

FOURTH SEMESTER B.Tech EXAMINATION, JUNE -2023**DATA BASE MANAGEMENT SYSTEMS****Time:3 Hours****Maximum Marks:50**

- Instructions:**
- i. PART - A (Question 1-5) answer any 4 questions.
 - ii. PART - B (Question 6-8) answer any 2 questions.
 - iii. PART - C (Question 9) is compulsory

PART - A**05X04=20**

1. a. Explain the characteristics of the Database Approach **05**
2. a. Write an ER diagram for Company data base taking at least 4 entities. **05**
3. a. Demonstrate the uses of the following commands Alter, Insert, Update and Delete. **05**
4. a. Explain three tier architecture with its advantages. **05**
5. a. Explain different types of JDBC Drivers. **05**

PART - B**09X02=18**

6. a. Write relational algebraic expressions for the following **06**
 - i. List all pairs of Employees SSNs and the project numbers they work on
 - ii. List the employees names along with their department namesList the department names with their managers
- b. Explain views in sql with examples. **03**
7. a. Explain the informal design guidelines for Relational Schemas. **06**
b. What is Normalization? Explain its necessity with example. **03**
8. a. Explain 3NF in detail. **05**
b. Compare 1 NF and 2NF. **04**

PART - C**01X12=12**

9. a. Consider the following schema and write the queries using SQL **12**
EMPLOYEE(Name, SSN, Address, Sex, Salary, Dno)
DEPARTMENT(Dname, Dnumber, MgrSSN, Mgr_Startdate)
 - i. Retrieve all employees in department 5 whose salary is between 50,000 and 60,000(inclusive)
 - ii. Retrieve the name and address of all employees who work for the 'Research' department
 - iii. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor
 - iv. Increase the salary of all employees working on the 'ProductX' project by 15%Select the names of employees whose salary is more than all the employees of dept 5

