

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.Chemistry - END SEMESTER EXAMINATIONS - NOV'2024

SEMESTER - V

24UCHET5B01 - Dairy Chemistry

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the structural elements and important properties of milk.
2. List the major and minor minerals present in milk. Discuss the role of any three major minerals in human health.
3. Examine the physicochemical changes that occur in milk constituents during the production of following dairy products
(i) Khoa (ii) Lassi.
4. Discuss the application of food safety management systems, specifically ISO 22000, in the dairy industry.
5. Write a note on hydrogenation and transesterification of milk.
6. Evaluate various factors affecting levels of vitamins in milk.
7. Explain the chemical changes of cheese preparation and storage.
8. Provide a comprehensive overview any three types of wastes discharged from dairy plants.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. (i) Describe the procedure for calibrating abutyrometer for fat content determination in milk. (5)
(ii) Illustrate sampling techniques for the chemical examination of milk. (5)
10. Examine how the denaturation of milk proteins is utilized in food processing. Discuss its importance in the manufacture of following products
(i) yogurt (ii) cheese (iii) processed milk.
11. Analyze the impact of trace elements and carotenoids on the nutrition of dairy elements.

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12. Investigate the effects of

(i) storage temperature

(ii) ingredients on the physicochemical properties of ice cream.

How do these factors influence texture, flavor, and microbial stability of ice cream?

13. Assess the effectiveness of FSSAI, PFA, AGMARK, and BIS ISO standards in improving the quality and safety of milk and milk products.
