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1. A binary tree will not be considered an AVL tree if the difference between the left and right subtree of each node is not more than:

Options:

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

Correct option: c) 2

2. Consider the max heap represented by the following array. Which of the following is the parent of node 14?

Array: 20, 30, 40, 50

Options:

- a) 20
- b) 30
- c) 40
- d) 50

Correct option: b) 30

3. If the tree becomes unbalanced after deleting a node, then we use _____ to rebalance it.

Options:

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- a) Rotations
- b) Stack
- c) Heap
- d) Insertions

Correct option: a) Rotations

4. What is the encoding of the character 'C' in the given Huffman encoding tree?

Huffman encoding tree: A4, B5, C3, D2, Ebd

Options:

- a) 00
- b) 10
- c) 01
- d) 11

Correct option: c) 01

5. How many rotations will be made if a node is inserted as the left child of the node R in the given tree?

Tree: R, P, L(Mid), M, I (right)

Options:

- a) 1
- b) 2
- c) 3
- d) 4

Correct option: c) 3

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6. A complete binary tree with a property that the value at each node is at least as small as the values in its children is called as _____.

Options:

- a) Binary search tree
- b) Binary tree
- c) Min Heap
- d) Max Heap

Correct option: c) Min Heap

7. A hole is created which needs to be filled if the element is _____ from the heap.

Options:

- a) Updated
- b) There is no concept of hole in heap
- c) Deleted
- d) Inserted

Correct option: c) Deleted

8. Which of the following bit streams represents the string 'cab' in the given Huffman tree?

Bit streams: a0, d0, f0, c1, r0, b1

Options:

- a) 1011
- b) 0101
- c) 1100
- d) 0011

Correct option: a) 1011

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9. Consider a max heap represented by the following array: 49, 39, 36, 31, 27, 21, 35, 12. After the deletion of the node with value 49, which of the following is the updated max heap?

Options:

- a) 39, 36, 31, 12, 27, 21, 35
- b) 39, 36, 31, 27, 21, 35, 12
- c) 39, 31, 36, 12, 27, 21, 35
- d) 39, 36, 35, 21, 27, 31, 12

Correct option: a) 39, 36, 31, 12, 27, 21, 35

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