

071306T4ELC

ELECTRONICS ENGINEERING LEVEL 6

ENG/OS/ET/CR/03/6

Apply Electrical instrumentation

July/August 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 No.			
Assessor's 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
1. Wore Personal Protective Equipment (PPE)			
i. Dustcoat/Overall (<i>Award 1 or 0</i>)	1		
ii. Safety boots (<i>Award 1 or 0</i>)	1		
2. Applied housekeeping practice			
i. Ensured clean working area before beginning work. (<i>Award 1 or 0</i>)	1		
ii. Tidy working area arrangement (<i>Awa</i>	1		
3. Identified electronic components			
i. 555 timer; (<i>Award 1 or 0</i>)	1		
ii. Resistors and their values; (<i>Award 1 or 0</i>)	4		
iii. Capacitors and their value; (<i>Award 1 or 0</i>)	4		
Sub total	13		
TASK 1			
4. Built the circuit:			
i. Fixed components firm and level (<i>Award $\frac{1}{2}$ or 0 for each component; $6 \times \frac{1}{2} = 3$</i>)	3		
ii. Economical use of breadboard (<i>Award 3 or 0</i>)	3		
iii. Set output of the power supply to be 12V (<i>Award 2 or 0</i>)	2		

iv. Correct connection of the oscilloscope and adjusted accordingly to clearly display the waveform (<i>Award 3 or 0</i>)	5		
v. Sketched the output waveform (<i>Award 3 or 0</i>)	3		
Sub-Total	16		
TASK 2			
5. Measured the following parameters using an oscilloscope and recorded:			
i. Amplitude (<i>Award 1 or 0</i>)	1		
ii. Period (<i>Award 1 or 0</i>)	1		
iii. Duty cycle (<i>Award 1 or 0</i>)	1		
iv. Frequency (<i>Award 1 or 0</i>)	1		
Sub- total	4		
TASK 3			
6. Replaced 1K Ω resistor with 100K Ω ; (<i>Aw</i>)	3		
7. Sketched the observed waveform			
8. Noted what happens after replacement	1		
i. Amplitude (<i>Award 1 or 0</i>)	1		
ii. Period (<i>Award 1 or 0</i>)	1		
iii. Duty cycle (<i>Award 1 or 0</i>)	1		
iv. Frequency (<i>Award 1 or 0</i>)			
Sub-total	7		
TASK 4			
9. Replaced 0.1 μ F capacitor with 100 μ F (<i>Award 3 or 0</i>)	3		
10. Sketched the observed waveform			
11. Noted what happens after replacement	1		
i. Amplitude (<i>Award 1 or 0</i>)	1		
ii. Period (<i>Award 1 or 0</i>)	1		
iii. Duty cycle (<i>Award 1 or 0</i>)	1		
iv. Frequency (<i>Award 1 or 0</i>)			

Sub-total	7		
TASK 5			
12. Carried out the following tests of the circuit			
i. Performed physical inspection of the circuit. (Award 0 or 3)	3		
ii. Performed the following test:			
• continuity (Award 0 or 2)	2		
• polarity (Award 0 or 2)	2		
Sub-total	7		
TASK 6			
13. Report:	1		
i. Title; (Award 1 or 0)	2		
ii. Introduction; (Award 2 or 0)	1		
iii. Objectives; (Award 1 or 0)	5		
iv. List of materials; (Award any 5; 1 ma	5		
v. Observation; (Award 5 or 0)	2		
14. Conclusion (Award 2 or 0)			
Sub-total	16		
GRAND TOTAL	70		
ASSESSMENT OUTCOME			
The candidate was found to be:			
Competent ☐ Not yet Competent ☐			
(Please tick as appropriate)			
(The candidate is competent if the candidate obtains at least 50%)			

Feedback from the Candidate:	
Feedback to the Candidate:	
Candidate Signature _____	Date: _____
Assessor's Signature _____	Date _____