North South University, Dept. of ECE, **QUIZ1, Section 2, CSE311**, Spring 2023

Duration: 30 minutes, Full Marks: 20

ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Answer the following questions

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| Q1: (a) What is RDBMS? Why is it called so?  (b) Explain schema and instance in relational database with an example.  ( c) Give an example of DDL with 4 attributes.  (d) Explain super key, candidate key and primary key with an example of NSU student database. | 2  3  2  3 |
| Q2: Given the employee database as employee(e-id, name, age, salary). Write algebra and corresponding SQL to find the e-id and name of all employees with salary higher than 100000 and age greater than or equal to 40.  Q3: Given the customer and purchase database as follows:  Customer (c-id, name, income, gender), purchase(item-id, c-id, quantity, date).   1. Write relational algebra using Cartesian product operation (X) to find c-id, name, item-id, quantity purchased in 5th March 2023. 2. Write the same using natural join operation. | 5  3  2 |