

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-II • EXAMINATION – SUMMER - 2019

Subject Code: 2620003

Date: 27/05/2019

Subject Name: Database Management System

Time: 10.30 AM TO 01.00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Define following terms** **07**
1. Database
 2. Transaction
 3. Schema
 4. First Normal Form
 5. Data Abstraction
 6. Deadlock
 7. Candidate key
- (b) What is Database Management System? Explain how database management system is advantageous than file management system?** **07**
- Q.2 (a) Explain Database Architecture with example.** **07**
- (b) Explain ACID properties by giving suitable example** **07**
- OR**
- (b) Write a note on Transaction states.** **07**
- Q.3 (a) What is the difference between a weak and a strong entity set. How weak entity set can be converted into strong entity set explain with appropriate example.** **07**
- (b) Explain Generalization with example** **07**
- OR**
- Q.3 (a) Explain Entity Relationship diagram with diagram and example** **07**
- (b) Explain Specialization with example** **07**
- Q.4 (a) What is normalization? Explain 3NF and BCNF with examples.** **07**
- (b) Explain Union and Cartesian Product for relational algebra operations with example.** **07**
- OR**
- Q.4 (a) Explain Lossless Decomposition and Dependency Preservation.** **07**
- (b) Explain the concept of Natural Join, Cartesian product, and sAssignment operator of Relational Algebra giving example.** **07**
- Q.5 (a) Define Deadlock. Discuss deadlock prevention and detection method.** **07**
- (b) What is log-base recovery? Explain deferred database modification technique.** **07**
- OR**
- Q.5 (a) Explain Two phase locking with its advantages and disadvantages.** **07**
- (b) Explain View serializabilty in brief. Why do we emphasize conflict serializabilty rather than view serializabilty?** **07**
