

M.TECH. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING FIRST YEAR FIRST SEMESTER EXAM 2025

Subject: ADVANCED DAIRY TECHNOLOGY

Time-3 hrs

Part-I (50)

FM-100

Answer question no 1 and 2 and 3 or 4

1. What are the different types of quality problem can be occurred in ice-cream discuss with their solutions? How can you prepare soymilk and tofu? 12+4+4=20
2. In a dairy industry how plate heat exchanger helps to regenerate the energy explain with proper drawing. What are the different types of cheese available in the market? Explain the preparation procedure of any one of them? 8+4+8=20
3. Write a short note on the application of enzyme in milk industry? 10
4. Explain major quality control parameters should be checked in liquid milk processing industry. 10

[Turn over

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YEAR FIRST SEMESTER - 2025**

ADVANCED DAIRY TECHNOLOGY

Time :3hrs

Full Marks :100

Part II (Marks 50)

Answer Q1 and any two (Q2-Q5) from the following 5x6+2x10

1. Explain the following 5x6

- a)sweetened condensed milk
- b)whey protein
- c)ripening and churning of cream
- d)dairy enzymes Rennet and lactase
- e)HTST pasteurizer

2. Why stabilizer and emulsifier are used in icecream manufacture? State the functions of milk fat and sweeteners in icecream. 5+5

3. Milk is pasteurized in a HTST unit using regenerator, at a rate of 2000kg/hr using counter flow plate heat exchanger. The milk inlet temperature is 72⁰C , the effectiveness of regenerator is 0.75 and overall heat transfer coefficient is 2000 kcal/hm² ⁰C:

Find out

- a) amount of saving in steam(kg) and refrigeration(tonnes) by using the regenerator.
- b)heat transfer area required to get the above effectiveness.

Given: Initial temperature of milk 4⁰C, Sp heat 0.93 kcal/kg ⁰C 6+4

4. Explain about homogenization and homogenizer. 5+5

5. Write short notes on(any two) 2x5

- a) yoghurt
- b)heat transfer coefficient in spray drying
- c)classification of drum drier