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B. C. A. (Second Semester) Examination, June 2014

(Course : 2012-13 / 2010-11)

(For Regular/ATKT/Ex Students)

DATABASE MANAGEMENT SYSTEM

Time Allowed : Three hours

Maximum Marks : 50

*Note : Attempt all the **five** questions. **One** question from each unit is compulsory. All questions carry equal marks.*

Unit-I

1. List any five advantages of database management system over file-processing system. Also discuss the different levels of Abstraction in Database Management Systems.

Or

Discuss the major functions and responsibilities of a Data Base Administrator (DBA). What problems may arise if a DBA fails to perform its responsibilities? Discuss.

Unit-II

2. Justify the following statements with the help of suitable examples :

(i) Relation must have a key

(ii) Weak entities do not have their own key attributes

(iii) Data may be loss if integrity is not maintained

(iv) Redundancy leads to inconsistency

(v) There can be any numer of external schemas

Or

What is derived relationship? Can derived relation be obtained with the help of Join Operation? Discuss. What is an outer join? Describe different types of outer join with the help of examples.

Unit-III

3. Consider the following four relations :

employee (*person-name, street, city*)

works (*person-name*, *company-name*, *salary*)

company (*company-name*, *city*)

manages (*person-name*, *manager-name*)

Write querries in Relational Algebra and SQL for the following :

(i) Find all the manager's name along with their company names.

(ii) Find names of employees whose salary is greater than the average salary of employees in their company.

(iii) Find the names of all employees who live in the same city and the same street as their managers.

Or

What are QUEL and QBE? Discuss. What is a view in SQL? How is it different from a table? Write the SQL syntax for creating a view.

Unit-IV

4. Discuss the anomalies due to insertion, updation and deletion in a relation that is not in 2NF. Illustrate with the help of an example.

Or

Differentiate between the following :

(i) Dependency preservation and lossless decomposition

(ii) Simple (Atomic) and Composite Attributes

(iii) Single-value and multi-valued attributes

(iv) Stored and Derived Attributes

(v) Protection and Security

Unit-V

5. Write a short report on any **one** of the following :

(i) ORACLE Tools

(ii) ORACLE and Microsoft Access