

DATA STRUCTURES LAB

Problem: 1

1. Leaf nodes? 5(9, 14, 19, 67, 76)
2. Siblings of 54? 76
3. Ancestors of 23? 17, 50
4. Descendent of 17? 12, 9, 14, 23, 19
5. Height of given tree? 3
6. It is not a complete binary tree, as the nodes in the last level are not filled from the left completely.
The total number of nodes in a complete binary tree of depth 4 will be $2n - 1 = 2(4) - 1 = 15$
7. In-order traversal? 9, 12, 14, 17, 23, 19, 50, 54, 67, 72, 76
8. Post-order traversal? 9, 14, 12, 19, 23, 17, 67, 54, 76, 72, 50
9. Breadth-first traversal? 50, 17, 72, 12, 23, 54, 76, 9, 14, 19, 67

Problem: 2

