

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate level 2, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standards	<ul style="list-style-type: none"> • Adhere to lab safety rules • Apply sampling techniques • Execute pre sampling operations • Handle basic level equipment • Process sample for analysis • Maintain lab record • Perform pH test of water by pH meter • Perform pH test of soil by pH meter • Perform water conductivity test by EC meter • Perform soil electrical conductivity (EC) by EC meter
Assessment Task	<p>Perform following task:</p> <p>Collect samples of soil and water from field and assess electrical conductivity and pH value of soil and water through standard test method in lab following safety parameters.</p>

I can.....

Performance Criteria	Yes	No
1. Ensure cleanliness of work Place as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
2. Ensure accessibility of all emergency points as per safety rules	<input type="checkbox"/>	<input type="checkbox"/>
3. Assort necessary materials according to need at workstation	<input type="checkbox"/>	<input type="checkbox"/>
4. Maintain aeration for equipments to prevent overheating	<input type="checkbox"/>	<input type="checkbox"/>
5. Maintain environmental conditions as per given standards	<input type="checkbox"/>	<input type="checkbox"/>
6. Ensure proper dress code safety measures	<input type="checkbox"/>	<input type="checkbox"/>
7. Treat all Chemicals as per Material Safety Data Sheet (MSDS).	<input type="checkbox"/>	<input type="checkbox"/>
8. Use chemical resistant gloves while handling chemicals.	<input type="checkbox"/>	<input type="checkbox"/>
9. Clean spillage according to protocols.	<input type="checkbox"/>	<input type="checkbox"/>
10. Ensure storage of chemicals according to compatibility list	<input type="checkbox"/>	<input type="checkbox"/>
11. Ensure personal hygiene with clean lab coat, gloves, face masks, goggles, etc.	<input type="checkbox"/>	<input type="checkbox"/>

12. Refrain from eating, smoking & drinking in lab.	<input type="checkbox"/>	<input type="checkbox"/>
13. Sterilize glassware before and after use as per test method requirement	<input type="checkbox"/>	<input type="checkbox"/>
14. Avoid altering or modifying high-voltage equipment.	<input type="checkbox"/>	<input type="checkbox"/>
15. Ensure direct access to electrical panels in accordance with standard safety guidelines.	<input type="checkbox"/>	<input type="checkbox"/>
16. Avoid extensions or loose wire in laboratory.	<input type="checkbox"/>	<input type="checkbox"/>
17. Avoid water and wet hands when working with electrical devices	<input type="checkbox"/>	<input type="checkbox"/>
18. Equip with standard protocols for Sampling	<input type="checkbox"/>	<input type="checkbox"/>
19. Adopt standard procedures for each analysis	<input type="checkbox"/>	<input type="checkbox"/>
20. Ensure availability of standard laboratory manuals	<input type="checkbox"/>	<input type="checkbox"/>
21. Display Lab emergency exit plan layout	<input type="checkbox"/>	<input type="checkbox"/>
22. Check pre-requisites before turning on the instruments as per given Manual	<input type="checkbox"/>	<input type="checkbox"/>
23. Turn on instrument as per instruction given in manual	<input type="checkbox"/>	<input type="checkbox"/>
24. Implement performance checks as per standard lab procedures	<input type="checkbox"/>	<input type="checkbox"/>
25. Run sample for a specific time as per given instructions	<input type="checkbox"/>	<input type="checkbox"/>
26. Record data for required parameter of the sample in specific SI units as a standard	<input type="checkbox"/>	<input type="checkbox"/>
27. Review site files and field folders. (Site location, description and access, and review any previously collected physical, chemical, and biological data.)	<input type="checkbox"/>	<input type="checkbox"/>
28. Follow sampling design and sample size instructions as required	<input type="checkbox"/>	<input type="checkbox"/>
29. Follow standard methods for sampling	<input type="checkbox"/>	<input type="checkbox"/>
30. Plan field visits as per given task	<input type="checkbox"/>	<input type="checkbox"/>
31. Make checklist for pre-sampling, sampling and post sampling preparations as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
32. Select sampling tool kit as per sampling plan	<input type="checkbox"/>	<input type="checkbox"/>

