

2025

**M.Sc. in Agriculture
1st Semester Examination**

AGRONOMY

Paper : AGRON-502

**[Principles and Practices of Soil Fertility
and Nutrient Management]**

Full Marks : 70

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *five* questions : 2×5=10

1. Define green manure. Mention any two examples of green manure crops commonly used in agriculture.
2. What is meant by fertilizer use efficiency (FUE)?
3. "All fertile soils are productive." Do you agree with this statement? Justify your answer.
4. Define plant nutrient citing examples.
5. Write your concept on Fertilizer Use Efficiency (FUE).

P.T.O.

(2)

6. What are the benefits of using vermicompost in agricultural field?
7. Mycorrhiza is the association of _____ and _____.
(Fill in the blanks)
8. The earthworm species used for vermicomposting are _____ , _____.
(Fill in the blanks)

Group - B

Answer any *four* questions : $5 \times 4 = 20$

9. Classify nutrients based on mobility in plant and soil.
10. Why are chemical fertilizers considered incompatible with the principles of organic farming?
11. Write down the effect of soil pH on nutrient availability in crop plants.
12. Write down the primary benefits associated with the application of bulky organic manures in farming.
13. Write short notes (any *two*) : $2\frac{1}{2} \times 2 = 5$
 - (i) BGA
 - (ii) *Rhizobium* seed treatment
 - (iii) Liquid fertilizers
 - (iv) Slow release nitrogenous fertilizers
14. How does the pH level of the soil influence the availability of plant nutrients?

(3)

Group - C

Answer any *two* questions : $10 \times 2 = 20$

15. What are biofertilizers? Classify them. Describe the method of multiplication and application of Blue Green Algae (BGA) in rice fields. 1+3+6
16. What is your concept on the criteria of essentiality of nutrients? Write down the criteria of essentiality of nutrients. Write the deficiency symptoms of N, B, Fe, Zn, Mn and Ca nutrients. 1+3+6
17. What is the definition of soil fertility? How does it differ from soil productivity? Discuss why fertility is considered as a major factor for crop productivity. 1+3+6
18. Give four examples of bulky organic manure. Write in detail on the preparation of 'Vermicompost'. What is vermiwash? 2+6+2

Internal Assessment : 20 marks
