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

Registration Number:

Date & session:

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

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November /December 2023)**

**FST 1222 – FOOD MICROBIOLOGY**

**(For current batch students only)**

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

**This paper contains 2 printed pages and FOUR parts**

1. **Answer any FOUR of the following 3×4=12**
2. What is generation time? Derive an equation to calculate the generation time of bacteria.
3. Write a brief note on microbial indicators of water quality.
4. Expand DGGE. Give its importance in Microbial identification.
5. What are fermented foods? List its advantages and disadvantages
6. What is Food Irradiation? Comment on its importance in preservation of food.
7. Write a short note on *Clostridium perfringens* food poisoning.

**II. Answer any TWO of the following 5×2=10**

1. Write brief notes on extrinsic factors affecting the growth of Microorganisms in Food.
2. Describe Microbiological Criteria of Food. Add a note on its significance and applications in assessing HACCP systems.
3. What is Giardiasis? Explain its causes, symptoms and treatment.

**III. Answer any TWO of the following 10×2=20**

1. Discuss in detail the microbial spoilage of cereals, pulses and oil seeds.
2. Write detailed notes on types of analytical methods used for the detection of microbial metabolites in foods.
3. Describe in detail the immunological methods used in the identification of microorganisms in food.

**IV. Answer the following 8×1=8**

1. A type of human disease caused by ingestion of rye or other grains infected by a fungus, typically resulting in headache, vomiting, diarrhoea, and gangrene of the fingers and toes.
   1. Identify the disease and its causative agent. 1M
   2. Explain its infection process, pathogenesis and Disease cycle. 5M
   3. Add a note on its diagnosis and treatment. 2M