

First Name:

Last Name:

Q1: Read the instructions for question Q1 in the assignment document. **For each of the five sub-questions, enter your answer in the given space.**

(a): Your answer to Q1(a) is

(b): Your answer to Q1(b) is

(c): Your answer to Q1(c) is

(d): Your answer to Q1(d) is

Q2: Read the instructions for question Q2 in the assignment document. **For each of the seven sub-questions, enter your answer in the given space.**

(a): After BST insertion of node p with key 12, the parent of p is

(b): After BST insertion of node p with key 12, p is the

child of its parent.

(c): After BST insertion of node p with key 12, the RBT property being violated is

(d): After RBT insertion of node p with key 12, the parent of node p is

(e): After RBT insertion of node p with key 12, the color of node p is

(f): After RBT insertion of node p with key 12, the left child of node p is

(g): After RBT insertion of node p with key 12, the right child of node p is

Q3: Read the instructions for question Q3 in the assignment document. **For each of the twelve sub-questions, enter your answer in the given space.**

(a): After RBT deletion of node with key 40, the left child of node g is

(b): After RBT deletion of node with key 40, the right child of node g is

(c): After RBT deletion of node with key 40, the color of node g is

(d): After RBT deletion of node with key 40, the left child of node l is

(e): After RBT deletion of node with key 40, the right child of node l is

(f): After RBT deletion of node with key 40, the color of node l is

(g): After RBT deletion of node with key 40, the left child of node j is

(h): After RBT deletion of node with key 40, the right child of node j is

(i): After RBT deletion of node with key 40, the color of node j is

(j): After RBT deletion of node with key 40, the left child of node h is

(k): After RBT deletion of node with key 40, the right child of node h is

(l): After RBT deletion of node with key 40, the color of node h is