

071606T4MCT

MECHATRONICS TECHNICIAN LEVEL 6

ENG/CU/MC/CR/04/6/

Perform Mechatronic Systems Instrumentation and Control

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. 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 & Reg. code			
Unit(s) of Competency			
Venue of Assessment			
Date of assessment			
Items to be evaluated:	Marks Available	Marks Obtained	Comments
Task1 : Design and Install the control system			
1. Wore personal protective equipment according to Standard operating procedures i. Overall, ii. Safety boots <i>Award 1mark for each PPE</i>	2		
2. Correctly sketched the circuit diagram for the control system i. Correct labeling ii. Correct connections iii. Neat <i>Award 1 mark for each item</i>	3		
3. Installed the control system according to the design on an installation board: i. MCB ii. Power supply iii. P.L.C iv. Start button v. Stop button vi. Capacitive sensors	8		

vii. Relay			
viii. Motor			
<i>Award 1 mark each</i>			
4. Correctly used the following tools			
i. Multimeter	3		
ii. Cable stripper			
iii. Screw Drivers (flat & star)			
<i>Award 1 mark each</i>			
Sub_Total 1:	16		
Task 2 : Develop the PLC program			
5. Developed I/O distribution list	1		
<i>Award 1 mark</i>			
6. Opened programming software and start new project	1		
<i>Award 1 mark</i>			
7. Developed the control system program:	8		
i. Start the system			
ii. Motor Forward			
iii. Motor Reverse			
iv. System Stop			
<i>Award 2 mark each</i>			
8. Documented the program i.e used comments	2		
<i>Award 2 marks</i>			
9. Correctly simulated and debugged the program	2		
<i>Award 2 marks</i>			
Sub_Total 2:	14		
Task 3 : Test and Operate the Control System			
10. Installed the system as per SOPs	2		
<i>Award 2 marks</i>			

11. Correctly powered the system <i>Award 1 mark</i>	1		
12. Correctly i. connected the programming cable ii. Uploaded program to the PLC <i>Award 1 mark each</i>	2		
13. Correctly operated the system: i. Start pushbutton started system ii. Capacitive Sensor1 ran motor forward iii. Motor stopped after 1 minute iv. Capacitive Sensor2 ran motor in reverse v. Motor Stopped after 1 minute vi. Stop Pushbutton stopped system <i>Award 1 mark each</i>	6		
14. Measured speed of motor i. Correctly put the reflective tape ii. Correctly used digital tachometer iii. Measured speed of motor running in the forward direction and in the reverse direction and recorded the results <i>Award 2 mark each</i>	6		
15. Performed housekeeping: i. Disconnected components according to Standard Operating Procedures ii. Stored the equipment and accessories properly iii. Cleaned the work area after practical <i>Award 1 mark each</i>	3		
Sub_Total 3:	20		
Total	50		

The candidate was found to be: Competent ☐ Not yet competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if s/he gets 50% of 45 marks on the observation checklist,</i>		
Feedback from candidate:		
Feedback to candidate:		
Candidate's signature:	Date:	
Assessor's signature:	Date:	

The candidate was found to be: Competent ☐ Not yet competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if s/he gets 50 total marks</i>		
Feedback from Candidate:		
Feedback to Candidate:		
Candidate's Signature:	Date:	
Assessor's Signature:	Date:	