

1507/112 1819/102
1802/102 1907/102
FOOD SCIENCE AND NUTRITION
Oct./Nov. 2017
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 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 (55 marks)

Answer ALL the questions in this section.

1. Identify the components of wholesome food. (4 marks)
2. Explain **two** properties that are specific to alkalis. (4 marks)
3. Explain the meaning of each of the following terms used in the study of organic compounds:
 - (a) functional group; (2 marks)
 - (b) homologous series. (2 marks)
4. Explain the difference between the molecular structures of amylose and amylopectin. (4 marks)
5. State **four** effects of cooking meat. (4 marks)
6. Describe the chemical procedure of testing for starch in a food solution. (3 marks)
7. Outline **three** roles played by additives in food processing. (3 marks)
8. Explain the meaning of each of the following terms:
 - (a) food contaminant; (2 marks)
 - (b) basal metabolic rate. (2 marks)
9. Explain **two** measures that may be taken by food handlers during food preparation to ensure that temperature fluctuations do not affect the quality of food. (4 marks)
10. State **four** dietary measures that may be taken by overweight people to reduce their weight. (4 marks)
11. Outline **three** measures that should be taken by employees to control the spread of HIV. (3 marks)
12. Explain the way in which each of the following factors can affect the strength of a starch gel:
 - (a) sugar; (2 marks)
 - (b) acid. (2 marks)
13. Explain **two** uses of mineral hydrocarbons in the food industry. (4 marks)
14. Identify **six** types of spices that may be used in food processing. (3 marks)
15. Highlight **three** personal hygiene responsibilities of a food handler. (3 marks)

SECTION B (45 marks)

Answer any **THREE** questions from in this section.

16. ✓ (a) Explain **three** characteristics of fats. (6 marks)
- (b) Explain the cause of each of the following types of bacteria food poisoning:
- (i) the infective type; (2 marks)
- (ii) the toxin type. (2 marks)
- (c) State **five** indicators of good quality green vegetables. (5 marks)
17. ✓ (a) (i) Identify **four** hiding places for cockroaches. (8 marks)
- (ii) State **four** cockroach control measures that may be taken by the owner of a food establishment. (4 marks)
- (b) State **four** advantages of the quick-freeze technique of food preservation. (4 marks)
- (c) Outline the role of each of the following types of enzymes in food digestion:
- (i) lipases; (1 mark)
- (ii) carbohydrases; (1 mark)
- (iii) proteases. (1 mark)
- ✓ 18. (a) The risk of transmission of bacteria to food by food handlers in a food establishment may be reduced by observing certain rules. Explain **five** such rules. (10 marks)
- (b) Outline five uses of wheat flour in food processing. (5 marks)
- ✓ 19. (a) Highlight **five** characteristics of enzymes. (5 marks)
- (b) Sanitary facilities for staff of a food establishment should conform to certain legal conditions. Explain **five** such conditions. (10 marks)
20. ✗ (a) With the aid of an illustrative diagram, explain each of the following types of bacteria:
- (i) staphylococci; (4 marks)
- (ii) streptococci. (4 marks)
- (b) Explain each of the following means of food preservation:
- (i) canning; (2 marks)
- (ii) roller-drying. (2 marks)
- (c) With the aid of an example, identify the **three** categories of colours that may be legally used in food. (3 marks)

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