Workbook

1.What is the worst case time complexity for search, insert and delete operations in a general Binary Search Tree?

A.O(n) for all

B.O(Logn) for all

C.O(Logn) for search and insert, and O(n) for delete

D.O(Logn) for search, and O(n) for insert and delete

Question 2

In delete operation of BST, we need inorder successor (or predecessor) of a node when the node to be deleted has both left and right child as non-empty. Which of the following is true about inorder successor needed in delete operation?

A.Inorder Successor is always a leaf node

B.Inorder successor is always either a leaf node or a node with empty left child

C.Inorder successor may be an ancestor of the node

D.Inorder successor is always either a leaf node or a node with empty right child

Question 3

We are given a set of n distinct elements and an unlabeled binary tree with n nodes. In how many ways can we populate the tree with the given set so that it becomes a binary search tree? (GATE CS 2011)

A.0

B.1

C.n!

D.(1/(n+1)).2nCn

Question 4

How many distinct binary search trees can be created out of 4 distinct keys?

A.4

B.14

C.24

D.42

Question 5

Which of the following traversal outputs the data in sorted order in a BST?

A.Preorder

B.Inorder

C.Postorder

D.Level order

Question 6

Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?

A.7 5 1 0 3 2 4 6 8 9

B.0 2 4 3 1 6 5 9 8 7

C.0 1 2 3 4 5 6 7 8 9

D.9 8 6 4 2 3 0 1 5 7