C. U. Shah University, Wadhwan City

Faculty of Computer Science

Name of Program: Bachelor of Computer Application (BCA)

Semester : V

W.e.f. June-2015

Teaching & Evaluation Scheme

Sr. No	Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
								Theory				Practical			Total Marks
								Sessional Exam		University Exam		Internal		Uni.	
			Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr	TW	Pr	
2	4CS05BDB1	Advanced Database Management System	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Objectives: The objective of Advanced Database Management System course is to train students in becoming proficient Development. Pre-requisites: All Advanced Database Management System class attendees must be fluent in Database concept. The course can be customized to any level of programming and relational database familiarity.

Course outline:

Ch. No.	Chapter Name	Topics	Lect. Hours
1	DBMS Overview	Introduction to DBMS & RDBMS, Dr. E. F. Codd Rules, Importance of E-R Diagram in RDBMS, Normalization	4
2	SQL, SQL *Plus	Introduction to SQL, SQL Commands and Datatypes, Introduction to SQL *Plus, SQL *Plus Formatting Commands, Operator and Expression, SQL v/s SQL *Plus	4
3	Managing Tables and Data	Creating, Altering & Dropping tables, Data Manipulation Command like Insert, Update, Delete, Different type of constraints and applying of constraints, SELECT statement with WHERE, GROUP BY and HAVING, ORDER BY, DISTINCT, Special operator like IN, ANY, ALL, BETWEEN, EXISTS, LIKE, JOIN (Inner, Outer, Self), Subquery, minus, intersect, union, Built in function, Numeric Function (abs, ceil, cos, decode, exp, floor, greatest, least, max, min, rem, round, sign, sqrt, trunk), Character Function (chr, concat, initcap, lower, lpad, ltrim, replace, rpad, rtrim, substr, trim, upper), Date Function (add_months, last_day, months_between, next_day, round(date), sysdate, systimestamp, trunk(date), to_date, to_char), Aggregate Function (Sum, Count, AVG, MAX, MIN, Count (*))	10

4	Other ORACLE Database Objects	View, Sequence, Synonyms, Database Links, Index (B* Tree, Bitmap, Function-Based, Application Domain), Cluster, Snapshot	10
5	Data Control and Transaction Control Command	Creating user & role, Grant, Revoke command, What is Transaction? , Starting and Ending of Transaction, Commit, Rollback, Savepoint	3
6	Concurrency control using lock	What are Locks?, Locking Issues (Lost Updates, Pessimistic Locking, Optimistic Locking, Blocking, Deadlocks), Lock Types (DML Locks, DDL Locks, Manual Locking and User- Defined Locks)	2
7	Introduction to PL/SQL	Introduction to PL/SQL, SQL v/s PL/SQL, PL/SQL Block Structure, Variables, Basic and Composite Data type, Conditions, Looping, %TYPE and %ROWTYPE, Cursor (Implicit, Explicit), Exception Handling	8
8	Advanced PL/SQL	Creating and Using Procedure and Functions, Package, Triggers, Creating Objects, Object in Database-Table, PL/SQL Tables, Nested Tables, Varrays	10
9	Oracle Database Structure	Instance Architecture (Database Processes, Memory Structure, Data files) Creating and Altering Database, Opening and Shutdown Database, Initialization Parameter, Control Files, Redo Logs files, Tablespace (create, alter, drop), Rollback Segment (Create, Alter), 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::			**60**

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 to create 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 programming - Lang.Of Oracle Ivan Bayross - BPB [ISBN No. : 81-7656-964-X]
3. Using Oracle 8i - Page, Hughes - QUE & PHI Publications
4. Oracle 8I The Complete Reference - George Koch, Kevin Loney - Oracle Press and Tata MacGraw-Hill
5. Mastering SQL – Martin Gruber [ISBN No. : 0-7821-2538-7]
6. Teach Yourself PL/SQL in 21 Days – Jonathan Gennick, Tom Luers [ISBN No. :0-672-31798-2]