

Roll No.

Total No. of Pages : 02

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B.Tech. (Civil Engg./Electrical Engg.) (Sem.-6)

**DATABASE MANAGEMENT SYSTEMS**

Subject Code : BTCS-501-18

M.Code : 79263

Date of Examination : 15-07-22

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) Explain in brief about DDL.
- (b) Explain in brief the term weak entity types.
- (c) What is domain relation calculus?
- (d) Explain in brief about Relational Algebra.
- (e) Write the advantage and disadvantage of Hashing.
- (f) Why is concurrency control needed?
- (g) What is the access control in database security?
- (h) What is SQL injection and how does it work?
- (i) What are advantages of Logical databases?
- (j) What are the features of object-relational databases?

## SECTION-B

2. Explain in detail about various Data Manipulation operations.
3. Write a detailed note on Dependency preservation.
4. Explain in detail about Indices in relation to DBMS.
5. Write a detailed note on Serializability of scheduling.
6. Explain in detail about intrusion detection in relation to Database security.

## SECTION-C

7. Write a detailed note on B-trees in relation to DBMS.
8. Explain in detail about following Access control models :
  - (a) DAC
  - (b) MAC
  - (c) RBAC.
9. Write a detailed note on Distributed Databases.

**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.**