R17

Code No: 843AA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA III Semester Examinations, December - 2019
DATABASE MANAGEMENT SYSTEMS

Time: 3hrs **Max.Marks:75**

Note: This question contains two parts A and B.
Part A is compulsory which carries 25 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

5 × 5 Marks = 25

1.a) What is aggregation in ER diagram? Explain with example. [5]
b) What are candidate key, primary key, and foreign key? [5]
c) What is a functional dependency? Quote example. [5]
d) What do you understand by serializability of schedules? Explain. [5]
e) Explain the distinction between static and dynamic hashing. Discuss the relative merits of each technique. [5]

PART - B

5 × 10 Marks =50

2. Explain following terms with examples
a) Data Independence b) Data manipulation language [5+5]

OR

3. Explain the several choices and issues involved in Conceptual design with ER Model. [10]

4. Discuss the process of converting ER model to Relational model. [10]

OR

5. Consider the following given schema and write the SQL queries
Sailor (sailorid, sailorname, rating, Age)
Reserves (sailor id, Boatid, day)
Boat Schema(Boatid, boatname, color)
a) find the names and ages of sailors with a rating above 6.
b) Find the sailor name, boat id and reservation date for each reservation.
c) Find the names of sailors who have reserved boat 202.
d) Find the names of sailors who have reserved at least two boats.
e) Find the sailors who have reserved all the red boats. [10]

6. Explain primitive operations and derived operations in Relational Algebra. [10]

OR

7. What is Lossless join and dependency Preservation property for decomposition? Explain. [10]

8.a) What is the need of concurrency control?
b) What is two-phase locking and how does it guarantee serializability? [3+7]

OR

9. What is time stamping? Explain a mechanism of concurrency control that uses time stamping with the help of an example. [10]

10. Discuss about B+ tree index file with example. [10]

OR

11. Describe the different types of file organization. Explain their advantages and disadvantages. [10]

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