Syllabus For PT2 DBMS July Nov 25

Module 4,5,6

4		**Structured Query Language (SQL)**
	4.1	Overview of SQL, Data Definition Commands, Integrity constraints: key constraints, Domain Constraints, Referential integrity , check constraints, Data Manipulation commands, Data Control commands, Set and string operations, aggregate function-group by, having, Views in SQL, joins, Nested and complex queries, Triggers
5		**Relational-Database Design**
	5.1	Pitfalls in Relational-Database designs, Concept of normalization, Function Dependencies, First Normal Form, 2NF, 3NF, BCNF.
6		**Transactions Management and Concurrency and Recovery**
	6.1	Transaction concept, Transaction states, ACID properties, Transaction Control Commands, Concurrent Executions, Serializability-Conflict and View, Concurrency Control: Lock-based, Timestamp-based protocols, Recovery System: Log based recovery, Deadlock handling

Question Bank For DBMS

Module 4.

(Queries using SQL on module 4)

1. Explain Joins and types of Joins with suitable example.

Sample SQL QUERIES for reference

2.Consider the following schema for College Library. Student (Roll_no, Name, Branch)

Book (ISBN, Title, Author, Publisher)

Issue (Roll_no, ISBN, Date_of_ Issue)

Write SQL queries for the following statements:

1. List Roll Number and Name of all students of the branch IT.

2. Find the name of students who have issued a book published by ‘XYZ’ publisher.

3. List title of all books and their author issued by student ‘Alice’

4. List title of all books issued on or before 31st DEC, 2019

3. Write SQL queries for the given database.
Employee(**eid**, emp-name, street, city)
Works(eid, cid, salary)
Company(**cid**, comp-name, city)
Manager(**eid**, manager-name)

- (i) Find the names of all the employees having 'S' as first letter in their names.
- (ii) Display the annual salary of all the employees.
- (iii) Find the name, street and city of all employees who work for "Accenture" and earn more than 30,000.
- (iv) Give total number of employees.

Module 5.

1.Define Normalization. Explain 1NF,2NF and 3NF with suitable example

Module 6.

1. What is Transaction? Discuss the ACID properties of Transaction.

2. Explain the concept of Transaction and state its diagram. Explain the concept of Transaction and state its diagram.

3. Explain Conflict serializability with example.

4. Explain view serializability with example.

5. Check whether the given schedule S is conflict serializable or not-(
(problem will be given to solve)

S : R1(A) , R2(A) , R1(B) , R2(B) , R3(B) , W1(A) , W2(B)

Draw a precedence graph for it.

6. What are Lock-based protocols,

7. Explain Timestamp-based protocols.

8. Explain the Log-based recovery (Shadow Paging) and deadlock handling