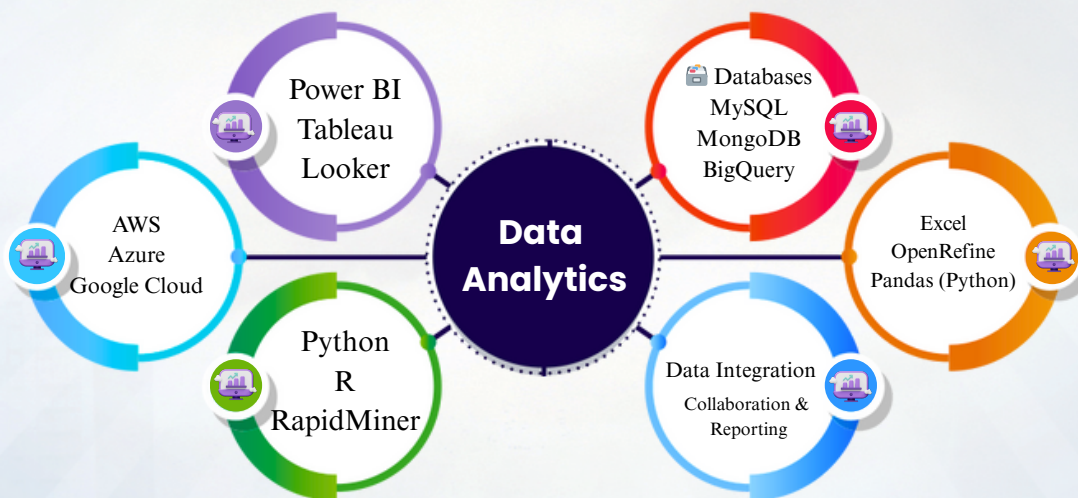




Data Analytics



Data Analytics Course Content

Module – 1: Advanced Excel

Introduction to Excel

- Understanding Excel as a Powerful Tool
- Navigating the Excel Interface
- Customizing Excel Settings

Copy Paste Special

- Basic Copy and Paste
- Paste Special Options (Values, Formats, Formulas, Operations)
- Transposing Data, Paste as Image, Link Image

Formatting Techniques

- Formatting Cells (Font, Alignment, Borders)
- Conditional Formatting
- Format Painter
- Using Themes and Styles
- Creating and Customizing Tables

Data Types and Number Formats

- Text, Number, Date, and Currency Formats
- Custom Number Formats
- Working with Dates and Times

Data Generation Techniques

- Fill Series (Auto Fill)
- Flash Fill for Data Transformation – AI Feature
- Go To Special (Selecting Specific Cell Types)
- Freezing Panes for Efficient Navigation

Lookup and Reference Functions

- VLOOKUP, HLOOKUP, INDEX, MATCH, OFFSET, XLOOKUP, FILTER
- Nested Lookups
- Handling Errors (IFERROR, ISERROR)

MATCH and INDEX Functions

- Dynamic Lookups
- Using MATCH with INDEX

Date and Time Functions

- TODAY, NOW
- DATE, YEAR, MONTH, DAY, HOUR, MINUTE, SECOND
- EOMONTH, WORKDAY, NETWORKDAYS, WORKDAY.INTL, NETWORKDAYS.INTL

Logical Functions

- IF, AND, OR, NOT, IFS, SWITCH
- Nested Logical Formulas IF, IF+AND, IF+OR

Aggregate Functions

- SUM, AVERAGE, COUNT, MAX, MIN, AGGREGATE
- SUMIFS, AVERAGEIFS, COUNTIFS, MAXIFS, MIIFS
- SUBTOTAL for Filtered Data

Text Functions

- CONCATENATE, LEFT, RIGHT, MID, LEN, TEXT
- SUBSTITUTE, FIND, SEARCH
- Text Cleaning Techniques, TEXTJOIN, TEXTSPLIT, TEXTAFTER, TEXTBEFORE

Statistical Functions

- COUNT, COUNTA, MIN, MINA, MAX, MAXA, SMALL, LARGE
- AVERAGE, AVERAGEA, COUNTBLANK

Information Functions

- ISBLANK, ISERR, ISERROR, ISEVEN, ISFORMULA, ISLOGICAL, ISNA
- ISNONTEXT, ISNUMBER, ISODD, ISTEXT

Power Query

- Introduction to Power Query
- Data Transformation Steps
- Combining Data from Multiple Sources – APPEND QUERY, MERGE QUERY

