



Seat No. : \_\_\_\_\_

**TC-114**

**April-2013**

**B.Sc. Sem. IV**

**205-COMPUTER SCIENCE**

**(Relational Database Management System)**

**Time : 3 Hours]**

**[Max. Marks : 70**

1. (a) What is Database ? Explain characteristics of Database Management System. **6**
- OR**
- What is Data Model ? Explain its all types.
- (b) What is Attribute ? Explain various types of attribute. **6**
- OR**
- What is Generalization & Specialization ?
- (c) Do as directed : **2**
- (1) Explain Relationship & Relationship Set.
- (2) Explain Entity.
2. (a) What are the two types of Relational Algebra ? Explain set based operation in detail. **6**
- OR**
- What do you understand by Functional Dependency & Decomposition ?
- (b) What is Normalization ? Explain 3NF & BCNF Normal Form with example. **6**
- OR**
- What is Transaction ? Explain Transaction State with diagram.
- (c) Do as directed : **2**
- (1) Define Data Dictionary
- (2) Give full form of ACID
3. (a) Write short note on Buffer Management. **6**
- OR**
- Explain Deadlock Handling.
- (b) What is function ? List various categories of functions. **6**
- OR**
- What is JOIN ? Explain types of JOIN.
- (c) What is subquery ? Explain types of subquery. **2**

4. Write SQL Query for the following : (any seven) 14
- Salesman (snum, sname, city, commition)
- Customer (cnum, cname, city, rating, snum)
- Order (onum, amount, odate, cnum, snum)
- (1) Give the commands to create our tables (salesmen, customer, orders) with all the necessary constraints like PRIMARY KEY, NOT NULL, UNIQUE, FOREIGN KEY.
  - (2) Give all the information about all the customers with salesman number 1001.
  - (3) List out names and cities of all salesmen in London with commission above 10%.
  - (4) List all customers whose names begin with letter 'A' to 'G'.
  - (5) Find the largest order taken by each salesman on each date.
  - (6) Display the no. of order for each day in the following format. For dd-mon-yy, there are orders.
  - (7) Calculate the amount of the salesman commission on each order by customer with rating above 100.
  - (8) Extract all orders of Miti.
  - (9) Produce the name and rating of all customers who have above average orders.
  - (10) Using correlated sub query find the name and number of all customer with rating equal to maximum for their city.
  - (11) Create a duplicate of the salesmen table with a name Multicust. Now delete all the rows from the salesmen table.
  - (12) Create a view that shows all the number of salesmen in each city.
  - (13) Delete all customers with no current orders.
  - (14) Create a copy of your order table. Drop the original order table.

5. (a) What is cursor ? Explain implicit cursor with its attributes using suitable example. 6

**OR**

What are stored-functions ? And what are the advantages of using them. Write a function to display the reverse string of a given string.

- (b) What is view ? Explain different types of views by taking suitable example. 6

**OR**

What is exception ? Give example of user define exception.

- (c) What is database Trigger ? 2