B.Tech. DEGREE EXAMINATION, MAY 2024
Sixth Semester

18ECE472T – DATABASE MANAGEMENT SYSTEMS
(For the candidates admitted from 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

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

		Marks	BL	CO	PO

1. Which of the following is not a type of database? — Marks 1, BL 2, CO 1, PO 1
   - (A) Hierarchical
   - (B) Network
   - (C) Distributed
   - (D) Decentralized

2. A _____ collection of interrelated data and a set of programs to access those data. — Marks 1, BL 1, CO 1, PO 1
   - (A) Object oriented programming
   - (B) Database management system
   - (C) Java programming
   - (D) Python programming

3. Which one of the following refers to the copies of the same data occupying that memory space at multiple places? — Marks 1, BL 2, CO 1, PO 1
   - (A) Data repository
   - (B) Data inconsistency
   - (C) Data mining
   - (D) Data redundancy

4. What does an RDBMS (relational database management system) consist of? — Marks 1, BL 1, CO 1, PO 1
   - (A) Collection of records
   - (B) Collection of keys
   - (C) Collection of tables
   - (D) Collection of fields

5. Minimal super keys are called — Marks 1, BL 1, CO 2, PO 1
   - (A) Primary key
   - (B) Candidate key
   - (C) Composite key
   - (D) Alternate key

6. The phase-2 of database life cycle is — Marks 1, BL 1, CO 2, PO 1
   - (A) Database initial study
   - (B) Data analysis and requirements
   - (C) Database design
   - (D) Data objectives

7. Diamonds in an entity-relationship diagram represents — Marks 1, BL 1, CO 2, PO 1
   - (A) Entity sets
   - (B) Relationship sets
   - (C) Link attributes
   - (D) Composite attributes

8. To include rows that do not have matching values — Marks 1, BL 2, CO 2, PO 2
   - (A) Equal join
   - (B) Left join
   - (C) Outer join
   - (D) Inner join

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9. As a general rule, entites at higher level can combine with entites at lower levels to form a _____ level entity.   1   1   3   2
   (A) Lower   (B) Higher
   (C) Middle   (D) Central

10. An entity set that has a primary key is called as   1   1   3   1
    (A) Weak entity   (B) Strong entity
    (C) Foreign key   (D) Multivalued attribute

11. Oracle creates _____ when SQL statements are processed.   1   3   3   1
    (A) Content areas   (B) Context areas
    (C) Context Ids   (D) Context Ids

12. How many number of ways are there to pass the parameter in procedure?   1   1   3   1
    (A) 1   (B) 2
    (C) 3   (D) 4

13. PL/SQL procedure consists of   1   3   4   1
    (A) Header and footer   (B) Body and footer
    (C) Header and body   (D) Header alone

14. What creates a virtual relation for storing the query?   1   1   4   1
    (A) Function   (B) View
    (C) Procedure   (D) Query

15. The selectivity of condition to get the estimated number of tuples $n_r - size(\sigma_r)$ is a condition for   1   4   4   3
    (A) Conjunction   (B) Disconjunction
    (C) Negation   (D) Association

16. The set operation which is not commutative   1   4   4   1
    (A) Difference   (B) Union
    (C) Sum   (D) Intersection

17. The transaction is said to be successfully executed when _____ statement is executed.   1   2   5   1
    (A) Commit   (B) Roll back
    (C) Set transaction   (D) Begin transaction

18. Which of the following is the most expensive method?   1   1   5   1
    (A) Time stamping   (B) Plain locking
    (C) Predicate locking   (D) Snapshot locking

19. The database is portioned into fixed-length storage units called _____   1   1   5   1
    (A) Parts   (B) Blocks
    (C) Reads   (D) Build

20. Which of the following belongs to transaction failure?   1   2   5   1
    (A) Read error   (B) Boot error
    (C) System crash   (D) Logical error

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

	Marks	BL	CO	PO
21. Briefly explain the types of attributes with examples.	4	1	1	1
22. Compare strong and weak entity set.	4	2	1	1
23. What are the different types of keys involved in the database management system?	4	2	2	2
24. Discuss about the concept design with the entity-relationship model.	4	2	2	1
25. Define trigger and explain its three parts.	4	1	3	1
26. Explain with examples: commit and roll back in transaction.	4	1	4	1
27. Give the ACID properties of transaction concept in database management system.	4	1	5	1

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

	Marks	BL	CO	PO
28. a. What is the significance of mapping cardinalities? Explain all the types with pictorial representations.	12	2	1	1

(OR)

	Marks	BL	CO	PO
b. Consider the following tables:	12	3	1	1

Employee (Emp_no, Name, Emp_city, Comp_no, Salary) and company(comp_no, company_name)

    (i)   Create both employee and company tables
    (ii)   Add a new column "Phno" to the employee table
    (iii)   Write a query to display the names of the employees working in Chennai.
    (iv)   Write a query to update the salary of all the employees to 1,00,000 whose current salary is greater than 50,000
    (v)   Write a query to delete the employee number 108 who left the "XYZ" company.
    (vi)   Delete the records and drop both the tables

	Marks	BL	CO	PO
29. a. Develop an E-R model for online shopping.	12	3	2	2

(OR)

	Marks	BL	CO	PO
b. Define the framework of system development life cycle with different steps involved with neat diagram.	12	1	2	1

	Marks	BL	CO	PO
30. a. Write about different types of joins in SQL.	12	1	3	1

(OR)

b.	What are views? How views are created and updated, explain with examples.	12	3	3	2
31. a.	Illustrate with suitable example about pitfalls in relational database.	12	2	4	1

(OR)

b.	What is decomposition in database management system? Explain lossy and lossless join decomposition with example.	12	2	4	2
32. a.	Explain the different deadlock prevention mechanism with neat diagram.	12	1	5	1

(OR)

b.	How locks are helpful in preventing concurrency?	12	1	5	1

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