

061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/05/6/A

DEMONSTRATE DATABASE MANAGEMENT SKILLS

NOV/DEC 2023



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL
(TVET CDACC)**

PRACTICAL ASSESSMENT

TIME: 2 Hours

CANDIDATES INSTRUCTIONS

- i. In this practical assessment, you are required to perform **TWO** tasks
- ii. You have **Ten** minutes to read through the instructions and check availability of resources for the practical.
- iii. Each task has specific instructions.
- iv. All tasks carry **50** marks.
- v. The assessor will record your performance at critical points using audio-visual means.

You will be provided with the following resource:

- i. A Computer installed with SQL SERVER software

Task 1

As a Data Officer at a renowned ICT company, you have been assigned to design and implement a comprehensive database schema for managing company's records. Create the necessary tables and perform the following operations:

- a) Open a database program and create database named '*Customers*' and save it in the CDACCEXAM folder. (4 Marks)
- b) Create a table called "Clients" with the following columns: (3 Marks)

Clients

Field name	Data type
ID	Integer (primary key)
Name	Text
Email	Text
Age	Integer
City	Text

- c) Insert the following data into the "Clients" table: (8 Marks)

Clients information

ID	Name	Email	Age	City
ID:1	John Doe	john@example.com	25	New City
ID:2	Jane Smith	jane@example.com	30	Langas
ID:3	David Johnson	david@example.com	28	Rise
ID:4	Rudi Masi	rudi@example.com	30	Mogotio

- d) Apply appropriate primary keys to each table. (2 Marks)
- e) Create a query to retrieve the names of all customers who are aged 25. (3 Marks)

Task 2

- a) Create a table called "Orders" with the following fields: (4 Marks)

Orders

Field name	Data type
OrderID	integer, primary key
ClientID	integer, foreign key referencing Customers.ID
OrderDate	Date
TotalAmount	Decimal

- b) Insert the following data into the "Orders" table: (6 Marks)

Order Details

OrderID	ClientID	OrderDate	TotalAmount
OrderID: 1	ClientID: 1	2023-06-15	50000
OrderID: 2	ClientID: 2	2023-06-16	28000
OrderID: 3	ClientID: 3	2023-06-17	54000

- c) Create a query that will accomplish the following tasks:
- i. Retrieve the total number of orders placed by each client. (4 Marks)
 - ii. Calculate the average total amount of orders. (3 Marks)
 - iii. Retrieve the customer's name, email, and the maximum total amount of orders placed by any client. (6 Marks)
 - iv. Update the age of clients who are from New City to 35. (4 Marks)
 - v. Delete all clients who have not placed any orders. (3 Marks)