

Knowledge Assessment

Qualification	National Vocational Certificate level 2 to 5, in Agriculture Sector (Soil, water and fertilizer testing lab technician)
Competency Standard	Perform Soil Extractable Potassium Test
Purpose of Assessment	Formative Assessment
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	<div style="display: flex; justify-content: space-between; align-items: center;"> COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> </div> 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.	What is optimum level of potassium in soil?		
2.	What is the role of potassium in soil?		
3.	What is the symbol of potassium?		
4.	What is the most common source of potassium?		
5.	Name of instruments to test potassium in soil.		
6.	What does flame photometer measure?		

7.	Which of the following is necessary for the flame photometric reaction? a) Electrical energy b) Thermal energy c) Chemical energy d) Kinetic energy		
8.	What are the components of flame photometer?		
9.	The function of pressure regulators in the emission system of flame photometer is to have a steady flame which is free from flickers. a) True b) False		
10.	Name of reagents to test potassium in soil		
11.	What is the calculation formula for potassium test?		

Key

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

Perform Soil Extractable Potassium Test

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	What is optimum level of potassium in soil?		
	The optimum level of potash is 120 ppm		
2.	What is the role of potassium in soil?		
	In photosynthesis, potassium regulates the opening and closing of stomata, and therefore regulates CO ₂ uptake, trigger enzyme activation and produce ATP. Also plays an important role in increasing sugar level and increase the use efficiency of other applied nutrients such as N, P and micronutrients		
3.	What is the symbol of potassium?		
	K or K ₂ O is the symbol of potassium		
4.	What is the most common source of potassium?		
	The most common source of K is SOP (K ₂ SO ₄) but MOP (KCl) is also used in crops where Cl toxicity is not the problem		
5.	Name of instruments to test potassium in soil.		
	1. Flame photometer 2. Mechanical Shaker, reciprocating 3. Beaker, 50 ml 4. Pipette, 10 ml 5. Wash bottle 6. Volumetric flasks		
6.	What does flame photometer measure?		
	When a solution containing cations of sodium and potassium is sprayed into flame, the solvent evaporates and ions are converted into atomic state. Intensity of the emitted light depends on the concentration of particular atoms in flame.		
7.	Which of the following is necessary for the flame photometric reaction? e) Electrical energy f) Thermal energy		

	g) Chemical energy h) Kinetic energy		
	a) Electrical energy b) Thermal energy c) Chemical energy d) Kinetic energy		
8.	What are the components of flame photometer? Flame, Nebulizer, Mixing Chamber, Colour Filters, Photo Detector		
9.	The function of pressure regulators in the emission system of flame photometer is to have a steady flame which is free from flickers. a) True b) False True		
10.	Name of reagents to test potassium in soil NH ₄ OAC, ammonium acetate, KCl, NH ₄ OH or HCl		
11.	What is the calculation formula for potassium test? Extractable K (ppm) = reading (ppm) × 20 a) Filter b) Atomizer c) Pressure regulator d) Burner.		