33. Document all information regarding as per given format	<input type="checkbox"/>	<input type="checkbox"/>
34. Examine physical conditions and quantity of received sample as per lab procedure	<input type="checkbox"/>	<input type="checkbox"/>
35. Issue sample receipt as per defined format	<input type="checkbox"/>	<input type="checkbox"/>
36. Assign tag number to sample as per serial pattern	<input type="checkbox"/>	<input type="checkbox"/>
37. Note sample details as per given particulars	<input type="checkbox"/>	<input type="checkbox"/>
38. Maintain stock registers of consumable as per requirement.	<input type="checkbox"/>	<input type="checkbox"/>
39. Maintain fixed assets/dead stock register as per requirements	<input type="checkbox"/>	<input type="checkbox"/>
40. Maintain instrument stock register as per requirements	<input type="checkbox"/>	<input type="checkbox"/>
41. Manage logbook of required equipment as per its utilization and schedule.	<input type="checkbox"/>	<input type="checkbox"/>
42. Homogenize collected soil sample by mixing and allow to attain equilibrium according to given instructions.	<input type="checkbox"/>	<input type="checkbox"/>
43. Dry soil sample as per required procedures	<input type="checkbox"/>	<input type="checkbox"/>
44. Remove the physical impurities from the samples i.e. Plant residues, gravel, soft chalk, limestone and stones	<input type="checkbox"/>	<input type="checkbox"/>
45. Grind the soil sample following standard protocols	<input type="checkbox"/>	<input type="checkbox"/>
46. Sieve the selected soil according to test requirement	<input type="checkbox"/>	<input type="checkbox"/>
47. Filter water sample for physical impurities/undesirable matters as per required standards	<input type="checkbox"/>	<input type="checkbox"/>
48. Process water sample in desired apparatus only according to set SOPs	<input type="checkbox"/>	<input type="checkbox"/>
49. Ensure seal and label of sample as per standard method	<input type="checkbox"/>	<input type="checkbox"/>
50. Open the collected sample as per prescribed procedure	<input type="checkbox"/>	<input type="checkbox"/>
51. Process sample as per lab procedure according to requirement	<input type="checkbox"/>	<input type="checkbox"/>
52. Ensure transportation of prepared sample according to prescribed standards	<input type="checkbox"/>	<input type="checkbox"/>
53. Prevent sample leakage or spillage	<input type="checkbox"/>	<input type="checkbox"/>

54. Ensure standard time period between collection and analysis of samples	<input type="text"/>	<input type="text"/>
55. Avoid mixing of collected and obtained sample	<input type="text"/>	<input type="text"/>
56. Analyze water sample to assess electrical conductivity and pH as per standard test procedure	<input type="text"/>	<input type="text"/>
57. Analyze soil sample to assess electrical conductivity and pH as per standard test method	<input type="text"/>	<input type="text"/>
58. Store samples as per given SOP	<input type="text"/>	<input type="text"/>

Candidate's Signature _____ Assessor's Signature _____
Date: _____

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate level 2, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standard(s)	<ol style="list-style-type: none"> 1. Adhere to lab safety rules 2. Apply sampling techniques 3. Execute pre sampling operations 4. Handle basic level equipment 5. Process sample for analysis 6. Maintain lab record 7. Perform PH test of water by PH meter 8. Perform PH test of soil by PH meter 9. Perform water conductivity test by EC meter 10. Perform soil electrical conductivity (EC) by EC meter

