

B.Tech Degree VI Semester (Supplementary)
Examination in Computer Science and Engineering
December 2002

CS 603 DATABASE MANAGEMENT SYSTEM
(1995 Admissions)

Time: 3 Hours

Maximum Marks: 100

- I. (a) What are the different data Models ? Explain with suitable examples. (10)
 (b) Distinguish network and hierarchical data models with suitable examples. (10)
OR
- II. (a) Describe the various notions of E - R model ? (10)
 (b) There is an Organization in which products are bought from different suppliers. A system is asked to be designed to post a tender, invite quotations, select one and prepare a purchase order for that. Assuming needed attributes, draw a complete E - R diagram. Clearly explain your design criteria. (10)
- III. (a) Explain the terms: Domain, Attribute and tuples. (10)
 (b) What are the pros and cons of Hierarchical model ? (10)
OR
- IV. (a) Explain the structure of CREATE, DELETE and ALTER statements. Categorize them as DML and DDL with examples. (10)
 (b) What are the commonly used file organizations for data base storages ? (10)
- V. (a) Describe the FOREIGN KEYON DELETE statements. Explain with examples. (10)
 (b) Suggest the reasons for incorporating Foreign key concept to a data base ? What are the advantages and disadvantages for use of it ? Substantiate with an example. (10)
OR
- VI. (a) Describe self join, Outer join with suitable examples. (10)
 (b) Assume a data base
 Cat Master (C#, Cname, Cparent)
 Prod Master (P#, Pname, C#)
 and assume that no foreign key constraint is set. In order to describe all categories having at least a product, whether it is possible to do so ? If so write the SQL query for that. (10)
- VII. Assume the table
 S(S#, Sname city, P#, Pname, Color, Qty)
 Normalize this table to 3 NF systematically showing the definition of each stage and the result from it. State the necessity for each stage normalization. (20)
OR
- VIII. (a) What is 3NF ? Explain with an example. (10)
 (b) Assume (S#, P#, Pcolor, Pname, Qty). In which Normal form is this ? State your reasons ? Normalize it to the Next Normal form. (10)
- IX. (a) What do you mean by data replication and fragmentation ? Explain with examples. (10)
 (b) What is the simple join distributed Query Processing ? (10)
OR
- X. (a) Distinguish Vertical Fragmentation and Horizontal Fragmentation ? (10)
 (b) Explain what is Query transformation and join strategies that exploit parallelism. (10)

