BT-3/D-21   43132

DATA STRUCTURE AND ALGORITHMS
Paper-PC-CS201A

[Time: Three Hours]   [Maximum Marks : 75]

Note : Attempt any give questions by selecting at least one question from each unit.

UNIT–I

1. (i) Differentiate between linear and non linear data structures with example. **(8)**

  (ii) Differentiate Recursive and Non recursive binary search. **(7)**

2. (i) Differentiate between linear and searching algorithm. **(8)**

  (ii) Discuss various steps involved in Bubble sort with suitable example. **(7)**

UNIT–II

3.   (i)   Write algorithm to insert and delete elements in stack. **(8)**

  (ii) Discuss various steps involved in Priority queue. **(7)**

4.   (i)   Write prefix and postfix expression for $(A - B/C + E)/(A + B)$. (8)

  (ii)   Discuss various applications of stack and queue. (7)

UNIT- III

5. (i) Write algorithm for insert and delete an element from a linked list. **(8)**

   (ii) How stack and queue dynamically implemented. **(7)**

6. (i) Write algorithm for insert and delete an element in doubly link list. **(8)**

   (ii) Differentiate Static and dynamic implementation of link list. **(7)**

UNIT-IV

7. (i) Write properties of AVL tree. Make an AVL tree having elements 5, 10, 20, 30, 40, 45, 50, 60 and 70. **(8)**

   (ii) Write algorithm to traversal in a binary tree with example. **(7)**

8. (i) Compare Prim's and Kruskal's algorithm with suitable example. **(8)**

   (ii) Write algorithm for balanced multi way search trees. **(7)**

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