Question Paper Code : 3032

B.Sc. (Part-II) Examination, 2017

(New Syllabus)

COMPUTER SCIENCE

[Third Paper]

(Data Structure Using 'C')

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

Note : Answer **five** questions in all. Question **No. 1** is **compulsory**. Besides this, attempt **one** question from each unit.

1. Write short answer of the following : [2x10=20]

   (a) Differentiate between Stack and Linked List.

   (b) Differentiate between infix and prefix expression.

   (c) Define Binary Search Tree.

   (d) Define directed and undirected graph.

(e) What do you mean by Big O Notation ?

(f) Define the term Sibling, height of tree and forest.

(g) Define Non Linear Data Structure with example.

(h) Write the disadvantages of Singly Linked List over Doubly Linked List.

(i) Differentiate between linear searching and binary searching.

(j) Differentiate between Tree and Graph.

UNIT - I

2. Write an algorithm to insert an element in a circular linked list. [7½]

3. Explain advantages and disadvantages of linked list. [7½]

UNIT - II

4. (a) Write the stack applications. [3]

(b) Write a programme in C to insert and delete an element from the Queue. [4½]

5. (a) Define Queue and explain its type. [4]

(b) Explain Priority Queues. [3½]

UNIT - III

6. (a) Write the algorithm of Depth First Search (DFS). [4]

(b) Discuss the various types of traversal. [3½]

7. What do you mean by minimal spanning tree ? Explain with suitable example. [7½]

UNIT - IV

8. Write a programme in C to implement selection sorting. [7½]

9. Write a programme in C to implement Binary Search. [7½]

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