2802/102
CATERING PREMISE AND MATHEMATICS
Oct./Nov. 2017
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN FOOD AND BEVERAGE MANAGEMENT

MODULE I

CATERING PREMISE 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 in section **A**.*
*Answer Question **6** (**compulsory**) and any other **THREE** questions in 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 (50 marks)

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

1. (a) Identify **two** types of sinks citing their functions. (4 marks)

   (b) Explain the purpose of each of the following control equipment in gas:

   (i) thermostat;
   (ii) pressure governor. (4 marks)

   (c) Highlight **four** disadvantages of using charcoal as a source of fuel. (4 marks)

   (d) Explain **four** ways of preventing cuts from cutting blades on machines. (4 marks)

   (e) Describe ceiling and wall in a building component. (4 marks)

2. (a) Outline the procedure of cleaning a gas boiler. (5 marks)

   (b) State **five** points to consider when choosing wooden chopping boards. (5 marks)

3. (a) Differentiate between each of the following:

   (i) silicone paper and general purpose paper;
   (ii) cling wrap and foil paper. (4 marks)

   (b) Explain **three** ways of saving energy when using a refrigerator. (6 marks)

4. Explain the uses of **five** fire extinguishers as used in catering establishment. (10 marks)

5. (a) Identify **two** emerging trends in kitchen design. (4 marks)

   (b) Highlight **three** factors that influence maintenance in catering premises. (6 marks)

SECTION B (50 marks)

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

6. (a) Simply $\frac{1}{9}\{3(3T-aT)-(4aT-6T)\}$ (4 marks)

   (b) A large piece of square table cover is made up from four equal square pieces. If the area of the table cover is 25,600 cm^2, determine the perimeter of one of the small square. (4 marks)

   (c) An empty carton weighs 150 g. Thirty packets of cooking fat each weighing 500 g are packed in the carton. Determine the weight of 40 such cartons full of cooking fat in kilograms. (4 marks)

(d) A saleswoman earns a salary of Ksh. 30,200 per month. She also gets a commission of 5% for goods sold above Ksh. 50,000. In one month, she sold items worth Ksh. 180,000. Determine her total earning that month. (4 marks)

(e) Figure 1 shows a pie-chart that represent how a farmer made use of his 48 hectares farm.

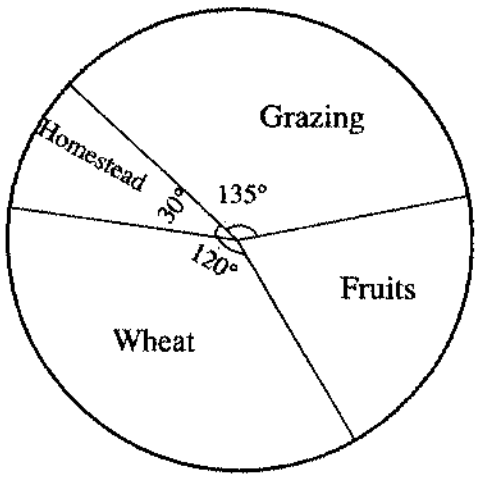

Fig. 1

Determine the difference between the numbers of hectares that were used for wheat with that of fruits. (4 marks)

7. The cost of manufacturing a product consist of raw material, labour and transport in the ratio 3:2:1. During the budget the cost is increased as follows, raw material 20%, labour 9% and transport 6%. Determine the percentage increase in the cost of manufacturing the product. (10 marks)

8. (a) A straight line passes through the points A(1,3) and B(2,8). Determine the equation of the line and express it in the form $\frac{x}{a}+\frac{y}{b}=1$. (5 marks)

(b) Without using a calculator evaluate $\frac{12 \times 6! - 20 \times 5!}{4 \times 6!}$ (5 marks)

9. Table 1 shows the distribution of marks for 120 students:

Table 1

Marks	30-39	40-49	50-59	60-69	70-79	80-89	90-100
No. of students	1	3	11	21	43	32	9

Calculate the:

(a) upper quartile; (6 marks)
(b) lower quartile; (2 marks)
(c) hence estimate the quartile deviation. (2 marks)

10. (a) Complete the table for:

$y = 2x^2 + 5x + 1$

x	-3	-2	-1	0	1
x^2		4		0	1
$2x^2$		8		0	2
5x	-15	-10	-5	0	5
1	1	1	1	1	1
y					8

(4 marks)

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

(4 marks)

(ii) State the minimum point of the curve. (2 marks)

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