MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech I Semester Supplementary Examinations, June/July 2024
Database Management Systems
(B.Tech-AIML)

Roll No										

Time: 3 hours   **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

***

SECTION-I

1	A	Illustrate the application of ER modelling such as a university enterprise.	**[7M]**
	B	Explain the architecture of DBMS.	**[7M]**

OR

2	A	Discuss the roles of the storage manager and query processor in managing data storage and processing queries.	**[7M]**
	B	Compare and Contrast file Systems with database system?	**[7M]**

SECTION-II

3	A	What is Functional Dependency? Explain types and properties of FD's.	**[7M]**
	B	Illustrate the usage of SQL GROUP BY, ORDER BY and HAVING clauses	**[7M]**

OR

4	A	Consider the following database schema to write queries in SQL Sailor(sid, sname, age, rating) Boats(bid, bname, bcolor) Reserves(sid, bid, day) i) Find the sailors who have reserved a red boat ii) Find the names of the sailors who have reserved at least two boats iii) Find the colors of the boats reserved by 'Mohan'.	**[7M]**
	B	What is a trigger? How to create it? Discuss various types of trigger	**[7M]**

SECTION-III

5	A	State BCNF. How does it differ from 3NF?	**[7M]**
	B	Explain briefly about Multi-valued dependencies	**[7M]**

OR

6	A	Explain the concept of join dependencies and their significance in Fifth Normal Form (5NF).	**[7M]**
	B	What is the purpose of normalization in databases, and how does it prevent data redundancy?	**[7M]**

SECTION-IV

7	Discuss about transaction recovery techniques.	**[14M]**

OR

8	A	Discuss about different types of failures.	**[7M]**
	B	Draw transaction state diagram and describe each state that a transaction goes through during its execution.	**[7M]**

SECTION-V

9	A	Explain the significance of selection and projection operations in relational databases and provide real-world examples.	**[7M]**
	B	Explain in detail about Database Management System advantages over file management system.	**[7M]**

OR
10   *A*   Discuss the principles of relational query optimization   **[7M]**
        B   llustrate join operations in relational databases   **[7M]**

***