23P258 (Pages: 2) Name: .....

Reg.No: .....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024

(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 PRAM model.
2. Illustrate divide and conquer method.
3. Make a difference between dynamic programming and backtracking.
4. Critique big Omega ratio theorem.
5. Judge Substitution method with an example.
6. Interpret Travelling Salesman problem.
7. Analyse parallel computing. Why do we use it?

(4 × 2 = 8 Weightage)

Part-B

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

8. List the methods in specifying an algorithm and explain different properties of algorithm.
9. Illustrate Knapsack Problem with its complexity.
10. Illustrate Sum of subsets problem using backtracking.
11. Assess Big Omega and Little Omega calculations takes place in algorithm analysis.
12. Assess Master’s theorem. Find the complexity of the recurrence relation.
13. Descibe complexity classes.
14. Analyse speed up, scalability and Amdhal's law.

(4 × 3 = 12 Weightage)

Part-C

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

15. Identify important problem types in DAA.

16. Demonstrate different algorithm design techniques.

17. Justify the importance of algorithm analysis.

18. Conclude the strassen's matrix multiplication algorithm in detail. Also, give illustrative example to explain the efficiency achieved through this algorithm.

(2 × 5 = 10 Weightage)

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