12523/E 230

Reg. No. ☐ ☐ ☐ ☐ ☐ ☐ ☐

V Semester B.C.A. Degree Examination, Oct./Nov. 2013
(Repeater)
DATABASE MANAGEMENT SYSTEM

Time : 3 Hours   Max. Marks : 80

Instructions : i) Answer **any five full** questions.
ii) Draw neat diagram **wherever** necessary.

1. a) Define DBMS. Name any two basic tasks of DBMS.

   b) Discuss the simplified database system environment with diagram.

   c) Enlist the various characteristics of database approach and discuss any three
      of them in detail.   **(2+6+8)**

2. a) Define data and database.

   b) Explain with diagram, the three schema architecture.

   c) Explain in detail the actors on the scene.   **(2+6+8)**

3. a) Define metadata. Give example.

   b) Discuss in brief DBMS languages.

   c) Explain various set theory operations of relational algebra.   **(2+6+8)**

4. a) What is file ?

   b) Enlist all the operations on files and explain any four of them.

   c) What are the various storage devices ? Explain any two of them in detail.
                                                                           (2+6+8)

P.T.O.

5. a) Define function dependency.

   b) Discuss the concept of normalization.

   c) Explain the informal design guidelines for relational schema. **(2+6+8)**

6. a) What do you understand by locking with respect to transaction ?

   b) Discuss the desirable ACID properties of transaction.

   c) Why recovery is needed ? Discuss types of error in detail. **(2+6+8)**

7. a) What is relation and tuple ? Give an example.

   b) Enlist all the relational model constraints and explain three main categories.

   c) Explain the following operations of relational algebra.
      i) SELECT
      ii) PROJECT
      iii) JOIN
      iv) RENAME. **(2+6+8)**

8. Write short notes on **any four** :

   a) Various types of attributes

   b) E-R notations

   c) DBMS interfaces

   d) Views in SQL

   e) Double buffering. **(4+4+4+4)**