



Department of Food Technology
School of Interdisciplinary Sciences and Technology
Jamia Hamdard, New Delhi-110062
END SEM EXAMINATION (Dec, 2024. B Tech 5th SEM)
Paper Title: Dairy Technology; Paper Code: BFTC – 501

Roll No.

2024
5th Sem.

Time allotted: 3Hrs.

Max Marks: 60

*Note: Important: At the END, mention how many questions from each section you have attempted.
Students are supposed to carry their own Calculator. Sharing of Calculator Isn't allowed.*

Section-A (12 Marks, Attempt All)

<u>Questions</u>	<u>Marks</u>	<u>Mapping</u>
Q1. Butter	(2)	PO: 1,4/CO: 3,5
Q2. Ghee	(2)	PO: 1,3 /CO: 2,4
Q3. Homogenized milk	(2)	PO: 1,4/CO: 3,5
Q4. Condensed Milk	(2)	PO: 1,4/CO: 3,4,5
Q5. Khoa	(2)	PO: 1,2,4/CO:1,2,6
Q6. Yoghurt	(2)	PO: 1,4/CO: 3,5

Section- B (Attempt any 5) (5 Marks Each)

- Q7. Differentiate between hard and soft cheese. Give examples. PO: 1,4/CO: 1,3,5
- Q8. What are the factors affecting milk quality. Enlist the SOPs for their prevention. PO: 1,3,4/CO: 3,4,5
- Q9. Write a note on CIP and COP in dairy processing. PO: 1,3 /CO: 1,2,4
- Q10. Mention the various defects in cream. What the measures to prevent them. PO: 1,4/CO: 1,3,5
- Q11. Write a note on the preparation of following dairy products: PO: 1,4/CO: 3,6,7
- a. Yoghurt b. Gulabjamun c. Channa
- Q12. Milk with 3.8% fat and 8.1% fat-free solids (FFS) is used for the production of canned concentrated milk. The process includes separation of the cream in a centrifuge and concentration of the partially defatted milk in an evaporator. If the cream that is produced in the centrifuge contains 55% water, 40% fat, and 5% fat-free solids, calculate how much milk is necessary in order to produce a can of concentrated milk that contains 410 g milk with 7.8% fat and 18.1% fat-free solids. How much cream and how much water must be removed in the centrifuge and the evaporator respectively? PO: 1,4/CO: 3,6,7
- Q13. Milk with 12% Sugar is further concentrated to 60% in an evaporator. To improve the quality of the final product the concentrated milk is mixed with an amount of fresh milk (12% TSS) so that the concentration of the mixture is 42%. Calculate how much water per hour must be evaporated in the evaporator, how much fresh sugar solution per hour must be added back and how much final product will be produced if the inlet feed flow rate is 10,000 kg/h.. PO: 1,3,4/CO:1,3,6

Section C (Attempt any 2) (11.5 Marks Each)

- Q14. Discuss the preparation of the following products: PO: 1,4/CO: 3,5
- a. Acidophilus milk b. Ice-cream c. Butter d. Cheddar Cheese
- Q15. Enlist the respective cultures used in different dairy products (1 mark each product). PO: 1,3,4/CO:1,3,7
- Q16. A membrane separation system is used to concentrate total solids (TS) in milk from 10% to 30%. The concentration is accomplished in two stages with the first stage resulting in release of a low-total-solids liquid stream. The second stage separates the final concentration product from a low-total-solids stream, which is returned to the first stage. Determine the magnitude of the recycle stream when the recycle contains 2% TS, the waste stream contains 0.5% TS, and the stream between stages 1 and 2 contains 25% TS. The process should produce 100 kg/min of 30% TS. PO: 1,4/CO: 3,5

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