MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION
B.Sc.(Hons.) A.B.M.

Semester	: V (New)	Term	: First	Academic Year	: 2023-24
Course No.	: SSAC 352	Title	: Manures, Fertilizers and Soil Fertility Management		
Credits	: 3 (2+1)				
Day & Date	: Monday, 4.12.2023	Time	: 14:00 to 17:00 hrs.	Total Marks	: 80

Note :
1. Solve **ANY EIGHT** questions from **SECTION 'A'.**
2. All questions from **SECTION 'B'** are compulsory.
3. All questions carry equal marks.
4. Draw neat diagram wherever necessary.

SECTION 'A'

Q.1 a) Give the composition of plant residue and enlist the sources of soil organic matter.

b) Define Essential nutrients and classify the essential nutrients.

Q.2 a) State the Arnon's criteria of essentiality. Write plant usable or ionic form of primary nutrients.

b) State the factors affecting on nutrient availability in plants and explain any one in brief.

Q.3 a) Define Soil fertility evaluation. Enlist the methods of soil fertility evaluation.

b) Define Critical limit of nutrient. Mention the critical limits of Fe, Zn and Cu.

Q.4 a) Enlist soil test-based fertilizer recommendation approaches.

b) Define Nutrient use efficiency. Give the factors influencing nutrient use efficiency.

Q.5 a) What is INM? State the different components of INM.

b) Write down the different methods of nutrient application.

Q.6 a) Differentiate between Bulky and Concentrated organic manures.

b) Give the effect of micronutrient fertilizers on crop growth.

Q.7 a) Write in detail handling and storage of N, P and K fertilizers.

b) Define Composting. Describe Indore method of composting.

Q.8 a) Define Green manuring. Write the advantages and disadvantages of green manuring.

b) Explain the classification of phosphatic fertilizers with suitable examples.

Q.9 a) Give the classification of nitrogenous fertilizers with examples.

b) Give the classification and properties of potassic fertilizers.

Q.10 Write short notes on (Any Four):

a) Complex fertilizer

b) Vermicomposting

c) Sewage and Sludge

d) Biogas plant slurry

e) Chemistry of Nitrogen in soil

(P.T.O.)

SECTION 'B'

Q.11 Answer in one sentence:

1) Write the available form of Nitrogen to the paddy crop.

2) Name the Scientist who discovered the essentiality of Boron in plants.

3) Write the long form of DRIS.

4) Name the two Boron tolerant crops.

5) Name two crops grown *in situ* under green manuring.

6) Who is known as the 'Father of Soil Science and Agricultural Chemistry'?

7) Name two edible and non-edible oil cakes.

8) Give C : N ratio of saw dust.

Q.12 Define the following terms:

1) Hidden hunger

2) Diffusion

3) Chelate

4) Fertigation

5) Fertilizer

6) Mineralization

7) Soil fertility

8) Soil productivity

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