**PART B**

**QUESTIONS:**

**Theoretical Questions:**

1. Definition and Purpose of SQL:

- What is SQL and what is its primary purpose in database management?

SQL (Structure Query Language) is a Standard programming language specifically designed for managing and manipulating relational databases.it allows users to create, read, update and delete (CRUD) data stored in a relational database.

2. Relational Databases (RDBs):

- Explain what a relational database is and how it differs from a non-relational database.

Relational database is a type of database that store and provide access to datapoints that are related to one and another. While non-relational database don not use a table-based schema.

3. Database Management System (DBMS):

- Define DBMS and describe its main functions.

A Database Management System is software that provides an interface for users and applications to interact with databases.

Functions

1.Data storage, Retrieval, Update

2. Data Security and Integrity

4. Data Types - Integer and Floating-point:

- Describe the difference between an integer and a floating-point data type. Provide an example of when each might be used.

An Integer data type represent whole numbers without any fractional or decimal point. Example usage: Counting the number of students in classroom. A Floating-point data type represents fractional or decimal part. Example usage: Financial Calculations.

5. Data Types - Character and VARCHAR:

- What is the difference between CHAR and VARCHAR data types? In what scenario would you prefer one over the other?

CHAR- Fixed length character, prefer when the length of the string is consistent.

VARCHAR-Variable length character allocates only as much space as needed for the string. Prefer when length of the strings can vary significantly.

6. Data Types - Date and Boolean:

- Explain the DATE and BOOLEAN data types and provide an example of their usage in a database.

Date data type can be used to store calendar dates.it include year, month and day.

Example: An employee’s records and you want to store each employee’s date of birth.

Create Table Employees (

ID INT PK,

Date of Birth Date);

BOOLEAN Data Type store truth values: True or false sometimes NULL.

Example: A table to track Active Employee

Create Table Employee (

ID INT PK,

Name Varchar (50),

IsActive Boolean);