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

Semester	: V (New)	Term	: First	Academic Year	: 2022-23
Course No.	: SSAC 353	Title	: Manures, Fertilizers and Soil Fertility Management		
Credits	: 3(2+1)				
Day & Date	: Monday, 06.02.2023	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) State the Arnon's criteria for nutrient essentiality.

b) What is organic recycling? Enlist the sources of organic matter. Give the composition of organic matter.

Q.2 a) State the objectives of soil testing.

b) Define bulky organic manure. Explain the trench method of FYM preparation.

Q.3 a) State the factors affecting nutrient use efficiency for availability of potassium.

b) Enlist the methods of nutrient application. Explain the method of application for phosphatic fertilizer.

Q.4 a) Define soil fertility evaluation. State the different approaches for soil fertility evaluation.

b) State the plant usable forms for micronutrients (Fe, Mn, Zn and Cu) along with critical levels in soil.

Q.5 a) Define composting. Write advantages of Bangalore method of composting.

b) Enlist the factors affecting nutrient availability from soil. Explain effects of pH on soil nutrient availability.

Q.6 a) What is green manuring? State the advantages and disadvantages of green manuring.

b) Define INM. State the components of INM with suitable examples.

Q.7 a) State the importance of vermicompost. Explain the method of vermicompost preparation.

b) Define fertilizer. Classify nitrogenous fertilizers with suitable examples.

Q.8 a) Write down effects of sewage water on soil and plant.

b) Classify the phosphatic fertilizers with suitable examples.

Q.9 a) Define complex fertilizers. Write characteristics and advantages of complex fertilizers.

b) Define micronutrient fertilizers. State the role of Fe and B in crop growth.

(P.T.O.)

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Q.10 a) Explain the transformation of different forms of nitrogen in soil.

b) Write the storage and handling of NPK fertilizers.

SECTION 'B'

Q.11 Define the following terms:

1) Beneficial nutrient
2) Chelate
3) Diffusion
4) Indicator plant
5) Sewage
6) Vermicompost
7) Ammonification
8) Critical level

Q.12 Do as directed:

1) Name the enzyme involved in 'N' fixation associated with molybdenum.
2) How much sulphur content is there in single super phosphate?
3) Who is called as the Father of Agricultural Chemistry?
4) Write down the chemical formula of Diammonium phosphate.
5) Give two examples of amide fertilizers.
6) State the asymbiotic nitrogen fixing bacteria present in soil.
7) Write one example of each edible and non-edible oil cake.
8) Blossom end rot of tomato is caused due to the deficiency of_____. (Fill in the blank)

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