Name……………………………………………………………….Stream…….

APEX EXAMINATION COUNCIL

END OF TERM ONE 2025

S.3 MATHEMATICS

Time: 2 hours

INSTRUCTIONS:

➢ ATTEMPT ALL ITEMS

➢ GRAPH PAPER IS PROVIDED

> NEAT WORK IS A MUST

ITEM ONE: (Market Mathematics - Namusoke and Ssewanyana)

A market vendor, Namusoke, sells sweet potatoes in one of the markets. One day, she bought 12 bags of sweet potatoes, each containing 15 sweet potatoes, from a farmer. She sold 25% of the total number of bags before her longtime friend, Ssewanyana, came to visit her and decided to take her out for coffee at a hotel. At the hotel, Ssewanyana ordered 2 cups of tea, each costing UGX 5,500, and 2 plates of food, each at UGX 6,000. While enjoying the meal, Ssewanyana told Namusoke that he comes to the hotel gym every after 5 days, and she decided to be coming there too every after a week to exercise. After the meal, Ssewanyana gave Namusoke UGX 30,000 for transport back to the market. On reaching the market, she found 1/3 of the remaining bags of sweet potatoes damaged and could not be sold. She decided to re-pack the undamaged ones in new bags of 6 sweet potatoes each.

Tasks:

(a) What percentage of the number of sweet potatoes got damaged?

(b) How many bags of 6 sweet potatoes did she re-pack?

(c) After how many days will Namusoke meet Ssewanyana again at the hotel gym?

(d) How much money (in words) did Ssewanyana spend on the outing?

(e) If Namusoke sells each bag of sweet potatoes at UGX 12,000, how much money will she make from selling the undamaged bags?

(f) What is the total number of sweet potatoes Namusoke bought from the farmer?

(g) If Ssewanyana comes to the hotel gym every after 5 days, how many times will he come to the gym in 30 days?

(h) What is the ratio of the number of bags of sweet potatoes Namusoke sold to the number of bags she repacked?

ITEM TWO: (Babra Chapati Business)

Babra is a managing director of a chapati business. She has to pay UGX 6,000 per day for rent and UGX 3,000 per day for her employee's salary. Each chapati costs her UGX 200 to make, and she sells each chapati for UGX 500. In addition to her daily operations, Babra plans to purchase a new computer for her business at a cost of UGX 1,500,000. To complete the purchase, the system requires a two-digit PIN code that follows these conditions:

- The first digit is three less than the second digit

- The sum of the two digits is 7

Tasks:

(a) Write an expression for Babra's total daily expenses if she makes and sells x chapatis.

(b) Write an expression for her total income if she sells x chapatis.

(c) Determine the minimum number of chapatis Babra must sell each day to make a profit.

(d) What is the correct PIN code for the computer order based on the given conditions?

ITEM THREE: (Kasese Seed Distribution & Lorry Logistics)

In Kasese County, Bundibugyo District, the government has initiated a program to distribute high-yielding seeds to farmers in four parishes: Ekyama, Kabuweji, Konge, and Kibuli. Each parish receives a proportionate share of seeds based on its land area:

- Ekyama: 25 parts

- Kabuweji: 18 parts - Konge: 32 parts

- Kibuli: 22 parts

The government has procured 12,000 packets, which must be distributed fairly among the parishes. To transport the seeds, two lorries are dispatched:

A Tata lorry leaves Ekyama at 12:00 noon, traveling at 50 km/h for 1 hour to Konge, where it stops for 30 minutes to deliver seeds. It then continues to Kabuweji at 60 km/h.

Meanwhile, an Isuzu lorry leaves Kabuweji at 12:30 pm, traveling 1 hour at 40 km/h, and then changes speed to V km/h, aiming to arrive at Ekyama by 4:30 pm.

The two lorries will meet along the 200 km route between Ekyama and Kabuweji, exchanging seeds to ensure efficient distribution. Tasks:

(a) How many packets of seeds will each parish receive? (Use a pie chart to support your answer)

(b) Using a distance-time graph, help the local leaders to determine :

(i) The distance and time from Ekyama when the two lorries will meet

(ii) The time of arrival for the Tata lorry at Kabuweji

(iii) The speed V of the Isuzu lorry