

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER- VII EXAMINATION-SUMMER 2023

Subject Code: 3171403

Date: 21/06/2023

Subject Name: Milk and Milk Product Technology

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

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|------------|--|-----------|
| Q.1 | (a) Define the followings:
i) Toned milk ii) Recombined Milk iii) Standardized milk | 03 |
| | (b) Define Cheese and discuss the classification of cheese. | 04 |
| | (c) Classify the constituents present in milk and discuss the characteristics of the major constituents. | 07 |
| Q.2 | (a) What are the objectives of two butter preparing steps i.e. washing of butter and working of butter? | 03 |
| | (b) Enlist the different types of special milks and state the benefits of their preparation. | 04 |
| | (c) Write the objectives of preparation of homogenized milk and explain the flow chart of its preparation | 07 |
| | OR | |
| | (c) Explain the flow diagram of preparation of sterilized milk with all technical details. | 07 |
| Q.3 | (a) Write short note on 'Malted milk food' | 03 |

	(b)	Explain the 'freezing' step in preparation of ice cream.	04
	(c)	Define Churning of cream. Discuss the factors affecting churnability of cream.	07
	OR		
Q.3	(a)	Explain the concept of overrun in ice cream.	03
	(b)	Define Condensed milk and briefly explain the process of its production.	04
	(c)	Write the legal requirements for butter and discuss the different types of butter.	07
Q.4	(a)	State the principle and methods of cream separation.	03
	(b)	Write the significance of the important phases of operation flood.	04
	(c)	Discuss the role of constituents present in ice cream.	07
	OR		
Q.4	(a)	State the types of neutralizers to be added for cream neutralization and write the correct procedure for neutralization.	03
	(b)	Explain the terms: i) Colostrum ii) Late lactation milk	04
	(c)	Explain the extraction process of vanilla and chocolate flavour.	07
Q.5	(a)	Briefly discuss the classification of frozen desserts.	03
	(b)	What is processed cheese and how it is prepared?	04
	(c)	Discuss briefly the factors affecting quality and quantity of milk obtained from source animal.	07
	OR		
Q.5	(a)	State the importance of neutralization step in butter preparation?	03
	(b)	Discuss the following steps in the preparation of cheddar cheese: i) Addition of starter culture ii) Renneting	04
	(c)	List out the common flavour defects observed in milk and state their possible causes and prevention.	07