G 1468   (Pages : 2)   Reg. No...............................

Name...............................

B.TECH. DEGREE EXAMINATION, MAY 2012

Sixth Semester

Branch : Computer Science and Engineering

ALGORITHM ANALYSIS AND DESIGN (R)

(Regular/Improvement/Supplementary)

Time : Three Hours   Maximum : 100 Marks

*Answer **all** questions.*

Part A
Each question carries 4 marks.

1. What are the differences between deterministic and non-deterministic algorithms ?

2. Define space and Time Complexity.

3. Short note on 'Evaluation of matrix multiplication'.

4. Explain the stability of sorting method.

5. Discuss about Kruskal's Algorithm.

6. What is the relevance of greedy method to solve knapsack problem ?

7. What are Multi-stage graphs ?

8. Define principle of optimality.

9. What is Back tracking ? Explain.

10. Discuss about sum of subsets problem.

                                                            (10 × 4 = 40 marks)

Part B

11. Explain the function of Recurrence Relation and Recurrence Trees for Complexity evaluation.

                                                            (12 marks)

Or

12. (a) What is an algorithm ? Discuss in details about its properties.   (8 marks)

    (b) What are the difference between Algorithm and computational procedure ?   (4 marks)

13. Explain in detail about binary search with an example.   (12 marks)

Or

14. Explain the various steps involved in the Quick sorting with an example.   (12 marks)

15. Explain the Prim's algorithm and give its complexity.   (12 marks)

Or

16. Discuss an algorithm to find minimum cost spanning tree and its application and complexity.
                                                                              (12 marks)

17. What are the various methods available in Tree-sort ?   (12 marks)

Or

18. Explain travelling salesman problem. Suggest a solution for problem using dynamic programming.
                                                                              (12 marks)

19. Explain an algorithm to solve the "N" Queem problem.   (12 marks)

Or

20. Short notes on :

    (a) FIFO and LIFO.   (6 marks)

    (b) Knapsack problem.   (6 marks)

                                                              (5 × 12 = 60 marks)