Financial Analytics (DSE)

Module No. 1: Introduction to Financial Analytics

1. Define the concept of Financial Analytics
2. Explain the importance of Financial Analytics in decision making
3. Identify the uses and features of Financial Analytics
4. Analyze the time value of money using discounted and non-discounted methods
5. Compute time value of money using Excel

Module No. 2: Access to Financial Data Using Latest Technology

1. Access financial data from public domain databases like RBI, BSE, NSE, and Google Finance
2. Utilize financial data from databases such as Prowess, NSE, Yahoo Finance, IMF, and World Bank
3. Explore datasets from Kaggle, Bloomberg, and FinTech companies like ROBO and ALGO trade

Module No. 3: Introduction to Time Series Modelling

1. Define time series data and its components
2. Understand different types of data - time series, panel, and cross-sectional
3. Implement simple time series concepts like moving average, exponential moving, and WMA
4. Analyze stationary vs non-stationary data with examples
5. Compute return series data using simple and logarithm returns in Excel

Module No. 4: Introduction to Python and Python for Finance

1. Install Python and identify types of data structures
2. Perform basic analysis using NUMPY and PANDAs with financial examples
3. Prepare data for time series analysis using Python

Module No. 5: Python for Finance

1. Calculate descriptive statistics using Python
2. Create time series graphs in Python
3. Differentiate between correlation and covariance
4. Apply regression techniques and understand its assumptions
5. Analyze stationary and non-stationary data in Python
6. Utilize binary logistic regression for credit default modeling.