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| **Name:**  **Enrolment No:** | | A picture containing text, clipart  Description automatically generated | | |
| UPESEnd Semester Examination (DR), October 2025Programme Name: B.Sc. (Computer Science) Semester:Course Name : Databases Time : 1.5 hrsCourse Code : CSEG2058 Max. Marks: 50Nos. of page(s) : 1 Calculator allowed: YesInstructions: Please attempt according to the time provided and given weightage. | | | | |
| **SECTION A**  **Attempt all questions** | | | | |
| **S. No.** |  | | **Marks** | **CO** |
| Q 1 | State any four advantages and disadvantages of a client-server database environment. | | **5** | **C01** |
| Q 2 | Illustrate different components of an ER diagram with their symbols and explain their meaning. | | **5** | **C01** |
| Q 3 | Explain the different types of relational algebra operators with one suitable example for each. | | **5** | **CO2** |
| **SECTION B** | | | | |
| Q 4 | Define Functional Dependency in the context of relational databases. Explain its mathematical representation and importance. | | **10** | **CO3** |
| Q 5 | a) List and explain any four data types commonly supported by modern database systems.  **OR**  b) Define various integrity constraints used in databases. Distinguish between implicit and explicit constraints with examples. | | **10** | **CO3** |
| **SECTION C** | | | | |
| Q 6 | a) Consider the following schema:  **Student**(sid, sname, dept)  **Course**(cid, cname, credit)  **Registration**(sid, cid, grade)   Write relational algebra queries for:  (i) Find student IDs of those enrolled in any “Database” course.  (ii) Retrieve names of students who have registered in all 3-credit courses.  **OR**  b) Consider the table **EMPLOYEE(emp\_id, name, dept, salary, city, hire\_date)**.  Write SQL queries to:  (i) Display all employees in descending order of salary.  (ii) List the names of employees working in “IT” department with salary greater than 60,000. | | **15** | **CO4** |