

## **Table of Contents – Problem Solving in Excel: Advanced Data Analysis (16 Hours)**

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### **Module 1: Fundamentals Refresher & Data Foundations (2 Hours)**

- 1.1 Overview of Problem Solving using Excel
  - 1.2 Revisiting Basic & Advanced Statistical Concepts
    - Mean, Median, Mode, Standard Deviation
    - Correlation, Regression Basics
    - Normal Distribution & Outliers
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### **Module 2: Mastering Pivot Tables & Charts (3.5 Hours)**

- 2.1 Introduction to Pivot Tables
  - 2.2 Creating Dynamic Pivot Tables
  - 2.3 Slicing, Filtering, and Grouping Data
  - 2.4 Creating Pivot Charts
  - 2.5 Advanced Pivot Analysis Techniques
    - Calculated Fields & Items
    - Multiple Consolidation Ranges
    - Use in Dashboards
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### **Module 3: What-If Analysis Techniques (2.5 Hours)**

- 3.1 Goal Seek
  - 3.2 Scenario Manager
  - 3.3 Data Tables (One-variable and Two-variable)
  - 3.4 Real-life Business Scenarios using What-If Analysis
  - 3.5 Hands-on Practice on Business Cases
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### **Module 4: Forecasting with Excel (2.5 Hours)**

- 4.1 Time Series & Trend Analysis
- 4.2 Using Forecast Sheet in Excel

- 4.3 Smoothing, Seasonality, and Confidence Intervals
  - 4.4 Applications in Sales & Operations Planning
  - 4.5 Mini Forecasting Project (Individual or Group Work)
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#### **Module 5: Power Query – Data Cleaning & Automation (2.75 Hours)**

- 5.1 Introduction to Power Query Editor
  - 5.2 Importing & Connecting Multiple Data Sources
  - 5.3 Transformations: Clean, Merge, Append
  - 5.4 Automating Data Preparation Tasks
  - 5.5 Hands-on Practice with Case Scenarios
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#### **Module 6: Power Pivot – Data Modeling & DAX (2.75 Hours)**

- 6.1 Introduction to Data Models & Relationships
  - 6.2 Creating Measures using DAX
  - 6.3 KPIs and Calculated Columns
  - 6.4 Advanced Aggregations with DAX
  - 6.5 Integrating Power Pivot with Dashboards
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#### **Wrap-Up & Capstone Case Study (30 mins)**

- Problem-solving Challenge using all Techniques
- Group Presentation / Solution Walkthrough
- Q&A and Feedback