

## 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 water soluble micronutrients (Zn, Fe, Mn etc) in Fertilizers through Atomic Absorption Spectrometer (AAS) Method
<b>Assessment Task</b>	<b>Analyze fertilizer sample for micronutrients:</b>  <b>a) Prepare micronutrients working standards and calibrate the AAS</b> <b>b) Process fertilizer sample for analysis on AAS and calculation of results as per standard protocol</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. Keep the sample at room temperature for few minutes.	<input type="checkbox"/>	<input type="checkbox"/>
4. Set up equipment 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. Prepare sample according to test requirement	<input type="checkbox"/>	<input type="checkbox"/>
7. Weight sample according to test requirement	<input type="checkbox"/>	<input type="checkbox"/>
8. Take required aliquot from filtered sample as per STM.	<input type="checkbox"/>	<input type="checkbox"/>
9. Prepare standards solutions for micronutrient according to range.	<input type="checkbox"/>	<input type="checkbox"/>
10. Use relevant atomic lamp as per requirement.	<input type="checkbox"/>	<input type="checkbox"/>
11. Aspire standard working solutions of micronutrient in AAS as per SOP.	<input type="checkbox"/>	<input type="checkbox"/>
12. Aspire sample solution in AAS as per STM.	<input type="checkbox"/>	<input type="checkbox"/>
13. Read Absorbance and prepare standard curve according to SOP.	<input type="checkbox"/>	<input type="checkbox"/>

14. Perform calculations as per prescribed formula	<input type="checkbox"/>	<input type="checkbox"/>
15. Store unused reagents and dispose of wastes as required by relevant regulations and codes.	<input type="checkbox"/>	<input type="checkbox"/>
16. Clean and store equipment as per lab protocol	<input type="checkbox"/>	<input type="checkbox"/>
17. Run Laboratory Control samples as per standard.	<input type="checkbox"/>	<input type="checkbox"/>
18. Perform replicate/re-testing as per lab standards.	<input type="checkbox"/>	<input type="checkbox"/>
19. Record quality control data as per lab procedure.	<input type="checkbox"/>	<input type="checkbox"/>
20. Prepare quality control charts of quality assurance activities according to lab procedure	<input type="checkbox"/>	<input type="checkbox"/>
21. Always used valid standards	<input type="checkbox"/>	<input type="checkbox"/>
22. Calculate and Note down the Results on analyst workbook.	<input type="checkbox"/>	<input type="checkbox"/>
23. Perform detail calculations	<input type="checkbox"/>	<input type="checkbox"/>
24. Submit the results to lab In-charge	<input type="checkbox"/>	<input type="checkbox"/>
25. Clear and restore work area	<input type="checkbox"/>	<input type="checkbox"/>
26. Ensure before taking any measurement that instrument has been calibrated.	<input type="checkbox"/>	<input type="checkbox"/>
27. Perform dilutions if required	<input type="checkbox"/>	<input type="checkbox"/>
28. Always use perform pre and post acid washing	<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 Potassium (K) in Solid, Liquid and Mixed Fertilizer by Flame Photometry 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>Analyze fertilizer sample for micronutrients:</b></p> <ol style="list-style-type: none"> <li><b>a) Prepare micronutrients working standards and calibrate the AAS</b></li> <li><b>b) Process fertilizer sample for analysis on AAS and calculation of results as per standard protocol</b></li> </ol>
Time:240 Mins	<p>During a practical assessment, under observation by an assessor, you are required to</p> <p><b>Analyze fertilizer sample for micronutrients:</b></p> <ol style="list-style-type: none"> <li><b>1. Prepare micronutrients working standards and calibrate the AAS</b></li> <li><b>2. Process fertilizer sample for analysis on AAS and calculation of results as per standard protocol</b></li> </ol>
Minimum Evidence Required	<p>Demonstrate the following criteria:</p> <p><b>Prepare micronutrients working standards and calibrate the AAS</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. Keep the sample at room temperature for few minutes.</li> <li>4. Set up equipment and reagents in accordance with the standard work instructions.</li> <li>5. Conduct pre-use and safety checks.</li> <li>6. Prepare sample according to test requirement</li> </ol> <p><b>Process fertilizer sample for analysis on AAS and calculation of results as per standard protocol</b></p> <ol style="list-style-type: none"> <li>7. Weight sample according to test requirement</li> <li>8. Take required aliquot from filtered sample as per STM.</li> <li>9. Prepare standards solutions for micronutrient according to range.</li> </ol>

	<ul style="list-style-type: none"> <li>10. Use relevant atomic lamp as per requirement.</li> <li>11. Aspire standard working solutions of micronutrient in AAS as per SOP.</li> <li>12. Aspire sample solution in AAS as per STM.</li> <li>13. Read Absorbance and prepare standard curve according to SOP.</li> <li>14. Perform calculations as per prescribed formula</li> <li>15. Store unused reagents and dispose of wastes as required by relevant regulations and codes.</li> <li>16. Clean and store equipment as per lab protocol</li> <li>17. Run Laboratory Control samples as per standard.</li> <li>18. Perform replicate/re-testing as per lab standards.</li> <li>19. Record quality control data as per lab procedure.</li> <li>20. Prepare quality control charts of quality assurance activities according to lab procedure</li> <li>21. Always used valid standards</li> <li>22. Calculate and Note down the Results on analyst workbook.</li> <li>23. Perform detail calculations</li> <li>24. Submit the results to lab In-charge</li> <li>25. Clear and restore work area</li> <li>26. Ensure before taking any measurement that instrument has been calibrated.</li> <li>27. Perform dilutions if required</li> <li>28. Always use perform pre and post acid washing</li> </ul>
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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 water soluble micronutrients (Zn, Fe, Mn etc) in Fertilizers through Atomic Absorption Spectrometer (AAS) 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>Analyze fertilizer sample for micronutrients:</b>  a) Prepare micronutrients working standards and calibrate the AAS b) Process fertilizer sample for analysis on AAS and calculation of results as per standard protocol			
<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.	Kept the sample at room temperature for few minutes.			
4.	Set up equipment and reagents in accordance with the standard work instructions.			
5.	Conducted pre-use and safety checks.			
6.	Prepared sample according to test requirement			
7.	Weight sample according to test requirement			
8.	Took required aliquot from filtered sample as per STM.			
9.	Prepared standards solutions for micronutrient according to range.			
10	Used relevant atomic lamp as per requirement.			
11	Aspired standard working solutions of micronutrient in AAS as per SOP.			
12	Aspired sample solution in AAS as per STM.			
13	Read Absorbance and prepare standard curve according to SOP.			
14	Performed calculations as per prescribed formula			
15	Stored unused reagents and dispose of wastes as required by relevant regulations and codes.			
16	Cleaned and store equipment as per lab protocol			
17	Run Laboratory Control samples as per standard.			

18	Performed replicate/re-testing as per lab standards.			
19	Recorded quality control data as per lab procedure.			
20	Prepared quality control charts of quality assurance activities according to lab procedure			
21	Always used valid standards			
22	Calculated and Note down the Results on analyst workbook.			
23	Performed detail calculations			
24	Submitted the results to lab In-charge			
25	Cleared and restore work area			
26	Ensured before taking any measurement that instrument has been calibrated.			
27	Performed dilutions if required			
28	Always used perform pre and post acid washing			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Feedback to the Candidate

Candidate's Signature _____ Assessor's Signature _____	