Candidate Details	Name _____ Registration/Roll Number _____
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> <p>Collect samples of soil and water from field and assess electrical conductivity and pH value of soil and water through standard test method in lab following safety parameters.</p>
Time: 240 Mins	<p>During a practical assessment, under observation by an assessor, you are required to Collect samples of soil and water from field and assess electrical conductivity and pH value of soil and water through standard test method in lab following safety parameters. Perform the following criteria:</p>
Minimum Evidence Required	<ol style="list-style-type: none"> 1. Ensure cleanliness of work Place as per requirement 2. Ensure accessibility of all emergency points as per safety rules 3. Assort necessary materials according to need at workstation 4. Maintain aeration for equipments to prevent overheating 5. Maintain environmental conditions as per given standards 6. Ensure proper dress code safety measures 7. Treat all Chemicals as per Material Safety Data Sheet (MSDS). 8. Use chemical resistant gloves while handling chemicals. 9. Clean spillage according to protocols. 10. Ensure storage of chemicals according to compatibility list 11. Ensure personal hygiene with clean lab coat, gloves, face masks, goggles, etc. 12. Refrain from eating, smoking & drinking in lab. 13. Sterilize glassware before and after use as per test method requirement 14. Avoid altering or modifying high-voltage equipment. 15. Ensure direct access to electrical panels in accordance with standard safety guidelines. 16. Avoid extensions or loose wire in laboratory. 17. Avoid water and wet hands when working with electrical devices 18. Equip with standard protocols for Sampling 19. Adopt standard procedures for each analysis 20. Ensure availability of standard laboratory manuals 21. Display Lab emergency exit plan layout 22. Check pre-requisites before turning on the instruments as per given Manual 23. Turn on instrument as per instruction given in manual 24. Implement performance checks as per standard lab procedures 25. Run sample for a specific time as per given instructions 26. Record data for required parameter of the sample in specific SI units as a standard 27. Review site files and field folders. (Site location, description and access, and review any previously collected physical, chemical, and

	<p>biological data.)</p> <ol style="list-style-type: none"> 28. Follow sampling design and sample size instructions as required 29. Follow standard methods for sampling 30. Plan field visits as per given task 31. Make checklist for pre-sampling, sampling and post sampling preparations as per requirement 32. Select sampling tool kit as per sampling plan 33. Document all information regarding as per given format 34. Examine physical conditions and quantity of received sample as per lab procedure 35. Issue sample receipt as per defined format 36. Assign tag number to sample as per serial pattern 37. Note sample details as per given particulars 38. Maintain stock registers of consumable as per requirement. 39. Maintain fixed assets/dead stock register as per requirements 40. Maintain instrument stock register as per requirements 41. Manage logbook of required equipment as per its utilization and schedule. 42. Homogenize collected soil sample by mixing and allow to attain equilibrium according to given instructions. 43. Dry soil sample as per required procedures 44. Remove the physical impurities from the samples i.e. Plant residues, gravel, soft chalk, limestone and stones 45. Grind the soil sample following standard protocols 46. Sieve the selected soil according to test requirement 47. Filter water sample for physical impurities/undesirable matters as per required standards 48. Process water sample in desired apparatus only according to set SOPs 49. Ensure seal and label of sample as per standard method 50. Open the collected sample as per prescribed procedure 51. Process sample as per lab procedure according to requirement 52. Ensure transportation of prepared sample according to prescribed standards 53. Prevent sample leakage or spillage 54. Ensure standard time period between collection and analysis of samples 55. Avoid mixing of collected and obtained sample 56. Analyze water sample to assess electrical conductivity and pH as per standard test procedure 57. Analyze soil sample to assess electrical conductivity and pH as per standard test method 58. Store samples as per given SOP
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Assessors Judgment Guide

