**PES UNIVERSITY**

**(Established under Karnataka Act No. 16 of 2013)**

**100 Feet Ring Road, BSK III Stage, Bengaluru-560 085**

**Department of Computer Science and Engineering**

**UE20CS207 - DATA STRUCTURES AND ITS APPLICATIONS LABORATORY**

**WEEK – 9 ( Both the Programs to be completed during lab hours itself)**

**TOPIC : TREES – OPERATIONS & TRAVERSALS**

**COMMON TO ALL SECTIONS STUDENTS - 15 MARKS**

Create a Binary Search Tree to store SRNs of students, where SRNs are strings. Implement the insert function of the BST by comparing strings. Also,

a) implement a function to print all sorted SRNs in ascending order.

b) implement a function to search an SRN.

**TO BE IMPLEMENTED IN LAB : ( 15 MARKS) -**

**2a.Monday** - ( 15 MARKS) - Create a Binary Search Tree using Arrays and Traverse using preorder. Also compute the level and height of the tree.

**2b. Tuesday** - ( 15 MARKS) – Create a Binary Search Tree using List list and Traverse using post order and in order. Count the sum of left sub tree and sum of right subtree (Excluding tree).

**2c. Wednesday** - ( 15 MARKS) – Create a Binary Tree using Arrays and Traverse using preorder. Also check of a given tree is binary tree or a Binary Search Tree.

**2d. Thursday** - ( 15 MARKS) – Create a BinaryTree using List list and Traverse using post order and in order. Also search for a particular node and prints its position in tree hierarchy. Compute the depthh of the tree

**2e. Friday** - ( 15 MARKS) - Create a Binary Tree using List and Traverse using In order, Preorder and Post order using iteration.