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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
III B.Tech II Semester Supplementary Examinations, April 2023
Data Base Management System
(ECE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions,
Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	What is data abstraction? List out 3 levels of data abstraction?	**[2M]**
b	Differentiate between a Database and Relational Database?	**[3M]**
c	Describe various data types used in SQL and their use?	**[2M]**
d	What is join operation? Explain about natural join and outer join operations in relational algebra?	**[3M]**
e	What is functional dependency? Explain?	**[2M]**
f	List out Armstrong's axioms?	**[3M]**
g	Explain about transaction states?	**[2M]**
h	Discuss how shared and exclusive locks are used to control concurrent transactions?	**[3M]**
i	Define dense and sparse indices?	**[2M]**
j	Explain how a query cost is measured?	**[3M]**

PART-B (50 MARKS)
SECTION-I

2   What is a transaction? Explain about the importance of atomicity, consistency and durability properties in a transaction with an example? **[10M]**

OR

3   Discuss about various Entity Relationships(ER) design issues? **[10M]**

SECTION-II

4   Explain about domain relational calculus with example queries? **[10M]**

OR

5   Discuss in detail about set operations used in SQL with suitable examples? **[10M]**

SECTION-III

6   What is decomposition? Explain about BCNF decomposition algorithm? **[10M]**

OR

7   Explain in detail about decomposition using multi-valued dependency? **[10M]**

SECTION-IV

8   Discuss with an example how a concurrent execution of the transactions will maintain database consistency by ensuring transaction isolation? **[10M]**

<div align="center">OR</div>

9   Explain in detail about validation based protocol?   **[10M]**

<div align="center">**SECTION-V**</div>

10   Discuss in detail about how a file scan is used to select / retrieving records from a file?   **[10M]**

<div align="center">OR</div>

11   Explain about equivalence rules used for query optimization?   **[10M]**

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