PRN:		Course Code :	CST2503

Third Year **B. Tech** End Semester Examination Winter 2023

Database Management System

Day and Date: Monday 04/12/2023 Max Marks: **100**

Time : 10.30 am to 1.30 pm Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Define data abstraction and data independency	08	L1	CLO1
	b)	Explain the purpose and use of various database languages..	08	L2	CLO3
		OR			
	b)	Apply your understanding of DBMS architecture by explaining with neat diagram.	08	L3	CLO3
Q.2		**Attempt the following**			
	a)	Identify use of integrity constraint with its types.	08	L3	CLO2
	b)	Define referential integrity and explain the term "anomalies" in the context of databases.	08	L1	CLO2
		OR			
	b)	Explain the fundamental principles of relational calculus with example.	08	L2	CLO4
Q.3		**Attempt any two from the following**			
	a)	Explain 1NF, 2NF, 3NF with example?	08	L2	CLO3
	b)	Examine the pros and cons of various types of relational decomposition with examples..	08	L4	CLO3
	c)	Explain 4NF and 5NF in database normalization.	08	L2	CLO3
Q.4		**Attempt any two from the following**			
	a)	What is transaction? Identify different operations in transactions with example	08	L3	CLO4
	b)	Identify the key properties of a transaction in a database	08	L3	CLO3
	c)	Define scheduling and different types of scheduling?	08	L1	CLO3
Q.5		**Attempt any Two of the following**			
	a)	Explain the concept of hashing and briefly describe different types or methods of hashing	09	L2	CLO1
	b)	Identify various indexing methods	09	L4	CLO4
	c)	Define heap file organization and provide a basic explanation.	09	L1	CLO4
Q.6		**Attempt any Two of the following**			
	a)	Identify and draw storage hierarchy components and then explain their roles.	09	L3	CLO1
	b)	Explain the use of shadow pagging	09	L5	CLO2
	c)	Conclude recovery algorithm	09	L5	CLO2

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