Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

MAKE UP EXAMINATIONS -DEC 2025

Semester: MK	**Date:** 26-12-2025
Course Code: CSE2012	**Time:** 01;00 PM – 04:00 PM
Course Name: Database Management Systems	**Max Marks:** 100
Program: CSD / CSE	**Weightage:** 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A			
	ANSWER ANY 5 QUESTIONS	**5Q X 4M=20M**	
1	Explain the differences between primary key, foreign key, and unique key in SQL.	(CO 1)	[Knowledge]
2	Describe the different types of relationships in a database (one-to-one, one-to-many, many-to-many) with examples.	(CO 2)	[Knowledge]
3	Compare the concepts of normalization and denormalization in database design.	(CO 2)	[Understand]
4	What are stored procedures, and how do they differ from functions in SQL?	(CO 3)	[Knowledge]
5	What are the advantages and disadvantages of using views in a relational database?	(CO 3)	[Knowledge]
6	Compare the concepts of normalization and denormalization in database design.	(CO 4)	[Knowledge]
7	Explain the difference between a clustered and a non-clustered index in SQL with examples.	(CO 4)	[Knowledge]

PART B			
	ANSWER ANY 5 QUESTIONS	**5Q X 10M=50M**	
8	Describe the different types of attributes in the ER model (simple, composite, derived, and multivalued) with examples.	(CO 1)	[Understand]
9	What are the different types of joins in SQL? Explain NATURAL JOIN, CROSS JOIN, and SELF JOIN with examples.	(CO 1)	[Understand]

10	Explain the concept of deadlock in databases. What are the various deadlock prevention and detection techniques used in DBMS?	(CO 2)	[Understand]
11	What are materialized views in SQL? How do they differ from regular views, and what are their advantages in query optimization?	(CO 3)	[Understand]
12	Explain functional dependencies and their role in database normalization. Provide an example of how functional dependencies help in decomposing a relation.	(CO 3)	[Understand]
13	Differentiate between conflict serializability and view serializability in transaction management. Provide examples to illustrate your explanation.	(CO 4)	[Understand]
14	Describe the architecture of a distributed database system. How does it differ from a centralized database system?	(CO 4)	[Understand]

PART C			
	ANSWER ANY 2 QUESTIONS		**2Q X 15M=30M**
15	Design an SQL stored procedure that automatically assigns a default department to new employees if no department is specified during insertion. Test your procedure with an INSERT statement.	(CO 2)	[Apply]
16	Develop an example of a JSON-based NoSQL database schema to store product information, including fields for product name, category, and price. Write a MongoDB query to retrieve all products in a specific category.	(CO 3)	[Apply]
17	Design an example JSON schema to store book information, including fields for title, author, and publisher. Write a query to retrieve all books written by a particular author.	(CO 4)	[Apply]