

BSc.(Hons) FNS (NEP) Sem.4 Examination

DSC-C-242 T

Food Processing Technologies & New Product Development

Time : 2-00 Hours]

May-2025

[Max. Marks : 50

Question 1 Write the following

- (i) List the key factors affecting the shelf life of refrigerated foods. How does water activity influence microbial growth? (5 Marks)
- (ii) Compare pasteurization and sterilization in terms of temperature, time, and microbial inactivation. Give one example of a food product for each. (5 Marks)

OR

- (i) Explain the impact of drying on food quality. How does it differ from freezing in terms of nutrient retention? (5 Marks)
- (ii) What is High-Pressure Processing (HPP)? Explain its mechanism and two advantages over thermal processing. (5 Marks)

Question 2 Write the following

- (i) Describe the steps involved in malting of barley. What are its applications in food production? (5 Marks)
- (ii) Explain the technology behind the production of fruit juices with extended shelf life. Compare thermal and non-thermal preservation methods. (5 Marks)

OR

- (i) Describe the processing technology used in the production of pasteurized milk. How does UHT treatment differ from conventional pasteurization? (5 Marks)
- (ii) Explain the steps involved in cheese production. What is the role of fermentation in this process? (5 Marks)

Question 3 Write the following

- (i) Define NPD. Explain the need and when to development new product. (5 Marks)
- (ii) Explain the process and stages of new product development in detail. (5 Marks)

OR

- (i) What are the principles of product development? Explain product life cycle in detail. (5 Marks)
- (ii) Explain SWOT analysis with suitable example in detail. (5 Marks)

Question 4 Write the following

- (i) Differentiate between subjective and objective evaluation. Explain the importance of both in food industry. (5 Marks)
- (ii) Explain various types of threshold test in detail. (5 Marks)

OR

- (i) Explain the objective evaluation of color in detail. (5 Marks)
- (ii) Enlist types of sensory evaluation tests. Describe difference tests in detail. (5 Marks)

Question 5 Attempt any ten out of fifteen (10 Marks)

- (i) What is the ideal temperature range for refrigeration to slow bacterial growth?
 - (ii) What is the primary purpose of blanching?
 - (iii) Name one non-thermal food processing technology.
 - (iv) Which wavelength in pulsed light technology is most effective for microbial inactivation?
 - (v) Which preservative is commonly used in pickles?
 - (vi) Which microorganism is used in yogurt fermentation?
 - (vii) Name one ready-to-eat (RTE) food product.
 - (viii) Which gas is produced during fermentation of idli batter?
 - (ix) Define rheology.
 - (x) What is percent sag?
 - (xi) What is index to volume?
 - (xii) Write a short note on consumer behaviour in FMCG.
 - (xiii) Give a flow chart of factors affecting product success.
 - (xiv) What is line extension?
 - (xv) Write a short note on role of a nutritionist in food industry.
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