1266/A26 **MAY 2008**

COMPUTER ALGORITHMS AND DATA STRUCTURE

Time : Three hours **Maximum : 100 marks**

PART A — (6 × 5 = 30 marks)

Answer any SIX questions.

1. Explain binary search with simple example.

2. Explain Strassen's Matrix multiplication.

3. What is greed method? Explain.

4. Explain the problem of optimal storage on tapes.

5. Explain Hash function with suitable example.

6. Explain and/ or Graphs with example.

7. Define Queue. Explain the operation that can be performed on Queue.

8. Explain mazing problem with suitable figure.

9. Define Binary tree with example and List the properties of Binary trees.

10. Explain in order traversal of binary tree.

PART B — (4 × 10 = 40 marks)

Answer any FOUR questions.

11. Write procedure for creating, inserting, and deleting items from a linked list.

12. Draw binary decision tree for binary search with n-12.

13. Explain optimal binary search tree for the given identifier set with suitable algorithm.

14. Write procedure for creation, add and delete elements in a stack.

15. Explain pattern matching strings with suitable algorithm.

16. Write an algorithm to search a binary search tree.

PART C — (2 × 15 = 30 marks)

Answer any TWO questions.

17. Explain :

(a) Prim's algorithm and

(b) Kruskal's Algorithm.

18. Discuss multistage graphs and the formulation of it by dynamic programming and backward approach.

19. (a) Write an algorithm to find all pairs shortest path.

(b) Explain various operations on Doubly linked list.

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