Advanced Diploma in Information Technology (ADIT) / Bachelor in Information Technology (BIT)

Term-End Examination

December, 2007

CST-302 : ADVANCED DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours   *Maximum Marks : 75*

Note :   This paper consists of two sections. All questions are **compulsory** in Section A. There are three questions in Section B. Attempt any **two** questions from Section B.

SECTION A

1.   When data to be shared is non-voluminous plus data security is not the issue then which system is appropriate ?   *1*

    (a)   File base
    (b)   Relational database
    (c)   Semantic system
    (d)   None of the above

2.   In Oracle 8i, symbol i represents   *1*

    (a)   Client Server model
    (b)   Relational model
    (c)   Hierarchical model
    (d)   None of the above

3.   In Oracle 8i, number 8 represents   *1*

    (a)   Version
    (b)   Rules implemented
    (c)   Data size
    (d)   None of the above

4.   Select * from Student; represents   *1*

    (a)   Projection
    (b)   Selection
    (c)   Join
    (d)   None of the above

5. Components of knowledge base systems are *1*

   (a) Rules

   (b) Facts

   (c) Clauses

   (d) (a) and (b) both

6. In distributed databases the term referred for isolation of user from the knowledge of data fragmentation is *1*

   (a) Location transparency

   (b) Fragmentation transparency

   (c) Both (a) and (b)

   (d) None of the above

7. Which relational algebra operator performs horizontal fragmentation of any distributed database schema ? *1*

   (a) π

   (b) σ

   (c) $\bowtie$

   (d) $\div$

8. For mobile databases which multiplexing is best ? *1*

   (a) FDM

   (b) TDM

   (c) SDM

   (d) None of the above

9. Which database designing technique can be used for programming also ? *1*

   (a) Object oriented modelling and designing

   (b) ER diagram

   (c) Both (a) and (b)

   (d) None of the above

10. Data Warehousing is related to   1

   (a) Strategic usage of data

   (b) Operational usage of data

   (c) Collection of unused data

   (d) None of the above

11. (a) Compare and contrast the following :   5

   (i) Centralized DBMS and Distributed DBMS

   (ii) 3NF and BCNF

   (b) Describe Client-Server database model with the help of a suitable example.   5

   (c) What is the need of OODM (Object Oriented Designing and Modelling) ? How
       does OODM differ from ER diagram ?   5

   (d) What do you mean by the term "Personal Databases" ? Mention security risks in
       personal databases.   5

   (e) Is it always beneficial to use databases or is a file base system a better option ?
       Comment on the statement and support your comment with suitable example.   5

SECTION B

*Answer any **two** questions from this section.*

12. Define the term Data warehousing. Describe the characteristics of Data warehouse. With the help of a block diagram discuss the architecture of a Data warehouse. 20

13. What are Distributed databases ? Give two advantages and two disadvantages of Distributed databases. In Distributed databases, what is the need of replicating and fragmenting the data distribution ? With the help of an example describe the term location transparency. 20

14. How JDBC differ from ODBC ? How can we establish the JDBC-ODBC connectivity ? In order to strengthen the security, which of the two connectivities is better and why ? Describe the basic working of JDBC with the help of a program. 20