Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 16

BCA (2014 to 2018)   (Sem.–4)
DATABASE MANAGEMENT SYSTEMS
Subject Code : BSBC-404
M.Code : 10069

Time : 3 Hrs.   **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

Answer briefly :

1. Define Data Independence.

2. What are Views?

3. Define the terms: schema, sub-schema, instance and tuple.

4. What is the difference between database security and recovery?

5. What is the difference between Natural Join and Equi Join operators?

6. Differentiate between weak entity set and strong entity set.

7. What is SQL?

8. Define DDL, DML and DCL.

9. What are the various problems encountered in concurrent access?

10. What is database recovery? How is database recovery performed?

SECTION-B

11. Explain the advantages of database systems by comparing it against the traditional file processing systems.

12. Compare and contrast Hierarchical, Network and Relational data models.

13. Write the relational algebraic and relational calculus expression for the following queries using the following schema :

       Project (Pno, PName)

       Employee (Eno, EName)

       AssignedTo (Pno, Eno)

   a) Find name of employees working on project no 101.

   b) Find details of employees who are working on project named "DBMS".

   c) Find employee number of employees working on project on which employee number 1 is also working.

14. What do you mean by Normalization of databases? Why do we need to normalize database? Discuss different normal forms with an example.

15. Define Integrity. What are the various types of integrity constraints? Explain each with a suitable example.

16. What is a Distributed database system? Explain the structure of a distributed database. Briefly discuss the methods of data distribution.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.