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[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1672 **C**

Unique Paper Code : 42163302

Name of the Paper : Biofertilizers

Name of the Course : **Life Sciences**

Semester : III

Duration : 2 Hours Maximum Marks : 38

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. This question paper has 7 questions.
3. Attempt **5** questions in all.
4. Question No. **1** is compulsory.
5. **All** questions carry equal marks except Q. No **1**.
6. Answer **all** parts of a question together.
7. Illustrate your answers with suitable diagram wherever necessary.

1. (a) Fill in the blanks : (5×0.5=2.5)

(i) Biological nitrogen fixation was discovered by .....

(ii) The ..... algae has symbiotic association with azolla.

(iii) Mycorrhiza helps plants to absorb .....

(iv) Vermicast is the ..... of earthworm.

(v) The waste that can be degraded by microorganism are called as .....

(b) Give the example of the following : (5×0.5=2.5)

(i) Free living N_2 fixing biofertilizer

(ii) PGPR

(iii) AM fungi

(iv) Associative symbiotic biofertilzer

(v) Green manure

(c) Define the following : (5×1=5)

(i) Inoculants

(ii) Green manure

(iii) Curing

(iv) Algalization

(v) Vesicle

2. What are major types of bio fertilizers used in agriculture? How are they beneficial over chemical fertilizers? (7)

3. (a) Discuss the Anabaena- Azolla association. (3.5)

(b) Write an explanatory note on *Rhizobium* isolation and culture technique. (3.5)

4. Write short notes on any **two** of the following :– (3.5×2=7)

(a) Organic fertilizers

(b) Recycling of industrial waste

5. Describe in detail about the types of mycorrhizal association. Write a detailed note on influence of VAM on growth and yield of crop plant. (7)

6. Discuss in detail about the symbiotic and asymbiotic nitrogen fixation. (7)

7. What is vermicomposting? Discuss the process and preparation of vermicompost. (7)