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**Question Paper Code:U9C77**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Open Elective

21UBT977 – FOOD AND DAIRY TECHNOLOGY

Biotechnology

(Regulations 2021)

(Common to All Engineering branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is the need the of food processing? CO1-U
2. List out the aim of the aims of food science and technology. CO1-U
3. Why food additives are added to the foods? CO1-U
4. Suggest natural colourants that can be used to color beverages instead of synthetic dyes. CO2-App
5. What are the advantages of baking? CO1-U
6. Differentiate between pasteurization and homogenization of milk. CO3-Ana
7. Yoghurt is produced using a microbial starter. Name any one microbe and its role in this process. CO4-App
8. What are aflatoxins? CO1-U
9. How do you remove contaminants from food? CO1-U
10. Compare pasteurization and boiling in terms of microbial destruction. CO4-App

PART – B (5 x 16= 80 Marks)

11. (a) Elaborate the testing strategies adopted for quality confirmation. CO1-U (16)  
Or  
(b) Elaborate the food regulation guidelines followed in India. CO1-U (16)

12. (a) Examine the biological energy requirements of humans and justify the importance of carbohydrates in fulfilling them. CO2-App (16)
- Or
- (b) Articulate the functional properties of food and role of carbohydrate, protein, lipid and vitamins in contributing textural characteristics. CO2-App (16)
13. (a) Explain the procedure adopted to perform grading and screening of raw materials. CO1-U (16)
- Or
- (b) Explain in detail about characterization of raw material before initiation of processing? CO1-U (16)
14. (a) Fruit processing company plans to export mango pulp and juices to international markets. However, they are concerned about spoilage, microbial contamination, and reduced shelf life during transportation. CO4-App (16)
- a) Explain the significance of food preservation from an industrial perspective. (8marks)
- b) Discuss the preservation techniques that could be adopted by the company. (8 marks)
- Or
- (b) Snack food company is launching a new range of ready-to-eat chips and biscuits. To ensure compliance with FSSAI packaging guidelines, they must adopt appropriate packaging techniques to preserve freshness, extend shelf life, and prevent adulteration. CO4-App (16)
- a) Describe the methods adopted by food industries for effective packaging. (8marks)
- b) Explain how FSSAI packaging guidelines ensure food safety and consumer trust. (8 marks)
15. (a) Explain in detail about the national and international standards of milk and milk based products? CO1-U (16)
- Or
- (b) Give an account of pasteurization process and its types in detail? CO1-U (16)