

**ASSIGNMENT SET - I****Department of Nutrition****Mugberia Gangadhar Mahavidyalaya****M.VOC(FTNM):****Semester-I****Paper Code:FTNM11****Answer all the questions****UNIT-I**

1. What is food preservation, and why is it important?
2. Name the primary methods of food preservation.
3. Explain the difference between dehydration and freeze-drying.
4. Describe the process of hot water bath canning.
5. What types of foods are suitable for pressure canning?
6. How does acid content affect the choice between water bath and pressure canning?
7. Explain how refrigeration helps in food preservation.
8. What are the ideal temperatures for refrigeration and freezing?
9. Discuss the importance of blanching before freezing certain vegetables.
10. Compare sun drying and oven drying as methods of food dehydration.
11. Why is it important to control humidity during the drying process?
12. Provide examples of foods that are commonly dried for preservation.
13. What is the role of microorganisms in the fermentation process?
14. Name two types of fermented foods and describe their preparation.
15. How does fermentation contribute to both preservation and flavor development?
16. Explain the difference between quick pickling and traditional pickling.
17. What is the significance of using brine in pickling?
18. Provide examples of vegetables commonly pickled.
19. What safety measures should be taken when canning foods at home?
20. How can you ensure the safety of fermented foods during the fermentation process?
21. Discuss the risks associated with improper storage temperatures in food preservation.

22. Explore new technologies in food preservation, such as high-pressure processing.
23. Discuss the advantages and challenges of using advanced preservation techniques.
24. How might nanotechnology play a role in food preservation in the future?
25. What factors influence the shelf life of preserved foods?
26. How can packaging contribute to the preservation of food?
27. Explain the concept of "best by" dates on preserved food products.
28. Discuss the environmental impact of different food preservation methods.
29. How can individuals contribute to sustainable food preservation practices?
30. Explore the role of reducing food waste in the context of preservation.

## **UNIT-2**

1. Explore recent innovations in sterilization technology for canned foods.
2. How do these innovations address energy efficiency and environmental concerns in the canning industry?
3. How do refrigerated vans contribute to the cold chain logistics in the food industry?
4. Discuss the technology and features that make refrigerated vans suitable for transporting perishable goods.

## UNIT-3

1. Compare and contrast natural and synthetic food additives.
2. What are the advantages and disadvantages of using natural additives over synthetic ones?
3. Discuss consumer perceptions and preferences regarding natural and synthetic additives.
4. Define emulsifiers and stabilizers and their role in food processing.
5. Discuss how emulsifiers contribute to the stability of products like salad dressings and mayonnaise.
6. Explore the challenges of formulating products without emulsifiers.
7. Explore natural alternatives to common synthetic food additives.
8. Discuss the challenges and opportunities in formulating foods without certain additives.
9. How can the food industry balance consumer preferences for minimal additives with the need for product stability and shelf life?

## UNIT-4

1. Describe the key steps in paddy processing from harvesting to the production of rice.
2. How do quality characteristics during rice milling influence the final milled products?
3. Discuss the significance of parboiling in rice processing and the methods used for rice bran stabilization.
4. Explain the concept of aging in rice and its impact on quality.
5. Discuss the need for and methods of enrichment in rice processing.
6. Explore the reasons behind the aging process and its effects on rice quality.
7. Break down the wheat processing system, including the break system, purification system, and reduction system.
8. How does the extraction rate in wheat milling affect the composition of flour?
9. Identify and discuss the quality characteristics of flour that make it suitable for baking.
10. Compare dry milling and wet milling in corn processing.
11. Explain the processes involved in starch and gluten separation during corn milling.
12. Discuss the milling fractions and applications of modified starches derived from corn.
13. Detail the processes of malting and milling in barley.
14. Explore the milling, malting, pearling processes, and industrial utilization of sorghum.
15. Highlight the importance of millets, their composition, and processing methods for food uses.
16. Classify different types of legumes and discuss their significance.
17. Identify anti-nutritional compounds in legumes and methods for their removal during processing.
18. Analyze the challenges faced in the dhal milling industry and factors affecting milling efficiency.
19. Explain the processes of soaking and germination in pulses.
20. Discuss factors affecting the cooking quality of legumes.
21. Explore byproducts generated during pulse processing and potential value addition strategies.

## UNIT-5

1. Elaborate on the principles of clean milk production and its significance for the dairy industry.
2. Analyze the trends in annual milk production, production growth rate, and per capita availability of milk in a specific region.
3. Explain the Anand pattern and discuss the roles of NDDB (National Dairy Development Board) and Operation Flood in dairy development. Evaluate Dr. Verghese Kurien's contributions.
4. Outline the key steps involved in the processing of market milk.
5. Discuss the technological aspects and challenges associated with producing UHT milk.
6. Explore the production methods and popularity of flavored milk in the market.
7. Explain the fermentation processes involved in producing dahi and yoghurt.
8. Discuss the differences between dahi and yoghurt, including variations in production techniques.
9. Analyze the technological considerations in producing cream and its applications.
10. Detail the processing steps for butter production, from cream separation to packaging.
11. Discuss the differences between butter and ghee, including their production methods and uses.
12. Explore the challenges in producing butter oil and its applications.
13. Describe the manufacturing process of ice cream, highlighting key ingredients and freezing techniques.
14. Discuss factors influencing the texture and quality of ice cream.
15. Analyze the trends and innovations in the ice cream industry.
16. Provide an overview of the production processes for Cheddar, Swiss, mozzarella, cottage, processed cheese, and cheese spread.
17. Compare the characteristics of different cheeses in terms of flavor, texture, and applications.
18. Describe the processes involved in producing khoa, gulabjamun, channa, rasogolla, and paneer.
19. Analyze the cultural significance and popularity of these traditional Indian dairy products.
20. Identify common dairy by-products and discuss their uses and applications.
21. Explain the concept of Clean-in-Place (CIP) and its importance in maintaining hygiene in dairy processing.

## UNIT-6

1. Discuss the various techniques employed in the harvesting of fish.
2. Explain the importance of sustainable fishing practices in the context of fish processing.
3. Outline the steps involved in filleting fish for processing.
4. Discuss the role of technology in enhancing the efficiency and quality of fish processing.
5. Compare different methods of preserving fish, such as freezing, canning, and smoking.
6. Discuss the advantages and limitations of each preservation method.

7. Provide examples of value-added fish products.
8. Discuss the market trends and consumer preferences driving the development of new fish products.
9. Explain the factors influencing the quality of meat.
10. Discuss methods for assessing the quality of meat, including color, texture, and marbling.
11. Explore recent technological innovations in meat processing.
12. Discuss how these innovations address challenges and contribute to the overall efficiency of the industry.
13. Explain the principles and practices of Halal meat processing.
14. Discuss the requirements and procedures involved in Kosher meat processing.
15. Outline the key steps in poultry slaughtering.
16. Discuss the importance of hygiene and sanitation in poultry processing to ensure product safety.
17. Provide examples of diverse poultry products beyond traditional cuts.
18. Discuss how consumer preferences influence the development of new poultry products.
19. Explain the process of grading eggs for quality.
20. Discuss packaging methods that ensure the safety and freshness of eggs.
21. Provide examples of egg-based products and their processing methods.
22. Discuss the nutritional benefits and culinary applications of egg-based products.

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