

071605T4MCT

MECHATRONICS TECHNOLOGY LEVEL 5

ENG/OS/MC/CR/03/5/A

Maintain Mechatronic Systems Instrumentation and Control

March/April 2025



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

PRACT MENT

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	Comments
1. Donned the following PPE; i. Overall ii. Safety boots (Award 1 mark each)	2		
Sub-total 1	2		
TASK 1: INSTALL MOTOR SPEED CONTROL SYSTEM			
2. Identified the following compon i. Switch ii. Motor iii. VFD iv. MCB v. Potentiometer (Award 1 mark each)	5		
3. Used the following tools as required; i. Screw driver ii. Multimeter iii. Tachometer) (Award 1 mark each)	3		
4. Wired the following according to diagram; i. MCB ii. Motor iii. Switch iv. Potentiometer (Award 3 marks each)	12		
5. Connected the VFD as per the diagram. (Award 1 mark any 5 connections)	5		
6. Set VFD parameters as per the manual. (Award 3 marks each or 0)	3		

7. Connected the switch. (Award 2 marks or 0)	2		
Sub-Total 2	30		
TASK 2: OPERATE THE SYSTEM			
8. Turned ON the system according to SOP. (Award 2 marks or 0)	2		
9. Adjusted potentiometer to obtain constant speeds in the table; i. 500 rpm ii. 600 rpm iii. 700 rpm iv. 800 rpm v. 900 rpm vi. 1000 rpm (Award 1 mark for each set speed)	6		
10. Recorded phase currents for the set motor speeds in the table. (Award 1 mark for each reading. appendix at the bottom)	6		
11. Turned OFF the system according to SOP. (Award 2 marks or 0.)	2		
Sub-Total 3	16		
TASK 3: DISASSEMBLY AND HOUSEKEEPING			
12. Disassembled the system. (Award 2 marks or 0)	2		
13. Carried out housekeeping. (Award 2 marks or 0)	2		
Sub-Total 4	4		
GRAND TOTAL	52		
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
_____	_____

APPENDIX: TO BE PRINTED FOR ASSESSOR ONLY

The values assessed on item 10 will vary depending with the following factors:

- i. The type of variable frequency (VFD) drive used.
- ii. Current rating of the three-phase motor used.
- iii. Accuracy of the digital tachometer used.