Y 3032

M.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

Fourth Semester

CA 242 — ADVANCED DATABASES

(Regulation 2002)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write on decision support systems.

2. Define stored procedure.

3. What is the problem in distribution of tuples during partitioning?

4. Why is networking transparency important?

5. Write the purpose of frame segment trees.

6. Define Horn clause.

7. State some features not supported by RDBMS over DBMS.

8. Give an example for relation-valued attribute.

9. Create star schema for prices of commodities that vary with time.

10. Define support and confidence for association rules.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Compare OLTP with OLAP. (4)

(ii) Draw the three tier datawarehousing architecture and explain. (5)

(iii) Explain clustering with any one of the algorithm. (7)

Or

(b) (i) List and describe the five primitives for specifying a data mining task. (10)

(ii) Compare and contrast classification and prediction in data mining. (6)

12. (a) (i) Discuss triggers with an example. (6)

(ii) Write on JDBC API. (3)

(iii) Write an application to print the time table for a specified course. Assume the necessary database and connectivity. (7)

Or

(b) Explain centralized and client/server architecture of Database management system. Compare the above. (10 + 6)

13. (a) (i) List the benefits and drawbacks of pipelined parallelism. (4)

(ii) Explain Inter-operation and Intra-operation parallelism. (12)

Or

(b) (i) Describe 2PC protocol and its response to various types of failures. (4 + 8)

(ii) Compare centralized and distributed approaches of handling deadlocks in distributed systems. (4)

14. (a) Write short notes on :

(i) Time dimension. (5)

(ii) Transaction time relations. (5)

(iii) Types of spatial queries. (6)

Or

(b) (i) Describe the concepts of multimedia database. (8)

(ii) Write the features of deductive database. (8)

15. (a) (i) How the concept of identifying in the Object Oriented model differs from the concept of tuple equality in relational model? (4)

(ii) How is persistency of objects maintained? (6)

(iii) Consider the object relational database and write the extended SQL statements for the following queries. (6)

Book(title, author-list, date-acquired, keyword-list)

Q1 : Find the title and year of purchase of each book

Q2 : Find all books that have the word "database" as one of their keywords

Q3 : Find the title and author pairs for each book and each author.

Or

(b) (i) Compare Object Oriented and Object relational databases. (4)

(ii) Discuss the object related features of extended SQL-99. (12)
