the time complexity of various algorithms.

CO3: Employ algorithmic design techniques in scenarios involving graphs and graph applications.

CO4: Grasp and implement Backtracking and Branch and Bound methods in practical applications.

CO5: Comprehend the foundational concepts of P, NP, and NP-Complete problems.

V Semester- Data Analytics

CO1 : Explore the fundamental concepts of data analytics

CO2 : Recognize and conduct statistical inference to solve engineering problems.

CO3 : Appreciate the science of statistics and the scope of its potential applications

CO4 : Summarize and present data in meaningful ways

CO5 : Select the appropriate statistical analysis depending on the research question at hand

CO6 : Form testable hypotheses that can be evaluated using common statistical analyses



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V Semester- Artificial Intelligence

CO1: Understand the basics of AI, AI Representation and Search Techniques.

CO2: Ability to apply predicate logic, probabilistic reasoning and knowledge representation.

CO3: Familiarize with Planning, Perception and Action

CO4: Understand Learning Probabilistic Models, Reinforcement Learning and Artificial Neural Networks.

CO5: Understand Expert systems and Natural Language Processing.