BT-3/D11   7602

Data Structures

Paper : CSE-203 E

Time : Three Hours]   [Maximum Marks : 100

Note :– Attempt **FIVE** questions in all, selecting at least **ONE** question from each Unit.

UNIT–I

1. (a) Define Abstract Data Type (ADT). Differentiate between static Implementation and dynamic Implementation of Data Structure.   10

   (b) What is a two-dimensional Array ? How it is stored in memory ? Differentiate it with structure.   10

2. (a) What is stack ? Write push and pop routines for statically Implemented stack.   10

   (b) Write an algorithm to evaluate post-fix expression with an example.   10

UNIT–II

3. (a) Write the algorithms for Insertion and deletion performed on the linear queue when queue is implemented as dynamic.   10

   (b) What are priority queue ? Discuss application of priority queue.   10

4. Write an algorithm to perform following operations :-

   (a) To Traverse a linked list

   (b) To search an element from a linked list

   (c) To append an element to the end of linked list.   20

UNIT–III

5. (a) Write down the non-recursive algorithm for In-order traversal of binary tree. **10**

   (b) Write an algorithm to delete a node with two children from a Binary Search tree. **10**

6. Write short notes on any **two** of the following :-

   (a) Balanced Multiway Search Tree

   (b) AVL-Tree

   (c) Threaded Tree. **20**

UNIT–IV

7. (a) What is graph ? Explain various representation method used for graphs. **10**

   (b) What is meant by traversal of graph ? Discuss depth first traversal technique with an example. **10**

8. (a) What is Hashing ? What is the condition for collision ? How collision can be resolved ? **10**

   (b) Write the algorithm for Insertion Sort. How many key comparison are made in its worst case ? **10**