



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – APRIL 2023

PFP 3501 – DAIRY AND BEVERAGE PROCESSING

Date: 02-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART – A

Q. No Answer **ALL** questions

(10 x 3 = 30 Marks)

1. Why does a food chemist determine the physiochemical properties of milk?
2. Briefly discuss electrical conductivity of milk.
3. What are the packaging materials used for bulk supply, single use and multiple use milk distribution systems?
4. List the reasons for addition of sugar in condensed milk.
5. Briefly describe the reversal of emulsion in butter making.
6. Explain the methods adopted for dairy effluent treatment.
7. Classify beverages.
8. Draw the flow chart for manufacture of carbonated beverages.
9. What are the types of water contamination?
10. Define and diagrammatically represent an aquifer.

PART – B

Answer **ALL** the questions

(5 x 8 = 40 Marks)

11. (a) Describe the factors that influence the Oxidation reduction potential of milk.

(OR)

- (b) Comment on the color, taste and the organoleptic evaluation of milk.

12. (a) Outline the following dairy operations a) filtration b) homogenization c) standardization.

(OR)

- (b) Discuss the points you will need to consider to ensure clean milk production.

13. (a) Describe the multi-step process involved in production of kefir.

(OR)

- (b) Comment on dairy by products and its utilization in the food sector.

14. (a) Elaborate on fermentation, oxidation and fixing as important steps in Tea processing and distinguish the major types of tea that result largely from enzymatic oxidation of tannin.

(OR)

- (b) Explain the selection and role of ale and lager yeast in the beverage industry.

15. (a) Briefly explain the procedure to be followed for obtaining the FSSAI License for a Packaged Drinking Water Unit.

(OR)

- (b) Elaborate on Desalination process.

PART – C

Answer any **TWO** questions

(2 x 15 = 30 Marks)

16. (a) Elaborate on the salient features of dairying in India as outlined in the Indian Dairy Market Report and Forecast for 2021-2026. (5 marks)
- (b) The average freezing point of milk samples is assumed to be -0.55°C , calculate the physiochemical parameters with the given data and conclude on the quality of the samples based on your findings. (10 marks)
- Sample 1: CLR – 22 , Fat 2.4% ,T the observed freezing point depression of the test sample is -0.521°C .
- Sample 2: CLR – 24 , Fat 2.8 % ,T the observed freezing point depression of the test sample is -0.532°C .
17. Elaborate on the i) process of cream manufacture adopted in dairy units ii) different types of cream available in the market.
- 18 (a) Explain the process of coffee production from coffee bean to cup. (10 marks)
- (b) Differentiate between i) Robusta and Arabica bean ii) organic coffee and instant coffee. (5 marks)
19. (a) Draw and describe the requirements and process flow in a mineral water processing plant. (10 marks)
- (b) Create an innovative non alcoholic beverage and write about its unique selling properties. (5 marks)

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