

Roll No.

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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (CSE) (Sem.-1)

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Subject Code : MTCS-101-18

M.Code : 75153

Date of Examination: 08-12-2023

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 is probability and probabilistic inequalities? Discuss Markov chains.
2. Describe in detail univariate and multivariate central limit theorems.
3. What is sampling? Explain its types with help of example.
4. Define PCA. How it is performed? What are various sub-tasks that can be done in PCA?
5. Explain with example Hamilton circuits and Euler cycles. What is the problem of overfitting model?
6. What is isomorphism and planar graphs? Write an algorithm for graph coloring.
7. Define Data Mining and its techniques? How to analyse web traffic?
8. Write a detailed note on bioinformatics, soft computing and computer security.

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.