456/1MATHEMATICS
Paper 1
February, 2025  $2\frac{1}{4}$  hours

## Uganda Certificate of Education

## MATHEMATICS

## Paper 1

2 hours 15 minutes

## **I**STRUCTIONS TO CANDIDATES:

This paper of two sections; A and B. It has six examination items.

Section A has two compulsory items.

Section **B** has **two** parts; **I** and **II.** Answer **one** item from each part.

Answer **four** examination items in all.

Any additional item(s) answered will **not** be scored.

Add answers **must** be written in the answer sheets provided.

**G**aph paper is provided.

Stephent, non-programmable scientific calculators and mathematical tables with a list of formula may be used.

## SECTION A

## Answer all items in this section

## Downloa Item 1

Prosy is supposed to pay UGX 4,500,000 per year at the University. This amount is divided in the ratio 4:3:3 for her fees, accommodation and meals respectively. She is supposed to pay 60% of the fees in the first installment, pay a third of the remainder of the fees in the second installment and the rest of the fees in the taird installment.

Prosy is supposed to get the money for her fees from a mobile money agent using a<sup>2</sup>4-digit code. For safety reasons, her father gave her the code written as 432 in base ten and Prosy has convert this code to base six to get the actual code.

How much will Prosy pay for fees in the last installment?

How much money will Prosy pay for accommodation?

Help Prosy to determine the actual code for withdrawing the money from the mobile money agent.

## Visite (a) Ho (b) Ho (b) Ho (c) Ho (c) Ho th Item 2

Your uncle has rectangular garden that has a length that is 4 meters more twice its width. If the area of the garden is 96 square meters and your uncle wants to know the actual length of the garden so that he can reserve a small portion of the garden of the garden for the store. He has approached you for assistance.

He normally plants beans and maize. In the first rainy season he planted three bags of beans and six bags of maize and planted 72 square meters. In the second rainy season, he planted four packs of beans and five bags of maize and planted 66 sequare meters. This year in the first season, he plans to plant five packs of beans and four packs of maize, but he is not sure how much space of the garden will be used.

materials

What is the actual length of the garden?

Help your uncle know how much space in square meters each pack of beans and maize can plant.

Account for how much space he will plant in this season.

## SECTION B

This section has two parts I and II Part I

Answer one item from this part

# Task: (a) W (a) H (a) H (a) A (a) A (b) A (b) A (c) W (c) W (c) M (c

Your guardian realizes during holidays that he may find it difficult to pay for sports uniform at the beginning of term three. He decides to keep you busy during the last week of your holiday moving around the village buying cabbages.

Before displaying the cabbages for sale, you measure and record their weights in gams as follows:

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and o	56	55	38	37	52	42	47	52	42	42	54
Tas	k:										
du and the second secon	Using a suitable statistical method, find the average weight of th										
ion	cabbages.										
mæri	What is the median weight of the cabbages?										
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## Igem four

In your class there are 50 students who play three games, namely Chess, Tennis and Volleyball, 24 play Chess, 26 play Tennis and 29 play Volleyball, 9 play both creases and volleyball, while 13 play both tennis and volleyball, 11 play both Chess and Tennis. Each of these students play at least one of the three games. The class teacher wants to register your class team in the district games if the probability that a student selected and plays at least two games is greater than 50%.

## Task:

com visit

Should the class teacher register the team or not? Justify your answer.

## Part II

## Answer one item from this part

## Iem five.

Your school head teacher has just received a requisition from the Maths department for the acquisition of a new lap top. He went to town and saw this following is an advertisement of a lap top. He doesn't have the full amount now to pay cash.

## GET YOURSELF A PHOTOCOPIER CHEAPLY WHILE STOCK LASTS:

TERMS: CASH AT USH 960,000

ŶR HIRE PURCHASE: DEPOSIT 15% OF MARKED PRICE AND PAY EITHER USH. 75,000 WEEKLY FOR 12 WEEKS OR USH. 245,000 MONTHLY FOR 4 MONTHS.

With reasons guide the head teacher on which payment term to opt for.

## Item six

A stubborn bull is tethered on a rope in the center a triangular field of grass which is surrounded by maize, cassava and beans. Given that the field measures 11m by 95m by 8.5m. he doesn't want the goat to eat any of the maize outside the garden. He wants to know the length of the rope of the triangular so that the goat does not est the maize outside the garden.

## Task:

Determine the length of the rope that should be used to tether the goat.

## END