

071306T4RAC

REFRIGERATION AND AIR CONDITIONING TECHNICIAN LEVEL 6

ENG/OS/RAC/CR/05/6

Design Air Conditioning system

July/August 2025



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

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			
Candidate's Registration Code			
Assessor's Name			
Assessor's 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
TASK 1: Designed the rectangular air conditioning duct to get the dimensions of the duct.			
1. Adhered to safety precautions - Wore dust coat/overall - Wore safety boot or closed shoe - Wore safety goggles - Wore safety gloves <i>(Award marks as indicated)</i>	1 1 1 1 4		
2. Handled tools and equipment as per workshop procedure - Correct use of tools and equipment - Observed safety when using tools and equipment <i>(Award marks as indicated)</i>	1 1 2		
3. Sized the duct sections: - Duct 1 = (150mm x 50mm) x 100mm - Duct 2 = (75mm x 50mm) x 100mm	1 1 1		

Reducer = two parallel sides of (150mm x 75mm) x 150mm <i>(Award marks as indicated)</i>			
	3		
4. Fabricated the sections: - Quality of folding - Squareness of the duct <i>(Award marks as indicated)</i>	2		
	1		
	3		
5. Assembled the duct sections - Quality of joints - Symmetry of the ducts - Fabricated as per the drawing given - Quality of finish <i>(Award marks as indicated)</i>	2		
	1		
	1		
	1		
	5		
6. Performed housekeeping as per workplace policy - Cleaned the work station, - Cleaned the tools and equipment - Cleaned the Air conditioning system - Disposal of any waste <i>(Award marks as indicated)</i>	1		
	1		
	1		
	1		
	4		
7. Prepared a service report in line with workplace procedures - Included the title - Listed the tools and materials required - Described the procedure of the task <i>(Award marks as indicated)</i>	1		
	1		
	1		
	3		

8. Performed house keeping	• Cleaned tools	1		
	• Returned tools to their storage place	1		
	• Cleaned the working area	1		
	• Disposed off wastes	1		
		4		
Subtotal for task 1		28		
PRODUCT CHECKLIST				
TASK 2: Fabricated the air condition Duct system.				
9. Prepared sheet metal work piece to task specification Duct 1: = (150mm x 50mm) x 100mm Reducer = two parallel sides of (150mm x 150mm) Duct 2 = (75mm x 50mm) x 100mm • Gave allowance for folding. <i>(Award marks as indicated)</i>				
		3		
		3		
		3		
		1		
		10		
10. Cut out the work pieces to task specifications. • Accuracy of the cut-out pieces • Quality of cut • Parts cut flat and square <i>(Award marks as indicated)</i>				
		1		
		1		
		2		
		4		
11. seamed ducts • Joint seamed • Fit-up work pieces- appropriate gap and alignment • Quality of joints				
		3		
		3		
		3		

11. seemed ducts - Joint seemed - Fit-up work pieces- appropriate gap and alignment - Quality of joints <i>(Award marks as indicated)</i>	9		
TASK 3: Joined the rectangular ducts with a reducer and sealed the joints			
12. Joined the circular ducts and use sealant to seal seam joints PART1 AND PART 2 - Sealed the air leaks - Used an ideal sealant - Checked for leakage PART 2 AND PART 3 - Sealed the air leaks - Used an ideal sealant - Checked for leakage <i>(Award marks as indicated)</i>	1 1 1 1 1 1		
	6		
5. Durability of the duct - Strength of material used - Quality of the duct - Reducer was to specification <i>(Award marks as indicated)</i>	1 1 1		
	3		
Sub-total TOTAL	32		
GRAND TOTAL	60		
	$\% = \frac{x}{60} \times 100$		

ASSESSMENT OUTCOME	
The candidate was found to be: Competent ☐ Not yet Competent ☐ <i>(Please tick as appropriate)</i> <i>(The candidate is competent if the candidate obtains at least 50%)</i>	
Feedback from the Candidate:	
Feedback to the Candidate:	
Candidate Signature	Date:
Assessor's Signature	Date