Assignment -IV
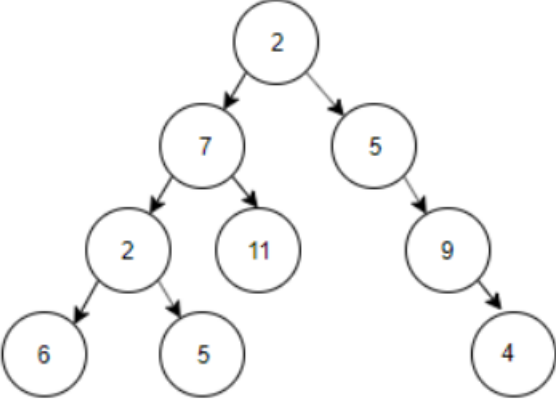
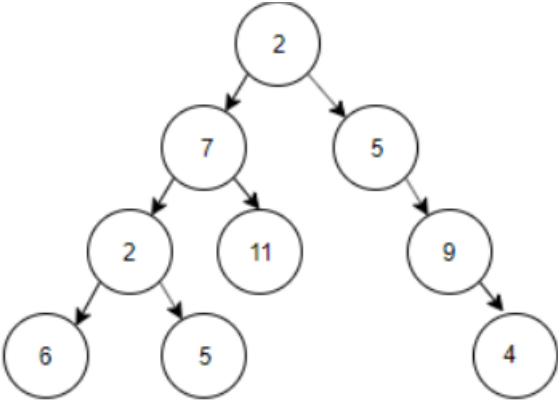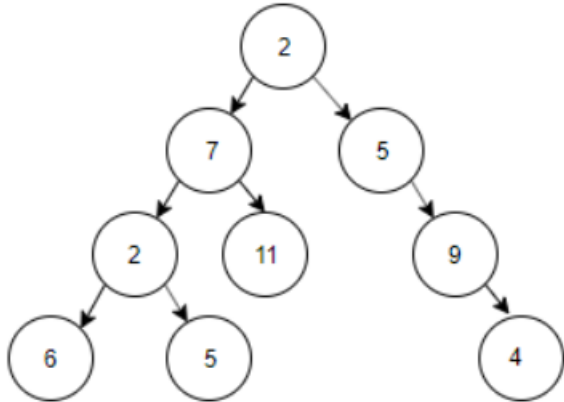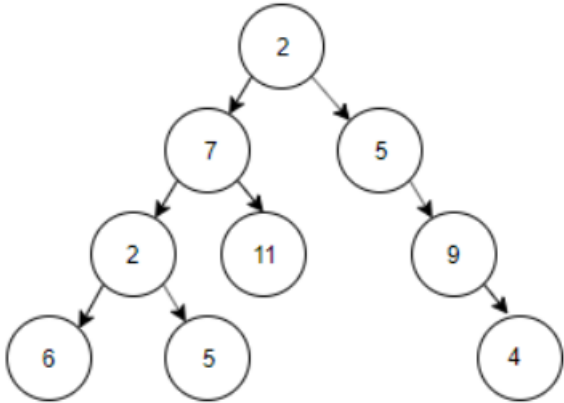| Subject-DS	Div-A	Sem-I	Class –SE

Date of Issue: 01/12/2021   Date of Submission: 10/12/2021

Q.No	Question	Module	Bloom's Taxanomy level	Program Indicator(PI)	CO
Q1.select correct answer					
1)	The post order traversal of binary tree is DEBFCA. Find out the pre order traversal. A. ABFCDE B. ADBFEC C. ABDECF D. ABDCEF	4			
2)	The in-order traversal of tree will yield a sorted listing of elements of tree in .... A. binary trees B. binary search trees C. heaps D. binary heaps	4			
3)	In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called .... A. Leaf B. Branch C. Path D. Thread	4			
4)	The in order traversal of tree will yield a sorted listing of elements of tree in	4			

	A. Binary trees B. Binary search trees C. Merging D. AVL Trees				
5)	For the tree below, write the pre-order traversal. a) 2, 7, 2, 6, 5, 11, 5, 9, 4 b) 2, 7, 5, 2, 6, 9, 5, 11, 4 c) 2, 5, 11, 6, 7, 4, 9, 5, 2 d) 2, 7, 5, 6, 11, 2, 5, 4, 9	4			
Q2. Choose Correct Options					
1)	For the tree below, write the post-order traversal. a) 2, 7, 2, 6, 5, 11, 5, 9, 4 b) 2, 7, 5, 2, 6, 9, 5, 11, 4 c) 2, 5, 11, 6, 7, 4, 9, 5, 2 d) 2, 7, 5, 6, 11, 2, 5, 4, 9	4			

2)	Which of the following is the most widely used external memory data structure? a) AVL tree b) B-tree c) Red-black tree d) Both AVL tree and Red-black tree	4			
3)	A B-tree of order 4 and of height 3 will have a maximum of _____ keys. a) 255 b) 63 c) 127 d) 188	4			
4)	The leaves of an expression tree always contain? a) operators b) operands c) null d) expression	4			
5)	An expression tree is created using? a) postfix expression b) prefix expression c) infix expression d) paranthesized expression	4			
6)	For the tree below, write the in-order traversal. a) 6, 2, 5, 7, 11, 2, 5, 9, 4 b) 6, 5, 2, 11, 7, 4, 9, 5, 2 c) 2, 7, 2, 6, 5, 11, 5, 9, 4	4			

	d) 2, 7, 6, 5, 11, 2, 9, 5, 4				
7)	For the tree below, write the level-order traversal. a) 2, 7, 2, 6, 5, 11, 5, 9, 4 b) 2, 7, 5, 2, 11, 9, 6, 5, 4 c) 2, 5, 11, 6, 7, 4, 9, 5, 2 d) 2, 7, 5, 6, 11, 2, 5, 4, 9	4			
8)	Which of the following algorithms is the best approach for solving Huffman codes? a) exhaustive search b) greedy algorithm c) brute force algorithm d) divide and conquer algorithm	4			
9)	What is the traversal strategy used in the binary tree? a) depth-first traversal b) breadth-first traversal c) random traversal d) Priority traversal	4			
10)	How many common operations are performed in a binary tree? a) 1 b) 2 c) 3 d) 4	4			
Q3. Answer the following questions in brief					
1)	What is Huffman coding? Construct the Huffman Tree and determine the code for each symbol in the sentence "ENGINEERING".	4			
2)	Explain AVL trees. Insert the following elements in a AVL search tree:	4			

	63, 52, 49, 83, 92, 29, 23, 54, 13, 99				
3)	Explain B Tree and B+ Tree	4			
4)	Explain Binary Search Tree	4			
5)	Explain Expression Tree	4			