

## Variant – 1

A. MCQs – Answer Key:

1. A

B. Answer:  $O(n)$

C. Answer: In-order traversal

D. Coding Question – Answer Key (award 2 pts for checking if root is null):

```
int get_height(Node* root) {
    if (root == nullptr) {
        return -1;
    }
    return 1 + max(get_height(root -> leftChild), get_height(root ->
rightChild));
}
```

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## Variant – 2

A. MCQs – Answer Key:

1. F

B. Answer:  $O(\log n)$

C. Answer: Pre-order traversal

D. Coding Question – Answer Key (award 2 pts for checking if root is null):

```
int get_total_nodes(Node* root) {
    if (root == nullptr) {
        return 0;
    }
    return 1 + get_total_nodes(root -> leftChild) +
get_total_nodes(root -> rightChild);
}
```

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