Code No: R203105H **R20** SET - 1

III B. Tech I Semester Supplementary Examinations, July -2023
DATA BASE MANAGEMENT SYSTEMS
(Common to EEE, ME, ECE)

Time: 3 hours Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1. a) Define DBMS? Explain Database Applications are used in Real time Environment. [7M]
   b) List and explain various DDL and DML Commands with example each. [7M]

(OR)

2. a) Explain Data Independence and its types in detail. [7M]
   b) List out the Functionalities of DBA. [7M]

UNIT-II

3. Write an ER diagram of hospital management system. (Minimum 4), attributes and relations. [14M]

(OR)

4. Develop an ER diagram for keeping track of information about a company database taking into account at least five entities [14M]

UNIT-III

5. Explain the E-R to relational mapping Algorithm with suitable example for each step. [14M]

(OR)

6. Draw an E-R Diagram for banking Enterprise. Convert it into Relational Model [14M]

UNIT-IV

7. a) Given schema Instructor (id, name, dept_name, sal), [7M]
   Teaches (id, course_id, sec_id, semester, year).
   Construct SQL and Relation Algebra Statements for the following queries.
   i. List name and salary details of the Instructors who are working in IT department and whose salary is not more than 80000.
   ii. Find the average salary of instructors in each department.
   iii. Find the names of Instructors working in IT department along with the course_id what they teaches.
   iv. Give the name and salary details of the highest salaried Instructor.
   b) Describe Enforcing Integrity Constraints with an Example. [7M]

(OR)

8. Explain the following with suitable examples [14M]
   i) Triggers ii) Nested Queriesiii) Views

UNIT-V

9. a) What is functional dependency? Explain its use in database design. [7M]
   b) Normalize following relation up to 3NF: Bank(acno, cust_name, ac_type, bal, int_rate, cust_city, branchId, branch_nm, br_city) [7M]

(OR)

10. Normalize following relation up to 3NF: Bank(acno, cust_name, ac_type, bal, int_rate, cust_city, branchId, branch_nm, br_city) [14M]