

2025

5th Semester Examination
4-Years B.Sc. (Hons.) in Agriculture



Paper : AGS - 502

**[Manures, Fertilizers and
Soil Fertility Management]**

Full Marks : 50

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

Attempt any *five* questions : $2 \times 5 = 10$

1. What is Diagnosis and Recommendation Integrated System (DRIS)?
2. What is Acid Equivalent? Give an example.
3. Classify fertilizers based on the number of primary nutrients supplied per unit product, and give one example from each category.
4. Justify the need for maintaining low moisture and moderate temperature conditions during fertilizer storage.

P.T.O.

(2)

5. What is a Quasi-essential Nutrient? Give one example.
6. What do you understand by soil amendment? Mention one chemical soil amendment.
7. What is NUE (Nutrient Use Efficiency)?
8. In plants suffering from magnesium deficiency, identify the specific region of the leaf where symptoms first appear, and name one crop showing this symptom.

Group - B

Attempt any *four* questions : 5×4=20

9. Why nutrients present in the cell wall are immobile?
10. Write the functions, deficiency symptoms and associated disorders of N and P. 2½+2½
11. Write a short note on oil cakes. Define green manuring, highlighting its advantages in soil fertility and crop production. 2+1+2
12. What is denitrification? How does denitrification take place in soil? 2+3
13. What is Residual P? Why is Residual P important agriculturally? 1+4
14. Write short notes on (any two) : 2½×2=5
 - (i) Nano-fertilizer
 - (ii) B and Ca deficiency symptoms in plant



(3)

- (iii) Vermicompost
- (iv) Nutrient mobility in plant

Group - C

Attempt any *two* questions : 10×2=20

15. What are Arnon's criteria for determining the essentiality of nutrients in plant nutrition? What are the factors affecting nutrient availability in soil? 3+7
16. Define the soil nitrogen cycle and explain its major processes, emphasizing the agronomic and ecological significance of the nitrogen cycle. 1+5+4
17. Describe the soil potassium (K) cycle, highlighting the different forms of potassium present in soil and the key processes governing its transformation and movement. 1+4+5
18. How do soil fertility and productivity differ? Explain the statement, "Not all fertile soils are productive, but all productive soils are fertile". 5+5

