

0801/205

0802/205

0803/205

SUPPORT SUBJECTS

July 2022

Time: $2\frac{1}{2}$ hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

ARTISAN CERTIFICATE IN CLERK/TYPIST
ARTISAN CERTIFICATE IN SALESMANSHIP
ARTISAN CERTIFICATE IN STORE KEEPING

SUPPORT SUBJECTS

$2\frac{1}{2}$ hours

INSTRUCTIONS TO CANDIDATES

This paper consists of 22 questions in TWO sections; A and B.

Section A consists of Mathematics - Part I and Part II. Answer ALL questions in Part I and any TWO questions from Part II.

Section B consists of General Studies - Part I and Part II. Answer both questions in Part I and any SIX questions from Part II.

Answers should be written in the answer booklet provided.

All questions carry equal marks.

Candidates should answer the questions in English.

This paper consists of 8 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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Turn over

SECTION A: MATHEMATICS

PART I (30 marks)

Answer **ALL** the questions in this section.

1. Compute 3.74×53.98 and give the answer in:
 - (i) 3 significant figures;
 - (ii) 3 decimal places.(3 marks)
2. An equilateral triangle has sides measuring 120 cm each. Calculate the area of the triangle. (3 marks)
3. Make C the subject of the following formula:
$$f = \frac{9}{5}C + 32.$$
(3 marks)
4. The area of a circle is 2464 m^2 . Determine the radius of the circle. (3 marks)
5. Musa bought a bicycle at a certain price and sold it at Ksh.6400 making a loss of 20% on cost. Determine the buying price. (3 marks)
6. The masses of five members of a family are 20 kg, 30 kg, 35 kg, 70 kg and 100 g. Determine the mean mass. (3 marks)
7. Calculate the surface area of the following pyramid:

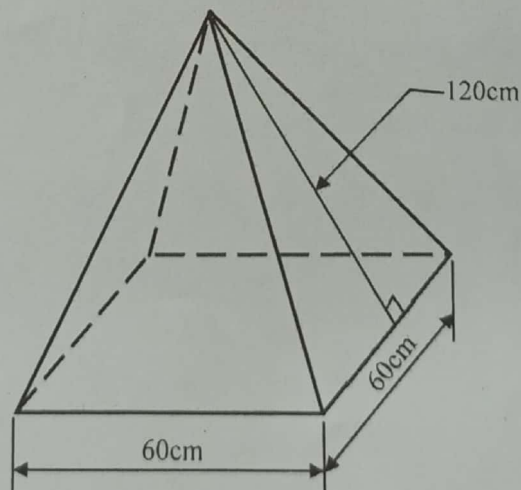


Fig. 1

(3 marks)

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8. Solve for x in the following equation using completing the square method:
 $x^2 - 18x = -45$.
 (3 marks)
9. Plot a graph of the equation $y = 3x + 1$ on the graph paper provided.
 (3 marks)
10. The three sides of a right angled triangle measures 5 cm, 12 cm and 13 cm. Calculate the size of the smallest angle.
 (3 marks)

PART II (20 marks)

Answer any TWO questions from this part.

11. (a) A trader bought 42 kg of coffee grade A at Ksh.720 per kg and 18 kg of coffee grade B at Ksh 570 per kg. He mixed the grade A and grade B coffee and sold the mixture at a profit of 30% on cost. Calculate the selling price per kg of the mixture.
 (5 marks)
- (b) A square field has an area of 100 hectares. The field is fenced with barbed wire running four times round. One roll of the barbed wire is 610 meters long and it costs Ksh 3700. Calculate the total cost of the barbed wire used.
 (5 marks)
12. (a) A livestock trader sold a cow for Ksh 60,000 making a profit of 20% on cost. He also bought a goat at Ksh 5,000 and sold it at a profit of 50% on cost. Calculate the percentage profit made on the sale of both the cow and the goat.
 (5 marks)
- (b) On 1st January 2020, a company had 200 employees who earned an average monthly salary of Ksh.15,000. On 1st March 2020, the company increased its labour force by 10%, thereby increasing the total wage bill to Ksh.3,200,000. Determine the average monthly salary of:
 (i) new employees;
 (ii) all employees in March 2020.
 (5 marks)
13. (a) A rectangular piece of land has a perimeter of 300 m and an area of 5000 m². Determine the length and the width of the land.
 (5 marks)
- (b) A ship is observed from the top of a cliff 500 m high. As it moves away from the cliff, the angle of depression decreases from 45° to 15.5° within 90 seconds. Calculate the speed of the ship in km/hr.
 (5 marks)

SECTION B: GENERAL STUDIES

PART I (20 marks)

Answer **BOTH** questions in this part.

