UGANDA CHRISTIAN UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY

FIRST-YEAR, BSCS

COURSE: Database Design and Applications

Deadline: 18th July 2022 **Date August 2022**

Instructions:

- The Project code should be uploaded to your GitHub account.
- Presentations of your Project will be made in class
- The Theory Questions can either be submitted hand-written or on Moodle as a word document

---

Project:

A student is required to come up with a simple project that requires a database. A small write-up of not more than 500 words should be submitted in a text file on GitHub.

Draw an ER diagram and a schema diagram (Relational Model) of your project and submit them to your GitHub directory.

The project is required to have a minimum of three tables, one being a join table.

It is required of you then to design a database for your project, a schema of which should be submitted as a .sql file.

Generate sample data in a CSV file and write code to import the data into your database. (Student is free to use supporting programming languages such as python and tools such as sqllite3)

The database with the data should be saved and submitted together with the CSV file.

Write 5 different queries of which at least two should apply joins and one applying count and concatenated queries.

Summary of outputs:

1. A .txt write-up file of not more than 500 words

2. ER and Relational Model (Schema) Diagrams
3. SQL code for creating the database and tables
4. CSV sample data
5. Database with imported data
6. Code for importing data into your database
7. 5 SQL Queries submitted in a .txt file

Take-home questions:

I. Define Normalization and how it has been applied in your project. **(5 Marks)**

II. Define the different transaction animalities giving examples from your project and how they can occur. **(10 Marks)**

III. Suggest ways in which the security of your database can be enhanced **(5 Marks)**