**INSTITUTIONAL TRAINING**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**MODULE 2(SQL)**

**DAY 1**

1. **INTRODUCTION TO SQL/SQL+**
   1. Getting started with SQL
   2. Data types
   3. Manipulating data (create table statement)
   4. Adding , modifying, dropping a column
   5. Adding a row to a table, INSERT STATEMENT , UPDATE STATEMENT
   6. Removing a row from table
   7. MERGE STATEMENT, DELETE STATEMENT
   8. SELECT STATEMENT
   9. Arithmetic expressions , arithmetic operators
   10. Null value, concatenation operator
   11. Literal character strings
   12. Duplicate rows, eliminating duplicate rows

**DAY 2**

1. **RESTRICTING AND SORTING DATA**
   1. Limiting rows using selection
   2. Limiting rows using WHERE clause
   3. Character strings and dates
   4. Comparison conditions(Using BETWEEN, IN, NULL, LIKE conditions)
   5. Logical conditions(Using AND, OR, NOT operators)
   6. ORDER BY clause
   7. Sorting in descending order
   8. Sorting by column alias

**DAY 3**

1. **SINGLE- ROW FUNCTIONS**
   1. SQL functions
   2. Types of functions
   3. Single- Row functions
   4. Character functions
   5. Case manipulation functions
   6. Character-Manipulation functions
   7. Number functions
   8. Working with dates
   9. Using arithmetic operators with dates
   10. Date functions
   11. Conversion functions
   12. Implicit and Explicit date type conversion

**DAY 4**

1. **DISPLAY DATA FROM MULTIPLE TABLES**
   1. Cartesian products
   2. Types of joins
   3. Equijoins
   4. Using tables aliases
   5. Joining more than two tables
   6. Non equijoins
   7. Outer joins

**DAY 5**

1. **AGGREGATING DATA USING GROUP FUNCTIONS**
   1. Group functions
   2. Type of group functions
   3. Using AVG , SUM, MIN, MAX and COUNT Functions
   4. Using DISTINCT keyword
   5. Using GROUP BY clause
   6. Using HAVING clause

**DAY 6**

1. **MANIPULATING DATA**
   1. Adding a new row to table
   2. INSERT statement
   3. Inserting rows
   4. Inserting special values
   5. Copying rows from another table
   6. The UPDATE statement
   7. Removing a row from table
   8. DELETE, MERGE, CREATE table statements
   9. Data types
   10. ALTER TABLE statements
   11. Adding, modifying and dropping a column

**DAY 7**

1. **CONSTRAINTS**
   1. What are constraints?
   2. NOT NULL constraints, UNIQUE constraints,
   3. PRIMARY KEY constraints, FOREIGN KEY constraints and CHECK constraints
   4. Adding and Dropping constraints