Register Number :

Name of the Candidate :

6 9 1 5

M.C.A. DEGREE EXAMINATION, 2009

(FIRST SEMESTER)

(PAPER - V)

151. DATA STRUCTURES AND ALGORITHMS

(New Regulations)

December]   [Time : 3 Hours

Maximum : 100 Marks

PART - A   (8 × 5 = 40)

Answer any EIGHT questions.
All questions carry equal marks.

1. Explain the linked list with an example.

2. Discuss hashing.

3. Explain Knapsack problem.

4. Write binary serarch algorithm.

Turn Over

5. What is multistage graph ? Give an example.

6. Discuss AND / OR graphs.

7. Write a note graphs colouring.

8. Give the general traveling salesman problem.

9. Discuss the basic elements of NP-complete problem.

10. Write the algorithm for NP hard graph problem,

PART - B   (3 ×20 = 60)

Answer any THREE questions.
All questions carry equal marks.

11. Explain the operations on stack and queue with examples.

12. Write the algorithms for the following :

   (a) Merge sort.

   (b) Minimum spanning tree.

13. Describe the various traversal techniques.

14. What is back tracking ? Explain the 8 -queens problem ?

15. Discuss NP - hard code generation problems.