**CSE 370 – Database Systems**

## **Theory Section 05 / 06 | Assignment 04**

## **Spring 2023**

**Full Name (in Block Letter): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Question 1 [CO5] : 10 Points**

Consider the following relation:

**CAR\_SALE (Car, Salesperson, Commission, Date\_sold, Discount\_amt)**

The primary key of the relation is underlined. Assume that a car may be sold by multiple salespersons and so **{Car, Salesperson}** is the primary key.

Suppose the following additional dependencies exist:

**Date\_sold → Discount\_amt**

**Salesperson → Commission**

Based on the given primary key,

(i) Explain whether this relation is in 1NF. If not, decompose it to 1NF. [2 Points]

(ii) Explain whether the relation of no (i) is in 2NF. If not, decompose it to 2NF. [4 Points]

(iii) Explain whether the relation of no (ii) is in 3NF. If not, decompose it to 3NF. [4 Points]

| **Answer:** |
| --- |