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MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

EXAMINATION: MIDTERM   MONTH and YEAR: SEPT, 2024

Course: B. Tech **Semester** : III   **Branch:** Computer Science and Engineering   **Subject Code:** CSE212

Subject Name: Database Management Systems   **Maximum Marks:** 20 marks
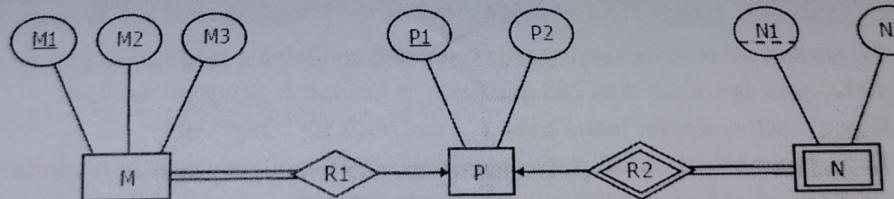
Duration: 90 minutes   **Date: 23-09-2024**   **Time: 3.30 pm to 5:00 pm**

Note: **1.** Attempt all questions, **2.** Assume necessary data, if required, and mention it clearly.

Q. No.	Questions	Marks	COs
Q1.	What are the conditions that must be satisfied for a view to be considered updatable in SQL? Provide an example of a view that cannot be updated.	5	CO3
Q2.	**(a)** Let employee (Eid, Ename, Salary, DNO) and Department (DNO, DName) are two relational schemas with Primary keys as underlined. The relation employee contains 800 tuples, and the relational department contains 500 tuples. What is the maximum number of tuples in (Employee*Department)? **(b)** Consider the following ER diagram. The minimum number of tables needed to represent M, N, P, R1, R2 and attributes of each table..........	5	CO1, 2

Q3.	Consider the following relations.	5	CO3

TEXT (Book id, Price, Publisher, Author_name)
ADOPT (Course#, Book id)
TEACH (Course#, Prof_name, Section#, Semester)
PROFESSOR (Prof name, SSN, Phone#)
COURSE (Course#, Cname, Dept., Credit_hrs.)

Using Relational Algebra, write the following queries:

1. List Bookid, and Price, Course Name used, for books published by (publisher) "AW" (Addison Wesley).
2. List course#s where the teacher is using his or her own book as a text. ~~Draw a query tree for this query.~~
3. List Prof_name of persons who have taught every course in the department called Comp_Sci.
4. List authors of books that have not been adopted in any course.
5. List the names of professors who are teaching more than two courses in a particular section.

Q4.	Consider the following relational schema and write SQL statements for the following:	5	CO3

Author(Author_ID, Name, City, Country)
Book(Book_ID, Title, Author_ID, Publisher_ID, Category_ID, Year, Price)
Order_Details(Order_No, Book_ID, Quantity)
Publisher(Publisher_ID, Name, City, Country)
Member(Member_ID, Name, Address, City, State, Pin, Phone, E-mail)
Order_Summary(Order_No, Member_ID, Order_Date, Amount, Order_Status)
Category(Category_ID, Description)

1. To retrieve all records based on the following conditions: publication year is 1997, price is greater than 200, publisher is "Simon & Schuster" or "Dell Books," author's name starts with "C," and book ID is not "A02."
2. To find and display the average, maximum, and minimum prices of books for publishers that have published more than two books.
3. To retrieve the names of all the books for which an order has been placed.
4. Get the details of the authors who have 2 or more books in the catalog the price of the books is greater than the average price of the books in the catalog and the year of publication of the books is after 1995.
5. Find the members who have placed an order with the third highest amount.