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

Total No. of Questions : 09

B.Tech. (CSE) (Sem.–5)
DATABASE MANAGEMENT SYSTEM
Subject Code : BTCS-501-18
M.Code : 78320
Date of Examination : 15-12-22

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 FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Write briefly :**

    a) Define DBMS

    b) What is a view level?

    c) State 1 NF.

    d) What is meaning of functional dependence?

    e) Difference between alter and update?

    f) What is entity integrity Constraint?

    g) Define view serializability.

    h) Define deadlock in transactions.

    i) What is access control?

    j) What is database recovery?

SECTION-B

2.   What is the need of DBMS and discuss in detail the different DBMS Models.

3.   Define Normalization. Explain 3NF and BCNF with the help of a suitable example.

4.   What is the concept of locking techniques? Discuss the Two-phase locking protocol.

5.   Explain the concept of ACID properties with the help of suitable example.

6.   Explain the concept of authorization and authentication

SECTION-C

7.   What are different data models used in DBMS? Discuss in detail about the ER Model used in the RDBMS.

8.   Explain different types of Joins used in RDBMS with the help of example and why do we use self-join?

9.   Write a short note on :

     a) Object Relational Databases

     b) Query Optimization

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.