E 7336

Reg. No...

Name..

B.Sc./B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2014

Fourth Semester

Core Course—DATABASE MANAGEMENT SYSTEM

·[Common for B.C.A. and B.Sc. Computer Applications (Three Main)]

Time : Three Hours

Maximum Weight : 25

Part A

Answer all questions.
Each bunch of four questions carry a weight of 1.

I. 1 The language used by the application programs to request data from the DBMS is referred to as the :

    (a) DMI.

    (b) DDI.

    (c) Query Language.

    (d) All of the above.

2 The function of a database is :

    (a) To check all input data.

    (b) To check all spelling.

    (c) To collect and organize input data.

    (d) To output data.

3 The keys that can have Null values are :

    (a) Primary key.

    (b) Unique key.

    (c) Foreign key.

    (d) Both (b) and (c).

4 $\{X \to Yz\} = X \to Y$:

    (a) Augmentation rule.

    (b) Transitive rule.

    (c) Reflexive rule.

    (d) Decomposition rule.

II. 5 Which of the following normal form has multivalued dependencies ?

    (a) 2 NF.

    (b) 3 NF.

    (c) BCNF.

    (d) 4 NF.

6 In relational algebra, the operator used to obtain a vertical subset of a relation is :·

    (a) Selection.

    (b) Division.

    (c) Projection.

    (d) Union.

Turn over

7 What is a tuple ?

    (a) Another name for the key linking different tables in a database.

    (b) An attribute attached to a record.

    (c) A row or record in a database table.

    (d) Another name for a table in an RDBMS.

8 What defines how and where data are organized in Physical data storage ?

    (a) Internal Schema.   (b) External Schema.

    (c) Conceptual Schema.   (d) None of the above.

III.   9 In an E-R diagram, entity set are represented by ————.

    10 In database approach, Association exists between ————.

    11 ———— is the process by which user's identity is checked.

    12 An example for an index structure which uses ordered indices is ————.

IV.   13 Entity types that do not have key attributes of their own are called ————.

    14 Large collection of files are called ————.

    15 The ———— command is used to save changes made by a transaction to the database.

    16 Integrity constraints are useful in ensuring ————.

$(4 \times 1 = 4)$

Part B

Answer any **five** *of the following.*
Each question carries a weight of 1.

17 Explain with example, the concept of nested queries.

18 What is normed form of a relation ?

19 What is meant by revoking a privilege ?

20 What is the difference between procedural and non-procedural DML's ?

21 Discuss the entity integrity and referential integrity constraints.

22 What is CARTESIAN PRODUCT ?

23 Give the Syntax of any *two* aggregate functions with suitable examples.

24 What is two-phase locking protocol ? .

$(5 \times 1 = 5)$

Part C

*Answer any **four** of the following.*
Each question carries a weight of 2.

25 List the commonly accepted threats to database security.

26 Explain how the GROUP by clause works. What is the difference between the WHERE and HAVING clause ?

27 Discuss the main categories of data models.

28 What are the responsibilities of the DBA and the database designers ?

29 Discuss pattern matching in SQL.

30 Explain 3 NF with suitable examples.

$(4 \times 2 = 8)$

Part D

*Answer any **two** of the following.*
Each question carries a weight of 4.

31 What are the advantages of DBMS ? Explain.

32 Write notes on :

    (a) Primary indexes.

    (b) E-R diagrams.

33 Explain the following :—

    (a) Data independence.   (b) Three Schema Architecture.

    (c) Domain relational calculus.   (d) Nested Queries in SQL.

$(2 \times 4 = 8)$