9. Differentiate Sequential search and binary search. 7½

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Roll. No. _____

S-756

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

(New Syllabus)

COMPUTER SCIENCE

Third Paper

(Data Structure Using 'C')

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

Note : Attempt five questions in all. Question No.1 is compulsory. Attempt one question from each of the four units. 2×10=20

1. (a) Explain a Weight balanced binary tree.

   (b) Explain isomorphic Undirected graph.

   (c) What are the main difference between a binary tree and ordinary tree?

   (d) Why queue is called FIFO data structure.

   (e) List out the application of stack.

(f) What is meant by Circular queue.

(g) List out the types of deque?

(h) Why data structure is needed?

(i) Explain the Push and Pop operation.

(j) Explain the term terminal node, degree of a vertax.

Unit-I

2. Explain the structure of doubly Linked list. Write a general algorithm for inserting and deleting nodes in the Middle? 7½

3. Compare and distinguish between singly linked list and doubly linked lists? 7½

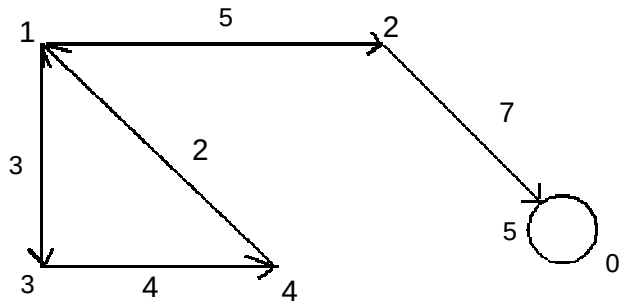
Unit-II

4. Explain the application of stack for conversion of infix to postfix. 7½

5. Write an algorithm for deleting and insertion in a priority queue? Mention its application? 7½

Unit-III

6. Prepare the adjacency matrix of the connected, directed and weighted graph given below: 7½



7. What is binary search tree? Write an algorithm to insert and delete an item from a binary search tree. 7½

Unit-IV

8. Explain quick sort algorithm. What is the complexity of your Algorithm? 7½