XEV (H–II) – BCA (4)

2017

Time : 3 hours

Full Marks : 75

Candidates are required to give their answers in
their own words as far as practicable.
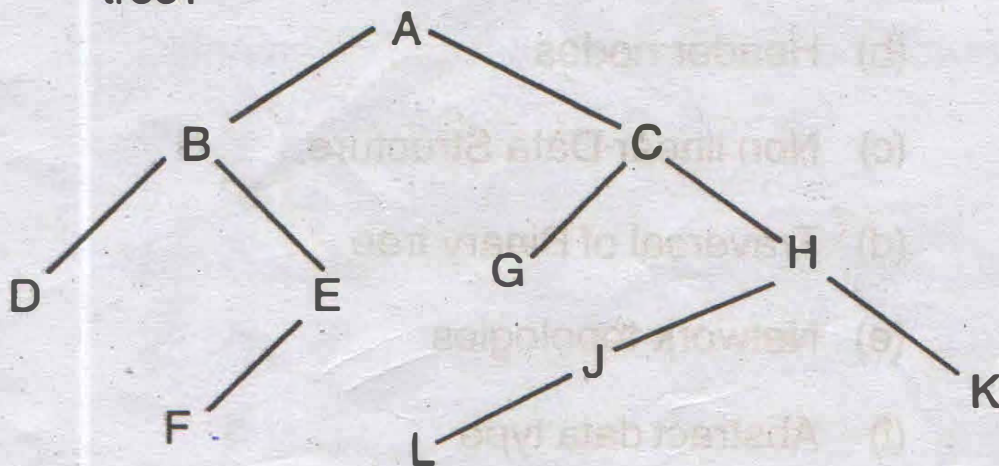
The questions are of equal value.

Answer any five questions.

GROUP–A

1. What is a binary tree? Differentiate between
strictly binary tree and complete binary tree.
What will be the inorder traversal of the given
tree?

2. Construct the tree if preorder and inorder traversal of binary tree is given.

Preorder – ABCDFHJMKEGILN
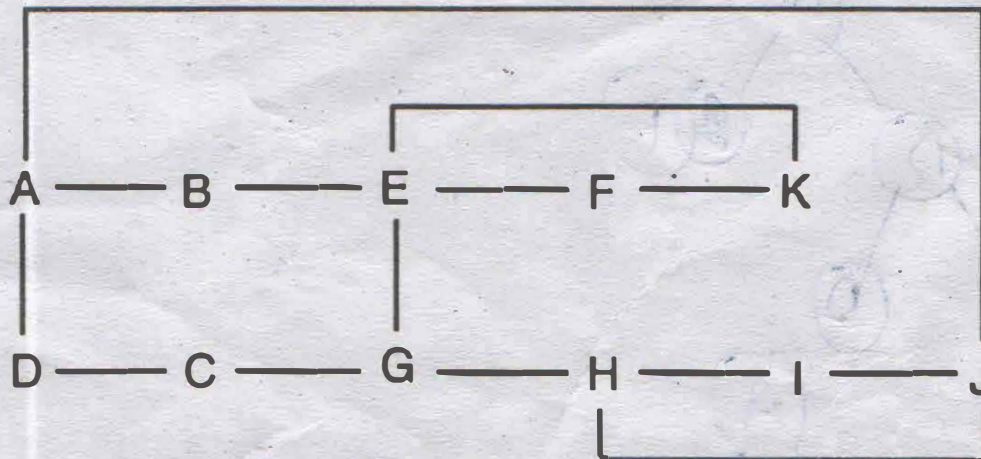
Inorder – ADJMHKFCINLGEB

3. Define a queue. How does it differ from a stack? Describe the insert and delete operation on a queue.

4. Compare the advantages and disadvantages of implementing stack as an array with implementing a stack as a linked list.

5. Write short notes on any three of the following :

    (a) Heap sort

    (b) Header nodes

    (c) Non linear Data Structure

    (d) Traversal of Binary tree

    (e) Network topologies

    (f) Abstract data type

6. Describe DFS algorithm. Find out the DFS traversal of the following graph starting at node A..

7. Explain the difference betwen Kruskal and Prims algorithm with a suitable example.

8. What is threaded binary tree? Mention its advantages and disdvantages.

9. Write the steps to sort the following list in ascending using selection sort :

60, 61, 96, 42, 48, 94, 65, 77

10. Differentiate between any two of the following :

(a) Circular queue and Dequeue

(b) Btree and B⁺ tree

(c) Double linked list and Circular linked list

(d) Directed and undirected graph

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