

**061005T4ICT**

**ICT TECHNICIAN LEVEL 5**

**IT/OS/ICT/CR/4/5**

**MANAGE DATABASE SYSTEMS**

**July/August 2024**



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

**PRACTICAL ASSESSMENT**

**TIME: 2 HOURS**

**INSTRUCTIONS TO CANDIDATE**

1. In this practical assessment you are required to perform five tasks.
2. Perform **ALL** the tasks given in this paper.
3. **ALL** tasks carry **50** marks
4. Marks per each task are shown.
5. You are given **10 minutes** to read through the tasks and confirm the availability of the resources
6. The assessor will record your performance at critical points.

**This paper consists of FOUR (4) printed pages**  
**Candidates should check the question paper to ascertain that**  
**all pages are printed as indicated and that no questions are missing.**

You are provided with the following resources

- A working Computer installed with Microsoft office
- Printer
- Printing papers

**Task 1: (19 Marks) Creating a Database**

**Create a new database** in Microsoft Access named "StudentManagementSystem.accdb".

**Create the following tables** with appropriate fields and data types:

- **Students**
  - StudentID (AutoNumber, Primary Key)
  - FirstName (Short Text)
  - LastName (Short Text)
  - DateOfBirth (Date/Time)
  - Gender (Short Text)
  - Email (Short Text)
- **Courses**
  - CourseID (AutoNumber, Primary Key)
  - CourseName (Short Text)
  - Instructor (Short Text)
  - Credits (Number)
- **Enrollments**
  - EnrollmentID (AutoNumber, Primary Key)
  - StudentID (Number, Foreign Key from Students table)
  - CourseID (Number, Foreign Key from Courses table)
  - EnrollmentDate (Date/Time)

**Task 2: (6 Marks) Entering Data**

Populate the Students table with the following data:

StudentID	FirstName	LastName	DateOfBirth	Gender	Email
1	John	Doe	01/15/1995	Male	john.doe@example.com
2	Jane	Smith	06/20/1996	Female	jane.smith@example.com
3	Alice	Johnson	11/30/1994	Female	alice.johnson@example.com

Populate the Courses table with the following data:

CourseID	CoureName	Instructor	redits
1	Database Systems	Dr. Brown	4
2	Web Development	Prof. Green	3
3	Networking	Dr. Black	3

Populate the Enrollments table with the following data:

EnrollmenID	StudentID	CourseID	EnrollmentDate
1	1	1	01/01/2024
2	2	2	01/02/2024
3	3	3	01/03/2024
4	1	2	01/04/2024
5	2	3	01/05/2024

**Task 3: (3 Marks) Define relationships** between the tables:

Connect **StudentID** in the Students table with **StudentID** in the Enrollments table.

Connect **CourseID** in the Courses table with **CourseID** in the Enrollments table.

Enforce referential integrity for these relationships.

**Task 4: (18 Marks)**

**i. Create a query** named "StudentCourses" that shows:

StudentID

FirstName

LastName

CourseName

EnrollmentDate

**ii. Create a query** named "CourseEnrollmentCount" that shows:

CourseName

The number of students enrolled in each course (use a COUNT function)

**iii. Generate a report** named "EnrollmentReport" based on the "StudentCourses" query, grouped by CourseName and sorted by EnrollmentDate.

**iv. Create a form** named "StudentEntryForm" for entering new student data into the Students table.

**v. Create a form** named "CourseEntryForm" for entering new course data into the Courses table.

**vi. Create a form** named "EnrollmentEntryForm" for entering new enrollment data into the Enrollments table.

**Task 5: (4 Marks) Set validation rules** on the Students table:

Ensure the Email field contains a valid email format.

Ensure the DateOfBirth is not a future date.

**Print the Enrollment report** generated in task 4

**Export the Students table** to an Excel file named "Students.xlsx".

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