CS-06

BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Pre-Revised)
Term-End Examination

02163   **June, 2015**

CS-06 : DATABASE MANAGEMENT SYSTEMS

Time : 3 hours   *Maximum Marks : 75*

Note :   *Question number 1 is **compulsory**. Attempt any **three** questions from the rest.*

1. (a) A Bank provides three types of Accounts —
   Savings, FD and Current to its customers.
   All these accounts may be operated by a
   single user or there may be more than one
   user of an account. Bank has a policy to
   keep minimum ₹ 10,000 balance in Savings
   and Current accounts at any stage. For FD,
   minimum ₹ 1000 is essential to open an
   account. Interest rate for FD is fixed but for
   Savings the interest rate is revised after
   every six months. For Current account, the
   bank does not give any interest. Design and
   draw an ER diagram indicating the
   attributes, keys, the cardinality ratio and
   participation constraints.

   Make necessary assumptions, wherever
   required.   *10*

(b) Map the ER Diagram of Q. 1 (a) to relations. *5*

(c) What is client-server model ? Explain the stages involved in the development of an application using the client-server model. *7*

(d) What is DBMS ? How is it different from file management system ? Explain four criteria for evaluating a DBMS. *8*

2. (a) Explain the following relational algebra operations with suitable examples : *6*
   (i) Set Difference
   (ii) Projection
   (iii) Selection

(b) Differentiate between knowledge based system and database system. *4*

(c) What is Network data model ? Explain how this model is implemented, with the help of an example. *5*

3. (a) What is meant by anomalies in a relation ? Explain the following anomalies with the help of an example for each : *7*
   (i) Insertion anomaly
   (ii) Update anomaly
   (iii) Deletion anomaly

(b) Explain the ALTER TABLE and CREATE VIEW commands in SQL with the help of an example. *4*

(c) What is multikey file organisation ? Explain its need with the help of an example. *4*

4. (a) What is normalization ? Explain 3NF with the help of an example. *6*

(b) What is distributed database ? Explain the three issues involved in distributed database design. Also list two advantages and two disadvantages of distributed database. *9*

5. Explain the following with the help of an example for each : *3×5=15*

(a) B-Tree Indexes

(b) Database Administrator

(c) Integrity Constraints