

Roll No.

Total Pages : 2

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BT-4/J-25

DESIGN AND ANALYSIS OF ALGORITHMS

Paper : PC-CS-208A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT-I

1. (a) What are Asymptotic Notations. Explain its types. 10
(b) Explain in brief Strassen Multiplication. 5
2. Explain Master Method for solving recurrence and also write Master theorem. 15

UNIT-II

3. Explain the concept of Matrix Multiplication with the help of example. 15
4. Write properties of Fibonacci heap and write algorithm for inserting a node in Fibonacci heap. 15

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UNIT-III

5. (a) Illustrate the concept of strongly connected components. 7.5
- (b) Write Algorithm for Depth first search and explain it. 7.5
6. What do you mean by Relaxation. Write Bellman Ford algorithm and explain it in detail. 15

UNIT-IV

7. What are flow networks and write Ford Fulkerson algorithm. 15
8. Explain the following terms : 15
- (i) Comparison Network.
 - (ii) Merging Network.
 - (iii) Zero-one principle.

EXAMKIT