

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2171403****Date: 28/11/2019****Subject Name: Milk & Milk Products 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.

- Q.1** (a) State the role of stabilizers and emulsifiers used in preparation of ice cream. **03**
(b) Define chhana. Explain the flow diagram of preparation of chhana. **04**
(c) Discuss briefly the factors affecting quality and quantity of milk obtained from source animal. **07**

- Q.2** (a) Write the legal requirements for the followings: **03**
i) Standardized milk
ii) Single toned milk
iii) Double toned milk
(b) Explain briefly the important platform tests useful for quality evaluation of milk. **04**
(c) Briefly describe the important steps in the preparation of Cheddar cheese. **07**

OR

- (c) Write short notes on: **07**
i) Processed cheese
ii) Classification of cheese
- Q.3** (a) State the legal standards for ice cream? **03**
(b) State the types of neutralizers to be added for cream neutralization and write the correct procedure for neutralization. **04**
(c) Define butter and explain briefly the following steps involved in preparation of butter: **07**
i) Churning of cream
ii) Ripening of cream
iii) Working of butter

OR

- Q.3** (a) Write a short note on 'Freezing step in preparation of ice cream'. **03**
(b) State the principle and methods of cream separation. **04**
(c) Describe shortly the flow diagram of butter preparation. **07**
- Q.4** (a) State the importance of neutralization step in butter preparation? **03**
(b) Write the legal requirements for butter and discuss briefly the different types of butter. **04**

- (c) Highlight the important characteristics of 'Spray drying' as a milk drying system. 07

OR

- Q.4** (a) Explain the different types of khoa with their composition. 03

- (b) Briefly discuss the classification of frozen desserts. 04

- (c) Write short notes on: 07

i) Types of condensed milk

ii) Malted milk food

- Q.5** (a) Comments on 'Freezing point of milk' 03

- (b) List out the common flavour defects observed in milk and state their possible causes and prevention. 04

- (c) Explain the extraction process of vanilla and chocolate flavour. 07

OR

- Q.5** (a) Write the significance of the important phases of operation flood. 03

- (b) Explain the terms: i) Colostrum ii) Late lactation milk. 04

- (c) Discuss the role of constituents present in ice cream. 07

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