D 92254 (Pages : 3) Name

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THIRD SEMESTER B.C.A. DEGREE EXAMINATION, NOVEMBER 2015

(CUCBCSS—UG)

Core Course

BCA 3B 03—DATABASE DESIGN AND RDBMS

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
1 mark for each question.

1. The type of relationship between attributes of an entity in data base approach is known as _____
2. The external level can be considered as a _____ of the conceptual level.
3. In relational model of DBMS, the term _____ is the synonym used for records.
4. In _____ execution of transactions, the effect of sequential execution of transactions is the same as simultaneous execution of a set of transactions.
5. The normal form which got introduced based on the concept of functional dependency is _____
6. For joining two relations, the relations should have at least one common _____
7. The _____ clause in SQL helps in ensuring data integrity in databases.
8. The number of tuples in a relation is said to be the _____ of the relation.
9. The _____ table command allows the system to add attributes to an existing relation.
10. For updating the value of an attribute, we need to have a(n) _____ lock on it.

Part B

Answer **all** *questions.*
2 *marks for each question.*

11. Explain the terms entity, attribute and entity sets with example.
12. Explain the basic structure of an SQL query.
13. State and explain the entity integrity rule and referential integrity rule.

Turn over

14. Distinguish between group by and order by clauses of SQL.

15. Explain the concept and importance of a cursor.

Part C

Answer any **five** *questions a question carry* 4 *marks.*

16. Explain the classification of users of DBMS. What are the important responsibilities of DBA ?

17. Define the term relations. What are the important properties of relations ?

18. Explain the normal forms 1NF, 2NF and 3 NF. Give the working example of normalizing a given un normalized relation into first, second and third normal forms.

19. Write short note on pattern matching facilities connected to strings in SQL. Give examples.

20. Explain the concept of Triggers. Explain with example the method of implementing a trigger

21. (a) Explain basic data types of SQL.

    (b) Explain syntax and working of if/else and while structures of SQL.

22. Explain the lost updation problem in concurrent transactions ? Explain how the concept of locks can be used in tackling the problem.

23. Write short note on count, delete and insert commands of SQL. Give example.

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. (a) Explain the three level architecture of DBMS.

    (b) Explain the benefits of database approach. What is data independence ? Explain.

25. What do you mean by mapping cardinalities ? Explain different types of mapping with example

26. Write short note on ER diagrams and the symbols used in drawing it. Draw an ER diagram for the following situation. "A Student is studying for a Course offered by a particular Department of a College affiliated to a particular University".

27. Explain the concept of Functional dependency, multi valued dependency and join dependency.

28. Explain how views are created, managed and destroyed in SQL. Explain the syntax and working of commands involved with example.

29. Explain join operations of SQL What are the special types of join ? Give example.

30. Explain the concept and need of locks in concurrent transactions. What are the different types of locks and how they are useful in dealing with concurrent transaction problems ?

31. Write short note on :

(a) Set theoretic operators in SQL.

(b) Base tables and views.

(c) Schedules.

(d) Avoidance of deadlocks in concurrent transactions.