Usman Institute of Technology

Department of Computer Science – Fall 2018

CS-211 Data Structures and Algorithms
Lab Manual

OBJECTIVE:

1. *Understand and implement Tree Traversing Technique.*
2. *Understand and Implement Binary Search Tree*

Name : _____

Roll No. : _____

Semester : _____ Section: _____

Date : _____

Remarks : _____

Signature : _____

Lab 08: Implementation of Tree Traversal and Binary Search Tree

EXERCISES:

a. Write a class BNode to represent a node of a Binary Tree. A node contains an element to store the data (in our case integer data) and two objects for left and right children

class BNode

b. Write a class BinarySearchTree and implement following methods in the class:

i. Add(int): add an element in the binary search tree

public void Add(int e)

ii. Search(int): search an element in the binary search tree

public BNode Search(int e)

iii. InOrder(): print the tree through in-order traversing

public void InOrder()

iv. PostOrder(): print the tree through post-order traversing

public void PostOrder()

v. PreOrder(): print the tree through pre-order traversing

public void PreOrder()

vi. Height(BNode): print the height of the given node

public int Height(BNode node)

vii. Size(BNode): print the size of the given node

public int Size(BNode node)

viii. Height(): print the height of the tree

public int Height()

ix. Size(): print the size of the tree

public int Size()

x. Successor(BNode): return the successor of the given node

public BNode Successor(BNode node)

xi. Predecessor(BNode): return the predecessor of the given node

public BNode Predecessor(BNode node)

xii. Delete(int): delete the element from the tree

public void Delete(int e)