

071106T4SLT

SCIENCE LABORATORY TECHNOLOGY LEVEL 6

SLT/OS/SL/CR/03/6

Apply Chemistry Techniques

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			
Unit(s) of Competency	Apply Chemistry Techniques		
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
2. TASK 1: PREPARATION OF A STANDARD SOLUTION OF 1M NaOH			
1. Wore PPEs - lab coat, - closed shoes - gloves <i>(Award mark for each PPE donned as per workplace procedures)</i> <i>(Award ½ mark each)</i>	½ ½ ½		
3. Assembled required apparatus for the task - NaOH Pellets - Spatula - Stirring rod - Beaker - Distilled water 250cm³ volumetric flask - Labels - Filter paper <i>(Award ½ mark for each for assembling each apparatus on the working bench)</i>	½ ½ ½ ½ ½ ½ ½		

4. Preparation of 1M NaOH - Calculated the mass of NaOH pellets required.= 10.0g (Award 3marks or zero) - Correctly weighed 10.0g of NaOH (Award 1mark or zero) - Correctly transferred the measured amount into a beaker (Award 1mark or zero) - Added distilled water into the beaker and stirred for dissolving (Award 1mark or zero) - Transferred the solution into the volumetric flask. (Award 1mark or zero) - Rinsed the beaker and the stirring rod and transferred the solution into the volumetric flask (Award 1marks or zero) - Topped up the solution in the volumetric flask up to the mark (Award 1mark or zero) - Labeled the solution. 1M NaOH (Award 1mark or zero)	3 1 1 1 1 1 1		
Sub - Total 1	15		

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3. Calculations - Determined the average volume of NaOH. (30.0 ± 0.2) (Award 1mark or zero) - Written a balanced equation for the neutralization reaction. $\text{NaOH} + \text{Hcl} \longrightarrow \text{Nacl} + \text{H}_2\text{O}$ (Award 1mark or zero) - Determined the moles of NaOH(0.03MOLES) (Award 3marks or zero) - Determined the moles HCL neutralized by the NaOH (0.03moles by mole ratio) (Award 2marks or zero) - Determined the volume of HCL neutralized. ($60\text{ml} \pm 0.02$) (Award 2marks or zero) - Determined the volume of HCL reacted with the MCO_3 (40 ± 0.02) (Award 1mark or zero) - Determined the moles of HCL that reacted with the MCO_3. (0.02moles) (Award 2marks or zero) - Wrote a balanced chemical equation for the reaction between HCL and MCO_3. $(\text{MCO}_3 + 2 \text{Hcl} \longrightarrow \text{Mcl}_2 + \text{CO}_2 + \text{H}_2\text{O})$ (Award 1mark or zero) - Determined the moles of MCO_3 (0.01moles by mole Ratio) (award 2marks or zero) - Determined the R.A.M of the MCO_3. (100) (award 2marks or zero) - Determined the R.A.M of M in the MCO_3 (40) (award 2marks or zero)	1 1 3 3 2 1 2 1 2 2 2		
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4. House keeping - Cleaned all the apparatus - Cleaned the working area <i>(Award 1 mark for each correctly done)</i>	2		
Sub-Total 2	34		
GRAND TOTAL	49		
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 is at least 50%)</i>			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	