FYCS

(2 ½ Hours) [Total Marks: 75]

N.B. 1) All questions are compulsory.

2) Figures to the right indicate marks.

3) Mixing of sub-questions is not allowed.

4) Assume suitable data if necessary and state it clearly.

Q.1 Attempt All. [15 M]

a) Multiple Choice Questions.

1. . …………..defines the structure of a relation which consists of a fixed set of attribute-domain pairs.

a) Instance   b) Schema

c) Program   d) Super Key

2. Dates must be specified in the format of………………..

a) mm/dd/yy   b) yyyy/mm/dd

c) dd/mm/yy   d) yy/dd/mm

3. Column Header refers to……………

a) Table   b) Domain

c) Attribute   d) field

4. In SQL, which command is used to SELECT only one copy of each set of duplicable rows?

a) SELECT DISTINCT   b) SELECT UNIQUE

c) SELECT DIFFERENT   d) All of the above

5. You can delete a view with _____ command.

a) DROP VIEW   b) DELETE VIEW

c) REMOVE VIEW   d) TRUNCATE VIEW

b) Fill in the blanks. [Use following pool to answer questions.]

(Data Control Language, double rectangle, foreign key, domain, select)

1. Key to represent relationship between tables is_____.

2. A set of possible data values are called_____.

3. In E-R diagram Weak Entities are represented by_____.

4. _____clause is mandatorily used in Subqueries.

5. DCL stands for_____.

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c) Answer in One Line.

1. What do you mean by Entity?

2. State any two examples of multivalued attribute.

3. What is the output of now() date function?

4. What are the commands use to grant and revoke the privileges?

5. Write syntax of project operation of relational algebra.

Q.2 Attempt the following (Any THREE)   [15 M]

a) What are the advantages of DBMS?

b) What do you mean by Weak Entity Sets? Explain with example.

c) Explain the distinction between total and partial participation constraint.

d) What do you mean by Primary Key Constraint and Foreign Key Constraint? Discuss with suitable examples.

e) Write short note on Client/Server Architecture for DBMS.

f) Construct an ER Diagram for a car insurance company whose customers owns one or more cars each. Each car has associated with it zero or any number of accidents. (Assume all mapping cardinalities exist.)

Q.3 Attempt the following (Any THREE)   [15 M]

a) Explain 2 NF with suitable example.

b) Explain UNION, INTERSECTION and MINUS operations with suitable algebraic query example.

c) Consider following tables. Underline fields are key fields.

     Customer (custno, cname, city)

Solve following queries using MySQL–

    i) Create above table with custno as Primary Key.

    ii) Insert 2 records in it.

    iii) Write a query to count number of customers in each city.

    iv) Find out the customers whose name starts with 'S' and third letter as 'I'.

d) Write short note on Aggregate functions used in MySQL.

e) Explain Lossless-join decomposition.

f) Explain SQL commands for following:

    i) Create Database

    ii) Show Database

    iii) Truncate Table

    iv) Drop Table

    v) Use Database

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Q.4 Attempt the following (Any THREE) [15 M]

a) Explain any 5 Date functions used in MySQL with example.

b) What do you mean by a subquery? Give query example of subqueries with ANY clause and ALL clauses.

c) What security mechanism is used to secure database?

d) What are the roles of DBA?

e) What is a process of creating and dropping a user in MySQL?

f) Consider following tables-

    Book (<u>bookid</u>, title, author, publisher, category, price)

    Distributor (<u>distid, bookid</u>, dname, city)

    Orders (<u>orderno,bookid,distid</u>,qty)

Solve following queries –

    i) Display the details of book whose order is placed having the author 'Henry Korth' and publisher 'TMG'

    ii) Find out minimum of ordered quantity, maximum of ordered quantity, total number of orders placed by each distributor.

    iii) Create a view to display total number of books from each category.

Q.5 Attempt the following (Any THREE) [15 M]

a) Write short note on database users.

b) Write short note on – Network Model.

c) Explain ALTER TABLE command with proper example.

d) Explain any 5 Math functions used in MySQL with example.

e) What do you mean by Join? Explain Full Outer Join with suitable example

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