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| **Started on** | Monday, 14 March 2022, 3:56 PM |
| **State** | Finished |
| **Completed on** | Monday, 14 March 2022, 4:08 PM |
| **Time taken** | 11 mins 16 secs |
| **Marks** | 4.00/5.00 |
| **Grade** | **80.00** out of 100.00 |

Question **1**

Complete

Mark 1.00 out of 1.00

Suppose the numbers 27, 15, 11, 28, 32, 46, 0, 59, 34, 52 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 post-order traversal sequence of the resultant tree?

Select one:

- **a. 0 11 15 27 28 32 34 46 52 59**
- **b. 0 11 15 34 52 59 46 32 28 27**
- **c. 11 15 27 28 0 32 34 46 52 59**
- **d. 27 15 11 0 28 32 46 34 59 52**

Question **2**

Complete

Mark 0.00 out of 1.00

Let T be a binary search tree with 15 nodes. The minimum and maximum possible heights of T are:

Note: The height of a tree with a single node is 0.

Select one:

- **a. 3 and 15 respectively.**
- **b. 4 and 15 respectively.**
- **c. 4 and 14 respectively.**
- **d. 3 and 14 respectively.**

Question **3**

Complete

Mark 1.00 out of 1.00

In a complete k-ary tree, every internal node has exactly k children. The number of leaves in such a tree with n internal node is:

Select one:

- **a. n(k−1)**
- **b. n(k−1)+1**
- **c. nk**
- **d. (n−1)k+1**

Question **4**

Complete

Mark 1.00 out of 1.00

Postorder traversal of a given binary search tree, T produces the following sequence of keys

10,9,23,22,27,25,15,50,95,60,40,29

Which one of the following sequences of keys can be the result of an in-order traversal of the tree T?

Select one:

- **a. 29,15,9,10,25,22,23,27,40,60,50,95**
- **b. 9,10,15,22,23,25,27,29,40,50,60,95**
- **c. 9,10,15,22,40,50,60,95,23,25,27,29**
- **d. 95,50,60,40,27,23,22,25,10,9,15,29**

Question **5**

Complete

Mark 1.00 out of 1.00

Let G be a simple graph with 20 vertices and 100 edges. The size of the minimum vertex cover of G is 8. Then, the size of the maximum independent set of G is:

Select one:

- **a. 12**
- **b. 8**
- **c. less than 8**
- **d. more than 12**