F 3610

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Reg. No..............................

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

B.TECH. DEGREE EXAMINATION, NOVEMBER 2010

Sixth Semester

Branch—Computer Science and Engineering

ALGORITHM ANALYSIS AND DESIGN (R)

(Supplementary—Prior to 2007 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all the questions.

Part A

1. Explain briefly about the term "Pseudo code conventions".

2. What is meant by Asymptotic Notation ? Explain.

3. With simple example, explain how to find maximum and minimum.

4. Define the term "Merge Sort".

5. Explain briefly above "Optimal Storage on Tapes".

6. Write about the technical term "Job sequencing with deadlines".

7. What is meant by "Multi Stage Graph" ?

8. What is meant by "Oracles and Adversary arguments" ?

9. What do you mean by bounding functions ? Explain.

10. Define the terms "FIFO and LIFO".

(10 × 4 = 40 marks)

Part B

11. What is the difference between time and space complexity ? Also describe notations used for describing the complexity.

Or

12. Discuss in detail about deterministic and non-deterministic algorithm.

13. Write a short note of the following :—

    (a) Binary Search.

    (b) Stressen's Matrix Multiplication.

Or

Turn over

14. Write a short note of the following :—

(a) Divide and conquer Matrix Multiplication.

(b) Quick sort.

15. Discuss in detail about Knapsack problem with an example.

Or

16. Describe Prim's algorithm. Find the time complexity for the algorithm.

17. Explain the all pairs shortest path problem. Solve it using dynamic programming strategy.

Or

18. Explain travelling salesman problem. Suggest a solution for problem using dynamic programming.

19. Describe the terms "N-Queens problem and sum of subsets".

Or

20. Describe how 15 Puzzle problem is solved.

(5 × 12 = 60 marks)