

**Punjab Technical University**  
**Master of Computer Application Examination**

**MCA 3<sup>rd</sup> Semester RELATIONAL DATABASE MANAGEMENT SYSTEM-I 2006**

**Time: Three Hours Max Marks:75**

**Note: 1. Part A is compulsory. Answer the questions in 40-60 words.  
2. Attempt any 9 questions from Part- B**

**Part – A Marks : 15x2=30**

- i. What are relations?
- ii. Define deadlock recovery.
- iii. What is aggregation?
- iv. What is multivalued dependency?
- v. Difference between ODD and ORD?
- vi. What are strong & weak entities?
- vii. What is super keys?
- viii. Differentiate between schema & Sub schema.
- ix. What are log files?
- x. Differentiate between schema & sub schema.
- xi. What are log files?
- xii. Differentiate between DDL & DML.
- xiii. Write an SQL query to display the names of the employee from emp table whose salary is equal to the minimum salary.
- xiv. What is dual table?
- xv. What do you mean by selection and projection?
- xvi. What are equi-joins and self joins?
- xvii. Discuss the purpose of GROUP BY & HAVING clause with their syntax.

**Part - B Marks: 9x5=45**

1. Explain the different views of DBMS.
2. What are different levels of normalization of database? Discuss.
3. Compare & contrast network, hierarchical & relation model.
4. Discuss the structure of distributed databases.
5. Differentiate between physical and logical data Independence.
6. Differentiate between relational algebra and relational calculus.
7. Explain object-oriented database with an example.
8. What do you mean by specialization & generalization. What is the difference between them?
9. Draw E-R diagram of employee salary database.
10. Why locks are necessary in the concurrent operations in the database.
11. Explain the client/server architecture.
12. Discuss the main features of Oracle.