B.E.(with Credits)-Regular-Semester 2012-Computer Technology Sem VII
CT - Database Management System

P. Pages : 2

Time : Three Hours

|||||| |||| |||| ||||
* 4 6 7 1 *

Max. Marks : 80

––

Notes : 1.   Due credit will be given to neatness and adequate dimensions.
2.   Assume suitable data wherever necessary.

1. a)   Explain with suitable example, disadvantages of conventional file processing system.   **8**

b)   What is data abstraction, give example. Explain levels of abstraction with suitable diagram.   **8**

OR

2. a)   Write a short note on Types of Data Models.   **8**

b)   Draw and explain 2-tier and 3-tier database architectures.   **8**

3. a)   What is an E-R data model. Draw an ER diagram for library database management system.   **8**

b)   Explain different types of keys used in database. Also explain referencial integrity constraint.   **8**

OR

4. a)   Explain any four relational algebra operators. Give suitable example.   **8**

b)   Write SQL queries for the following database :   **8**
Lives (Name, Street, City)
Works (Name, CName, Salary)
Located_in (CName, City)
Manages (Name, Manager_Name)
i)   Find the names of all people who work for Bank of India.
ii)   Modify the database so that Agrawal now live in Shastri Nagar.
iii)   Delete all rows in the works table for employee of Bank of Bihar.
iv)   Give all Managers a 10% raise in the salary.

5. a)   Explain functional dependencies. Also explain Lossy and Lossless decomposition.   **8**

b)   Write short note on Normalization and its types.   **8**

OR

6. a)   Explain the pitfalls in relational database design and also explain the need for normalization of data in a database with proper example.   **8**

b)   Find and explain the highest normal form for the following Emp database :   **8**
Emp(E-no, E-name, E-addr, Ph-no, C-id, C-name, Salary, Bank-id, Bank-account)

7.	a)	What is Transaction ? Explain states of transaction, with diagram.	**8**
	b)	Explain log based recovery and checkpoints for recovery management.	**8**

OR

8.	a)	What is failure ? Explain types of failures.	**8**
	b)	What is concurrency control ? Explain Time-Stamp based protocol.	**8**
9.	a)	Draw and explain centralized and client-server system architecture.	**8**
	b)	What is distributed databases ? Explain with example.	**8**

OR

10.	a)	Write a short note on parallel systems and distributed systems.	**8**
	b)	Explain the following databases :	**8**

       i)   Spatial databases.

       ii)   Multimedia databases.

****