



# SQL COURSE CONTENT

## **Module 1: Introduction to RDBMS and Microsoft SQL Server**

- Introduction to RDBMS concepts
- Normalization Technique
- SQL Server Architecture
- Introduction to Microsoft SQL Server
- Introduction to SQL Server Management Studio
- Installation of SQL server Management Studio

## **Module 2: Creating tables, databases and importing and exporting data**

- Introduction of Language Statements (DDL, DML, DCL, TCL)
- Creating table and DDL commands
- Introduction of Import and Export Wizard

## **Module 3: SQL Constraints and data types**

- SQL Data Types
- SQL Constraints
- SQL Indexing

## **Module 4: Select statement and working with Sorting and Filtering data**

- Select Statement
- SQL Distinct keyword
- SQL Where Clause
- SQL wild card concept
- SQL Group by and Having clause
- SQL CASE statements

## **Module 5: Working with Multiple tables using Join concept**

- Introduction of Join



- Inner Join
- Outer Join
- Left Join
- Right Join
- Self Join
- Cross Join
- Concept of Nested Join with Where Clause

### **Module 6: Using DML to modify data**

- SQL Update Statement
- SQL Insert Statement
- SQL Delete Statement
- SQL Transaction control Language

### **Module 7: Using Built In Functions**

- SQL Number Functions
- SQL Date Functions
- SQL Text Functions
- SQL Special Functions

### **Module 8: Using Subqueries concepts and Table Expressions**

- SQL Scalar Sub queries
- SQL Multivalued Sub Queries
- SQL Table Values Sub Queries
- SQL Common Table Expression

### **Module 9: Using Set operators and Windows Ranking, and Aggregate Functions**

- SQL UNION, UNION ALL, INTERSECT AND EXCEPT
- SQL CROSS APPLY operator
- SQL RANK function
- SQL DENSE\_RANK function
- SQL ROW\_NUMBER function
- SQL Over Clause



## **Module 10: Programming with T-SQL and Stored Procedure**

- SQL If condition
- SQL While Loop
- Creating Stored Procedure
- Modifying Stored Procedure

## **Module 11: Working with User Defined Functions**

- Creating User Defined Function
- Modifying User Defined Function
- SQL Pivot and Unpivot Concept

## **Module 12: Applying Error Handling concept in T SQL Programming**

- Implementing T-SQL Error Handling
- Redirecting Errors with Try/Catch
- Using THROW to pass an error message back to a client
- Applying Error Handling in Stored Procedure
- Applying Error Handling in Stored Procedure

## **Module 13: Concept of Cursor and Index**

- Introduction of Cursor
- Creating cursor
- Modifying cursor
- Detailed description about Index

## **Module 14: Performance Tuning**

- Query optimization
- Performance Tuning