COMSATS University Islamabad
Wah Campus
Department of Computer Science
ALGORITHMS AND DATA STRUCTURES
Assignment / BST

Total Marks: 50

Q1. CLO3, PLO(b)-1
Q2. CLO2, PLO(b)-1
Q3. CLO3, PLO(b)-1
Q4. CLO4, PLO(a)-1,2
Q5. CLO4, PLO(a)-1,2

Make duplicates as the left nodes.
All duplicate nodes should be deleted in one attempt.
Perform inorder traversal after each operation to ensure the correctness of BST.

Q1. a) Create fully threaded BST from the following data.
34, 67, 23, 90, 45, 67, 88, 99, 10, 7, 77, 77

b) Insert nodes 12, 89 and 33 in the above tree.
c) Delete nodes 88, 23 and 77.

Q2. a) Create right-in threaded BST from the following data.
90, 36, 58, 96, 32, 92, 12, 93, 24, 97, 38, 60
b) Insert nodes 12, 100 and 45 in the above tree.
c) Delete nodes 12, 60, 36 and 96.

Q3. a) Create left-in threaded BST from the following data.
36, 89, 12, 67, 56, 43, 54, 98, 6, 60, 94, 26
b) Insert nodes 55, -1 and -45 in the above tree.
c) Delete all the nodes having two children.

Q4. Following are traversals of a binary tree.

Preorder:	PASTQEDXMRCF
Postorder:	TQSDEAMCFRXP
Inorder:	TSQAEDPMXCRF

Make binary trees from each of the above two traversals.

Q5. Draw BST from the following traversals. Also write down the preorder traversal.

Inorder:	JFCIHABDGE
Postorder:	JFIHCGDEBA