

**24P258**

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Name : .....

Reg. No : .....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2025**

(CBCSS-PG)

(Regular/Supplementary/Improvement)

**CC19P CSS2 C06 - DESIGN AND ANALYSIS OF ALGORITHMS**

(Computer Science)

(2019 Admission onwards)

Time: 3 Hours

Maximum: 30 Weightage

**Part-A**

Answer any *four* questions. Each question carries 2 weightage.

1. Quote the steps in developing algorithm.
2. Implement Brute force approach.
3. Demonstrate sum of sub set problem?
4. Judge amortized analysis?
5. Criticize matrix multiplication using divide conquer method.
6. Describe NP-Hard and NP-Completeness problem.
7. Examine in detail about Parallel prefix computation.

**(4 × 2 = 8 Weightage)**

**Part-B**

Answer any *four* questions. Each question carries 3 weightage.

8. Recall the RAM model of serial computation with an example.
9. Make comparison between Kruskal's and Prim's algorithms with examples.
10. Demonstrate branch and bound designing technique.
11. Criticize Big-oh and little -oh.
12. Deduce different method for solving recurrence relation.
13. Describe Travelling sales man problem.
14. Examine scalability and Amdhal's law.

**(4 × 3 = 12 Weightage)**

**Part-C**

Answer any *two* questions. Each question carries 5 weightage.

15. List out different problems types.

16. Illustrate the essential idea of Dynamic Programming. How does Dynamic Programming differ from backtracking. Explain longest common subsequence problem using dynamic programming.
17. Assess different ratio theorems.
18. Criticize recursion tree and master's theorem for solving recurrence equations.

**(2 × 5 = 10 Weightage)**

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