K15U 0323

Reg. No. : ....

Name : ....

Third Semester B.C.A. Degree (CCSS – 2014 Admn. – Regular) Examination, November 2015
General Course
3A13BCA : DATABASE MANAGEMENT SYSTEM

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. **One** word answer :

   a) A _____ consists of a collection of interrelated data and a collection of programs to access that data.

   b) The _____ subsystem of a database system compiles and executes DDL and DML.

   c) _____ is an abstraction through which relationships are treated as higher level entities.

   d) In a DBMS _____ facility is used for specifying retrievals and updates.

   e) _____ command of SQL enable us to remove table definitions.

   f) The property which ensures that changes made to the database by authorized users do not result in inconsistency of data is _____

   g) A relation that is not part of the logical model, but is made visible to a user as a virtual relation is called _____

   h) _____ operation outputs a new relation consisting of all tuples appearing in either or both of the two specific relations. **(8×½=4)**

P.T.O.

SECTION – B

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

2. What is physical data independence ?

3. Define foreign key.

4. Define the term 'Data dictionary'.

5. Define Boyce Codd normal form.

6. Write the syntax of CREATE command in SQL.

7. Explain about natural join operation.

8. What do you mean by a trigger ?

9. List any four privileges included in SQL standard.

10. Differentiate between tuple relational calculus and domain relational calculus.

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

SECTION – C

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

12. What are the basic elements of ER model ? Explain.

13. Discuss about desirable properties of a transaction.

14. What is normalization ? What is its role in database design ?

15. Briefly explain various DDL commands with syntax.

16. With the help of an example, explain the use of 'not unique' construct in SQL.

17. How relational calculus differs from relational algebra ? Explain with suitable example. (4×3=12)

SECTION – D

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

18. Discuss various functions of database users and administrators.

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

20. Create a STUDENT table with necessary attributes and write SQL statements for the following queries :

    a) List all student names having age > 18.

    b) Display the details of students whose average mark in all subjects >= 60%.

    c) Display the name and address of students studying in either Computer Science or Mathematics department.

    d) Display the details of students in each department with maximum total mark.

21. Write short notes on :

    a) Facilities in SQL to grant and revoke privileges to users

    b) Concept of views in DBMS.　　　　　　　　　　　　　　**(2×5=10)**

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