

## Practical Plan

**Branch: Computer Engineering**

**Semester: IV**

**Year: 2022-23**

Course Title: Database management system lab (CSL402)	SEE: 2 Hours – Practical
Total Contact Hours: 20 Hours	
Practical Plan Author: Dr. Sujata Deshmukh, Prof. Jagruti Nagaonkar	Date: 20.1.23
Checked By:	Date: 23.1.23

**Course Outcomes:**

**Lab Outcome:** At the end of this course students should be able to

Co-code	CO
<b>CSL402.1</b>	Design ER/EERdiagram and convert it into relational model for the real life problem
<b>CSL402.2</b>	Apply DDL, DML, DCL, TCL commands .
<b>CSL402.3</b>	Write Simple and complex queries.
<b>CSL402.4</b>	Use PL/SQL construct
<b>CSL402.5</b>	Demonstrate the concept of concurrent transaction execution and front end and Back End concurrency

List of Experiments:

Sr. No.	List of experiments	CO mapping (LAB)				
1	Identify the case study and detail statement of problem. Design an Entity-Relationship (ER) / Extended Entity-Relationship (EER) Model.	CSL402.1				
2	Mapping ER/EER to Relational schema model.	CSL402.1				
3	Create and populate database using Data Definition Language (DDL) and DML Commands for the specified System.	CSL402.2				
4	Perform Simple queries, Date operations.	CSL402.2				
5	Apply Integrity Constraints for the specified system.(Part1,2,3)	CSL402.2				
6	Perform Join operations and Complex queries	CSL402.3				
7	Perform nested sub-queries in SQL	CSL402.3				
8	PL/SQL and procedure.	CSL402.4				
9	Function and Triggers	CSL402.3				
10	Transaction and Concurrency control	CSL402.4				
11	Mini project- Creating a 2/3-tier client-server database applications using JDBC/ODBC	All COs				
CO		BL	C	PI	PO	Mapping
	CSL 402.1 Design ER/EERdiagram and convert it into relational model for the real life problem	L5	1.4	1.4.1	PO1	3

		2.1.	2.1.2	PO2	3
		3.2.	3.2.1	PO3	3
		9.3	9.3.1	PO9	2
		10.1	10.1.1 10.1.2	PO10	2
		11.3	11.3.1	PO11	1
		12.2	12.2.1	PO12	2
<b>CSL 402.2</b> Apply DDL, DML, DCL, TCL commands .	L4,L5	1.4	1.4.1	PO1	3
		2.1.	2.1.2	PO2	3
		3.3	3.3.1	PO3	3
		4.1.	4.1.2	PO4	2
		5.5	5.2.2	PO5	3
		10.1.	10.1.1	PO10	2
		11.3	11.3.1	PO11	1
		12.2	12.2.1	PO12	2
<b>CSL 402.3</b> Write Simple and complex queries.	L4,L5	1.4	1.4.1	PO1	3

		2.1.	2.1.2	PO2	3
		3.3	3.3.1	PO3	3
		4.1.	4.1.2	PO4	2
		5.5	5.2.2	PO5	3
		10.1.	10.1.1	PO10	2
		11.3	11.3.1	PO11	1
		12.2	12.2.1	PO12	2
CSL 402.4 Use PL/SQL construct	L3,L4	1.4	1.4.1	PO1	3
		2.1.	2.1.2	PO2	3
		3.3	3.3.1	PO3	3
		4.1.	4.1.2	PO4	2
		5.5	5.2.2	PO5	3
		10.1.	10.1.1	PO10	2
		11.3	11.3.1	PO11	1
		12.2	12.2.1	PO12	2
<b>CSL 402.5</b> Demonstrate the concept of concurrent transaction execution and front end and Back End concurrency	L1,L2,L4	1.4	1.4.1	PO1	3
		2.1.	2.1.2	PO2	3
		3.3	3.3.1	PO3	3

		4.1	4.1.1	PO4	2
		5.2	5.2.2	PO5	2
		9.2	9.2.3	PO9	2
		10.1	10.1.1	PO10	1
		11.3	11.3.1	PO11	1

### Mapping of CO and PO/PSO

Relationship of course outcomes with program outcomes: Indicate 1 (low importance), 2 (Moderate Importance) or 3 (High Importance) in respective mapping cell.

