Reg. No.															

B.Tech. DEGREE EXAMINATION, MAY 2024
Sixth & Seventh Semester

18CSC303J – DATABASE MANAGEMENT SYSTEMS
(For the candidates admitted during the academic year 2018-2019 to 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

	Marks	BL	CO	PO

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

1. Which of the following is not a database? — 1 | 1 | 1 | 1.1.1
   (A) Hierarchical (B) Network
   (C) Distributed (D) Decentralized

2. Pick out one of the following which is not an example of DBMS. — 1 | 1 | 1 | 1.3.1
   (A) MySQL (B) Microsoft access
   (C) IBM DB_2 (D) Google

3. What is DBMS? — 1 | 2 | 1 | 2.1.2
   (A) DBMS is a collection of queries (B) DBMS is a high level language
   (C) DBMS is a programming language (D) DBMS stores, modifies retrieve data

4. The DBMS acts as an interface between _____ and _____ of an enterprise class system. — 1 | 2 | 1 | 2.4.4
   (A) Data and DBMS (B) Application and SQL
   (C) Database application and database (D) The user and software

5. What is tuple? — 1 | 1 | 1 | 1.1.1
   (A) It is related to set of attributes of records in a table (B) It corresponds to a row in the table
   (C) It is another name for third normal form (D) It is an attribute of each relation

6. Entity is a _____. — 1 | 2 | 2 | 2.4.1
   (A) Object of relation (B) Present working model
   (C) Things in the real world (D) Model of relation

7. Which one of the following is a set of one ore more attributes taken collectively to uniquely identify a record? — 1 | 2 | 2 | 2.4.1
   (A) Candidate key (B) Sub key
   (C) Foreign key (D) Super key

8. A _____ is a property of the entire relation rather than of individual tuples in which each tuple is unique. 1 2 2 2.3.1
   (A) Rows (B) Key
   (C) Attribute (D) Fields

9. Which of the following is not a valid data type in SQL? 1 4 2 4.2.1
   (A) Float (B) Numeric
   (C) Decimal (D) Character

10. Pick out one of the following which is not a DDL command. 1 4 2 4.2.2
   (A) TRUNCATE (B) ALTER
   (C) CREATE (D) UPDATE

11. How many primary keys can we have in a table? 1 1 3 1.6.1
   (A) Only 1 (B) Only 2
   (C) Depends on number of columns (D) Depends on database administrator (DBA)

12. The _____ clause creates temporary relation for the query on which it is defined. 1 2 3 2.7.1
   (A) SELECT (B) FROM
   (C) WHERE (D) WITH

13. Which join condition contains an equality operator? 1 2 3 2.6.5
   (A) Equijoins (B) Left
   (C) Cartesian (D) Natural

14. Which is a unary operation? 1 1 3 1.6.1
   (A) Selection operation (B) Generalized selection
   (C) Primitive operation (D) Projection operation

15. Fundamental dependencies are classified as _____ on left. 1 1 3 1.6.1
   (A) Dependent (B) Determined
   (C) Determinants (D) Database

16. How many functional dependencies are there? 1 2 4 2.5.2
   (A) 1 (B) 4
   (C) 3 (D) 2

17. Collection of operations that form a single logical unit of work are called _____. 1 2 4 2.6.2
   (A) Networks (B) Views
   (C) Units (D) Transactions

18. An unsuccessful transaction is called as _____. 1 2 5 2.7.2
   (A) Compensating transaction (B) Partially committed transaction
   (C) Active transaction (D) Aborted transaction

19. Which of the following are introduced to reduce the overheads caused by the log based recovery? 1 2 5 2.7.2
   (A) Locks (B) Indices
   (C) Deadlocks (D) Checkpoints

20.	All locking information is managed by a _____. (A) Lock manager (B) Schedular (C) Locking agent (D) DBMSs	1	2	5	2.5.2

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Discuss on instance and schema.	4	2	1	3.6.1
22.	Explain about stored and desired attributes.	4	2	1	3.5.6
23.	Construct about table modification in SQL.	4	3	2	3.6.1
24.	Discuss on the concept of functional dependency.	4	2	2	3.6.3
25.	Construct the concept of transaction.	4	3	3	3.6.2
26.	Narrate multiple granularity.	4	4	4	4.5.1
27.	Explain about function of static hashing.	4	2	5	4.6.1

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Discuss about all SQL commands with suitable queries.	12	2	1	3.6.2
	(OR)				
b.	Illustrate database system architecture and explain each component in detail.	12	2	1	3.5.6
29. a.	Construct an ER model for a company having following details: Company organized into DEPARTMENT. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Department may have several locations. • A department controls a number of PROJECT and Projects have a unique name, number and single location. • Company's EMPLOYEE Name, SSNO, address, salary, sex and birth data are recorded. An employee is assigned to one department but may work for several projects (not necessarily controlled by department). Number of hours/week an employee works on each project is recorded. The immediate supervisor for the employee. • EMPLOYEE's DEPENDENT are tracked for health insurance purposes (dependent name, birth data, relationship to employee)	12	3	2	2.7.2
	(OR)				
b.	Construct with an example, explain about mapping cardinality.	12	4	2	2.3.2
30. a.	Classify various functions of SQL and discuss each with an example.	12	4	3	2.7.1
	(OR)				
b.	Explain the concept of PL/SQL cursor? Write a detailed note on stored procedures.	12	4	3	4.2.2

31. a.	Classify and explain any two functional dependencies with suitable example.	12	4	4	4.4.2
	(OR)				
b.	Analyze the concept of Normalization. Explain about various normal forms of normalization? Explain each with an example.	12	4	4	5.3.1
32. a.	Categorize and discuss about various properties of transactions.	12	5	5	5.1.1
	(OR)				
b.	Explain in detail about locking mechanism of transaction.	12	5	5	5.2

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