

071605T4MCT

MECHATRONICS TECHNOLOGY LEVEL 5

ENG/OS/MC/CR/01/5/A

Install Mechatronic Systems

Nov/Dec 2024



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

OBSERVATION CHECKLIST

OBSERV

KLIST

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 allocated	Marks obtained	Comments
TASK: Install an automatic return -indirectly controlled double acting cylinder			
1. Personal protective gear worn according to Standard Operating Procedures. i) Overall ii) Safety boots. (Award 2 mark for each PPE worn)	4		
Sub-Total 1	4		

TASK 1: INSTALLED PNEUMATIC CIRCUIT

2. Identified the components correctly i) Air service unit ii) Manifold iii) Solenoid valve iv) Double acting cylinder v) DC Power supply module vi) Push button switch module vii) Relay module viii) Micro-switch <i>(Award 1 mark for each correct identification)</i>	8		
3. Installed the systems control circuit. i) Installed the air service unit ii) Installed the manifold iii) Installed the solenoid valve iv) Installed double acting cylinder v) Pneumatic circuit neatly installed <i>(Award marks as indicated in column 2. Award 0 otherwise)</i>	2 2		
Sub-Total 2	18		

TASK 2: INSTALLED ELECTRICAL CONTROL CIRCUIT

4. Connected the DC power supply to the mains correctly (Red, Blue) <i>Award 2 marks for correct use of red as live and blue as neutral</i>	2		
5. Powered the push button module correctly (24V and 0V connected) <i>Award 2 marks for correct connection</i>	2		
6. Powered the relay module correctly (24V and 0V connected) <i>Award 2 marks for correct connection of the</i>	2		

<i>relay</i>			
7. Installed all the connections			
i) Connected normally open push button to the 24V	2		
ii) Connected the normally open push button to relay, K1	2		
iii) Connected normally open terminal of K1 to 24V	2		
iv) Connected the normally open terminal of K1 to solenoid valve	2		
v) Connected the micro switch common terminal to 24V	2		
vi) Connected normally open terminal of the micro switch to relay K2	2		
vii) Connected normally open terminal of K2 to 24V	2		
viii) Connected normally open terminal of K2 to the solenoid valve	2		
ix) Control circuit done neatly (Award marks for each item as indicated in column 2. Award 0 otherwise)			
Sub-Total 3	24		
TASK 3: TESTED THE INSTALLATION			
8. Tested the installation			
i) The installation worked as required (Award 4 marks. Award 0 otherwise)	4		
9. Disconnected the components correctly Award 2 marks for procedural action	2		
10. Observed occupational health and safety standards	1		
i) Switched off power when performing connection	1		

ii) Closed FRL valve when performing connection	1		
iii) Cable codes adhered to			
iv) Work area tidy (Award marks as indicated in column 2. Award 0 otherwise)			
Sub-Total 5	10		
GRAND TOTAL $\left(\frac{x}{56} \times 100\right)$	56		

ASSESSMENT OUTCOMES

The candidate was found to be:

Competent ☐ Not yet competent ☐

(Please tick as appropriate)

(The candidate is competent if s/he gets 50% or higher)

Feedback from candidate:

Feedback to candidate:

Candidate's signature: _____		_____
Assessor's signature: _____	Date: _____	_____