GOVERNMENT OF TAMILNADU
DIRECTORATE OF TECHNICAL EDUCATION,CHENNAI
STATE PROJECT COORDINATION UNIT
(Established under Canada India Institutional Cooperation Project)

CURRICULUM

Course Name	**Oracle DBA SQL and PL/SQL**
Course Code	CSE/2020/014
Course Duration	50 Hours
Minimum Eligibility Criteria and Pre-requisites(if any)	ITI/10th/+2/Diploma/Graduates Basics concepts of database
Course Objectives	The main objective of the course is to: ● Understand fundamental Concepts in oracle. ● Enhance the knowledge and understanding of Database analysis and design ● Enhance Programming and Software Engineering skills and techniques using SQL.
Course Outcomes	At the end of training, the participants will be able to ● Install and work with oracle ● Create tables and work with the tables ● Develop applications using oracle as backend.
Expected Job Roles	Database Admin,Web Developer

TEACHING AND SCHEME OF EXAMINATION						
Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
CSE/2020/014	Oracle DBA SQL and PL/SQL	Theory	15	10	20	3 Hours
		Practical	35	40	80	
		Total	50	50	100	

CSE/2020/014 - Oracle DBA SQL and PL/SQL
DETAILED SYLLABUS

UNIT NO	MODULES	NO.OF.HOURS THEORY
I	INTRODUCTION TO DATABASE	
1.1	• Fundamentals of database • Understanding DBMS vs RDBMS • Gone through SQL Standards • Sub languages of SQL Appeal of Big Data Technology • About SQL*Plus and use of developer tool • Data types in Oracle • Operators in Oracle • Understanding Schema design and objects	3
II	DATA RETRIEVAL TECHNIQUES	
2.1	• How to use select statement in different ways to retrieve records? • Working with Column alias • Working with Table alias • Data filtering and sorting with in single table • Clauses and its types in oracle	3
III	WORKING WITH DDL &DML COMMANDS	
3.1	• Create , Drop, Alter,Modify,Rename,Truncate,Drop Commands • Insert,Update,Delete	3
IV	INTEGRITY CONSTRAINTS &BUILT IN FUNCTIONS	
4.1	• Column level constraints- row level constraints • Types of integrity constraints • Not null-Unique key- Primary key- Referential integrity • -Check integrity- Working with aggregate function • Working with group by clause • Working with having clause • Difference between WHERE and HAVING clause	3
V	IMPORTANCE OF JOINS AND SUB QUERIES	
5.1	• Understanding joins and its uses • Types of joins-Equi join-Non – equi join- Self join-Left & Right outer join- Full outer join- Cross join • Importance of sub queries, Using different types of sub queries • Single row sub queries, Multi row sub queries, Nested queries, Multi column sub queries, Correlated sub queries	3
	Total Theory Hours	**15**
	Total Practical Hours	**35**
	Total Hours	**50**

PRACTICAL (35 HOURS)

1. Installing oracle 11g in windows machine.
2. Implement DDL commands in a table
3. Create a table and implement DML command ‘insert’ to insert some values to the table.
4. Create a table and implement DML command update and delete to perform some operations in table
5. Use column aliases and table aliases in a table for selecting rows.
6. Sort the content of table using order by clause.
7. Create a table using primary key constraints.
8. Create a table using both primary key and foreign key constrains.
9. Create a table and insert some values into them. Use the group by and having clause to arrange the table content.
10. Create two or more tables. by using joins. Join the tables and display the result.
11. Create tables and perform Single and multiple rows sub queries
12. Create table and execute any 5 of the Built-in factions.

HARDWARE REQUIREMENT

S.NO	LIST OF TOOLS /EQUIPMENTS
1.	Personal Computers for individual with keyboard and mouse

SOFTWARE REQUIREMENT

S.NO	LIST OF SOFTWARE
1	Oracle 11g in windows

REFERENCE BOOKS

S.NO	NAME OF THE BOOK	AUTHOR	PUBLISHER
1	Database Management Systems	Alexis Leon & Mathews Leon	Vikas Publishing
2	Database System Concepts	Avi Silberschatz Henry F. Korth S. Sudarshan	McGraw Hill Education; Sixth edition

ASSESSMENT AND CERTIFICATION

S.No	Criteria for assessment
1.	A trainee will be assessed based on the performance in End Examination for Theory and Practical conducted internally in the Project Polytechnic College for a duration of 3 hours
2.	A trainee must have 75% of attendance to appear for End examination in Theory and Practical.
3.	The assessment for theory part will be based on the marks scored in the end examination on the knowledge bank of questions (1 word/objective type questions)
4.	The assessment for practical part will be based on the marks scored in the end examination conducted by the Project Polytechnic and assessed by the Examiners approved by Strategic Plan Implementation Committee (SPIC) of the project polytechnic.
5.	The criteria for successful completion of training is every trainee should score 50% of marks in theory and practical examination.
6.	On successful completion of training , Certificate will be issued to the participants by the Directorate of Technical Education through the Project Polytechnic.

END EXAMINATION

ALLOCATION OF MARKS

S.No	Description	Max.Marks
1.	Theory Examination	20
2.	Practical Examination	
	a)Procedure	10
	b)Execution	30
	c)Output	20
	d)Record	20
	Total Marks	**100**

THEORY MODEL QUESTION PAPER

CSE/2020/014 - Oracle DBA SQL and PL/SQL

(Maximum Marks : 20)

(N.B: Answer any **twenty** questions) **20 x 1 = 20 Marks**

1. What is a Database?
2. Expand DBMS.
3. How oracle database variable length column is declared?
4. Which type of data is stored in DBMS?
5. What is a primary key?
6. Expand FAT.
7. How the data can be retrieved?
8. What DBA referred as?
9. How Rows of a relation is called?
10. What command is used for data manipulation
11. What is the need for TRUNCATE Statement in SQL?
12. What is a Stack?
13. What language used application programs to request data from the DBMS?
14. Name any one feature of database.
15. Which language uses application programs to request data from the DBMS?
16. What is DDL?
17. What is DML?
18. What is Integrity Constraints?
19. What is Referential integrity?
20. What is the need for 'HAVING' clause?
21. What is Equi join?
22. Which is a join condition contains an equality operator?
23. Which operation is allowed in a join view?
24. Which view that contains more than one table in the top-level FROM clause of the SELECT statement?
25. Which product will return in a join query have no join condition?