

Library

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Morning

This question paper contains 3 printed pages]

Roll No.

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S. No. of Question Paper : 2362

Unique Paper Code : 32163403

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Name of the Paper : Biofertilizers

Name of the Course : B.Sc. (Hons.) Botany/B.Sc. Prog. : SEC

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all.

Question No. 1 is compulsory.

1. (a) Fill in the blanks :

5

- (i) is the medium used to grow *Rhizobium*.
- (ii) Ericoid mycorrhiza is seen in family
- (iii) is a plant-based biopesticide.
- (iv) Ectomycorrhizal fungi forms sheath on roots of higher plants.
- (v) Free living aerobic diazotroph is

P.T.O.

(b) Define any *five* of the following with examples : $5 \times 2 = 10$

(i) Axenic culture

(ii) Symbiosome

(iii) Organic farming

(iv) Green manure

(v) Pheromone trap

(vi) Biofertilizer

(vii) Lectins.

2. (a) Write an explanatory note on *Rhizobium* isolation and culturing techniques. 10

(b) Write a short note on Actinorrhizal symbiosis. 5

3. (a) Comment on the role of cyanobacteria as a biofertilizer. 5

(b) Comment on benefits of *Azotobacter* as biofertilizer.. 5

(c) Describe biological control. 5

4. (a) Write a short note on nitrogen fixation. 10

(b) Write characteristic features of *Azospirillum*. 5

5. Write short notes on any *three* of the following : $5 \times 3 = 15$

(a) Biocomposting techniques

(b) Recycling of biodegradable waste

(c) Organic fertilizers

(d) Green revolution.

6. Diagrammatically represent the following : $5 \times 3 = 15$

(a) *Anabaena* filament

(b) Cross section of root nodule

(c) Graphical representation of composting process.

7. (a) Write a note on ecological benefits of mycorrhiza. 10

(b) Differentiate between ectomycorrhiza and endomycorrhiza. 5