**Computer Science and Information Technology Department, UoB, Quetta**

**Course: Database Systems**

**Terminal Exam 2020**

**MCS (2017-21) Roll No: \_\_\_\_\_\_\_\_\_\_ Max marks: 70**

**Note: Do not write anything on question paper except Roll No. All questions are of 10 marks each.**

**Question No 1: Name the following:**

1. A rectangular arrangement of data in rows and columns
2. A column or combination of columns used to identify records uniquely
3. A set from which an attribute can take values
4. One column that is used to uniquely identify records in a table
5. A key that refers to primary key of another table

**Question No 2: Define the following terms:**

1. attribute
2. tuple
3. composite key
4. referential integrity
5. transitive functional dependency

**Question No 3:** A food recipe has many ingredients, each ingredient is used in a specific quantity. Every recipe has a detailed set of instructions. Create an entity relationship diagram to model the data for food recipes.

**Question No 4:** Write create table queries for all the entities you have created in answer to question number 3.

**Question No 5:** What is normalization? Why it is used? Draw a diagram that shows the evolution of normalization theories.

**Question No 6:** Normalize the following data to 1st 2nd and 3rd Normal form.

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Address** | **Movies Rented** | **Salutation** |
| Tufail Ahmed | Sariab Road | Iron Man | Mr. |
| Asim Raza | Jinnah Road | Avatar, Iron Man | Mr. |
| Asma Zafar | Samungli Road | Avator, Hobbit | Ms. |
| Benish Rehman | Toghi Road | Hobbit, Avator | Ms |

**Question No 7:** What is join? Describe various type of joins?