

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE						
Regular/Supplementary Winter Examination – 2024						
Course: B.Tech. Branch : Computer Engineering/Computer Science and Engineering						
Subject Code & Name: Database Systems(BTCOC501)			Semester : V			
Max Marks: 60		Date:06/02/2025		Duration: 3 Hr.		
Instructions to the Students: 1. Each question carries 12 marks. 2. Question No. 1 will be compulsory and include objective-type questions. 3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6. 4. 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. 5. Use of non-programmable scientific calculators is allowed. 6. Assume suitable data wherever necessary and mention it clearly.						
				(Level/CO)	Marks	
Q. 1	Objective type questions. (Compulsory Question)				12	
1	Which type of data can be stored in the database?				1	
	a. Image oriented data	b. Text, files containing data	c. Data in the form of audio or video			d. All of the above
2	Database languages can be used to _____ the data in the database.					
	a. Read	b. Store	c. Update	d. All of the Mentioned.		
3	A database is _____ with Data Manipulation Language.				1	
	a. Accessed and Multiplied	b. Added and Manipulated	c. Access and Manipulated			d. Added and Multiplied
4	What is a relation in RDBMS?				1	
	a. Key	b. Table	c. Row			d. Data Types
5	The function that an entity plays in a relationship is called that entity's _____				1	
	a. Participation	b. Position	c. Role			d. Instance
6	The descriptive property possessed by each entity set is _____				1	
	a. Entity	b. Attribute	c. Relation			d. Model

7	Database _____ which is the logical design of the database, and the database _____ which is a snapshot of the data in the database at a given instant in time.					1
	a. Instance, Schema	b. Relation, Schema	c. Relation, Domain	d. Schema, Instance		
8	The intersection operator is used to get the _____ tuples.					1
	a. Different	b. Common	c. All	d. Repeating		
9	The number of attributes in relation is called as its _____					1
	a. Cardinality	b. Degree	c. Tuples	d. Entity		
10	A unit of storage that can store one or more records in a hash file organization is denoted as _____					1
	a. Buckets	b. Disk pages	c. Blocks	d. Nodes		
11	A hash function must meet _____ criteria.					1
	a. Two	b. Three	c. Four	d. None of the Mentioned		
12	Which of the following makes the transaction permanent in the database?					1
	a. View	b. Commit	c. Rollback	d. Flashback		
Q. 2	Solve the following.					12
A)	Define an Entity and Attribute. Explain the different types of attributes that occur in ER diagram model with an example.					6
B)	Draw the symbols of ER diagram. Draw a diagram for library management system					6
Q.3	Solve the following.					12
A)	Define and differentiate the following relational algebra operators with suitable example 1. Cartesian product 2. Natural join					6
B)	What is relational algebra? Explain basic operations along with symbols of relational algebra.					6
Q. 4	Solve Any Two of the following.					12
A)	What is view what are its advantages explain views in SQL with example.					6

B)	What is normalization? Why we need to normalize the database tables.		6
C)	Write the SQL syntax for the following with the example 1. Select 2. Alter 3. Update		6
Q.5	Solve Any Two of the following.		12
A)	Explain 1 st , 2 nd and 3 rd normal form with the help of suitable example		6
B)	What are the features of good relational Designs?		6
C)	Explain The Static Hashing and Dynamic Hashing.		6
Q. 6	Solve Any Two of the following.		12
A)	Define transaction and their properties with suitable example		6
B)	Explain ACID properties in details.		6
C)	Explain Time Stamp-Based Protocols.		6
	*** End ***		