Code No: OR410456 **OR**

IV B.Tech I Semester Supplementary Examinations, April/May 2005
DATABASE MANAGEMENT SYSTEMS
(Electronics & Communication Engineering)

Time: 3 hours **Max Marks: 70**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Discuss the advantages and disadvantages of a database system.
   (b) Describe the responsibilities of a database administrator.
   (c) Distinguish between entities and attributes.
2. (a) Construct and E-R diagram for a car insurance company with a set of customers, each of whom own a number of cars. Each car has a number of recorded accidents associated with it.
   (b) Give a network data structure diagram for the following relational database
   Course (Course-name, room, instructor)
   Enrolment(Course-name, student-name, grade)
3. (a) Illustrate the pitfalls in relational database design.
   (b) Explain why PJNF is a more desirable form than 4NF.
   (c) Explain the need for normalization in RDBMS design.
4. Describe a DBTG model and discuss how close it is to an idealized data model and architecture in assuming data independence, security, integrity etc.
5. Consider the following relations:
   AUTHOR (NAME, ADDRESS, AGE)
   PUBLISHER (NAME, ADDRESS)
   BOOK (TITLE,AUTHOR,PUBLISHER)

   Use relational algebra, Calculus to represent the following queries:
   (a) What are the authors and titles of all books?
   (b) What are the titles published by XYZ?
   (c) What are the names of all authors publishing book with XYZ?
   (d) What are the names of authors publishing at least one book with XYZ?
6. (a) Discuss different authorization rules for database security.
   (b) Explain different types of integrity.
7. (a) What are the types of database failures? Explain them in brief?
   (b) Explain the concept of concurrency control.
8. Write short notes on

(a) Granularity of locks.

(b) Recovery Schemes.

(c) Data encryption.

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