Date: 17 Nov'23 **End Module of Database Technologies** **MM:40**

Q1. Implement CRUD operations for a database named "Library" that manages information about books.
The "**books**" table has the following structure:

- **book_id (unique identifier)**
- **title (text)**
- **author (text)**
- **publication_year (integer)**
- **price (decimal)**

Perform the following operations:

a) Create:

- Insert a new book record into the "books" table with the following details:
  - **book_id:** [provide a unique identifier]
  - **title**: [provide a title]
  - **author**: [provide an author]
  - **publication_year**: [provide a year]
  - **price**: [provide a decimal value]

b) Read:

- Retrieve and display information about a specific book from the "books" table based on the provided book_id.

c) Update:

- Modify the details of an existing book in the "books" table. Choose a book based on its book_id and update the following information:
  - title: [provide a new title]
  - author: [provide a new author]
  - publication_year: [provide a new year]
  - price: [provide a new decimal value]

d) Delete:

- Execute the SQL statement to delete the book record from the "books" table based on the provided book_id.

Ensure that your SQL statements are accurate, and provide the necessary details to complete each operation successfully. **Write the SQL statements and any additional information required for each step.**

Q2. Demonstrate your understanding of database operations by creating a table and implementing triggers for insert, update, and delete operations. Follow the instructions below:

a) Create Table: Design and create a table named "employees" with the following columns:

- **emp_id (unique identifier)**
- **emp_name (text)**
- **emp_salary (decimal)**
- **emp_department (text)**
- **emp_join_date (date)**

b) Triggers: Implement the following triggers for the "employees" table:

i) Insert Trigger:

Create a trigger named "**insert_employee_trigger**" that automatically sets the **emp_join_date** to the **current date** when a new employee record is inserted into the "**employees**" table. Ensure that other columns are appropriately populated**.**

ii) Update Trigger:

Develop a trigger named "**update_employee_trigger**" that updates the **emp_join_date** to the current date whenever there is an update to the **emp_salary** column. Ensure that the other columns are not affected by this trigger.

iii) Delete Trigger:

Construct a trigger named "**delete_employee_trigger**" that, before deleting a record from the "**employees**" table, logs the details of the deleted employee into a separate table named "**deleted_employees_log**." The "**deleted_employees_log**" table should have columns for **emp_id, emp_name, emp_salary, emp_department, emp_join_date**, and the **date of deletion.**

Ensure that your table creation script and triggers are syntactically correct, and provide any additional information needed for successful execution. **Write the SQL statements for creating the table and implementing each trigger.**