Name: _____ Index No: _____/_____

1507/112
1802/102
1819/102
1907/102
FOOD SCIENCE AND NUTRITION
Oct./Nov. 2013
Time: 3 hours

Candidate's Signature: _____

Date: _____

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

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INSTRUCTIONS TO CANDIDATES

Write your name and index number in the spaces provided above.
Sign and write the date of the examination in the spaces provided above.
*This paper consists of **TWO** sections **A** and **B**. Section **A** and **B** have **15** and **5** questions respectively.*
*Answer **ALL** questions in Section **A** and any **THREE** questions from Section **B** in the spaces provided after question 20.*
Maximum marks for each part of a question are indicated.
*Do **NOT** remove any pages from this booklet.*
Candidates should answer the questions in English.

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 - 15	55	
B		15	
		15	
		15	
Total Score		100	

This paper consists of 16 printed pages.

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

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Turn over

SECTION A (55 marks)

*Answer **ALL** the questions in this section on the spaces provided after each questions.*

1. Outline **three** changes which lead to the deterioration of an egg during storage. (3 marks)

2. (a) Explain the meaning of the term 'poultry'. (2 marks)

(b) Identify **four** examples of poultry animals. (2 marks)

3. Identify **five** ways by which food may be contaminated. (5 marks)

4. Outline **four** food workshop construction requirements relating to the floors. (4 marks)

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5. Explain the role of the following substances in food digestion:

(a) ptyalin; (2 marks)

(b) hydrochloric acid. (2 marks)

6. Identify **eight** food rich sources of vitamin A. (4 marks)

7. State **three** properties of acids. (3 marks)

8. (a) Explain the purpose of food preservation. (2 marks)

(b) Identify **four** natural food preservatives. (2 marks)

9. (a) Classify micro-organisms into their **five** biological types. ($2\frac{1}{2}$ marks)

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(b) Identify the factors affecting the growth of micro-organisms. ($2\frac{1}{2}$ marks)

10. Explain the purpose of using the following additives in food processing:

(a) antioxidants; (2 marks)

(b) food colours. (2 marks)

11. Identify **six** components of nutrients found in processed food. (3 marks)

12. State **three** factors that may contribute to food poisoning. (3 marks)

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13. Identify **six** types of cereals used in food processing. (3 marks)

14. Outline **three** characteristics of food fit for human consumption. (3 marks)

15. Outline **three** preventive measures of HIV and AIDS. (3 marks)

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SECTION B (45 marks)

*Answer any **THREE** questions from this section in the spaces provided after question 20.*

16. (a) Identify the **four** classes of cheese. (2 marks)

(b) State **two** points considered when purchasing cheese. (2 marks)

(c) Identify **four** characteristics of vitamin C. (4 marks)

(d) Outline **seven** features of obesity in a person. (7 marks)

13. Identify **six** types of cereals used in food processing. (3 marks)

14. Outline **three** characteristics of food fit for human consumption. (3 marks)

15. Outline **three** preventive measures of HIV and AIDS. (3 marks)

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SECTION B (45 marks)

*Answer any **THREE** questions from this section in the spaces provided after question 20.*

16. (a) Identify the **four** classes of cheese. (2 marks)

(b) State **two** points considered when purchasing cheese. (2 marks)

(c) Identify **four** characteristics of vitamin C. (4 marks)

(d) Outline **seven** features of obesity in a person. (7 marks)

17. (a) Explain the meaning of the symbol pH. (2 marks)

(b) Illustrate the pH scale and show the following points on the scale:

(i) extremely strong acid; (2 marks)

(ii) neutral; (2 marks)

(iii) extremely strong alkali. (2 marks)

(c) Draw an illustrative and a labelled structure of a yeast cell. (7 marks)

18. (a) Explain the meaning of the following terms used in food science and nutrition:

(i) organic chemistry; (2 marks)

(ii) homologous series; (2 marks)

(iii) hydrocarbons. (2 marks)

(b) Give the structural formula of the following hydrocarbons:

(i) methane; (3 marks)

(ii) ethane; (3 marks)

(iii) propane. (3 marks)

19. (a) Outline **three** functions of sodium in the body. (3 marks)

(b) Identify **six** characteristics of keratomalacia. (6 marks)

(c) Explain **six** factors which may lead to a deficiency of vitamin A in a person. (6 marks)

20. (a) Explain food poisoning by the following metals:

(i) zinc; (2 marks)

(ii) lead; (2 marks)

(iii) antimony. (2 marks)

(b) Describe the **three** sources of food-poisoning bacteria. (6 marks)

(c) Outline **three** signs of rat infestation of a food workshop. (3 marks)

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