

JIIT NOIDA
DEPARTMENT OF COMPUTER APPLICATIONS
M.SC. (DATA and BUSINESS ANALYTICS)

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. Foundation of Data Analytics

- Big Data, Metrics and Data classification, Data Reliability & Validity
- Problem Solving with Analytics & phases of Analytics in the business and Data science domain
- Descriptive Analytics, Predictive Analytics and Prescriptive Analytics
- Text Analytics and Web Analytics
- Skills for Business Analytics , Concepts of Data Science.

4. Programming with Python

- Introduction to Python Editors & IDE's (Jupyter, Spyder, PyCharm, etc...
- Basic data types -numeric, string, float, tuples, list ,dictionary ,sets and their operations
- control flow (if-elif-else), loops (for, while)
- Writing user defined functions.

5. Exploratory data analysis

- Data visualization using matplotlib, seaborn libraries, creating graphs (bar/line/pie/boxplot/histogram, etc.)
- summarizing data, descriptive statistics,
- univariate analysis (distribution of data)
- bivariate analysis (cross tabs, distributions and relationships, graphical analysis).

6. Introduction to SQL and Business Intelligence

- Learning SQL query structure with examples
- Data management and query system OLTP and OLAP and Their data models
- Data warehousing, ETL and data integration Dashboard creation using Tableau,
- Concepts of Business intelligence (BI)
- The relevance of BI in application to analytics industry