(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 7127   Roll No. ☐☐☐☐☐☐☐☐☐☐

MBA
(SEMESTER-III) THEORY EXAMINATION, 2012-13
DATABASE MANAGEMENT SYSTEM

Time : 3 Hours]   *[Total Marks : 100*

Note :   Attempt **all** questions.

Section – 1   10 × 2

1.   (a)   What is DBMS ? Give the functions of DBMS.

      (b)   Who is DBA and write down his responsibilities ?

      (c)   What are the database constraints ?

      (d)   Define Entity and Attribute.

      (e)   Explain the difference between weak and a strong entity set.

      (f)   Write the difference between DBMS and RDBMS.

      (g)   Define database schema.

      (h)   What is the difference between logical data independence and physical data independence ?

      (i)   Discuss the main characteristics of the database approach and how it differs from traditional file systems.

      (j)   What is normalization ?

Section – 2

Attempt any **three** questions from this section :   10 × 3

2.   (a)   Discuss the concept of Relational Data Model.

      (b)   Construct an ER diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.

(c) Elaborate the concept of Data Warehousing and Data Mining.

(d) Consider two set of functional dependencies :

$F1 = \{A \rightarrow C, AC \rightarrow D, E \rightarrow AD, E \rightarrow H\}$

$F2 = \{A \rightarrow CD, E \rightarrow AH\}$

Check whether they are equivalent.

(e) Write short notes on :
   (i) Serializable Schedule
   (ii) DML

Section – 3

Attempt **all** the questions from this section :   **10 × 5**

3. (a) What are the three data anomalies that are likely to occur as a result of data redundancy ? Can data redundancy be completely eliminated in a database approach ? Why or why not ?

OR

Explain two phase locking protocol, B-tree and Query processing with examples.

(b) What is a view in SQL, and how is it defined ? Discuss the problems that may arise when one attempts to update a view. How are views typically implemented ?

OR

What is ER modeling ? Also discuss the components of ER model.

(c) Explain the architecture of DBMS along with its advantages and disadvantages.

OR

Explain the record based logical models and data independence.

(d) Define the concept of aggregation. Give two examples where this concept is useful.

OR

Explain any five SQL commands with suitable examples.

(e) Write short notes on any **three** :
   (i) Cursor
   (ii) Foreign Key
   (iii) Second Normal Form
   (iv) Trigger
   (v) DDL Compiler

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