Data Modification with INSERT, UPDATE, DELETE

Concept-Based Questions

Q1. What is the purpose of INSERT, UPDATE, and DELETE statements?
A1. INSERT adds data, UPDATE modifies existing data, DELETE removes data from a table.

Q2. What happens if you omit the WHERE clause in an UPDATE or DELETE?
A2. It will affect all rows in the table.

Q3. How can you insert multiple rows in one statement?
A3. By separating each row of values with commas in the VALUES clause.

Q4. What is the difference between DELETE and TRUNCATE?
A4. DELETE can use WHERE clause and logs individual row deletions; TRUNCATE removes all rows quickly without logging.

Q5. How do you update multiple columns in one UPDATE statement?
A5. By separating column assignments with commas.

Code-Based Questions

Q6. Insert a new employee into the employees table.

```sql
INSERT INTO employees (first_name, last_name, salary, department_id)
VALUES ('Alice', 'Brown', 55000, 2);
```

Q7. Update salary of employees in IT department by 10%.

```sql
UPDATE employees SET salary = salary * 1.10
WHERE department = 'IT';
```

Q8. Delete employees whose salary is less than 30000.

```sql
DELETE FROM employees WHERE salary < 30000;
```

Q9. Insert multiple employees in one statement.

```sql
INSERT INTO employees (first_name, last_name, salary) VALUES
('John', 'Smith', 60000),
('Jane', 'Doe', 62000);
```

Q10. Update employee name where ID is 101.

```sql
UPDATE employees SET first_name = 'Mike' WHERE employee_id = 101;
```

Scenario-Based

Q11. How would you remove all employees from the 'Intern' department?

```sql
DELETE FROM employees WHERE department = 'Intern';
```