

FACULTY OF INFORMATICS**MCA I-Year II-Semester (Main) Examination July/August, 2012****Subject : DATA STRUCTURES****Time : 3 Hours]****[Max. Marks : 80****Note : Answer One question from each unit. All questions carry Equal marks.****Unit - I**

1. (a) What are circular linked lists ? Briefly discuss.
(b) Write a program to implement Linear Lists using Array representation.

OR

2. (a) Write a program to add 2 polynomials using Linked Lists.
(b) Write notes on Doubly Linked lists.

Unit - II

3. (a) Briefly discuss about Special Matrices.
(b) Write a program to implement all operations on STACK using Array representation.

OR

4. (a) List various applications of Stacks.
(b) Write a program to implement all operations on a Linked Queue.

Unit - III

5. (a) List and discuss the properties of a Binary Tree.
(b) Write notes on AVL Trees, and Insertion Operation's with suitable examples.

OR

6. (a) Write notes on Binary Tree Traversals.
(b) Explain about B-Trees and Delete Operation on B-Trees with examples.

Unit - IV

7. (a) Write a program to implement Binary Search.
(b) Briefly discuss about Selection Sort Algorithm and implement Selection Sort technique on the following element's to arrange in Ascending Order.
10, 2, 4, 18, 26, 3.

OR**Contd...2**

8. (a) Write a program to implement Quick Sort.
 (b) Discuss about Hashing with Collision resolution.

Unit - V

9. (a) Write notes on Wheel graphs and Bipertite graphs.
 (b) Explain in detail about Graph Traversals.

OR

10. (a) Write a program to find the shortest path from a vertex 'S' to a vertex 'D'.
 (b) Briefly discuss about Minimal Spanning Tree.

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