C 42755 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2023

(CBCSS)

Computer Science

CSS 2C 06—DESIGN AND ANALYSIS OF ALGORITHMS

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

Section A

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

1. Define Algorithm.
2. Mention any *two* advantages of greedy approach.
3. How to calculate theta notation ?
4. Define Hamiltonian Cycle.
5. What is scalability in parallel algorithm ?
6. Why merge sort is important ?
7. Define Big O.

(4 × 2 = 8 weightage)

Section B

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

8. List out the steps in developing algorithm.
9. Write about brute force algorithm.
10. Define Asymptotic notations.
11. What is Master's theorem ?
12. Explain about NP hard.

Turn over

13. Distinguish between RAM model and PRAM model.

14. Determine amdhal's law.

(4 × 3 = 12 weightage)

Section C

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

15. Illustrate Branch and bound technique with its example.

16. Write a note on Strassen's algorithm for matrix multiplication.

17. Discuss in detail about NP complete reductions for travelling salesman problem.

18. Elucidate Euler tour technique.

(2 × 5 = 10 weightage)