

The Maharaja Sayajirao University of Baroda Polytechnic Higher Payment Program Diploma in Computer Engineering			ACADEMIC YEAR 2021-2022		
Year	II	DATABASE MANAGEMENT SYSTEM (CSE3325)	Lecture Hrs per week	4	
Semester	I		Max marks	100	
Pre-requisite: Fundamental computer knowledge, Computer Programming & Utilization					
CO1	Explain the fundamental concepts, functions and users of DBMS, along with schemas, instances and levels of abstraction.				
CO2	Interpret and apply data models including E-R, relational, hierarchical, and network models and perform normalization using various normal forms.				
CO3	Execute SQL queries using DDL, DML, DCL, and DQL to create, modify, retrieve and manage database objects and data effectively.				
CO4	Use constraints, functions and operators and SQL-based permission control (GRANT/REVOKE) to ensure data integrity and protection.				
CO5	Apply advanced SQL operations including group joins, subqueries, indexes, views, cursors, sequences and snapshots for efficient database manipulation.				
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation				
COURSE CONTENT/SYLLABUS					
Unit	Unit Name		Hrs	Weightage	CO
Unit-1	Overview Of DBMS DBMS Concepts, Functions Of DBMS, Advantages Of DBMS, Application of Database System, Database languages, Database Users and Interfaces, Functions of DBA, Architecture of DBMS, Application Architecture, Schema, Instances, Levels of Abstraction		12	22	CO1
Unit-2	Data Models Types of Data Models, E-R model, Relational Model, Network model, Hierarchical Model, Structure of Relational Database, Types of Relations, Keys, Codd’s Rule for RDBMS, DBMS V/S RDBMS, Integrity Constraints, Normalization Fundamentals, Normalization Forms		12	22	CO2
Unit-3	Structure Query Language Advantages Of SQL, Rules For SQL, SQL Delimiters, Components Of SQL, Data Definition Language, Data Manipulation Language, Data Control Language, Data Query Language, Table Fundamentals, Queries of SQL, The Oracle Data Types.		08	14	CO3
Unit-4	Types Of Constraints& Security Data Constraints, I/O Constraints, Business Rule Constraints, Null Value Concept, Not Null, Check Constraint, Security Management Using SQL: Granting & Revoking Permissions.		08	14	CO3, CO4
Unit-5	Operators and Functions Computations done on the table data, Oracle Operations, Range Searching, Pattern Matching, Predicates, Oracle Functions, Dual Table.		08	14	CO3, CO4
Unit-6	Interactive SQL Group by & Having Clauses, Rollup & Cube Operator, Subqueries, Joins, Types of Joins, Indexes, Views, cursors, Sequences, Snapshots, Transaction Control Statements.		08	14	CO3, CO5
			56	100	
REFERENCE BOOKS:					
1.	An Introduction to DATABASE SYSTEM by C.J.Date, A. Kannan, S. Swamynathan, Eighth Edition				
2.	SQL, PL/SQL The Programming Language of ORACLE by Evan Bayross, Fourth Edition				
3.	Commercial application development using oracle developer 2000 by Ivan Bayross				