

BCA-502
B.C.A. (Semester Fifth) Examination – 2011
Paper: SECOND
BASIC OF DATABASE MANAGEMENT
SYSTEM

Time: Three Hours]

[Maximum Marks: 75

Note: Sections A is compulsory. Attempt any seven questions from Section B and one question from Section C.

Section – A

(9 each)

1. Given the following relational questions, write SQL statements for each of the following:
Employee (employee-name, street, city)
Works (employee- name, company-name, salary)
Company (company-name, city)
Manages (employee-name, manager-name)
Where the primary keys are underlined
 - (a) Find the names and cities of residence of all employees who work for first Bank Corporation?
 - (b) Find the names, street and cities of residence of all employees who work for first Bank Corporation and earn more than Rs.10000?
 - (c) Find all employees in the database who do not work for first Bank Corporation?

- (d) Find the company that has the most employees?
 - (e) Modify the database so that Manoj now lives in Jaipur?
 - (f) Find all employees in the database who earn more than each employee of small bank corporation.
2. (a) what do you mean by DBMS? Also mention its applications.
- (b) What is the difference between logical data independence and physical data independence?

Section-B**(6 each)**

3. What do you mean by External schema, conceptual schema and internal schema?
4. What are the main difference between a file processing system and a DBMS?
5. What is the difference between specialization and generalization with respect to database?
6. Explain the following term primary key, candidate key and super key.
7. Define the join and its types in detail.

8. What is view? How is view defined?
9. Given two sets F_1 and F_2 of FDs for a relation.
 $F_1: A \rightarrow B, AB \rightarrow C, D \rightarrow AC, D \rightarrow E$
 $F_2: A \rightarrow BC, D \rightarrow AE$
 Are the two sets equivalent?
10. What do you understand by multi valued dependency?
 Give example. Which normal form is based on MVD?
11. How is database security and integrity implemented?
 Give example though Oracle.

Section – C

(15 each)

12. (a) Define Boyce-codd normal form. How does differ from third normal form?
- (b) Compute the closure of the following set F of functional dependencies for relation schema
 $R = (A, B, C, D, E)$
 $A \rightarrow BC, CD \rightarrow E, B \rightarrow D, E \rightarrow A$
 List the candidate keys for R .
13. (a) What do you mean by Entity and Relationship in ER model? Discuss the relationship and its types in detail.
- (b) Give two advantages and two disadvantages of a distributed database system.