Code No.: AI721OE

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - November- 2023
DATABASE MANAGEMENT SYSTEMS
(MECH)

[Time: 3 Hours]   **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1.	a)	What is data Abstraction?	[2M]
	b)	List the advantages of DBMS?	[2M]
	c)	Define relational database model?	[2M]
	d)	Define tuple and attribute with example?	[2M]
	e)	Define Null Values?	[2M]
	f)	Define First Normal Form?	[2M]
	g)	Define a transaction?	[2M]
	h)	Define timestamp based protocol?	[2M]
	i)	Define data on External storage?	[2M]
	j)	Define B+ tree index file?	[2M]

PART-B   (50 Marks)

2.	Describe the structure of DBMS?	[10M]
	OR	
3.	Compare file systems and database systems?	[10M]
4.	Explain about the logical database design?	[10M]
	OR	
5.	Explain different operations in Relational algebra with an example?	[10M]
6.	Explain different types of aggregate operators with examples in SQL?	[10M]
	OR	
7.	Define normalization? Explain 2NF, 3N, BCNF and 4NF normal forms.	[10M]
8.	Explain ACID properties and illustrate them through examples?	[10M]
	OR	
9.	Explain Validation-based locking protocols?	[10M]
10.	Explain different types of file organizations.	[10M]
	OR	
11.	Explain searching the elements in B+ trees with example.	[10M]

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