

061306T4CSC

COMPUTER SCIENCE LEVEL 6

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

Demonstrate Database Management Skills

March/April 2025



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

**PRACTICAL ASSESSMENT**

**TIME: 3 HOURS**

**INSTRUCTIONS TO CANDIDATES:**

1. In this practical assessment, you have been contracted as a professional to design an e-commerce to sell auto spares online and therefore you are required to perform the following tasks:
  - i. *Implement a Database Design for the e-commerce system*
  - ii. *Perform Database transactions to test functionality of the database*
2. You have been provided with the following resources:
  - *A working computer installed with MS SQL server.*
  - *1 Plain paper*

**Task 1: Implement a Database Design for the e-commerce system.**

- i. Draw an ER diagram for entities like Products, Customers, Orders, Order\_Items, Suppliers, on the plain paper provided.
- ii. Implement the database in MS SQL Server.
- iii. Populate the products, customers and suppliers table with at least two records each
- iv. Normalize the database tables.

**Task 2: Perform Database transactions to test functionality of the database.**

- i. Write and save SQL queries on MS Server for:
  - Placing orders.
  - Tracking order status.
  - Generating invoices.
  - Analyzing sales trends.
  - Implementing user authentication and authorization.

Test the queries to access their functionality.

- ii. Create views for:
  - Customer order history.
  - Product inventory.
- iii. Create triggers to:
  - Update inventory upon order placement.
  - Send order confirmation emails.