**MS SQL Practice Exam**

**Duration:** 60 minutes  
**Total Marks:** 50

**Section A: Storing and Manipulating Data (15 Marks)**

**1. Storing Data in a Table (3 Marks)**  
a) Write an SQL query to create a table named **Employees** with the following fields:

* EmployeeID (Primary Key, INT, Auto-increment)
* Name (VARCHAR(100), NOT NULL)
* Age (INT)
* Department (VARCHAR(50))
* Salary (DECIMAL(10,2))

b) Insert three records into the **Employees** table.

ANSWER:

CREATE TABLE Employees (

EmployeeID INT IDENTITY(1,1) PRIMARY KEY,

Name VARCHAR(100) NOT NULL,

Age INT,

Department VARCHAR(50),

Salary DECIMAL(10,2));

INSERT INTO Employees (Name, Age, Department, Salary)

VALUES

('Alice Johnson', 30, 'HR', 55000.00),

('Bob Smith', 28, 'IT', 62000.50),

('Charlie Brown', 35, 'Finance', 70000.75);

**2. Updating Data in a Table (3 Marks)**  
Write an SQL query to update the **Salary** of employees in the **HR** department by 10%.

ANSWER:

UPDATE Employees

SET Salary = Salary \* 1.10

WHERE Department = 'HR';

**3. Deleting Data from a Table (3 Marks)**  
Write an SQL query to delete all employees from the **IT** department.

ANSWER:

DELETE FROM Employees

WHERE Department = 'IT';

**4. Demo: Manipulating Data in Tables (6 Marks)**  
a) Insert a new employee into the **Employees** table, but ensure the **Salary** is at least 30000. (2 Marks)  
b) Update the **Department** of employees who earn more than 50000 to **Senior Staff**. (2 Marks)  
c) Delete employees older than 60 years from the table. (2 Marks)

ANSWER:

INSERT INTO Employees (Name, Age, Department, Salary)

VALUES ('John Doe', 40, 'Finance', CASE WHEN 28000 < 30000 THEN 30000 ELSE 28000 END);

**Section B: Retrieving and Filtering Data (35 Marks)**

**5. Retrieving Specific Attributes (3 Marks)**  
Write an SQL query to retrieve only the **Name** and **Salary** of all employees.

ANSWER:

SELECT Name, Salary

FROM Employees;

**6. Retrieving Selected Rows (3 Marks)**  
Write an SQL query to retrieve employees from the **HR** department who have a salary greater than 50,000.

ANSWER:

SELECT Name, Salary, Department

FROM Employees

WHERE Department = 'HR' AND Salary > 50000;

**7. Demo: Retrieving Data (4 Marks)**  
Write an SQL query to retrieve all employees sorted by **Salary** in descending order.

ANSWER:

SELECT \*

FROM Employees

ORDER BY Salary DESC;

**8. Filtering Data - WHERE Clauses (5 Marks)**  
a) Write an SQL query to retrieve employees whose **Age** is greater than 30. (2 Marks)  
b) Retrieve employees whose **Department** is either **HR** or **Finance**. (3 Marks)

ANSWER:

a) SELECT \*

FROM Employees

WHERE Age > 30;

b) SELECT \*

FROM Employees

WHERE Department IN ('HR', 'Finance');

**9. Filtering Data - Operators (10 Marks)**  
a) Retrieve employees whose **Salary** is between 30,000 and 60,000. (2 Marks)  
b) Retrieve employees whose **Name** starts with "A". (2 Marks)  
c) Retrieve employees who do NOT belong to the **IT** department. (2 Marks)  
d) Retrieve employees whose **Department** is either "Sales" or "Marketing" using the **IN** operator. (2 Marks)  
e) Retrieve employees with distinct **Department** names. (2 Marks)

ANSWER:

a) SELECT \*

FROM Employees

WHERE Salary BETWEEN 30000 AND 60000;

b) SELECT \*

FROM Employees

WHERE Name LIKE 'A%';

c) SELECT \*

FROM Employees

WHERE Department <> 'IT';

d) SELECT \*

FROM Employees

WHERE Department IN ('Sales', 'Marketing');

e) SELECT DISTINCT Department

FROM Employees;

**10. Column & Table Aliases (3 Marks)**  
Write an SQL query that retrieves **EmployeeID, Name, and Salary**, renaming **EmployeeID** as "ID" and **Salary** as "Monthly Income".

ANSWER:

SELECT

EmployeeID AS ID,

Name,

Salary AS "Monthly Income"

FROM Employees;

**11. Demo: Filtering Data (4 Marks)**  
Write an SQL query to retrieve employees whose **Name** contains "John" and whose salary is greater than 40,000.

ANSWER:

SELECT \*

FROM Employees

WHERE Name LIKE '%John%'

AND Salary > 40000;