Reg. No. : ....

Name : ....

III Semester B.C.A. Degree (CBCSS – Reg./Sup./Imp.)
Examination, November 2017
(2014 Admn. Onwards)
General Course
3A13BCA – DATABASE MANAGEMENT SYSTEM

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. One word answer :

   a) In a DBMS _____ facility is used to define the database conceptual schema.

   b) A person who has central control over the data and programs that access data in a DBMS is called _____

   c) _____ provides a convenient graphical representation to view data, relationships and constraints.

   d) An entity set that does not have sufficient attributes to form a primary key is termed as _____

   e) _____ command removes tuples from a relation.

   f) An attribute in one table that references a unique record in another table is called _____

   g) The _____ command is used to allow privileges to user.

   h) The cardinality of the resultant relation of a Cartesian product operation on two relations with cardinality 7 and 8 each is _____ $(8×^1/_2=4)$

SECTION – B

Write short notes on **any seven** of the following questions :

2. What is logical data independence ?

3. What do you mean by data inconsistency ?

P.T.O.

4. Define a super key.

5. Define 2NF.

6. What is the impact of PRIMARY KEY constraint ?

7. List various aggregate functions in SQL.

8. Define a view.

9. Explain the syntax of ALTER TABLE command.

10. Distinguish between relational algebra and relational calculus.

11. Define select operation in relational algebra. (7×2=14)

SECTION – C

Answer **any four** of the following questions.

12. What is data abstraction ? How it is achieved in a DBMS ?

13. What is normalization ? Discuss BCNF with example.

14. Discuss about ACID properties of a transaction.

15. Consider the following relations :

    WORKS(Pname, Cname, City)

    LIVES(Pname, Street, City)

    LOCATED_IN(Cname, City)

    MANAGER(Pname, Mgrname)

    Give an SQL DDL definition of this database with necessary integrity constraints.

16. Explain the importance of 'on update cascade' option in a CREATE TABLE command with the help of an example.

17. Explain about the following operations in relational algebra :

    a) Projection

    b) Natural join. (4×3=12)

SECTION – D

Write an essay on **any two** of the following questions.

18. Briefly discuss about the database system structure.

19. Discuss the E-R model for a university database system.

20. Consider the following table stock :

    Stock(ItemNo, Item, Dcode, Qty, UnitPrice, StockDate)

    Write SQL statements for the following queries :

    a) To create the table

    b) To display details of all items in the stock table in ascending order of StockDate.

    c) To display ItemNo and name of those items from stock table whose UnitPrice is more than rupees 100.

    d) To display the details of those items whose dealer code (Dcode) is 102 or Quantity in stock (Qty) is more than 100 from the table stock.

    e) To display maximum UnitPrice of items for each dealer individually as per Dcode from the table stock.

21. Write short notes on the following :

    a) Database authorization

    b) Triggers. (2×5=10)

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