

071305T4ELC

ELECTRONICS ENGINEERING LEVEL 5

ENG/OS/ET/CR/04/5/A

Apply Electrical Instrumentation

March/April2025



**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
1. Wore PPE			
i. Safety boots (<i>Award 0 or 1</i>)		1	
ii. Apron(<i>Award 0 or 1</i>)		1	
2. Applied good housekeeping practice			
i. Proper handling of tools (<i>Award 1 or 0</i>)		1	
ii. Ensured clean working area before beginning working. (<i>Award 1 or 0</i>)		1	
iii. Properly disposed wastes (<i>Award 1 or 0</i>)		1	
Sub total		5	
PRODUCT CHECKLIST			
TASK 1 -Mount the Circuit			
3. Mounted the circuit on the breadboard.			
i. Identified the components and values correctly (<i>Award 1 x 6 for each of the capacitor and resistor</i>)		6	
ii. Mounted the component correctly considering polarity and pin configuration (<i>Award 2 x 3 for the 555</i>)			

<p><i>timer and two capacitors)</i></p> <p>iii. Utilized the breadboard (Award 3 marks or 0 for at least $\frac{3}{4}$ of the bread board)</p> <p>iv. Placed component neatly (Award 1 mark for each of the six components or 0)</p>	6		
	3		
	6		
Sub total	21		
TASK 2 – Testing System Functionality			
<p>4. Powered the circuit and carried out measurement at the testing points.</p> <p>i. Used the correct input voltage (Award 2 marks or 0 for 12V)</p> <p>ii. Connected circuit correctly (Award 5 marks or 0 if no fault in the circuit)</p> <p>iii. Correctly measured voltages at the test points $TP_1 = 12 \text{ Volt}$(Award 5 marks or 0 for $12 \pm 0.5V$) $TP_2 = 8 \text{ Volt}$(Award 5 marks or 0 for $8 \pm 0.5V$) $TP_4 = 0 \text{ Volt}$(Award 5 marks or 0)</p> <p>iv. Circuit functionality was achieved (Award 5 marks or 0)</p>	2		
	5		
	5		
	5		
	5		
Sub total	27		
TASK 3 – Waveform Display			

5. Used the oscilloscope.			
i. Carried out general inspection of the oscilloscope before use. (<i>Award 2 or 0</i>)	2		
ii. Connected the probe and the grounding clip to the corresponding connection (<i>Award 5 or 0</i>)	5		
iii. Used the oscilloscope to display the waveform at test point TP_3 . (<i>Award 5 or 0 for a square sine wave</i>)	5		
iv. Drew the output waveform at TP_3 (<i>Award 5 marks or 0</i>)	5		
Sub total	17		
TASK 4 – Testing the circuit			
6. Carried out testing of the circuit			
i. Performed physical inspection of the circuit. (<i>Award 0 or 3</i>)	3		
ii. Performed the following test:			
• continuity (<i>Award 0 or 3</i>)	3		
• polarity (<i>Award 0 or 3</i>)	3		
iii. Compiled test report (<i>Award 0 or 5</i>)	5		
Sub total	14		
GRAND TOTAL	84		
$Percentage = \frac{x}{84} \times 100$			
ASSESSMENT OUTCOME			

The candidate was found to be:	
Competent <input type="checkbox"/>	Not yet Competent <input type="checkbox"/>
<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
_____	_____

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