D 102137 (Pages : 2) Name.......................................

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

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2024

(CBCSS)

Computer Science

CSS 2C 06—DESIGN AND ANALYSIS OF ALGORITHM

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

Section A

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

1. Mention the methods to express an algorithm.

2. Define string matching.

3. Give a note on Little O notation.

4. What is NP completeness ?

5. Difference between serial processing and parallel processing.

6. Write an algorithm for sequencing control structure.

7. Define Efficiency and scalability in parallel algorithm.

(4 × 2 = 8 weightage)

Section B

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

8. Define sorting and mention its types.

9. Write a note on sum of subsets of problem.

10. Mention the importance of algorithm analysis.

11. How to solve recurrences in substitution method ?

Turn over

12. Illustrate P versus NP problem.

13. What is complexity ? Mention its types.

14. Discuss in detail about Prim's algorithm.

$(4 \times 3 = 12$ weightage)

Section C

Answer any **two** *questions.*

Each question carries 5 *weightage.*

15. Explain graph problem with suitable example.

16. Write a detailed note on divide and conquer approach.

17. Describe about Big O and Big Omega asymptotic notation.

18. Discuss the time complexity of parallel algorithm.

$(2 \times 5 = 10$ weightage)