Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous College Affiliated to University of Mumbai)

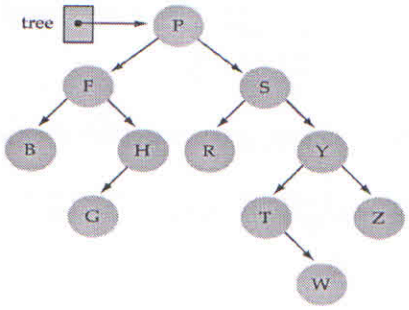
Re-Examination

June 2018

Max. Marks: 100 | **Duration: 3 hrs**
Class: S.E. | **Semester: III**
Course Code: CE31/IT31 | **Branch: COMP/IT**
Name of the Course: Advanced Data Structures

Instructions:

(1) All Questions are Compulsory
(2) Draw neat diagrams
(3) Assume suitable data if necessary

Question No.	Question	Max. Marks	CO
Q1 (a)	What is a Binary Tree? Write a function to traverse a binary tree using inorder, postorder and preorder traversing techniques. Perform all three traversal techniques for the given binary tree. 	*10*	*CO2*
Q1 (b)	Write a function to perform following operations on doubly linked list: i) insert at the start into the list ii) delete the last data from the list **OR** Write a function to perform following operations on circular linked list: i) insert at the end into the list ii) search for the given data in the list	*10*	*CO1*
Q2 (a)	Construct an AVL tree, where nodes are inserted in the following order. Mention the type of rotation when applied. 3, 2, 1, 4, 5, 6, 7, 16, 15, 14	*10*	*CO2*