

**F 3057**

(Pages : 2)

Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, JANUARY 2007**

**Fifth Semester**

Branches : Computer Science and Engineering/Information Technology

**DATABASE MANAGEMENT SYSTEMS (R, T)**

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 4 marks.*

1. What features of network databases distinguish them from other database models ?
2. How are one-to-one relationships between the same entity sets represented in the ER model ?
- ✓ 3. Mention the fundamental operators of relational algebra.
4. What is natural join ?
5. What is the command in SQL for deleting a table from the table space ? Give its complete syntax.
6. What do you mean by clustered tables in ORACLE ?
7. What is meant by Cartesian product of two relations ? Does the join of two relation lead to a Cartesian product ?
8. Define the conditions to be satisfied by a relation to be in 2NF.
9. What are distributed databases ? Give an example of one.
10. Why are redo logs present in a database ?

(10 × 4 = 40 marks)

**Part B**

*Answer all questions.*

*Each question carries 12 marks.*

11. (a) How are many-many relationships represented in the network and hierarchical models ?  

*Or*

(b) Classify the various users of a database based on their requirement to access the database. Explain briefly their roles and responsibilities.

**Turn over**

12. (a) Cite an example for a DML based on tuple calculus. Write commands for INSERT, DELETE and SELECT on relations already existing in tables. (You may choose your own scheme). Also write down the results produced.

Or

- (b) Write down the complete syntax of the SQL SELECT statement. Explain every component involved.
13. (a) What is multivalued dependency? Define it. What are the normal forms in which MVDs are used? Explain any one such normal form.

Or

- (b) Describe the basic structure of an ORACLE database.
14. (a) What are integrity constraints, domain constraints? How do they affect database design? How do we express them in SQL?

Or

- (b) Write down all the six axioms based on functional dependency. What is meant by closure of a set of FDs? How do you compute  $F^+$  given  $F$ .
15. (a) Briefly explain the 2-phase commit protocol used in distributed databases.

Or

- (b) What are checkpoints? What are log files? How are they related? Is it possible to recover a database with these alone? If not, what additional requirements have to be met?

(5 × 12 = 60 marks)

HowToExam.com