

2913/203  
TECHNOLOGY OF SPECIFIC  
PRODUCTS I  
Oct./Nov. 2022  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL  
DIPLOMA IN FOOD SCIENCE AND PROCESSING TECHNOLOGY  
MODULE II  
TECHNOLOGY OF SPECIFIC PRODUCTS I

3 hours

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Answer booklet;*

*Non-programmable scientific calculator.*

*This paper consists of TWO sections; A and B.*

*Answer ALL the questions in section A and any TWO questions from section B in the answer booklet provided.*

*Each question in section A carries 15 marks while each question in section B carries 20 marks.*

*Maximum marks for each part of a question are as shown.*

*Candidates should answer the questions in English.*

**This paper consists of 3 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**



**SECTION A (60 marks)**

*Answer ALL the questions in this section.*

1. (a) State **five** factors which influence milk yield in cattle. (5 marks)
- (b) Explain **five** benefits of milk fermentation in the food industry (10 marks)
2. (a) Name **six** unsaturated fatty acids. (6 marks)
- (b) Describe the methods of margarine manufacture. (9 marks)
3. (a) Name **five** methods of curing meat during processing. (5 marks)
- (b) State **six** faults observed during processing of ham. (6 marks)
- (c) Differentiate between plastic shortening and pourable shortening. (4 marks)
4. (a) State **five** functions of starter cultures in the manufacture of dairy products. (5 marks)
- (b) Explain **five** post-mortem quality problems associated with meat. (10 marks)

**SECTION B (40 marks)**

*Answer any TWO questions from this section.*

5. Discuss meat inspection as applied in the food industry. (20 marks)
6. (a) Describe **five** methods of oil and fat modification during processing. (10 marks)
- (b) Outline steps followed in the manufacture of ice cream. (10 marks)
7. (a) State **five** factors which contribute to the spoilage of fish during processing. (5 marks)
- (b) Explain the role of each of the following processes in the manufacture of fats and oils:
  - (i) bleaching; (2 marks)
  - (ii) deodorization; (2 marks)
  - (iii) degumming. (2 marks)



- (c) State **four** reasons of pasteurizing ice cream mixture during processing. (4 marks)
- (d) State **five** technological benefits of using emulsifiers in the manufacture of ice cream. (5 marks)
8. (a) Explain **five** factors which influence milk composition. (10 marks)
- (b) Explain each of the following physical characteristics of fats and oils:
- (i) melting point; (5 marks)
- (ii) refractive index. (5 marks)

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