

**Microsoft Excel**

**Introduction to Excel:**

- Short Keys
- Formatting (Applying Borders, Colors and Font styles)
- Conversion of Formats
- Merging and Wrapping the text
- Conditional Formatting
- Format as Table
- Inserting and deletion of Rows, Columns and Sheets
- Row height and Column width Formulae based
- Conditional Formatting

**Tables, Illustrations and charts:**

- Hide and Unhide of Rows, Columns and Sheet Protecting sheet and Workbook
- Move or Copy, Rename sheet and Tab Color Filling series of Numbers and Dates  
Sorting and Filtering Pivot Tables
- Usage of Formulas in Pivot Tables
- Inserting pictures, Clip art, Text box, Shapes and Smart Art Usage of Charts  
(Column, Pie, Bar, Line) Usage of Dynamic ranges in Charts

**Proofing, Comments and Changes:**

- Inserting Hyperlinks
- Linking sheets, Cells, Workbook, Range and Mail
- Header-Footer, Word Art and Signature Line
- Inserting Objects
- Protect Sheet
- Protect Workbook
- Hiding Formulas
- Sharing Workbook
- Track Changes (Highlight, Accept and Reject Changes)
- Inserting and Editing Comments

**Page setup, Scale to fit and Arrange:**

- Inserting Comments and Spell check
- Freeze Panes (Rows and Columns)
- Save workspace, Switch windows and Split window
- Arranging the window (Vertically and Horizontally) Page Layout, Gridlines and  
Formula bar Paper margins, Gridlines and Paper size
- Page breaks, Applying background and Print titles Row repeat at top and Print  
preview

### **Connections and Data Tools:**

- Data Importing (From Access, Web and Text)
- Other Sources (SQL server and XML)
- Advance Sorting and Filtering
- Text to Columns
- Removing Duplicates
- Data Validation
- List box, Formula based restrictions
- Customization of error alert and Input box
- Types of Alerts (Stop, Warning and information)
- Highlighting the Invalid data

### **Data Tools and Outline:**

- Data Consolidation
- Scenario Manager
- Goal Seek
- Data Table
- Group and Ungroup
- Adding subtotals to the list
- Defining name to the range
- Name manger editing
- Trace precedents/Trace Dependents
- Evaluate Formulas

### **Text, Arithmetical Functions:**

- UPPER, LOWER, PROPER, LEN, LEFT, RIGHT, MID,
- FIND, TRIM, CLEAN, CHAR, CODE,
- CONCATENATE, SUBSTITUTE, EXACT, REPT,
- REPLACE, SEARCH, VALUE and TEXT.
- ABS, ROUND, SUM, SUMIF, SUMIFS, SUMPRODUCT, SUBTOTAL and RANDBETWEEN
- Activities based on the above functions

### **Date & Time and Logical Functions:**

- DATEDIF, DATE, TODAY, NOW, WEEKDAY, MONTH, YEAR, YEARFRAC, NETWORKDAYS, DAYS360, MINUTE, HOUR, SECOND, WEEKNUM, EDATE and EOMONTH.
- IF, AND, OR, NOT, TRUE, FALSE, IFERROR and Nested Functions. Activities based on the above functions.

### **Statistical and Information Functions:**

- AVERAGE, AVERAGEIF, AVERAGEIFS, COUNT, COUNTA,
- COUNTBLANK, COUNTIF, COUNTIFS, LARGE, SMALL, MAX, MIN, RANK, ROWS, ROW, COLUMN and COLUMNS
- ISBLANK, ISERROR, ISNUMBER, ISTEXT and ISNA Activities based on the above functions

### **Lookup and References:**

- VLOOKUP, HLOOKUP, INDEX, MATCH, OFFSET, CHOOSE and INDIRECT.
- VLOOKUP with MATCH, IFERROR, WILDCARD and CHOOSE.
- Combination of Formulas
- Array Formulas
- VLOOKUP and COLUMN
- VLOOKUP with IF and VLOOKUP with AND Activities based on the above functions

### **Activities:**

- SUM and CHOOSE
- Sorting the data using formula
- Multiple VLOOKUP
- Multiple INDEX
- Leave Tracker using conditional formatting
- Using formula in conditional formatting to highlight second repeated value

### **Summarizing of Excel:**

- Activities based on Real Time
- Scenarios Summarizing Of Excel

## [SQL – \(Structured Query Language\)](#)

### **Introduction to SQL:**

- Introduction Flat files Vs RDBMS
- Introduction to Structured Query Language
- Data Types
- Tables, Attributes and Records
- Installation & Configuration of SQL Server

### **SQL Commands:**

- DDL - Data Definition Language
- DML - Data Manipulation Language
- DQL - Data Query Language
- TCL – Transaction Control Language

### **SQL Constraints:**

- Unique Key
- Default
- Not Null
- Primary Key
- Foreign Key

### **Clause Operations & Operators:**

- Where, Group by, Having, Order By, Top
- Operators (IN, Like, IS NULL, Between, AND, OR)
- Arithmetic Operators (>, >=, <, <=, <>, =)
- Union & Union All

