



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

II B.Tech II Sem Supply End Examination, March 2022

## Database Management Systems

(CSE & IT)

Time: 3 Hours.

Max. Marks: 70

Note: 1. Answer any FIVE questions.

2. Each question carries 14 marks and may have a, b as sub questions.

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|---|----|--|----|-----|-----|
| 1 | a) | What is a data model? What are the different data models? Explain E-R model and relation model briefly | 7M | C01 | BL4 |
|   | b) | Define DBMS? Explain in brief about the structure of DBMS?   | 7M | C01 | BL4 |
| 2 | a) | What are the application programs? Explain database access for application programs.                   | 7M | C01 | BL4 |
|   | b) | What is null attribute? With suitable diagram explain weak and strong entity set                       | 7M | C01 | BL4 |
| 3 | a) | Discuss in detail about the properties of relation algebra.  | 7M | C02 | BL2 |
|   | b) | How we can convert relationship sets with key constraints into tables? Explain.                        | 7M | C02 | BL1 |
| 4 | a) | How we can translate E-R diagram with aggregation? Explain   | 7M | C02 | BL4 |
|   | b) | Explain different normal forms based on functional dependencies  | 7M | C03 | BL4 |
| 5 | a) | Explain about dependency preserving decomposition.   | 7M | C03 | BL4 |
|   | b) | Define Normal form? Explain in brief about types of Normal forms?                                      | 7M | C03 | BL4 |
| 6 | a) | How the lock manager implements lock and unlock requests? Explain.                                     | 7M | C04 | BL4 |
|   | b) | What is schedule? Explain about serial and non serial schedule   | 7M | C04 | BL4 |
| 7 | a) | Describe in brief about Time based protocols?  | 7M | C04 | BL2 |
|   | b) | What is meant by extendable hashing? How it is different from linear hashing?                          | 7M | C05 | BL2 |
| 8 | a) | What are the indexed data structures? Explain any one of them  | 7M | C05 | BL4 |
|   | b) | Describe in brief about Indexed Sequential Access Methods  | 7M | C05 | BL2 |