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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AI&ML/ LE / CSE) (Sem-5)
DATABASE MANAGEMENT SYSTEMS

Subject Code : BTCS-501-18

M.Code : 93171

Date of Examination : 14-12-2024

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) What is database management system?
- b) Differentiate between **SELECT** AND **FROM** clauses in a SQL query.
- c) Define a database deadlock and how it can be avoided?
- d) Explain the concept of role based access control in database security.
- e) Explain the concept of inheritance in the context of object orient databases.
- f) State the difference between relational algebra and calculus.
- g) Define BCNF. Write down its basic properties.
- h) What do you mean by 2PL?
- i) Define the term Relational Databases.
- j) Write down application of DBMS.

SECTION-B

2. Differentiate between file based approach and data base approach.
3. What is Transaction? Discuss ACID Properties in details.
4. Why should normalization be performed on a table and what are its benefits.
5. What is authorization and authentication? Explain the access controls in a database.
6. What is Concurrency Control? Discuss three main problems in concurrency control.

SECTION-C

7. What is normalization? Explain 1NF, 2NF, 3NF and BCNF in detail.
8. What is attribute? Explain different type of attributes with examples in detail.
9. What do you mean by file organization? Discuss the importance of file organization database. Discuss various types of file organizations available.

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.