



GOA UNIVERSITY

B.Voc.(Software Technologies) (Semester VI)

Paper Title: Relational Database Management System.

Paper Code: STG601

Duration: 2 Hours.

Total Marks: 60

- Instructions: i) All questions are compulsory.
ii) Figures to the right indicate full marks.
iii) Draw a neat diagram wherever necessary.

Q1. Answer **any five** from the following:

2x5=10

- Mention any two advantages of DBMS.
- Define DBA. Mention any two of its services.
- With an example explain Schema in DBMS.
- Differentiate between Relational Algebra and Relational Calculus.
- Mention and explain any two Codd's Rules.
- What is a Primary key? Explain with suitable example.
- What is the use of Range searching in SQL? Explain with example.

Q2. Answer **any five** from the following:

2x5=10

- Write the syntax to find the number of rows in the table.
- Describe database recovery. Mention any two types of database recovery.
- Give the syntax of Modify Stored Procedure.
- Mention the syntax to Rename a column in SQL.
- How is IF statement used in procedural SQL? Give an example.
- Define database failure.
- Compare between Grant and Revoke privileges in DBMS.

Q3. A. Explain 1NF and 2NF with suitable examples.

(5)

OR

A. Explain with an example any two types of Data Models.

(5)

B. Draw an ER diagram along with cardinalities for the following scenario of Project management system. Write your assumptions clearly if any.

(5)

- A company is represented by its company_name, company_id, location, website.
- A company handles many projects.
- Project is represented by project_id, project name, description, start date and end date.
- Each project can have many members and many members can work on a single project.
- Members are identified by their member_id, member_name, email, skill.
- A project is handled by a manager who has its manager_id, additional responsibilities.

- Members update the project.
- Each project can have many updates.
- Each project update has a time stamp, type, update_id, status.
- A manager manages many members.

Q4. A. What are Joins? Mention and explain any four types of joins in SQL. (5)

OR

A. Write SQL query for any two of the following questions. (5)

Customer

Customer_id	F_Name	L_Name	Age	City	Country
1	Jimmy	Doe	58	New York	USA
2	Jane	Smith	25	Los Angels	USA
3	Alice	Brown	42	London	UK
4	Bob	Davis	33	New York	USA

- To display the customers whose F_Name starts with the letter "A".
 - To display the youngest customer.
 - To display the L_Name of customers residing in USA.
- B. Explain any five types of Data Definition Language (DDL) commands in SQL with suitable examples. (5)

Q5. A. Define security locks in SQL. Mention and explain any four types of locks. (5)

OR

- Define a Trigger. Explain on implementing of Triggers with suitable example. (5)
- Elaborate on any two types of lock levels in SQL. (5)

Q6. A. Describe the ACID properties of DBMS. (5)

OR

- Explain any two Aggregate functions in SQL using suitable example. (5)
- Elaborate briefly on database security. (5)