



**MSIT 12**

**I Semester M.Sc. (I.T.) Examination, Dec. 2009/Jan. 2010  
(Repeater)  
ANALYSIS AND DESIGN OF ALGORITHMS**

Time : 3 Hours

Max. Marks : 75

**PART – A**

I. Answer **all** the questions :

**(10×2+1×5=25)**

- 1) Name the characteristics of algorithm.
- 2) Write the algorithmic notations.
- 3) Define hashing.
- 4) What is a graph ?
- 5) What is an incidence matrix ?
- 6) Write divide and conquer method steps.
- 7) What is a greedy method ?
- 8) Write the significance of backtracking algorithm.
- 9) Name the search methods for graph.
- 10) What is a heap ?
- 11) Explain the following :
  - a) Iterative process.
  - b) Sequential search.
  - c) Recursion.
  - d) Degree.
  - e) Null graph.

**P.T.O.**

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PART – B

II. Answer **any five** questions :

**(5×10=50)**

- 1) Write an algorithm to test where the given three numbers form the sides of a triangle.
  - 2) Explain binary search method with algorithm and example.
  - 3) Explain insertion sort method with example.
  - 4) a) Write recursive algorithm to find factorial of a number.  
b) Write recursive algorithm to generate fibonacci series.
  - 5) Write an algorithm to implement the hashing technique.
  - 6) Explain travelling salesman problem.
  - 7) Explain the steps to solve knapsack problem.
  - 8) Explain Prim's algorithm.
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