JOURNEY OF SUCCESS EXAMINATIONS BOARD

UGANDA LOWER SECONDARY SCHOOL CERTIFICATE OF EDUCATION

PRE-MOCK ASSESSMENTS

MATHEMATICS

DURATION: 2 HOURS : 15 MINUTES

INSTRUCTIONS TO CANDIDATES.

- *This paper consists of section **A** and section **B**.Attempt any **four items** from all.*

- *Section **A** has two compulsory examination items.*

- *Section **B** has two parts; part **1** and part **II**. Choose one question from each part of section **B***

- *Start every question from a flesh sheet of paper. Relevant illustrations may be used.*

- *Use only blue/ black ink-pen for writing.*

- *silent non programmable scientific calculators may be used.*

SECTION A (COMPULSORY)

ITEM 1

Mzee kayega sent his two daughters (AISHA and PEACE) for their school shopping. Aisha was given shs68,000 and Peace was given shs26,000. While in the shopping, Aisha used half of her money and she was given 4 pens and 12 books and kept the rest for up keep. Peace used all her money and she was given 6 pens and 8 books. After reaching school, peace was told to add more two books and more 2 pens yet she had no money. *She asked her sister Aisha to help her*.

TASK

a) Help peace to determine the total amount of money that she now needs.   **(08 scores)**

b) If Aisha gives peace all the money in (a) above, how much will she remain with?   **(06 scores)**

c) Using her balance, how much can Aisha now spend on every day if a term has 7 weeks and 5

   days remaining to the end?,   **(06 scores)**

ITEM 2

ERIC wanted to start a farm in Nyenga town but he had to seek for permission from the town clerk. Since Nyenga is a town, ERIC was supposed to fence his land before the farm can be allowed to start. He was given a document showing the restrictions and the demarcations that he must follow. These included;

- $y - 2x < 8$,
- $5y - 2x < 32$,
- $y > 2$
- and $x < 4$

In these conditions, he was told that **x** represents the number of cattle and **y** represents the number of goats he can have on the farm. Every cattle is bought at 1.5million but sold at 1.8millions and every goat is bought at shs250,000 but sold at shs300,000.

He has failed to interpret the conditions and he now needs your help.

Task

a) Make a suitable illustration that can be used to interpret this situation of restrictions and

   demarcations.   **(10 scores)**

b) Help ERIC to determine the possible number of animals of each type that he can have on

the farm. **(04 scores)**

c) What is the maximum capital he needs to buy all the required animals and the amount he can

earn? **(06 scores)**

SECTION B
PART I
Answer only one (1) item

ITEM 3

Kajimu a boda boda man started his journey from **Iganga** at 7:00am cycling towards **kamuli** via **kaliro**. While on his journey, he was knocked down by an unkown vehicle in **kaliro** (*40km away from Iganga*) at exactly 11:00am . The police arrived but they realised that the vehicle that caused the accident just continued driving towards **kamuli**(*120km away from Iganga*).

The police has caught two suspected vehicles and these include;

* A bus that started at 8:30am from **iganga** and reached **kamuli** 04:00pm using a constant speed.

* A tax that started at 7:30am from **iganga** and also reached **kamuli** at 04:00pm using a constant speed.

The police is stranded and needs your help such that they can help the sick kajimu.

Task

a) Help the police and draw a suitable illustration showing all the movements of the three vehicle

involved. **(10 scores)**

b) Use your illustration to guide the police in determining the vehicle that knocked kajimu.

(04 scores)

c) Make evidence about the speeds that all these vehicles were using before the accident.

(06 scores)

ITEM 4

KAJUBI who is a shop attendant in MANDE's shop was told to make the shopping weekly in oder to keep the business records. Kajubi bought and sold items in **june** as follows;

Week 1:   5 sucks of sugar, 4 boxes of soap and 3 crates of soda.

Week 2:   2 boxes of soap, 4 sucks of sugar.

Week 3:   3 sucks of sugar and 4 crates of soda.

Week 4:   1 suck of sugar, 5 boxes of soap and 2 crates of soda.

Every suck of sugar was bought at shs180,000 but sold at shs200,000 , a box of soap has 24 bars and each bar is bought at shs3,000 but sold at shs3,500 while each crate of soda is bought at shs18,000 but sold at shs22,000.

Kajubi is supposed to make a clear record of his WEEKLY stock, expenditure, income and profits for accountability. He lacks the best knowledge and a mathematical technique to do all the above. He can only keep the job if he makes a profit.

TASK

a) Help kajubi to make all the above weekly records for the month of June.   **(04 scores)**

b) What was the total stock in June?   **(04 scores)**

c) Help kajubi to determine his overall financial performance in buying and selling to keep the job

(12 scores)

PART II

Choose only one (1) item.

ITEM 5

James is a married man with a big family but he wishes to educate all of them very well. His older sons (Michael aged 18 years and Tom aged 21 years) are going to the university for further studies. Each of them is required to have a laptop and he has found the shop selling them at a cash price of 1.5M each. He has agreed with the shop keeper to give him a discount of 5% on each laptop before he pays an initial deposit and followed by installments of shs90, 000 per month for two years since he cannot pay in cash. Due to lack of money, he got a loan of sh2500, 000 from a bank at a simple interest rate of 5% per annum. He is to use
40% of the loan as the deposit for the two laptops and the rest as university fees

James must handle this situation with his monthly pay of shs750, 000 including a monthly allowance of shs100,000 yet he is also taxed as follows

EARNING	TAX RATE
<100,000 ....…..	0
-< 200,000.............…...…	10%
-<300,000...............…..	15%
-<400,000...............…..	20%
-<500,000...............…..	30%
-<600,000.............…..	40%
600,001 +...............…..	45%

James is stranded and he needs your help on the following;

a) How much will he buy the laptops at the end of the two years? **(04 scores)**

b) The amount for the loan that he must pay **(04 scores)**

c) His net SALARY per month? (04 **scores)**

e) The money he can pay per month to complete the loan that he got (04 **scores)**

f) After paying all his monthly charges above, how much can he save per month? (04 **scores)**

ITEM 6

Mzee Nsubuga's home is located near four major towns,

Town **A** is directly 5km to the south *(down wards)*,

Town **B** is 4km to the east (right) but 6km northwards *(up),*

Town **C** is 4km to the west *(left)* but 2 km to the south *(downwards)*,

Town **D** is 4km to the west *(left)* but 12 km north wards *(up).*

There is a road connecting **A** to **C** and a road from **B** to **D**

Jane left Mzee Nsubuga's home and went to town **A** while john left Mzee Nsubuga's home to go to town **B**.

Jane then moved straight to town **C** while John then moved straight to town **D** with an intention to meet somewhere. They are not sure whether it will be possible for them to meet

Task

a) Find out whether these two straight roads can enable them to meet any where?

(06 scores)

b) What is the total distance that;

      i) Jane moved to reach town **C**   (03 scores)
     ii) John moved to reach town **D**   (03 scores)

c) Who will spend more if Jane uses shs2500 for every km and john uses shs3000 for every km moved?   **(04 scores)**

d) Determine the shortest distance that John can move to meet Jane at town **C** from

(04 scores)

END