

2802/102
CATERING PREMISES,
EQUIPMENT AND MATHEMATICS
June/July 2016
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 a non-programmable scientific calculator for this examination

*This paper consists of **TWO** sections; **A** and **B**.*

*Answer question **ONE** and any other **THREE** questions in Section **A**.*

*Answer question **SIX** and any other **THREE** questions from Section **B**.*

*Show all your working in Section **B**.*

*Answers to the questions **must** be written in the answer booklet provided.*

Maximum marks for each part of a question are indicated.

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 AND EQUIPMENT (50 marks)

Answer question **ONE (Compulsory)** and any other **THREE** questions in this section.

- ✓ 1. (a) State **one** function of each of the following small kitchen equipment:
- (i) colander; *drain*
 - (ii) conical sieve;
 - (iii) palette knife;
 - (iv) grater.
- (4 marks)
- (b) State **four** factors to be considered when choosing fuel in a catering establishment. (4 marks)
- (c) Identify the use of each of the following contents of a first aid box:
- (i) a card;
 - (ii) report book;
 - (iii) water proof dressings;
 - (iv) cotton wool.
- (4 marks)
- (d) Highlight **four** qualities of a good floor finishing for a production area. (4 marks)
- (e) Explain **four** disadvantages of using hard water. (4 marks)
- ✓ 2. (a) Identify **two** characteristics of soft water. (2 marks)
- (b) Explain the meaning of ball valve as used in cold water supply system. (2 marks)
- (c) Describe **three** manual methods of softening hard water. (6 marks)
boil, chlorinating
- ✓ 3. (a) Outline the procedure of cleaning a food slicer. (6 marks)
- (b) Highlight **four** measures a food and beverages establishment should put in place to prevent fire outbreaks. (4 marks)
- ✓ 4. (a) Explain the meaning of the term 'Environmental hygiene'. (2 marks)
- (b) Describe **four** types of waste disposal equipment. (8 marks)
- ✓ 5. (a) Differentiate between direct lighting and semi-direct lighting system. (4 marks)
incinerators, cess pool.
- (b) Explain **three** factors to be considered when selecting a location for hotel business. (6 marks)

Section
Section

SECTION B: MATHEMATICS (50 marks)

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

- ✓ 6. (a) Without using a calculator, evaluate:
 $8 - (-3) + (-5) - (+8)$. (4 marks)
- (b) A cateress spent Ksh. 4,000 on three commodities, Namely meat, rice and beans in the ratio 4:2:3 respectively. Calculate her expenditure on each commodity to the nearest Kenyan shillings. (4 marks)
- (c) In a class test, the mean marks of 30 boys and 20 girls were 60 and 70 respectively. Calculate the mean mark for the whole class. (4 marks)
- (d) Calculate the mean absolute deviation for the following set of a data:
 57, 55, 62, 52, 54, 45, 57, 66 (4 marks)
- (e) If a side of a square is increased by 10%, calculate the percentage increase in the area. (4 marks)

✓ 7. The following set of values are scores obtained by students in a continuous assessment test. Use if to answer the questions that follow:

~~12~~ ~~16~~ ~~24~~ ~~14~~ ~~16~~ ~~19~~
~~24~~ ~~12~~ ~~21~~ ~~25~~ ~~21~~ ~~24~~
~~16~~ ~~16~~ ~~25~~ ~~26~~ ~~29~~ ~~31~~
~~31~~ ~~13~~ ~~30~~ ~~28~~ ~~6~~ ~~4~~ ~~16~~

- (a) Complete table 1. (2 marks)

Class interval	Frequency (f)
4 - 8	11
9 - 13	111
14 - 18	1111
19 - 23	111
24 - 28	11111
29 - 33	1111

$1 - 24 - 6$
 $\frac{24}{6} = 4$
 $\frac{24}{18}$
 $\frac{46}{6}$

Table 1

- (b) Calculate the mean mark. (4 marks)
- (c) On the graph paper provided, draw a histogram for distribution in Table 1. (4 marks)

$\frac{26}{2} = 13$
 $\frac{16}{4} = 4$

(a) (i) nPr (ii) nCr

$$\frac{n!}{(n-r)!}$$

8. (a) (i) Complete table 2 for values of relationship $y = x^2 + 1$ (3 marks)

x	-3	-2	-1	0	1	2	3
y	10	5	2	1	2	5	10

Table 2

(ii) On the graph paper provided, plot the graph of $y = x^2 + 1$ from $x = -3$ to $x = 3$ using a scale of 2 cm to 1 unit on x-axis and 1 cm to 2 units on y-axis. (4 marks)

(b) Jane bought a micro-wave for Ksh. 15,000 and sold it at a profit of 20%. Calculate the selling price. (3 marks)

formula ✓

(i) nPr
(ii) nCr
 1234
 1234

9. (a) In a supplementary examination room, there are 4 boys and 3 girls. In how many ways can they be seated in a line if;

(i) The girls are not kept necessarily together. nPr (2 marks)

(ii) The girls are kept together. nCr (4 marks)

(b) Figure 1 shows a circular ring enclosed by two concentric circles whose radii are given as $R = 4$ cm and $r = 3$ cm. (4 marks)

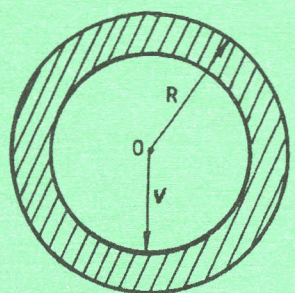


Fig. 1

Calculate the area of the circular ring. (4 marks)

10. (a) A basket has four ripe oranges and six unripe ones. Two oranges are picked at random one after another without replacement. Determine the probability that:

(i) Both are unripe. (2 marks)

(ii) Only one is ripe. (3 marks)

(iii) At least one is ripe. (3 marks)

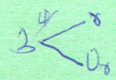
(b) State two types of sampling techniques used in research. (2 marks)

$\frac{20}{100} \times 15000$
 15000
 3000

$\frac{120}{100} \times 15000$
 18000

$P.P = \frac{P}{S.P} \times 100$
 $\frac{2000}{15000} \times 100$
 13.33%

$\frac{20}{100} \times 10$
 2



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