



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 8521 – 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 Tobacco Mosaic disease.
2. What is the importance of Phosphate solubilizers?
3. Illustrate the role of nif genes and their importance.
4. List the strategies implemented in Biological control of diseases.
5. What is VAM? Illustrate the structures associated with it.
6. List the precautions to be taken during the production of Spawn.
7. Highlight the role of viruses in pest management.

II. Answer any FIVE of the following.

5x5=25

8. Discuss the impact on photosynthesis during a diseased condition.
9. Describe the role of hormones during pathogenesis.
10. Illustrate and describe the formation of root nodules in legume plants.
11. Write notes on the Hypersensitivity reactions in host plants.
12. Discuss the production of *Azolla*, give its importance,
13. Describe the steps involved in the production of Biogas.
14. Write notes on the role of Antisense RNA technology in Agriculture.

III. Answer any TWO of the following.

2x10=20

15. Give a detailed description of the Nitrogen cycle.
16. Discuss the methods of Avoidance of plant pathogens.
17. Describe the production of Paddy straw mushroom.

IV. Answer the following

1x10=10

18. A microbial protein that is toxic to some insects has identified itself in the effectiveness of pest management. Since it is harmless to non-target populations and humans, it becomes safe to use the same. What is the microbial protein in question? Identify the organism and describe its mode of action in disease management.