PUNE INSTITUTE OF COMPUTER TECHNOLOGY
DHANKAWADI, PUNE –43

SCHEDULE OF LAB EXPERIMENTS

ACADEMIC YEAR: 2020- 2021

DEPARTMENT : **COMPUTER ENGG** DATE : **01/08/2020**

CLASS : **T.E** SEMESTER : **I**

SUBJECT : **Database Management System Lab**

LAB Expt.No.	PROBLEM STATEMENT	LAST DATE FOR COMPLETION
	Group A Assignments (Mandatory) **Database Programming Languages – SQL, PL/SQL**	
1.	Study of Open source relational database: MySQL	1st week of August-2020
2.	Design and Develop SQL DDL statements which demonstrate the use of SQL objects such as creation of: Table, View, Index, Sequence, Synonym.	4th week of August-2020
3.	Design at least 10 SQL queries for suitable database application using SQL DML statements: Insert, Select, Update, Delete with operators, functions and set operators.	3rd week of August-2020
4.	Design at least 10 SQL queries for suitable database application using SQL DML statements: All types of join, sub-query and View.	4th week of August-2020
5.	**Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory.** Write a PL/SQL block of code for the following requirements:- Schema: Customer(Cust_id,Name, DateofPayment, NameofScheme, Status) Fine(Cust_id, Date, Amt) 1. Accept Cust_id & name of scheme from user. 2. Check the number of days (from date of payment), if days are between 15 to 30 then fine amount will be Rs 5per day. 3. If no. of days>30, per day fine will be Rs 50 per day & for days less than 30, Rs. 5 per day. 4. After payment, status will change from N to P. 5. If condition of fine is true, then details will be stored into Fine table.	1st week of September-2020
6.	**Cursors: (All types: Implicit, Explicit, Cursor FOR Loop, Parameterized Cursor)** Write a PL/SQL block of code using parameterized Cursor,	2nd week of September-2020

	that will merge the data available in the newly created table N_EmpId with the data available in the table O_EmpId. If the data in the first table already exist in the second table then that data should be skipped.	
7.	**PL/SQL Stored Procedure and Stored Function.** Write a Stored Procedure namely proc_Grade for the categorization of customer. If purchase by customer in year is <=20000 and >=10000 then customer will be placed in platinum category. If purchase by customer is between 9999 and 5000 category is gold, if purchase between 4999 and 2000 category is silver. Write a PL/SQL block for using procedure created with above requirement. Customer(Cust_id,name, total_purchase) Category(Cust_id,Name,Class)	3rd week of September-2020
8.	**Database Trigger (All Types: Row level and Statement level triggers, Before and After Triggers).** Write a database trigger on Student table. The System should keep track of the records that are being updated or deleted. The old value of updated or deleted records should be added in Alumni table. Student(Rollno,Name,DateofAdmission,branch, percent,Status)	3rd week of September-2020
	Group B Assignments (At least 4) **Large Scale Databases**	
1.	Study of Open Source NOSQL Database: MongoDB (Installation, Basic CRUD operations, Execution)	4th week of September-2020
2.	Design and Develop MongoDB Queries using CRUD operations. (Use CRUD operations, SAVE method, logical operators)	2nd week of October-2020
3.	Implement aggregation and indexing with suitable example using MongoDB.	3rd week of October-2020
4.	Implement Map reduces operation with suitable example using MongoDB.	3rd week of October-2020
5.	Design and Implement any 5 query using MongoDB	2nd week of October-2020
6.	Create simple objects and array objects using JSON	4th week of October-2020
7.	Encode and Decode JSON Objects using Java/Perl/PHP/Python/Ruby	4th week of October-2020
	Group C Mini Project : Database Project Life Cycle	
1.	Write a program to implement MogoDB database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit etc.) using ODBC/JDBC.	1st week of November-2020
2.	Implement MYSQL/Oracle database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit,) using ODBC/JDBC.	1st week of November-2020
3.	Using the database concepts covered in Part-I & Part-II &	2nd week

	connectivity concepts covered in Part C, students in group are expected to design and develop database application with following details: Requirement Gathering and Scope finalization Database Analysis and Design: • Design Entity Relationship Model, Relational Model, Database Normalization Implementation : • Front End : Java/Perl/PHP/Python/Ruby/.net • Backend : MongoDB/MYSQL/Oracle • Database Connectivity : ODBC/JDBC Testing : Data Validation Group of students should submit the Project Report which will be consist of documentation related to different phases of Software Development Life Cycle: Title of the Project, Abstract, Introduction, scope, Requirements, Data Modeling features, Data Dictionary, Relational Database Design, Database Normalization, Graphical User Interface, Source Code, Testing document, Conclusion. Instructor should maintain progress report of mini project throughout the semester from project group and assign marks as a part of the term work	of November-2020
	Question -Answer session with students about all above experiments	At the end of Term

Subject Coordinator
(Prof.Pranjali P. Joshi)

Head Computer Engg. Department
(Prof. M. S. Takalikar)