

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VI Examination-Nov/Dec-2011****Subject code: 161405****Date: 30/11/2011****Subject Name: Milk and Milk Products Technology****Time: 10.30 am -1.00 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)** Answer the followings in short: **07**
- i) What is churning of cream?
 - ii) _____ is the principal flavouring material in vanilla.
 - iii) 'Milk has Water-in-Oil emulsion' State true or false.
 - iv) Write the principle of cream separation.
 - v) State the proteins present in milk.
 - vi) What is 'Boudin Test'?
 - vii) State the role of stabilizers in Ice-cream preparation.
- (b)** Write short notes on : **07**
- i) Physico-chemical properties of milk
 - ii) Standardized milk
- Q.2 (a)** Write the flow diagram for production of following milk products along with technical detail: **07**
- i) Skim milk powder
 - ii) Malted milk food
- (b)** Enlist the different types of fermented milk and milk products and explain the method of manufacture of shrikhand. **07**
- OR**
- (b)** What is chhana? Discuss the method of preparation of chhana and any one chhana based sweet. **07**
- Q.3 (a)** Define: Reconstituted milk, Recombined milk, Forced crystallization, Starter **04**
- (b)** What do you mean by 'overrun' in butter? **03**
- (c)** Write short notes on : **07**
- i) Defects in butter
 - ii) Operation Flood
- OR**
- Q.3 (a)** Explain the various factors affecting the composition of milk. **04**
- (b)** Write down the PFA specifications for Ice-cream and Butter. **03**
- (c)** What is Toned Milk? Briefly describe the importance and technology of preparation of 'Toned Milk'. **07**
- Q.4 (a)** Give the flow diagram for the preparation of butter and describe 'neutralization' step in detail. **07**
- (b)** State the advantages and disadvantages of 'sterilized milk' and describe in detail the method for its preparation. **07**

OR

- Q.4** (a) List out the various pre-treatments given to milk intended for skim milk powder manufacture. Explain shortly the advantages of these pretreatments. **07**
- (b) Comments on 'Quality Control in Milk Processing' **07**

- Q.5** (a) Describe the method for preparation of ice-cream with all technical details. **07**
- (b) Enlist the different types of cheese and Explain the method of manufacture of cheddar cheese. **07**

OR

- Q.5** (a) Discuss some of the common defects in 'ice-cream' with their possible causes. **07**
- (b) How processed cheese is different from processed cheese spread? Explain the method of manufacture of processed cheese. **07**
