NAME: _____ SIGNATURE: _____

ASK INTERGRATED TEACHERS' MOCK EXAMINATIONS BURREAU

AITEL EXAMINATION

Certificate of Education

S.3 MATHEMATICS

END OF TERM II SUMMATIVE ASSESSMENT

DURATION: 2 Hours 30 minutes

INSTRUCTIONS:

This paper consists of two sections A and B

All questions are compulsory

Show all the necessary working in the spaces provided

For numerical work, silent non-programmable scientific calculators may be used.

Be neat

Do not write anything in boxes labelled "for examiner's use only"

For examiner's use only	
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SECTION A

1. (a) Study matrix P below.

$$\mathbf{P} = \begin{bmatrix} 0 & 4 \\ 1 & -6 \\ 2 & 3 \end{bmatrix}$$

(i) Of what order is matrix P? (02 marks)

(ii) Rewrite the rows of P as columns and the columns as rows, Of what order is the new matrix? (02 marks)

(b) Kataza is a senior three learner at Standard High School-Kapeeka. She sells fruits at the local market to raise money for her scholastic materials and other personal requirements. She majorly deals in apples, mangoes and pawpaws. She sells each fruit at UGX 1,000, UGX 500 and UGX 3,000 respectively. In a particular week, she recorded her daily sales as shown in the table below.

ITEMS	Monday	Tuesday	Wednesday	Thursday
Apples	13	9	7	15
Mangoes	8	7	4	6
Pawpaws	6	4	0	3

(a) Write down a 4x3 matrix for the number of fruits sold in that week (02 marks)

(b) Write down an appropriate matrix for the selling price of the items (02 marks)

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(c) Find the total sales for the four days. (08 marks)

2. Study the newspaper advertisement below.

18 THE NEW VISION
Tuesday, August 10, 2023

NEW! NEW! NEW!

BRAND NEW PRINTER FOR SALE

HIRE PURCHASE: Deposit 2,000,000 and 18 monthly installments of UGX 700,000 each

CASH PURCHASE: UGX 15million with 5% Cash discount.

Buy quality and get value for money

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Calculate the percentage saving one would make by paying cash rather than monthly hire purchase (16 marks)

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3. (a) Owori earned UGX 5,000,000 and he wanted to invest the money in a savings account. There are three banks; Centenary, Stanbic and DFCU. Centenary offers a 1% compound interest paid monthly, Stanbic offers a 12% compound interest paid annually and DFCU offers a 3% compound interest paid every 3 months. Which bank should he invest in? (10 marks)

(b) The Headset below costs 190 British pound sterlings. Determine the cost of the player in UGX given that 1£=$1.03 and 1$=UGX 3,665. (06 marks)

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4. Mrs Ssekulima earns a gross annual income of UGX 37,000,000. The first UGX 800,000 taxable income is taxed at 10%, the next UGX 900,000 at 20% and the balance at 30%. She is entitled to a non-taxable monthly allowance of UGX 185,000. Calculate her

   (a) Monthly taxable income (0 4 marks)

   (b) Income tax (1 2 marks)

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5. (a) Mr Mukasa records at his farm show that 18 heads of cattle eat 9 sacks of dried grass, how many heads of cattle will eat 33 sacks of dried grass in order to take the same duration of time as the 18 heads? (0 4 marks)

(b)An ice cream shop keeps records of how much ice cream they sell versus the average temperature of that day. The table below shows the figures for 9 days.

Temperature ($°C$)	Ice cream sales (in thousands)
14	215
15	325
12	185
16	332
19	406
22	522
19	412
25	613
23	544

(a) Plot the data to obtain a scatter graph. Draw the line of best fit (0 9 marks)

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(b) Determine the ice cream sales when the temperature is 18 (0 1 mark)

(c) What is the relationship between ice cream sales and average temperatures of the days? (0 2 marks)

END

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