



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, sailername, 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]

