

**SET
A**

Full Marks: 70

Marks: 20

Objective

1. Which country is the largest producer of milk?

- 1

10. UHT processing typically heats milk to:
 - a. 72°C for 15 seconds
 - b. 100°C for 5 seconds
 - c. 135-150°C for 2-4 seconds
 - d. 50°C for 20 minutes
11. A common defect in evaporated milk, causing it to turn brown, is due to:
 - a. Bacterial contamination
 - b. Caramelization of lactose
 - c. Fat separation
 - d. Protein coagulation
12. What is the main cause of a "cooked" flavor in powdered milk?
 - a. Oxidation of fats
 - b. Maillard reaction during drying
 - c. Microbial growth
 - d. Excessive lactose
13. Butter is made by:
 - a. Fermenting milk
 - b. Churning cream to separate butterfat
 - c. Adding thickening agents to milk
 - d. Freeze drying milk solids
14. Cheddar cheese's characteristic sharp flavor develops due to:
 - a. Addition of salt
 - b. Aging and bacterial activity
 - c. Addition of rennet
 - d. High-fat content
15. The nutritive value of cheese is particularly high in:
 - a. Carbohydrates and vitamins
 - b. Proteins and fats
 - c. Fiber
 - d. Sugars
16. Which of the following is the main ingredient for making gulabjamun?
 - a. Paneer
 - b. Khoa
 - c. Dahi
 - d. Desi ghee
17. Whey is a by-product of which milk product?
 - a. Paneer
 - b. Khoa
 - c. Ghee
 - d. Dahi
18. Which of the following products is usually churned to incorporate air and add a frothy texture?
 - a. Paneer
 - b. Lassi
 - c. Rabri
 - d. Kheer
19. The typical flavor of desi ghee comes from the presence of:
 - a. Water
 - b. Butyric acid
 - c. Lactose
 - d. casein
20. Which milk by-product is rich in calcium and can be utilized as a nutritional supplement?
 - a. Casein
 - b. Lactose
 - c. Whey
 - d. Permeate

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(Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Discuss the composition and nutritive value of milk. How do these nutrients contribute to health? 5+5=10
2. Write short notes. 10
 - a) Milk Sugar
 - b) Enzymes in milk
 - c) Milk Proteins
3. How would you define homogenized milk and write the advantages and disadvantages of Homogenized Milk. State the Factors Affecting Homogenization Efficiency 5+5=10
4. 5+5=10
 1. Explain the role of filtration in milk processing. Compare microfiltration and ultrafiltration,
 2. Assuming negligible loss of fat, and separation of 200kgs milk with 4.5% fat:
 - a) What weight of cream with 30% fat can we expect?
 - b) Calculate the % yield of skim milk
 - c) Calculate the % yield of cream*Use the formula $[F_c = (W_m \times F_m)/W_c]$ where F_c is fat in cream, W_m is weight of milk, F_m is fat in milk and W_c is weight of cream, for your calculations*
5. Discuss the technology and process of manufacturing butter from milk with a flow diagram 10
6. 5+5=10
 - a) Differentiate between condensed milk and evaporated milk.
 - b) Give classification of cheese.
7. Define Paneer. Write the technical flow diagram for the preparation of paneer and give the composition of paneer 10
8. Define Dairy Byproduct. With the help of a neat flow diagram, describe acid casein manufacturing process. 10

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