LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **FOOD CHEMISTRY AND FOOD PROCESSING**

FIRST SEMESTER – **NOVEMBER 2018**

16/17/18PFP1MC03 – FOOD MICROBIOLOGY

Date: 30-10-2018 Dept. No. Max. : 100 Marks

Time: 01:00-04:00

Part A

Answer ALL the questions. **10 x 2 =20 marks**

1. List any four contributions of microbiology in the food industry.
2. Give any two reasons for the microbial population remaining unchanged during the stationery phase.
3. Differentiate between perishable and semi perishable foods.
4. Define quorum sensing.
5. What are enteric pathogens?
6. Define incubation period and foodborne disease.
7. What are single strain and mixed strain starter cultures?
8. Name any two institutions involved in production of SCP in India.
9. What are the four components of the microbiological reference criterion on foods?
10. Classify the methods of detection of microbial contaminants in food and food products.

Part B

Answer any EIGHT questions. **8 x 5= 40 marks**

11. Draft the general guidelines for scientific naming of a microorganism.
12. Distinguish between i) osmophilic and halotolerant bacteria ii) lipolytic, proteolytic and sacchrolytic bacteria.
13. Write short notes on food biowars.
14. Diagrammatically represent a thermometer and elaborate on the temperatures of importance in relations to food and microbial growth.
15. Write short notes on specific spoilage organisms.
16. Comment on microbial spoilage of egg.
17. Give the protocol for investigation of food borne diseases.
18. Explain any two bacterial food infections.
19. Why is the idly batter fermentation referred to as natural fermentation process?
20. Discuss the symbiotic and antagonistic relationship of microorganisms in yoghurt fermentation.
21. Differentiate between conventional and rapid testing methods.
22. What are challenge tests and square root model in shelf life prediction?

Part C

Answer any FOUR questions. **4 x 10 = 40 marks**

23. Elaborate on inhibitory substances, biological structures and oxidation reduction potential in food as factors affecting the growth of microbial cells.
24. Comment on the following as significant source of microbial contamination in food:
    i) food handler ii) raw ingredients iii) environment.
25. Describe antagonism, metabiosis and symbiosis as important microbial interactions in food spoilage.
26. When do we refer to a food borne disease as a food borne outbreak? (2 marks)
    Discuss the similarities and dissimilarities between the three types of food borne diseases. (8 marks)
27. Elaborate on the biochemistry of homolactic and heterolactic fermentation.
28. Explain Enzyme Linked Immunoassay as an important detection tool in food mi

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