



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)**

M. Sc. (Ag.) (First Semester - Regular) Examinations, February – 2025

**AGR0N 502 - Principles and Practices of Soil Fertility and Nutrient
Management**

(Agronomy)

Time: 2 hrs

Maximum: 50 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** the questions

	CO #	Blooms Level
a. Explain why NO ₃ form of N is preferred by plants as compared to NH ₄ ion.	CO2	L4
b. NUE of C4 plants is more as compared to C3 plants. Give reason	CO3	L4
c. Define hidden hunger.	CO1	L1
d. Write on luxury consumption.	CO1	L2
e. Difference between mass flow and diffusion.	CO2	L2

PART – B

(6 x 5 = 30 Marks)

Answer **ANY SIX** questions

	CO #	Blooms Level
2. Classify the nutrients based on mobility both in soil and plants.	CO1	L2
3. What is criteria of essentiality? Who has given this?	CO1	L2
4. Write down the deficiency symptoms of nitrogen and sulphur.	CO1	L1
5. What is green manuring? Write down the difference between in-situ and ex-situ green manuring.	CO2	L1
6. Classify the nitrogenous fertilizer and also mention the slow releasing nitrogenous fertilizer.	CO1	L2
7. What is denitrification loss of nitrogen. Explain it with chemical reaction.	CO2	L3
8. What is C: N ratio? How it affects the decomposition of organic matter?	CO3	L2
9. Briefly explain the different methods of fertilizer application.	CO1	L2

PART – C

(10 x 1 = 10 Marks)

Answer **ANY ONE** question

	CO #	Blooms Level
10. Classify the phosphatic fertilizer and explain the phosphorous fixation in soil.	CO3	L2
11. What is agronomic and physiological nutrient use efficiency? Briefly explain the agronomic methods to increase the nutrient use efficiency	CO2	L2
12. What is biofertilizer? Classify it along with its example. Explain the role of BGA, azolla in terms of symbiotic nitrogen fixation.	CO1	L2

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