***Module 4 – Database***

1. **What is RDBMS**

* RDBMS stands for **Relational Database Management System**.
* It is a type of database management system (DBMS) that stores data in a structured format, using rows and columns in tables, which are related to each other based on certain relationships.
* The "relational" part of the name comes from the concept of using tables (also called relations) to represent and manage data.
* **Key features of an RDBMS include:**
* **Tables**: Data is stored in tables, which consist of rows and columns.
* **Relationships**: Tables can be related to each other through keys (primary keys and foreign keys).
* **SQL (Structured Query Language)**: RDBMS systems use SQL for querying and managing the database.
* **ACID Properties**: RDBMS systems typically ensure data integrity and reliability through ACID (Atomicity, Consistency, Isolation, Durability) properties.
* **Normalization**: Data is often organized and structured in a way that reduces redundancy and ensures consistency.

1. **What is SQL**

* It is stands for structured query language.
* It is a standard programming language used to manage and manipulate relational databases.
* SQL allows you to perform various operations on the data stored in a database, such as:
* **Querying**: Retrieving data from one or more tables using SELECT.
* **Inserting**: Adding new records into tables with INSERT.
* **Updating**: Modifying existing records with UPDATE.
* **Deleting**: Removing records from tables using DELETE.
* **Creating and modifying structures**: Creating or altering tables, indexes, and other database objects using CREATE, ALTER, and DROP

1. **Write SQL Commands**

* **1. CREATE TABLE:-**

CREATE TABLE sellers (

sellersID INT(11) PRIMARY KEY AUTO INCREMENT,

Name VARCHAR(50),

Contact bigint(11),

Address VARCHAR (255),

Email VARCHAR(255),

Password VARCHAR(255)

);

* 2.  **TO INSERT DATA:-**

INSERT INTO sellers (

Name, Contact, Address, Email, Password)

VALUES (

‘HETAL’, ‘9033178002’,’NADIAD’,’hetal@gmail.com’,’user@123’)

* **3. TO UPDATE:-**

UPDATE sellers set contact=9876500000,

Address=’AHMEDABAD’ WHERE ID=1;

* **4. TO DELETE DATA:-**

DELETE FROM sellers WHERE ID=1;

* **5. TO ADD COLUMN:- (FOR STRUCTURAL CHANGES)**

ALTER TABLE sellers add column DOB date;

* **6. TO SELECT DATA :-**

SELECT \* from sellers WHERE ID=1;

SELECT name, contact from sellers WHERE ID=1;

* **7. DROP TABLE (use to delete entire table from database):-**

DROP TABLE sellers;

1. **What is join?**

* In SQL, a **JOIN** is used to combine rows from two or more tables based on a related column between them.
* When working with relational databases, tables often store related data, and the JOIN operation helps link these tables to retrieve meaningful information.
* **Types of JOINS:-**

1. **Write type of joins.**
2. **How Many constraint and describes it self**
3. **Difference between RDBMS vs DBMS**
4. **What is an SQL alias?**
5. **Write a query to create the table in Structured Query Language.**
6. **Write a query to insert data into table.**
7. **Write a query to update data into table with validations.**
8. **Write a query to delete data from table with validations.**
9. **Write a query to insert new column in existing table.**
10. **Write a query to drop table and database.**
11. **Write a query to find max and min value from table.**
12. **Create two tables named Seller and Product apply foreign key in product table**
13. **Fetch data from both table using different joins.**
14. **What is API Testing**
15. **Types of API Testing**
16. **What is Responsive Testing?**
17. **Which types of tools are available for Responsive Testing**
18. **What is the full form of .ipa, .apk**
19. **How to create step for to open the developer option mode ON?**