### **Functions:**

- Aggregate Functions
- String Functions
- Date & Time Functions

### **Sub Queries:**

- Introduction of Inner Query & Outer Query
- Different Sub Queries Types

### **Joins:**

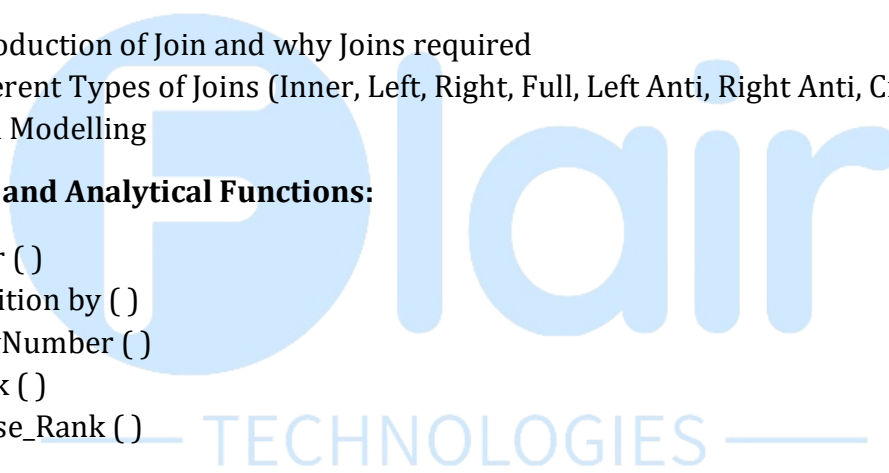
- Introduction of Join and why Joins required
- Different Types of Joins (Inner, Left, Right, Full, Left Anti, Right Anti, Cross, Self)
- Data Modelling

### **Windows and Analytical Functions:**

- Over ( )
- Partition by ( )
- RowNumber ( )
- Rank ( )
- Dense\_Rank ( )

### **Advanced Topics:**

- Views
- Common Table Expression
- Case Statement



### **Introduction to Alteryx:**

- What is ETL
- Understanding Alteryx Designer
- Alteryx designer Interface
- User and Workflow settings
- Installation & Configuration

### **Input & Output Tools:**

- Input Data
- Browse tool
- Manual Input
- Output Data
- Date and Time

### **Data Preparation:**

- Data Cleansing
- Select
- Auto Field
- Data Preparation
- Convert Date
- Formula
- Record ID

### **Filtering, Sorting & Grouping:**

- Sort
- Filter
- Multi-Row Formula
- Sample
- Unique
- Multi-Field Formula

### **Joins:**

- Join
- Union
- Find and Replace
- Fuzzy Match
- Append Fields

### **Transform:**

- Summarize
- Cross Tab
- Transpose
- Transform



### Configuration and Connections:

- Introduction of Power BI
- Installation Steps
- Power BI Working Architecture
- Connecting to Different Databases
- Comparison with other BI Tools
- Direct Vs Import Connections.

### Visualizations:

- Tiles, Page, Report, Dashboard
- Different types of charts and Usage
- Create visuals
- Format visuals
- Custom Visuals from the Gallery
- Format Page

### Components:

- Filters
- Interactions
- Groups
- Hierarchy
- Drill up and Drill down
- Drill through
- Parameters

### Power Query:

- Creating Front end Tables
- Data Cleansing (Replace, Trim, Clean, Split Columns, Merge Columns)
- Data Transformation (Pivot, Unpivot, Transpose, group by)
- Merge Queries
- Append Queries
- Creating the columns
- Applied Steps maintenance (Advanced Query Editor)

### Power Pivot:

- Dimension Tables
- Fact Tables
- Cardinality Relationships
- Star Schema Creation
- Active Relationship & Inactive Relationships



### **Navigations:**

- Page Navigations
- Book Marks
- Sync Slicers
- Custom Tooltips
- Q&A

### **DAX:**

- Create Column
- Create Measure
- Date and time functions
- Filter functions
- Logical functions
- Aggregate functions
- Text functions
- Variable usage in DAX
- Role based Security

### **Service:**

- Power BI License Types
- Workspace Creation
- Report Publish
- Gateway Installation & Configuration
- Schedule Refresh
- Sharing Reports & Providing the access to Business Users
- Dashboard Creation

Power BI Apps Creation

## **Fundamentals Of Python**

### **Anaconda Installation, Introduction to python, Data types and Operators:**

- Variables, data types (integer, Boolean, Float, List, tuple, string), Operators in python

### **Data types Contd, Slicing the data and Inbuilt functions in python:**

- Dictionaries, Sequence methods, Concatenate, Repetition, len, min, max functions, Index position, Addition and deletion of elements, Reverse and Sorting

### **Sets, Set Theory, Regular Expressions, Decision making statements:**

- Sets, re module (findall, search, split, match), if, elif Getting input from user, Identity Operators

### **Loops, Functions, Lambda functions and Modules:**

- For, While loops, Functions, Lambda functions, Math module, Calender module, Date & time module

### **Pandas, Numpy, Matplotlib, Seaborn:**

- Data frame creation using different methods, Using Pandas analysis on Universities, Salary data sets, Visualization using Matplotlib and Seaborn, Numpy introduction

