

Course: 303 : Relational Database Management System

Course Code	303
Course Title	Relational Database Management System
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2015
Purpose of Course	Give fundamental knowledge of Relational Database. The course also includes SQL & PL/SQL.
Course Objective	<ol style="list-style-type: none"> 1. To make students understand Oracle architecture 2. To make students understand various components of database like Index Triggers etc. 3. To make students understand the importance of database in real world applications. 4. To make students aware of extracting the data in different ways.
Pre-requisite	Basic knowledge of Database Management System (DBMS) .
Course Out come	After learning this subject students will know how to store, retrieve and administer the data easily & efficiently.
Course Content	<p>Unit 1. Codd's Rules</p> <p>Unit 2. SQL</p> <ol style="list-style-type: none"> 2.1. Oracle Data Types 2.2. Oracle DDL(Create Table, Alter Table ,Drop Table) , DML(Insert, Update, Delete, Select) and TCL(Commit ,Rollback, SavePoint) Statements with integrity constraints. 2.3. Special Operators(in, not in, exist, like) 2.4. Oracle Functions <ol style="list-style-type: none"> 2.4.1. Scalar functions(String Functions, Numeric Functions, Date Functions, Conversion Functions) 2.4.2. Aggregate Functions 2.5. Range Searching and Pattern Matching 2.6. Manipulating Dates 2.7. Joins <ol style="list-style-type: none"> 2.7.1. Inner Join 2.7.2. Outer Join(Left, Right, Full) 2.7.3. Cross Join 2.8. Sub Queries 2.9. Using Union, Intersection and Minus Clause 2.10. Indexes (Create index, Drop Index, Types of Index) 2.11. Views (Read-only view, Updatable view) 2.12. Sequences <p>Unit 3. PL/SQL</p> <ol style="list-style-type: none"> 3.1. PL/SQL Block Structure <ol style="list-style-type: none"> 3.1.1. Using Variables, Constants and Data Type 3.1.2. User Defined Record 3.1.3. Assigning Values to Variables 3.1.4. Control Statements(IF...THEN statement, Loop, FOR...Loop, While Loop)

	<p>3.2. Cursor (Explicit, Implicit)</p> <p>3.3. Error handling in PL/SQL</p> <p>3.3.1. Inbuilt Exceptions</p> <p>3.3.2. User Defined Exception</p> <p>3.4. Stored and Local Procedures & Functions</p> <p>Unit 4. Database Triggers</p> <p>4.1. Definition of Trigger</p> <p>4.2. Statement level Triggers</p> <p>4.3. Row level Triggers</p> <p>Unit 5. Database Packages</p> <p>5.1. Introduction</p> <p>5.2. Components of Package</p> <p>5.3. Create and Invoke Package</p>
Reference Book	<ol style="list-style-type: none"> 1. The Complete Reference, George Koch, Kevin Loney – Oracle Press 2. Database Management System, Oracle, SQL and PL/SQL, 2nd ed., Das Gupta & Radha Krishna, PHI 3. Oracle 9 PL/SQL Programming, Scott Urman – Oracle Press 4. Oracle SQL: The Essential Reference, David C. Kreines – O’Reilly 5. SQL, PL/SQL: The Programming Language Of Oracle, Ivan Bayross – BPB 6. Oracle PL/SQL Programming – Feuerstein & Peribyl – SPD O’Reilly 7. Learning Oracle SQL and PL/SQL: A Simplified Guide, Chatterjee – PHI
Teaching Methodology	Class Work, Discussion, Self Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.