Qualification	National Vocational Certificate level 2, in Agriculture Sector (Soil, water and fertilizer testing lab technician)						
Competency Standard(s)	1. Adhere to lab safety rules 2. Apply sampling techniques 3. Execute pre sampling operations 4. Handle basic level equipment 5. Process sample for analysis 6. Maintain lab record 7. Perform pH test of water by pH meter 8. Perform pH test of soil by pH meter 9. Perform water conductivity test by EC meter 10. Perform soil electrical conductivity (EC) by EC meter						
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____						
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> 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		Perform following task: Collect samples of soil and water from field and assess electrical conductivity and pH value of soil and water through standard test method in lab following safety parameters.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Ensured cleanliness of work Place as per requirement			
2.	Ensured accessibility of all emergency points as per safety rules			
3.	Assorted necessary materials according to need at workstation			
4.	Maintained aeration for equipments to prevent overheating			
5.	Maintained environmental conditions as per given standards			
6.	Ensured proper dress code safety measures			
7.	Treated all Chemicals as per Material Safety Data Sheet (MSDS).			
8.	Used chemical resistant gloves while handling chemicals.			
9.	Cleaned spillage according to protocols.			
10.	Ensured storage of chemicals according to compatibility list			
11.	Ensured personal hygiene with clean lab coat, gloves, face masks, goggles, etc.			
12.	Refrained from eating, smoking & drinking in lab.			
13.	Sterilized glassware before and after use as per test method requirement			
14.	Avoided altering or modifying high-voltage equipment.			
15.	Ensured direct access to electrical panels in			

	accordance with standard safety guidelines.			
16.	Avoided extensions or loose wire in laboratory.			
17.	Avoided water and wet hands when working with electrical devices			
18.	Equipped with standard protocols for Sampling			
19.	Adopted standard procedures for each analysis			
20.	Ensured availability of standard laboratory manuals			
21.	Displayed Lab emergency exit plan layout			
22.	Checked pre-requisites before turning on the instruments as per given Manual			
23.	Turned on instrument as per instruction given in manual			
24.	Implemented performance checks as per standard lab procedures			
25.	Run sample for a specific time as per given instructions			
26.	Recorded data for required parameter of the sample in specific SI units as a standard			
27.	Reviewed site files and field folders. (Site location, description and access, and review any previously collected physical, chemical, and biological data.)			
28.	Followed sampling design and sample size instructions as required			
29.	Followed standard methods for sampling			
30.	Planned field visits as per given task			
31.	Made checklist for pre-sampling, sampling and post sampling preparations as per requirement			
32.	Selected sampling tool kit as per sampling plan			
33.	Documented all information regarding as per given format			
34.	Examined physical conditions and quantity of			

	received sample as per lab procedure			
35.	Issued sample receipt as per defined format			
36.	Assigned tag number to sample as per serial pattern			
37.	Noted sample details as per given particulars			
38.	Maintained stock registers of consumable as per requirement.			
39.	Maintained fixed assets/dead stock register as per requirements			
40.	Maintained instrument stock register as per requirements			
41.	Managed logbook of required equipment as per its utilization and schedule.			
42.	Homogenized collected soil sample by mixing and allow to attain equilibrium according to given instructions.			
43.	Dried soil sample as per required procedures			
44.	Removed the physical impurities from the samples i.e. Plant residues, gravel, soft chalk, limestone and stones			
45.	Grinded the soil sample following standard protocols			
46.	Sieved the selected soil according to test requirement			
47.	Filtered water sample for physical impurities/undesirable matters as per required standards			
48.	Processed water sample in desired apparatus only according to set SOPs			
49.	Ensured seal and label of sample as per standard method			
50.	Opened the collected sample as per prescribed procedure			
51.	Processed sample as per lab procedure according to requirement			
52.	Ensured transportation of prepared sample according to prescribed standards			
53.	Prevented sample leakage or spillage			
54.	Ensured standard time period between collection			

	and analysis of samples			
55.	Avoided mixing of collected and obtained sample			
56.	Analyzed water sample to assess electrical conductivity and pH as per standard test procedure			
57.	Analyzed soil sample to assess electrical conductivity and pH as per standard test method			
58.	Stored samples as per given SOP			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Feedback to the Candidate	
Candidate's Signature _____	Assessor'sSignature _____