Registration Number:

Date & session: 6-12-2022 ( 1pm )

**ST JOSEPH’S UNIVERSITY, BENGALURU -27**

**M.Sc (FOOD SCIENCE AND TECHNOLOGY) – I SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**FST 1222 – FOOD MICROBIOLOGY**

**Time: 2 Hours Max Marks: 50**

**This paper contains 1 printed page and FOUR parts**

**I. Answer any FOUR of the following 3x4=12**

1. List the factors affecting Microbial Growth in foods.

2. What is Microbial Growth Curve? Give details of the phases.

3. Write a note on Meat Putrefaction.

4. Differentiate Bacterial Food Intoxication and Bacterial Food Infection with examples.

5. What is Gram Staining? Give the principle.

6. What is Hepatitis A and how is it Diagnosed?

**II. Answer any TWO of the following 5x2=10**

7. Give details on the Thermal destruction of Microorganisms.

8. Elaborate on the mechanisms of Antibiotic Resistance of microbes.

9. What is PCR? How it is used in Microbial detection?

**III. Answer any TWO of the following 10x2=20**

10. Discuss in detail two Food Borne Intoxications.

11. Describe Molds and their characteristics. What is their importance in food? Give examples.

12. Elaborate on Immunological Methods used in identification of Microbes.

**IV. Answer the following 8x1=8**

13. A sterilization process enhances the shelf-life of Food without application of heat. The key component of the process is electromagnetic waves.

a) Identify the Sterilization process and describe the effect on Microbes. 5M

b) Name the electromagnetic waves used in this process. 1M

c) What are the other applications of these waves in food. 2M