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UNIVERSITY

NAVI MUMBAI

SY/III/CSBS

B. Tech. Computer Science and Engineering (Cyber Security)

38422301

CCC301

Database Management System

Date:22/12/2023

Time: 10:30am to 12:30 pm

MaxMarks:60

Q.1 Solve any Four

	Marks	CO	BT
a) Differentiate between DBMS and file system?	5	CO1	BT4
b) Explain Serializability with an example.	5	CO6	BT3
c) Explain different joins in SQL with examples	5	CO4	BT3
d) State the difference between Relational Algebra and Relational Calculus	5	CO2	BT4
e) Describe the various data models used in DBMS.	5	CO1	BT2
f) Explain PL/SQL with an example.	5	CO5	BT3

Q.2 Solve any Four

	Marks	CO	BT
a) What are Triggers? Explain how to create a Triggers.	5	CO5	BT2
b) Explain DDL and DML Commands with example.	5	CO4	BT3
c) Explain database Recovery Management.	5	CO6	BT2
d) Explain Transition state diagram.	5	CO6	BT2
e) Explain various types of attributes with example.	5	CO1	BT3
f) Explain functional dependency with example.	5	CO3	BT3



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Q.3 Solve any Two		Marks	CO	BT
a)	Construct an ER Diagram for Hospital management where patient take treatment from physician and also, he/she can claim a medical insurance	10	CO2	BT6
b)	Consider the following schema for institute Library: Student (RollNo, Name, Father_Name, Branch) Book (ISBN, Title, Author, Publisher) Issue (RollNo, ISBN, Date_of_Issue) Write the following queries in SQL: (i) Write SQL statement to create above tables. (ii) List Roll Number and Name of all students of the branch 'CSE'. (iii) Find the name of students who have issued a book published by 'ABC' publisher. (iv) List title of all books and their authors issued by a student 'XYZ'. (v) List title of all books issued on or before Jan 1, 2020. (vi) List all books published by publisher 'ABC'	10	CO4	BT6
c)	What is Normalization? Explain 1NF, 2NF, 3NF, and BCNF with suitable examples.	10	CO3	BT3