

OCTOBER 2013

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

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Discuss about random algorithm.
Or
(b) Discuss in detail about time complexity.
2. (a) Write notes on tree vertex splitting.
Or
(b) List the advantages of dynamic programs over greedy method.
3. (a) Discuss about graph coloring.
Or
(b) Discuss about depth first search.
4. (a) Discuss the concept of branch and bound technique.
Or
(b) Explain the advantages and disadvantages of branch and bound technique.

5. (a) Explain the concept of Np-hard problem.

Or

- (b) Explain the concept of Np-complete.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. Explain about algorithm complexity analysis.
7. Explain about Strassen's matrix multiplication.
8. Discuss in detail about shortest path greedy method.
9. Explain in detail about breadth first search back-tracking algorithm.
10. Discuss the solution for traveling sales man problem using branch and bound techniques.
11. Explain the n-Queen's problem and discuss the possible solution.

12. (a) Compare divide and conquer and dynamic programming.
(b) How the problems can be solved using dynamic programming?
13. Solve the all pair shortest path problem for the digraph with weighted matrix given below.

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
<i>a</i>	0	∞	3	∞
<i>b</i>	2	0	∞	∞
<i>c</i>	∞	7	0	1
<i>d</i>	6	∞	∞	0
