

# Lesson Plan

## Even Semester, Session 2022-23

Name of Professor: Manisha Saini

Class: BCA 4th Semester

Subject code and Name: BCA – 241 Advanced Data Structures

Month	Topics covered
01/02/2023 To 04/03/2023	<b>Unit-I:</b> Tree: Introduction, Definition, Representing Binary tree in memory, Traversing binary trees, Traversal algorithms using stacks, Binary search trees: introduction, storage, Searching, Insertion and deletion Binary search tree, Huffman's algorithm, General trees.
12/03/2023 To 10/04/2023	<b>Unit-II:</b> Graph: Introduction, Graph theory terminology, Sequential and linked representation of graphs, operations on graphs, traversal algorithms in graphs and their implementation, Warshall's algorithm for shortest path, Dijkstra algorithm for shortest path,
11/04/2023 To 30/04/2023	<b>Unit-III:</b> Sorting: Internal & external sorting, Radix sort, Quick sort, Heap sort, Merge sort, Tournament sort, Comparison of various sorting and searching algorithms on the basis of their complexity.
01/05/2023 To 26/05/2023	<b>Unit-IV:</b> Files: Introduction Attributes of a file, Classification of files, File operations, Comparison of varioust of files, File organization: Sequential, Indexed-sequential, Random-access file. Hashing: Introduction, Collision resolution.

# Lesson Plan

## Even Semester, Session 2022-23

Name of Professor: Manisha Saini

Class: BSC(NM) 2nd Semester

Subject code and Name: CS-II Logical Organization of Computer

Month	Topics covered
01/02/2023 To 04/03/2023	<b>Unit-I:</b> Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating-point representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation — ASCII, EBCDIC.
12/03/2023 To 10/04/2023	<b>Unit- II:</b> Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions - Venn Diagram, Karnaugh Maps.
11/04/2023 To 30/04/2023	<b>Unit – III:</b> Digital Logic: Basic Gates- AND, OR, NOT, Universal Gates - NAND, NOR, Other Gates - XOR, XNOR etc. Combinational Circuits; Half-Adder, Full-Adder, Half- Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters.
01/05/2023 To 26/05/2023	<b>Unit – IV:</b> Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables. Shift registers: serial in parallel out and parallel in parallel out. Designing counters - Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters.