

SE - Sem IV (CMPN) (C-Scheme) (Rev - 19) Dec 2025

(Time: 3 Hours)

Q.P. Code 00394

(Maximum Marks: 80)

08/12/2025

- NB. 1. Question number one is compulsory
2. Attempt any three out of remaining five questions
3. Assume suitable data
4. Figures to the right indicate the maximum marks

- Q1 Attempt any FOUR (Each question carries 5 Marks). (20)
- a) Apply and show the use of all the relevant terminology of Relational Model with example.
 - b) Explain different aggregate functions.
 - c) Explain having clause and Group by clause with suitable example.
 - d) List and discuss primary functions of a Database Administrator (DBA)?
 - e) Explain Log based recovery.
- Q2 a) Explain overall architecture of DBMS in detail with appropriate diagram. (10)
- b) Explain Functional dependency with example. (10)
- Q3 a) Construct EER diagram for university management system. (10)
- b) Discuss concept of keys in detail with suitable example. (10)
- Q4 a) Write SQL queries for given database. (10)
- CUSTOMER**(cid, cname, age, city, account_type, balance)
EMPLOYEE(eid, ename, designation, salary)
TRANSACTION(tid, cid, eid, trans_date, amount, trans_type)
- 1] Write an SQL query to List the names of all customers who have a 'Savings' account..
 - 2] Find the names and designations of employees who earn more than ₹80,000.
 - 3] Write an SQL query to count the number of transactions handled by each employee.
 - 4] List the names of all customers in descending order of their balance.
 - 5] List the names of all customers whose names start with 'A'.
- b) Explain different types of Join with example. (10)
- Q5 a) Define Normalization and Explain 1NF, 2NF, 3NF and BCNF with examples. (10)
- b) Explain Problems with concurrent execution. (10)
- Q6 a) Describe ACID properties of transaction with example. (10)
- b) Explain Trigger syntax with suitable example. (10)
