

071605T4MCT

MECHATRONICS TECHNOLOGY LEVEL 5

ENG/OS/MC/CR/06/5/A

Operate Programmable Logic Control (PLC) Systems

Nov/Dec 2024



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

PRACTICAL ASSESSMENT

OBSER

CKLIST

Candidate's name & Registration No.			
Assessor's name & Reg. 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 safety gear • Overall/dust coat • Safety boots <i>Award 1 mark for each PPE worn correctly and 0 if any is not worn</i>	2		
Sub-Total	2		
TASK 1: WIRED THE PLC			

2. Observed electrical safety rules. • Disconnected from the main before doing any wiring. <i>Award 2 marks for the above safety rule and 0 if failed to observe</i>	2		
3. Used correct tools for correct operations. • star and flat drivers on the right screws • side cutter • stripping knife <i>Award 1 mark for each correct use</i>	3		
4. Connected power to the PLC correctly • Live • Neutral • Earth <i>Award 1 mark for each correctly connect line</i>			
5. Connected the peripheral devices to the PLC correctly. • Start button • Stop button • Capacitive sensor • Inductive sensor • Red LED • Yellow LED • Green LED <i>Award 1 mark for each correctly connected component</i>	7		
6. Connected power correctly to the PLC input and output interfaces. <i>Award 1 mark for each correct connection</i>	2		

7. Powered the PLC ON. <i>Award 1 mark for correct powering</i>	1		
Sub-Total	18		
TASK 2: PROGRAMMED THE PLC			
8. Opened the correct programming software and set the parameters <i>Award 1 mark for correct software used, 1 mark for correct plc series and 1 mark for correct programming language selection</i>	3		
9. Wrote the correct ladder diagram for the tasks <i>Award 8 marks for correct ladder program</i>	8		
10. Simulated the program/ run the program in monitor mode if the software lacks simulation <i>Award 2 marks for simulation</i>			
11. Set the PLC to programming mode b downloading the program. <i>Award 3 mark or zero</i>	3		
12. Downloaded the program to the PLC <i>Award 2 marks or zero</i>	2		
13. Set the PLC to running mode. <i>Award 2 marks or zero</i>	2		
Sub-Total	20		
TASK 3: OPERATED			
14. Operated the PLC system as per the requirements Green light is ON when start button is pressed			

• yellow light goes ON when capacitive sensor counts to 6 • Green light goes ON when inductive sensor counts to 3 • Stop button powers off the whole system <i>Award 2 marks for each correct operation</i>	8		
15. Powered of the system and disassembled the set up	2		
Sub-Total	10		
GRAND TOTAL $\left(\frac{x}{50} \times 100\%\right)$	50		

ASSES	COME
The candidate was found to be: Competent ☐ et competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if the candidate obtains at least 50% of the total marks allocated.)</i>	
Feedback from candidate:	
Feedback to candidate:	
Candidate's Signature -----	Date -----
Assessor's Signature -----	Date -----