GIET UNIVERSITY, GUNUPUR – 765022
B. Tech (Fourth Semester – Regular) Examinations, June – 2021
BESEC4050 / BESME4050 – DATABASE MANAGEMENT SYSTEMS
(Common to ECE and Mechanical Engineering)

Time: 2 hrs   Maximum: 50 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)   **(1 x 10 = 10 Marks)**

Q.1. Answer *ALL* questions	[CO#]	[PO#]

a. Architecture of the database can be viewed as   1   1

    (i) Two levels   (ii) One Level

    (iii) Four Levels   (iv) Three Levels

b. Database is an organized collection of related   1   1

    (i) Data   (ii) Modules

    (iii) Programs   (iv) None of the above

c. In an E-R diagram attributes are represented by   1   1

    (i) rectangle   (ii) Ellipse

    (iii) Square   (iv) Triangle

d. A table on the many side of a one to many or many to many relationship must   3   1

    (i) Be in Second Normal Form (2NF)   (ii) Be in Third Normal Form (3NF)

    (iii) Have a single attribute key   (iv) Have a composite key

e. Each relational-algebra expression represents a particular sequence of   2   1

    (i) Parameters   (ii) Operations

    (iii) Routines   (iv) Differentials

f. The benefits of object-oriented modeling are which of the following?   2   1

    (i) The ability to tackle more challenging problems   (ii) Reusability of analysis, design, and programming results

    (iii) Improved communication between users, analysts, etc.   (iv) All of the above.

g. A unit of storage that can store one or more records in a hash file organization is denoted as   4   1

    (i) Buckets   (ii) Disk pages

    (iii) Blocks   (iv) Nodes

h. Which of the following is not a property of a transaction?

    (i) Atomicity   (ii) Simplicity

    (iii) Isolation   (iv) Durability

i. Most backup and recovery commands in .... are executed by server sessions.   4   1

    (i) Backup Manager   (ii) Recovery Manager

    (iii) Backup and Recovery Manager   (iv) Database Manager

j. Rollback of transactions is normally used to :   4   1

    (i) recover from transaction failure   (ii) update the transaction

    (iii) retrieve old records   (iv) repeat a transaction

PART – B: (Short Answer Questions)   **(2 x 5 = 10 Marks)**

<u>Q.2. Answer *ALL* questions</u>   [CO#]   [PO#]

  a. What is a data model? List the types of data model used.   2   1

  b. Define instance and schema.   1   1

  c. State the difference between SQL and other conventional programming Language   2   1

  d. Describe the term RAID.   3   1

  e. Give a note about concurrency control.   4   1

PART – C: (Long Answer Questions)   **(6 x 5 = 30 Marks)**

<u>Answer *ANY FIVE* questions</u>   Marks   [CO#]   [PO#]

  3. Define database management system and state its applications.   (6)   1   1

  4. What is Database Architecture? Explain the types of database architecture.   (6)   1   1

  5. What is entity? Compare strong entity set and weak entity set.   (6)   1   1

  6. Discuss about various types of joins in DBMS.   (6)   2   1

  7. Describe about File Organization.   (6)   3   1

  8. Illustrate hashing techniques with suitable examples   (6)   3   2

  9. Briefly Describe Concurrency control execution? Illustrate with a suitable example.   (6)   4   2

  10. State the merits and demerits of object oriented database.   (6)   2   1

--- End of Paper ---