

End Semester/Reappear (Semester I) Examination December 2024

Programme: M. Sc. (Ag.) Agronomy

Course: Soil Fertility and Nutrient Management

Course Code: 13A.AGRON. 502

Enrolment no. _____

Full Marks: 50

Time: 2 Hrs.

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
Section I				
1	Short Answer type questions.			
a	What are the different methods to increase sustainable soil fertility?	CO1	Understand	4 x 5 = 20
	or			
b	Define green manuring? Differentiate between in-situ and ex-situ green manuring with suitable examples.	CO1	Remember	
	or			
c	Can we apply nano fertilizer as soil application? if yes, what are the doses of nano-fertilizer required to maintain the soil fertility status?	CO2	Understand	
	or			
d	Summarise the composition and properties of major secondary and micronutrients	CO2	Understand	
	or			
e	Illustrate the recycling of organic waste and residue management.	CO3	Understand	
	or			
f	How do botanicals aid in improving the soil fertility and plant nutrition?	CO3	Remember	
	or			
g	Describe the different method practiced to increase fertilizer use efficiency.	CO4	Understand	
	or			
	Explain what do you understand by fertilizer use efficiency.	CO4	Understand	
Section II				
Long Answer type questions.				
2	a. Explain the nitrogen cycle with suitable diagram and flow chart.	CO2	Create	2 x 15 = 30
	b. List the factors affecting nutrient availability to plants.	CO2	Remember	
	or			
	a. Explain the deficiency symptoms of macro element.	CO2	Evaluate	
	b. Prepare a chart comparing between low analysis and high analysis fertilizer?	CO2	Apply	
3	a. Compare between soil fertilization vs foliar fertilization.	CO5	Analyze	
	b. Calculate the fertilizer requirement of a crop which require 120Kg, 40 Kg, 60 kg of NPK respectively using DAP, Urea and MOP only.	CO5	Understand	
	or			
	a. Compare between residual effects and fertilizer use efficiency.	CO5	Analyze	
	b. Explain why time and method of manures and fertilizer application are important in obtaining good productivity.	CO5	Understand	

Course Outcome

After completion of the course the students will be able to;

Know about factors affecting soil fertility and sustainability of soil fertility.

- Understand the concepts of productivity and fertility and functions of essential plant nutrients.
- Comprehend concept, importance and application of INM.
- Prepare and use different manures and organic concentrates.
- Apply commercial fertilizers in view of increasing fertilizer use efficiency.