

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-III • EXAMINATION – SUMMER • 2014**

**Subject Code: 130703**

**Date: 28-05-2014**

**Subject Name: Database Management System**

**Time: 02.30 pm - 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 disadvantages of conventional file-based system compared to Database management system. **07**  
(b) Explain Entity Relationship model with example. **07**
- Q.2** (a) Write short note on Relational algebra. **07**  
(b) What are integrity constraints? Explain various types of integrity constraints with suitable example. **07**
- OR**
- (b) Explain three level architecture of DBMS. **07**
- Q.3** (a) What is normalization? Why normalization process is needed? Explain 1 NF, 2 NF and 3 NF with example. **07**  
(b) What is deadlock? Explain deadlock detection and prevention policies. **07**
- OR**
- Q.3** (a) Explain conflict serializability and view serializability. **07**  
(b) What is decomposition? Why is it required? Explain the difference between lossy decomposition and non-loss decomposition with example. **07**
- Q.4** (a) Write short note on query processing. **07**  
(b) Explain log-based recovery and shadow paging technique. **07**
- OR**
- Q.4** (a) Explain different types of outer join with example. **07**  
(b) Explain time stamp based protocols. **07**
- Q.5** (a) Write A PL/SQL block to print the sum of Numbers from 1 to 50. **07**  
(b) Explain DDL, DML and DCL syntaxes with example. **07**
- OR**
- Q.5** (a) Write A PL/SQL block to print the given number is Odd or Even. **07**  
(b) Explain Aggregate, Date and string functions with example. **07**

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