SARDAR PATEL UNIVERSITY,VallabhVidyanagar
Bachelor of Computer Application || Semester – II
US02CBCA25 :Database Management System - I
(w.e.f June 2018)

Credits : 4   **Lectures per week: 4**
All units carry equal weightage.

Unit 1. Introduction to DBMS
-   Database and DBMS.
-   Basics of databases (Data, Information, field, record, file)
-   Database Management System – meaning, advantages, disadvantages
-   Components of a DBMS
-   Classification of DBMS users , Structure of DBMS
-   Three level Architecture of Database- external, conceptual and internal
-   Data Models concepts: Hierarchical, Network and Relational
-   Relation data models concept, terminologies: tuple, attribute, domain, relation (Definition)
-   Relationships and relationship types
-   Keys: Super Key, Candidate key, primary key, alternate key, foreign key

Unit 2. Structured Query Language-1
-   SQL - introduction , advantages and disadvantages
-   Data types
-   Types of SQL Statements : DDL DML ,DCL), TCL
-   Working with SQL*Plus – overview and basic commands of SQL Plus.
-   Tables: Creation, Removal and Alteration
-   Table Data: insertion, selection, updation, deletion
-   Filtering data using WHERE clause, ordering using order by

Unit 3. Structured Query Language-2
-   Pseudo Columns – Rowid, Rownum, User, Uid, Sysdate
-   Operators – Arithmetic, Relational, Logical, Range Searching, Pattern Matching And Set
-   Null Values, Tab Table, Dual Table
-   Data Constraints
-   Modifying Constraints and Use Of User_Constraints
-   Functions – Introduction, Types Of Functions (Scalar And Aggregate)
-    Scalar : Numeric Functions , Character Functions, Date Functions Conversion Functions
-   Aggregate Fun : Avg, Count, Max, Min, Sum

Unit 4. Structured Query Language-3
-   Grouping using Group by and Having
-   Query and subquery, types of subquery
-   Joining tables, types of joins
-   Creation and manipulation of database objects – indexes, views, sequences and synonym
-   Data control language statements – GRANT and REVOKE
-   Transaction control language statements – COMMIT, ROLLBACK and SAVEPOINT

MAIN REFERENCE BOOKS:
1.   An introduction to Database Systems: Bipin C. Desai, GalgotiaPoblications Pvt. Ltd.
2.   Ivan Bayross : SQL,PL/SQL The programming language of Oracle, 4th edition, BPB Publications

BOOKS FOR ADDITIONAL READING:
1.   Understanding Database Management Systems : S. Parthsarthy and B.W.Khalkar,
2.   First edition – 2007, Master Academy
3.   P. S. Deshpande : SQL/PLSQL for Oracle9i, dreamtech press, reprint edition 2009