



**2021/TDC/CBCS/ODD/
BOTSEC-301T/142**

**TDC (CBCS) Odd Semester Exam., 2021
held in March, 2022**

**BOTANY
(3rd Semester)**

Course No. : BOTSEC-301T

(Biofertilizers)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer any *fifteen* from the following : $1 \times 15 = 15$

1. Mention the different types of fertilizers.
2. Define biofertilizer.
3. What do you mean by diazotrophs?



(2)

4. Name one symbiotic nitrogen fixing biofertilizer.
5. Who discovered *Azospirillum*?
6. Name the family to which *Azospirillum* belongs.
7. Name the bacteria found in Azotobacterin.
8. Name the first discovered species of *Azotobacter*.
9. Name one species of *Azolla* commonly found in India.
10. Name the pigments present in blue-green algae.
11. Name two cyanobacteria used in rice cultivation.
12. Name the scientist who worked on the mass multiplication of *Azolla* in CRRI.
13. What do you mean by Hartig net?
14. Define endomycorrhiza.

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(3)

15. What is arbuscular mycorrhiza?
16. Write the full form of VAM.
17. Who is considered as the father of organic farming?
18. Mention the types of vermicomposting systems.
19. Define earthworm castings.
20. Give an example of green manure.

SECTION—B

Answer any five from the following : 2×5=10

21. Write a note on carrier-based inoculants for *Rhizobium*.
22. Write a note on nitrogen fixing *Rhizobia*.
23. Describe the method of isolation of *Azospirillum*.
24. Write the characteristic features of *Azotobacter*.

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(Turn Over)



(4)

25. Explain *Azolla* and *Anabaena azollae* association.
26. Write the economic importance of *Azolla*.
27. Describe the ectomycorrhizal association.
28. Explain the benefits of VAM.
29. Write briefly about the various types of green manures.
30. Write the advantage of vermicomposting.

SECTION—C

Answer any *five* from the following : 5×5=25

31. Describe the process of isolation and identification of *Rhizobium*.
32. Describe the method of isolation of *Frankia* in actinorrhizal symbiosis.
33. How do crop plants respond to *Azotobacter* biofertilizer?

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(5)

34. Describe mass multiplication of *Azospirillum*.
35. Discuss the role of *Azolla* in rice cultivation.
36. Write a detailed note on the economic importance of cyanobacteria.
37. Describe the isolation and inoculum production of VAM.
38. Discuss the various mycorrhizal associations found in plants.
39. Discuss the various methods of vermicomposting.
40. Discuss the advantages and disadvantages of using green manures.

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