

EX-277

B.Tech. IIIrd Semester (New Scheme)

Inform. Tech.

Examination, 2022-23

Data Structure

Paper - IT - 305

Time : 3 Hours]

[Maximum Marks : 60

Note : -Attempt all question.

I. Short answer type questions : (any five) 5×2=10

1. What do you mean by linked list ?

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(1)

P.T.O.

2. What is recursion.
3. Describe merge sort.
4. Define hashing.

5. What is postfix notation.

6. What are the types of linked list.

II. Long answer type questions :-

5 × 10 = 50

1. Write the difference between linear search and binary search.

OR

Explain Bubble sort with the help of example.

2. What is heap sort ? Create the MIN - Heap for the given dataset.

6, 15, 50, 3, 33, 45, 40, 80, 10

OR

Write an algorithm for PUSH and POP of stack.

3. What is Hashing ? Explain collision resolution techniques.

OR

What is D-queue ? Explain different types of D - queue.

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(2)

4. What is AVL tree ? Explain various rotation of AVL tree with example.

OR

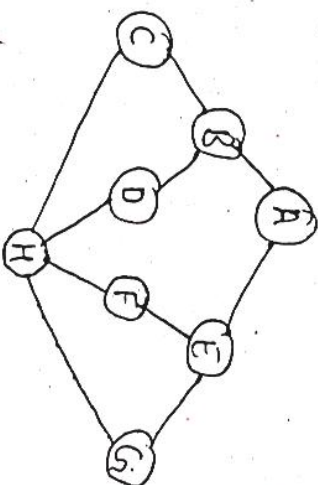
The binary tree T has 9 nodes the inorder and preorder traversal of T. Yield the following sequence of nodes.

Inorder : E A C K F H D B G

Preorder : F A E K C D H G B

Draw the tree.

5. Differentiate between DFS and BFS. Give DFS spanning tree of the given graph.



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(3)

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OR

Short note on - (Any two)

- (a) Spanning tree
- (b) B - tree
- (c) Tower of Hanoi problem
