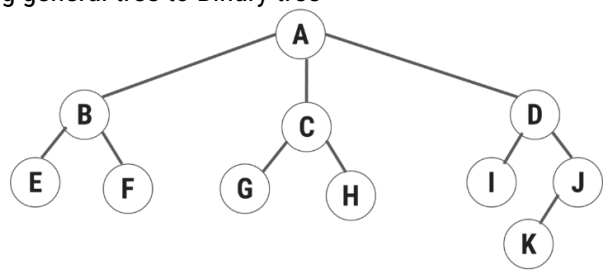
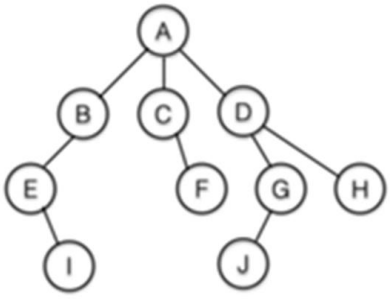
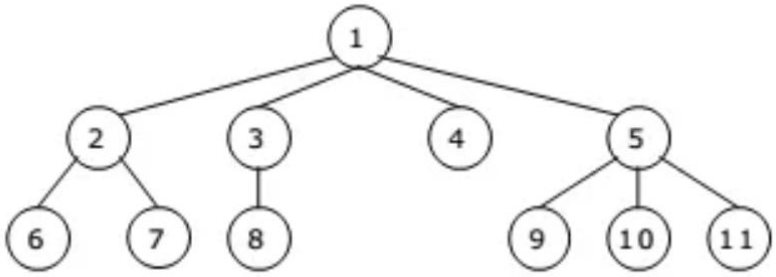
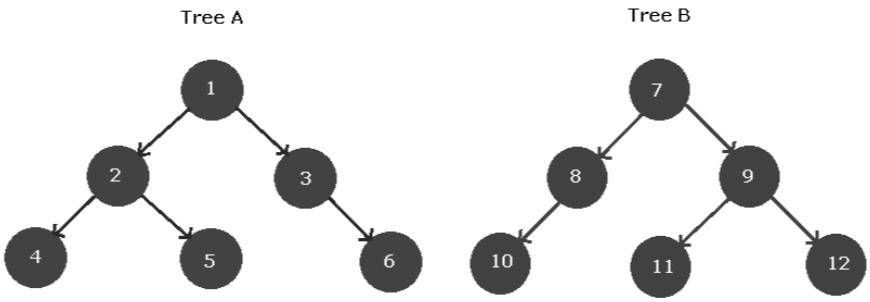
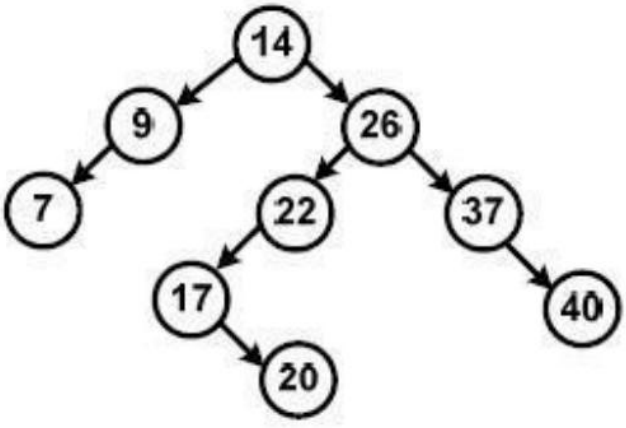
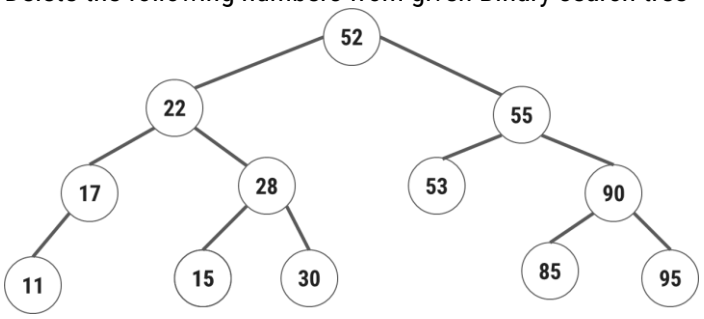
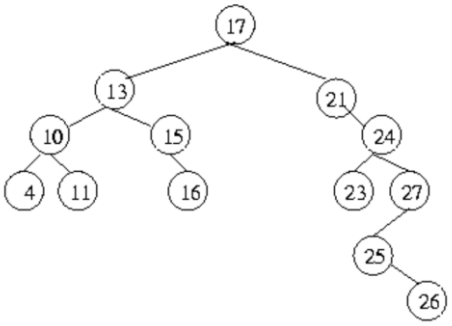
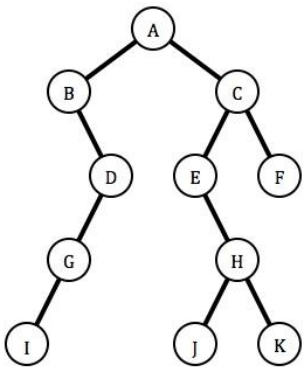
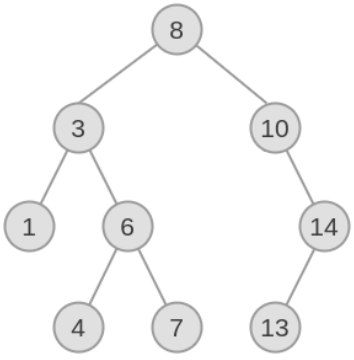
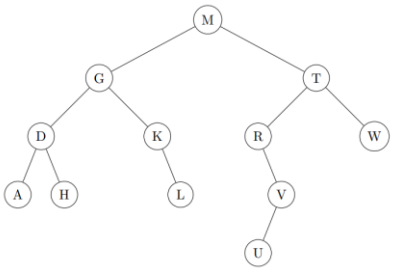
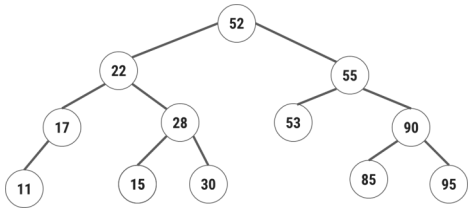
2304CS411 – Data Structure

