CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Supply) - July - 2024
DATABASE MANAGEMENT SYSTEMS
(Common to CSM, IT, AI&DS)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) Explain any 2 points of difference between file systems and DBMS.   [2M]
   b) What is Data Abstraction?   [2M]
   c) Define relational algebra.Select the general form of SQL query.   [2M]
   d) What is division operation? Give an example?   [2M]
   e) Define the terms UNION and INTERSECT.   [2M]
   f) List the properties of Decomposition.   [2M]
   g) List the ACID Properties of a transaction.   [2M]
   h) What is transaction? Explain its states?   [2M]
   i) What is primary and secondary indexing?   [2M]
   j) Explain recovery with concurrent transactions.   [2M]

PART-B   (50 Marks)

2. A) Write in detail on Levels of Abstraction in a DBMS.   [5M]
    B) Explain about Structure of DBMS.   [5M]

OR
3. Explain the Conceptual Design with the ER Model.   [10M]

4. Discuss about SQL Logical connectivity.   [10M]
OR
5. Write on Integrity constraints over relations.   [10M]

6. Compare and contrast between third normal form and BCNF.   [10M]
OR
7. Construct SQL statements for following: [10M]
   Student(Sno, Sname, courseId, email_id, Mobileno)
   Course(CID, Cname, Cduration)
   i) Add a column city in student table.
   ii) Find out list of students who have enrolled in "AIML" course.
   iii) List name of all courses with their duration.
   iv) List name of all students start with "R"
   v) List email_Id and Mobileno of all Computer Science Engineering students.

8. Explain Timestamp-Based Concurrency control protocol and the modifications [10M]
   implemented in it.

OR

9. Explain locking protocols based on validation. [10M]

10. Write about B+ Trees? Explain in detail on Dynamic Index Structure. [10M]

OR

11. State and explain various file organization methods. Give suitable examples. [10M]

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