

Argente, Allen Patrick M.

BSCPE 2-1

January 13, 2023 **SHORT QUIZ**

1. Name the three properties of a tree
 - a. **Rooted** b. **Free** c. **Acyclic**
2. Is a tree forest?
☐ **Yes**
3. What do you call the special designated node in a tree?
☐ **Root**
4. What is the minimum number of nodes in a tree?
☐ **One**
5. Can a tree have no subtrees at all?
☐ **Yes**
6. Children of node 16
☐ **13, 6, 60**
7. Parent of node 1
☐ **7**
8. Sibling of 23
☐ **None**
9. Ancestors of 9
☐ **4, 12, 7, 22**
10. Descendants of 16
☐ **13, 6, 60, 23, 21**
11. Leaves
☐ **23, 21, 20, 9, 1**

12. Non- Leaves

☐ 13, 16, 60, 12,

13. Depth of node 4

☐ Depth: 3

14. Degree of the tree

☐ Degree: 3

15. Height of the tree

☐ Height: 4

16. Weight of the tree

☐ Weight: 6

17. Is the tree a binary tree?

☐ No

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

☐ No

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

☐ No

20. Is a full binary tree complete?

☐ No

21. Is a complete binary tree full?

☐ Yes

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

☐ n^h

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

☐ $\log_n m$

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

$n^h - 1$

☐ $n - 1$

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

☐ $n^h - 1$