# 32 Lecture - CS402

## Important Mcqs

1. **What is the maximum number of nodes at level 4 in a binary tree?**
   a) 8
   b) 16
   c) 32
   d) 64
   Answer: b) 16

   **Which of the following is not a binary tree traversal algorithm?**
   a) Preorder
   b) Inorder
   c) Postorder
   d) Depth-first search
   Answer: d) Depth-first search

   **Which of the following statements is true about a binary search tree?**
   a) The left subtree of a node contains only nodes with keys greater than the node's key
   b) The right subtree of a node contains only nodes with keys less than the node's key
   c) The left and right subtrees of a node contain nodes with keys greater than and less than the node's key, respectively
   d) None of the above
   Answer: c) The left and right subtrees of a node contain nodes with keys greater than and less than the node's key, respectively

   **A binary tree is said to be complete if:**
   a) Every node has at most one child
   b) Every node has at least one child
   c) All levels of the tree are completely filled
   d) None of the above
   Answer: c) All levels of the tree are completely filled

   **Which of the following is a self-balancing binary search tree?**
   a) AVL tree
   b) B-tree
   c) Red-black tree
   d) All of the above
   Answer: d) All of the above

   **Which of the following is not a common tree traversal algorithm?**
   a) Breadth-first search
   b) Depth-first search
   c) Preorder traversal
   d) Level-order traversal
   Answer: d) Level-order traversal

   **A full binary tree is a tree in which:**
   a) Every node has at most one child

b) Every node has at least one child
c) All internal nodes have two children and all leaves have the same depth or level
d) None of the above
Answer: c) All internal nodes have two children and all leaves have the same depth or level

**The height of a binary tree is defined as:**
a) The number of nodes in the tree
b) The maximum number of nodes at any level in the tree
c) The maximum distance from the root node to any leaf node in the tree
d) None of the above
Answer: c) The maximum distance from the root node to any leaf node in the tree

**Which of the following is not a type of binary tree?**
a) Full binary tree
b) Complete binary tree
c) Perfect binary tree
d) Balanced binary tree
Answer: d) Balanced binary tree

**Which of the following is not a tree traversal algorithm?**
a) Depth-first search
b) Breadth-first search
c) Preorder traversal
d) Postorder search
Answer: d) Postorder search