# AI-POWERED ANALYTICS & DATA SCIENCE MASTERY

Powered by AI

## MS-EXCEL

Duration 8 Months

**Introduction to Advanced MS Excel :-**

- **Circular References error, Rectify Circular Reference, Formula Auditing, Structured Reference Solve The Real World Excel Problems with Functions:**
- **Mathematical Functions:**
  Abs, Sum, Sumif, Sumifs,Count, Counta, Countif, Countifs,Countblank, Average, Averagea, Averageif, Averageifs,Subtotal, Aggregate, Rand, Randbetween, Roundup, Rounddown, Round, Sumproduct
- **If Formulas:**
  If, If with OR, If with AND, If with AND &OR, If with Countif, If With Sumif.
  If with Trim, If with Concatenation, If with Left, Mid, Right.
  If with Other formulas, Complex formulas writing in If.
  Nested If (For Multiple Conditions), If condition used more than one time in the same formula.
  Production Store Management template with the help of Nested If. ( Example)
  Nested if with left, Mid, Right
  More If Formulas:
  Nested if with Multiple Text Functions, TAX Calculation, Other Critical Lookup Formulas
  Nested if with VLook-up And Hlookup.
  Introduction to Name Manager: Name Ranges and Apply the Name Ranges on the combination of Cells.
- **Date & Time Function:-**
  Date, Day, Month, Year, Edate, Eomonth, Networkdays, Workday, Weeknum, Weekday, Hour, Minute, Second, Now, Today, Time
- **Statistical Function & Other Functions :-**
  Isna, Isblank, Iserr, Iseven, Isodd, Islogical, Isytext, Max, Min, Mid, Maxa, Maxifs, Median, Minifs, Mina, Var,Vara, Correl, Geomen, Rank, Percentile, Frequency.
  Information Function: IsOdd, IsEven, IsError, IsNumber, IsText, IsBlank, IsRef, ISNA
- **Some Other Data Base Functions :** Dsum,DCount, DAverage, DMax, Dmin
- **Lookup & Reference Functions:-**
  Discussion on Lookup Functions, Use of Lookup, Vlookup, Hlookup, Index, Indirect Match, Offset, Choose, Rows, Columns, Transpose.
  Vlookup, Hlookup with Name Range And Match .
  Find Data In Opposition by Index Match.
  Vlookup, Hlookup with Multiple Functions, Vlookup, Hlookup with arrays.
- Array With Multiple Formulas:
  Array Formulas work and Use of the Array Formulas, Acceptance of Array Formulas in today's scenario.
  Linking of Spread sheet with the help of Array
  Array in Multiple formulas, Array with Lookup functions.
  Array With Sumifs, Countifs, Sumproduct , Large Functions.
  Text Functions & Data Validation :-
  Char, Clean, Code, Concatenate, Find, Search, Substitute, Replace, Len, Right, Left, Mid, Lower, Upper, Proper, Text, Trim, Value, Large, Small, Filters (Basic, Advanced, Conditional), Sort (Ascending, Descending, Cell/ Font Color), Conditional Formatting, Data Validation, Group & Ungroup, Data split.
- **Pivot Table and Pivot Charts with Slicer:**
  Do the Multiple Field Setting in Pivot Table.
  Pivot form Multiple Source of Data, Data Ranges, Name Range

Group Pivot Table Items, Multi-level Pivot Table, Calculated Field/Item
Perform the % calculation on the basis of multiple fields, Using Slicer.

- **Advanced Chart Technique:-**
  How To Make Dynamic Charts, Bar Charts, Pie Charts, Scatter Chart, Line Chart, Column Chart, Speedometer Chart, Gantt Chart, Pareto Charts.

