FOURTH SEMESTER EXAMINATION, 2016

DATABASE MANAGEMANT

Branch : MBA

Time: 3 Hours

Max marks: 70

Q. code. W377

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

Q1   Answer the following questions: (2 x 10)

    a) Define DBMS .

    b) Data redundancy leads to data inconsistency, justify ?

    c) What is recursive relationship? Explain with an example.

    d) Differentiate database schema and database state .

    e) What are the responsibilities of DBA?

    f) Explain, why primary key values can not be NULL ?

    g) What is meant by view of a database ?

    h) Write any two SQL group functions.

    i) List the commonly accepted threats to data base security.

    j) What do you mean by a transaction ?

Q2   Case Study :   (10)

Consider a bank database with the following information :

A bank has many branches and a large number of customers. A customer can open different kinds of accounts with the bank. The bank keeps track of a customer by his A/C No., name, address and phone number. There are different types of loans, each identified by a loan number. A customer can take out more than one type of loan, and all branches can give loans. Loans have a duration and interest rate. The account holder can enquire about the balance in his account.

Draw an ER diagram for the bank.

Q3 Discuss the main characteristics of the database approach. How does it differ from traditional file systems ? (10)

Q4 a) What is referential integrity constraint? Explain the concept of foreign key with an example. (5)

b) Discuss SELECT and PROJECT operations of Relational Algebra with examples. (5)

Q5 Consider the following schema (10)

STUDENTS (regdno, name, semester)

COURSES (cno, cname, instructor_name)

ENROLLS (regdno, cno, year)

Where regdno is the registration number of a student, cno and cname represents course number and course name of a course respectively.

Answer the following queries in SQL
a) List the registration numbers of 4th semester students .
b) Find the name of the instructor(s) who will teach DBMS.
c) Find the registration numbers and names of students who are
   enrolled in the year 2015. .
d) Find the instructor(s) who are assigned more than two subjects. .

Q6 a) Given a relation R(A,B,C,D,E) and a set of functional dependencies F={AC->BD,B->AE.,E->CD}.Find the candidate keys of R (5)

b) What is normalization? Discuss 3NF with an example. (5)

Q7 a) Why ,there is a need for database recovery ?Discuss the techniques for recovery from non catastrophic failures . (5)

b) Define DDMS. Write the advantages of distributed databases. (5)

Q8 Write short notes on any two (5 X 2)

a) Data Mining
b) DSS
c) Data Models
d) Backup strategies