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**Gandhi Institute of Engineering and Technology University, Odisha,  
Gunupur  
(GIET University)**

**B. Sc. (Ag.) (Fifth Semester) Examinations, November 2024  
AC-315 Manure, Fertilizer and Soil Fertility Management**

Time: 2 hrs

Maximum : 50 Marks

**The figures in the right hand margin indicate marks.**

**PART – A**

**Q.1. Fill in the blanks with suitable word / figure.**

**(0.5 x 10 = 5 Marks)**

- a. Essentiality of Mo was given by -----.
- b. STCR Approach for Precision Agriculture is given by-----
- c. Crinkle leaf of cotton is caused by toxicity of-----.
- d. The concept of intensity, quantity and buffering power proposed by -----
- e. Vermicompost contains ----- % N.
- f. Transportation of plant nutrient ions with the flow of water is called as-----
- g. Indore method is ----- method of composting.
- h. ----- is a indicator for boron deficiency.
- i. Maximum biuret content of urea for soil application is -----.
- j. Blossom end rot symptoms is caused by ----- deficiency.

**Q. 2. Define (or) Explain the following in one or two sentences.**

**(1 x 5 = 5 Marks)**

- a. Guano
- b. Critical Nutrient Value
- c. Green manuring *ex situ*
- d. Diffusion
- e. Complex fertilizer

**Q3. Match the following**

**(0.5 x 10 = 5 Marks)**

Column – A	Column – B
(a) Basic slag	(i) Potassic fertilizer
(b) Denitrification	(ii) Vermicompost
(c) Trace element	(iii) Citrate soluble fertilizer
(d) MOP	(iv) Explosive fertilizer
(e) Potassium	(v) Waterlogged condition
(f) Ammonium sulphate	(vi) 1985
(g) $\text{NH}_4\text{NO}_3$	(vii) 20.5 % N
(h) Boron deficiency	(viii) Stomata opening and closing
(i) Earthworm	(ix) Mo
(j) Fertilizer control order	(x) Internal cracks in Fruits

**Q4. Write True or False against each statement**

**(0.5 x 10 = 5 Marks)**

- a. Bulky organic manure contains more nutrient than concentrated organic manure.
- b. Organic compounds like humic and fulvic acid form organo - metallic with micronutrients.
- c. Anhydrous ammonia contain amide form of Nitrogenous fertilizer.
- d. VAM colonize plant roots and through this association help the plant to absorb more P.
- e. CAN is Neutral fertilizer.
- f. Iron is responsible for seed formation in plants.
- g. DAP is citrate soluble phosphatic fertilizer.
- h. Diffusion rate is directly proportional to concentration gradient.
- i. Aerobic method of composting takes more time for composing compare to anaerobic method.
- j. Mg is the only mineral constituent of chlorophyll located at its centre.

**PART – B**

**Attempt ANY FIVE questions. All question carries equal marks**

**(6 x 5 = 30 Marks)**

- 5. What is Green manuring. Write down the classification, advantage & disadvantage of green manuring.
- 6. Write down different steps for nitrogen transformation in soil.
- 7. What are the various methods of fertiliser application? Describe each of them briefly.
- 8. Write down the different parameters for consideration of fertilizer recommendation.
- 9. Briefly explain different methods of compost preparation. Mention the nutrient composition of compost and vermicompost.
- 10. Mention two nitrogenous fertilizer. Briefly discuss the phosphorous fixation process in soil.

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