2819/102
FOOD AND BEVERAGE PRODUCTION,
NUTRITION AND MATHEMATICS
Oct./Nov. 2018
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN CATERING AND ACCOMMODATION MANAGEMENT

MODULE I

FOOD AND BEVERAGE PRODUCTION, NUTRITION AND MATHEMATICS

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:
    Non-programmable silent electronic calculator;
    KNEC mathematical tables.
This paper consists of THREE sections; A, B and C.
Answer ALL questions in sections A and B and THREE questions from section C.
Question 21 is compulsory.
Answers to the questions should be written in the answer booklet provided.
Maximum marks for each part of a question are as indicated.
Candidates should answer the questions in English.

This paper consists of 5 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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SECTION A: MATHEMATICS (30 marks)

Answer ALL questions in this section.

1. In the morning the temperature inside a deep freezer is -8°C and that of the room is 18°C. If in the afternoon the room temperature increase by 9.4°C, determine the temperature difference between the room and the deep freezer in the afternoon. (3 marks)

2. The price of milk is raised from Ksh. 40.50 to Ksh. 45.00 per litre. Calculate the new monthly bill of milk for a hotel which was spending Ksh. 120,163.50 per month if the milk consumption remains the same. (3 marks)

3. The length of a rectangle is three times its breath. Its perimeter is 48 cm, determine the area of the rectangle. (3 marks)

4. In a nomination for a committee, two people were to be selected at random from a group of 3 men and 5 women. Determine the probability that a man and a woman were selected. (3 marks)

5. The factory price of a van in Japan is 500,000 Japanese yen (¥). The cost of shipping and insurance is 300,000 Japanese yen (¥). Determine the total cost in Kenya shillings to import a van given that 100 Japanese yen (¥) is equivalent to Ksh. 62.882. (3 marks)

6. (a) Complete table 1 below for the equation of a curve $y = -8 - 2x + x^2$. (1 mark)
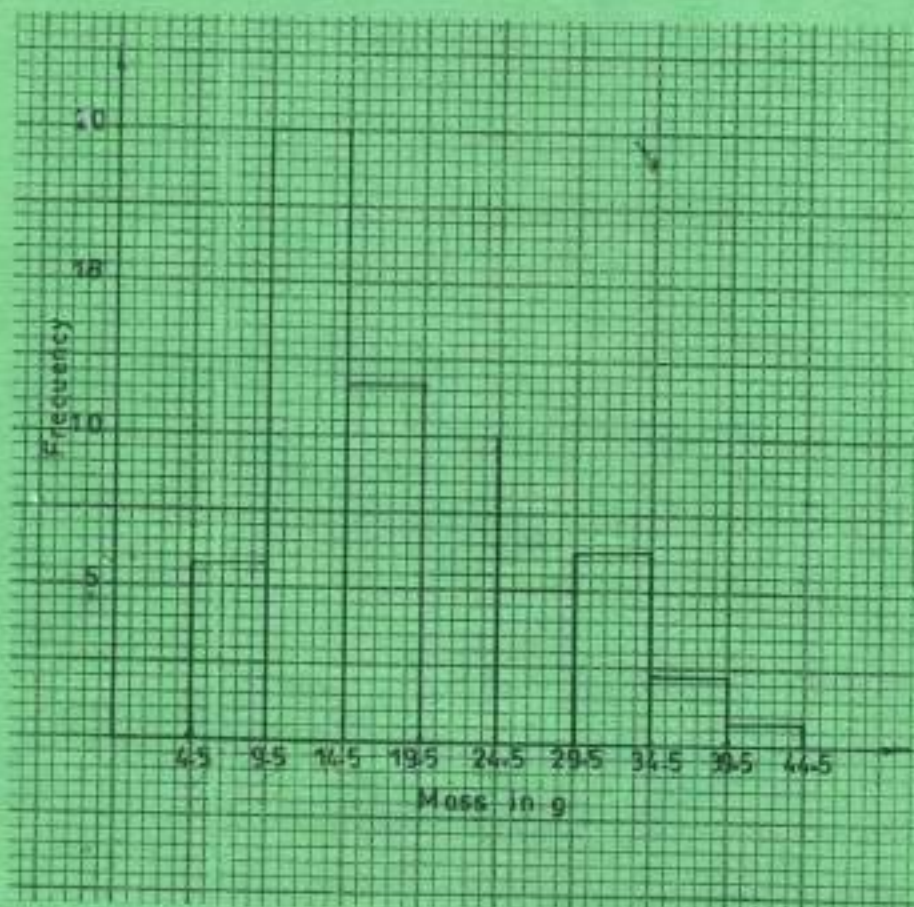
   Table 1

x	-3	-2	-1	0	1	2	3	4	5
y	7	0	-5	8	-9	-8	-5	0	7

   (b) On the grid provided on the back page of the answer booklet, plot the graph of $y = -8 - 2x + x^2$ for $-3 \leq x \leq 5$. (2 marks)

7. Figure I represents a histogram. Use it to answer the question that follows:

Represent the information in the histogram in a frequency distribution table. (3 marks)

8. The mean of the numbers 30, 40, b, 50, 70, b, 50, 80, 50 and 90 is equal to the mode. Determine the value of "b". (3 marks)

9. Determine the mean deviation for the following set of numbers.
36, 22, 30, 28 (3 marks)

10. Without using a calculator, evaluate $\dfrac{8 \times 5! - 10 \times 6!}{13 \times 5!}$. (3 marks)

SECTION B: FOOD AND BEVERAGE NUTRITION (30 ma~~

Answer ALL the questions in this section.

11.   State **three** functions of fat in the diet.   (3 marks)

12.   Highlight **three** points to observe in the management of Kwashiorkor.   (3 marks)

13.   Explain each of the following terms used in food science:

    (a)   nutrition;   (1 mark)
    (b)   balanced diet.   (1 mark)
    (c)   food.   (1 mark)

14.   Explain **three** uses of nutrients in the body.   (3 marks)

15.   State **three** signs and symptoms of osteomalacia.   (3 marks)

16.   Identify **six** causes of malnutrition.   (3 marks)

17.   State **three** examples of polysaccharides.   (3 marks)

18.   Enumerate **three** functions of thiamin.   (3 marks)

19.   State **three** signs and symptoms of rickets.   (3 marks)

20.   Identify **three** nutrients found in fish.   (3 marks)

SECTION C: FOOD AND BEVERAGE PRODUCTION (40 marks)

*Answer THREE questions in this section. Question 21 is **compulsory**.*

21.   (a)   Identify **three** points to consider when buying meat.   (3 marks)

    (b)   State **three** rules for roasting.   (3 marks)

    (c)   Highlight **four** points to consider when using gas as a fuel for cooking.   (4 marks)

22.   (a)   (i)   State **two** ways of trapping as much air as possible in pastry making.

                (2 marks)

       (ii)   Identify **three** common faults for hard and tough short crust pastry.   (3 marks)

(b) State **four** disadvantages of food preservation. (4 marks)

(c) Describe **three** essential considerations when planning a menu. (6 marks)

23. (a) State **four** points to consider in the storage of cereal grains. (4 marks)

(b) Identify **five** advantages of using a microwave oven during the process of food preparation. (5 marks)

(c) Describe **three** accompaniments used when serving soup. (6 marks)

24. (a) Identify **four** causes of a lumpy sauce. (4 marks)

(b) Enumerate **five** safety rules to be observed by the kitchen brigade. (5 marks)

(c) Describe **three** fats commonly used as shortening agents in flour mixtures. (6 marks)

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