

**FACULTY OF ENGINEERING DESIGN AND TECHNOLOGY**

**NAME: JAMUGISA PETER PAUL**

**REG NO: J22B23/006**

**ACCESS NO: A96402**

**COURSE: BSCS**

**COURSE UNIT: DATABASE DESIGN AND APPLICATION**

**LECTURER: MR. SIMON FRED LUBAMBO**

**Take-home questions:**

1. Define Normalization and how it has been applied in your project. **(5 Marks)**
2. Define the different transaction anomalies giving examples from your project and how they can occur. **(10 Marks)**
3. Suggest ways in which the security of your database can be enhanced **(5 Marks)**
4. Normalization is the process of organizing data in a database. This includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating redundancy and inconsistent dependency.

Different tables in my project have different primary keys that uniquely describe the data in a given table and help to join other tables.

**II)**

Transaction is a collection or a set of operations used to perform a logical set of work. A transaction means that the data in the database has changed.

An update anomaly is a data inconsistency that results from data redundancy and a partial update. This can also be termed as changing existing information incorrectly.eg every on on the has a gender which is a repeated data.

**An update anomaly**

is a data inconsistency that results from data redundancy and a partial update. This can also be termed as changing existing information incorrectly.for example every on on the has a gender which is a repeated data.

**Insertion Anomaly**:

An insertion anomaly is the inability to add data to the database due to the absence of other data.

Data has been gotten from the csv file.thus inserting more data would mean

**Deletion Anomaly**:

A deletion anomaly occurs when you delete a record that may contain attributes that shouldn’t be deleted.

Deleting the id of the customer that contains access to other tables.

III)

* Deploy data encryption protocols

## Keep applications up to date

## Use strong user authentication

## Use database and web application firewalls

## Avoid using default network ports