ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27
M.Sc. MICROBIOLOGY - II SEMESTER
SEMESTER EXAMINATION: APRIL 2022
(Examination conducted in July 2022)
MB 8421 – FOOD MICROBIOLOGY

Time- 2 ½ hrs   **Max Marks-70**

This question paper contains **1** printed page and **4** parts

I. Answer any <u>Five</u> of the following   5X3=15

1. What is hurdle effect?
2. What are the various ways in which one can predict the microbial growth?
3. Define milk. Compare skimmed milk and standardized milk.
4. With a suitable example, describe how milk act as a vehicle of pathogens.
5. What are nutraceuticals? Give examples.
6. Compare D, F, and Z values.
7. Name the causative agent of Salmonellosis. What are the symptoms and preventions for this disease?

II. Answer any <u>Five</u> of the following   5X5=25

8. Differentiate prebiotics and probiotics with suitable example.
9. Explain the different types of packaging materials. Suggest one packaging material which is environmentally sustainable and durable.
10. Write a short note on how radiation helps in food preservation using suitable example.
11. What is the significance of having food control agencies? Name a few of such agencies.
12. Explain the cycle of infection for *Clostridium perfrigens* using a suitable illustration.
13. Write a short note on non-bacterial agents of foodborne illness.
14. What are biosensors? Explain the mechanism of any one microorganism used as a biosensor for the detection of pathogens.

III. Answer any <u>Two</u> of the following   2X10=20

15. What effect fermented food products have on a normal gut flora? How our food choices affect our gut health? What good practices can we opt from our learnings as a microbiology student?
16. Write a detailed note on HACCP.
17. What are the various conditions of the intrinsic factors that promotes microbial growth in milk? Discuss them in detail.

IV. Answer the following   **1X10=10**

18. Ms. X bought 5 kgs of mutton from a supermarket at a discounted price. Unfortunately, that day she had to leave in rush to her parents' house and she forgot the meat in her car trunk. After two weeks when she returned, there was a very foul smell and there were large black patches on the meat. What inferences can be made based on above description? Write a detailed methodology that can be adopted to identify exact causative agent of those black patches.