

[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 6823

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Your Roll No.....

Unique Paper Code : 217271

Name of the Course : **B.Sc. (Applied) Life Sciences – Agrochemicals and Pest Management**

Name of the Paper : Paper 7 – Soils and Fertilizers

Semester : II

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **SIX** questions in all.
3. **All** questions carry equal marks.

1. (a) For any of the following **THREE** nutrients discuss (A) deficiency symptoms (B) form in which they are taken up by plant and (C) form in which they are available and applied to soil :

(i) Boron

(ii) manganese

(iii) zinc

(iv) Calcium

(v) Iron

(3½×3)

- (b) Define the terms : (i) Straight fertilizers and (ii) Complex fertilizers. (2)

2. (a) Write an explanatory note on 'Soil texture'. (8)

- (b) Attempt any **ONE** of the following :

(i) Giving at least two examples; explain what you mean by Liming of soils.

(ii) What do you mean by 'Water Holding Capacity' and 'Bulk density and porosity of the soil' ? (4½)

P.T.O.

3. (a) Indicate the residual effect of any **five** of the following fertilizers :
- (i) potassium nitrate
 - (ii) bone meal
 - (iii) basic slag
 - (iv) organic manure
 - (v) urea and
 - (vi) single super phosphate
- (2½)
- (b) What are the components of soil which provides the favorable conditions for plant growth ? (4)
- (c) Explain, in brief, immobilization and mineralization of soil nitrogen. (6)
4. (a) Explain, in brief, any **TWO** of the following :
- (i) Ammonification and Nitrification
 - (ii) Nitrogen cycle
 - (iii) Losses of nitrogen from soil
- (5,5)
- (b) Select Primary nutrients, Secondary nutrients and Micronutrients, from the following :
- Calcium, magnesium, sulphur, phosphorus and manganese (2½)
5. (a) Write a detailed note on superphosphates and ammonium phosphates as fertilizers. (8)
- (b) Give the complete name for the following frequently used abbreviations :
MAP, DAP, TSP, CAN, ASN (4½)
6. (a) Write a short note on nitrate and ammonical fertilizers along with their residual effect on soil. (7)
- (b) Discuss in brief, what do you mean by soil profile and soil horizon? (5½)
7. (a) Give in detail the difference between manure and fertilizers ? (8)
- (b) Calculate, how much N, P, and K are in a 30 kilogram bag of 20-12-5 ? (4½)
8. (a) Write a brief introduction for Biofertilizers. (4½)
- (b) Attempt any **ONE** of the following :
- (i) Give a detailed note on 'Nitrogen supplying biofertilizers'.
 - (ii) Write a detailed note on potash fertilizers. (8)