STG601

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B. Voc (Software Technologies) Sem - VI
EXAMINATION NOVEMBER 2023
Relational Database Management System (RDBMS)

[Time: 2 Hours]   [Max. Marks:60]
Instructions:
    1. All Questions are Compulsory
    2. Figures to the right indicate full marks.
    3. Draw a neat diagram wherever necessary

Q1   Answer **Any FIVE** from the following.   5x2=10

    a. Briefly explain Database Schema.
    b. State any two drawbacks of using file processing systems over databases.
    c. Explain in brief the role of DBA.
    d. Differentiate between Strong Entity and Weak Entity.
    e. Define Normalization and explain the need for Normalization.
    f. Explain the concept of Foreign Key.
    g. Write the syntax of SQL query to display all the rows from a table.

Q2   Answer **Any FIVE** from the following.   5x2=10

    a. Name the command used to delete the entire table and write a SQL query syntax for the same.
    b. Explain UPDATE command with example.
    c. Briefly explain Views in SQL.
    d. Explain Stored Procedures.
    e. Briefly explain Database Failure.
    f. Write short note on Database Security.
    g. Explain Lost Update Problem in databases.

Q3   A. Explain the Relational Data Model with example.   (5)
                                    OR
    A. Explain any five Codd's Rules in detail.   (5)

    B. Construct an ER Diagram for Library Management System with following   (5)
       Description:
        • The library system keeps track of the staff with a single point authentication system comprising login Id and password.
        • Staff maintains the book catalog with its ISBN, Book title, price (in INR), category (novel, general, story), edition, author Number and details.
        • A publisher has publisher Id, name of the book and Year of book published.
        • Readers are registered with their user id, email, name (first name, last name), Phone no (multiple entries allowed), communication address.
        • The staff keeps track of readers.
        • Readers can return/reserve books that stamps with issue date, return date and a due date too.

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- Staff also generate reports that has readers id, registration no of report, book no and return/issue info.

Q4   A. Explain First Normal Form (1NF) with an example.   (5)

OR

A. Explain any three Data Definition Language (DDL) commands with examples   (5)

B. Explain concepts of Joins in SQL query. Explain Left Join and Right Join in detail.   (5)

Q5   A. Answer any 2 queries with respect to **TABLE: EMPLOYEE**   (5)

ECODE	NAME	DESIGNATION	SGRADE	DOJ	DOB
101	Vikrant Singh	Executive	S03	2003-03-23	1980-01-13
102	Ravi Sharma	Head-IT	S02	2010-02-12	1987-07-22
103	John Desa	Receptionist	S03	2009-06-24	1983-02-24
105	Azhar Ansari	GM	S02	2009-08-11	1984-03-03
108	Priyam Sen	CEO	S01	2004-12-29	1982-01-19

TABLE: EMPLOYEE

1. To display details of all employee in descending order of their DOJ.
2. To display NAME and DESIGNATION of those employees whose SGRADE is either S02 or S03.
3. To display NAME, DESIGNATION, SGRADE of those employees who joined in the year 2009.

OR

A. Explain with example IN and LIKE operators used in SQL.   (5)

B. Explain Triggers and give an example to create Trigger.   (5)

Q6   A. Explain any three types of Security Locks in SQL with example.   (5)

OR

A. Explain Cursors with an example   (5)

B. Explain the ACID properties of a transaction.   (5)