

## Self-Assessment Checklist

<b>Candidate Name</b>	
<b>Registration No.</b>	
<b>Qualification</b>	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
<b>Competency Standards</b>	Perform Uric/Urease nitrogen (N) in solid, liquid and mixed fertilizer by kjeldahl method
<b>Assessment Task</b>	<b>Determine Uric/total nitrogen in fertilizer sample</b>  <b>a) Perform sample Digestion for distillation process</b> <b>b) Distillate the digested sample of titration</b> <b>c) Titrate and calculate the results for the distillates</b>

I can.....

Performance Criteria	Yes	No
1. Check sample label for required test.	<input type="checkbox"/>	<input type="checkbox"/>
2. Maintain Laboratory room temperature as per requirement.	<input type="checkbox"/>	<input type="checkbox"/>
3. Check for availability of N standard as per requirement.	<input type="checkbox"/>	<input type="checkbox"/>
4. Set up KJELDAHL apparatus and reagents in accordance with the standard work instructions.	<input type="checkbox"/>	<input type="checkbox"/>
5. Conduct pre-use and safety checks.	<input type="checkbox"/>	<input type="checkbox"/>
6. Weigh accurately required amount of sample as required.	<input type="checkbox"/>	<input type="checkbox"/>
7. Digest sample on digestion block and make volume as per standard procedure.	<input type="checkbox"/>	<input type="checkbox"/>
8. Process sample as per standard distillation method.	<input type="checkbox"/>	<input type="checkbox"/>
9. Process sample as per standard titration method.	<input type="checkbox"/>	<input type="checkbox"/>
10. Analyze replicates as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>
11. Perform calculations according to SOP.	<input type="checkbox"/>	<input type="checkbox"/>
12. Store unused reagents and dispose of wastes as required by relevant regulations and codes.	<input type="checkbox"/>	<input type="checkbox"/>

13. Clean and store equipment.	<input type="checkbox"/>	<input type="checkbox"/>
14. Calibrate equipment as per lab quality assurance plan.	<input type="checkbox"/>	<input type="checkbox"/>
15. Run blank sample accordingly.	<input type="checkbox"/>	<input type="checkbox"/>
16. Run Laboratory Control samples as per standard.	<input type="checkbox"/>	<input type="checkbox"/>
17. Perform replicate/re-testing as per lab standards.	<input type="checkbox"/>	<input type="checkbox"/>
18. Record quality control data as per lab procedure	<input type="checkbox"/>	<input type="checkbox"/>
19. Calculate and Note down the Results on analyst workbook.	<input type="checkbox"/>	<input type="checkbox"/>
20. Submit the results to lab In-charge	<input type="checkbox"/>	<input type="checkbox"/>
21. Clear and restore work area.	<input type="checkbox"/>	<input type="checkbox"/>
22. Ensure calibration of equipment as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>
23. Handle distillation unit as per SOP.	<input type="checkbox"/>	<input type="checkbox"/>
24. Ensure sample digestion in fume hood as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>
25. Dispose-off waste as per SOP.	<input type="checkbox"/>	<input type="checkbox"/>
26. Handle acids as per MSDS.	<input type="checkbox"/>	<input type="checkbox"/>
27. Ensure safety protocols as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature\_\_\_\_\_

Assessor's Signature\_\_\_\_\_

Date: \_\_\_\_\_

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)</b>
<b>Competency Standard(s)</b>	Perform Uric/Urease nitrogen (N) in solid, liquid and mixed fertilizer by kjeldahl method
Candidate Details	
Guidance for Candidate	<p><b>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration &amp; assessment):</b></p> <p><b>Determine Uric/total nitrogen in fertilizer sample</b></p> <ul style="list-style-type: none"> <li><b>a) Perform sample Digestion for distillation process</b></li> <li><b>b) Distillate the digested sample of titration</b></li> <li><b>c) Titrate and calculate the results for the distillates</b></li> </ul>
Time:240 Mins	<p>During a practical assessment, under observation by an assessor, you are required to</p> <p><b>Determine Uric/total nitrogen in fertilizer sample</b></p> <ul style="list-style-type: none"> <li><b>a) Perform sample Digestion for distillation process</b></li> <li><b>b) Distillate the digested sample of titration</b></li> <li><b>Titrate and calculate the results for the distillates</b></li> </ul>
Minimum Evidence Required	<p>Demonstrate the following criteria:</p> <p><b>Digest sample for distillation</b></p> <ol style="list-style-type: none"> <li>1. Check sample label for required test.</li> <li>2. Maintain Laboratory room temperature as per requirement.</li> <li>3. Check for availability of N standard as per requirement.</li> <li>4. Set up KJELDAHL apparatus and reagents in accordance with the standard work instructions.</li> <li>5. Conduct pre-use and safety checks.</li> <li>6. Weigh accurately required amount of sample as required.</li> <li>7. Digest sample on digestion block and make volume as per standard procedure.</li> </ol> <p><b>Distillate the digested sample of titration</b></p>

