

2913/203

TECHNOLOGY OF SPECIFIC PRODUCTS I

June/July 2021

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. State **five** challenges faced by each of the following food industries in Kenya:
 - (a) oil seeds industry; (5 marks)
 - (b) agriculture; (5 marks)
 - (c) dairy industry. (5 marks)

2.
 - (a) Name **two** natural sources of edible oils. (1 mark)
 - (b) Describe degumming as applied in the processing of seed oils. (8 marks)
 - (c) Describe **three** methods of edible lipid fractionation. (6 marks)

3.
 - (a) Discuss cold shortening in meat. (12 marks)
 - (b) State **three** causes of pale soft exudative (PSE) meat defect. (3 marks)

4. Explain the principles of each of the following tests on fluid milk:
 - (a) turbidity test; (6 marks)
 - (b) alcohol test; (4 marks)
 - (c) triphenyltetrazolium chloride (TTC) test. (5 marks)

SECTION B (40 marks)

Answer any TWO questions from this section.

5. Describe the process of production of peanut butter from dry shelled groundnuts. (20 marks)

6.
 - (a) Define a meat burger. (1 mark)
 - (b) Describe the preparation of a 100 kg formulation mix for making beef burgers. (7 marks)
 - (c) Describe the procedure for making smoked burgers from the formulation in (b) above. (12 marks)

7. (a) Outline the process of ice cream making. (10 marks)
- (b) Explain the application of each of the following operations:
- (i) heating in glee making; (5 marks)
- (ii) ripening in cheese making. (5 marks)
8. (a) Outline the processing of palm nuts into palm kernel oil. (9 marks)
- (b) Explain aging of fresh meat before processing. (6 marks)
- (c) State **five** causes of culture failure in the manufacture of fermented dairy products. (5 marks)

pH
Temp.
Presence

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