

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-V • EXAMINATION – SUMMER 2017

Subject Code: 650004

Date: 06/06/2017

Subject Name: ADVANCE DATABASE MANAGEMENT SYSTEM

Time: 02.30 PM TO 05.00 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) Explain three-schema architecture and data independence in brief **07**
(b) Explain the following concept in brief **07**
1. Miniworld
2. Double buffering
3. Fuzzy checkpoint
- Q.2** (a) Describe deductive data base with example **07**
(b) Explain recovery techniques based on Deferred update **07**
OR
(b) Explain recovery techniques based on immediate update **07**
- Q.3** (a) What is Write-Ahead Logging? Explain the concept of Steal/No-Steal and Force/No-Force. What is the usage of dirty bit and pin-unpin bit? **07**
(b) List Object-Relational support in SQL-99 and explain any one of them in detail. **07**
OR
- Q.3** (a) Explain in brief the decisions to be taken during Physical Database Design. **07**
(b) List any two account level privileges and any two relation level privileges. How these privileges are used in Discretionary Access Control? What do you mean by propagation of privileges? What is Role-based Access Control? **07**
- Q.4** (a) 1. List six ingredients of Public Key Infrastructure scheme. How does it provides security? **04**
2. Write a short note on Digital Signature. **03**
(b) Explain the terms: Primary Index, Clustering Index, and Secondary Index. What is the difference between dense index and sparse index? What is the advantage of Multi-level index? **07**
OR
- Q.4** (a) List out different type of single level ordered indexes and explain any one. **07**
(b) Explain the nested relational model in details **07**
- Q.5** (a) Explain characteristics of data in GIS **07**
(b) List and explain different important application include in Multimedia database application **07**
OR
- Q.5** (a) Discuss the data management issues in Mobile Databases. **07**
(b) What is Distributed Database? Explain the concept of Fragmentation and Replication. What benefits do they offer? **07**
