BCA (Pre-revised)

Term-End Examination

June, 2013

CS-06 : DATABASE MANAGEMENT SYSTEM

Time : 3 hours   *Maximum Marks : 75*

Note :   *Question number 1 is **compulsory** and carries 30 marks. Answer **any three** from the rest.*

1. (a)   Create an ER diagram for the Home loan   **10** management system of a finance company. Loans are given for the purchase of flats/ plots/commercial complex etc. with various (floating/fixed) interest rates. The company should keep track of the defaulters other than the routine functions and should implement neccessary action against them. Make and state suitable assumptions (if any).

    (b)   Describe the responsibilities of a DBA in   **10** order to maintain the centralized database efficiently for any organization. Also, include atleast two responsibilities each w.r.t the database quality and security.

    (c)   Consider the insurance database, where primary keys are underlined.   **2x5=10** person (<u>driver_id</u>, name, address)

car (<u>licence</u>, model, year)

accident (<u>report_number</u>, <u>date</u>, location)

owns (<u>driver_id</u>, license)

Participated (<u>driver_id</u>, <u>car</u>, <u>report_number</u>, damage_amount)

Construct the SQL queries for the following:

(i) Find the number of accidents in which the cars belonging to "Rahul" were involved.

(ii) Find the damage amount, driver_id and the car involved in the accident if the report_number is given.

(iii) Update the database with the particulars of a new accident.

(iv) Find all the locations of the accidents if the date is given as input.

(v) Display the names of the drivers involved in the accident on 20-SEPT-2011.

2. (a) Write the important issues in knowledge representation and with the help of a suitable example, explain the rule based representation.   7

(b) What is a view ? Discuss the difference between a view and a base relation. Explain what happens when a user accesses a database through a view ? Give example for each of a base relation and a view.   8

3. (a) What are major anamolies in a database ?   7
Explain the method to deal with these
anamolies, with a suitable example.

(b) With the help of an example, explain the   8
multilist file organisation method. How is
it different from inverted file organization ?

4. (a) What is an object oriented database   8
management system ? Explain its
advantages. Compare it with other
database systems with suitable example.

(b) Write short notes on :   7
(i) Remote Procedure Call (RPC)
(ii) Functional Dependency (FD)

5. (a) Describe the methodologies used in the   7
evaluation of a DBMS. What are the merits
and demerits of each of these ?

(b) Explain the trade-offs in distributing the   8
database. List the issues involved in storing
the relations in the distributed databases.

———