

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, May 2022
B. Tech. (CSE), Semester IV

Roll No.....

CS1106: DATABASE SYSTEMS

Time: 2 hours

Max. Marks: 30

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Mention all the assumptions for your answers clearly.

Salesman(salesman_id, name, city, commission)
Customer (customer_id , name ,city, grade, salesman_id)
Orders(order_id, purch_amt, ord_date, customer_id, salesman_id)

For the above schema perform the following queries:-

- Q. 1.1 Write a **TRC** query to find the salespersons and customers who live in same city. Return customer name, salesperson name and salesperson city. 2.0
(LO 4)
- Q. 1.2 Write a **Relational Algebra** query to find all the customers along with the salesperson who works for them. Return customer name, and salesperson name. 2.0
(LO4)
- Q. 1.3 Write a **SQL** query to find those sales people who generated orders for their customers but not located in the same city. Return ord_no, cust_name, customer_id (orders table), salesman_id (orders table). 2.0
(LO 4)

- Q. 2.1 Examine the table shown below. 1.0+2.0+1.0
(LO2,5)

branchNo	branchAddress	telNo	mgrStaffNo	name
B001	8 Jefferson Way, Portland, OR 97201	503-555-3618	S1500	Tom Daniels
B002	City Center Plaza, Seattle, WA 98122	206-555-6756	S0010	Mary Martinez
B003	14 - 8th Avenue, New York, NY 10012	212-371-3000	S0145	Art Peters
B004	16 - 14th Avenue, Seattle, WA 98128	206-555-3131	S2250	Sally Stern

- i. Why is this table not in 3NF?
- ii. Describe and illustrate the process of normalizing the data shown in this table to third normal form (3NF).
- iii. Identify the primary and foreign keys in your 3NF relations.

Explain the recovery operation using Deferred Database modification in scenario a,b,c respectively.

Q. 4.2 Consider a partial schedule

3.0
(LO7)

T_3	T_4
lock-x (B)	
read (B)	
$B := B - 50$	
write (B)	
	lock-s (A)
	read (A)
	lock-s (B)
lock-x (A)	

Check whether the schedule is in deadlock state.

all the best!