GITAM (Deemed to be University)
[CSEN 2061]
B.Sc. Degree Examination

(Elective)
II Semester

DATABASE MANAGEMENT SYSTEMS
(Effective from the admitted batch 2021–22)

Time: 2 Hours   **Max.Marks: 30**

Instructions: All parts of the unit must be answered in one place only.
Figures in the right hand margin indicate marks allotted.

SECTION-A

1. **Answer All the Questions**:   (5×1=5)

   a) What is the role of database administrator?
   b) Why relational model is used widely?
   c) Determine the operators in relational algebra.
   d) Define the term functional dependency.
   e) What are the rules followed when shared/exclusive locking scheme is used?

SECTION-B

Answer the following: (5×5=25)

UNIT-I

2. Explain the Architecture of DBMS with dig.

OR

3. What is logical data independence and why is it important?

UNIT-II

4. How does a constraint affect the DBMS? Explain the ways of enforcing the constraints in relation with examples.

OR

5. Describe how to create and alter, update views with examples.

6. Explain different types of join in relational algebra.

OR

7. Given the following schema
   Sailors (sid: integer, sname:string,rating: integer, age: real)
   Boats (bid: integer, bname: string, color:string)
   Reserves (sid: integer, bid: integer, day:date)
   Express the following queries in Relational Algebra
   a) Find the sids of sailors with age over 20 who have not reserved a
      red boat
   b) Find the names of sailors who have reserved a red or a green boat
   c) Find the names of sailors who have reserved a red and a green boat

UNIT-IV

8. Define the term functional dependency.

OR

9. Define BCNF. How does it differ from 3NF?

UNIT-V

10. List and explain the ACID properties in detail.

OR

11. State and justify the Thomas Write Rule.

[1,2,4,5,8,10/II S/122]