

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standards	Perform Soil Boron Test
Assessment Task	a) Prepare a sample of soil for testing of boron content b) Determine boron content of the prepared sample using spectrophotometer

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. Arrange equipment and safety requirements as per standard method.	<input type="checkbox"/>	<input type="checkbox"/>
4. Set up apparatus 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. Take required amount of soil in extraction/reagent bottle as per recommended procedure.	<input type="checkbox"/>	<input type="checkbox"/>
7. Add HCl and shake as per standard method.	<input type="checkbox"/>	<input type="checkbox"/>
8. Transfer filtered sample to volumetric flask according to procedural requirement.	<input type="checkbox"/>	<input type="checkbox"/>
9. Add buffer solution and Azomethine-H color reagent as per standard method.	<input type="checkbox"/>	<input type="checkbox"/>
10. Prepare Boron standards as per requirement.	<input type="checkbox"/>	<input type="checkbox"/>
11. Observe reading on spectrophotometer and draw standard curve as per standard procedure.	<input type="checkbox"/>	<input type="checkbox"/>
12. Run blank sample accordingly.	<input type="checkbox"/>	<input type="checkbox"/>
13. Run Laboratory Control samples as per standard.	<input type="checkbox"/>	<input type="checkbox"/>

14. Perform replicate/re-testing as per lab standards.	<input type="checkbox"/>	<input type="checkbox"/>
15. Record quality control data as per lab procedure	<input type="checkbox"/>	<input type="checkbox"/>
16. Calculate soil boron through standard curve.	<input type="checkbox"/>	<input type="checkbox"/>
17. Submit the results to lab In-charge	<input type="checkbox"/>	<input type="checkbox"/>
18. Clear and restore work area	<input type="checkbox"/>	<input type="checkbox"/>
19. Ensure calibration of equipment as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>
20. Use clean and good quality cuvette	<input type="checkbox"/>	<input type="checkbox"/>
21. Ensure use of fresh color developing reagent for boron.	<input type="checkbox"/>	<input type="checkbox"/>
22. Use boron free glassware as per standard requirement	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature_____

Assessor's Signature_____

Date: _____

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standard(s)	Perform Soil Boron Test
Candidate Details	
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ul style="list-style-type: none"> a) Prepare a sample of soil for testing of boron content b) Determine boron content of the prepared sample using spectrophotometer
Time: 240 Mins	<p>During a practical assessment, under observation by an assessor, you are required to</p> <ul style="list-style-type: none"> 1. Prepare a sample of soil for testing of boron content 2. Determine boron content of the prepared sample using spectrophotometer <p>Demonstrate the following criteria:</p>
	<p>Prepare a sample of soil for testing of boron content</p> <ul style="list-style-type: none"> 3. Check sample label for required test. 4. Maintain Laboratory room temperature as per requirement. 5. Arrange equipment and safety requirements as per standard method. 6. Set up apparatus in accordance with the standard work instructions. 7. Conduct pre-use and safety checks.

Minimum Evidence Required	<p>Determine boron content in prepared sample using spectrophotometer</p> <ol style="list-style-type: none"> 8. Take required amount of soil in extraction/reagent bottle as per recommended procedure. 9. Add HCl and shake as per standard method. 10. Transfer filtered sample to volumetric flask according to procedural requirement. 11. Add buffer solution and Azomethine-H color reagent as per standard method. 12. Prepare Boron standards as per requirement. 13. Observe reading on spectrophotometer and draw standard curve as per standard procedure. 14. Run blank sample accordingly. 15. Run Laboratory Control samples as per standard. 16. Perform replicate/re-testing as per lab standards. 17. Record quality control data as per lab procedure 18. Calculate soil boron through standard curve. 19. Submit the results to lab In-charge 20. Clear and restore work area 21. Ensure calibration of equipment as per standard requirement. 22. Use clean and good quality cuvette 23. Ensure use of fresh color developing reagent for boron. 24. Use boron free glassware as per standard requirement
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Assessors Judgment Guide

Qualification	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standard(s)	Perform Soil Boron Test
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	<div style="display: flex; justify-content: space-around; align-items: center;"> COMPETENT <input type="checkbox"/> NOT YETCOMPETENT <input type="checkbox"/> </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

Assessment Task		a) Prepare a sample of soil for testing of boron content b) Determine boron content of the prepared sample using spectrophotometer		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Checked sample label for required test.			
2.	Maintained Laboratory room temperature as per requirement.			
3.	Arranged equipment and safety requirements as per standard method.			
4.	Set up apparatus in accordance with the standard work instructions.			
5.	Conducted pre-use and safety checks.			
6.	Took required amount of soil in extraction/reagent bottle as per recommended procedure.			
7.	Added HCl and shake as per standard method.			
8.	Transferred filtered sample to volumetric flask according to procedural requirement.			
9.	Added buffer solution and Azomethine-H color reagent as per standard method.			
10.	Prepared Boron standards as per requirement.			
11.	Observed reading on spectrophotometer and draw standard curve as per standard procedure.			
12.	Run blank sample accordingly.			
13.	Run Laboratory Control samples as per standard.			
14.	Performed replicate/re-testing as per lab			

Candidate's Signature_____ **Assessor's Signature**_____