

Knowledge Assessment

Qualification	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, Water and Fertilizer Testing Lab Technician)
Competency Standard	Perform total phosphorus in <i>soil, liquid</i> and mixed fertilizer by titrimetric method
Purpose of Assessment	
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	How do you measure phosphorus in soil?		
2.	What is available phosphorus in soil?		
3.	What is the normal level of phosphate in water?		
4.	How do you measure phosphorus in fertilizers?		

5.	What is Sulphuric Acid Solution Standardization?		
6.	Enlist fertilizer having phosphorus?		

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

Key

National Vocational Certificate level 2 to 5, in **Agriculture Sector (Soil, Water and Fertilizer Testing Lab Technician)**

Perform total phosphorus in *soil, liquid* and mixed fertilizer by titrimetric method

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	How do you measure phosphorus in soil?		
	The colorimetric method can determine between 0.06 mg and 0.30 mg of phosphorus pentoxide. By taking a suitable aliquot of the extract, the total phosphorus content of any soil containing more than 0.06 per cent. of phosphorus pentoxide can be determined.		
2.	What is available phosphorus in soil?		
	The term available phosphorus refers to the inorganic form occurring in soil solution which is almost exclusively 'Orthophosphate'. This Orthophosphate occurs in several forms and combinations. The phosphate contributions in soil are governed by hydrogenous equilibria in which it takes part.		
3.	What is the normal level of phosphate in water?		
	0.005 to 0.05 mg/L The natural background levels of total phosphorus are generally less than 0.03 mg/L. The natural levels of phosphate usually range from 0.005 to 0.05 mg/L.		
4.	How do you measure phosphorus in fertilizers?		
	Fertilizer samples analyzed by a control laboratory are placed in water, and then the percentage of the total phosphate that dissolves is measured. This percentage is referred to as water-soluble phosphate. The fertilizer material that isn't dissolved in water is then placed in an ammonium citrate solution		
5.	What is Sulphuric Acid Solution Standardization?		
	Weigh accurately about 0.2 g of anhydrous Sodium Carbonate, previously heated at about 270°C for 1 hour. Dissolve it in 100 ml of water and add 0.1 ml of methyl red solution. Add the acid slowly from a burette, with constant stirring, until the solution becomes faintly pink.		
6.	Enlist fertilizer having phosphorus?		

	<ul style="list-style-type: none"> • DAP • SSP • NPK 		
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