

B.E. (Computer Science and Engineering)
Seventh Semester
CS-702: Advance Database Systems

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting two questions each from Section B-C.

x-x-x

Section- A

Q-1 Answer the following in brief:

- a. Outlier analysis in Data mining.
- b. Write any four familiar Data Mining techniques.
- c. What is meant by object persistence?
- d. Define database security.
- e. Features of MySQL.
- f. Explain Data marts.
- g. Difference between ORDBMS and RDBMS
- h. Role of checkpoints in recovery techniques
- i. Spatial databases
- j. Explain briefly Five Level Schema Architecture

(1x10)

Section- B

Q-2 (a) What are the main software modules of DDBMS? Discuss the main functions of each of these modules in context to client-server architecture.

(b) How is a horizontal partitioning of a relation specified? How can a relation be put back together from a complete horizontal partitioning? (2x5)

Q-3 (a) Explain the Distributed Query processing techniques in detail.

(b) What is the difference between data centric and document centric XML documents? (2x5)

Q-4 a) What are long duration transactions? What are the adverse effects of following concurrency protocols on long duration transactions?

i) 2-phase locking ii) Graph based protocol (5)

b) Consider the following four relations:

employee (person-name, street, city)

works (person-name, company-name, salary)

company (company-name, city)

manager (person-name, manager-name)

Answer the following SQL queries:

(i) Find the names of all employees who live in the same city and the same street as their managers.

(ii) Find the names of all employees who earn more than every employee of Small Bank Corporation. (5)

Section- C

Q-5 (a) Give a comparison of application development, recovery and performance features of Oracle, DB2 and MySQL.

(b) What is the use of GROUP BY clause of SQL? What is the difference between WHERE and HAVING clause in SELECT statement? (2x5)

Q-6 (a) Describe about identity, object structure, and type constructors in Object Oriented databases.

(b) What is SQL-3? Write in detail about features of SQL 3. (2x5)

Q-7 (a) What is the difference between persistent and transient objects? How persistence is handled in typical OO database systems?

(b) What is the difference between distributed processing in computing systems and DDBMS? Under what circumstances would you choose a DDBMS over distributed processing? (4+6)

x-x-x