- **Advanced Dashboard:-**
  Preparation of Advanced Level of Charts: Gnatt Chart, Bubble Chart, Waterfall Chart, Use of Data Validation in Charting And Handle With Controls (Combo Box, Check Box, Spin Box, List Box and Option Box.)
  Offset function, Combination Of Charts, Time Series Analysis, Visualizing Data.
  Use of Formulas Like Offset, Match, Sumif, Sumifs and many more to prepare the Dashboards, Analysis With Trend On Chart.
  Use of Sparkline to your Sheet, Working with 2axis and 3axis charts.
- **Data Collection Method With Data Quality:-**
- **Collaboration & Security Like Share Your Workbook On Share Drive With Quality Analysis:-**
  Single/Multidimensional Analysis, Like Three Dimensional (3D) Tables, Sensitive Analysis Like Data Table, Manual What-If Analysis, Threshold Values.
  Solve Real World Problem: Goal Seek, One-Variable Data Table, Two-Variable Data Table, Scenario Manager.
- **Report Development**

## SQL

- **SQL Overview**
  Relational database concepts, specific products
  SQL syntax rules
  Data definition, data manipulation, and data control statements
  Getting acquainted with the course database and editor
- **SQL SELECT statements**
  Clauses
  The SELECT clause: columns and aliases, where expressions, order by expressions how null Values behave
- **SQL Functions and Expressions**
  Eliminating duplicates with DISTINCT arithmetic expressions
  Replacing null values
  Numeric operations, including rounding
  Date and time functions
  Nested table expressions
  Case logic
  Other expressions in specific DBMS Products

- **SQL Updating**
  - The INSERT, UPDATE and DELETE statements
  - Column constraints and defaults
  - Referential integrity constraints
- **SQL Joins**
  - Inner joins with original and SQL 92 syntax
  - Table aliases
  - Left, right and full outer joins, Inner joins
  - Self-joins
- **SQL Sub Queries and Unions**
  - Intersection with IN, and, Between
  - Sub queries
  - Difference with IS NULL and IS NOT NULL sub queries
  - The purpose and usage of UNION and UNIONALL
- **SQL Summarization**
  - The column functions MIN, MAX, AVG, SUM and COUNT, UPPER, LENGTH, LOWER
  - The GROUP BY and HAVING clauses Grouping in a combination with joining

# POWER BI

Introduction to Power BI:- Power BI Component, Types of Reports in Real-time Usage, Power BI Tools and Implementation Plan Power BI Licensing and Excel Analytics.

- **Power BI Desktop Tool:**
  - Report Visuals, Fields, Pages and Filters
  - Data and Relationship Option, PBI Canvas
  - Get Data from DAT Files, Excel Files, Access Files
  - PBIX and PBIT Files And Re-Using Reports
  - Data Import Options Designing Simple / Basics Reports in PBI
  - Visual Interactions in Power BI - Options Spotlight Options with Visuals, Real-time Use
  - Slicer Visual in Power BI and Data Filters
- **Hierarchies & Filters:**
  - Grouping and Binning with Fields, Bin Size and Biz Limits (Max, Min) Creating Hierarchies. Drilldown, Drill Up Reports
  - Filters : Types and Usage in Real-time, Conditional Filters, Visual Filters, Page Filters, Report Filter
  - Drill-thru Filters with Hierarchy Levels TOP N Filters – Usage Filtering at Category Level, Import and Direct Query with Power BI.
- **Power Bi Visuals:**
  - Fields, Formats and Analytics Options
  - Table Visuals & Properties, Data Bar and Data Scaling Options
  - Divergent Colors and Data Labeling Matrix : Sub Totals, Grand Totals
  - Row Groups and Column Groups in Matrix
  - Slicer Visual - Properties, Alignment Single Select and All Options
  - Chart Reports - Common Properties Axis, Legend Types- Stacked Bar, Column, Line charts Clustered Bar, Column, Line Chart