14. On 1 July, Nyota Traders had Ksh.1000 in cash and Ksh.9000 at the bank. During the month of July the following transactions took place:

- July 8 Cash sales amounted to Ksh.24,000
15 Purchased goods and paid Ksh.19,000 in cash.
19 Received a cheque of Ksh.5,400 from kipkoech.
22 Withdrew Ksh.7,000 from the bank for personal use.
25 Withdrew Ksh.10,000 from the bank for office use.
30 Paid salaries of Ksh.6,000 in cash

Prepare a two column cash book for the month of July 2020 on the format provided below:

Two Column Cash book

Date	Particular	Cash	Bank	Date	Particulars	Cash	Bank

(10 marks)

15. *Read the passage below and answer the questions that follow.*

A 2017 report shows that the number of Kenyans using safety managed sanitation stood at 20 per cent. This means that 80 per cent of Kenyans were using **unsafe** sanitation services. Poor sanitation is linked to transmission of diseases such as cholera, diarrhoea and dysentery among others. Poor sanitation results from poor management of human waste which is filthy and can be a source of disease. However, human waste can also be a source of water, fertilisers, manure and energy if managed well.

At a time when the government is struggling to find a solution to the sanitation problem affecting millions of Kenyans, some communities and county governments have tried to address the problem. They have turned to technologies to treat and recycle human waste. The treatment involves separation of urine and faeces. The faeces are then treated through heating at very high temperatures to kill pathogens and remove the **odours**.

There are several benefits of recycling human waste. Top on the list is turning waste into carbonised briquettes which are sources of green energy for use at home, factories and institutions. Use of this green energy is beneficial because it has replaced the use of charcoal and firewood, saving trees and forests.

In addition, there has been a major decline in the outbreak of water borne diseases. This has not only reduced the number of premature deaths but has also reduced the cost of medication and productivity losses related to water born diseases. Besides, the environment is cleaner and more conducive for human habitation. Children can also play without fear of contaminated sewage water or drowning in open sewerage systems. Further, recycling has minimised flying toilet menace which caused a lot of air pollution.

Recycling has also led to production of biogas for lighting and heating and clean reusable water. Such water is used to irrigate gardens, flush toilets and wash cars among others. If purified further, the water can be used for human consumption. The solid waste can also be converted into fertiliser which is used in farming. Moreover, waste recycling has reduced the problem of abandoning pit latrines whenever they become full. Such latrines were a **disaster** during the rainy season because waste would be washed away spreading raw human waste.

Recycling of human waste has received a lot of support from the private sector, NGO's and other well wishers. It is hoped that in future, plastics, garbage and other forms of waste will be recycled not only as a conservation method but also as a strategy to maximize resource utilization.

Adapted from "Daily Nation, Tuesday, September 10th, 2019.

(a) State the meaning of each of the following words as used in the passage:

- (i) unsafe;
- (ii) odour;
- (iii) disaster;

(3 marks)

(b) Explain, according to the passage, the benefits of recycling human waste.

(7 marks)

PART II (30 marks)

Answer any SIX questions from this section.

16. (a) List **three** ways of minimizing language barriers in communication. (3 marks)

(b) State **two** characteristics of a good reports. (2 marks)

17. (a) The following sentences contain errors.

Identify the errors and rewrite each of the sentences correctly. (3 marks)

- (i) The river flowed very swift down stream.
- (ii) Ismael went for work very early.
- (iii) Who's money is this. Asked John.

(b) State **two** uses of reports in an organisation. (2 marks)

18. (a) List **three** benefits of the Harambee spirit in Kenya. (3 marks)

(b) State **two** reasons why polygamy is on the decline in Kenya. (2 marks)

19. (a) List **three** measures that may be taken to reduce crime in Kenya. (3 marks)

(b) State **two** ways of reducing floods in a country. (2 marks)

20. (a) List **three** benefits of sports and games to participants. (3 marks)
- (b) State **two** advantages of selling goods in a local market. (2 marks)
21. (a) List **three** functions of banks. (3 marks)
- (b) State **two** ways in which a business can promote good relations with customers. (2 marks)
22. (a) List **three** revenue expenses in a small business. (3 marks)
- (b) List **two** methods of preserving food. (2 marks)