Apml-2016

0441

COMPUTER SCIENCE PAPER - I : CS-241
Data Structure - II
(24245)

P. Pages : 2

Time : Two Hours

Max. Marks : 40

Instructions to Candidates :
1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figure to the right indicate full marks.

1.   Attempt **any eight**.   8

a)   What is complexity of bubble sort?

b)   Enlist Non-linear data structure.

c)   Which are the cases of complexities?

d)   Which data structure is used in DEFTH first search?

e)   Define binary tree.

f)   Enlist hashing function.

g)   Which are the types of traversal for tree.

h)   Which searching techniques are used for graph.

i)   Define Graph.

j)   Define leaf node.

2.   Attempt **any four.**   8

     a)   What is preorder traversal?

     b)   Define complete binary tree.

     c)   What is collision resolution?

     d)   Write recursive algorithm for postorder traversal.

     e)   Define Indegree and Outdegree of tree.

     f)   What is cycle or a circuit?

3.   Attempt **any two.**   8

     a)   Explain bubble sort with algorithm.

     b)   Define searching? Differentiate sequential and binary search.

     c)   Represent following graph using list, link and matrix representations-
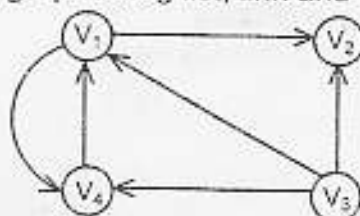
4.   a)   Attempt **any two.**   6

     a)   Explain in brief collision resolution techniques.

     b)   Write algorithm for Insertion sort.

     c)   Draw expression tree for $a + b * c / d - e + f$.

   b)   Attempt compulsory question.   2

     a)   Give any two applications of graph.

5.   Attempt **any one.**   8

   a)   Create binary search tree for number and calculate Inorder, preorder and postorder traversal for tree

        50   40   30   25   35   20   15   10

   b)   i)   Explain Breath first search with algorithm?

       ii)   Discuss any four Hashing function.

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