

MAY 2011

P/ID 17413/RBP

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

All questions carry equal marks.

1. (a) What is an algorithm? Discuss on asymptotic notation.

Or

- (b) What do you mean by best and worst case analysis? Discuss with examples.

2. (a) What is a greedy method? Give the procedure for greedy method.

Or

- (b) What is shortest path method? Discuss with an example.

3. (a) What is depth first search? Discuss the algorithm with an example.

Or

- (b) Explain Inorder traversal of a binary tree.

4. (a) What is back tracking? List the problems which can be solved by back tracking techniques.

Or

- (b) What is Hamiltonian cycle? Discuss.

5. (a) Give the procedure for LC search.

Or

- (b) Write a short note on branch and bound technique.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

All questions carry equal marks.

6. With suitable example explain quick sort algorithm.
7. Explain straight forward and recursively finding maximum and minimum algorithms.
8. Discuss the application of greedy method for Knapsack problem.
9. With an example explain Prim's minimum spanning tree algorithm.

10. What is a multistage graph? Discuss the forward approach of a multistage graph algorithm with an example.
 11. Explain the following algorithms :
 - (a) Sum of subsets
 - (b) Graph colouring.
 12. Discuss how the travelling salesman problem can be solved by branch and bound technique.
 13. Write short notes on the following :
 - (a) AND/OR graphs
 - (b) Merge sort.
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