

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION – WINTER • 2014

Subject Code: 130703

Date: 30-12-2014

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)** Draw an E-R diagram for Banking enterprise. **07**
(b) What is Relational Algebra? Enlist and Explain the fundamental operation of relational algebra. **07**
- Q.2 (a)** What is the difference between Database user and Database administrator? Explain various functions of Database Administrator? **07**
(b) Explain various operations in DDL, DML and DCL SQL languages. **07**
- OR**
- (b)** Explain Inner Join and Outer Join with SQL queries. **07**
- Q.3 (a)** Explain wait-die and wound-wait for deadlock prevention. **07**
(b) Explain deferred database modification for log based recovery. **07**
- OR**
- Q.3 (a)** Explain three type of actions to be taken for recovery from deadlock. **07**
(b) What is serializability? Explain view serializability with example **07**
- Q.4 (a)** What is decomposition? Explain Lossy and Non-loss decomposition with suitable example. **07**
(b) Explain the steps in query processing? How the cost of query is measured? **07**
- OR**
- Q.4 (a)** What is Normalization? Explain Normalization process for 1NF, 2NF and 3NF with example. **07**
(b) What is query optimization? Explain how to optimize nested sub queries. **07**
- Q.5 (a)** What is aggregate function? Explain any five aggregate functions with example. **07**
(b) What is difference between SQL and PL/SQL? Write a PL/SQL block to determine the given number is odd or even. **07**
- OR**
- Q.5 (a)** Explain Having, Group by and order by clause with example. **07**
(b) What is non-procedural Language? Write a PL/SQL block to print the square of number from 1 to 10 (Inclusive). **07**
