

School of Computer & Systems Sciences
Jawaharlal Nehru University, New Delhi
 End Sem #MCA

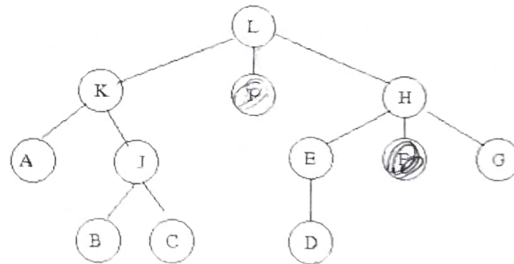
Data structures (CS-107)

Name :

Max mark: 60

Duration: 3 hr

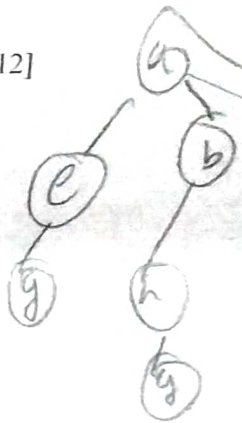
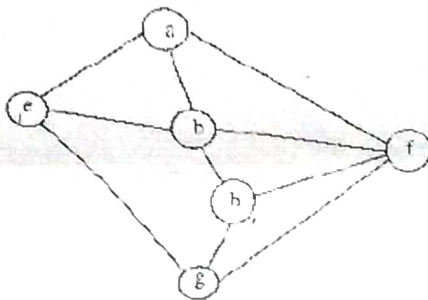
Q1. Perform the preorder, postorder, and inorder traversals of the given tree? [9]



Q2. Construct the AVL tree of given sequence: 10, 20, 15, 25, 30, 16, 18, 19, 5, 13, 23, 17, 50, 45, 60. (b) Delete the following element from tree 30, 15, 23 and 5. [12]

Q3. Write the advantage and disadvantage of circular link list. [3]

Q4. Performed DFS and BFS on the below graph. Write the pseudo code for both the traversal. [12]



Q5. Evaluate the following postfix expression [2]

54 6 + 7 4 - * 9 / 35 15 + +

Q6. Perform heap sort for following input: 10, 20, 15, 25, 30, 16, 18, 19, 5, 13, 23, 17, 50, 45, 60? [8]

Q7. Convert infix to postfix and prefix [4]

$(A + B) - C * D / (E - F / G) + (A \&\& B) \parallel C \parallel ! (E > F)$

Q8. Performed the bubble on the following list? [5]

14, 1, 4, 9, 7, 8, 5, 3, 20, 1, 4, 9, 17, 24, 50

Q9. Construct the tree from traversal given below [5]

inorder = {4, 8, 2, 5, 1, 6, 3, 7}

postorder = {8, 4, 5, 2, 6, 7, 3, 1}

