

061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/06/6/A

Develop An Information System

March/April 2025



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

PRACTICAL ASSESSMENT

INSTRUCTIONS TO ASSESSOR

1. Assess the candidate as the practical progresses observing the critical areas
2. You are required to mark the practical as the candidate perform the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code at the back and front

OBSERVATION CHECKLIST

Candidate's Name & Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
TASK 1: Develop a School Examination Module			
1. Observed computer laboratory rules <i>(Award 2 mark or 0)</i>	2		
2. Created a form containing the text "Welcome to REB School" <i>((Award 1 mark or 0)</i>	1		
3. Created label and text controls for capturing - admission number - Name - class - maths - English - Science <i>(Award 1 mark for each entry or 0)</i>	6		
4. Validated the 6 controls to ensure correct data is captured and print the appropriate message <i>(Award 1 mark for each validation or 0)</i>	6		
5. Calculated the total marks <i>(Award 1 mark or 0)</i>	1		
6. Calculated the average marks <i>(Award 1 mark or 0)</i>	1		
7. Implemented method to calculate the grade <i>Award 1 mark or 0)</i>	3		
8. Determined the remarks <i>(Award 1 mark or 0)</i>	1		
9. Printed the report form to contain admission number, name, class, maths, English science, total, average, and remarks	5		

<i>Award 5 marks for correct field names or 0)</i>			
Sub-Total 1	25		
TASK 2: Develop a Water Billing Module			
10. Launched VB.NET IDE <i>(Award 1 mark each)</i>	1		
11. Created a form containing the text “Welcome Maji Water Billing Module” <i>(Award 2 marks or 0)</i>	2		
12. Captured details in the controls • Number • Name • Place • phone number. <i>(Award 1 mark for each correct entry or 0)</i>	4		
13. Implemented function to capture previous and current reading <i>(Award 1 mark for each reading or 0)</i>	2		
14. Validated the input controls • Number • Name • Place • phone number. • Current reading • Previous reading <i>(Award 1 mark for each control or 0)</i>	6		
15. Implemented method to calculate the units consumed <i>(Award 1 marks for correct calculation or)</i>	1		
16. Calculated the bill of water consumed <i>(Award 1 marks for correct calculation or 0)</i>	1		
17. Implemented method to print the water bill containing: • Number • Name, • Place of residence • Phone number • Previous reading • Current reading	8		

• Units consumed • Cost <i>(Award 1 marks for each entry or 0)</i>			
Sub-Total 2	25		
GRAND TOTAL	50		
ASSESSMENT OUTCOME			
The candidate was found to be: Competent ☐ Not yet Competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if the candidate obtains at least 50%)</i>			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	

Sample Code for TASK 1

Public Class Form1

' Event handler for the button click to calculate and display student report

Private Sub btnGenerateReport_Click(sender As Object, e As EventArgs) Handles
btnGenerateReport.Click

' Capture student information from the form fields

```
Dim admissionNumber As String = txtAdmissionNumber.Text
Dim studentName As String = txtStudentName.Text
Dim studentClass As String = txtClass.Text
Dim mathsMarks As Integer = Convert.ToInt32(txtMaths.Text)
Dim englishMarks As Integer = Convert.ToInt32(txtEnglish.Text)
Dim scienceMarks As Integer = Convert.ToInt32(txtScience.Text)

' Calculate total and average marks
Dim totalMarks As Integer = mathsMarks + englishMarks + scienceMarks
Dim averageMarks As Double = totalMarks / 3.0

' Determine the grade based on the average
Dim remark As String
If averageMarks > 80 Then
    remark = "Excellent"
ElseIf averageMarks > 70 Then
    remark = "Good"
ElseIf averageMarks > 60 Then
    remark = "Fair"
ElseIf averageMarks > 40 Then
    remark = "Below Average"
Else
    remark = "Fail"
End If

' Display the report in the labels or textboxes
lblAdmissionNumber.Text = "Admission Number: " & admissionNumber
lblStudentName.Text = "Student Name: " & studentName
```

```
lblClass.Text = "Class: " & studentClass  
lblTotalMarks.Text = "Total Marks: " & totalMarks.ToString()  
lblAverageMarks.Text = "Average Marks: " & averageMarks.ToString("F2")  
lblRemark.Text = "Remark: " & remark  
End Sub
```

End Class

Sample Code for Task 2

Public Class Form1

' Event handler for the button click to calculate and display the water bill

**Private Sub btnCalculateBill_Click(sender As Object, e As EventArgs) Handles
btnCalculateBill.Click**

' Capture customer information from the form fields

Dim customerNumber As String = txtCustomerNumber.Text

Dim customerName As String = txtCustomerName.Text

Dim phoneNumber As String = txtPhoneNumber.Text

Dim placeOfResidence As String = txtPlaceOfResidence.Text

Dim previousReading As Integer = Convert.ToInt32(txtPreviousReading.Text)

Dim currentReading As Integer = Convert.ToInt32(txtCurrentReading.Text)

' Calculate the units consumed

Dim unitsConsumed As Integer = currentReading - previousReading

' Initialize standing charge and base cost

Dim standingCharge As Decimal = 200

Dim waterBill As Decimal = standingCharge

' Calculate the cost based on units consumed

If unitsConsumed > 10 Then

waterBill += unitsConsumed * 10 ' 10 per unit for units above 10

ElseIf unitsConsumed > 6 Then

waterBill += unitsConsumed * 10 ' 10 per unit for units above 6

ElseIf unitsConsumed > 4 Then

waterBill += unitsConsumed * 10 ' 10 per unit for units above 4

ElseIf unitsConsumed <= 4 Then

waterBill += unitsConsumed * 10 ' 10 per unit for units below 4

End If

' Display the results in the labels or textboxes

lblCustomerNumber.Text = "Customer Number: " & customerNumber

lblCustomerName.Text = "Customer Name: " & customerName

lblPhoneNumber.Text = "Phone Number: " & phoneNumber

lblPlaceOfResidence.Text = "Place of Residence: " & placeOfResidence

lblPreviousReading.Text = "Previous Reading: " & previousReading.ToString()

lblCurrentReading.Text = "Current Reading: " & currentReading.ToString()

lblUnitsConsumed.Text = "Units Consumed: " & unitsConsumed.ToString()

lblWaterBill.Text = "Water Bill: Ksh. " & waterBill.ToString("F2")

End Sub

End Class