

SE (COMP) | SEM IV | R-19 | SH-22 | 14-12-22

[Time: 3 Hours]

[Marks:80]

Instructions

Q.P. CODE: 10013187

- (1) Q.1 is Compulsory.
- (2) Solve any three from remaining questions.
- (3) Draw neat diagrams whenever necessary.

Q.1 a) What is data abstraction and data independence. (10)
b) Draw Extended E-R diagram for Hospital Management System. (10)

Q.2 a) Explain types of joins with suitable example. (10)
b) Write SQL expression for the following queries

- Consider Employee relation (Emp_no, Emp_name, Emp_add, ph_no, email_id, salary)
- i) List the employee whose employee number is 100.
 - ii) List the Employee whose salary is between 50 K to 1 Lac.
 - iii) List the Employees whose name starts with 'Ami'.
 - iv) Find 2nd highest salary of Employees.
 - v) Create two views on employee table. (10)

Q.3 a) Explain any five relational algebra operators with suitable example. (10)
b) Define deadlock and Explain deadlock handling. (10)

Q.4 a) What is 2PL. Explain its types. (10)
b) What is Trigger. Explain with Syntax and example. (10)

Q.5 a) Explain view and conflict serializability with suitable example. (10)
b) What is normalization. Explain 1NF, 2NF, 3NF with suitable example. (10)

Q.6 Write note on any two (20)
a) ACID properties of transaction with example.
b) Transaction state diagram and explain TCL commands
c) Types of users in DBMS.