

Diploma in Data Analytics Course Content

Excel	
<p>Excel (Introduction)</p> <ul style="list-style-type: none"> Excel & History Basic Terminology of Excel Spreadsheet Environment Object Model of Excel Different Versions of Excel Different File Formats and when to use Excel User Interface Customization of Quick Access Toolbar <p>Excel (Basics)</p> <ul style="list-style-type: none"> Clipboard Group Font Group Alignment Group Data Types in Excel Number Group Number Formatting & Advanced Techniques Change default number settings Conditional Formatting Cell Styles & Cells Format as table Fill Options & Clear Options Find & Select 	<p>Excel (Advanced)</p> <ul style="list-style-type: none"> Formulas (Data & Time, Text functions, Logical Functions, Mathematical Functions, Statistical Functions, Information Formulas, Lookup & Ref, Cell Reference Styles) Report Designs Dynamic & Conditional formatting using formulas Illustrations Sparklines Filter Options & Insert Options Print Report Techniques (Themes, Page Setup, Scale to Fit, Sheet options, Arrange objects) Techniques to Execute Formulas Auditing Formulas Calculation Options Data Management (connecting external applications, Sort & filter, Data tools, Data validation, Forecast, Outline) Data Protection (Spell check, Protection options, Comments, Notes) Data View (Workbook view, Show/hide) Zoom, create new window, arrange workbooks, split worksheet screen, switching, side by side Data Analysis & Visualization (Pivot Tables, Charts, Dashboards)

VBA Macros	
<p>Introduction to Excel VBA</p> <ul style="list-style-type: none"> Overview of VBA & its applications Setting up the VBA environment Basic VBA Programming Concepts <p>Recording Macros</p> <ul style="list-style-type: none"> How to record a macro Editing recorded macros Assigning macros to buttons <p>Writing Macros</p> <ul style="list-style-type: none"> Introduction to the VBA Editor Writing your first macro Using Loops and Conditional statements <p>Automating Tasks</p> <ul style="list-style-type: none"> Automating repetitive tasks 	<p>Advanced Data Manipulation</p> <ul style="list-style-type: none"> Advanced Data Analysis Techniques Handling errors and debugging Using arrays and collections <p>User Forms & Controls</p> <ul style="list-style-type: none"> Creating User forms Adding Controls (buttons, text boxes, etc.) Handling User Input <p>Integrating with other Applications</p> <ul style="list-style-type: none"> Interacting with other office applications Automating external processes Advanced Project Examples

<ul style="list-style-type: none"> • Working with Excel Objects (Workbooks/sheets/ranges) • Creating Custom Functions 	<p>Best Practices, Automation & Project</p> <ul style="list-style-type: none"> • Optimizing VBA Code for Performance • Best practices for writing maintainable code • Advanced VBA Techniques • Applying learned skills to a real-world project • Creating a comprehensive macro-enabled workbook • Presentation and review of projects
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PowerBI	
<p>Introduction</p> <ul style="list-style-type: none"> • What is BI • History of Power BI • Benefits of Power BI • Components • Power BI Desktop – Installation • Building Blocks • Demo – Sample Power BI Reports • Creating a Simple Report <p>Getting The Data & Transforming through PQ</p> <ul style="list-style-type: none"> • Get and edit Data – An ETL Tool • Get data from Excel/CSV / Folder / SQL / Access / Web • Understanding Power Query Editor • Load vs Direct Query • Append / Merge Queries • Filtering Rows • Split Columns based of Delimiter • Merge / Eliminate Columns • Fixing Metadata issues • Creating Custom Column based on the Conditions • Refresh Queries • Introduction to M Query Language <p>Data Modelling</p> <ul style="list-style-type: none"> • Understanding Data Modelling Concepts • Use Star Schema for Simplicity • Optimize Relationships • Manage Hierarchies • FACT Table & Dimension Table Difference 	<p>BI Visualization</p> <ul style="list-style-type: none"> • Introduction to visuals in Power BI • Create and customize simple visualizations • Recommended Charts for your data set • Types of Charts • Table and Matrix Views • Buttons and Bookmarks • Adding Text box, Shapes and Images to Reports • Creating Stunning Dashboard & Interactive Reports <p>Slice & Dice</p> <ul style="list-style-type: none"> • Filters • Slicers • Parameters • Manage Interaction between objects • Drill down / Roll Up <p>Intro to DAX</p> <ul style="list-style-type: none"> • Introduction to DAX Functions • DAX Syntax • DAX Data Types • DAX Operators • DAX Functions <p>Publishing & Sharing Reports</p> <ul style="list-style-type: none"> • From BI Desktop • On Web / On Mobile • Exporting Data from a Visualization • Executive Dashboards & Sharing • Dataset Refresh • Managing Roles

