2802/102
CATERING PREMISES, EQUIPMENT
AND MATHEMATICS
June/July 2020
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN FOOD AND BEVERAGE MANAGEMENT

MODULE I

CATERING PREMISES, EQUIPMENT AND MATHEMATICS

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:
Answer booklet;
Mathematical tables/non programmable scientific calculator.
*This paper consists of **TWO** sections, **A** and **B**.*
*Answer question 1 **(Compulsory)** and any other **THREE** questions from section **A**.*
*Answer question 6 **(Compulsory)** and any other **THREE** questions from section **B**.*
All workings must be clearly shown.
Maximum marks to each part of a question are indicated.
Candidates should answer the questions in English.

This paper consists of 4 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: CATERING PREMISES (50 marks)

*Answer **Question 1 (compulsory)** and any other **THREE** questions from this section.*

1. (a) Identify **four** functional areas found in a large scale kitchen. (4 marks)

   (b) Explain **two** ways of conserving energy when using a refrigerator. (4 marks)

   (c) State **four** ways of keeping away rodents in the kitchen. (4 marks)

   (d) Differentiate between direct and indirect water supply. (4 marks)

   (e) Outline the procedure of cleaning a blender in the kitchen. (4 marks)

2. Explain **five** measures a kitchen supervisor should put in place to prevent house flies in the kitchen. (10 marks)

3. (a) Explain **two** ways in which food poisoning can occur in each of the following cases:

   (i) chemicals;
   (ii) radiation;
   (iii) pollution.

   (6 marks)

   (b) Differentiate between electric and solar energy. (4 marks)

4. (a) State **four** advantages of a convection oven over a microwave oven. (4 marks)

   (b) Explain **three** factors to consider when choosing floor covering for a kitchen. (6 marks)

5. (a) State **five** factors to consider when selecting the type of fuel to use in a catering establishment. (5 marks)

   (b) Outline the procedure of cleaning an electric oven. (5 marks)

SECTION B: MATHEMATICS (50 marks)

*Answer **Question 6 (compulsory)** and any other **THREE** questions from this section.*

6. (a) (i) Solve for x in $2(1-x)=3(1-x)$. (2 marks)

   (ii) Without using a calculator, evaluate:

   $6\times 9-4\div 2+12$ of 6. (2 marks)

(b) A Jamaican tourist arrived in Kenya and converted US $ 4,500 [illegible] at a local bank. Table 1 shows the bank's exchange rate at the time.

Table 1

Currency	Buying	Selling
1 US $	102.40	104.50
1 UK £	127.50	128.40

During his stay in the country, he spent Ksh 268,200 and converted the remaining money into sterling pound (UK £). Determine the amount of sterling pounds he received. (4 marks)

(c) Given that $a = -2; b = -3$ and $C = 4$, evaluate $\frac{16a^2 + 8b}{4C^2}$ giving your answer as a fraction. (4 marks)

(d) Figure 1 shows a pie-chart that represents portions of land used by a farmer to grow maize, bean, rice and wheat.

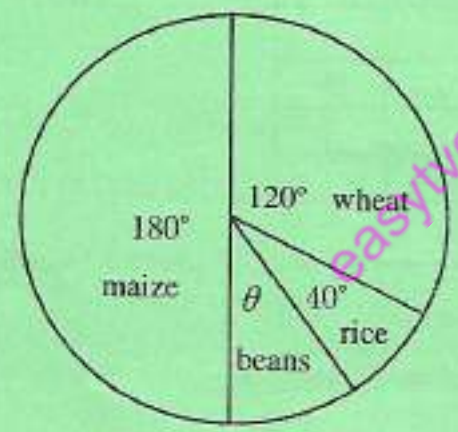

Fig 1.

Determine the size of land that was used for each crop if the size of his land was 72 hectares. (4 marks)

(e) Given that the perimeter of figure 2 is 560 cm, determine its area. (4 marks)

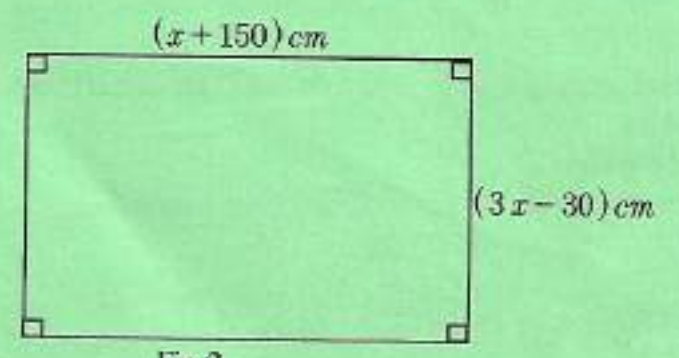

Fig 2.

7. (a) A four digit number is formed from the digits 1, 2, 3, 4, 5 and 6 without repetition. Determine:

(i) determine the number of ways of forming the digit; (2 marks)

(ii) the number of ways of forming the digit if the first digit is 2. (2 marks)

(b) Determine the standard deviation for the following set of data 3, 5, 7, 9 and 11. (6 marks)

8. (a) A straight line passes through the points $P(-1,-2)$ and $Q(-2,-8)$. Determine the equation of the line expressed in the form $\frac{x}{a}+\frac{y}{b}=1$. (7 marks)

(b) Without using a calculator, evaluate:

$$\frac{24\times 7!-28\times 6!}{4\times 7!}$$ (3 marks)

9. (a) Complete the table for the curve $y=2x^2+5x+1$ for values $-3\leq x\leq 1$. (4 marks)

x	-3	-2	-1	0	1
x^2	9		1	0	
$2x^2$	18		2		2
$5x$	-15	-10	-5	0	5
1	1	1	1	1	1
y					

(b) (i) On the grid provided, plot the curve of $y=2x^2+5x+1$ for $-3\leq x\leq 1$. (4 marks)

(ii) Determine the co-ordinates of the x intercept. (2 marks)

10. The weight in grammes of 40 buns prepared by catering students in a practical lesson were recorded as follows:

3, 7, 9, 9, 20, 14, 10, 6, 8, 13,
14, 3, 17, 13, 12, 8, 5, 15, 14, 15,
7, 12, 11, 6, 10, 19, 9, 14, 6, 9,
10, 16, 13, 9, 12, 11, 10, 7, 10, 11,

(i) Using a class width of 3 and starting with 3 - 5 as first class; prepare a frequency distribution table for the data. (5 marks)

(ii) State the modal class of the weight. (1 mark)

(iii) Calculate the mean weight of the data in the frequency distribution table. (4 marks)

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