PRN:		Course Code :	UAM305

Second Year **B. Tech(AIML)** End Semester Examination Winter 2023

Database Management Systems

Day and Date: Wednesday 06/12/2023 Max Marks: **50**

Time : 10.30 am to 12.30 PM Duration: **02** hrs

Instructions: All questions are compulsory.

		Marks	Bloom's Level	CO
Q.1	**Attempt any two from the following**			
a)	Recall the concepts of data abstraction with neat diagram.	06	**L1**	**CO1**
b)	Explain different architecture of DBMS .	06	**L2**	**CO1**
c)	Solve following queries using SQL.	06	**L3**	**CO1**
	i. Create table EMP(empno , deptno, ename ,salary, Designation, joiningdate, DOB,city)			
	ii. Display names of employees whose experience is more than 10 years			
	iii. Display age of employees			
	iv. Display average salary of all employee			
	v. Display name of employee who earned highest salary			
	vi. Display all employee whose name ends with letter "a"			
Q.2	**Attempt any two from the following**			
a)	Explain basic operations of relational algebra.	06	**L2**	**CO2**
b)	Recall Relational model with its components.	06	**L1**	**CO2**
c)	Utilize the concept of inner join and natural join to combine records for more than one relation with proper example.	06	**L3**	**CO2**
Q.3	**Attempt the following**			
a)	Explain 1NF, 2NF, 3NF with proper example.	06	**L2**	**CO3**
b)	Illustrate the concept of functional dependency with proper example	07	**L2**	**CO3**
	or			
b)	Utilize hashing concept for following structure to generate the address for records(assume hash function =K mod 5) Customer(id, name, product, quantity)	07	**L3**	**CO4**
Q.4	**Attempt the following**			
a)	List the types of schedule and explain interleaved schedule with example.	06	**L4**	**CO3**
b)	Explain Two –phase locking and validation based protocol.	07	**L2**	**CO3**
	or			
b)	Apply the concept of secondary index(key, non-key) for given structure Student(id, name , aadhar_no)	07	**L3**	**CO4**

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