UNIT-1

1. Analyze and write a program to store a set of values of same data type into a
single variable.   [12M]

OR

2. a) Explain Linear and Non Linear Data structure with examples   [6M]
b) Differentiate linear and non -linear data structure .   [6M]

UNIT-2

3. a) What is a Stack? What are the operations that perform on a stack?   [6M]
b) What is a Queue? What are the operations that perform on a Queue?   [6M]

OR

4. a) Design an algorithm to insert an element at beginning of circularly linked
list.   [6M]
b) Design an algorithm to delete an element at end of circular ly linked list.   [6M]

UNIT-3

5. a) Define binary tree and give the binary tree node structure.   [6M]
b) What are the various types of a binary tree?   [6M]

OR

6. a) What is the various representation of a binary tree?   [6M]
b) List out and explain various binary tree traversals.   [6M]

UNIT-4

7. a) Explain selection sort with an algorithm and example.   [5M]
b) Design a program to demonstrate selection sort.   [7M]

OR

8. a) Prepare an algorithm for Quick sort with example.   [6M]

b) Prepare an algorithm for Merge sort with example.   [6M]

UNIT-5

9. Discuss and compare various graph traversals.   [12M]

OR

10. a) Discuss how to represent Graph storage using Adjacency matrix.   [7M]

b) Briefly explain about Adjacency List with example.   [5M]