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VIT

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

Continuous Assessment Test I – September 2023

Programme	**: Master of Computer Applications**	**Semester**	**: Fall Semester 2023-2024**
		Code	**: PMCA503L**
Course Title	**: Database Systems**	**Slot**	**: C1+TC1**
Faculty	**: Dr.M.Sandhya**	**Class Nbr**	**: CH2023240101715**
Time	**: 1 ½ Hours**	**Max. Marks**	**: 50**

Answer ALL Questions

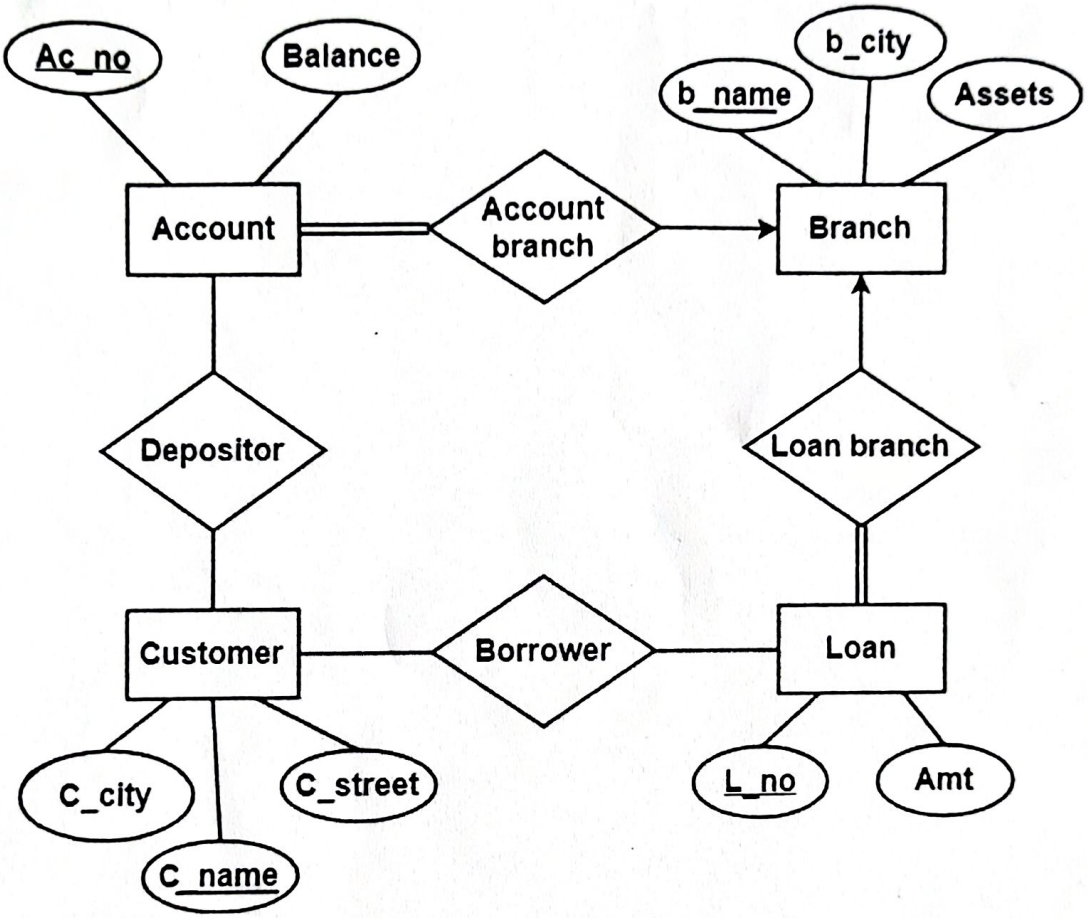
Q.No	Question Description	Marks
1.	A textile shop is currently using Filesystem to store the garment brands and its models along with cloth_id, color, size, price, offers. As it is not convenient to store the details and access the inventory, The shop has decided to use relational database for the same. Discuss about various users [Actors and Workers] and their roles for this new database [6 marks]. Also draw the typical DBMS component modules associated with it [4 marks].	10
2.	Digitek (Multinational Company) wants to develop a system to manage its employee data and payroll process. The company has multiple departments, and each department has several employees with different roles and positions. Employees can belong to only one department, and each department is headed by a manager. Design an Entity-Relationship diagram to represent the entities, relationships, and attributes involved in this scenario. Each entity should take attributes like ID, name, email, salary, designation, department, address, phone number, Joining date, based on their requirement. Additionally, they can also have other attributes. The diagram should also illustrate the relationships between entities in the company's employee data and payroll management system.	10
3.	A private organization has approached you for developing a software that automates the payroll system provided by them. As a part of the development team, you are assigned with the task of designing a database system environment. Identify and justify the various components that constitutes a database system environment and the types of computer system software with which the DBMS interacts.	10
4.	Consider the following schema: Sailors (sid, sname, rating, age) Boats (bid, bname, color) Reserves (sid, bid, day(date))	

Write SQL queries for the following:

a. Find all information of sailors who have reserved boat number 101.
b. Find the name of boat reserved by Bob.
c. Find the names of sailors who have reserved a red boat, and list in the order of age.
d. Find the names of sailors who have reserved at least one boat.
e. Find the ids and names of sailors who have reserved two different boats on the same day.

10

5. Give a relational schema diagram for the ER diagram given below:



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