Pivot Table and Power Pivot

- Pivot Tables
- Creating Data Models
- DAX Measures and Calculated Columns

Charts and Visualization

- Creating Charts (Column, Line, Pie, Scatter Plot, Waterfall, etc.)
- Customizing Chart Elements
- Dynamic Charts with Slicers
- Building Interactive Reports - Dashboard



Module -2 : Power BI

Power Bi Introduction

- Understanding Power Bi Background
- Installation Of Power Bi And Check List For Perfect Installation
- Formatting And Setting Prerequisites
- Understanding The Difference Between Power Bi Desktop (Front End) & Power Query (Back End)

Power Query Editor - ETL

- Loading Data From Different Sources - Excel, Text, CSV, PDF, Web, SQL Server etc.,
- Understanding Power Query In Detail
- Data Cleaning, Split Data, Add Columns, Append, Merge Queries Etc
- Power Query Custom Column, Conditional Column & Column From Examples
- Manage Parameter

Data Modelling

- Loading Multiple Data From Different Sources
- Data Modelling (How To Create Relationship)
- Connection Type, Data Cardinality, Filter Direction

DAX

- Introduction To DAX
- DAX, Calculated Tables, Calculated Column, Calculated Measures.



ASHOK IT

Learn Here.. Lead Anywhere..!!

- **DATE TABLE** - CALENDAR, CALENDARAUTO
- **RELATIONSHIP FUNCTIONS** - RELATED, RELATEDTABLE, LOOKUPVALUE
- **AGGREGATE FUNCTIONS** - SUM, AVERAGE, MAX, MIN, DIVIDE, COUNT, COUNTA, COUNTROWS, DISTINCTCOUNT
- **TERATOR FUNCTIONS** - SUMX, AVERAGEX, MINX, MAXX, COUNTX, RANKX
- **LOGICAL FUNCTIONS** - IF, FERROR, AND, OR, NOT, SWITCH, TRUE, FALSE
- **TEXT FUNCTIONS** - CONCATENATE, LEFT/RIGHT/MID, FIND/SEARCH, REPLACE, SUBSTITUTE, TRIM, FORMAT, UPPER, LOWER, LEN
- **FILTER FUNCTIONS** - CALCULATE, FILTER, ALL, ALLSELECTED, ALLEXCEPT, KEEPFILTERS, REMOVEFILTERS, SELECTEDVALUE
- **DATE AND TIME FUNCTIONS** - DATE, DATEDIF, YEAR/MONTH, DAY/HOUR, TODAY/NOW, WEEKDAY, WEEKNUM, YEARFRAC
- **TIME INTELLIGENCE FUNCTIONS** - TOTALYTD/QTD/MTD, SAMEPERIODLASTYEAR, PARALLELPERIOD, DATESBETWEEN, DATESINPERIOD, ETC.,
- **TABLE FUNCTIONS** - SUMMARIZE, SUMMARIZECOLUMNS, ADDCOLUMNS, GENERATESERIES
- **GENERAL CALCULATION** - ROLLING AVERAGE, YOY%, RUNNING TOTAL
- 100+ DAX FUNCTIONS

The Power BI User Interface And Visualization

- Getting Familiar With The Interface Power BI Desktop
- Understanding Type Of Visualisation
- Data Type And The Type Of Default Chart On Drag Drop.
- Geo Location Map Integration
- Understanding Column Chart, Bar Chart, Line Chart, Pie Chart, Donut Chart, Funnel Chart, Tree Map Chart
- Conditional Formatting
- Formatting Techniques In Visualization

Sample Dashboard With Animation Visual

- Financial Sample Data In Power BI
- Preparing Sample Dashboard As Get Started
- Map Visual Types And Usages In Different Variation
- Understanding Scatter Plot Chart With Play Axis

Power BI Artificial Intelligence Visual

- Understanding The Use Of AI In Power BI
- AI Analysis In Power Bi Using Chart
- Q&A Chat Bot And The Use In Real Life
- Hierarchy Tree
- Custom Visual And Understanding The Use Of Custom Visuals

