Module 4

Q 1. What is RDBMS

Ans. An RDBMS (Relational Database Management System) is a type of database management system that stores data in a structured format using rows and columns, based on the relational model developed by E.F. Codd in 1970.

Q 2. What is SQL

Ans. SQL (Structured Query Language) is the standard programming language used to manage and manipulate relational databases. It allows users to create, read, update, and delete database records (CRUD operations) and perform administrative tasks.

Q 3. Write SQL Commands

Ans. SQL Commands:

DDL – Data Definition Language

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| --- | --- |
| **Commands** | **Description** |
| CREATE | Create a new table, a view of a table, or other object in database |
| ALTER | Modifies an existing database object, such as a table. |
| DROP | Deletes an entire table, a view of a table or other object in the database. |

DML – Data Manipulation Language

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| **Commands** | **Description** |
| INSERT | Creates a record |
| UPDATE | Modifies records |
| DELETE | Deletes records |

DCL – Data Control Language

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| --- | --- |
| **Commands** | **Description** |
| GRANT | Gives a privilege to user |
| REVOKE | Takes back privileges granted from user |

DQL – Data Query Language

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| **Commands** | **Description** |
| SELECT | Retrieves certain records from one or more tables |

Q 4. What is join?

Ans. A JOIN in SQL is used to combine rows from two or more tables based on a related column between them. JOINs are fundamental for querying relational databases where data is distributed across multiple tables.

Q 5. Write type of joins.

Ans. There are mainly 4 types of JOIN

1. INNER JOIN
2. LEFT JOIN
3. RIGHT JOIN
4. FULL JOIN

Q 6. How Many constraint and describes it self

Ans.

1. PRIMARY KEY: Uniquely identifies each record in a table (no duplicates or NULLs).
2. FOREIGN KEY: Ensures referential integrity by linking to another table’s PRIMARY KEY.
3. UNIQUE: Ensures all values in a column are distinct (allows one NULL).
4. NOT NULL: Prevents NULL values in a column (must have a value).
5. CHECK: Validates data against a specified condition (e.g., age ≥ 18).
6. DEFAULT: Sets a default value if no value is provided during insertion.
7. INDEX: Improves query performance (not a constraint but often used with them).

Q 7. Difference between RDBMS vs DBMS

Ans.

DBMS (Database Management System)

* Stores data in files or collections
* No relationship between data
* Less secure and less consistent
* Example: XML file, File System

RDBMS (Relational Database Management System)

* Stores data in tables (rows and columns)
* Data is related using keys (like Primary Key, Foreign Key)
* More secure, consistent, and faster
* Example: MySQL, Oracle, SQL Server

Q 8. What is an SQL alias?

Ans. An SQL alias is a temporary name assigned to a table, column, or expression in a query to improve readability or simplify complex queries. Aliases exist only for the duration of the query and do not modify the actual database structure.

Q 9. Write a query to create the table in Structured Query Language.

Ans.

CREATE TABLE Students (

StudentID INT PRIMARY KEY,

FirstName VARCHAR(50),

LastName VARCHAR(50),

Age INT,

Email VARCHAR(100),

EnrollmentDate DATE

);

Q 10. Write a query to insert data into table.

Ans.

INSERT INTO Students (StudentID, FirstName, LastName, Age, Email, EnrollmentDate)

VALUES (1, 'Krushil', 'Patel', 21, 'krushil.patel@example.com', '2025-06-18');

Q 11. Write a query to update data into table with validations.

Ans.

UPDATE Students

SET Email = 'new.email@example.com'

WHERE StudentID = 1 AND Age > 0;

Q 12. Write a query to delete data from table with validations.

Ans.

DELETE FROM Students

WHERE StudentID = 3 AND Age > 25;

Q 13. Write a query to insert new column in existing table.

Ans.

ALTER TABLE Students

ADD PhoneNumber VARCHAR(15);

Q 14. Write a query to drop table and database.

Ans.

DROP TABLE Students;

DROP DATABASE SchoolDB;

Q 15. Write a query to find max and min value from the table.

Ans.

SELECT MAX(Age) AS MaxAge, MIN(Age) AS MinAge

FROM Students;

Q 16. Create two tables named Seller and Product apply foreign key in product table

Ans.

CREATE TABLE Seller (

SellerID INT PRIMARY KEY,

SellerName VARCHAR(100),

ContactEmail VARCHAR(100)

);

CREATE TABLE Product (

ProductID INT PRIMARY KEY,

ProductName VARCHAR(100),

Price DECIMAL(10, 2),

SellerID INT,

FOREIGN KEY (SellerID) REFERENCES Seller(SellerID)

);

Q 17. Fetch data from both table using different joins.

Ans.

1. INNER JOIN

SELECT Product.ProductID, Product.ProductName, Product.Price,

Seller.SellerName, Seller.ContactEmail

FROM Product

INNER JOIN Seller ON Product.SellerID = Seller.SellerID;

1. LEFT JOIN

SELECT Product.ProductID, Product.ProductName, Product.Price,

Seller.SellerName, Seller.ContactEmail

FROM Product

LEFT JOIN Seller ON Product.SellerID = Seller.SellerID;

1. RIGHT JOIN

SELECT Product.ProductID, Product.ProductName, Product.Price,

Seller.SellerName, Seller.ContactEmail

FROM Product

RIGHT JOIN Seller ON Product.SellerID = Seller.SellerID;

1. FULL OUTER JOIN

SELECT Product.ProductID, Product.ProductName, Product.Price,

Seller.SellerName, Seller.ContactEmail

FROM Product

FULL OUTER JOIN Seller ON Product.SellerID = Seller.SellerID;

Q 18. What is API Testing

Ans. API Testing is a type of software testing that focuses on testing Application Programming Interfaces (APIs) directly to determine if they meet expectations for:

Functionality

Reliability

Performance

Security

Q 19. Types of API Testing

Ans.

* Functional Testing
* Validation Testing
* Load Testing
* Security Testing
* Error/Negative Testing
* Integration Testing
* Regression Testing
* Runtime/Error Detection
* Unit Testing
* UI/API Combined Testing

Q 20. What is Responsive Testing?

Ans. Responsive Testing is the process of testing how a website or web application behaves and adapts to different screen sizes, devices, and resolutions.

Q 21. Which types of tools are available for Responsive Testing

Ans.

* Chrome DevTools (Device Toolbar)
* BrowserStack
* LambdaTest
* Responsinator
* Screenfly
* CrossBrowserTesting
* Percy
* Sizzy
* Responsively App
* LT Browser

Q 22. What is the full form of .ipa, .apk

Ans. .ipa : iOS App Store Package

(Used for installing apps on Apple iOS devices)

.apk : Android Package Kit

(Used for installing apps on Android devices)

Q 23. How to create step for to open the developer option mode ON?

Ans. Steps are:

1. Go to Settings
2. Tap on About phone
3. Find and tap Build number 7 times
4. Enter your phone lock screen password if asked
5. You’ll see a message: "You are now a developer!"
6. Go back to Settings
7. Now open Developer options