

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIth SEMESTER–EXAMINATION – MAY- 2012****Subject code: 161405****Date: 19/05/2012****Subject Name: Milk and Milk Products Technology****Time: 10:30 am – 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 advantages of followings: **08**
i) Homogenized milk
ii) Sterilized milk
iii) Standardized milk
iv) Toned milk
- (b)** Write short note on following: **06**
(i) NDDB
(ii) “Anand Pattern” of co-operative structure
- Q.2 (a)** Define following terms: **03**
(1) WPNI (2) Milk (3) Cryoglobulins
- (b)** Write in brief about various physico-chemical properties of milk. **04**
- (c)** Which are the various forms of processed cheese? Write flow diagram for preparation of cheese used as raw material for preparation of processed cheese manufacturing with technical detail. **07**
- OR**
- (c)** Describe shortly the process for preparation of ice -cream. **07**
- Q.3 (a)** Write about various platform tests with their significance. **07**
- (b)** Define Neutralization of cream. Discuss the objective and procedure for neutralization of cream during butter preparation. **07**
- OR**
- Q.3 (a)** List various powder recovery system and Draw line diagram of spray drier indicating various parts and drying parameters. **07**
- (b)** Write short notes on: **07**
i) Ripening of cream ii) Defects in butter
- Q.4 (a)** Explain various physical and functional properties of dried product. **07**
- (b)** Write about various types of khoa. List various changes occurring during manufacture of khoa. **07**
- OR**
- Q.4 (a)** (i) Write short note on rennet coagulation of milk. **07**
(ii) Discuss various defects in Icecream.
- Q.4 (b)** Explain in detail Malted milk food with flow diagram for preparation. **07**

- Q.5 (a)** Enlist the different types of vanilla and chocolate flavorings and describe the process for extraction of vanilla flavour from vanilla beans. **07**
- (b)** State the PFA specifications with definition of following products: **07**
 (i) Ice-cream ii) Butter
- OR**
- Q.5 (a)** What is sugar ratio? Give formula for its relation with %sugar. Fresh milk contains 13.0 % Total Milk Solids(TMS) and Sweetened condensed milk contains 31.0 % TMS. How much sugar should be added in milk to keep 43.1 % sugar in SCM. Explain Forced crystallization in SCM. **07**
- (b)** Discuss the following steps in preparation of butter: **07**
 i) Receiving of milk or cream ii) Churning of cream
