Course: IT1201 Quiz: 3 Total marks: 20

1) What is the worst case time complexity for search and delete operations in a general Binary Search Tree? 3

2) Beginning with an empty binary search tree, what binary search tree is formed when you insert the following values in the order given? 6
   a) W,T,N,J,E,B,A
   b) W,T,N,A,B,E,J
   c) A,B,W,J,N,T,E

3) Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree? 4

   (A) 7 5 1 0 3 2 4 6 8 9
   (B) 0 2 4 3 1 6 5 9 8 7
   (C) 0 1 2 3 4 5 6 7 8 9
   (D) 9 8 6 4 2 3 0 1 5 7

   Explain.

4) Write a recursive algorithm to find the maximum and minimum value of a binary search tree. 7