Course Code				**23CAMIP231**			
Title of the Course				**DATABASE MANAGEMENT SYSTEM LAB**			
Offered to: (Programme/s)				**B. A Hons. (Economics)**			
L	**0**	**T**	**0**	**P**	**2**	**C**	**1**
Year of Introduction:		**2024-25**		**Semester:**			**3**
Course Category:		**Minor Practical**		**Course Relates to:**		**Global / National / Regional / Local**	
Year of Revision:				**Percentage:**			
Type of the Course:				**Skill Development / Employment**			
Cross cutting Issues of the Course :							
Pre-requisites, if any				**Knowledge in DBMS concepts and PL/SQL syntax**			

Course Description:

The objective of course is to provide students with practical experience in Database Management System using SQL and PL/SQL. Students will learn to create and manage database objects, perform data manipulation and retrieval, implementing queries and applying PL/SQL programs.

Course Aims and Objectives:

S.NO	COURSE OBJECTIVES
1	Introduce fundamental concepts and syntax of SQL.
2	Proficiency in writing and executing SQL queries to interact with a database.
3	Competence in manipulating and managing data within a database.
4	Ability to optimize database performance through query optimization techniques.
5	Understanding and managing data with the help of Programming Languages.

Course Outcomes

At the end of the course, the student will be able to…

CO NO	COURSE OUTCOME	BTL	PO	PSO
CO1	Implementing DDL commands in SQL by creating, inserting and selecting tables.	K2	1,2,7	
CO2	Performing data manipulation operations using DML commands.	K3	1,2,7	
CO3	Understand and implement various types of joins.	K3	1,2,7	
CO4	Execute basic commands in PL/SQL.	K3	1,2,7	
CO5	Implement procedures in PL/SQL.	K3	1,2,7	

CO-PO MATRIX									
CO NO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	1	2					2		
CO2	2	2					2		
CO3	1	2					2		
CO4	2	3					3		
CO5	2	3					3		

Use the codes 3, 2, 1 for High, Moderate and Low correlation Between CO-PO-PSO respectively

Course Structure

This lab list covers the key areas of Database Management System Lab course, providing hands-on practice with basics on PL/SQL.

List of Experiments

SQL :

Unit-I: Implementing DDL commands in SQL **(4 Hours)**

Lab 1:

Exercise 1: Creating Tables

1. Create a table to understand basic table creation.

Tasks:

- Create a table Employee with columns: Employee_ID, First_Name, Last_Name, Hire_Date, and Department_Name.
- Create a table Project with columns: Project_ID, Project_Name, and Start_Date.

Execute following commands:

1. Display all the information of the EMP table?
2. List the emps in the asc order of their Salaries?
3. List the details of the emps in asc order of the Dptnos and desc of Jobs?
4. Display all the unique job groups in the descending order?
5. List the emps who joined before 1984.

2. Create a table to understand basic table creation.

Tasks:

- Create a table Course with columns: Course_ID, Course_Name, College_Name, CourseStart_Date, and CourseEnd_Date.
- Create a table College with columns: College_ID, College_Name, and College_Address.

Execute following queries:

1. Retrieve the list of coursenames, college and the address of all the courses.
2. List all the colleges which are located in 'Mumbai' or 'Bangalore'.
3. List the various courses available from the college table.
4. Find the names of colleges who have courses in B.A.
5. List the names of all colleges having 'a' as the second letter in their names.
6. List all courses whose College Name is in Vijayawada..
7. List the colleges who stay in the address whose first letter is 'M'.

