LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

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

THIRD SEMESTER – **NOVEMBER 2024**

PFP3MC02 – DAIRY AND BEVERAGE PROCESSING

Date: 09-11-2024 Dept. No. Max. : 100 Marks

Time: 01:00 pm-04:00 pm

	SECTION A – K1 (CO1)	
	Answer ALL the questions	**(5 x 1 = 5)**
1	**MCQ**	
a)	The Milk and Milk Products Order '92 was repealed and integrated into which act to streamline dairy regulations in India? A. FSSAI Act B. Prevention of Food Adulteration Act C. Dairy Development Act D. Consumer Protection Act	
b)	The advantages offered by use of plastic pouches in milk packaging are …… . A. Good barrier properties and poor recyclability. B. Easy to carry and poor disposability. C. Good barrier properties and light weight. D. Easy to transport and environmentally friendly.	
c)	The chemical method used for treatment of dairy effluent is ……. A. Sedimentation. B. Floatation. C. Precipitation. D. Activated Sludge method	
d)	In coffee processing, what is the main purpose of fermentation? A. Enhance caffeine content B. Remove mucilage from the coffee bean C. Increase the size of the coffee bean D. Change the color of the coffee bean	
e)	According to BIS standards, what is the acceptable limit for pH in drinking water? A. 6.5 to 8.5 B. 7.0 to 9.0 C. 6.0 to 7.5 D. 5.5 to 8.0	
	SECTION A – K2 (CO1)	
	Answer ALL the questions	**(5 x 1 = 5)**
2	**Answer the following**	
a)	Which dairy cooperative is known for managing the largest milk-producing network in India?	
b)	Write down the FSSAI specifications for toned and double toned milk.	
c)	List any four recent trends in panner manufacturing.	

d)	Recall the main types of cocoa products derived from cocoa beans.
e)	Specify the role of RO system in water purification.
	SECTION B – K3 (CO2)
	Answer any THREE of the following **(3 x 10 = 30)**
3	Explain the buffering capacity and pH of milk influence in stability and quality during pasteurization.
4	Elaborate on i) Animal and milkers hygiene, milking environment and methodology for milk production practices. ii) Milk production map and milk collection record.
5	Discuss the by-products obtained from dairy processing and its utilization in the dairy sector.
6	Illustrate the processing protocol of black tea.
7	Prepare a flow chart on the technology involved in coffee bean processing.
	SECTION C – K4 (CO3)
	Answer any TWO of the following **(2 x 12.5 = 25)**
8	Illustrate the impact of milk viscosity on the efficiency of homogenization and the texture of dairy products
9	Describe the steps involved in the reversal of emulsion that results in production of butter.
10	Examine the impact of cocoa fermentation, roasting and processing on the quality characteristics of chocolates.
11	Illustrate the manufacturing process of drinking water and outline the chemical tests used to determine the quality of drinking water.
	SECTION D – K5 (CO4)
	Answer any ONE of the following **(1 x 15 = 15)**
12	Summarize the processing steps involved in conversion of raw milk to pasteurized milk.
13	Critique the evolution of dairy production and processing practices in India from the implementation of the Milk and Milk Products Order ’92 to the present day
	SECTION E – K6 (CO5)
	Answer any ONE of the following **(1 x 20 = 20)**
14	a. Create a flow diagram for production of milk powder and explain the steps involved in the dehydration of milk. (15 marks) b. You are provided with milk containing 4.0% fat and cream with 20% fat. Utilizing these given dairy products how will you proceed to prepare 500 kg of milk with 4.5% fat? (5 marks)
15	Summarize a. The role of ingredients in soft drink formulation. (10 marks) b. The technology involved in the production of carbonated beverages. (10 marks)
