Unit-IV

8. Use bubble sort to arrange the following data items in ascending order: 7½

   30, 20, 19, 24, 53, 98, 11

9. Write the process of searching an element using binary search with the help of a suitable example. 7½

A (Printed Pages 4)

Roll. No. _____

S-759

B.Sc. (Part-II) Examination, 2015

(Old Syllabus)

COMPUTER SCIENCE

Third Paper

(Data Structure Using 'C')

Time Allowed : Three Hours] ***[Maximum Marks : 50***

Note : Answer five questions in all. Question No.1 is compulsory. Attempt one question from each of the four Units.

1. Write short answers to the following: 2×10

   (a) What do you mean by priority queue?

   (b) What do you understand by null graph?

   (c) Define circular linked list.

   (d) What is the difference between linear and non linear data structure?

(e) What is 2-way merge sort?

(f) What do you mean by sparse matrix.

(g) What do you mean by pointer?

(h) What is the difference between graph and a tree?

(i) What is directed acyclic graph?

(j) Write the disadvantages of array data structure.

Unit-I

2. Discuss about insertion of an element into a linked list as well as deletion of an element from linked list. 7½

3. What is doubly linked list? What is the advantage of doubly linked list over singly linked list? 7½

Unit-II

4. What do you mean by stack data structure? Discuss about Push and Pop Operations performed on stack. 7½

5. Convert the following infix expression to postfix expression.

(i) (A-B)/((D+E)*F) 3½

(ii) ((A+B)/D)↑((E-F)*G) 4

Unit-III

6. A binary tree has 9 nodes. The inorder and preorder traversals of the tree gives the following sequence of nodes: 7½

Inorder: E A C K F H D B G

Preorder: F A E K C D H G B

Draw the tree

7. Find a minimum spanning tree of the following graph. 7½