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**Lab Final Examination: Fall-2024**
**Course Code:** CIS 222L (Batch: 17_B)
**Course Title:** Database Management System Lab
**Date:** 12/12/2024

**Time: 1 Hour** **Total Marks: 40**

Consider a **University Enrollment System.**

| Student ID | Student Name | Course ID | Course Name | Teacher | Department | Department Head |
|---|---|---|---|---|---|---|
| 231-16-001 | Fahim | CIS 222 | DBMS | Mr. Mehedi | CIS | Md. Sarwar Hossain Mollah |
| 231-16-001 | Fahim | CIS122 | DS | Mr. Himel | CIS | Md. Sarwar Hossain Mollah |
| 231-16-002 | Maruf | CIS 222 | DBMS | Mr. Mehedi | CIS | Md. Sarwar Hossain Mollah |
| 231-16-002 | Maruf | CIS 131 | CAO | Mr. Israfil | CSE | Dr. Sheak Rashed Haider Noori |
| 231-16-003 | Parvez | CIS 313 | AI | Mr. Mizan | CSE | Dr. Sheak Rashed Haider Noori |
| 231-16-004 | Naim | IoT325 | EDC | Mr. Nafees | SWE | Dr. Imran Mahmud |

## Final Structure After Normalization (Up to 3NF)

**Table:** Enrollment

| Student ID | Student Name | Course ID |
|---|---|---|
| 231-16-001 | Fahim | CIS 222 |
| 231-16-001 | Fahim | CIS122 |
| 231-16-002 | Maruf | CIS 222 |
| 231-16-002 | Maruf | CIS 131 |
| 231-16-003 | Parvez | CIS 313 |
| 231-16-004 | Naim | IoT325 |

**Table:** Departments

| Department | Department Head |
|---|---|
| CIS | Md. Sarwar Hossain Mollah |
| CSE | Dr. Sheak Rashed Haider Noori |
| SWE | Dr. Imran Mahmud |

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Table: Courses

| Course ID | Course Name | Teacher | Department |
|---|---|---|---|
| CIS 222 | DBMS | Mr. Mehedi | CIS |
| CIS122 | DS | Mr. Himel | CIS |
| CIS 131 | CAO | Mr. Israfil | CSE |
| CIS 313 | AI | Mr. Mizan | CSE |
| IoT325 | EDC | Mr. Nafees | SWE |

## Task 1 – Basic Structure (16 Marks)

**Q1.** Create the table and insert data as per the normalized table mentioned above under the "**University Enrollment System**" database.

## Task 2 –SQL Query (6×4=24 Marks)

**Q2.** Find the students whose names have 'r' as the third character.

**Q3.** Count the total number of students

**Q4.** Retrieve the number of courses taught by each teacher

**Q5.** Count the Number of Students Enrolled in Each Course

**Q6.** Find the Course with the Most Enrollments

**Q7.** Find students enrolled in courses with IDs starting with 'CIS'