

Sinhgad Technical Education Society's
RMD Sinhgad School of Engineering, Warje, Pune-58
Department of Computer Engineering
A.Y. 2024-25 (Sem - I)

UNIT TEST: 1

Class: TE

Subject: Database Management System

Date: / / 2024

Time: 1 Hr

Maximum Marks: 30

Instructions to Candidates:

1. Attempt Questions Q.1 OR Q.2, Q.3 OR Q.4
2. Neat diagrams must be drawn wherever necessary
3. Assume suitable data, if necessary

Q1)

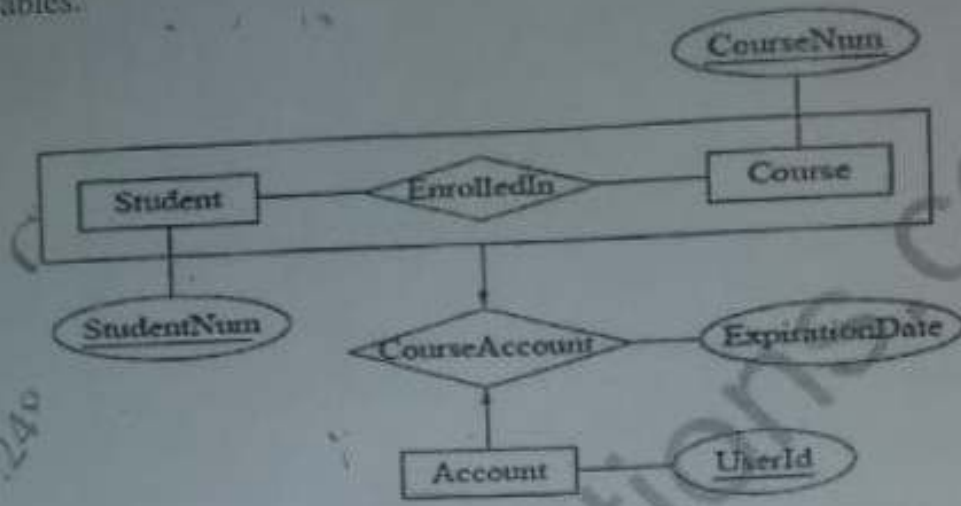
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|----|---|-----|-----|
| a) | Draw the neat diagram of Database System Structure and explain its components in detail. | [5] | CO1 |
| b) | Distinguish between Super key, candidate key and primary key. | [5] | CO1 |
| c) | List the main characteristics of the database approach and explain how it differs from the traditional file system. | [5] | |

OR

- | | | | |
|------|--|-----|-----|
| Q2) | Construct an ER Diagram for Company having following details : | [7] | CO1 |
| i) | Company organized into DEPARTMENT. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Department may have several locations. | | |
| ii) | A department controls a number of PROJECT. Projects have a unique name, number and a single location. | | |
| iii) | Company's EMPLOYEE name, ssno, address, salary, sex and birth date are recorded. An employee is assigned to one department, but may work for several projects (not necessarily controlled by her dept). Number of hours/week an employee works on each project is recorded; The immediate supervisor for the employee. | | |
| iv) | Employee's DEPENDENT are tracked for health insurance purposes (dependent name, birthdate, relationship to employee). | | |
| v) | Identify the relationship among the entities along with the mapping cardinalities, keys in the E.R. diagram. | | |
| b) | Explain the concepts of Referential Integrity Constraint and Entity Integrity Constraint with example | [4] | CO1 |

c) Translate the following Entity-Relationship diagram to Relational Tables.

[4]



Q3) a) Consider the following schemes

[5]

CO2

Supplier(SNO, Sname, Status, City)

Parts (PNO, Pname, Color, Weight, City)

Shipments(SNO,PNO,QTY)

Write SQL queries for the following:

- i) Find shipment information (SNO, Sname, PNO, Pname, QTY) for those having quantity less than 157.
- ii) List SNO, Sname, PNO, Pname for those suppliers who made shipments of parts whose quantity is larger than the average quantity
- iii) Find aggregate quantity of PNO 1692 of color green for which shipments made by supplier number who residing Mumbai

b) Write short notes on the following:

[5]

CC

- Data Manipulation Language (DML),
- Data Definition Language (DDL)
- Transaction Control Statements (TCS),
- Data Control Language (DCL)

c) What is view and how to create it? Can you update view? If yes, how? If not, why not?

[5]

CO2

OR

Q4)

a) What are aggregate functions? And list the aggregate functions supported by SQL?

[5]

CO2

b) Explain the concept of stored procedures and functions

[5]

CO2

c) Consider following schema.

[5]

CO2

Student_fee_details (rollno, name, fee_deposited, date)

Write a trigger to preserve old values of student fee details before updating in the table
