

Roll No.

Total No. of Pages : 02

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B.Tech. (AI&DS/DS) (Sem.-5)
DATABASE MANAGEMENT SYSTEM
Subject Code : BTCS501-18
M.Code : 93937
Date of Examination : 20-11-2025

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 the term Data Abstraction.
- b) Explain in brief about Data Manipulation Language (DML).
- c) Explain the term Loss less design in brief.
- d) List the various operators used in Relational Algebra.
- e) Differentiate between Open source and commercial DBMS.
- f) What is Hashing?
- g) Explain in brief about Database Recovery.
- h) Write the advantages of RBAC models.
- i) Explain the term authentication in reference to database security.
- j) Write the advantages of Logical Databases.

SECTION - B

2. Write a detailed note on Integrity constraints.
3. Write a detailed note on Domain Relational calculus.
4. Explain in detail about B-trees.
5. Explain in detail about Concurrency control.
6. Write a detailed note on Intrusion Detection.

SECTION - C

7. Write a detailed note on Entity-Relationship Model.
8. Write a detailed note on various Normal forms.
9. Write a detailed note on Distributed Databases.

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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.