

1507/112 1819/102

1802/102 1907/102

FOOD SCIENCE AND NUTRITION

Oct./Nov. 2018

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN CATERING AND ACCOMMODATION
CRAFT CERTIFICATE IN FOOD AND BEVERAGE PRODUCTION AND
SERVICE**

**CRAFT CERTIFICATE IN BAKING TECHNOLOGY
MODULE I**

FOOD SCIENCE AND NUTRITION

3 hours

INSTRUCTIONS TO CANDIDATES

You should have an answer booklet for this examination.

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

*Answer **ALL** questions in Section **A** and any **THREE** questions from Section **B** in the answer booklet provided.*

Maximum marks for each part of a question are indicated.

Candidates should answer the questions in English.

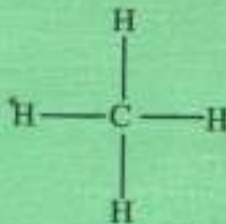
This paper consists of 4 printed pages.

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

SECTION A (55 marks)

Answer ALL the questions in this section.

1. Explain the meaning of each of the following terms:
 - (a) food; (2 marks)
 - (b) food science. (2 marks)
2. Differentiate a weak acid from a concentrated acid. (4 marks)
3. The following is a graphic formula of a hydrocarbon:



- State the **three** scientific details that are revealed by this structural formula. (3 marks)
4. Explain the way in which each of the following factors may lead to obesity:
 - (a) reduced physical activity; (2 marks)
 - (b) psychological factors. (2 marks)
 5. (a) Explain the phrase 'essential amino acids'. (2 marks)
 (b) Identify **six** examples of essential amino acids. (3 marks)
 6. Outline **four** functions of sugar in cake making. (4 marks)
 7. Explain the function of each of the following enzymes in food processing:
 - (a) pectinase; (2 marks)
 - (b) rennin. (2 marks)
 8. Explain each of the following types of sweetening agents used in food processing:
 - (a) intense sweeteners; (2 marks)
 - (b) bulk sweeteners. (2 marks)

9. Identify **six** possible sources of *staphylococcus aureus* food poisoning bacteria. (3 marks)
10. State **three** ways in which food may become unfit for human consumption. (3 marks)
11. List **six** carbohydrate food ingredients that may be used in the production of alcoholic beverages. (3 marks)
12. State **four** reasons that may account for malnutrition in HIV patients. (4 marks)
13. Highlight **four** types of detergents that may be used in the food industry. (4 marks)
14. State **three** benefits that a food establishment may derive from buying food preserved by the drying method. (3 marks)
15. State **three** measures that should be taken by the management of a food establishment to control food-borne diseases. (3 marks)

SECTION B (45 marks)

Answer any THREE questions from in this section.

16. (a) The proprietor of a food business is required by law to comply with certain regulations in regard to food premises. Outline **seven** such regulations. (7 marks)
- (b) Explain **four** measures that should be taken by the county Government to control the occurrence of infantile scurvy. (8 marks)
17. (a) With the aid of an illustrative diagram, describe the molecular structure of each of the following simple proteins:
 - (i) globular proteins;
 - (ii) fibrous elastic proteins. (6 marks)
- (b) State **five** uses of fruits in food processing. (5 marks)
- (c) Explain the role of each of the following secretions that aid food digestion in the mouth:
 - (i) mucus;
 - (ii) salivary amylase. (4 marks)
18. (a) Explain the **three** categories of product names that may be used on the label of a product. (6 marks)
- (b) State **three** measures that should be taken by food handlers to ensure that production procedures do not contribute to contamination of food. (6 marks)
- (c) Outline **three** reasons that make it necessary to enforce food laws. (3 marks)

19. (a) Explain two functions of fat in the diet. (4 marks)
- (b) Explain the meaning of each of the following terms as used in food science:
- (i) salt;
 - (ii) dibasic acid;
 - (iii) rancidity.
- (6 marks)
- (c) Outline five uses of irradiation in food preservation. (5 marks)
20. (a) Eggs stored for prolonged periods usually get spoilt. Explain four changes that take place in an egg stored in such a conditions (8 marks)
- (b) Outline seven measures that should be taken by food preparation staff to control contamination by houseflies. (7 marks)

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