3rd. 26

Exam.Code:0921
Sub. Code: 6954

1128
B.E. (Information Technology)
Third Semester
ITE-302: Data Structure

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Define the followings :

a) What is the concept of Algorithm complexity? Illustrate.

b) List the features of AVL trees.

c) Define the Big-0 and Little-0 notation using suitable example.

d) Differentiate Linear Link List and stacks.

e) What is the need of Priority Queue? (5x2)

UNIT – I

II. Write an algorithm to insert an element in the sorted link list using suitable example. (10)

III. Discuss the various operations that can be performed on Queues. (10)

IV. a) Write the process of infix to postfix expression conversion.

b) Write an algorithm for insertion in an array list. (2x5)

UNIT – II

V. What do you mean by Heap? Write the Heap Sort algorithm and discuss it using suitable example. (10)

VI. a) Write an algorithm for Selection Sort.

b) Elaborate the Depth First Search using suitable example. (2x5)

VII. Write an algorithm for Deletion in Binary Search Tree. (10)

x-x-x