

073206T4CHE

CHEMICAL ENGINEERING TECHNOLOGY LEVEL 6

ENG/OS/CE/CR/07/6

Audit Production Process

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 & 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
TASK 1: PREPARE A SCATTER DIAGRAM			
Wore Personal Protective Equipment • Dustcoat/Overall • Safety shoes • Gloves <i>(Award 1 Mark each. Award 0 Marks without PPE)</i>	1 1 1		
Sub-total 1	3		
1. Measured the lengths of 3 1-inch nails and recorded the average length in the table <i>(Award 1 Mark each for the correct use of micrometer (measuring diameter of smaller nails), vernier (measuring diameter of larger nails) and rule (measuring length) and weighing balance (measuring mass), Total = 4 Marks. Award 0 Marks each for non-correct use of vernier, micrometer, balance and rule)</i>	4		
2. Repeated step 1 for 2-inch, 2.5-inch, 3-inch, 4-inch, 5-inch and 6-inch nails <i>(Award 1 Mark each for repeating. Award 0 Marks for not repeating)</i>	1		

3. Measured the diameters of 3 1-inch nails and recorded the results in the Table 1 <i>Award 1 Mark. Award 0 marks if not measured)</i>	1		
4. Repeated step 3 for 2, 2.5, 3, 4, 5 and 6-inch nails. <i>(Award 1 Mark each for repeating. Award 0 Marks for not repeating)</i>	1		
5. Measured the masses of the 3 1-inch nails used in step 1 and record the average weight in Table 1 <i>(Award 1 Mark or zero Award 0 marks if not measured)</i>	1		
6. Repeated step 5 for 2-inch, 2.5-inch, 3-inch, 4-inch, 5-inch and 6-inch nails <i>(Award 1 Mark each for repeating. A Marks for not repeating)</i>	1		
7. Recorded values in Table 1 <i>(Award 1 Mark each for every recorded. Total = 21 Marks. Award 0 Marks for unrecorded values)</i>	21		
8. Drew graph 1 (length versus diameter) <i>(Award 2 Marks for the correct labelling of graph and 2 marks for the line of best fit for the scatter points. Total = 4 Marks)</i>	4		
9. Collected a random 6-inch nail from the sample of 9 nails (i.e. different from what the candidate had had measured before) <i>Award 1 Mark. Award 0 Marks if the candidate did not collect a random 6-inch nail)</i>	1		

10. Measured the length and diameter of the nail in step 9 and recorded the values <i>(Award 1 Mark each for measuring and recording. Total = 2 Marks. Award 0 Marks for each unmeasured or unrecorded value.)</i>	2		
11. Used their graph to read the length and diameter of a 6-inch nail using the values in step 10. <i>The trainee should use the measured length to find the corresponding diameter from the graph and the measured diameter to read the corresponding length from the graph (Award 2 Marks each for reading the diameter and length from the graph correctly and 1 Mark each for recording 2 values. Total = 2+2+1+1= 6 Marks. 0 Marks for incorrect reading or unrecorded values)</i>	6		
12. Commented on the values obtained in step 10 and in step 11 <i>The trainee's comment should touch on accuracy of the values and the possible sources of error, e.g. inaccurate graph (Award 2 Marks for the correct comment. Total = 2 Marks. Award 0 Marks for wrong comment)</i>	2		
13. Drew a graph of mass (y-axis) versus diameter (x-axis)	4		

<i>(Award 2 Marks for the correct labelling of graph and 2 Marks for the best line of fit for the scatter points. Total = 4 Marks)</i> <i>(Award 0 Marks each incorrect labelling and incorrect graph)</i>			
14. Measured the mass and diameter of the nail in step 9 and recorded the values. <i>(Award 1 Mark each for measuring mass, diameter and for recording. Total = 3 Marks).</i> <i>(Award 0 marks for unmeasured or unrecorded values)</i>	3		
15. Used the graph to read the mass and diameter of a 6-inch nail (using the values in step 14) <i>The trainee should use the measured mass to find the corresponding diameter from the graph and the measured diameter to read the corresponding mass from the graph</i> <i>(Award 2 Marks each for reading the mass and diameter from the graph correctly and 1 mark each for recording the 2 values. Total = 2+2+1+1= 6 Marks. Award 0 Marks for incorrect reading or unrecorded values)</i>	6		
16. Commented on the values obtained in step 14 and in step 15 <i>Comment should touch on accuracy of the values and the possible sources of error, e.g. inaccurate graph)</i>	2		

<i>(Award 2 marks for the correct comment. Total = 2 Marks)</i> <i>(Award 0 Marks for wrong comment)</i>			
17. Based on the trainee's two graphs, the trainee explained which one was the better predictor of the actual nail parameters (i.e. those measured by the instruments) <i>(Award 2 Marks for the correct comment according to the results recorded. Total = 2 Marks)</i> <i>(Award 0 Marks for wrong comment)</i>	2		
18. Performed housekeeping at the place of work <i>(Award 1 Mark for housekeeping)</i> <i>(Award 0 Marks for not housekeeping)</i>	1		
Sub-Total 2	63		
GRAND TOTAL	66		
ASSESSMENT OUTCOME			
The candidate was found to be: Competent <input style="width: 50px; height: 30px; border: 1px solid black;" type="checkbox"/> Not yet Competent <input style="width: 50px; height: 30px; border: 1px solid black;" type="checkbox"/> <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 _____