	<p>8. Process sample as per standard distillation method.</p> <p><b>Distillate the digested sample of titration</b></p> <p>9. Process sample as per standard titration method.</p> <p>10. Analyze replicates as per standard requirement.</p> <p>11. Perform calculations according to SOP.</p> <p>12. Store unused reagents and dispose of wastes as required by relevant regulations and codes.</p> <p>13. Clean and store equipment.</p> <p>14. Calibrate equipment as per lab quality assurance plan.</p> <p>15. Run blank sample accordingly.</p> <p>16. Run Laboratory Control samples as per standard.</p> <p>17. Perform replicate/re-testing as per lab standards.</p> <p>18. Record quality control data as per lab procedure</p> <p>19. Calculate and Note down the Results on analyst workbook.</p> <p>20. Submit the results to lab In-charge</p> <p>21. Clear and restore work area.</p> <p>22. Ensure calibration of equipment as per standard requirement.</p> <p>23. Handle distillation unit as per SOP.</p> <p>24. Ensure sample digestion in fume hood as per standard requirement.</p> <p>25. Dispose-off waste as per SOP.</p> <p>26. Handle acids as per MSDS.</p> <p>27. Ensure safety protocols as per standard requirement.</p>
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## Assessors Judgment Guide

<b>Qualification</b>	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
<b>Competency Standard(s)</b>	Perform Uric/Urease nitrogen (N) in solid, liquid and mixed fertilizer by kjeldahl method
<b>Candidate Details</b>	Name: _____  Registration/Roll Number: _____ Signature: _____
<b>Assessment Outcome</b>	<div style="display: flex; justify-content: space-around; align-items: center;"> <span>COMPETENT <input type="checkbox"/></span> <span>NOT YET COMPETENT <input type="checkbox"/></span> </div> Name of the Assessor _____ Assessor's code: _____  Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

## Observation Checklist

<b>Assessment Task</b>	<b>Determine Uric/total nitrogen in fertilizer sample</b>  c) Perform sample Digestion for distillation process d) Distillate the digested sample of titration e) Titrate and calculate the results for the distillates			
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Checked sample label for required test.			
2.	Maintained Laboratory room temperature as per requirement.			
3.	Checked for availability of N standard as per requirement.			
4.	Set up KJELDAHL apparatus and reagents in accordance with the standard work instructions.			
5.	Conducted pre-use and safety checks.			
6.	Weigh accurately required amount of sample as required.			
7.	Digested sample on digestion block and make volume as per standard procedure.			
8.	Processed sample as per standard distillation method.			
9.	Processed sample as per standard titration method.			
10	Analyzed replicates as per standard requirement.			
11	Performed calculations according to SOP.			
12	Stored unused reagents and dispose of wastes as required by relevant regulations and codes.			
13	Cleaned and store equipment.			

14	Calibrated equipment as per lab quality assurance plan.			
15	Run blank sample accordingly.			
16	Run Laboratory Control samples as per standard.			
17	Performed replicate/re-testing as per lab standards.			
18	Recorded quality control data as per lab procedure			
19	Calculated and Note down the Results on analyst workbook.			
20	Submitted the results to lab In-charge			
21	Cleared and restore work area.			
22	Ensured calibration of equipment as per standard requirement.			
23	Handled distillation unit as per SOP.			
24	Ensured sample digestion in fume hood as per standard requirement.			
25	Disposed-off waste as per SOP.			
26	Handled acids as per MSDS.			
27	Ensured safety protocols as per standard requirement.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

<b>Feedback to the Candidate</b>

<b>Candidate's Signature</b> _____ <b>Assessor's Signature</b> _____