**MODULE: 5 (Database)**

1. **What do you understand By Database**

**Ans:**

A database is information that is set up for easy access, management and updating. Computer databases typically store aggregations of data records or files that contain information, such as sales transactions, customer data, financials and product information.

1. **What is Normalization?**

**Ans:**

Normalization is the process of organizing data in a database. It includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating redundancy and inconsistent dependency.

**3. What is Difference between DBMS and RDBMS?**

**Ans:**

Why is DBMS Required?

Database management system, as the name suggests, is a management system that is used to manage the entire flow of data, i.e, the insertion of data or the retrieval of data, how the data is inserted into the database, or how fast the data should be retrieved, so DBMS takes care of all these features, as it maintains the uniformity of the database as well does the faster insertions as well as retrievals.

Why is RDBMS Required?

RDBMS on the other hand is a type of DBMS, as the name suggests it deals with relations as well as various key constraints. So here we have tables which are called schema and we have rows which are called tuples. It also aids in the reduction of data redundancy and the preservation of database integrity.

## 4. What is MF Cod Rule of RDBMS Systems?

## Ans:

Codd's twelve rules are a set of thirteen rules (numbered zero to twelve) proposed by Edgar F. Codd, a pioneer of the relational model for databases, designed to define what is required from a database management system in order for it to be considered relational, i.e., a relational database management system (RDBMS).

## 5. What do you understand By Data Redundancy?

## **Ans:**

Data redundancy is when multiple copies of the same information are stored in more than one place at a time. This challenge plagues organizations of all sizes in all industries and leads to elevated storage costs, errors, and compromised analytics

## 6. What is DDL Interpreter?

## Ans:

Data Definition Language actually consists of the SQL commands that can be used to define the database schema. It simply deals with descriptions of the database schema and is used to create and modify the structure of database objects in the database. DDL is a set of SQL commands used to create, modify, and delete database structures but not data. These commands are normally not used by a general user, who should be accessing the database via an application.

## 7. What is DML Compiler in SQL?

## Ans:

DML(Data Manipulation Language)

The SQL commands that deal with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements. It is the component of the SQL statement that controls access to data and to the database. Basically, DCL statements are grouped with DML statements.

## 8. What is SQL Key Constraints writing an Example of SQL Key Constraints

## Ans:

## SQL Constraints

SQL constraints are used to specify rules for the data in a table.

Constraints are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the table. If there is any violation between the constraint and the data action, the action is aborted.

Constraints can be column level or table level. Column level constraints apply to a column, and table level constraints apply to the whole table.

## Example:

## CREATE TABLE Persons (      ID int NOT NULL UNIQUE,      LastName varchar(255) NOT NULL,     FirstName varchar(255),      Age int );

## 9. What is save Point? How to create a save Point write a Query?

## Ans:

What is the SAVEPOINT?

A savepoint is a way of implementing subtransactions (also known as nested transactions) within a relational database management system by indicating a point within a transaction that can be "rolled back to" without affecting any work done in the transaction before the savepoint was created.

## Example:

UPDATE employees

SET salary = 7000

WHERE last\_name = 'Banda';

SAVEPOINT banda\_sal;

UPDATE employees

SET salary = 12000

WHERE last\_name = 'Greene';

SAVEPOINT greene\_sal;

SELECT SUM(salary) FROM employees;

ROLLBACK TO SAVEPOINT banda\_sal;

UPDATE employees

SET salary = 11000

WHERE last\_name = 'Greene';

COMMIT;