Sr. No.	Unit No.	Question	BL	CO
1	4	Define following Graph Notations with an example • Node • Edge • Isolated Node • Graph • Directed and Undirected Edge • Degree • In-Degree and Out- Degree • Path • Tree • Leaf Node • Sibling Node • Children • Ancestor nodes • Descendant nodes • Level • Height of a tree • Weight • Forest • M-array tree • Strict Binary Tree • Complete Binary Tree	R	CO4
2	4	Write the difference between Binary Tree and Strict/Full Binary Tree	U	CO4
3	4	Write the Application Tree	R	CO4
4	4	Convert following general tree to Binary tree  (I)  (ii)	A	CO4

		 (iii)		CO4
5	4	Convert following forest tree to Binary tree	A	CO4
				
6	4	Define Binary Search Tree. List out Operations on BST(Binary Search Tree) with an example.	A	CO4
7	4	Construct binary search tree for the following data (Draw the tree after each operation.) 1. 10,3,15,22,6,45,65,23,78,34,5. 2. 50, 60, 25, 40, 30, 70, 35, 10, 55, 65, 5 3. 40, 65,25, 55, 10,70,30,50,15,80,75 4. 45,56,39,12,34,78,54,67,10,32,89,81 0 5. 60, 15, 4, 30, 70, 65, 10, 95, 25, 34 6. 60, 25, 72, 15, 30, 68, 101, 13, 18, 47, 70, 34	A	CO4
8	4	First insert 10 and then insert 24. After these insertions, delete 37 and then delete 22 from the following binary search tree. Draw the tree after each operation. 	A	CO4

9	4	Delete the following numbers from given Binary search tree  • Delete (15) • Delete (17) • Delete (55) • Delete (52) • Delete (22)	A	CO4
10	4	Delete the following numbers from given Binary search tree  • Delete (25) • Delete (21) • Delete (13) • Delete (16) • Delete (17)	A	CO4
11	4	Write the preorder, inorder and postorder traversals of the binary tree shown below.  (i)  (ii)	A	CO4

		 (iii)  (iv)		
12	4	Construct a binary tree from a given preorder and inorder sequence: 1. Preorder: A B D G C E H I F Inorder: D G B A H E I C F 2. Preorder Sequence: 1 2 4 5 3 6 Inorder Sequence : 4 2 5 1 6 3	A	CO4
13	4	Construct a binary tree from a given postorder and inorder sequence: 1. Inorder: D G B A H E I C F Postorder: G D B H I E F C A 2. Postorder Traversal: 4 5 2 6 3 1 Inorder Traversal: 4 2 5 1 6 3	A	CO4