National University of Computer and Emerging Sciences, Lahore Campus

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| final design | **Course:** | **Database Systems** | **Course Code:** | **CS-2005** |
| **Program:** | **BSSE** | **Semester:** | **Spring 2024** |
| **Date:** | **14-Feb-2024** | **Total Marks:** | **10** |
| **Section:** | **C** | **Weight:** |  |
| **Quiz:** | **2** | **Page(s):** | **2** |
|  |  |  |  |

**Instructions** Clearly mention any assumption you have made.

# Q1. Person Employee

|  |  |  |  |
| --- | --- | --- | --- |
| Eno | Name | DOB | City |
| 1 | Ali | 12-1-21 | Lahore |
| 2 | Haris | 30-2-21 | Karachi |
| 3 | Rida | 4-2-21 | Islamabad |
| 4 | Hira | 5-2-21 | Faisalabad |
| 5 | Aiman | 6-2-21 | Murree |

|  |  |  |
| --- | --- | --- |
| Eno | Name | Designation |
| 1 | Ali | Manager |
| 2 | Haris | Ceo |
| 3 | Aiman | Cto |

**Relation 1** **Relation 2**

1. If Eno is a key in both relations, which relation is referencing and which is the reference relation? (1 mark)
2. Write down the names of the schema base constraints and identify all possible keys, candidate keys and super keys from the table above. In case of no valid option, state your reason why. (5 marks)

**Q2.**

|  |  |  |
| --- | --- | --- |
| Name | Eno | City |
| Rida | 2 | Lahore |
| Aiman | 1 | Karachi |
| Hira | 3 | Peshawar |
| Rida | 2 | Lahore |
| Asad | 5 | Murree |

1. Identify which constraint(s) are being violated in this RDMS table. State reasons for your answer. (2 marks)

**Q3.**

**Table 1** **Table 2**

|  |  |  |
| --- | --- | --- |
| Eno | Name | Height |
| 1 | Rida | 5’ 4’’ |
| 2 | Fatima | 5’ 6’’ |
| 3 | Hira | 5’ 2’’ |

|  |  |
| --- | --- |
| Eno | City |
| 1 | Lahore |
| 3 | Karachi |

Perform the following operations. In case of an invalid operation, provide valid being for it being incorrect. (2 marks)

1. Insert row (4,Peshawar) in table 2.
2. Update (1,Lahore) to (5,lahore) in table 2.
3. Delete (1, Rida , 5’ 4’’) from table 1.
4. Insert (2 , Peshawar) in table 1.