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Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2023**

Microbiology

MBG 4B 04—SOIL AND AGRICULTURAL MICROBIOLOGY

(2019 Admission onwards)

Time : Two Hours and a Half

Maximum : 80 Marks

Part A*All questions can be attended. Each question carries 2 marks.**Maximum Ceiling 25.*

1. Rhizosphere.
2. Frankia.
3. PGPR.
4. Advantages of Mycorrhiza.
5. Any two examples for associative nitrogen fixers.
6. Crown gall.
7. Any two examples for fungi used as bio control agents.
8. Denitrification.
9. Define microbial inoculants.
10. What is commensalism ?
11. Anabaena
12. Symptoms of citrus canker.
13. Write any *two* examples for viral plant pathogens.
14. What are the importance of Azospirillum ?
15. Auxins.

Turn over

Part B

All questions can be attended. Each question carries 5 marks.

Maximum Ceiling 35.

16. Write on factors affecting microbial population in soil.
17. Write on the effect of pesticides on soil microbes.
18. Biopesticides.
19. Symbiotic nitrogen fixation.
20. Write on any *two* fungal disease of plants and their control measures.
21. Explain Associative symbiosis with examples.
22. Humus formation and its importance.
23. Animal - microbe interaction.

Part C

*Essay any **two** questions.*

Each question carries 10 marks.

24. Explain the disease symptoms, disease cycle and control of rice blast and tomato wilt.
25. Explain types of soil microbes and their role in soil fertility.
26. Explain on various microbe - microbe interactions.
27. Explain on Biopesticides and their advantages on chemical pesticides.

(2 × 10 = 20 marks)