EID102 : DATA STRUCTURES WITH C

L T P C

3 1 0 4

Module I **11 hours**

Data representation: Introduction, linear lists, array based representation and operations, indirect addressing and operations, linked representation, comparisons.

Searching: Linear search, Binary search,

Arrays: Arrays, matrices, sparse matrices.

Module II **11 hours**

Linked lists: Creation of single linked list, double linked list, circular linked list, and operations on it.

Module III **11 hours**

Stacks: Definitions, operations and applications, array and linked representation of stacks.

Queues: Definitions and operations, array and linked representation of queues.

Module IV **11 hours**

Graphs: Introduction, representation of graphs, graph traversals, applications, spanning trees.

Introduction to Sorting: Insertion sort, selection sort, bubble sort, merge sort, quick sort.

Module V **11 hours**

Trees: Definitions and properties, representation of binary trees, operations, binary tree traversals, binary search tree, AVL trees and operations on AVL trees, heap sort.

Text Book(s)

1. Ellis Horowitz, Sartaj Sahni and Susan Anderson-Freed, Fundamentals of Data Structures in C, 2/e, Universities Press, 2008.
2. S. K. Srivastava, Deepali Srivastava , Data Structures through C in Depth, 2/e, BPB Publications,2011

References

1. Seymour Lipschutz, Data Structures with C, McGraw Hill, 2011.