

2071

M.Sc. (Information Technology)

Second Semester

MS-60: Advanced Database Programming and MySQL

Time allowed: 3 Hours

Max. Marks: 80

NOTE: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I - IV.

x-x-x

UNIT - I

- I. a) Discuss any two data models of DBMS.
- b) Draw an ER diagram for Employee database system of a company where number of employees are working in different departments. A department is having number of projects assigned to it and employees from different departments are involved in different projects. Make suitable assumptions while making the diagram. (6,10)
- II. a) Discuss Functional dependency, Partial dependency and Transitive dependency with the help of suitable examples.
- b) Discuss Three Schema Architecture of Database Management System. (2x8)

UNIT - II

- III. a) Discuss any four operations performed in Relational Algebra with the help of suitable example(s).
- b) What is the use of timestamps? Discuss timestamp ordering protocol. (2x8)
- IV. a) How to write queries in Relational Calculus? Explain with the help of suitable example(s).
- b) Explain the locking mechanism used to handle concurrency in databases. (2x8)

UNIT - III

- V. a) How to write subqueries in SQL using SELECT, INSERT, UPDATE and DELETE statements. Give appropriate example(s).
- b) How to create and use Sequence in MySQL? Explain with the help of appropriate example(s). (2x8)

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- VI. a) Discuss MySQL data types in detail.
b) How to create, update and drop a view in MySQL? Give the advantages of using views. (2x8)

UNIT - IV

- VII. a) What do you understand by Frequent Pattern Mining? Discuss Market Basket Analysis.
b) Discuss important features of Data warehouse. What are the problems associated with developing and managing data warehouse? (6,10)
- VIII. a) Discuss about Decision Tree classification with the help of suitable example.
b) Give differences between Data Warehouse and DBMS Metadata. (10,6)

UNIT - V

- IX. Attempt the following:-
a) What is the need of Normalization?
b) Define Physical data independence.
c) Define Tuple oriented relational calculus?
d) Give ACID properties of transactions.
e) What do you understand by indexing tables?
f) How to insert a record into a table?
g) What is Data Mart?
h) Give two important goals of Data mining. (8x2)