DATABASE MANAGEMENT SYSTEM

(For those who joined in July 2008 and after)

Time : Three hours   Maximum : 75 marks

SECTION A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer

1. A description of data in terms of a data model is called a —————

   (a) record   (b) file

   (c) schema   (d) DBMS

2. A DBMS enables users to create, modify and query data through a —————

   (a) DCL   (b) DML

   (c) DDL   (d) DQL

3. A ————— is statement that a certain minimal subset of the filed of a relation is a unique identifier for a tuple.

   (a) primary key   (b) key constraint

   (c) candidate key   (d) domain constraint

4. The ———————— operator allows us to extract columns form a relation

   (a) selection   (b) extract

   (c) domain   (d) project

5. A ———————— describes actions to be taken when certain situations arise

   (a) trigger   (b) pointer

   (c) function   (d) package

6. ———————— is a set comparison operator

   (a) IN   (b) ON

   (c) ALL   (d) UNION

7. A relations is in ———————— normal form if every filed contains only atomic values

   (a) first   (b) second

   (c) third   (d) fourth

8. ———————— is a tool that allows us to eliminate redundancy

   (a) relational algebra

   (b) concurrency

   (c) decomposition

   (d) conceptual schema

9. A ─────── is a small bookkeeping object associated with a database object
   (a) lock   (b) commit
   (c) abort   (d) thread

10. The ─────── command gives users privilegies to base tables and views
    (a) SELECT   (b) ROLLBACK
    (c) COMMIT   (d) GRANT

SECTION B — (5 × 7 = 35 marks)

Answer ALL questions. Choosing either (a) or (b).

11. (a) What are the advantages of a DBMS? Discuss them briefly.

Or

(b) Discuss briefly on relationship and relationship sets.

12. (a) Discuss about querying relational data with examples.

Or

(b) What are set operations? Explain them with examples.

13. (a) Discuss in detail, Aggregate operations in SQL with examples.

Or

(b) Write a short notes on triggers and active databases.

14. (a) Discuss about properties of decompositions with examples.

Or

(b) What is third normal form? Explain with example.

15. (a) Discuss about the ACID properties.

Or

(b) Write short notes on mandatory access control.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe in detail, structure of a DBMS.

17. Explain about tuple relational calculus with examples.

18. Discuss in detail, complex integrity constraints in SQL.

19. Explain about schema refinement in database design.

20. Describe about security for internet applications.

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