



Register Number:

Date: 27/011/2020

**ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27**  
**B.Sc. MICROBIOLOGY – V SEMESTER**  
**SEMESTER EXAMINATION: NOVEMBER 2020**  
**MB 5218 – AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY**

**Time- 2 1/2 hrs**

**Max Marks-70**

**This paper contains 02 printed pages and 04 parts**

**I. Answer any FIVE of the following.**

**3x5=15 marks**

1. What are the steps in the formation of Humus?
2. Write a note on Citrus Canker.
3. Give the composition and uses of the Bordeaux Mixture.
4. Write notes on the Rotorod Sampler.
5. What are the Biological Indicators of air pollution?
6. Highlight the importance of Fecal Streptococci.
7. List the breakdown and the enzymes involved in Cellulose degradation.

**II. Answer any Five of the following.**

**5x5=25 marks**

8. What is Microbial Leaching? Explain with an example.
9. Describe the Downy Mildew of Grapes.
10. Explain the mode of action of *Bacillus thuringiensis*.
11. Discuss the Biodegradation of 2,4-D.
12. Write notes on any two Air borne Viral infections.
13. Discuss the Physical methods of Analysis of Water.
14. What is Bioremediation? Write notes on Solid Waste Management.

III. Answer any Two of the following.

10x2=20 marks

15. Give a detailed description and a cyclic representation of the Nitrogen cycle.
16. Discuss in detail the production of Biogas.
17. Describe the steps in the Secondary Treatment of Water.

IV. Answer the following:

10x1=10 marks

18. In an Agricultural field growing legume and non-legume crops, if there is a depletion of Nitrogen and Phosphorus, what are the best suited microorganisms that could be used as biofertilizers in both instances? What are the structures produced by such organisms and how is the initiation and development of the interaction seen?

MB 5218\_A\_20