

Roll No.

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (CSE) (Sem.-2)

ADVANCE ALGORITHMS

Subject Code : MTCS-201-18

M.Code : 76055

Date of Examination : 08-05-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

1. What are the applications of Minimal Spanning tree? Explain any method to find Minimal spanning tree in detail with suitable examples. (12)
2. Discuss matching in a general graph using Edmond's Blossom algorithm. (12)
3. State and explain Strassen's Matrix Multiplication. Give time complexity and Recurrence Relation for Strassen's Matrix Multiplication. (12)
4. Explain any LUP algorithm in detail.
5. a) Explain the geometry of feasibility region. (6)
b) Explain the concepts of P, NP and NP completeness. (6)
6. Discuss the use of sorting algorithms in solving the latest problems. (12)
7. Explain Schonhage-Strassen Integer Multiplication algorithm. (12)
8. Differentiate the following techniques :
a) Maximum flows and minimum cuts in a graph (6)
b) Max flow and min cut. (6)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.