Roll No. .....

Total Pages : 2

45176

BT-5/D-25

ADVANCED ALGORITHMS

Paper : PE-CS-T307A

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions selecting at least *one* question from each unit.

UNIT–I

1. (i) Explain Master Theorem with suitable example. 7

   (ii) List various binary tree used for algorithms. Explain the working of any one with example. 8

2. (i) Find the time complexity (all case) of any one sorting technique. 8

   (ii) Discuss the role of Pseudo code convention in algorithms. 7

UNIT–II

3. (i) Define Hiring Problem. Discuss its probabilistic analysis. 8

(ii) Explain matrix chain multiplication with example. 7

4. (i) Discuss Knapsack Problem and its solution. 7
(ii) Write short note on activity selection problem. 8

UNIT–III

5. (i) What is relaxation. Discuss its significance in Minimum spanning tree. 7
(ii) Differentiate Kruskal and Prim algorithms with example. 8

6. (i) Write and explain All pair shortest path–Floyd Warshall Algorithm. 7
(ii) Explain DFS with suitable example. What is the degree and height of DFS? 8

UNIT–IV

7. Discuss various steps in String matching with finite automata in detail. 15

8. (i) Explain Rabin-Karp Algorithm with example. 7
(ii) Write and discuss Knuth-Morris-Pratt Algorithm. 8