

# 50+ Balanced Binary Tree MCQs with FREE PDF

1. *Balanced binary tree with  $n$  items allows the lookup of an item in \_\_\_\_ worst-case time.*

- a)  $O(\log n)$
- b)  $O(n \log 2)$
- c)  $O(n)$
- d)  $O(1)$

**Answer:**  $O(\log n)$

2. *A binary tree is balanced if the difference between left and right subtree of every node is not more than \_\_\_\_*

- a) 1
- b) 3
- c) 2
- d) 0

**Answer:** 1

3. *What will be the height of a balanced full binary tree with 8 leaves?*

- a) 8
- b) 5
- c) 6
- d) 4

**Answer:** 4

4. *The balance factor of a node in a binary tree is defined as*

- a) addition of heights of left and right subtrees
- b) height of right subtree minus height of left subtree
- c) height of left subtree minus height of right subtree
- d) height of right subtree minus one

**Answer:** height of left subtree minus height of right subtree

5. *Which of the following tree data structures is not a balanced binary tree?*

- a) AVL tree
- b) Red-black tree
- c) Splay tree
- d) B-tree

**Answer:** B-tree

*6. Which of the following data structures can be efficiently implemented using height balanced binary search tree?*

- a) sets
- b) priority queue
- c) heap
- d) both sets and priority queue

**Answer:** both sets and priority queue

*7. Two balanced binary trees are given with  $m$  and  $n$  elements respectively. They can be merged into a balanced binary search tree in \_\_\_\_ time.*

- a)  $O(m+n)$
- b)  $O(mn)$
- c)  $O(m)$
- d)  $O(m \log n)$

**Answer:**  $O(m+n)$

*8. Which of the following is an advantage of balanced binary search tree, like AVL tree, compared to binary heap?*

- a) insertion takes less time
- b) deletion takes less time
- c) searching takes less time
- d) construction of the tree takes less time than binary heap

**Answer:** insertion takes less time