

2022
5th Sem.
B.Tech.

ROLL NO. _____

B.TECH FOOD TECHNOLOGY
Semester V End Semester Examination 2023
Course Code- BFTC-501
Course Title: Dairy Technology

TIME: 3 hours

Max. Marks: 75

- Note:** 1. It is compulsory to answer all the questions of Section-A.
2. Answer any five questions in Section- B.
3. Answer any two questions in Section-C.

Section-A (15 marks: Attempt all)

Q1. Multiple Choice Questions:

1. Yoghurt contains mixed lactic acid culture:

- a) *Lactobacillus bulgaricus* and *Streptococcus thermophilus*
- b) *Lactobacillus bulgaricus* and *Propionibacterium*
- c) *Lactobacillus bulgaricus* and *Leuconostoc mesenteroides*
- d) *Lactobacillus bulgaricus* and *Escherichia coli*

2. Test for checking pasteurization efficiency is based on the presence of which enzyme in milk?

- a) Lactase
- b) Diastase
- c) Catalase
- d) Phosphatase

3. The type of yoghurt produced after fermentation in bulk and coagulam is broken prior to cooling:

- a) Set Yoghurt
- b) Stirred Yoghurt
- c) Concentrated Yoghurt
- d) Dried Yoghurt

4. Which of the following statements about homogenized milk is true?

- a) It has a shorter shelf life than non-homogenized milk
- b) It is less nutritious than non-homogenized milk
- c) It is smoother and more consistent in texture
- d) It has a higher fat content than non-homogenized milk

5. What role does the spray drying technology play in maintaining the solubility of dried milk?

- a) Decreases solubility
- b) Has no impact on solubility
- c) Increases solubility
- d) Converts milk into an insoluble form

Q2. Expand the following: RMRD, NDDB, MFGM, ISO, CIP (5M)

Q3. Fill in the blanks: (5M)

- a. Sweetened condensed milk shall contain not less than _____% fat and _____% TMS.
- b. Ice cream sold without hardening as drawn from the freezer is known as _____.
- c. Ropiness in milk and cream is due to the micro-organism _____.
- d. Metallized flavor in butter is caused due to _____.
- e. _____ and _____ are types of direct heating techniques used in milk sterilization.

Section-B (5*6=30 marks)

(Any five)

1. Condensed milk with 9.05% fat and 31.0% total milk solids is to be prepared. 5000 kg of milk testing 6.5% fat and 9.58% SNF is available for standardization. Calculate the amount of skim milk testing 0.1% fat and 10.25% SNF is required for standardization of milk.
2. Classify *khoa* on the basis of its moisture content. Give the modern manufacture method for *gulah jamun*.
3. Write a short note on: Bactofugation and Overrun
4. State relevance of Sediment test, COB test, Alcohol Alizarin test and Resazuring test in milk quality control.
5. Elaborate on theories of butter churning. State advantages and disadvantages of metal butter churns.
6. Give the process technology for ghee manufacture. Also mention the associated defects and preventative measures.

Section- C (2*15=30 marks)

(Any two)

1. Describe UHT milk preparation and aseptic packaging. How will you assess the efficiency of sterilization? Describe the working principle of hydrostatic sterilizer.
2. Define processed cheese. Name different types of processed cheese products. Give important steps in manufacture of processed cheese products with advantages. Mention defects.
3. What are the legal standards for spray dried milk? Define atomization. Give a schematic representation of a spray drier with cyclone separator and its purpose. Mention defects.

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CO-PO mapping:

Section A	Section B	Section C
Q1: CO2, CO5, CO6, PO1, PO2, PO3, PO5	Q1: CO1, CO2, PO1, PO2, PO3, PO5, PO8	Q1: CO2, CO3, CO6, PO1, PO2, PO4, PO8
Q2: CO1, CO3, PO1, PO2, PO4	Q2: CO2, CO5, PO1, PO2, PO4, PO6	Q2: CO2, CO5, CO6, PO1, PO2, PO3, PO4,
Q3: CO1, CO2, CO5, CO6, PO1, PO3, PO5, PO6, PO9	Q3: CO2, PO1, PO2, PO5	Q3: CO2, CO6, PO1, PO3, PO4, PO9, PO10
-	Q4: CO6, PO1, PO3, PO5, PO6, PO9, PO10	-
-	Q5: CO2, CO6, PO1, PO2, PO3, PO5, PO6	-
-	Q6: CO2, CO6, PO1, PO2, PO3, PO5, PO6	-