



Date:

Registration number:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27

M.Sc. MICROBIOLOGY - II SEMESTER

SEMESTER EXAMINATION: APRIL 2022

(Examination conducted in July 2022)

MBDE 8518 – AGRICULTURAL MICROBIOLOGY

Time- 2 ½ hrs

Max Marks-70

This paper contains 2 printed pages and 4 parts

I. Answer any FIVE of the following.

5x3=15

1. Write a note on the Crown gall disease.
2. What is the importance of Plant Quarantine?
3. What causes the Sandal spike? Give its symptoms and control.
4. List the types and benefits of Mycorrhiza.
5. Write notes on *Frankia*.
6. What are systemic fungicides? Give examples.
7. What is IPM? Give its significance.

II. Answer any FIVE of the following.

5x5=25

8. Discuss the use of genetic methods for crop improvement.
9. Describe the production of Cyanobacterial biofertilisers.
10. Illustrate the entry of Pathogens through natural openings.
11. What are Phytoalexins? Discuss their role in disease control.
12. Describe the Ergot disease in detail.
13. Diagrammatically describe the Anaerobic digester.
14. Describe the production of *Beauveria bassiana*.

III. Answer any TWO of the following.

2x10=20

15. Give a detailed description of the enzymes involved in pathogenesis.
16. Discuss the role of antisense RNA technology in Agricultural sciences with a relevant example.
17. Describe in detail the processes involved in Nitrogen fixation.

IV. Answer the following

1x10=10

18. In an Agricultural field where a farmer was growing Wheat and Citrus fruits, the occurrence of pustules on the stem in wheat plant was noticed. While in the Citrus orchard the flower production and fruit yield was hindered due to the peeling of bark. What are the diseases seen in both instances? Describe the causal organism, disease cycle and how these conditions can be prevented.