Ex.No.5 06.03.2025	**VIEWS AND INDEX**

AIM

To implement Views and Indexing in DBMS for efficient data retrieval.

CREATING A TABLES

SQL> CREATE TABLE STUDENT_DETAILS (
    student_id INT PRIMARY KEY,
    name VARCHAR(50),
    age INT,
    dept VARCHAR(50),
    faculty_id   INT   );

Table created.

SQL> CREATE TABLE FACULTY_DETAILS (
    faculty_id INT PRIMARY KEY,
    faculty_name   VARCHAR(50),
    dept VARCHAR(50)
  );

Table created.

INSERTING VALUES INTO TABLE

SQL> INSERT INTO FACULTY_DETAILS VALUES (121, 'Dr.Kumar', 'IT');

1 row created.

SQL> INSERT INTO FACULTY_DETAILS VALUES(122, 'Dr. Pranesh', 'IT');

1 row created.

SQL> INSERT INTO FACULTY_DETAILS VALUES(123, 'Dr. Karthik', 'ECE');

1 row created.

SQL> INSERT INTO FACULTY_DETAILS VALUES (124, 'Dr. Anand', 'EEE');

1 row created.

SQL> INSERT INTO STUDENT_DETAILS VALUES (1, 'Praveen', 20, 'IT', 119);

1 row created.

SQL> INSERT INTO STUDENT_DETAILS VALUES (2, 'Arun', 21, 'CSE', 102);

1 row created.

SQL> INSERT INTO STUDENT_DETAILS VALUES (3, 'Mounish', 22, 'ECE', 103);

1 row created.

SQL> ALTER TABLE STUDENT_DETAILS ADD email VARCHAR(100);

Table altered.

SQL> ALTER TABLE FACULTY_DETAILS ADD experience INT;

Table altered.

SQL> ALTER TABLE FACULTY_DETAILS MODIFY faculty_name VARCHAR(100);

Table altered.

CREATING A VIEW

```
SQL> CREATE VIEW STUDENT_VIEW AS
  SELECT  student_id,  name,  age,  dept,  faculty_id
  FROM STUDENT_DETAILS
  WHERE dept = 'IT';
```

View created.

SQL> SELECT * FROM STUDENT_VIEW;

STUDENT_ID	NAME	AGE	DEPT	FACULTY_ID
1	Praveen	20	IT	119

```
SQL> CREATE VIEW FACULTY_STUDENT_VIEW AS
   SELECT  S.student_id,  S.name,  S.age,  S.dept,  F.faculty_name
   FROM STUDENT_DETAILS S
   JOIN FACULTY_DETAILS F ON S.faculty_id = F.faculty_id;


View created.


SQL> SELECT * FROM FACULTY_STUDENT_VIEW;
```

STUDENT_ID	NAME	AGE	DEPT	FACULTY_ NAME
1	Praveen	20	IT	Dr. Kumar
2	Arun	21	CSE	Dr. Priya
3	Mounish	22	ECE	Dr. Karthik

```
SQL> INSERT INTO FACULTY_STUDENT_VIEW VALUES (8, 'John', 24, 'MECH', 'Dr.
Sanjay');

INSERT INTO FACULTY_STUDENT_VIEW VALUES (8, 'John', 24, 'MECH', 'Dr. Sanjay')
*
ERROR at line 1:
ORA-01776: cannot modify more than one base table through a join view


SQL> DROP VIEW STUDENT_VIEW;

View dropped.

SQL> DROP VIEW FACULTY_STUDENT_VIEW;

View dropped.
```

CREATING A INDEX

SQL> create index idx_faculty_id on student_details(faculty_id);

Index created.

SQL> CREATE INDEX idx_dept_faculty ON STUDENT_DETAILS (dept, faculty_id);

Index created.

DROPPING A INDEX

SQL> drop index idx_dept_faculty;

Index dropped.

CONTENTS	MARKS ALLOTED	MARKS OBTAINED
Aim,Algorithm,SQL,PL/SQL	30	
Execution and Result	20	
Viva	10	
Total	60	

RESULT

Successfully created Views and Indexes, significantly enhancing query performance. Views help in simplifying complex queries by storing predefined SQL statements.