

MAY 2012

**P/ID 17461/
RCL/PCAL**

Time : Three hours

Maximum : 75 marks

PART A — ($5 \times 5 = 25$ marks)

Answer ALL questions.

1. (a) What are the criteria an algorithm must satisfy? Explain.

Or

- (b) Write the control abstraction for divide and conquer method.

2. (a) Write the greedy algorithm for sequencing with the jobs with dead lines and profits.

Or

- (b) Find an optimal solution to the Greedy knapsack instance $n = 3$, $m = 20$.
 $(P_1, P_2, P_3) = (25, 24, 15)$ and $(W_1, W_2, W_3) = (18, 15, 10)$

3. (a) Write short notes on : sum of subset problems.

Or

- (b) Explain Depth first search procedure.

4. (a) Write the algorithm for Lagrange interpolation.

Or

- (b) Write the control abstraction for LC search.

5. (a) Discuss on Comparison Tree.

Or

- (b) Write the algorithm for non-deterministic sorting.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. Write an algorithm to find the maximum and minimum values from a set of n elements.
7. Discuss on strassen's matrix multiplication.
8. Explain the procedure for Quick sort.
9. Discuss on prim's algorithm with example.
10. Describe the multistage graph problem. Also develop an algorithm for the same using forward approach.
11. Write brief notes on : Backtracking.

12. State and explain travelling sales person problem using branch and bound method.
 13. Discuss on non deterministic algorithms.
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