Ques-1:- What do you understand By Database ?

A database is an organized collection of structured data, typically stored and accessed electronically from a computer system. It allows users to easily manage, manipulate, and retrieve data for various purposes such as storing information, performing transactions, and generating reports.

Ques-2:- What is Normalization ?

Normalization is the process of organizing data in a database efficiently. It involves breaking down a database into smaller, more manageable parts and organizing it to reduce redundancy and dependency.

The goal of normalization is to eliminate data anomalies, such as insertion, update, and deletion anomalies, by ensuring that each piece of data is stored in only one place within the database.

Ques-3:- What is Difference between DBMS and RDBMS ?

DBMS (Database Management System) is a software system that allows users to interact with a database. It provides functionalities for creating, querying, updating, and managing databases.

RDBMS (Relational Database Management System) is a type of DBMS that stores data in a tabular form consisting of rows and columns, with relationships defined between the tables.

The main difference between DBMS and RDBMS is that RDBMS follows the relational model and enforces referential integrity through foreign key constraints, while DBMS may not necessarily adhere to the relational model.

Ques-4:- What is MF Cod Rule of RDBMS Systems ?

ACID stands for Atomicity, Consistency, Isolation, and Durability, which are the four properties that guarantee the reliability of transactions in a relational database management system (RDBMS).

Atomicity ensures that each transaction is treated as a single unit of work, either fully completed or fully rolled back in case of failure. Consistency ensures that the database remains in a consistent state before and after each transaction. Isolation ensures that transactions are executed independently of each other, even when executed concurrently. Durability ensures that the changes made by a committed transaction are permanently saved in the database, even in the event of a system failure.

Ques-5:- What do you understand By Data Redundancy ?

Data redundancy refers to the duplication of data within a database or across multiple databases. It occurs when the same piece of data is stored in multiple places, leading to inefficiency and inconsistency. Redundant data can lead to various problems such as wasted storage space, data inconsistency, and difficulties in maintaining data integrity.

Ques-6:- What is DDL Interpreter ?

DDL (Data Definition Language) Interpreter is a component of a database management system (DBMS) responsible for processing and executing DDL statements.

DDL statements are used to define, modify, and delete the structure of database objects such as tables, indexes, views, and constraints.

The DDL interpreter interprets DDL statements and translates them into low-level commands that interact directly with the database schema.

It ensures that the database structure is created and maintained according to the specifications provided in the DDL statements.

Ques-7:- What is DML Compiler in SQL ?

A DML (Data Manipulation Language) compiler in SQL is responsible for processing and executing data manipulation commands such as INSERT, UPDATE, DELETE, and SELECT.

It translates DML statements written by users into low-level instructions that interact directly with the database to perform operations on the data.

Ques-8:- What is SQL Key Constraints writing an Example of SQL Key Constraints ?

Key constraints in SQL are used to enforce integrity rules on columns or combinations of columns in a table. They ensure that the data stored in these columns meets certain criteria.

Examples of key constraints include PRIMARY KEY, UNIQUE, FOREIGN KEY, and CHECK constraints.

Example:

--Primary Key Constraint

CREATE TABLE Employees (

EmployeeID INT PRIMARY KEY,

Name VARCHAR(50),

DepartmentID INT );

-- Unique Constraint

CREATE TABLE Departments (

DepartmentID INT UNIQUE,

DepartmentName VARCHAR(50) );

-- Foreign Key

Constraint CREATE TABLE Orders (

OrderID INT PRIMARY KEY,

ProductID INT,

CustomerID INT,

FOREIGN KEY (ProductID) REFERENCES Products(ProductID),

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID) );

Ques-9:- What is save Point? How to create a save Point write a Query ?

A savepoint in SQL is a point within a transaction where you can roll back to if needed. It allows you to create intermediate points in a transaction to which you can later roll back.

Syntax to create a savepoint:

SAVEPOINT savepoint\_name;

Example :

SAVEPOINT my\_savepoint;

Ques-10:- What is trigger and how to create a Trigger in SQL ?

A trigger in SQL is a special type of stored procedure that is automatically executed or fired when certain events occur in the database.

Triggers are used to enforce business rules, perform auditing, maintain data integrity, and automate tasks such as updating related tables.

Syntax to create a trigger:

CREATE TRIGGER trigger\_name

{BEFORE | AFTER} {INSERT | UPDATE | DELETE} ON table\_name

FOR EACH ROW

BEGIN

-- SQL statements

END;

Example:

CREATE TRIGGER audit\_employee\_changes

AFTER UPDATE ON Employees

FOR EACH ROW

BEGIN

INSERT INTO EmployeeAudit (EmployeeID, OldSalary, NewSalary, ChangeDate)

VALUES (OLD.EmployeeID, OLD.Salary, NEW.Salary, NOW());

END;