456/1
MATHEMATICS
PAPER 1
July/August 2023
2½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

MATHEMATICS

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *Answer **all** questions in section **A** and any **five** questions from section **B**.*
- *Any additional question(s) answered will not be marked.*
- *All necessary calculations **must** be done in the same answer booklet/sheets provided, with the rest of the answers. Therefore no paper should be given for rough work.*
- *Graph paper is provided.*
- *Silent non-programmable scientific calculators and mathematical tables with a list of formulae may be used.*

SECTION A (40 marks)

Answer **all** *questions in this section.*

1. Given that $x \Delta y = x^2 - 6y^2$, evaluate $(3 \Delta 6) \Delta 4$. (4 marks)

2. The bearing of point A from point B is 210^0.
Find the bearing of point B from point A. (4 marks)

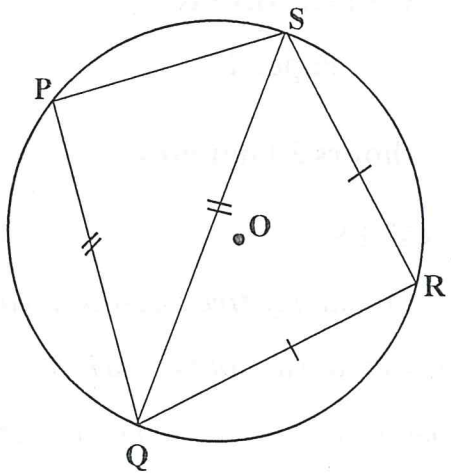
3. Given that matrix $P = \begin{pmatrix} 3 & 0 \\ 5 & 1 \end{pmatrix}$. Show that $P^2 - 4P + 3I = 0$ where I is the identity matrix of order 2 by 2. (4 marks)

4. Factorise completely $12p^2 - 27q^2$. (4 marks)

5. A school bus carries 78 passengers when full. The bus has a total of 30 seats.
Some of the seats are for 3 passengers and others are for 2 passengers.
Determine the number of seats for three passengers and for two passengers. (4 marks)

6. Given that $\tan x = 0.5774$. Find the two possible values of x for which $\tan x = -0.5774$. (4 marks)

7. In the figure below PQ = QS and RQ = RS, angle PQS = 36^0, where O is the centre. (4 marks)



Find angle SQR. (4 marks)

8. Solve the inequality
$\frac{1}{4}(2x + 3) \leq 4 - \frac{1}{4}(3 - x)$, hence show your answer on the number line.
(4 marks)

9. Make L the subject of the expression $T = 2\pi \sqrt{\frac{L^2+M}{MH}}$ (4 marks)

10. A number is chosen at random from the integers 1 to 10.
Find the probability that the number chosen is either a factor of 10 or a prime number. (4 marks)

SECTION B (60 marks)

Answer any **five** *questions from this section. All questions carry equal marks.*

11. The table shows marks scored by 46 students in a mathematics test.

Marks	Cummulative frequency
29.5 – 34.5	2
34.5 – 39.5	7
39.5 – 44.5	17
44.5 – 49.5	32
49.5 – 54.5	40
54.5 – 59.5	44
59.5 – 64.5	46

(a) Caculate the mean mark, using the working mean of 47 marks. (8 marks)

(b) Draw a cumulative frequency curve and use it to estimate the number of students who scored above 47 marks. (4 marks)

12. (a) Draw a graph of $y = x^2 - 2x - 3$ for $-2 \leq x \leq 4$.
Use a scale of 2 cm to represent 1 unit on both axes. (6 marks)

(b) Use your graph in (a) above to solve equations:-

(i) $x^2 - 2x - 3 = 0$. (2 marks)

(ii) $x^2 - 3x = 0$. (4 marks)

