

DBMS Lab: 'N' Batch – 18.03.2026

Indexing and Query Optimization

1. A table **ORDERS(OrderID, CustomerID, OrderDate, Amount)** has the index (CustomerID, OrderDate).

Analyze the following queries and Identify which queries will use the index and justify:

```
SELECT * FROM ORDERS WHERE CustomerID = 101;
```

```
SELECT * FROM ORDERS WHERE OrderDate = '2025-01-01';
```

```
SELECT * FROM ORDERS  
WHERE CustomerID = 101 AND OrderDate = '2025-01-01';
```

2. A database contains a table: **EMP(EmpID, Name, Salary, Department)**

Perform the following tasks and analyze index usage:

Task 1: Create Table

Task 2: Insert Sample Data

Task 3: Create Indexes with salary, name

Task 4: Analyze Queries:

```
SELECT * FROM EMP WHERE Salary > 50000;
```

```
SELECT * FROM EMP WHERE Salary + 1000 > 60000;
```

```
SELECT * FROM EMP WHERE UPPER(Name) = 'RAVI';
```

```
SELECT * FROM EMP WHERE Name LIKE 'Ra%';
```

```
SELECT * FROM EMP WHERE Name LIKE '%vi';
```

```
SELECT * FROM EMP WHERE Salary = 50000 OR Name = 'Ravi';
```

```
SELECT * FROM EMP ORDER BY Salary;
```

```
SELECT * FROM EMP WHERE Name='Ravi' AND Salary=50000;
```