

Name: _____ Index No: _____ / _____

2819/102

Candidate's Signature: _____

FOOD AND BEVERAGE PRODUCTION,
NUTRITION AND MATHEMATICS

Date: _____

June/ July 2015

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**TECHNICAL INDUSTRIAL VOCATIONAL AND ENTREPRENEURSHIP
TRAINING**
**DIPLOMA IN CATERING AND ACCOMMODATION MANAGEMENT
MODULE I**

FOOD AND BEVERAGE PRODUCTION, NUTRITION AND MATHEMATICS

3 hours

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.**You should have KNEC mathematical tables/ non-programmable silent electronic calculator for the examination.**This paper consists of **THREE** sections; A, B and C.**Answer **ALL** questions in sections A and B.**Answer **Question 21** and any **TWO** questions from section C.**Answers to **ALL** the questions **MUST** be written in the spaces provided in this question paper.**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	1-10	30	
B	11-20	30	
C	21	10	
		15	
		15	
TOTAL SCORE			

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.**

SECTION A: MATHEMATICS (30 marks)

Answer ALL the questions in this section.

1. Given $x = -2$; $y = -6$ and $z = 4$, evaluate: $\frac{3yz}{x}$ (3 marks)
2. A 72 hectare farm is to be shared among three people in the ratios 2:3:4. Calculate the shares of each individual. (3 marks)
3. A floor is covered completely by 3600 rectangular tiles each measuring 20 cm by 15 cm. Calculate the area of the floor in m^2 . (3 marks)
4. The lines $y = -x$ and $2y = -3x + 10$ intersect at a point A. Determine the co-ordinates of A. (3 marks)
5. Without using a calculator, evaluate $\frac{10!}{7!}$. (3 marks)
6. A manufacturer sells a fridge to a retailer at a profit of 15%. The fridge is sold to a customer at a profit of 25%. Determine the factory cost if the customer paid Ksh 45,000. (3 marks)
7. Table 1 represents the number of goals by four teams in a tournament.

Team	Number of goals
A	18
B	2
C	14
D	20

Table 1

Using the graph paper provided on the last page, draw a bar-graph to represent the above information. (3 marks)

8. Table 2 represents the average mass in grams of buns taken from different hotels.

18.4	17.4	14.3	20.0	19.0	18.5	20.7
21.7	17.5	18.1	19.3	16.9	19.8	15.9
21.2	18.7	19.2	16.6	14.8	17.8	16.0

Table 2

Construct a frequency distribution table of the following four classes 14.0 - 15.9; 16.0 - 17.9; 18.0 - 19.9; 20.0 - 21.9. (3 marks)

9. Find the range, upper and lower quartiles of 8, 7, 9, 5, 10 and 3. (3 marks)
10. List three disadvantages of census. (3 marks)

SECTION B: FOOD SCIENCE AND NUTRITION (30 marks)

Answer ALL questions in this section.

11. State **two** food sources for each of the following:
- (a) iodine; (1 mark)
 - (b) water; (1 mark)
 - (c) iron. (1 mark)
12. Highlight **three** benefits of dietary fibre. (3 marks)
13. State **three** functions of vitamin C in the body. (3 marks)
14. Identify **one** cause for each of the following conditions:
- (a) marasmus; (1 mark)
 - (b) obesity; (1 mark)
 - (c) fluorosis. (1 mark)
15. Define each of the following terms:
- (a) spores; (1 mark)
 - (b) endotoxins; (1 mark)
 - (c) exotoxins. (1 mark)
16. State **three** regulations in the use of food additives. (3 marks)
17. Identify **three** types of food preservatives. (3 marks)
18. Highlight **three** emerging issues of healthy eating habits in the modern society. (3 marks)
19. Explain **three** areas in the human body where digestion takes place. (3 marks)
20. State **three** properties of fats. (3 marks)

SECTION C: FOOD AND BEVERAGE PRODUCTION (40 marks)

Answer Question 21 (compulsory) and any TWO questions from this section.

21. (a) Explain **three** methods of heat transfer during cooking of food. (3 marks)
- (b) Identify **three** duties of the head chef. (3 marks)
- (c) State **four** safety precautions taken when operating mechanical equipment. (4 marks)
22. (a) Define each of the following terms:
- (i) standard recipe; (1 mark)
 - (ii) standard yield; (1 mark)
 - (iii) blind baking. (1 mark)
- (b) State **four** qualities of a well made stock. (4 marks)
- (c) Explain **four** ways in which salads may be presented in a meal. (8 marks)
23. (a) Identify **five** common hazards in the kitchen. (5 marks)
- (b) Highlight **four** guidelines in the use of baking powder in flour mixtures. (4 marks)
- (c) Describe **three** types of pastry. (6 marks)
24. (a) State **four** safety rules for deep fat frying. (4 marks)
- (b) Identify **three** methods used to prevent discolouration when preparing fruits. (3 marks)
- (c) Explain **four** factors to consider when planning menus for special functions. (8 marks)