- **Power Bi Visuals with Different Types:**
  Tree Map, Funnel and Gauge Reports, Map Reports
  Single Row Card and Multi Row Cards
  Callout Values in KPI Reports and Use, Indicator, Trend and Target Goals in KPIs
  Using Buttons, Images in Power BI Canvas
  Bookmarks in Power BI Desktop – Usage Using Bookmarks for Visual Filters

**Data Modeling with Power Query**

- **Power Query Basic Operations:**
  Power Query Usage & Operation Types, QUERY Concept, Properties, Validations
  Power Query - Data Mash Up Operations
  Basic Data Types, Literals and Values, Expressions
  Primitives in M Language, Structured Data Values in Power Query
  LIST, RECORD, TABLE, Connection Format Settings let, source, in statements in M Lang Functions,
  Parameters in Power Query
  INVOKE Functions & Execution Results
  Power BI Canvas: Edits, Applied Steps, Frowns, Query Header Row Formatting
- **Power Query Usage:**
  Power Query Transformations Categories
  Query Combine & Merge Transformations, Join Options In Merge Transformation
  Truncate, Replace, Split, Reduce Rows, Manage Columns, Hide / Show Columns Grouping,
Aggregations,
  Column Formats
  Transpose, Reverse Rows Transformations
  Power Query - Row Count And Replace, Data Type Detection - Scenarios, Use
  Data Type Conversions And Value Replace Fill Up And Fill Down,Pivot And Unpivot Transformations
  Move, Filter And Converttolist() Split, Format, Merge, Extract, Parse, Date,TimeData Modeling with
DAX
- **DAX Functions:**
  DAX as library of Functions, Types, Variables, Operators Dax Formula With Excel, Limitations
  DAX Architecture and Entity Sets
  Rules OF DAX, Working Options, Syntax, Functions
  ROW Context and Filter Context, DAX Structures and Syntax Options
  Creating and Measuring with DAX Creating and Using Columns with DAX
- **Advance DAX Functions:**
  Data Modeling Options in DAX, Detecting & Adding Relations for DAX
  Power BI DAX Functions - Types, Usage, Cheat Sheet
  Power BI Reports - DAX Functionalities Calculated Columns, Aggregated Measures
  Quick Measures in DAX - Auto validations, DAX Performance Date and Time & Text Functions,
  Logical & Mathematical Functions
  Data Modeling with DAX. Creating Roles
  SELECTEDVALUE, FORMAT Functions RELATED, COUNTROWS CALCULATE, SUM, ALL
- **Report Development**

# Python

- **Introduction to Python Programming**
  - Why do we need Python?
  - Program structure in Python
- **Execution steps**
  - Interactive Shell
  - Executable or script files.
  - User Interface or IDE
- **Memory management and Garbage collections**
  - Object creation and deletion
  - Object properties
- **Data Types and Operations**
  - Numbers
  - Strings
  - List
  - Tuple
  - Dictionary
  - Other Core Types
- **Statements and Syntax in Python**
  - Assignments, Expressions and prints
  - If tests and Syntax Rules
  - While and For Loops
  - Iterations and Comprehensions
- **File Operations**
  - Opening a file
  - Using Files
  - Other File tools
- **Functions in Python**
  - Function definition and call
  - Function Scope
  - Arguments
  - Function Objects
  - Anonymous Functions
- **Modules and Packages**
  - Module Creations and Usage
  - Module Search Path
  - Module Vs. Script
  - Package Creation and Importing
- **Classes in Python**
  - Classes and instances
  - Classes method calls
  - Inheritance and Compositions
  - Static and Class Methods
  - Bound and Unbound Methods
  - Operator Overloading
  - Polymorphism
  - Default Exception Handler
  - Catching Exceptions
  - Raise an exception
- **Advanced Python Concepts**
  - Decorators
  - Generators
  - Iterators
  - Co-routines

**Introduction to Matplotlib**

**Numpy**

**Panda's**

**Data Connectivity with My SQL**

# DATA SCIENCE

**Introduction to Data Science :-**

- What is Data Science?
- Applications and domains
- Data Science process / lifecycle
- Tools overview: Python, Jupyter, Git, SQL

