

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA INTEGRATED – SEMESTER - II EXAMINATION- SUMMER-2023

Subject Code: 2527107**Date: 20-07-2023****Subject Name: Database Management System****Time: 10:30 AM to 01:30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** (a) What do you mean by data? How is it different from information? explain with the help of example. **07**
- (b) What is DBMS? What are the advantages and disadvantages offered by such systems as compared to file processing system? Explain. **07**

- Q.2** (a) Explain Physical & Logical Database models in detail. **07**
- (b) What is SQL? Explain the purpose and use of SQL in RDBMS. Also discuss the basic structure of an SQL expression. **07**

OR

- (b) Describe the architecture of a database system. Why is a database desired to be an integrated one? **07**

- Q.3** (a) Explain what is meant by normalization and its advantages. Explain and define 1NF, 2NF, 3NF & BCNF giving suitable examples for each. **07**
- (b) The relational model is hardware-dependent and software-independent. Do you agree? Explain. **07**

OR

- Q.3** (a) Compare & Contrast Database relationships, Hierarchical model, Network Model, Relational Model. **07**
- (b) “Non-loss decomposition is an aid to relational databases”. Is it true? If yes, then justify it through an example. **07**

- Q.4** (a) Explain the Components of an E-R Model. **07**
- (b) Consider the following table. **07**

| Insurance No. | Contract No. | HRS. | Ename | Hotel No. | Location |
|---------------|--------------|------|--------|-----------|----------|
| 1135 | C1024 | 16 | Sharma | H25 | Delhi |
| 1057 | C1024 | 20 | Sahni | H25 | Delhi |
| 1068 | C1025 | 24 | Gupta | H04 | Mumbai |
| 1140 | C1025 | 16 | Jindal | H04 | Mumbai |

Describe, and illustrate, the process of normalization up to BCNF. State and make assumptions, if any.

OR

- Q.4** (a) Differentiate between DDL and DML. **07**
(b) Which are the most popular RDBMS. Explain them. **07**
- Q.5** (a) Write a note on contemporary database trends & applications. **07**
(b) Explain why it is not always possible to perform SQL UPDATE/DELETE/INSERT statements on top of a view. **07**

OR

- Q.5** (a) Discuss scenarios where a view can be helpful in a database management system. **07**
- (b) Consider the following relations given as relationship model-person (Name, City, AccNo), deposit (AccNo, Balance).
Considering at least five dummy records the database given above, show how this relational model can be converted into network model and hierarchical model. **07**