Unit-III Implementing Primary Key and Foreign Key Constraints (6 Hours)

Lab 3:

Exercise 3:

Defining Tables with Primary and Foreign Keys

1. **Objective:** Learn to create tables with primary key and foreign key constraints to ensure referential integrity.
2. **Tasks:**

1. Table Name: Client- Master

Description: Used to store client information

Column Name	Data Type	Size	Attribute
CLIENT_NO	Varchar2	6	Primarykey
NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESSS	Varchar2	30	
CITY	Varchar2	15	
PINCODE	Varchar2	8	
STATE	Varchar2	15	
BAL_DUE	Number	10,2	

2. Table Name: Product_Master

Description: Used to store product information

ColumnName	Data Type	Size	Attribut e
PRODUCT_NO	Varchar2	6	Primarykey
DESCRIPTION	Varchar2	15	Not null
PROFIT _PERCENT	Number	4,2	Not null
UNIT_MEASUE	Varchar2	10	
QTY_ON_ HAND	Number	8	
REORDER_LVL	Number	8	
SELL_PRICE	Number	8,2	Not null, cannot be 0
COST _PRICE	Number	8,2	Not null,cannot be 0

Solve the following queries by using above tables.

1. Retrieve the list of names, city and the state of all the clients.
2. List all the clients who are located in 'Mumbai' or 'Bangalore'.
3. List the various products available from the product_master table.
4. Find the names of salesman who have a salary equal to Rs.3000.
5. List the names o fall clients having 'a' as the second letter in their names.
6. List all clients whose Baldue is greater than value 1000.
7. List the clients who stay in a city whose first letter is 'M'.

https://livesql.oracle.com/apex/livesql/file/content_O5AEB2HE08PYEPTGCFLZU9YCV.html

Unit-IV Implementing Joins and Views (6 Hours)

Lab 4:

Exercise 4:

Tasks:

Task I :

1. List the total information of EMP table along with DNAME and Loc of all the emps Working Under 'ACCOUNTING' & 'RESEARCH' in the asc Deptno.
2. Display the Empno, Ename, Sal, Dname, Loc, Deptno, Job of all emps working at CJICAGO or working for ACCOUNTING dept with Ann Sal>28000, but the Sal should not be=3000 or 2800 who doesn't belongs to the Mgr and whose no is having a digit '7' or '8' in 3rd position in the asc order of Deptno and desc order of job.
3. Display the total information of the emps along with Grades in the asc order.
4. List the Empno, Ename, Sal, Dname, Grade, Exp, and Ann Sal of emps working for Dept 10 or20.

Task II:

1. Create a simple view to display specific columns from a table.

Task: Create a view named Employee_View that displays Employee_ID, First_Name, and Last_Name from the Employees table.

2. Create a view that joins multiple tables.

Task: Create a view named Employee_Department_View that displays Employee_ID, First_Name, Last_Name, and Department_Name by joining the Employees and Departments tables.

Unit 5: PL/SQL blocks (4 Hours)

Lab 5: basic PL/SQL programs
Exercise 5:

1. Write a PL/SQL program to check the given string is palindrome or not.
2. Write a PL/SQL program to display top 10 rows in Emp table based on their job and salary.
3. Create a procedure to update the salaries of Employees by 20%, for those who are not getting commission

References:

1. Nilesh Shah. (2011). *Database Systems Using ORACLE* (2nd ed.). PHI
2. https://www.youtube.com/playlist?list=PLL_LQvNX4xKyiExzq9GKwORoH6nvaRnOQ

References:

1. **Database Management Systems, 3rd Edition , Raghurama Krishnan, Johannes Gehrke, TMH.**
2. **Database System Concepts,5th Edition , Silberschatz, Korth, TMH.**

Web Resources:

Prof. Partha Pratim Das,Department of Computer science and Engineering,IIT Kharagpur.

https://www.youtube.com/watch?v=OMHbGm9SQuE&list=PLZ2ps__7DhBYc4jkUk_yQAjYEVFzVzhdU&index=1

23CAMIP231 : **Data Base Management system Lab**

Offered to: B. A. Hons (Economics) **Semester: V**
Max. Marks : 50 (CIA: 15 + SEE: 35) **Hrs/Week: 2**

Model Paper : Practicals

Time: 3 Hrs. **Max. Marks: 35**

Section – A

1. Experiment-1 15 M
2. Experiment-2 10 M

Section – B

Viva Voce 10 M

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