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MATHEMATICS

Paper 1

July/August 2026

2 ¼ Hours



MUKONO EXAMINATION COUNCIL 2026

Uganda Certificate of Education

MATHEMATICS

Paper 1

2 Hours 15 MINUTES

INSTRUCTIONS TO CANDIDATES:

- *This paper is composed of two Sections A and B*
- *Both items in Section A are compulsory*
- *Attempt only one item from each part of Section B*
- *No additional items attempted will be scored*
- *All answers should be written on answer booklets provided*
- *Use a scientific non-programmable calculator and mathematical logbook for a list of formulae.*

SECTION A

(Attempt all items in this section)

ITEM ONE:

In the current year 2026, S.4 students are greater than those of the previous year by 12.5%. The total number of students in the previous year were 1600. The ratio of boys to girls in the current year is 29 : 31 respectively. The organising committee of the current year's leavers party, want to form groups with each group having an equal number of boys and girls. Given that each group will be given a theme to govern their dress code, they need to know how many themes they are to develop.

In the previous year, each student contributed Shs.40,000 towards the party. This year, students have agreed that each will contribute an amount that is $2\frac{1}{2}$ of the amount those in the previous year contributed. The school administration usually contributes 0.25 of the total amount expected from students. The committee needs to know the total amount they can budget for.

TASK:

- How many themes will the organising committee have to develop?
- How much money is the organising committee to budget for?

ITEM TWO:

Bus drivers of a certain bus company are advised to maintain an average speed of 45km/hr. After driving a journey of 300km in 6hours, one of the supervisors interviewed one of the passengers about the speed at which the driver drove. He wanted to confirm whether the driver respected the required average speed or not.

According to the passenger, the driver drove at a low speed due to bad roads for the first 120km. However, he later increased the speed by 20km/hr for the remaining journey since roads were clear and smooth.

TASK:

Did the driver maintain the required average speed or not?

SECTION B PART ONE

(Attempt only one item from this part)

ITEM THREE:

An art teacher who deals in printing logos on T-shirts, was requested by candidates to buy and make them T-shirts in colours of black, white and purple featuring the theme of their leavers party.

To acquire T-shirts at a whole sale price, the teacher had to wait until the percentage of learners who had not paid for any of the T-shirts made at most 30%.

By the end of the week in which they made a request, out of the 1000 candidates, 350 had paid for black T-shirts. Those who had paid for white T-shirts were 335. Those who had paid purple T-shirts 325. Those who had paid for purple T-shirts only were 75. Those who had paid for white and purple t-shirts only, were three times those who had paid for T-shirts of all colours. Those who had paid for black or white T-shirts were 590. Those who had paid for black and purple T-shirts exclusively, were greater than those who paid for T-shirts in all colours by 55. Some had not yet paid for any T-shirt.

