

LNCT UNIVERSITY, BHOPAL
Enrollment No. _____

CS - 301
B.TECH (CS / AIML) III SEMESTER
EXAMINATION [DECEMBER-2024]
DBMS

Maximum Marks: 70

Time Allowed: 3Hours

Note:- Attempt all questions. Internal choice is given.

(SECTION –A)

1. Short Answer Type Questions (Attempt Any Five) [5x6=30]

- i. What are the key differences between the database approach and the traditional file-accessing approach?
- ii. Define data independence and explain its types.
- iii. What are the key attributes of a relation in the relational model?
- iv. Explain referential integrity with an example.
- v. Define functional dependency and discuss its significance in database design.
- vi. What is a transaction? Briefly describe its ACID properties.
- vii. Explain the concept of distributed databases and mention their advantages.

(SECTION –B)

2. Long Answer Type Questions (Attempt Any Four) [4x10=40]

- i. Describe the functions of a Database Administrator (DBA).
 - ii. Explain the process of transforming an ER diagram into relational tables with an example.
 - iii. Discuss normalization and describe the first three normal forms with examples.
 - iv. Explain the steps involved in query optimization.
 - v. What is log-based recovery? Explain its importance in transaction management.
 - vi. Write SQL queries to demonstrate the usage of INNER JOIN, OUTER JOIN, and SELF JOIN.
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