Code: 23CS3402, 23IT3402, 23AM3402, 23DS3402

II B.Tech - II Semester – Supplementary Examinations
DECEMBER 2025

DATABASE MANAGEMENT SYSTEMS
(Common for CSE, IT, AIML, DS)

Duration: 3 hours   Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 10 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each Question carries 10 marks.
4. All parts of Question paper must be answered in one place.

PART – A

1.a)	List out the applications of DBMS?
1.b)	Define the terms logical schema and physical schema.
1.c)	What is strong entity? Give an example.
1.d)	List the feature of good relational designs.
1.e)	Define structure of SQL Query.
1.f)	Define Primary key and Candidate key.
1.g)	Define join dependencies.
1.h)	What is Denormalization?
1.i)	How is the log used in transaction rollback and crash recovery?
1.j)	Define Shadow paging.

PART – B

			Max. Marks
UNIT-I			
2	a)	Define DBMS. What are the Advantages and Disadvantages of DBMS?	5 M
	b)	What are the different types of database end users? Discuss the main activities of each.	5 M
OR			
3	a)	Illustrate the two-tier and three-tier client/server architectures with neat diagrams?	5 M
	b)	Explain in detail about functional components of DBMS.	5 M
UNIT-II			
4	a)	How to develop an ER diagram? Write steps for developing an ER Diagram With an example?	5 M
	b)	Explain how to set constraints on ternary relationship.	5 M
OR			
5		Identify the potential entities in a library management system and draw the ER diagram for it.	10 M
UNIT-III			
6	a)	Explain referential integrity constraint and unique key with example.	5 M
	b)	Discuss the SQL features of data manipulation language.	5 M

		OR	
7	a)	Enumerate the various join operations on relations with relational algebra.	5 M
	b)	What is the need of group by clause? List and explain aggregate functions?	5 M

UNIT-IV

8	a)	What do you mean by functional dependency? Explain how they are used in normalization with suitable examples.	5 M
	b)	Explain 1st and 2nd Normal Forms with example.	5 M
		OR	
9	a)	Describe the process of normalization in order to set the database to Boyce-Codd normal form. Illustrate.	5 M
	b)	What you mean by Multi valued Dependencies? Explain Fourth Normal Form.	5 M

UNIT-V

10	a)	What are the ACID properties? Explain each property.	5 M
	b)	Distinguish between a serial schedule and serializable schedule. Explain with suitable example.	5 M
		OR	
11	a)	Explain the advantages and disadvantages of strict two-phase locking	5 M
	b)	Illustrate about Recovery Techniques Based on Immediate Update.	5 M