

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));  
}
```

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);  
}
```