13. (a) Given that $\begin{pmatrix} 3 & 2 \\ 1 & 0 \end{pmatrix}\begin{pmatrix} 3 & p \\ 1 & 2 \end{pmatrix} = \begin{pmatrix} 11 & q \\ 3 & 3 \end{pmatrix}$ Find the values of p and q. (3 marks)

(b) A painter bought 40 tins of Red paint, 25 tins of Yellow paint and 40 tins of Orange paint. In Kikuubo market, the price of a tin of Red, Yellow and Orange paint is Shs. 20,000/=, Shs. 15,000/= and Shs. 25,000/= respectively.
In Nakasero market, the price of a tin of Red, Yellow and Orange paint is Shs. 21,000/=, Shs. 14,000/= and Shs. 26,000/= respectively.
By writing the matrices, for the items bought as row matrix and the cost of items bought as column matrix. Use matrix multiplication to find;

(i) the cost of the paints in each market. (6 marks)

(ii) where is it cheaper to buy the paints from and by how much? (3 marks)

14. A transformation matrix $\begin{pmatrix} 2 & 3 \\ 1 & 2 \end{pmatrix}$ maps the vertices of a quadrilateral ABCD on to

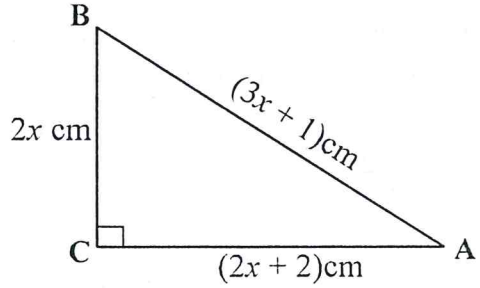
A^{I} (13,8) B^{I} (21,12) C^{I} (33,20) and D^{I} (25, 16)

(a) Find the coordinates of ABCD. (5 marks)

(b) The image $A^{I}B^{I}C^{I}D^{I}$ is rotated through a negative quarter turn about the origin to form $A^{II}B^{II}C^{II}D^{II}$. Write down the coordinates of $A^{II}B^{II}C^{II}D^{II}$ (4marks)

(c) Find a single transformation matrix that would map quadrilateral $A^{II}B^{II}C^{II}D^{II}$ back to ABCD. (3marks)

15. (a) In the figure below, angle BCA is 90^0



Find the value of x and hence determine the height BC. (5 marks)

(b) The angle of elevation of the top of the cliff from Tom's home is 30^0. Tom moved from his home towards the cliff, after covering a distance of 400 m, the angle of elevation of the top of the cliff at that point is 47^0. Determine the height of the cliff. (7 marks)

