©2025 TVET CDACC

P021306T4IOR

INDUSTRIAL AUTOMATION AND ROBOTICS TECHNICIAN LEVEL 6

ENG/OS/IA/CR/08/6

Install and Maintain Human Machine Interfaces

July/August 2025

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

easytvet.com

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: *Please award marks as appropriate. Give a brief comment on your observation.*	**Marks Available**	**Marks Obtained**	**Comments**
TASK 1: installed components			
1. Donned PPE • Safety boots • lab coat/overall *Award 1 mark each*	**2**		
2. Identified the components provided • PLC, • HMI, • Power supply, • Ethernet cable, • Switch *Ask three components and Award 1 mark for correct identification*	**3**		
3. Installed the PLC • Connected the PLC to the power supply • Connected the push buttons to the PLC • Connected the contactors to the PLC • Connected the buzzer to the PLC	**8**		

easytvet.com

Award 2 mark for correct connection or else 0			
4. Installed the unmanaged switch *Award 2 marks for correct installation or else 0*	**2**		
5. Connected the HMI to the power supply *Award 2 mark for correct connection and 0 for wrong connection*	**2**		
6. Installed the a.c socket outlet *Award 2 marks or else 0*	**2**		
7. Connected the ethernet cable *Award 1 mark for correct connection and 0 for wrong connection*	**1**		
8. Installed the push button switches. *Award 1 mark for each correct component installed*	**3**		
9. Connected contactors *Award 2 marks for each correct component installed*	**2**		
10. Routed cables according to standard procedure • Power cables • Signal cables • Ethernet cables *Award 2 marks for correctly terminated and laid cables*	**6**		
Sub-Total 1	**31**		
TASK 2: Testing The System			
11. Performed continuity tests	**2**		

easyvet.com

Award 2 marks or else 0			
12. Tested voltages *Award 2 marks or else 0*	**2**		
Sub-Total 2	**4**		
Task 3: Configured the PLC			
13. Correctly configured hardware *Award 3 marks or else 0*	**3**		
14. Developed the program • Correct logic • Labelled tags *Award 3 marks for each or else 0*	**6**		
Sub-Total 3	**9**		
Task 4: Configured HMI			
15. Configured hardware *Award 4 marks or else 0*	**4**		
16. Created graphics • Start graphic • Stop graphic • Reverse graphic • Forward graphic • Motor graphic *Award 2 marks each or else 0*	**10**		
Sub Total 4	**14**		
Task 5: Performed functionality tests			
17. Motor moves in forward direction when HMI forward pushbutton is pressed *Award 4 marks or else 0*	**4**		

easyktvet.com

18. Motor moves in reverse direction when HMI reverse push button is pressed *Award 4 marks or else 0*	**4**		
19. Motor stops when HMI stop push button is pressed *Award 2 marks each or else 0*	**2**		
20. Motor moves in forward direction when physical push button PB1 is pressed *Award 4 marks or else 0*	**4**		
21. Motor moves in reverse direction when physical push button PB2 is pressed *Award 4 marks or else 0*	**4**		
Sub Total 5	**18**		
GRAND TOTAL	**76**		
% = $\frac{x}{76}$ X 100	**100**		

easytvet.com

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** _____

easytvet.com