

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2171403****Date:16/05/2019****Subject Name:Milk & Milk Products Technology****Time:02:30 PM TO 05:00 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) What are the legal standards for ice cream? 3
 - (b) Discuss the following steps in the preparation of cheddar cheese: 4
 - i) Addition of starter culture ii) Renneting
 - (c) Shortly explain the technology of butter preparation. 7
- Q.2**
- (a) Write the advantages of preparation of: 3
 - i) Toned milk ii) Flavoured milk iii) Standardized milk
 - (b) How the vanilla and chocolate flavour is extracted? Explain. 4
 - (c) Define Khoa. Discuss the composition and types of khoa. 7
- OR**
- Q.3**
- (c) Explain the flow diagram of preparation of paneer and chhana. 7
 - (a) Differentiate between normal milk and abnormal milk. 3
 - (b) Write the role of stabilizers and emulsifiers used in ice cream preparation. 4
 - (c) What are the objectives of preparation of homogenized milk? Explain the process flow chart of its preparation. 7
- OR**
- Q.3**
- (a) Comment on 'Role of NDDB in dairy development in India' 3
 - (b) State the role of constituents present in ice cream. 4
 - (c) Explain the flow diagram with technical details for the preparation of 7
 - i) Recombined Milk ii) Sterilized milk
- Q.4**
- (a) Write a brief note on 'classification of cheese' 3
 - (b) Write the legal requirements for butter and discuss the different types of butter. 4
 - (c) Briefly describe the important physico-chemical properties of milk. 7
- OR**
- Q.4**
- (a) Give the flow diagram of preparation of cheddar cheese with technical details. 3

- (b) Define Churning of cream. Discuss the factors affecting churnability of cream. 4
- (c) Highlight the nutritional significance of milk and state the characteristics of the major constituents present in milk. 7
- Q.5** (a) Write short notes on 'Processed cheese' 3
- (b) Define Condensed milk and briefly explain the process of its production. 4
- (c) What are the objectives of neutralization of cream during butter preparation? Discuss the types of neutralizers to be added and correct procedure for neutralization. 7
- OR**
- Q.5** (a) Write short notes on 'Composition and nutritive value of cheese' 3
- (b) Highlight the important characteristics of 'Spray drying' as a milk drying system. 4
- (c) Explain the importance of 'Platform Tests' in dairy industry. 7

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