



LESSON PLAN

Program Name	Computer Engineering
Subject Name	Database Management Systems
Subject Code	ITPC204 & ITPC208
Semester	4 th
Subject Teacher Name	Er. Suneel Kumar

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)	Marks in Evaluation Scheme					
			Internal Assessment			External Assessment		
			Th	Pr	Total	Th	Pr	Total
1.	Database Management Systems	3(Th)+1(DCS)+4(Lab)	40	40	80	60	60	120
Reference Books		(i) An Introduction to Database Systems by C.J. Date, Pearson Education						
		(ii) Database System Concepts by Abraham Silberschatz & Henry F. Korth, McGraw Hill Education						

Course Outcomes (COs)

CO – 1	Understand the basic terminology associated with database management.
CO – 2	Design an optimal database for a given basic application.
CO – 3	Apply normalization techniques while designing databases.
CO – 4	Use SQL commands to carry out various database operations.

Teaching Plan

Unit No.	Name of Topic	Proposed Date	Actual Date	Remarks
1	Introduction	05/02/25		
	Database and its Purpose	05/02/25		
	Comparison of Database Approach with File-based and Traditional Record Keeping Approaches	06/02/25		
	Advantages and Disadvantages of Database Approach	07/02/25		
	Classification of Database Users	13/02/25		
	Role of DBA	14/02/25		
	Revision	15/02/25		
2	Data Models	19/02/25		
	Schemas and Instances	20/02/25		
	ANSI/SPARC Architecture of a Database System	21/02/25		
	External Level, Conceptual Level, Internal Level	22/02/25		

Suneel

	Mappings	27/02/25		
	Data Independence, Logical Data Independence, Physical Data Independence	28/02/25		
	Revision	01/03/25		
3	Relational Database Model, Relations, Attributes, Tuples, Domains; Prime and Non-prime Attributes	05/03/25		
	Key - Primary Key, Candidate Keys, Alternate Keys, Superkey, Secondary Key, Foreign Keys	06/03/25		
	Database Constraints	07/03/25		
	Entity Relationship Model - Entity, Entity Sets, Strong and Weak Entities	12/03/25		
	Attributes, Keys, Association & Relationship	13/03/25		
	Roles & Structural Constraints	15/03/25		
	ER Diagrams	19/03/25		
	Revision	20/03/25		
	CT1	21/03/25		
4	Functional Dependencies, Trivial and Non-trivial Dependencies	22/03/25		
	Non-Loss Decomposition, Normalization	26/03/25		
	First Normal Form	27/03/25		
	Second Normal Form	28/03/25		
	Third Normal Form	29/03/25		
	Boyce-Codd Normal Form	02/04/25		
	Revision	03/04/25		
5	Features of MySQL	04/04/25		
	Table, View, Index, Alias; MySQL Object Naming	05/04/25		
	Database Objects - Database, Keywords, User-defined Variables,	09-10/04/25		
	Data Types - Numeric, Date and Time, String Types	11/04/25		
	Operators: Arithmetic, Logical, Relational	16-17/04/25		
	String; MySQL System Schema, MySQL Database Users and Roles	19/04/25		
	Database Privileges, Access Control and Account Management	23/04/25		
	MySQL Server and MySQL Client	24/04/25		
	Revision	25/04/25		

Amuel

	CT2		
	SQL, DDL Statements : CREATE, DROP, ALTER, RENAME	26/04/25	
	; DML Statements: INSERT, UPDATE, DELETE, SELECT	30/04/25	
	SELECT Clauses - FROM, WHERE, ORDER BY, GROUP BY, HAVING	01/05/25	
	Join Operations - Inner, Left, Right and Outer Joins	02-03/05/25	
	Subqueries, Set Operations - Union, Intersect, Minus	07-08/05/25	
	GRANT and REVOKE Privileges; Transaction Statements - COMMIT, ROLLBACK, SAVEPOINT	09/05/25	
	Prepared Statements	21/05/2025	
	SQL Functions - ABS, ROUND, FLOOR, CEIL, SQRT, POWER, TRUNCATE, LOG, NOW, DATE, TIME, CURDATE, CURTIME, DAY, MONTH, YEAR, DATEDIFF, DATE_SUB, DATE_ADD, DATE_FORMAT	22/05/2025	
6	SQL Functions - CONCAT, LENGTH, UPPER, LOWER, LEFT, RIGHT, LTRIM, RTRIM, MAX, MIN, SUM, AVG, COUNT, CAST, STR TO DATE	23/05/2025	
	Revision	24/05/2025	
		28/05/2025	

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1 & Unit-2	01/03/25		
A-2	Unit-3, Unit-4 & Unit-5	25/04/25		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1 and Unit-2	21/03/25		
Class Test -2	Unit-3 and Unit-4	26/04/25		
House Test - 1	Unit-1, Unit-2, Unit-3, Unit-4 and Unit-5	2 nd Week of May		

Lab Plan

Sr. No.	Name of Practical	Proposed Date		Actual Date		Remarks
		G1	G2	G1	G2	
1	To install and configure MySQL database server on Windows or Linux machines.	03-17/02/25	04-18/02/25			

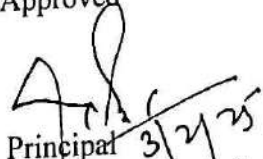
Amal

2	To create database tables having columns with different data types, widths and precisions.	19-24/02/25	20-25/02/25			
3	To alter existing database tables to add new columns, delete existing columns and change column names, data types and widths.	03-10/03/25	04-11/03/25			
4	To apply integrity constraints - PRIMARY KEY, NOT NULL, UNIQUE, CHECK, FOREIGN KEY, to the database tables.	12-19/03/25	13-20/03/25			
5	To insert data in a table having columns of different data types (INSERT statement).	24/03/25	25/03/25			
6	To view the data stored in different tables using the SELECT statement. Apply WHERE, HAVING, ORDER BY and GROUP BY clauses with SELECT.	02-09/04/25	03-10/04/25			
7	To demonstrate join operation on tables using left, right and inner join.	16-28/04/25	17/04-01/05			
8	To demonstrate at least 10 SQL row functions in queries.	05-12/05/25	06-13/05/25			
9	To demonstrate SUM, MAX, MIN, COUNT aggregate functions and also demonstrate the use of HAVING and GROUP BY clauses in SELECT statement.	14/05/25	15/05/25			
10	Case Study : Student Database – The case study project must identify various entities related to the students in a typical academic institution, draw E-R diagrams, Apply Database Normalization, Create Tables, Apply Database Constraints, Insert data, Delete Data and Query the Database etc.	19-28/05/25	20-27/05/25			


(Signature of Teacher)


(Signature of HOD)

Approved


Principal 3/2/25
Govt. Polytechnic for Women Rehan