## ✦ Programming for Data Science (Python)

- Variables, data types, control structures
- Functions and modules
- File handling (CSV, JSON, Excel)
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- Python libraries:

  Introduction to OOP (Object-Oriented Programming)

## ✦ Data Wrangling & Preprocessing

- Data cleaning (missing values, duplicates, outliers)
- Data transformation (scaling, encoding)
- Feature engineering
- Handling imbalanced data
- Time series preprocessing (if applicable)

## ✦ Exploratory Data Analysis (EDA)

- Univariate and bivariate analysis
- Data visualization techniques
- Correlation and pair plots
- Grouping and aggregations
- Dashboarding with tools (e.g., Plotly, Tableau)

## ✦ Statistics & Probability

- Probability theory and distributions
- Inferential statistics (confidence intervals, p-values)
- Hypothesis testing
- Central Limit Theorem
- A/B testing

## ✦ Machine Learning

- Linear Regression
- Logistic Regression
- k-NN
- Decision Trees and Random Forests
- Support Vector Machines
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## ✦ Unsupervised Learning

- K-Means Clustering
- Hierarchical Clustering
- PCA and Dimensionality Reduction
- Anomaly Detection

## ✦ Model Evaluation

- Train/test split, cross-validation
- Confusion matrix, accuracy, precision, recall, F1-score
- ROC-AUC
- Overfitting and underfitting
- Model selection and hyperparameter tuning (GridSearchCV, RandomizedSearch)

## ✦ Deep Learning & Neural Networks

- Introduction to Neural Networks
- Activation functions
- Backpropagation
- CNNs, RNNs
- Frameworks: TensorFlow, Keras, PyTorch
- Transfer learning

## ✦ Capstone Projects & Portfolio Building

- End-to-end data science project(s)
- Business problem definition
- Data acquisition and cleaning
- Modeling and evaluation
- Visualization and communication
- Deployment (if applicable)
- GitHub portfolio and resume tips

## ✦ Tools & Technologies

- Jupyter Notebook / Colab
- Git and GitHub
- IDEs (VS Code, PyCharm)
- Virtual environments
- Cloud (AWS/GCP/Azure) basics

**TIMINGS**

7:00 am to 8:30 am | 8:30 am to 10:00 am | 10:00 am to 11:30 am
11:30 am to 1:00 pm | 1:30 pm to 3:00 pm | 3:00 pm to 4:30 pm
4:30 pm to 6:00 pm | 6:00 pm to 7:30 pm

**CLASS SCHEDULE**

MONDAY, WEDNESDAY, FRIDAY
TUESDAY, THURSDAY, SATURDAY

**CERTIFICATIONS**

MICROSOFT | TALLY | DIPLOMA | CERTIFICATE | NIELIT | MARG

**FEES STRUCTURE**

| ADMISSION FEES | INSTALLMENT | EXAM FEES | LUMPSUM FEES |
|---|---|---|---|
| | | | |

**Extra Benefits**

INTERVIEW SESSION AND MOCK INTERVIEW | ASSIGNMENTS | PERSONALITY DEVELOPMENT SEMINAR | DOUBT CLASSES | VOUCHERS | BILL BOOKS


## DELHI SCHOOL OF SKILL DEVELOPMENT

**CONTACT DETAILS**

H-17/253, Near Rohini West Metro Station
Sec-7, Rohini Delhi-85

**9212301072, 9811128610**


Our Branches

Green Park | Moti Nagar | Nangloi | Rohini | Tagore Garden

## TRAINING & ASSESSMENT PARTNERS

रा.इ.सू.प्रौ.सं NIELIT | Microsoft Office Specialist | TallyPrime | Marg The Business Backbone MargERP 9+ | CERTIPORT A PEARSON VUE BUSINESS AUTHORIZED TESTING CENTER