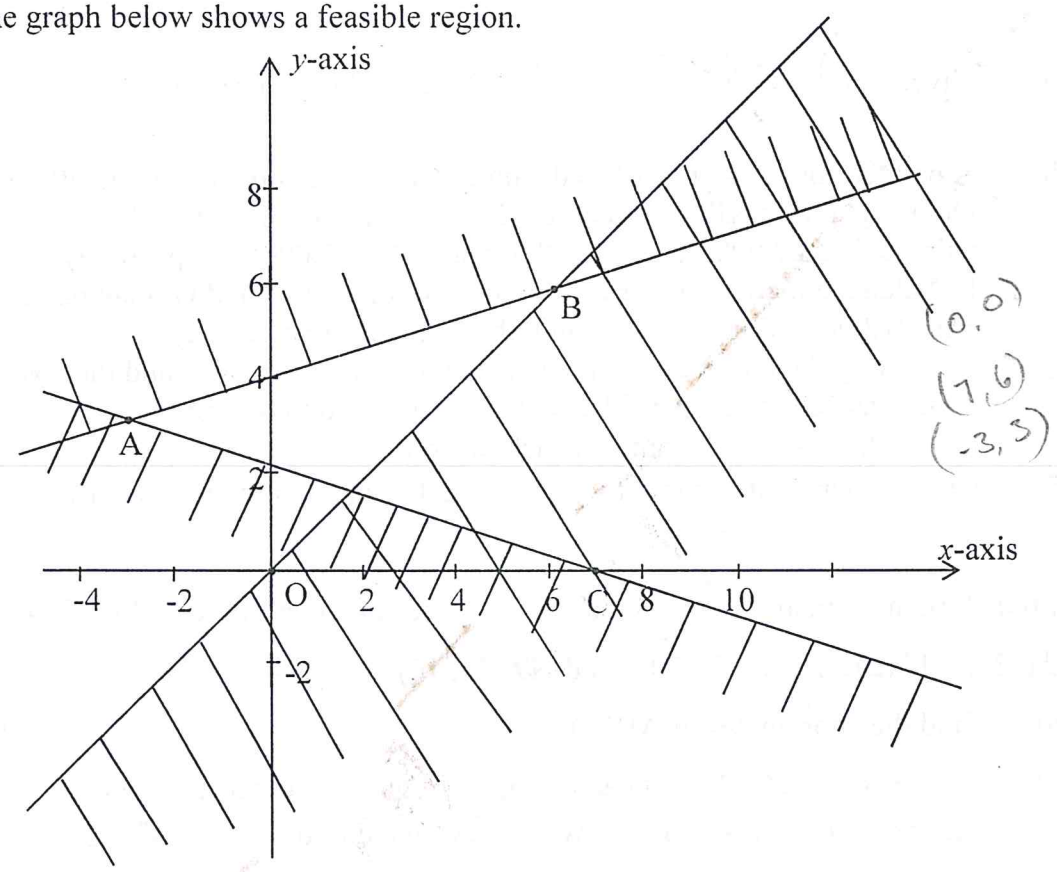
16. (a) Using a pair of compasses, a ruler and a pencil only, construct a triangle PQR where $\overline{QR}$ = 7.2 cm, angle PQR = 75^0 and $\overline{PR}$ = 8.4 cm

(b) Draw a circle to circumscribe the triangle PQR. Measure the radius of a circle and the length $\overline{PQ}$.

(c) Find the area of the circle formed, through PQR. (Use $\pi = 3.143$). Correct your answer to one decimal place.

(12 months)

17. The graph below shows a feasible region.



Use the graph above to;

(a) form inequalities representing the feasible region. (9 marks)

(b) find the maximum value of $5x + 3y$ from the feasible region. (3 marks)

END

456/2
MATHEMATICS
PAPER 2
July/August 2023
2½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

MATHEMATICS

Paper 2

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *Answer **all** questions in section **A** and any **five** questions from section **B**.*
- *Any additional question(s) answered will not be marked.*
- *All necessary calculations **must** be done in the same answer booklet/sheets provided, with the rest of the answers. Therefore no paper should be given for rough work.*
- *Graph paper is provided.*
- *Silent non-programmable scientific calculators and mathematical tables with a list of formulae may be used.*

SECTION A (40 marks)

Answer **all** *questions in this section*

1. Express 1728 as a product of it's prime factors, hence find its cube root. (04 marks)

2. Two sets A and B are such that n(B) = 8, n(AnB) = 2, n(ε) =15 and $n(AuB)^{1} = 4$.
   Find (i) $n(A \cup B)$ (02 marks)
   (ii) n(A) (02 marks)

3. Given that $f^{-1}(x) = \frac{4x}{9+x}$, Find the value of x for which f(x) is undefined. (04 marks)

4. A lorry covered 90 km at a speed of 45 km/hr and travelled the next 150 km in $1^{1}/_{2}$ hours. Determine the average speed of the lorry for the whole journey. (04 marks)

5. The position vectors of P and Q are $|\overline{OP}| = \begin{pmatrix} a \\ -5 \end{pmatrix}$ and $|\overline{OQ}| = \begin{pmatrix} 6 \\ c \end{pmatrix}$. If $|\overline{PQ}| = \begin{pmatrix} -1 \\ 13 \end{pmatrix}$
   Find (i) the values of a and c. (03 marks)
   (ii) $2|\overrightarrow{OQ}|$. (01 mark)

