DONBOSCO INSTITUTE OF TECHNOLOGY
DEPARTMENT OF INFORMATION SCIENCE ENGINEERING
ASSIGNMENT QUESTIONS FOR EVEN SEMESTER FOR ACADEMIC YEAR
2020-21
Semester: V   **Subject: DBMS**
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Assignment – II

1. Discuss the different types of update operations on relational database, explain how basic opearations deals with constraint vioalation.

2. Explain the data types available for attriute specification in SQL

3. Consider two tables T_1 and T_2. Shoe the result of the following operations:

i) $T_1 \bowtie_{T_{1.P}=T_{2.A}} T_2$

ii) $T_1 \bowtie_{T_{1.Q}=T_{2.B}} T_2$

iii) $T_1 \bowtie_{T_{1.P}=T_{2.A}} T_2$

iv) $T_1 \bowtie_{T_{1.Q}=T_{2.B}} T_2$

v) $T_1 \bowtie_{(T_{1.P}=T_{2.A} \text{ AND } T_{1.R}=T_{2.C})} T_2$

4. Expalin Unary relational operations with example.

5. Discuss the various types of set theory opearations with example.

6. Discuus the characteristics of relations.

7. Define the following
   i)   Relation State   ii)   Raltion Schema   iii)   Arity
   iv)   Domian

8. In SQL which command is used for table creation? Explain how constraints are specified in SQL during the table creation with suitable diagram.

9.

Consider the COMPANY DATABASE

EMPLOYEE (Fname, Minit, Lname, Ssn, Bdate, Address, Sex, Salary, super-ssn, Dno)
DEPARTMENT (Dname, Dnumber, Mgr_ssn, Mgr_st_date)
DEPART_LOCATIONS(Dnumber, Dlocation)
PROJECT (Pname, Pnumber, Plocation, Dnum)
WORKS_ON (Essn, Pno, Hours)
DEPENDENT (Essn, Dependent_name, Sex, Bdate, Relationship).

Specify the following queries in SQL on the database schema given above :

a. For every project located in Stafford, list the project number the controlling department number and the department manager's last name, address and birth date.

b. List the names of all employees who have a dependent with the same first name as themselves.

c. For each project, list the project name and the total hours per week (by all employees) spent on that project.

d. Retrieve the name of each employee who works on all the projects controlled by 'Research' department.

10. What is meant by integrity constarint? Explain the importance of referential integrity constraint. How referential integrity constraint is implemented in SQL?