

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech. (ECE) (Sem.-6)**  
**RELATIONAL DATABASE MANAGEMENT SYSTEM**

Subject Code : BTEC-901

M.Code : 71125

Date of Examination : 15-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION 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) Answer briefly :

- a) Explain the term Data Independence.
- b) Define the term file organization and indexing.
- c) What is E-R model?
- d) Explain in brief the term weak entity types.
- e) What is Relational Algebra? What are the unary operations in Relational Algebra?
- f) What do you mean by SQL? What are the characteristics of SQL?
- g) Distinguish between static and dynamic SQL.
- h) List and explain the properties of decompositions.
- i) Define transaction management.
- j) Define the term Firewalls.

## SECTION-B

2. Write a detailed note on DBMS Layers.
3. Explain the following terms in brief :
  - a) Cluster Index
  - b) Sparse Index
4. Explain in detail about Relational Data Model.
5. Write a detailed note on Relational Calculus.
6. Explain various DDL and DML commands with example.

## SECTION-C

7. Define normalization. List and explain different normal forms with examples.
8. Explain in detail about following terms in relation to transaction management.
  - a) Two Phase Commit Protocol
  - b) Lock Management
9. Explain in detail about following terms :
  - a) Mandatory Access Control
  - b) Discretionary Access Control.

**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.**