(4)

Depositor (Customer_name, account_number)

Loan (loan_number, branch_name, amount)

Borrower (customer_name, loan_number)

(i) Find the names of all branches in the loan relations and remove duplicates

(ii) To find all loan numbers for loan made at the university branch with loan amounts greater than 50,000.

(iii) Find the name, loan number and loan amount of all customers having a loan at university branch.

(iv) Find the loan number of those loans with loan amount between 10,000 to 50,000.

9. (a) What is Serializability? Also define two phase locking System for serializability. 4

(b) Explain different problems of concurreney control. 3½

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B.Sc. (Part-II) Examination, 2015

(Old Syllabus)

COMPUTER APPLICATION

Second Paper

(Database Management Systems)

Time Allowed : Three Hours]   [Maximum Marks : 50

Note :   Attempt five question in all. Question No. 1 is compulsory. Attempt one question from each of the Units I, II, III and IV.

1. Attempt all parts :   2×10=20

   (i) What is RDBMS?

   (ii) What is a degree of relationship?

   (iii) Define primary key and candidate key.

   (iv) What are the properties of transaction?

   (v) Give two reasons why we may choose to define a view.

   (vi) What do you mean by index.

(vii) What is E-R Model?

(viii) What do you mean by denormalization.

(ix) What is trigger?

(x) What are aggregate functions?

Unit - I

2. (a) Discuss about three schema architecture for database development. 4

   (b) Explain costs and risks of data base approach. 3½

3. (a) What do you mean by data independence? Discuss about levels of data independence. 4

   (b) Discuss about the reasons brings you to choose the database than the file system. 3½

Unit - II

4. Design an E-R 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. 7½

5. (a) How the security can be implemented on the tables using Grant, Revoke command in a database. Explain with the help of examples. 4

   (b) How do you add and drop columns for a table using advanced data definition commands? 3½

Unit - III

6. (a) Explain various steps in distributed database design including fragmentation, replication and allocation. 4

   (b) What is DDBMS? Also explain its advantages and disadvantages. 3½

7. (a) What are order by, group by and having clauses? Explain then with suitable examples. 4

   (b) Discuss the effective design of forms and reports? 3½

Unit - IV

8. Consider the following tables and give the SQL statements for queries given below - 7½

   Customer (customer_name, street, city)