**Short Quiz**

6. Children of node 6

The Children of node 16 are Nodes 13, 6, 60.

7. Parent of node 1

The Parent of node 1 is Node 7.

8. Sibling of 23

Node 23 has no sibling.

9. Ancestor of 9

The ancestor/s of 9 are nodes 4, 12, 7, and 22.

10. Descendants of 16

The descendants of 16 are nodes 12, 6, 60, 23, and 21.

11. Leaves

The leaves are nodes 23, 21, 20, 9, and 1.

12. Non - Leaves

The non-leaves are nodes 22, 16, 7, 12, 60, 12, and 1.

13. Depth of node 4

The depth of node 4 is 5.

14. Degree of the tree

The degree of the tree is 3.

15. Height of the tree

Nodes 22, 7, 12 have a height of 2, node 16 has a height of 3, nodes 12 and 4 have a height of 1, and Nodes 6, 20, 9, and 1 have height of 0.

16. Weight of the tree

The weight of tree is 5

17. Is the tree a binary tree?

No, the tree is not a binary tree, it is an ordered tree with degree of 2 but in the case of the tree there is a parent node that has a degree of 3.

18. Removing 6, is the tree a full binary tree?

Yes, it is a full binary tree.

19. Removing 6, is the tree a complete binary tree?

No, it is not a complete binary tree.

20. Is a full binary tree complete?

No, since a full binary tree has to have a node that has no degree which is not considered a complete binary tree as it has to have an equal depth and all internal nodes java degree k.

21. Is a complete binary tree full?

No, as mentioned above, the nodes of a complete binary tree should have an equal depth and all internal nodes java degree k.

22. How many leaves does a complete n-ary tree of a height h have?

The leaves of a complete n-ary tree is n-ary tree raised to the height or $n^h$ .

23.What is the height of a complete n-ary tree with m leaves?

The height of complete n-ary tree is log sub n M or $\log_n M$

24. What is the number of internal nodes of a complete n-ary tree of height h?

It has a node of 2 raised h then subtracted by 1 or $2^h$ -1.

25. What is the total number of nodes a complete n-ary tree of height h have?

The total number of nodes of a complete n-ary tree is $(2^h - 1) + n^h$ .