

QP CODE: 25804502



Reg No :

Name :

INTEGRATED M.Sc DEGREE EXAMINATION, OCTOBER 2025

Ninth Semester

INTEGRATED M.Sc BASIC SCIENCE-CHEMISTRY

ELECTIVE - ICH9ELC2 - FOOD SCIENCE AND TECHNOLOGY

2020 ADMISSION ONWARDS

BF811B76

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Differentiate between food enrichment and food fortification.
2. Why do sugars exhibit optical activity? Discuss with a specific example.
3. How do pre-gelatinized starches improve convenience in instant food products?
4. How do simple lipids differ from compound lipids?
5. What is the main nutritional role of fats in the diet?
6. What is the isoelectric point of a protein?
7. Write about the flavour enhancers in food industry.
8. What are the common types of microorganisms involved in food spoilage?
9. Explain the role of acidity in determining the type of canning method used.
10. What physical changes occur in food during freezing, and how do they affect quality?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Explain the advantages and disadvantages of enzymatic browning in food processing, citing specific examples.
12. What is interesterification and write the principle behind interesterification?
13. Discuss the formation and importance of protein gels in food products.
14. Discuss the role of proteases in enhancing the functional properties of proteins in food processing.





15. Trace the evolution of food processing techniques from ancient to modern times.
16. Explain the differences between pasteurization, sterilization, and UHT processing, highlighting their impact on food quality.
17. Explain in detail how temperature, humidity, and airflow management are optimized in refrigeration storage to prevent spoilage.
18. Evaluate the challenges and solutions associated with maintaining consistent temperature conditions in cold storage systems.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Analyze the importance of food chemistry in addressing global food security challenges.
20. Explain the functional properties and uses of pectic substances in food applications, including gelling and stabilizing functions.
21. (a) Discuss the process and purpose of blanching in food processing. (b) Analyze its role in enzyme inactivation, color retention, and preparation for further processing, with examples of commonly blanched foods.
22. What is refrigeration load? Discuss the factors affecting refrigeration load and explain how these factors influence the design and efficiency of refrigeration systems.

(2×5=10 weightage)

