**Q-1 What do you understand by database?**

A-1 Database is a collection of structured information or data typically stored in a computer system.

There are many types of database available like MySQL, Oracle, MongoDB,PostgreSQL.

**Q-2 What is Normalization?**

A-2 Normalization is the process of organizing data in database by creating tables and establishing relationships among those tables. Purpose of Normalization is to eliminate duplication of the records.

It reduces the redundancy and Normalization can be done as 1NF(First Normal Form),2NF(Second Normal Form) and 3NF(Third Normal Form).

**Q-3 Difference between DBMS and RDBMS?**

A-3 DBMS stores data as file format where as RDBMS stores data in tabular format. In DBMS data can be accessed individually where as in RDBMS multiple data elements can be accessed. In DBMS there is no relationship between data where as in RDBMS data is stored in tables which are related to each other.

Normalization is not possible in DBMS where as normalization is possible in RDBMS.

DBMS supports single user where as RDBMS Supports multiple users. In DBMS hardware and software requirements are low where as in RDBMS software and hardware requirements are high.

**Q-4 What is MF cod rule of RDBMS?**

A-4 MF Codd was a computer science scientist he invented Relational Model for database management. Codd proposed 13 rules popularly known as Codd's 12 rules to test DBMS's concept against his relational model.His rules define what quality a DBMS require in order to become RDBMS.

Rule Zero :Information should be logically represented in a table.

Rule One:System must be able to manage database through relational capabilities.

Rule two:Each data should be represented by table name, primary key and column name.

Rule three:Null values means missing information not blank value or zero.

Rule four:metadata must be stored in database as normal data

Rule five: Efficient database has understandable data manipulation language that enables defining , querying and modifying information within database.

Rule six: Views must show updates of their base tables and vice versa.

Rule seven:A single operation must be able to perform insert,retrieve,update and delete data.

Rule eight: Application program and activities should be unaffected when changes are made to logical structures of data , adding or modifying.

Rule Nine: Application program and activities should be unaffected when changes are made to physical storage structures and methods.

Rule ten:Intigrity constraints should be automatically enforced by database system.

Rule eleven: The distribution of data across multiple locations should be invisible to users, and the database system should handle the distribution transparently.

Rule twelve: If the interface of the system is providing access to low-level records, then the interface must not be able to damage the system and bypass security and integrity constraints.

**Q-5 What do you understand by data redundancy?**

A-5 Data Redundancy is duplication of the data. Basically repetition of the same data at multiple places in database. It is harmful for the database as it leads to inconsistencies, increases storage requirements, impacting data integrity and database performance. Normalization can decrease the data redundancy.

**Q-6 What is DDL Interpreter?**

A-6 DDL is data definition Language and DDL interpreter interprets the DDL instructions and stores the records in a table containing meta data. It processes DML statements fixed in an application program into procedural calls.

**Q-7 What is DML compiler in SQL?**

Ans-7 DML Compiler converts the Data manipulation language instructions in low level machine language.In other words DML Compiler compiles DML Statements such as select, update, delete into low level instructions which is machine language.

**Q-8 What is SQL Key Constraints writing an Example of SQL Key Constraints.**

A-8 SQL Constraints specify the rules for the data in a table.

Constraints are used to limit the type of data to get into a table. It ensures the accuracy and reliability of the data in a table. Constraints can be column level or table level. Column level constraints apply to columns and table level constraints apply to table.

Below are the constraints used in SQL:

NOT NULL: Ensures that column can not have a null value.

UNIQUE: Ensures that all values in a column are different.

Primary key : Ensures that all values in a column are unique and not null.

Foreign key: Prevents actions that would destroy links between tables.

Check: Ensures that the values in a column satisfies a specific condition

[DEFAULT](https://www.w3schools.com/sql/sql_default.asp) - Sets a default value for a column if no value is specified

[CREATE INDEX](https://www.w3schools.com/sql/sql_create_index.asp) - Used to create and retrieve data from the database very quickly

**Q-9 What is save Point? How to create a save Point write a Query?**

A-9 Save Point is a command in Transaction Control Language. It is used in SQL with a roll back command.Consider you are making a very long table, and you want to roll back only to a certain position in a table then; this can be achieved using the savepoint.

Start transaction;

Savepoint spoint1;

Insert into product values(1003,’Beverages’,480);

Insert into product values(1004,’Dairy’,540);

Savepoint spoint2;

Insert into product values(1005,’Munchies’,380);

Insert into product values(1006,’Snacks’,420);

**Q-10 What is trigger and how to create a Trigger in SQL?**

In SQL when a specific event occurs (like insert,update,delete) trigger automatically gets executed.In other words, a database trigger is "triggered" by a particular event. When an INSERT, UPDATE, or DELETE SQL query is performed, the RDBMS takes care of automatically firing the corresponding trigger.

To create a trigger below is the query which is required to perform.

Delimiter $$

Create trigger first\_tri after insert on tablename for each row

Begin

Insert into (id,name,price,action\_performed) values (new.id,new.name,new.price,’Record Inserted’);

End