Class: SY B. Tech
Branch: Computer Engineering   **Semester : IV**
Full name of the Course: Relational Database Management Systems
Course Code: 2UCC403
Duration: 1hr.15 min (attempting questions) +15 min (uploading) Max. Marks: 30

Q. No	Questions	Marks
Q1	lives(<u>person-name</u>, street, city) works(<u>person-name,</u> company-name, salary) located-in(<u>company-name</u>, city) manages(<u>person-name</u>, manager-name) For the above schema (the primary key for each relation is denoted by the underlined attribute), provide relational algebra expressions for the following queries: Q1 A Find all tuples in works of all persons who work for the State Bank of India Company. Q1 B Find the name of persons working at Bank of Baroda who earn more than ₹ 50,000. Q1 C Find the name and city of all persons who work for Punjab National Bank and earn more than ₹50,231 Q1 D Find names of all persons who live in the same city as the company they work for.	1 Marks each
	lives(<u>person-name</u>, street, city) works(<u>person-name,</u> company-name, salary) located-in(<u>company-name</u>, city) manages(<u>person-name</u>, manager-name) For the above schema (the primary key for each relation is denoted by the underlined attribute), provide SQL Statement for the following queries: Q1 E Find names of all persons who live in the same city and on the same street as their manager. Q1 F Find names of all persons who do not work for Canara Bank. Q1 G Find the name of all persons who work for Yes Bank and live in Mathura.	2 Marks each

K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: **January – May 2021**
In-Semester Examination

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Q2 A	What is an attribute? Explain different types of attributes with example **OR** Define Armstrong Axioms used in Relational Database Design	05 marks
Q2 B	Explain need of cascade delete and cascade update in referential integrity with suitable example **OR** What is Views in SQL and how it is defined? Problems that may arise when we attempt to update a view.	05 marks

Q3	The SLR chain of dispensaries has offered to give you a free lifetime supply of medical services if you design its database. Here's the information about SLR chain of dispensaries :
	
	        Each patient is identified by an SSN, and their names, addresses, and ages must be recorded. Doctors are identified by an SSN and their name, specialty, and years of experience must be recorded. Each dispensary company is identified by name given to it and has a fax number. With respect to every drug, the supplier name and formula must be recorded. Each drug is sold by a given dispensary company, and the supplier name identifies a drug uniquely from among the products of that company. If a dispensary company is deleted, you need not keep track of its products any longer. For each dispensary following information is stored - name, address, and phone number. Every patient has a primary physician doctor. Every doctor has at least one patient. Each dispensary sells various drugs and has a price for each. A drug could be sold at several dispensaries, and the price could vary from one dispensary to another. Drug prescription for patients is done by a doctor. A doctor could prescribe one or more drugs for several patients, and a patient could obtain prescriptions from several doctors. Each prescription has a date and a quantity associated with it. You can assume that if a doctor prescribes the same drug for the same patient more than once, only the last such prescription needs to be stored. Dispensary companies have long-term contracts with dispensaries. A dispensary company can contract with several dispensaries, and a dispensary can contract with several dispensary companies. For each contract, you have to store a start date, an end date, and the text of the contract. Dispensaries appoint a supervisor for each contract. There must always be a supervisor for each contract, but the contract supervisor can change over the lifetime of the contract.
	    A. Draw Extended Entity Relationship(EER) Diagram for above problem definition
	    B. Mapping of EER diagram to Relational Model
		10 marks (05+05)