Code No: R194102B **R19** **Set No. 1**

IV B. Tech I Semester Regular Examinations, November – 2022
DATA BASE MANAGEMENT SYSTEM
(Electrical and Electronics Engineering)

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

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks
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UNIT-I

1	a)	Discuss about the client server architecture of the database.	[7]
	b)	Define DBMS. Explain database users in detail.	[8]
		(OR)	
2	a)	Discuss the main characteristics of database approach. How it differs from traditional database.	[7]
	b)	What do you mean by data independence? Explain with a suitable example about physical data independence and logical data independence.	[8]

UNIT-II

3	a)	Explain the concept of weak entity with a suitable example.	[7]
	b)	Explain in detail about foreign key constraints with examples.	[8]
		(OR)	
4	a)	Explain the following (i) Tuple Relational Calculus (ii) Domain Relational Calculus.	[7]
	b)	What do you mean by overlaping constraints and covering constraints? Explain with a suitable example.	[8]

UNIT-III

5	a)	Discuss various types of normalization? Explain with the help of example difference between 3rd Normal form and BCNF?	[7]
	b)	Define functional dependency? How can you compute the minimal cover for a set of functional dependencies? Explain it with an example.	[8]
		(OR)	
6	a)	Explain the importance of Null values in Relational Model.	[7]
	b)	Enumerate the concept of multi valued dependencies with a suitable example.	[8]

UNIT-IV

7	a)	what is 2-phase locking protocol? How does it guarantee serializability?	[7]
	b)	Draw transaction state diagram and describe each state that a transaction goes through during its execution.	[8]

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(OR)

8 a) Elaborate on Wait/Die and Wound/Wait schemes. [7]

b) Explain in detail about timestamp-based concurrency control techniques. [8]

UNIT-V

9 a) Discuss in detail about primary file organization. [7]

b) By considering a relevant example, show insertion and deletion operations on a B-Tree. [8]

(OR)

10 a) When does a collision occur in hashing? Illustrate on various collision resolution techniques. [7]

b) Describe different methods of defining indexes on multiple keys. [8]