6. The volume of a big cylinder is 81 cm^3 and that of small cylinder is 3 cm^3.
   If the height of the big cylinder is 0.12 m, calculate the height of the small cylinder.
   (04 marks)

7. A man's gross income is Ugx 6 million per annum. He pays an income tax of 20% of his gross monthly income. Find his monthly net income. (04 marks)

8. Without using mathematical tables or calculator, evaluate; 2log 6 – log 3 – log 1.2.
   (04 marks)

9. A woman walks 10 km to a market at a speed of x $kmhr^{-1}$ and she returns at a constant speed of $(x + 1)$ $kmhr^{-1}$. The return journey takes 30 minutes less than the first journey. Find x.

10. The quality P is inversely proportional to the square of q. If P = 5 when q = 2, find the value of P when q = 10. (04 marks)

SECTION B (60 marks)

Answer any **five** *questions from this section. All questions carry equal marks.*

11. (a) Given that $h(x) = x^2 + 3$ and $g(x) = x - 1$, find the value of, a, for which hg(a) = gh(a).
    (05 marks)

    (b) Given that $h(x) = x^2 - 5x - 14$, find;

    (i) $h^{-1}(x)$

    (ii) $h^{-1}(4.75)$

    (07 marks)

12. A class of 100 students were asked whether they had ever visited the cities; Arua (A) Jinja (J) or Mbale (M). The number that had visited Jinja only is twice the number which had visited Mbale only. 55 had visited Arua, 14 had visited J and M only, 7 had visited A and M only, 20 had visited A and J only. If those who visited Arua only were 25 and 10 had not visited any of the three cities.

(a) Represent the given information on a venn diagram. (06 marks)

(b) How many students had;

(i) visited Jinja? (02 marks)

(ii) not visited Arua? (02 marks)

(c) A student is selected at random from the group, What is the probability that he had visited atmost two cities?. (02 marks)

13. In a triangle ABC, points M and N lie on AB and BC respectively such that AM : MB = 1 : 2 and $\overrightarrow{BN} = 3\overrightarrow{NC}$. Point T lies on $\overrightarrow{AN}$ such that $\overrightarrow{AT} = \frac{2}{3}\overrightarrow{AN}$. Given that $\overrightarrow{\mathbf{AM}} = \underset{\sim}{x}$ and $\overrightarrow{\mathbf{AC}}, = \underset{\sim}{y}$,

(a) Express the following vectors in terms of $\underset{\sim}{x}$ and $\underset{\sim}{y}$.

(i) **AB** (02 marks)

(ii) **BC** (02 marks)

(iii) **AN.** (03 marks)

(b) Show that points M, T and C are collinear. (05 marks)

14. A land dealer bought 10 pieces of land at 4,000,000 shillings Each. He is to sell them on cash and hire purchase terms. A piece of land is sold at 5,000,000 shillings on cash terms and on hire purchase one makes an initial deposit of 25% of the cost price and then pays equal monthly installments for $1\,^1/_4$ years totaling to 4,800,000/=.

(a) Calculate the amount one pays as monthly installment if he buys on hire purchase. (02 marks)

(b) If the dealer sold $^1/_5$ of the pieces of land on cash terms and the rest on hire purchase terms, calculate the total profit after selling all the pieces of land. (10 marks)

15. (a) Solve for t:

$$3^t + 3^t = 162$$

(04 marks)

(b) Find the values of x and y in the equations below.

