

**071906T4AEN**

**Agricultural Engineering Level 6**

**ENG/OS/AGR/CR/08/6/A**

**Install refrigeration and Air conditioning systems**

**July /Aug 2023**



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

**PRACTICAL ASSESSMENT**

**INSTRUCTIONS TO THE ASSESSOR**

1. You are required to mark the practical as the candidate performs the tasks.
2. You are required to take video clips at critical points.
3. Ensure the candidate has an identification tag pinned at the back and front near the shoulders showing Candidate's name and registration code.

*This paper consists of four (4) printed pages*

**OBSERVATION CHECKLIST**

Candidate's Name			
Candidate's Registration No:			
Assessor's Name:			
Assessor's Registration No.			
Unit of Competency:	Install Refrigeration and Air Conditioning Systems		
Venue of Assessment			
Item to be evaluated: Please award marks as appropriate. Give brief comment on your observation.	Maximum	Candidate score	Comments
<b>TASK 1 : Diagnose a faulty compressor on a refrigerator</b>			
1. Wore PPE's <ul style="list-style-type: none"> <li>• Apron/dust coats</li> <li>• Gas masks</li> <li>• Safety boots</li> <li>• Gloves</li> </ul>	01 01 01 01		
2. Handled tools and equipment as per workshop procedure. <i>(award 2 or zero marks)</i>	02		
3. Checked the electrical connections of a refrigerator provided. (checked if electric cable is plugged in on a socket and switched on) <i>(award 1 or zero marks)</i>	01		
4. Checked the level of refrigerant in the system <ul style="list-style-type: none"> <li>• Correctly set up the gauge hoses</li> <li>• Purged the gauge hoses</li> <li>• Gave a plan on results</li> </ul> <i>(award 1 marks each)</i>	01 01 01		
5. Recovered vapour refrigerant from refrigerator <ul style="list-style-type: none"> <li>• Determined the capacity of refrigerant recovery</li> </ul>	02		

<ul style="list-style-type: none"> <li>• Connect the recovery unit, recovery cylinder and the service ports</li> <li>• Carried out recovery</li> </ul> <p><i>(award 1 or 2 marks as indicated)</i></p>	02		
	01		
6. Purge the system as per the machine procedure <i>(Award 1 for attempting or 2 for correct procedure)</i>	02		
7. Replaced compressor			
<ul style="list-style-type: none"> <li>• Tube cutting</li> <li>• Cleaning the cut made using a reamer</li> <li>• Replacing new compressor</li> </ul> <p><i>(award marks for each correct procedure)</i></p>	01		
	01		
	03		
8. Carry out evacuation on the system as per workshop procedure. <i>(award 1 marks for each correct procedure x 4 = 4 marks)</i>	04		
9. Charged the refrigerator unit as per the service requirement guide			
<ul style="list-style-type: none"> <li>• Checked the rating plate and identified the refrigerant as per the system's requirement</li> <li>• Charge the system while monitoring.</li> </ul> <p><i>(award 2 or zero marks appropriately)</i></p>	02		
	02		
10. Changed filter drier <i>(Award 2 marks or zero appropriately)</i>	02		
11. Tested the operation of the refrigerator unit to confirm the whole system is working			
<ul style="list-style-type: none"> <li>• Measured the temperature based on unit specification</li> <li>• Checked sound and vibration based on unit specification</li> </ul> <p><i>(Award 1 mark or zero)</i></p>	01		
	01		

12. Performed house keeping			
• Cleaned the work station	01		
• Cleaned the tools and equipment	01		
• Cleaned the refrigerator system	02		
• Dispersed any waste as per workshop policy	02		
13. Prepared a service report in line with work place procedure	10		
• Title and date			
• Introduction/description/general overview			
• Requirements/tools/materials			
• Observation and action taken			
• Feedback			
(Award 2 mark for each)			
TOTAL	50		
ASSESSMENT OUTCOME			
The candidate was found to be: Competent <input type="checkbox"/> Not yet competent <input type="checkbox"/> (Please tick the appropriate) (The candidate is competent if he/she gets 50% and above)			
Feedback from candidate:			
Feedback to candidate:			
Candidate's signature		Date:	
Assessor's Signature		Date	