JIIT NOIDA

DEPARTMENT OF COMPUTER APPLICATIONS

M.SC (AI/ML)

1. Analytical and Verbal Reasoning

- Quantitative Aptitude
- Logical Reasoning and Analytical Ability
- Data interpretation

2. Mathematics and Statistics

- Linear Algebra: Matrices, Eigenvalues & Eigenvectors
- Probability and Statistics: Random Variables, Probability Distributions, Bayes' Theorem, Descriptive Stats
- Calculus: Derivatives, Integrals, Gradient Descent Basics
- Discrete Mathematics: Logic, Sets, Graph Theory, Combinatorics
- Statistics: fundamentals, measurement of central tendency, sampling theory, sampling distributions, Matrix manipulation, Linear equation.

3. Computer Science Fundamentals

- Data Structures and Algorithms: Arrays, Lists, Trees, Graphs, Sorting/Searching
- Operating Systems: Basics of processes, memory management, deadlock.
- Database Concepts: SQL, ER Models, Relational Algebra
- Computer Networks: OSI TCP/IP Model , Subnetting , IP Addressing, Routing

5. Programming Basics

- Data Types and Variables
- Operators and Expressions
- Control Structures
- Functions and Modular Programming
- Error Handling and Debugging

4. Artificial Intelligence & ML Basics

- Introduction to AI: Search, Planning, Knowledge Representation
- ML Fundamentals: Supervised, Unsupervised, Reinforcement Learning
- Neural Networks and Deep Learning (basics)
- Applications of AI/ML