**B.C.A.. DEGREE EXAMINATION APRIL 2023**
**FOURTH SEMESTER**
COURSE      :      **MAJOR CORE**
PAPER      :      **FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS**
TIME      :      **3 HOURS**                                    **MAX. MARKS: 100**
**SECTION A**

**Answer all the questions:**                                              **(20 X 1=20)**
**Choose the best answer:**

1. Change of conceptual schema without changing the external schema is ____
   a. Logical data independence   b. Physical data independence        c. Both a and b
   d. None of the mentioned

2. The state that satisfies all the constraints is called_____
   a. Complete state      b. Invalid state        c. Valid state      d. Incomplete state

3. _____ is a collection of entities that have the same attributes.
   a. Entity value          b. Entity set     c. Entity type      d. Tuple

4. Entity that does not belong to any of the sub class is called____ specialization
   a. Total              b. Partial         c. Complete        d. Invalid

5. The duplicate tuples are eliminated through_____ keyword in SQL.
   a. Distinct          b. Except            c. Unique          d. Both a and b

6. _____ operation selects certain columns from the table
   a. Display        b. Project                  c. Set          d. Select

7. The data that is stored in the cursor is called_____.
   a. Data                  b. Master data set      c. Active data set      d. None of the mentioned

8. Second normal form is based on the concept of_____
   a. Full functional dependency    b. Transitive dependency    c. Both a and b
   d. Partial functional dependency

9. _____refers to  problems that include  theft, sabotage fire, etc.
   a. Catastrophes      b. Local errors        c. Fact failure      d. Both b and c

10. The DBMS has ____to keep track of locks
    a. Lock manager      b.  Lock table      c. Lock manager sub system
    d. None of the mentioned

**Fill in the blanks**

11. _____ job involves the day to day use of large database.
12. The description of a database table is called_____.
13. The _____command is used to change the values of one or more attributes.

14. _____ attributes are not divisible.
15. _____ is considered as virtual table.
16. _____ join displays every tuple in the first relation *R.*
17. _____ are typed directly on an interactive interface for execution.
18. The ____section in PL/SQL describe processes that have to be applied to table data.
19. The size of the data item is called its_____.
20. _____happens if the transaction has ended unsuccessfully.

## SECTION B

**Answer all the questions**                                        **(5 x 2 = 10)**
21. Define schema.
22. Give the purpose of foreign key.
23. Why do we use cursor in PL/SQL?
24. What is data integrity?
25. Outline Serializability.

## SECTION C

**Answer any EIGHT questions**                                        **(8 x 5 = 40)**
26. Elucidate the functional components of database system.
27. Describe the concept of client/server model.
28. Illustrate the difference between DELETE, TRUNCATE and DROP statements in SQL.
29. Demonstrate the different SET operations.
30. Explain about aggregate functions in SQL.
31. Explain 1NF,2NF and 3NF in detail.
32. Write about different join operations.
33. How to handle the unexpected errors? Explain.
34. Write a note on procedures.
35. Discuss briefly the backup and recovery procedures in the transaction process.

## SECTION D

**Answer any THREE questions**                                        **(3 x 10 = 30)**

36. Define constraints and its types. Discuss the importance of constraints.
37. Write about different types of attributes in ER model. Show the notation of each.
38. What is view? How are views implemented?
39. Examine the significance of triggers in SQL with an example.
40. Explain Two-Phase Locking Protocol.

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