

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY**(AUTONOMOUS)**

II B. Tech I Sem – Semester End Examinations – Supplementary – Jul 2022

DATABASE MANAGEMENT SYSTEMS**[194GA05302]**

(Computer Science & Engineering)

Time: 3 hours**Max. Marks: 70****PART-A**

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- a) What are database management systems? Why we need to use it?
 - b) Write the syntax for various commands present in DDL.
 - c) Define database schema.
 - d) What is meant by nested queries?
 - e) What is the difference between 3NF and BCNF?
 - f) What are attributes? Give examples?
 - g) What is serializability?
 - h) What are the pitfalls of lock based protocol?
 - i) Describe flash memory.
 - j) What are the differences between tree based and hash based indexes?

PART-B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT-1

- 2 a) Explain the architecture of database system with a neat diagram. [5M]
b) Write short notes on data models and its type. [5M]
(OR)
- 3 a) Explain DBMS applications. [5M]
b) What is Data Base Administrator? Discuss the functions of DBA. [5M]

UNIT-2

- 4 a) What is the difference between tuple relational calculus and domain relational calculus? [5M]
b) Illustrate null values and aggregate functions in detail with examples. [5M]
(OR)
- 5 a) What is relational algebra? List all the relational algebra operators. Explain SELECT, PROJECTION operations with examples. [5M]
b) Write a note on views in SQL. [5M]

UNIT-3

- 6 a) What is Entity Relational Model? Explain. [5M]
b) What is functional dependency? Explain its usage in database design. [5M]
(OR)
- 7 a) Explain the multi-valued dependency and fourth normal form with example. [5M]
b) What is entity and relationship set? List and explain the symbols used to draw ER Diagram. [5M]

UNIT-4

- 8 a) Explain the time stamp based protocol for concurrency control in a DBMS. [5M]
b) Discuss ACID properties of database transaction. [5M]
(OR)
- 9 a) Show how 2PL protocol ensures serializability? [5M]
b) Explain the methods used to handle deadlock. [5M]

UNIT-5

- | | | | |
|----|----|--|-------------|
| 10 | a) | What is RAID? Briefly discuss about RAID. | [5M] |
| | b) | Explain query processing stages. | [5M] |
| | | (OR) | |
| 11 | a) | Mention various types of records. Describe how they are organized inside a file? | [5M] |
| | b) | Compare dynamic hashing with static hashing. | [5M] |