CD 05

I Semester P.G. Diploma in Clinical Research and Data Management Examination, July 2009
DATABASE MANAGEMENT SYSTEM

Time : 3 Hours | Max. Marks : 80

SECTION – A

All questions **compulsory**. **(10×1=10)**

1. Define the term Data Model.
2. What is a Tuple ? Give an example.
3. What is cardinality of a relation ?
4. What is a relationship ?
5. Explain COUNT built in function with example.
6. What is third normal form also called as ? What is the difference between them ?
7. What is the loss of integrity ?
8. What is a cipher text ?
9. What is Clustering ?
10. Name the DML statements of SQL.

SECTION – B

Answer **any 5** questions out of 8. **(5×5=25)**

1. Explain the advantages of database systems.
2. Explain Indexing for retrieval of records with example.
3. Describe the integrity rules in detail.

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4. What are the advantages of database processing ?

5. Explain the function 1 of database management systems, i.e. Data Storage, Retrieval and Update with example.

6. Explain the built-in functions SUM, AVG, MAX, MIN and explain Order by clause with examples.

7. Explain with an example the second normal form.

8. Describe the characteristics of Data warehouse.

SECTION – C

Answer **any 3** questions out of 6 questions. **(3×10=30)**

1. Describe the relational Algebra Operators :

   SELECT, PRODUCT, INTERSECT, DIFFERENCE.

2. Explain the function 4 concurrency control services, function 6 authorization services and function 7 support for data communication.

3. Explain in detail the database design goals.

4. Explain mandatory access control and role-based access control for multilevel security.

5. Explain the Encryption and Public Key Infrastructures.

6. Explain in detail the problems and open issues in data warehouses. How are data warehouses different from views ?

SECTION – D

All questions **compulsory.** **(1×15=15)**

Consider the following database tables :

Order_Aug

Ord #	Ord date	Cust #

Ord_Items

Ord #	Item#	Qty

Items

Item #	Descr	Price

Customers

Cust #	Cust name	City

Write the SQL Query for the following :

a) Insert a new row to Ord_Aug.

b) Find the SUM and AVG of quantity values of all rows where item # = 'SW1'.

c) Retrieve all the rows from Ord_items in ascending order of item #. If there are more than one record for same item # display them in descending order of Qty.

d) Retrieve the records of Ord #, Ord_Aug.cust #, custname implementing Join Operator.

e) Select all the Cust # where the customer name start with 'S'.

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