

**DATA STRUCTURES ALOGRITHMS USING C PROGRAMMING**

Introduction to data structures: storage structure for arrays, sparse matrices, Stacks and

Queues: representation and application. Linked lists: Single linked lists, linked list

representation of stacks and Queues. Operations on polynomials, Double linked list,

circular list.

Dynamic storage management-garbage collection and compaction, infix to post fix

conversion, postfix expression evaluation. Trees: Tree terminology, Binary tree, Binary

search tree, General tree, B+ tree, AVL Tree, Complete Binary Tree representation,

Tree traversals, operation on Binary tree-expression Manipulation.

Graphs: Graph terminology, Representation of graphs, path matrix, BFS (breadth first

search), DFS (depth first search), topological sorting, Warshall’s algorithm (shortest

path algorithm.) Sorting and Searching techniques – Bubble sort, selection sort,

Insertion sort, Quick sort, merge sort, Heap sort, Radix sort. Linear and binary search

methods, Hashing techniques and hash functions.