C. U. Shah University, Wadhwan City

Faculty of Computer Science

Name of Program: Master of Science Information Technology

(Web Technology)

Semester : II

w.e.f. June - 2016

Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							Total Marks
								Theory				Practical			
			Th	Tu	Pr	Total		Sessional Exam		University Exam		Internal		Uni.	
								Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
4	5CS02WDB1	Advanced Database Management	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Objectives: The objective of Advanced Database Management System course is to train studentsin becoming proficient Development.

Pre-requisites: All Advanced Database Management Systemclass attendees must be fluent in Database concept. The course can be customized to any level ofprogramming and relational database familiarity.

Course outline:

Ch. No.	Chapter Name	Course Contents	Lect. Hours
1	**Database Concepts**	Database, Introduction to DBMS and RDBMS, Dr. E. F. Codd rules, DBMS V/S RDBMS, Normalization(1st NF, 2nd NF, 3rd NF, BCNF, 4th NF, 5th NF)	4
2	**Introduction to SQL *Plus**	Introduction to SQL, Introduction to SQL *Plus, SQL *Plus Formatting Commands, Data types, Operator and Expression, SQL v/s SQL *Plus	4
3	**Managing Tables and Data**	Data Definition Language (DDL) commands (Create, Alter, and Dropping tables), Different types of Data Constraints and applying of Constraints, Data Manipulation Language (DML) commands (Insert, Update, Delete and Truncate), Select Statement with WHERE, DISTINCT, ORDER BY, GROUP BY and HAVING clause, Special Operators(IN and NOT IN, ANY, BETWEEN, EXISTS, ALL AND LIKE)	7
4	**Join, Sub-Queries and Built-in functions**	Introduction to Join, Types of Join (Inner, Outer, Self and Cross), Set Operators (UNION, INTERSECT AND MINUS), Sub-Queries, Built-in Functions (Numeric, Aggregate, String, Date and Conversion)	4

5	**Data Control and Transaction Control Command**	Creating user, Privileges (System and Object), Use of Data Control Language (DCL) commands (GRANT and REVOKE), Roles, Introduction to Transaction, How to Starting and Ending of Transaction, Transaction Control Language (TCL) Commands (Commit, Rollback and Savepoint)	3
6	**Database Objects**	View, Sequence, Synonyms, Database Links, Index (B-Tree index, Bitmap index)	4
7	**Introduction to PL/SQL**	Introduction to PL / SQL, SQL V/S PL / SQL, PL / SQL Block Structure, Character Set, Comment Lines, Simple PL / SQL Block, Variable and Constant, Conditional Statement, Looping Statement, GOTO Statement, %TYPE and %ROWTYPE Attributes, Difference between %Type and %ROWTYPE, Cursor (Implicit, Explicit), ExceptionHandling	10
8	**Advanced PL/SQL**	Sub Program (Procedure and function), Package, Trigger, Creating Object, Collection (Index-By Table(PL / SQL Table), Nested Table, Varray)	10
9	**Oracle Database Structure**	Oracle Instance Architecture(Database Processes, Memory Structure, Data files), Control Files, Redo Logs files, Tablespace, Rollback Segment,Oracle Blocks, Import, Export, SQL *Loader	6
10	**Backup & Recovery**	Backup & Recovery, Types of Backups (Control File, Redo Log File, Cold, Hot), What is Net 8?, Listener, Dispatcher	3
		TOTAL	**55**

Teaching Methodology:

Revision, Paper Solving, Seminar, Expert Talk, MCQ Quiz, Viva Test, Programming Test

Learning Outcomes:

At the end of the course, students will have basic understanding of the Database Development and able tocreate and analyze Database for any Application.

Books Recommended:

1. RDBMS Using Oracle – Bharat & Co. [ISBN No. : 978-93-81786-38-3]

2. SQL, PL/SQL The programmingLanguage of ORACLE - Ivan Bayross - BPB [ISBN No. : 81-7656-964-X]

4. Oracle 8I The Complete Reference - George Koch, Kevin Loney - Oracle Press and Tata MacGraw-Hill

5. Database Concepts SQL & PL/SQL Programming- NiravPrakashan – [ISBN No.: 978-93-81060-38-4]

6. Teach Yourself PL/SQL in 21 Days – Jonathan Gennick, Tom Luers [ISBN No. :0-672-31798-2]