Data Analytics using SQL	
<p>SQL - An Overview</p> <ul style="list-style-type: none"> • DBMS and RDBMS • Introduction to SQL • SQL Environmental Setup <p>Data Constraints, Keys, Types</p> <ul style="list-style-type: none"> • Introduction • Constraints • Keys • Data Types <p>Creating Databases & Tables</p> <ul style="list-style-type: none"> • Types of SQL Commands • DDL Statements • DML Statements • TCL Statements <p>Clauses & Aggregate Functions</p> <ul style="list-style-type: none"> • Group by Clause • Aggregate Functions • Where Clause • Having and Order by Clause • Distinct Clause <p>Normalization</p> <ul style="list-style-type: none"> • What is Normalization • Types of Normalization <p>Joins</p> <ul style="list-style-type: none"> • Aliasas • Joins • Inner Join • Outer Join • Right Outer Join <p>Views</p> <ul style="list-style-type: none"> • Introduction to Views • Advantages • Types of Views • Simple View • Complex View • Operations 	<p>Creating Tables</p> <ul style="list-style-type: none"> • Creating Tables in SQL • Inserting Data • Inserting Multiple Rows • View Tables <p>Stored Procedures</p> <ul style="list-style-type: none"> • Pros and Cons of Stored Procedures • Creating Stored Procedures • Two Ways to Execute • System Stored Procedures <p>Temporary Tables & Table Variables</p> <ul style="list-style-type: none"> • Using Temporary Tables • Creating Table Variables • Pros and Cons of each approach <p>Derived Tables & CTEs</p> <ul style="list-style-type: none"> • Using Derived Tables • Common Table Expressions (CTEs) • Recursive CTEs <p>Sub-Queries</p> <ul style="list-style-type: none"> • Subquery • Using ALL, ANY, & IN • Correlated Subqueries • Using EXISTS <p>Window Functions</p> <ul style="list-style-type: none"> • LEAD () • LAG () • ROW NUMBER () • RANK () • DENSE_RANK () • NTILE () • ROLLUP • ROLLUP CUBE <p>Pivoting</p> <ul style="list-style-type: none"> • Pivot Functions

Alteryx	
<p>Basics (Designer Core)</p> <ul style="list-style-type: none"> • Overview • Designer Basics • What is Data • Using Designer 	<p>Core Topics</p> <ul style="list-style-type: none"> • Date Time • Rows Vs Columns • Functions • Expressions

- Benefits of Designer
- First Steps in Designer
- Working with your data
- Solving in Designer

Data Preparation

- Basic Data Prep
- Formatting Data
- Sorting Data
- Filtering Data
- Sampling Data

Combining & Cleansing

- Basic Data Combining & Cleansing
- Data Separation
- Removing Duplicates
- Data Blending
- Data Joining

- Summarizing Data
- Transforming Data
- Changing Data Layouts
- VLookups
- Appending Fields
- Writing Data

Alteryx Advanced

- **Data Cleansing & Manipulation** (using multiple files, Sampling, Tiles & Binning, Cleaning, Wild Matches & Grouping, Regrex, and Parsing XML, Gathering Numbers)
- **Working in Database** (In Database, Blending, Select and Summarize)
- **Apps and Macros** (Level-Up Apps and Macro, Batch Macros, App Errors and Conditions, App and Macro Customization)