Name: _____   Index No: _____/_____

2819/102
FOOD AND BEVERAGE PRODUCTION
NUTRITION AND MATHEMATICS
Oct./Nov. 2015
Time: 3 hours

Candidate's Signature: _____

Date: _____

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 THEORY

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 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** the questions from section A and B.*
*Answer **THREE** questions from Section C. **Question 21 is compulsory.***
*Answer to **ALL** the questions must be written in the spaces provided in this question paper.*
*Do **NOT** remove any pages from this question paper.*
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		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.

Turn over

SECTION A: MATHEMATICS (30 marks)

Answer ALL questions from this section.

1. The length and width of a rectangle are 7.5 cm and 5.2 cm respectively. Calculate:

   (a) The perimeter; (1 mark)

   (b) The area of the rectangle in mm^2. (2 marks)

2. A tea dealer mixes two brands of tea, x and y, to obtain 35 kg of the mixture worth Ksh. 62 per kg. If brand x is valued at Ksh.68 per kg and brand y at Ksh.53 per kg, calculate the ratio in its simplest form in which the brands x and y are mixed. (3 marks)

3. A bag contains 2 white and 3 black identical balls. Two balls are drawn at random, one after the other without replacement. Calculate the probability that both balls are white. (3 marks)

4. A weight and measure inspector took a random sample of 10 packets of biscuits which should weigh 1 kg each. He found that the masses to the nearest gramme were 996, 1005, 1000, 997, 997, 1005, 1001, 1002, 999 and 1003. Determine the mean mass of the packets in grammes. (3 marks)

5. The following information was extracted from the books of sweet tea hotels for the year ending 31st December 2011.

   Opening stock   Ksh.150,000
   Closing stock   Ksh.100,000

   Rate of stock turnover.   7 times

   Calculate cost of sales.

   (3 marks)

6. A straight line has an equation

   $4x + 3y + 8 = 0$. Determine

   (a) Its gradient; (2 marks)

   (b) The y - intercept. (1 mark)

7. Without using a calculator, evaluate

   $6p_3 + 5p_3$

   (3 marks)

8. A green grocer buys 200kg of fruits at Ksh.40 per kg. He sell 20% of it at Ksh.70 per kg and 80% of the remainder at Ksh. 50 per kg. If the rest becomes unsaleable, find the gain or loss as a percentage of the cost price. (3 marks)

9. Table 1, shows the sizes of cakes supplied by a baker to 30 customers in a week.

Size	Small(S)	Medium (M)	Large (L)	Extra large (XL)
No. of customers	5	13	8	4

Table 1

On the grid provided on the back page, represent the data on a bar chart. (3 marks)

10. State **three** reasons for sampling during data collection. (3 marks)

SECTION B: FOOD AND SCIENCE AND NUTRITION (30 marks)

Answer ALL the questions from this section.

11. State **three** functions of food in the human body. (3 marks)

12. Highlight **three** areas in the human body where the breakdown of food takes place. (3 marks)

13. Identify **two** categories of protein and in each case give two examples. (3 marks)

14. State **three** functions of fat in the body. (3 marks)

15. Highlight **three** sources of water for the human body. (3 marks)

16. State **three** ways in which Vitamin C is lost during food preparation and cooking. (3 marks)

17. Highlight **three** reasons why the body requires energy. (3 marks)

18. State the use of each of the following food additives:

    (i) humectants; (1 mark)

    (ii) emulsifying agents; (1 mark)

    (iii) antioxidants. (1 mark)

19. Highlight **three** advantages of drying as a method of preserving food. (3 marks)

20. State **three** symptoms manifested by a child suffering from rickets. (3 marks)

SECTION C: FOOD AND BEVERAGE PRODUCTION (40 marks)

Answer THREE the questions from this section.
Question 21 is compulsory.

21. (a) State **two** ways of using steel to sharpen knives in the kitchen. (3 marks)

    (b) Highlight **four** occasion when extra care is needed in the use of knives.
    (4 marks)

    (c) State **three** rules to observe when baking. (3 marks)

22. (a) Indicate the meaning of the following colour of juices testing for doneness in meat:

    (i) red. (1 mark)

    (ii) pink. (1 mark)

    (b) Highlight the causes of the following:

    (i) Hollandaise sauce curdling. (1 mark)

    (ii) Cloudy consommé. (1 mark)

    (c) Explain the following techniques associated with baking:

    (i) marking; (1 mark)

    (ii) loading; (1 mark)

    (iii) finishing. (1 mark)

    (d) Outline the procedure of preparing douches potatoes. (8 marks)

23. (a) State **two** uses of each of the following:

      (i) cooks forks;   (1 mark)

      (ii) cooks tongs.   (1 mark)

    (b) Highlight **two** possible causes of the following faults in short pastry products.

      (i) hard;   (2 marks)

      (ii) soft-crumbly;   (2 marks)

      (iii) soggy.   (2 marks)

    (c) Different between decker sandwiches and open sandwiches.   (4 marks)

    (d) Describe **three** methods used in the cooking of fresh fruits.   (3 marks)

24. (a) Identify **three** uses of farinaceous dishes.   ($1\frac{1}{2}$ marks)

    (b) State **three** ways of tendering meat.   ($1\frac{1}{2}$ marks)

    (c) State **four** reasons for blanching vegetables.   (2 marks)

    (d) Outline the procedure of cleaning an electric deep fat fryer.   (10 marks)