



Date:

Registration number:

**ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27**  
**M.Sc. FOOD SCIENCE AND TECHNOLOGY – II SEMESTER**  
**SEMESTER EXAMINATION: APRIL 2022**  
(Examination conducted in JULY 2022)  
**FST 2419-FOOD BIOTECHNOLOGY**

**Time- 2 ½ hrs**

**Max Marks-70**

This question paper contains **02** printed pages and **four** parts

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

**5×3=15**

1. What are Restriction Endonucleases? Give its Importance in Molecular Cloning.
2. Define Biosensors and mention its applications in Food Science.
3. What is Nutrigenomics? Give its Significance.
4. Define Starter Culture and explain in brief the preparation of starter culture for wine production.
5. What is Single Cell Protein? List its Sources and Applications.
6. Define Fermented Foods. Mention its importance in Health.
7. What is Tempeh? Explain in brief the preparation of same.

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

**5×5=25**

8. Define Cell Immobilization. Explain the Process of Immobilization of Microbial cells for antibiotic Production.
9. What is a Mutation? Write a note on different types of mutations and its importance in Food Science.
10. Explain in detail the Mechanism of Natural Gene Transfer in a Microbial Cell.
11. What are Pectinases? Discuss its Sources and Methods of Production.
12. Describe the Process of Production of Mono Sodium Glutamate.
13. Write notes on Applications of Enzymes in Food Industries.
14. Describe the importance of Food Fermentation in Food Preservation and nutritional enhancement.

**III. Answer any TWO of the following**

**2x10=20**

15. What is Recombinant DNA technology? Explain in Detail the Tools, Process and Applications of the same.
16. Discuss in detail the design of Fermentation Medium for Production of Antibiotics and add a note on Strategies for Optimization of the same.
17. Give a detailed description of the Production of Flavours and Colourants for Food Applications.

**IV. Answer the following**

**1x10=10**

18. A type of Protein catalyst which completely replaced chemical hydrolysis of starch in starch processing industry, having a wide Biotechnological application currently in a number of industrial processes such as food, fermentation, textile, paper, detergent, and pharmaceutical industries. Identify the Protein; write the sequence of biotechnological Production, harvest and purification of the same with appropriate flow chart.