

## SEC-A: 2. BIOFERTILIZERS AND BIOPESTICIDES

### Unit 1: Biofertilizers

#### Sl.No

What is Biofertilizer?	2
What do you mean by cross inoculation groups?	2
Describe how Rhizobium can be isolated from soil?	3
How do biofertilizers work?	3
How biofertilizers differ from chemical fertilizers	3

### Unit 2: Non - Symbiotic Nitrogen Fixers

Write the importance of Azotobacter as biofertilizer	3
Describe the process of commercial manufacture of Azotobacter	4
Write the role of Carriers in biofertilizer manufacturing process	2

### Unit 3 Phosphate Solubilizers

1. What is PSM? 1
2. Name two species of phosphate solubilizing bacteria. 1
3. Name two species of phosphate solubilizing fungi. 1
4. Why is pH of soil reduced by PSM? 1
5. Name one species of bacteria which is successfully used commercially as PSM. 1
6. Write the role of chelating agents for the better function of PSM. 2
7. Why do PSM prefer alkaline or neutral soil? 2

8. Write the sources of phosphate in soil. 2
9. How does insoluble ferric phosphate reduce in soil? 3
10. How can you isolate PSM from soil? 3
11. How can you prepare mass inoculum of fungal phosphate solubilizers? 3
12. Write the role of PSM in crop production. 5

#### Unit 4 Mycorrhizal Biofertilizers

1. What is VAM? Give an example. 1
2. What is Hartig net? 1
3. What is ericoid mycorrhiza? 1
4. What is arbuscle? 1
5. Name one species of ectomycorrhizal fungus. 1
6. Is there any pathogenic relationship in mycorrhiza? Explain. 2
7. Name two species of higher plants where mycorrhizal associations are found. 2
8. Distinguish between ectomycorrhiza and endomycorrhiza. 2
9. What are pseudo mycorrhizae? 2
10. What are the characteristic features of orchidoid mycorrhizae? 2
11. Write the role of mycorrhizae in agriculture. 4
12. Write the role of mycorrhizae in forestry. 4
13. Write the role of mycorrhizae as phosphate solubilizers. 3
14. Write the role of ectomycorrhizae in soil fertility. 4
15. How can you utilize VAM in crop improvement? 3
16. How can you apply mycorrhizal inoculum in higher plants? 3
17. How can you prepare mass inoculum of VAM? 3

18. What are the basic criteria of field application of mycorrhizae? 4

#### Unit 5 Bioinsecticides

What do you mean by bioinsecticides?

Write the advantages and disadvantages of bioinsecticides over synthetic pesticides.

What is LD50?

What do you mean by integrated Pest Management?