Customization In Power BI

- Understanding Tool Tip With Information
- Use And Understanding Of Drill Down
- Visual Interaction And Customisation Of Visual Interaction
- Drill Through Function And Usage
- Button Triggers
- Bookmark And Different Use And Implementation
- Navigation Buttons

Power BI Service

- Introduction To App.Powerbi.Com
- Publishing Power Bi
- Loading Custom Visual, Pinning Visual And Dashboard Creation
- Schedule Refresh
- Export Reports To Excel and Power Point For Presentation



Module – 3 : SQL SERVER

Introduction To SQL Server

Installation And Authentication
DATABASE
SQL/T-SQL Commands

DDL – Data Definition Language

- CREATE
- ALTER
- DROP

DML - Data Manipulation Language

- INSERT
- UPDATE
- DELETE
- TRUNCATE

DTL - Data Transaction Language

- ROLLBACK
- COMMIT

DATATYPES

- Alphanumerical Datatypes
- Numerical Datatypes
- Datetime Datatypes



DATABASE CONSTRAINTS

- NOT NULL
- CHECK
- UNIQUE
- DEFAULT
- PRIMARY KEY
- FOREIGN KEY

NORMALIZATION

DQL/DRL – Data Query Language/Data Retrieval Language

SELECT Statement

- *
- Column Alias
- Literals
- Expressions
- Operator Precedence
- Single Row Functions
 - o String Functions
 - o Nested Function
 - o Mathematical Functions
 - o Datetime Functions
 - o Conversion Functions
- Multiple Row Functions (GROUP Functions)
 - o GROUP BY Clause
 - o HAVING Clause
- Window Functions
- Sub Queries



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DISTINCT Keyword

ORDER BY Clause

TOP Keyword

WHERE Clause

- Relational And Logical Operators
- CASE Expressions

JOINS

- CARTESIAN PRODUCT
- TABLE ALIAS
- INNER JOIN
- SELF JOIN
- OUTER JOIN

Temporary Tables
SET Operator

Module – 4: Python Programming

1) Introduction to Python

- Introduction to Programming
- What is Python? Why Python?
- Installing Python and IDEs (VS Code / PyCharm)
- Writing and executing your first Python program
- Basic Syntax, Indentation, Comments

2: Variables, Data Types & Operators

- Variables and Constants
- Data Types (int, float, str, bool, complex)
- Type Conversion and Type Casting
- Basic Operators: Arithmetic, Assignment, Comparison
- Logical and Bitwise Operators

3: Control Flow Statements

- Conditional Statements: if, if-else, elif
- Loops: for, while
- Loop Control: break, continue, pass
- Range and enumerate()

4: Data Structures in Python

- Lists: Creation, Indexing, Slicing, Methods
- Tuples: Immutable Lists
- Sets: Unique Elements
- Dictionaries: Key-Value Pairs
- Nested Data Structures



5: Functions and Modules

- Defining and Calling Functions
- Function Arguments (positional, keyword, default, *args, **kwargs)
- Return Values
- Scope: Local & Global Variables
- Lambda Functions
- Modules and Packages
- Import, from and as usage

6: File Handling

- Opening Files: open()
- Reading & Writing Text Files
- Working with CSV Files
- Handling File Exceptions

7: Exception Handling

- Introduction to Errors and Exceptions
- try, except, else, finally
- Raising Exceptions
- Custom Exception Classes

8: Object-Oriented Programming (OOP)

- Classes and Objects
- __init__ Constructor
- Instance vs Class Variables
- Inheritance and Method Overriding
- Encapsulation and Polymorphism

9: Working with Libraries

- Math, random, datetime, os
- Installing External Libraries using pip
- Brief Intro to NumPy, pandas, matplotlib

10: Practice & Mini Projects



COURSES OFFERING



**JAVA
FULLSTACK**



**PYTHON
FULLSTACK**



**UI
FULL STACK**



LINUX



**CLOUD
COMPUTING**



**DEVOPS
WITH AWS**



DSA



**SYSTEM
DESIGN**



**SOFTWARE
TESTING**



**CYBER
SECURITY**



**DATA
SCIENCE**



**DATA
ANALYTICS**

Our Recently Placed Students

Now it's Your Turn!

