

The logo for APEEC, consisting of the letters 'A', 'P', 'E', and 'C' each enclosed in a dark blue square, arranged horizontally.

*transforming careers...*



**POWER BI**

**&**



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### Introduction to Business Intelligence

- What is BI and how is it important to businesses?
- Why is it important now?
- BI Lifecycle
- Types of BI tools available
- Types of Analytical Data Model Designs

### Intro to Power BI

- What is Microsoft Power BI
- History
- Architecture
- Features
- Building Blocks of Power BI
- Tools of Power BI

### Getting Started Power BI Desktop

- Installation of Power BI Desktop
- Introduction to the application
- Loading data into Power BI
- Panes and Tabs available in Power BI Desktop
- Available Data Types
- Relationships
- Normalization Rules

### Data Modeling with Power BI

- What is Data Modeling
- Types of Data Modeling
- Choosing the right Schema

### Data Transformation with Power Query Editor

- Introduction to Power Query Editor
- Basic Data Transformations
- Configuring the Data Sources
- Conditional Column Splitting
- Group By and Advanced Group By
- Merge and Append Queries
- Combining files
- Advanced Data Transformations
- Transpose
- Pivot and Unpivot
- Fill
- Text field Formatting
- Extracting new features from Text
- Text Parsing
- Performing Statistical, Mathematical, Trigonometric Operations

- Date and time functions
- Structured Column Operations
- Running Custom Python/R Scripts

### Creating columns from examples, custom functions

- Creating Conditional Columns
- Understanding more with insights about the data by Previewing the data
- Plot the Dependencies
- Advanced Editor and its importance
- Using Parameters in M-Language for dynamic data filtering

### DAX

- Measure vs Column vs Table
- Commonly used DAX functions for
- Filtering the data
- Aggregation
- Performing Data and Time Operations
- Performing Logical Operations
- Trigonometric, Math and Statistical functions
- Extracting Information
- Text Operations

### Visualization

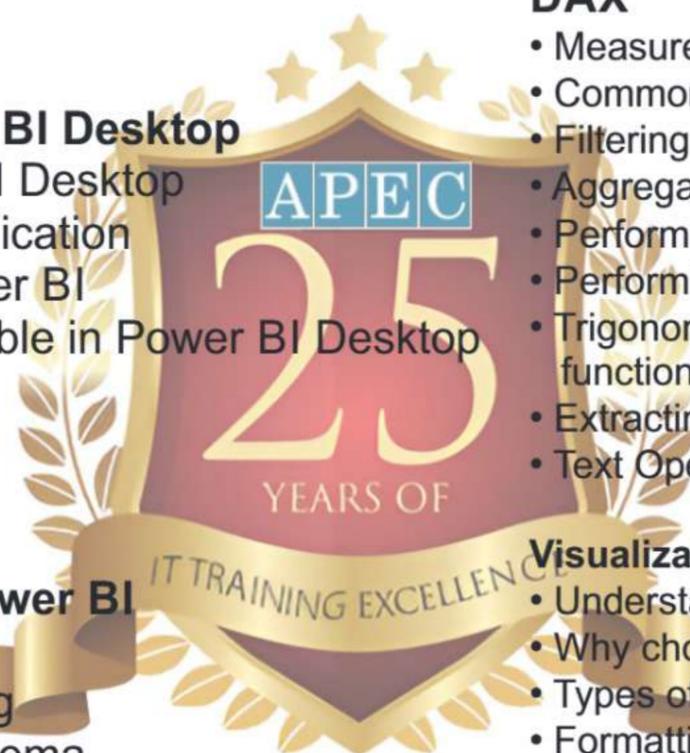
- Understanding the need to Visualize Data
- Why choosing the right Visual is important
- Types of Visuals available
- Formatting the Visuals
- Custom Visuals

### Improving the Report Look and Capabilities

- Intro to View in Power BI Desktop
- Customizing the Report for Power BI Mobile
- Understanding Bookmarks and importance
- Significance of Selection Pane
- Using bookmarks to create user-friendly reports

### Publishing the Report

- Intro to Power BI Service
- Elements of Power BI Service
- Creation of Workspace and Content apps
- Configuring Row-Level Security
- Setting up Gateways
- Updating Data Source Credentials
- Altering Parameters
- Setting up Schedule Refresh –



### Differences in Refresh periods

- Assigning roles to Users
- Sharing the report with Users
- Managing User Permissions
- Building Dashboards from Reports

### Bonus

- Real-time problems faced by Business Intelligence Analysts
- Power BI Visualization tricks to impress businesses

### End Project

- Solve a real-time business problem by creating a report from User Stories at the end of the course and assess your learning

