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Name..

Reg. No..................... 28.........

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION APRIL/MAY 2015

(UG-CCSS)

Core Course—Computer Science

CS 4B 07—FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS

(2012 Admission onwards)

Time : Three Hours
Maximum : 30 Weightage

I. Answer all *twelve* questions :

1 The DBMS software together with data is called a ——————.

2 Duplication of data in a database is called ——————.

3 The ability to modify a schema definition in one level without affecting the schema definition in the next higher level is called ——————.

4. The collection of all entities of a particular entity type in the database at any point in time called ——————.

5. —————— specifies the predefined set of possible values an attribute can take.

6. The maximum number of relationship instances that an entity can participate in a binary relationship determines its ——————.

7. —————— option in a DROP command enables us to remove the database schema and all its tables, domains and other elements.

8. The cardinality of the resultant relation of a Cartesian product operation on two relations with cardinality of 5 and 6 each is ——————.

9. The operator used for string pattern matching in SQL is ——————.

10. The aggregate function used to find the total number of records of a table is ——————.

11. The command used to delete a table is ——————.

12. ——————represents a logical unit of a database processing that access and updates various data items in a database.

(12 × ¼ = 3 weightage)

Turn over

II. Answer all *nine* questions :

13　What is physical data independence ?

14　Distinguish between strong and weak entity sets.

15　What do you mean by a view ?

16　Name any *four* column constraints.

17　Compare DDL and DML.

18　Write the syntax of ALTER TABLE command.

19　Explain about the UNION operation.

20　What is a lock? Name the type of locks used in concurrency control.

21　Explain lossless join decomposition.

$(9 \times 1 = 9$ weighta

III. Answer any *five* questions :

22　Describe the characteristics of a database approach.

23　Explain about various aggregate functions available in SQL.

24　Write short notes on granting and revoking privileges.

25　Define an integrity constraint. What is the role of a foreign key in maintaining integrity ?

26　What are the types of locks ? Explain them in brief.

27　Differentiate between DBMS and OODBMS.

28　Distinguish between serial schedule and serializable schedule.

$(5 \times 2 = 10$ weight

IV. Answer any *two* questions :

29.　(a)　Briefly explain the architecture of a DBMS.

　　　(b)　How relational calculus differs from relational algebra ? Explain with suitable exar

30.　Draw an ER diagram for a library database system. Identify the appropriate entities, attrib and relationships.

31.　(a)　Briefly explain about main concepts used in object oriented databases.

　　　(b)　Distinguish between lock-based protocols and timestamp-based protocols.

$(2 \times 4 = 8$ weigh