

(6 pages)

Reg. No. : .....

Code No. : 30765 E Sub. Code : ESCH 21

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2024

Second Semester

Chemistry

Skill Enhancement Course — DAIRY CHEMISTRY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The composition of lactose in milk is \_\_\_\_\_.  
(a) 87.3% (b) 9.8%  
(c) 4.6% (d) 3.25%
2. \_\_\_\_\_ account for 98.3% of milk fat.  
(a) Oleic acid (b) Glycerol  
(c) Lipase (d) Triglycerides

3. Batch pasteurized milk is often called as \_\_\_\_\_ milk.

- (a) Raw (b) Fresh  
(c) Old (d) None of these

4. The \_\_\_\_\_ refers to the complete elimination for all microorganisms.

- (a) UHT (b) HTST  
(c) Processing (d) Sterilization

5. \_\_\_\_\_ as a glyceride, makes up 3-4% of butter.

- (a) Acetic acid (b) Butyric acid  
(c) Formic acid (d) Propanoic acid

6. Unsalted butter is often referred to as \_\_\_\_\_ butter.

- (a) Sweet (b) Acidic  
(c) Basic (d) Bitter

7. One cup toned milk has \_\_\_\_\_ calories.

- (a) 150 (b) 160  
(c) 100 (d) 80

8. \_\_\_\_\_ milk can be manufactured to resemble milk and can be used in place of milk.

- (a) Flavoured
- (b) Vitaminised
- (c) Toned
- (d) Incitation

9. The original ice-cream emulsifier \_\_\_\_\_ was used in most of the original recipes.

- (a) egg yolk
- (b) egg albumin
- (c) egg globulin
- (d) none of these

10. The water ratio ranges from \_\_\_\_\_ which comes from the milk or other ingredients.

- (a) 53% to 63%
- (b) 55% to 64%
- (c) 43% to 53%
- (d) 45% to 54%

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).  
Each answer should not exceed 250 words.

11. (a) Explain the factors that effect the composition of milk.

Or

(b) What are the constituents present in milk?

12. (a) Write short notes on UHT.

Or

(b) Explain the bottle pasteurization.

13. (a) Explain the theory of churning.

Or

(b) Write short notes on the classification of cream.

14. (a) Explain

- (i) Standardised milk
- (ii) Humanised milk

Or

(b) Write about the composition and nutritive value of condensed milk.

15. (a) Define the following

- (i) Ice-cream
- (ii) Fermentation of milk

Or

(b) Write about the need for making milk powder

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 600 words.

16. (a) Explain in detail the vitamins present in milk.

Or

- (b) Give an account of milk proteins.

17. (a) Discuss on the following :

- (i) Batch pasteurization  
(ii) HTST.

Or

- (b) Briefly explain about the physico-chemical changes taking place in milk due to processing.

18. (a) Explain :

- (i) Desibutter  
(ii) Salted butter  
(iii) Composition of butter.

Or

- (b) Explain the following :

- (i) Rancidity  
(ii) Synergists.

19. (a) Define the following :

- (i) Vitaminised milk  
(ii) Incitation milk  
(iii) Reconstituted milk.

Or

- (b) Explain in detail about

- (i) Flavoured milk  
(ii) Toned milk.

20. (a) Explain about the stabilizer in ice-cream.

Or

- (b) Write short notes on :

- (i) Bulgariou milk  
(ii) Acidophilous milk.