## SQL

### Introduction to DBMS

- DBMS, Data, Information, Database

### Data models

- FMS / HDBMS / NDBMS
- RDBMS / ORDBMS
- E-R Diagram, Normalization
- Codd Rules
- RDBMS Packages
- Versions

### SQL (Structured Query Language)

- SQL and SQL\*Plus Commands
- Types of commands in SQL
- How to login into SQL
- HR user, locking & unlocking user

### Retrieving data

- Select statement usage
- Alias names - columns & expressions
- Applying filters using operators
- Operators - Relational/ Logical /Special
- Distinct clause, Order by clause
- Sorting NULL values

### Working with tables

- Datatypes in Oracle
- Naming conventions
- Rules - tables/columns
- Creating Tables in different methods

### DML operations

- Insert data in different methods
- Update / Delete data

### DDL commands

- Alter / Truncate / Rename / Drop table
- Recyclebin concept
- Flashback / Purge

### Table Constraints

- Data Integrity and importance
- Not Null/Unique/Primary Key/Check

### TCL commands (Transaction Handling)

- About login session
- Redo log files
- Commit / Rollback / Savepoint
- Working with multiple savepoints

### DCL Commands

- User management
- SYSTEM user
- Create user
- Grant basic privileges
- Change password
- Lock/unlock user
- Grant/Revoke a user as DBA
- Data sharing between users
- Grant and Revoke commands
- Accessing another user data
- Dead lock situations
- 'User\_tab\_privs\_made'
- 'User\_tab\_privs\_recd'

### Database functions

- Group / Row / Numeric / String
- Conversion functions
- Dates & date formats
- Date functions
- Misc. functions
- Pseudo columns

### Data grouping

- Group by clause
- Having clause
- 'where' versus 'having' clause
- Using expressions in group by

### Set operators

- Union/ Intersect/ Minus/ Union All

### Subqueries

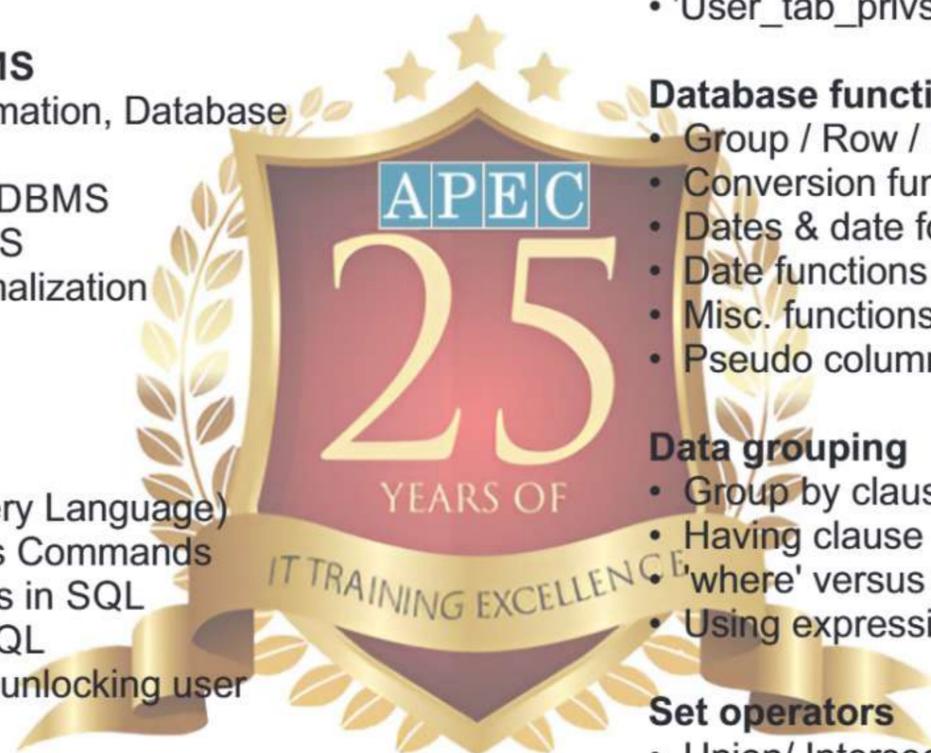
- Simple subquery
- Multiple row subquery
- Nested subquery
- Co-related subquery

### Joins tables

- Simple join (equi and non-equi)
- Self/ inner / Outer join  
(Left/Right/Full)
- Cartesian/Cross join
- ANSI Standard of joins

### Oracle Database objects

- Synonyms
- Views
- Sequences
- Indexes





JAVA / PYTHON / .NET  
**FULL STACK**



**DATA SCIENCE**



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