

1903/105
FOOD PROCESSING AND
PRESERVATION I
Oct./Nov. 2021
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN FOOD PROCESSING AND PRESERVATION
TECHNOLOGY**

MODULE I

FOOD PROCESSING AND PRESERVATION I

3 hours

INSTRUCTIONS TO CANDIDATES

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 4 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. State **four** preservative effects of smoking fish. (4 marks)
2. List **four** extrinsic factors which influence food spoilage. (4 marks)
3. Define each of the following as used in food industry:
 - (a) moisture content; (2 marks)
 - (b) water activity. (2 marks)
4. Explain the significance of working process in butter manufacture. (4 marks)
5. Describe the functions of each of the following processes in production of edible oils:
 - (a) degumming; (2 marks)
 - (b) deodorization. (2 marks)
6. List **four** factors which affect the quality of meat processed in the food industry. (4 marks)
7. State **four** industrial uses of eggs. (4 marks)
8. Whole milk and skim milk are mixed to produce standardized milk. If whole milk has 3.3% butterfat while skim milk has 0.2% butterfat, calculate the quantity of whole milk and skim milk required to produce 850 kg of standardized milk with 3.0% butterfat using Pearson's square method. (4 marks)
9. Name **four** natural constituents of meat. (4 marks)
10. State **four** advantages of aluminium foils used as food packaging material. (4 marks)
11. With the aid of a labelled diagram, describe the modern method of smoking meat. (4 marks)
12. Differentiate between food processing and food preservation. (4 marks)
13. Explain the principle of food preservation by salting. (4 marks)
14. Describe the indirect contact mechanism of freezing. (4 marks)
15. Explain the principle of rendering method of edible lipids extraction from natural sources. (4 marks)

SECTION B (40 marks)

Answer any TWO questions from this section.

16. (a) Name **five** by-products of fish processing. (5 marks)
- (b) State **five** components of a curing solution. (5 marks)
- (c) Explain **five** parameters used in determining the quality of meat during processing. (10 marks)
17. Describe the procedure for manufacturing ripened fermented cheese. (20 marks)
18. (a) State **four** benefits of food fermentation. (4 marks)
- (b) With the aid of chemical equations, describe the production of vinegar. (12 marks)
- (c) Distinguish between fermented pickles and non-fermented pickles. (4 marks)
19. (a) Explain the role of each of the following in industrial processing of fats and oils:
- (i) neutralization; (5 marks)
- (ii) bleaching. (5 marks)
- (b) State **ten** challenges affecting the meat industry in Kenya. (10 marks)

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