Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–VI • EXAMINATION – WINTER • 2014**

**Subject Code: 161405** **Date: 03-12-2014**

**Subject Name: Milk and Milk Products Technology**

**Time: 02:30 pm - 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)** | Give the flow diagram for preparation of cheddar cheese and describe the steps 'cheddaring' and 'curing' in detail. | **07** |
| | **(b)** | What are special milks? Write the objectives and flow diagram for preparation of 'sterilized milk' and 'flavoured milk'. | **07** |
| **Q.2** | **(a)** | Describe spray drying as a milk drying system with respect to its<br>i) Principle ii) Advantages and disadvantages iii) Atomization | **07** |
| | **(b)** | Write short notes on<br>i) Centrifugal cream separation method<br>ii) Tests for milk quality evaluation | **07** |
| | | **OR** | |
| | **(b)** | Write short notes on<br>i) Types of cream<br>ii) Processed cheese | **07** |
| **Q.3** | **(a)** | What are the objectives of neutralization of cream during butter making? Explain the procedure for correct neutralization of cream. | **07** |
| | **(b)** | State the PFA (legal) standards for i) Whole Milk Powder ii) Skim Milk Powder | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Define butter. Discuss the following steps in butter preparation:<br>i) Standardization of cream ii) Churning | **07** |
| | **(b)** | Discuss the common defects in butter with their causes and prevention. | **07** |
| **Q.4** | **(a)** | Describe the role of constituents in ice-cream. | **07** |
| | **(b)** | Define khoa according to PFA rules. Discuss the physico-chemical changes occur in milk on conversion into khoa. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Briefly discuss the process of ice-cream preparation. | **07** |
| | **(b)** | Define Pasteurization of milk. Describe the different methods of milk pasteurization. | **07** |
| **Q.5** | **(a)** | Explain the process of vanilla and chocolate flavour extraction from their beans. | **07** |
| | **(b)** | Describe the important physico-chemical properties of milk. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Write short notes on<br>i) Defects in ice-cream<br>ii) Types of frozen desserts | **07** |
| | **(b)** | Discuss the factors affecting composition of milk. | **07** |

**********