

	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Regular & Supplementary Summer 2024 Course: B.Tech. Branch :Electronics and ComputerEngineering Semester :IV / Electronic and Computer Science Engineering Subject Code & Name: BTECPC402 Database Management System Max Marks: 60 Date:14/06/2024 Duration: 3 Hr.		
	Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly.		
		(Level/CO)	Marks
Q. 1	Solve Any Two of the following.		12
A)	Explain the 2 - tier and 3 - tier architecture of Database System with diagram.	02/CO1	6
B)	Describe with diagram the level of abstractions available in Database System.	02/CO1	6
C)	What are the types of databases? Explain Relational database.	02/CO1	6
Q.2	Solve Any Two of the following.		12
A)	Consider the following database Student (student_name , student_no , class , major_subject) Course (course_name , course_no , credit_hours , department) Write SQL Statement to do the following update on the database scheme 1.Insert a new student ('Johnson ' , 25 , ' I ' , ' Math ') 2.Change the credit hours of the course ' Datascience ' to 4 3 Delete the record for the student whose name is ' Smith '	03/CO2	6
B)	Write a short note on Views and Subqueries .	02/CO2	6
C)	Write SQL queries to implement aggregate functions by using Student database?	03/CO2	6
Q. 3	Solve Any Two of the following.		12
A)	Define Normalization and Explain 1NF ,2NF and 3NF with examples.	02/CO3	6
B)	Define Primary key , Super key and Foreign key.	01/CO3	6
C)	Write a short note on Functional dependency .	02/CO3	6

Q.4	Solve Any Two of the following.		12
A)	Explain the ACID properties of Transaction using suitable examples.	02/CO4	6
B)	Explain concurrency control protocols .	02/CO4	6
C)	Write a short note on Database Recovery.	02/CO4	6
Q. 5	Solve Any Two of the following.		12
A)	Differentiate between RDBMS and NOSQL Database.	02/CO5	6
B)	Explain the basic CRUD operation using MongoDB.	03/CO5	6
C)	Explain in detail the CAP Theorem.	01/CO5	6
	*** End ***		

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