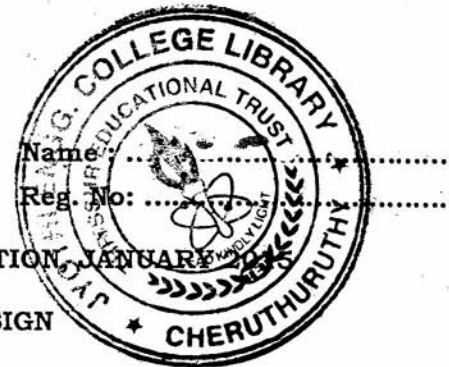70543 A

FIRST SEMESTER M.TECH DEGREE EXAMINATION, JANUARY

MCS 10 103 – DATABASE DESIGN

Time : Three Hours   **Maximum : 100 Marks**

Answer any five questions by choosing at least one question from each module.

MODULE – I

1. (a) Give brief guidelines on modeling an entity type as an attribute or a relationship type to construct ER model for the company schema. (10 Marks)

   (b) Discuss the type of languages and interfaces provided by DBMS and the user categories targeted by each interface in detail. (10 Marks)

(OR)

2. (a) Describe some characteristics of magnetic disk and magnetic tapes storage devices. (10 Marks)

   (b) Define the concepts of records, record types and files. Discuss the techniques for placing file records on disk. (10 Marks)

MODULE – II

3. (a) Discuss the UPDATE operation and constraints violation of each operation in detail. (10 Marks)

   (b) Explain in detail unary relational operations of relational algebra. (10 Marks)

(OR)

4. (a) Describe the steps of relational database design using ER to relational mapping algorithm. (12 Marks)

   (b) Explain constraints in SQL with example. (8 Marks)

MODULE – III

5. (a) Discuss the four informal measures of quality for relation schema design. (8 Marks)

   (b) Define normalization. Explain the three types of normal forms in detail. (12 Marks)

(OR)

6. (a) Explain in detail the algorithms for relational database schema design. (12 Marks)

   (b) Define multi-valued dependency and give its inference rules. (8 Marks)

Turn over

MODULE – IV

7. (a) Discuss briefly about the overview of object oriented concepts. (8 Marks)
   (b) Explain in detail the object relational features of SQL. (12 Marks)

(OR)

8. (a) What are the characteristics of a data warehouse and explain the construction of data warehouse. (10 Marks)
   (b) Discuss the multimedia database technology and its applications in detail. (10 Marks)

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