SCHEME – E

SAMPLE QUESTION PAPER

Course Name : Computer Engineering Group

Course Code : CO\CM\IF\CD **12065**

Semester : Third

Subject Title : Relational Data Base Management Systems

Marks : 100 **Time: 3 Hours**

Instructions: 1.All questions are compulsory.

2. Figures to the right indicate full marks.

3. Use of non-programmable calculator is permissible.

Q.1 Attempt any TEN of the following **(10x2=20)**

a. Define data independence and list its types.

b. Define attribute and entity.

c. List different levels by which security can be maintained.

d. Define data models and list different types of data models.

e. State functional dependency.

f. What is Equivalence Expression?

g. Write producer to detect dead lock in a system?

h. What is serial schedule?

i. List the functions of DBA.

j. List data models.

k. Define Views. Why views are used?

l. What is the use of Strong Entity Set.

Q.2 Attempt any FOUR of the following **(4x4=16)**

a. What is client server Architecture? Explain in detail.

b. Compare N/W model and Hierarchical model.

c. Draw E-R diagram of Hospital management. The Hospital should maintain the data about employees, doctors and patients.

d. List and explain types of DBMS users.

e. Explain Query Processor and Storage Manager Components of DBMS.

f. Explain relational model with example.

Q.3 Attempt any FOUR of the following **(4x4=16)**

a. With suitable example explain terms Domain, Integrity Constraints.

b. Consider the structure as

Product - Master = {Prod.id, prod. name, rate}

Purchase - details = {prod.id, quantity, dept.no purchase. date}

Write relational algebra expression for following-

i) Get product.id, product-name and quantity for all purchased products.

ii) Get the products with rates between 100 4500.

c. How to grant & Revoke permission from user?

d. What is the use of group by and having clause? Explain with example.

e. What are Equi Join and Non Equi Join? Give example.

f. How to use function in PL/SQL? Explain with two examples.

Q.4 Attempt any FOUR of the following **(4x4=16)**

a. List and explain set operators in SQL with example.

b. Consider the structure for Book. Table as book-master

= {Book-id, Book name, Sub-code, Author, No. of copies, price}.

Write SQL queries for following.

1) Display total number of books for subject code 'DBM'
2) Get author wise list of all books.
3) Get the list of books which are written by same author as of book programming in C.
4) Display all books with details whose name start with 'S'

c. Write a program using while loop to display n even numbers.

d. List types of cursors and explain each with example.

e. With suitable example explain before and after insert trigger.

f. What the terms Specialization and Generalisation? Explain with suitable example.

Q.5 Attempt any FOUR of the following **(4x4=16)**

a. Consider the structure of relation as

Employee Details= {emp_id, emp_name, address, designation, salary, Dept-no, dept-name, location, joining-date}

Find all functional dependencies and normalize the structure up to 2NF

b. How to access records using sequential index access methods.

c. Draw ER diagram of car accident consider the data about car details, person details and accident records. Show in detail the types of attributes.

d. Describe the terms decomposition and loss-less join Decomposition.

e. What is byte string representation? Explain with example.

f. Consider the structure for account table as {Acc_no, balance, acc_name} and customer table as {Cust_name, cust_add, state, city, phone_no} apply primary key, foreign key and check constraint that balance should not be less than 500

Q.6 Attempt any TWO of the following (8x2=16)

a. What are the strategies of query processing? Explain in detail.

b. How deadlock is prevented? If deadlock is there write procedure to recover from it.

c. What is Time Stamp based protocol? Explain with example.