

**MCA-762**

**MCA-12**

**M.C.A. DEGREE EXAMINATION —  
JUNE, 2010.**

**Second Year**

**DESIGN AND ANALYSIS OF ALGORITHMS**

**Time : 3 hours**

**Maximum marks : 75**

**PART A — (5 × 5 = 25 marks)**

**Answer any FIVE questions.**

1. Develop a mathematical model for the traveling salesman problem.
2. Write notes on testing.
3. Write notes on the mathematical tool 'Network'.
4. Explain the operations of Queue.
5. Explain the concept of backtrack programming.
6. What is binary search? Give example.
7. Explain the concept of recursion with an example.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain the basic steps in the complete development of an algorithm with suitable example.
  9. Explain top-down structure programming with suitable example.
  10. Explain the concepts of sub goals, hill climbing and working backward using a single example.
  11. Explain the branch and bound technique with an example.
  12. Explain the quick sort algorithm with an example and analyse it.
  13. Explain the algorithm for Binary Tree insertion with an example.
  14. Write detail notes on simulation.
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