**Branch :- Computer Sci. & Engg. Class :- III Year**

**Subject :- DBMS Sem :- V**

**Teacher Manual**

**PRACTICAL NO 6**

**AIM**: Write SQL to create Views and Indexes.

**S/W REQUIRED: MYSQL 8.0 Command line client**

Sample Database Considered is:

1. classroom(building, room\_number, capacity)

2. department(dept\_name, building, budget)

3. course(course\_id, title, dept name, credits)

4. instructor(inst\_id, name, dept name, salary)

5. section(course\_id, sec id, semester, year, building, room number, time slot\_id)

6. teaches(inst\_id, course\_id, sec-id, semester, year)

7. student(stu\_id, name, dept\_name, tot\_cred)

8. takes(stu\_id, course\_id, sec-id, semester, year, grade)

9. advisor(s\_id, i\_id)

10. prereq(course\_id, prereq\_id)

Queries:Write SQL to create Views and Indexes.

1. Create a view that lists all course section offered by the physics department in the fall 2009 semester with the building and room number.
2. Create a view that lists ID,name and building name of each instructor in the university.
3. Create a view that lists all instructor whose department is history.

Answers:-

1)Create a view that lists all course section offered by the physics department in the fall 2009 semester with the building and room number.

mysql> create view course\_view as select c.course\_id,s.buliding,s.room\_number from course as c,section as s where c.course\_id=s.course\_id and s.semester='fall' and c.dept\_name='physics' and s.year=2009;

Query OK, 0 rows affected (0.44 sec)

mysql> select \* from ankita;

+-----------+----------+-------------+

| course\_id | buliding | room\_number |

+-----------+----------+-------------+

| extc-111 | rauk | 444 |

| extc-211 | royal | 208 |

| it-211 | licon | 333 |

+-----------+----------+-------------+

3 rows in set (0.01 sec)

2)Create a view that lists ID,name and building name of each instructor in the university.

mysql> create view info as select id,name,buliding from instructor,department where instructor.dept\_name=department.dept\_name;

Query OK, 0 rows affected (0.07 sec)

mysql> select \* from info;

+-------+----------+----------+

| id | name | buliding |

+-------+----------+----------+

| 11011 | ankita | watson |

| 111 | xyz | watson |

| 12111 | pqr | watson |

| 10101 | Srinivas | taylor |

| 45565 | katz | taylor |

| 12121 | wu | painter |

| 32343 | el said | painter |

| 15151 | Mozart | packard |

| 1 | abc | watson |

| 22222 | einstein | watson |

| 33456 | gold | watson |

+-------+----------+----------+

11 rows in set (0.07 sec)

1. Create a view that lists all instructor whose department is history.

mysql> create view s as select \* from instructor where dept\_name='history';

Query OK, 0 rows affected (0.14 sec)

mysql> select \* from s;

+-------+---------+-----------+----------+

| id | name | dept\_name | salary |

+-------+---------+-----------+----------+

| 32343 | el said | history | 60000.00 |

+-------+---------+-----------+----------+

1 row in set (0.02 sec)

**INDEXS**

**Creation of Index-**Creates an index on a table. Duplicate values are allowed:

Syntax-

CREATE INDEX index\_name ON table\_name (column1, column2, ...);

**#CREATE UNIQUE INDEX-**Creates a unique index on a table. Duplicate values are not allowed:

Syntax

CREATE UNIQUE INDEX index\_name ON table\_name (column1, column2, ...);

CREATE INDEX Example

**Example of Index:-**

mysql> select \* from stud;

+------+-----------+---------+------+-------+

| id | fname | lname | age | class |

+------+-----------+---------+------+-------+

| 1 | ankita | thakare | 28 | ee |

| 2 | shrikant | thakare | 30 | ee |

| 3 | shubhangi | thakare | 55 | ce |

| 3 | narendra | thakare | 63 | be |

| 3 | neha | thakare | 23 | be |

| 4 | nehali | thakare | 33 | ce |

| 5 | sonali | thakare | 13 | de |

| 7 | monali | thakare | 19 | ge |

| 6 | sarang | thakare | 29 | je |

+------+-----------+---------+------+-------+

9 rows in set (0.00 sec)

mysql> SELECT id, fname, lname FROM stud WHERE class = 'ee';

+------+----------+---------+

| id | fname | lname |

+------+----------+---------+

| 1 | ankita | thakare |

| 2 | shrikant | thakare |

+------+----------+---------+

2 rows in set (0.00 sec)

mysql> explain SELECT id, fname, lname FROM stud WHERE class = 'ee';

+----+-------------+-------+------------+------+---------------+------+---------+------+------+----------+-------------+

| id | select\_type | table | partitions | type | possible\_keys | key | key\_len | ref | rows | filtered | Extra |

+----+-------------+-------+------------+------+---------------+------+---------+------+------+----------+-------------+

| 1 | SIMPLE | stud | NULL | ALL | NULL | NULL | NULL | NULL |  **9 |** 11.11 | Using where |

+----+-------------+-------+------------+------+---------------+------+---------+------+------+----------+-------------+

1 row in set, 1 warning (0.04 sec)

mysql> CREATE INDEX class ON stud(class);

Query OK, 0 rows affected (1.02 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> explain SELECT id, fname, lname FROM stud WHERE class = 'ee';

+----+-------------+-------+------------+------+---------------+-------+---------+-------+------+----------+-------+

| id | select\_type | table | partitions | type | possible\_keys | key | key\_len | ref | rows | filtered | Extra |

+----+-------------+-------+------------+------+---------------+-------+---------+-------+------+----------+-------+

| 1 | SIMPLE | stud | NULL | ref | class | class | 203 | const |  **2** | 100.00 | NULL |

+----+-------------+-------+------------+------+---------------+-------+---------+-------+------+----------+-------+

mysql> show indexes from stud;

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

| Table | Non\_unique | Key\_name | Seq\_in\_index | Column\_name | Collation | Cardinality | Sub\_part | Packed | Null | Index\_type | Comment | Index\_comment | Visible | Expression |

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

| stud | 1 | class | 1 | class | A | 6 | NULL | NULL | YES | BTREE | | | YES | NULL |

+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

1 row in set (0.04 sec)DROP INDEX Statement

**DROP INDEX index\_name ON table\_name**

mysql> DROP INDEX class ON stud;

Query OK, 0 rows affected (1.05 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> show indexes from stud;

Empty set (0.00 sec)

**CONCLUSION:** Thus indexes and views are executed.