

Code: 19CS2501A

III B.Tech - I Semester – Regular Examinations – JANUARY 2022

DATA BASE MANAGEMENT SYSTEMS

(Common for CE, EEE, ME, ECE)

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place.
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PART – A

1. a) Write the use of DBMS interfaces.
b) What is the importance of handling null values in a relation?
c) Define entities and relationships with examples.
d) State 1NF. Write example?
e) Mention the use of system Log.

PART – B

UNIT – I

2. a) Explain the characteristics of the Database approach. 6 M
b) Discuss about Database applications. 6 M
- OR
3. a) Describe in detail about data models. 6 M
b) Explain the three schema architecture. 6 M

UNIT – II

4. a) Explain the Constraints of relational model with example. 6 M
- b) Explain the relational model notation. 6 M

OR

5. a) What is the difference between DELETE, TRUNCATE and DROP statements in SQL? Explain with example. 6 M
- b) Consider the following database schema to write queries in SQL
Sailor(sid, sname, age, rating)
Boats(bid, bname, bcolor) Reserves(sid, bid, day)
- i) Find the sailors who have reserved a red boat
- ii) Find the names of the sailors who have reserved at least two boats
- iii) Find the colors of the boats reserved by 'GOPAL'. 6 M

UNIT-III

6. a) What is an entity type? What is an entity set? Explain the differences among an entity, an entity type, and an entity set. 6 M
- b) Describe the two alternatives for specifying structural constraints on relationship types. What are the advantages and disadvantages of each? 6 M

OR

7. a) What is ER model? Explain its concepts. 6 M
- b) Draw an ER diagram for Hospital management system. 6 M

UNIT – IV

8. a) What is functional dependency? Discuss about Minimal Sets of Functional Dependencies. 6 M
- b) What is normalization? Explain its properties. 6 M

OR

9. What is BCNF. How does it differ from 3NF? Explain with example. 12 M

UNIT – V

10. a) What is transaction? Explain the desirable properties of a transaction. 6 M
- b) State and explain the state transition diagram for transaction execution. 6 M

OR

11. a) Explain the different types locks. 6 M
- b) Discuss 2 Phase Locking Techniques. 6 M