# 19IT31P1 - ADVANCED DATABASE SYSTEMS LABORATORY

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Category:** | Program Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture - Tutorial - Practical:** | 0-0-3 |
| **Prerequisite:** | Students need to have basics of mathematics and basic logic building skills. | **Sessional Evaluation:****Univ.Exam Evaluation:****Total Marks:** | 4060100 |
| **Objectives** | * To assess and apply database functions and packages suitable for enterprise database development.
 |

|  |  |
| --- | --- |
| **Course Outcomes** | Upon successful completion of the course, the students will be able to: |
| CO1 | Create databases for database-driven applications.  |
| CO2 | Apply transaction management for suitable case study.  |
| CO3 | Implement query processing and optimization. |
| **Course Content** | 1. Create a Database for an Organization and create the following tables in the Organization Database:

Employee(EMP\_ID(PK),FIRST\_NAME,LAST\_NAME,SALARY, JOINING\_DATE, DEPARTMENT) Bonus (EMP\_REF\_ID(FK EMP\_ID),BONUS\_AMOUNT,BONUS\_DATE) Title (EMP\_REF\_ID(FKEMP\_ID),EMP\_TITLE,AFFECTED\_FROM) Insert a minimum of 50 records in each table.1. Retrieve the following information from the Organization database:
	1. SQL query to fetch “FIRST\_NAME” from Employee table using the alias name as <Employee NAME>.
	2. SQL query to fetch “FIRST\_NAME” from Employee table in uppercase.
	3. SQL query to fetch unique values of DEPARTMENT from Employee table.
	4. SQL query to print the first three characters of FIRST\_NAME from Employee table.
	5. SQL query to print all Employee details from the Employee table order by FIRST\_NAME Ascending and DEPARTMENT Descending.
	6. SQL query to fetch the count of employees working in the department ‘Admin’.
	7. SQL query to fetch Employee names with salaries >= 50000 and <= 100000.
	8. SQL query to print details of the Workers who are also Managers.
2. Design and create database for a social networking website like facebook that allows various users to connect as friends.
	1. Users can send friend request to each other.
	2. Users can send message to each other.
	3. Users can post on their timeline in various formats like video, images,etc.
	4. Users can comment or like on other user’s post.
3. Design and create a database consists of events organized in various countries of different continents. Follow all the requisite steps to design and create the database.
	1. Based on the database create a stored procedure to find the countries in a particular continent.
	2. Create a stored procedure to find an event on a particular date of a particular country.
	3. Create a stored procedure to add a particular event on Chrismas Day in USA.
	4. Create a stored procedure to delete/update a particular event in a particular country of a continent.
	5. Perform the following actions using appropriate transaction control statement:
		1. Insert the record of a newly employed manager and commit the changes.
		2. Revert the change of accidently deleting the record of employees having age >30.
	6. Install Oracle10g/11g on Linux operating system (Ubuntu/Red Hat preferably).
	7. Analyze all the commands needed for installation and setup of Oracle database server.
	8. Start oracle instance using different startup modes.
	9. Shutdown oracle instance using different shutdown modes.
 |
| **Text Books and References:** | Text Books:1. Peter Norton “Introduction to Computers”, McGraw Hill Publishers, 7th Edition 2011.
2. ORACLE DATA BASE LOG PL/SQL Programming SCOTT URMAN, Tata Mc- Graw Hill.
 |
| Reference Books:1. Oracle Database 12C Hands-on SQL and PL/SQL Paperback – Import, 29 Feb 2016 by Satish Asnani.
2. Oracle Pl/Sql Programming:A Developer's Workbook, Steven Feuerstein , Andrew Odewahn
 |
|  **E-Resources** | 1. <https://nptel.ac.in/courses>
2. <https://freevideolectures.com/university/iitm>
3. <https://www.bu.edu/csmet/files/2014/10/Oracle-Installation-Guide-V32.pdf>
 |