

1903/204

**FOOD PROCESSING AND
PRESERVATION II**

Oct. / Nov. 2021

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

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

MODULE II

FOOD PROCESSING AND PRESERVATION II

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 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** functions of eggs in the production of baked products. (4 marks)
2. Define each of the following as used in food processing and preservation:
 - (a) fruit; (2 marks)
 - (b) vegetable. (2 marks)
3. Explain the use of acidulants in the production of soft drinks. (4 marks)
4. State **four** functions of sugar in the processing of baked products. (4 marks)
5. Differentiate between bagasse and bagacillo as used in sugar processing. (4 marks)
6. (a) Name **four** root crops of economic importance in Kenya. (2 marks)
(b) List **four** products obtained from tubers and root crops. (2 marks)
7. Calculate the amount of puree with 10 °Brix required to produce 1000 kg of heavy tomato paste of 35 °Brix. (4 marks)
8. Describe the withering process in manufacture of tea. (4 marks)
9. State **four** stages of dough development during bread processing. (4 marks)
10. Calculate the amount of water evaporated and syrup formed if 200 kg of clear sucrose juice of 15 °Brix is evaporated to 60 °Brix. (4 marks)
11. Explain the **two** stages of drying sugar during processing. (4 marks)
12. State **four** causes of development of excessive loaf volume during bread manufacture. (4 marks)
13. State **four** benefits of exhausting step in fruit canning operation. (4 marks)
14. Explain **two** types of liming as applied in sugar processing. (4 marks)
15. Using a graph, explain the effect of temperature on yeast activity during bread making process. (4 marks)

SECTION B (40 marks)

Answer any TWO questions from this section.

16. (a) Identify **two** classes of wheat based on:
- (i) hardness of the kernel; (2 marks)
 - (ii) botanical species of the wheat. (2 marks)
- (b) With the aid of a flow diagram, outline the wheat milling process in the food industry. (16 marks)
17. (a) Differentiate between diffusion and pressure milling methods of sugarcane juice extraction. (4 marks)
- (b) With the aid of a labelled diagram, explain compound imbibition as used in sugarcane processing. (16 marks)
18. (a) Name **four** types of beer based on alcohol content. (4 marks)
- (b) Differentiate between top and bottom fermentation processes as applied in beer manufacture. (4 marks)
- (c) Explain the functions of each of the following ingredients in the manufacture of beer:
- (i) caramel; (2 marks)
 - (ii) hops; (2 marks)
 - (iii) adjuncts. (2 marks)
- (d) Explain the malo-lactic acid fermentation of wine. (6 marks)
19. (a) Differentiate between climacteric and non-climacteric fruits. (4 marks)
- (b) State **four** post-harvest changes which occur in fruits during storage. (4 marks)
- (c) Using a flow diagram, outline the canning of carrots in the food industry. (12 marks)

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