"Exp 7: Demonstrate use of operators."

1] Arithmetic Operators.

A] Reference table : -

```
mysql> select * from numbers;
+----+------+------+
| id | num1 | num2 |
+----+------+------+
|  1 |   10 |    5 |
|  2 |   15 |    8 |
|  3 |   20 |   12 |
+----+------+------+
3 rows in set (0.00 sec)
```

B] Addition (+) : -

```
mysql> SELECT id, num1, num2, num1 + num2 AS sum FROM numbers;
+----+------+------+------+
| id | num1 | num2 | sum  |
+----+------+------+------+
|  1 |   10 |    5 |   15 |
|  2 |   15 |    8 |   23 |
|  3 |   20 |   12 |   32 |
+----+------+------+------+
3 rows in set (0.00 sec)
```

C] Subtraction (-) : -

```
mysql> SELECT id, num1, num2, num1 - num2 AS difference FROM numbers;
+----+------+------+------------+
| id | num1 | num2 | difference |
+----+------+------+------------+
|  1 |   10 |    5 |          5 |
|  2 |   15 |    8 |          7 |
|  3 |   20 |   12 |          8 |
+----+------+------+------------+
3 rows in set (0.01 sec)
```

D] Multiplication (*) : -

```
mysql> SELECT id, num1, num2, num1 * num2 AS product FROM numbers;
+----+------+------+---------+
| id | num1 | num2 | product |
+----+------+------+---------+
|  1 |   10 |    5 |      50 |
|  2 |   15 |    8 |     120 |
|  3 |   20 |   12 |     240 |
+----+------+------+---------+
3 rows in set (0.01 sec)
```

E] Division (/) : -

```
mysql> SELECT id, num1, num2, num1 / num2 AS quotient FROM numbers;
+----+------+------+----------+
| id | num1 | num2 | quotient |
+----+------+------+----------+
|  1 |   10 |    5 |   2.0000 |
|  2 |   15 |    8 |   1.8750 |
|  3 |   20 |   12 |   1.6667 |
+----+------+------+----------+
3 rows in set (0.01 sec)
```

F] Modulus (%) : -

```
mysql> SELECT id, num1, num2, num1 % num2 AS remainder FROM numbers;
+----+------+------+-----------+
| id | num1 | num2 | remainder |
+----+------+------+-----------+
|  1 |   10 |    5 |         0 |
|  2 |   15 |    8 |         7 |
|  3 |   20 |   12 |         8 |
+----+------+------+-----------+
3 rows in set (0.00 sec)
```

G] Exponentiation : -

```
mysql> SELECT id, num1, num2, POWER(num1, num2) AS power FROM numbers;
+----+------+------+------------+
| id | num1 | num2 | power      |
+----+------+------+------------+
|  1 |   10 |    5 |     100000 |
|  2 |   15 |    8 | 2562890625 |
|  3 |   20 |   12 |   4.096e15 |
+----+------+------+------------+
3 rows in set (0.01 sec)
```

2] Comparison operators.

A] Reference table : -

```
mysql> select * from products;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  1 | Product A | 10.99 |        5 |
|  2 | Product B | 15.99 |       10 |
|  3 | Product C | 20.99 |        0 |
|  4 | Product D |  5.99 |       20 |
+----+-----------+-------+----------+
4 rows in set (0.00 sec)
```

B] Equal to (=) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> WHERE price = 15.99;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  2 | Product B | 15.99 |       10 |
+----+-----------+-------+----------+
1 row in set (0.01 sec)
```

C] Less than (<) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> WHERE price < 15;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  1 | Product A | 10.99 |        5 |
|  4 | Product D |  5.99 |       20 |
+----+-----------+-------+----------+
2 rows in set (0.00 sec)
```

P.T.O →

D] Greater than (>) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> WHERE price > 15;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  2 | Product B | 15.99 |       10 |
|  3 | Product C | 20.99 |        0 |
+----+-----------+-------+----------+
2 rows in set (0.00 sec)
```

E] Less than equal to (<=) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> WHERE price <= 6;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  4 | Product D |  5.99 |       20 |
+----+-----------+-------+----------+
1 row in set (0.00 sec)
```

F] Greater than equal to (>=) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> WHERE price >= 20;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  3 | Product C | 20.99 |        0 |
+----+-----------+-------+----------+
1 row in set (0.00 sec)
```

G] Not Equal (<>) : -

```
mysql> SELECT id, name, price, quantity
    -> FROM products
    -> where quantity <> 0;
+----+-----------+-------+----------+
| id | name      | price | quantity |
+----+-----------+-------+----------+
|  1 | Product A | 10.99 |        5 |
|  2 | Product B | 15.99 |       10 |
|  4 | Product D |  5.99 |       20 |
+----+-----------+-------+----------+
3 rows in set (0.00 sec)
```

3] Logical operators.

A] Reference table : -

```
mysql> select * from emp;
+-------+---------+--------+---------+--------+-------+
| EmpNo | EName   | Salary | Loc     | DeptNo | bonus |
+-------+---------+--------+---------+--------+-------+
|     1 | John    |  50000 | Mumbai  |     22 |  2500 |
|   412 | Bhuvan  |  70000 | Jalgaon |     33 |  3000 |
|   512 | Krishna |  80000 | Jalgaon |     22 |  3500 |
|   522 | Tushar  |  68000 | Mumbai  |     22 |  4000 |
+-------+---------+--------+---------+--------+-------+
4 rows in set (0.00 sec)
```

P.T.O →

B] AND : -

```
mysql> select * from emp
    -> Where DeptNo = 33 AND Salary > 65000;
+-------+--------+--------+---------+--------+-------+
| EmpNo | EName  | Salary | Loc     | DeptNo | bonus |
+-------+--------+--------+---------+--------+-------+
|   412 | Bhuvan |  70000 | Jalgaon |     33 |  3000 |
+-------+--------+--------+---------+--------+-------+
1 row in set (0.01 sec)
```

C] OR : -

```
mysql> select * from emp
    -> Where salary < 70000 OR DeptNo = 33;
+-------+--------+--------+---------+--------+-------+
| EmpNo | EName  | Salary | Loc     | DeptNo | bonus |
+-------+--------+--------+---------+--------+-------+
|     1 | John   |  50000 | Mumbai  |     22 |  2500 |
|   412 | Bhuvan |  70000 | Jalgaon |     33 |  3000 |
|   522 | Tushar |  68000 | Mumbai  |     22 |  4000 |
+-------+--------+--------+---------+--------+-------+
3 rows in set (0.00 sec)
```

D] NOT : -

```
mysql> select * from emp
    -> Where NOT Loc = 'Mumbai';
+-------+---------+--------+---------+--------+-------+
| EmpNo | EName   | Salary | Loc     | DeptNo | bonus |
+-------+---------+--------+---------+--------+-------+
|   412 | Bhuvan  |  70000 | Jalgaon |     33 |  3000 |
|   512 | Krishna |  80000 | Jalgaon |     22 |  3500 |
+-------+---------+--------+---------+--------+-------+
2 rows in set (0.00 sec)
```