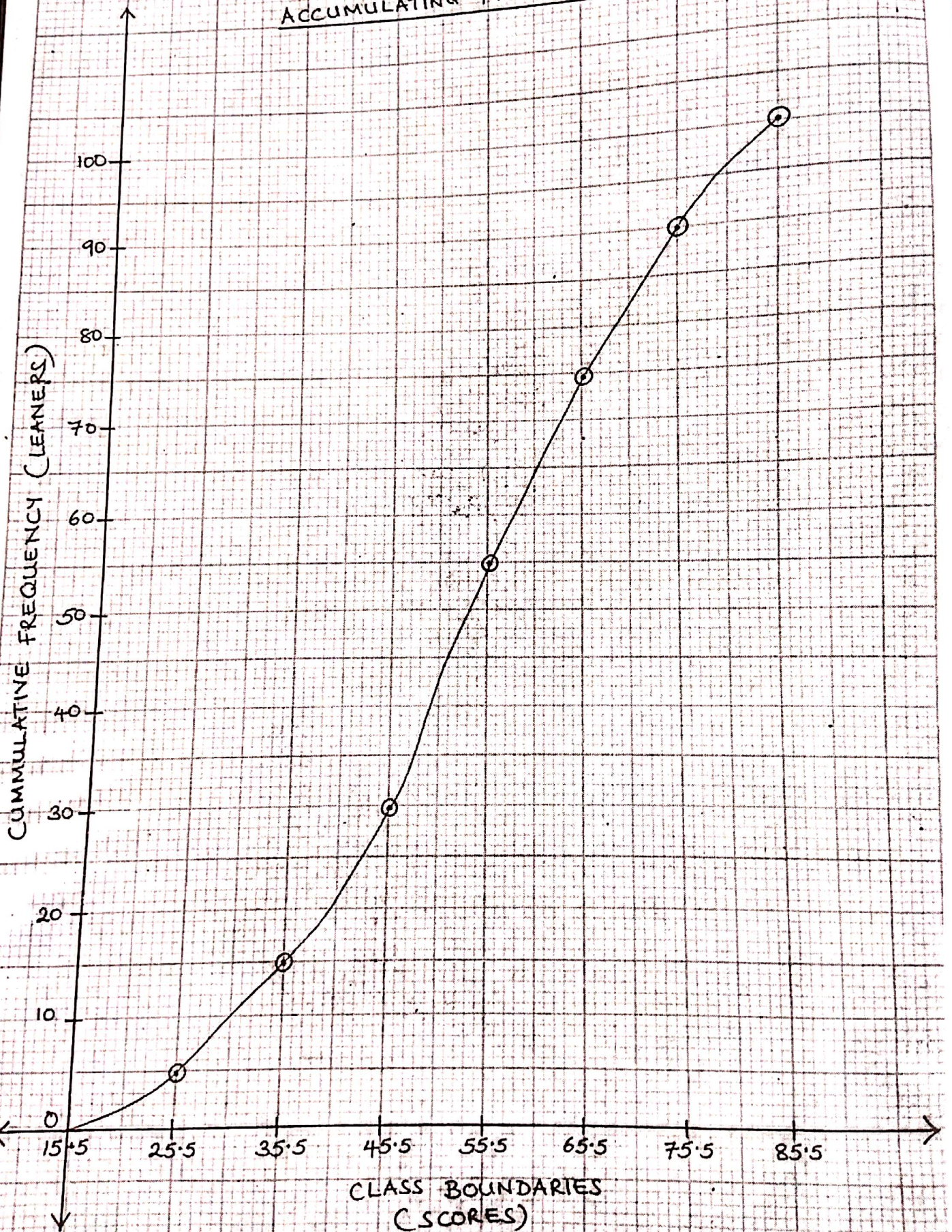
TASK:

- How many candidates had paid for T-shirts by the end of the week within which they made the request?
- Will the teacher be able to purchase T-shirts in the following week? (Justify your answer).

ITEM FOUR:

The head teacher in school X realised that new candidates were struggling in English subject within S.3. To improve their performance, she hired a new technical teacher. Before the new teacher lays strategies to help the learners, she requested for an analysis of S.3 term three scores and was given a graph below:

ACCUMULATING FREQUENCY CURVE



The teacher needs help to analyse the graph and find out the

- i. The average score of learners.
- ii. The score that majority of the learners got.
- iii. The percentage of learners who got the desired score of 75% and above.

TASK:

Help the teacher to:

- a) Generate a table of original scores before analysis.
- b) Find out what she needs to lay better strategies to help learners.

PART TWO

(Attempt only one item from this part)

ITEM FIVE:

Mark and Musa plan to start a business together. They plan to make an appointment to meet and discuss whether to acquire a loan of Shs. 40,000,000 at a simple interest rate of 12% per annum payable in 54 months from a SACCO they are affiliated to or to acquire it from the bank that offers the same amount at a compound interest rate of 10% payable at the same time.

Mark is to travel from A to B and Musa is to travel from B to A. The two places are 100km apart. They want to meet at a place that is in a distance and at a time they expect to cross paths given the way they both expect to travel respectively. Mark is to set off from A at 8:00am and drive for 48mins for the first 40km. He expects to be stationary in jam for around 20min, then drive at a constant average speed of 50km/hr for the remaining journey. Musa is to set off from B 1hour from the time Mark is to set off. Since the return journey has no jam, he is to drive at a constant average speed of 45km/hr to A.

TASK:

- a) Where do you advise the two friends to acquire a loan from? (justify your answer)
- b) At what time can they schedule to meet, and the place should be in how many km?

ITEM SIX:

A carpenter was ordered to make 5 round tables that can seat six people. The top diameter of such a table is equivalent a diameter of a circle that touches all corners of the top of a rectangular table that seats six people. Such a table measure 180cm in length and 90cm in width. He is to paint a one-layer coat of varnish on tops of all tables. Given that 1liter of vanish paint covers $12m^2$ per coat, he needs to know whether the 1liter tin he has will be enough for all tops. ($1m = 100cm$)

To deliver the tables at place C which is 135° from A where the workshop is, they must travel through B which is south of A then from B they head to C which is east of B since there is no direct route from A to C. The coordinates of A and B on a grid in km are (2,3) and (11,15) respectively. Given that the car they are to use has a fuel consumption of 12km per liter, they need to know how much fuel they will need for a journey to and from.

TASK:

- With aid of a scale drawing, determine whether the tin of varnish paint will be enough for all tables?
- How much fuel will they need for a journey to and from?

END