SQL
Day wise Schedule (4 Hours Per Day)

Day	Content
Day 1	**Preparing the Lab Environment** **Introduction** Course Objectives, Course Agenda and Appendixes Used in this Course Overview of Oracle Database 19c Overview of relational database management concepts and terminologies Introduction to SQL and its development environments What is Oracle SQL Developer? Starting SQL*Plus from Oracle SQL Developer The Human Resource (HR) Schema Tables used in the Course **Retrieving Data using the SQL SELECT Statement** Capabilities of the SELECT statement Arithmetic expressions and NULL values in the SELECT statement Column aliases DISTINCT keyword Use of the DESCRIBE command **Day 2** **Restricting and Sorting Data** Limiting the Rows Rules of precedence for operators in an expression Substitution Variables Using the DEFINE and VERIFY command **Using Single-Row Functions to Customize Output** Describe the differences between single row and multiple row functions Manipulate strings with character function in the SELECT and WHERE clauses Manipulate numbers with the ROUND, TRUNC and MOD functions Perform arithmetic with date data Manipulate dates with the date functions
Day 3	**Using Conversion Functions and Conditional Expressions** Describe implicit and explicit data type conversion Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions Nest multiple functions Apply the NVL, NULLIF, and COALESCE functions to data **Reporting Aggregated Data Using the Group Functions** Group Functions Creating Groups of Data

	Restricting Group Results **<u>Day 4</u>** **Displaying Data from Multiple Tables Using Joins** Introduction to JOINS Types of Joins Oracle Joins ; Cartesian Join Equi Joins Non-Equi Joins Self-Joins Left-Outer Joins Right-Outer Joins SQL '99 Standard -Joins Syntax : Natural join Self-join Non equijoins OUTER join **Revision of Previous Chapters**
Day 5	**Using Subqueries to Solve Queries** Introduction to Subqueries Single Row Subqueries Multiple Row Subqueries **Using the SET Operators** Set Operators UNION and UNION ALL operator INTERSECT operator MINUS operator Matching the SELECT statements Using ORDER BY clause in set operations • Single Row subqueries • Multiple Row subqueries **DAY 6** **---------** **Managing Tables using DML statements** Data Manipulation Language Database Transactions **Introduction to Data Definition Language** Data Definition Language **Introduction to Data Dictionary Views** Introduction to Data Dictionary Describe the Data Dictionary Structure

	Using the Data Dictionary views
Day 7	**Creating Sequences, Synonyms, Indexes** Overview of sequences Overview of synonyms Overview of indexes **Creating Views** Overview of views **<u>Day 8</u>** **Retrieving Data by Using Subqueries** Retrieving Data by Using a Subquery as Source Working with Multiple-Column subqueries Using Scalar subqueries in SQL Correlated Subqueries Working with the WITH clause **Advanced Grouping Function** Rollup Cube **Executing Sql Script Files**
Day 9	**Advanced Date Data Types** Timestamp Timestamp with Time Zone Timestamp with Local Time Zone Interval Day to Second Interval YMINTERVAL **Date Functions** **Controlling User Access** System privileges Creating a role Object privileges Revoking object privileges **<u>Day 10</u>** **Tuning SQL Queries** **Set Autotrace** **Explain Plan** **Hints** **Impact of Index** **Discussion & Doubt clearing session**