

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SIXTH SEMESTER B.TECH DEGREE EXAMINATION (R,S), MAY 2024

FOOD TECHNOLOGY

(2020 SCHEME)

Course Code : 20FTT302

Course Name: Dairy Technology

Max. Marks : 100

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

1. Genetic factors of cattle affect the composition of milk. Justify the statement.
2. Tabulate the milk composition with main constituents.
3. Indicate the purpose of Vacreation.
4. Draw the flow process of In-bottle sterilization.
5. Interpret the Farrall index in homogenization.
6. Write a short note on Degree of Homogenization.
7. Compare Direct flow mode and Cross flow mode.
8. Indicate the points in which the transport of solutes through ultrafiltration members depends.
9. Illustrate the process of ageing and crystallization in butter making process.
10. Tabulate the types of cheese with its moisture and fat content.

PART B

(Answer one full question from each module, each question carries 14 marks)

MODULE I

11. a) Elaborate the following factors affecting Milk Fat content
 1. Environment/Management (9)
 2. Health & Physiology
 3. Nutrition (Rumen Fermentation).
- b) Illustrate the milk protein types and variations. (5)

OR

12. What is the importance of cleaning in place in dairy industry. (14)
Explain its implementation strategy and its types.

MODULE II

13. a) Explain the principle of Ultra High Temperature Pasteurization. (6)
- b) Elaborate the process of UHT sterilization in plate heat exchangers and UHT sterilization with direct type heat (8)

exchangers.

OR

14. a) Illustrate HTST pasteurization system and its process with flow chart. (10)
b) Explain the importance of regeneration in HTST pasteurization. How will you calculate its efficiency? (4)

MODULE III

15. a) Outline the Operation of Homogenizer. (8)
b) Illustrate how the temperature and pressure affects the process of Homogenization. (6)

OR

16. Elaborate the following concepts of Homogenization. (14)
1. Full stream Homogenization
2. Partial Homogenization
3. Single stage and two stage homogenizations.

MODULE IV

17. a) Write a brief note on principle and membrane stacks of Electro dialysis. (10)
b) Integrate the factors affecting the performance of ultrafiltration. (4)

OR

18. a) Elaborate Bactofuge process with the design involved. (8)
b) Compare electro dialysis process with reverse osmosis. (6)

MODULE V

19. a) Analyze the construction and working of spray dryer. (14)

OR

20. a) Elaborate the feeding methods of Drum dryer along with its disadvantages. (10)
b) Explain the process for the coagulation of milk proteins in cheese making process. (4)