	PO1 (Engg Know)	PO2 (Ana)	PO3 (De sign)	PO4 (inve stiga)	PO5 (tools)	PO6 (engg Soci)	PO7 (Env)	PO8 (Eth)	PO9 (ind/ Team)	PO10 (comm.)	PO11 (PM)	PO12 (Life Long)
<b>CSL402.1</b>	3	3	3						2	2	1	2
<b>CSL402.2</b>	3	3	3	2	3				2	2	1	2
<b>CSL402.3</b>	3	3	3	2	3				2	2	1	2
<b>CSL402.4</b>	3	3	3	2	3				2	2	1	2
<b>CSL402.5</b>	3	3	3	2	2				2	2	1	2
Course To PO												
PO ATTAINMENT												

### CO-PSO Mapping:

CO	BL	C	PI	PO	Mapping
<b>CSL 402.1</b>	2	1.1	1.1.1	PSO1	1
<b>CSL402.2</b>	3	1.3	1.3.3	PSO1	1
<b>CSL402.3</b>	3	1.3	1.3.3	PSO1	1
<b>CSL402.4</b>	3	1.3	1.3.3	PSO1	1
<b>CSL 402.5</b>	3	2.1	2.1.2	PSO2	1

	PSO1	PSO2
<b>CSL 402.1</b>	1	-
<b>CSL402.2</b>	1	-
<b>CSL402.3</b>	1	-
<b>CSL402.4</b>	1	-
<b>CSL 402.5</b>	-	1

### CO Measurement Weightages for Tools:

<b>Course Outcomes</b>	<b>Direct Methods (80%)</b>				<b>Indirect Method (20%)</b>
	Lab Performance	Assignments/Post Lab Questions	Miniproject	End Sem Exam (TW)	Course exit survey
CSL402.1	20%	10%	10%	60%	100%
CSL402.2	20%	10%	10%	60%	100%
CSL402.3	20%	10%	10%	60%	100%
CSL402.4	20%	10%	10%	60%	100%
CSL 402.5	10%	20%	10%	60%	100%

### Attainment:

#### CO CSL402.1:

Direct Method

$$A_{\text{CSL402.1D}} = 0.2 * \text{Lab Performance} + 0.1 * \text{Assignment/Post Lab} + 0.1 * \text{Quizzes} + 0.6 * \text{SEE\_TW}$$

Final Attainment:

$$A_{\text{CSL402.1}} = 0.8 * A_{\text{CSL402.1D}} + 0.2 * A_{\text{CSL402.1I}}$$

#### CO CSL402.2:

Direct Method

$$A_{\text{CSL402.2D}} = 0.2 * \text{Lab Performance} + 0.1 * \text{Assignment/Post Lab} + 0.1 * \text{Quizzes} + 0.6 * \text{SEE\_TW}$$

Final Attainment:

$$A_{CSL402.2} = 0.8 * A_{CSL402.2D} + 0.2 * A_{CSL402.2I}$$

### CO CSL402.3:

Direct Method

$$A_{CSL402.3D} = 0.2 * Lab Performance + 0.1 * Assignment/Post Lab + 0.1 * Quizzes + 0.6 * SEE_TW$$

Final Attainment:

$$A_{CSL403.1} = 0.8 * A_{CSL402.1D} + 0.2 * A_{CSL403.1I}$$

### CO CSL402.4:

Direct Method

$$A_{CSL402.4D} = 0.2 * Lab Performance + 0.1 * Assignment/Post Lab + 0.1 * Quizzes + 0.6 * SEE_TW$$

Final Attainment:

$$A_{CSL402.4} = 0.8 * A_{CSL402.4D} + 0.2 * A_{CSL402.4I}$$

### CO CSL402.5:

Direct Method

$$A_{CSL402.5D} = 0.1 * Lab Performance + 0.2 * Assignment/Post Lab + 0.1 * Quizzes + 0.6 * SEE_TW$$

Final Attainment:

$$A_{CSL402.5} = 0.8 * A_{CSL402.5D} + 0.2 * A_{CSL402.5I}$$

## Resources

- 1) <https://www.db-book.com/db6/slide-dir/index.html> - **Korth, Silberchatz, Sudarshan, 6th Edition**
  - 2) <http://www.tutorialspoint.com/>
  - 3) <https://www.w3schools.com/sql/default.asp>
  - 4) <http://www.mysqltutorial.org/> or <https://www.tutorialspoint.com/postgresql/>
  - 5) <https://academy.vertabelo.com/course/standard-sql-functions#>
  - 6) [www.postgresqltutorial.com/postgresql-grouping-sets/](http://www.postgresqltutorial.com/postgresql-grouping-sets/)
  - 7) [www.postgresqltutorial.com](http://www.postgresqltutorial.com)
  - 8) <https://www.freeprojectz.com/entity-relationship-diagram>
  - 9) [https://www.w3schools.com/sql/sql\\_any\\_all.asp](https://www.w3schools.com/sql/sql_any_all.asp)
  - 10) <https://www.geeksforgeeks.org/sql-all-and-any/>
- [Data Base Management System - Course \(nptel.ac.in\)](https://www.nptel.ac.in/courses/106/10610001/)