$\log_{10}(x+y)=1$ and $\log_2 x + \log_2 y = 4$ (08 marks)

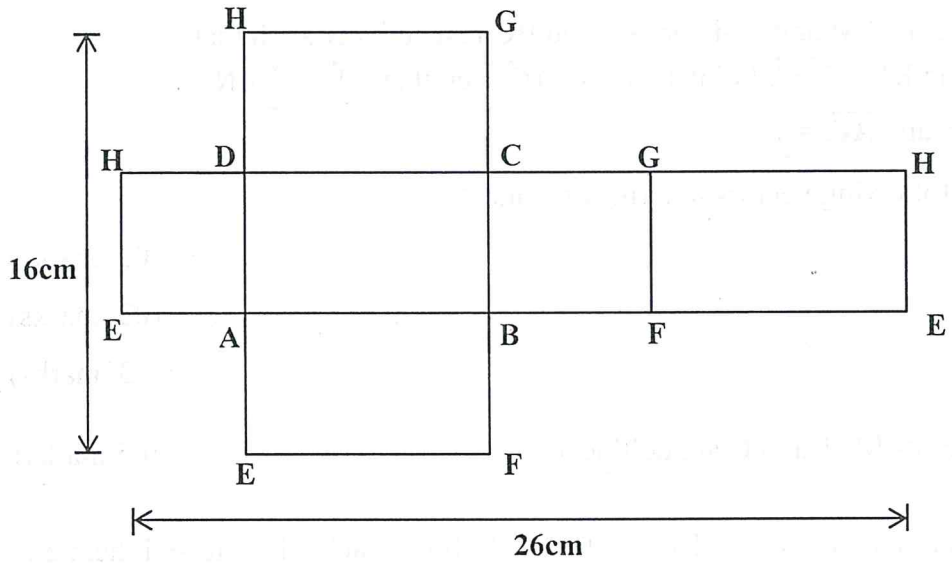
16. The cities Kampala and Mbarara via Masaka are 240 km apart. One day a cyclist started riding from Kampala at 9:45 am towards Mbarara at a steady speed of 60 $kmhr^{-1}$. On the same day a motorist started from Mbarara at 10:50 am towards Kampala at 80 $kmhr^{-1}$. Calculate the;

(a) distance from Kampala where they by passed each other. (05 marks)

(b) time when they by passed each other. (02 marks)

(c) difference in their time of arrival. (05 marks)

17. Below is a net of a cuboid ABCDEFGH, where the base dimensions AB and BC are 8cm and 6cm respectively.



(a) Sketch the solid formed and find the height of the solid. (05 marks)

(b) Calculate the;

(i) volume of the solid. (03marks)

(ii) Total surface Area. (04 marks)

END

241/1
HISTORY OF
EAST AFRICA
Paper 1
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

History of East Africa

(c. 1000 to independence)

Paper 1

2 hours

INSTRUCTIONS TO CANDIDATES:

- *Answer* **four** *questions only.*
- *Any additional question(s) answered* **will not** *be marked.*
- **All** *questions carry equal marks.*
- *Use relevant examples, illustrations and maps where applicable.*

1. a) Explain the factors that led to the development of the coastal states between 1000 – 1500AD. (13 marks)

   b) Why did these towns eventually collapse by the 16th century? (12 marks)

2. a) Describe the migration and settlement of the Ngoni into Southern Tanganyika up to 1860. (13 marks)

   b) Why were they successful in conquering Southern Tanganyika? (12 marks)

3. a) Explain the origins of the Chwezi. (12 marks)

   b) What was their contribution to the history of the Interlacustrine region? (13 marks)

4. a) Describe the stages in the establishment of the Portuguese rule at the East African coast by 1510. (13 marks)

   b) How did their stay at the coast affect the coastal people? (12 marks)

5. a) What were the factors for the growth and expansion of Long distance trade during the 19th Century? (12 marks)

   b) How did this trade affect the peoples of East Africa? (13 marks)

6. a) Why were there religious conflicts in Buganda between 1885 and 1900? (12 marks)

   b) Describe the course of these conflicts before 1900. (13 marks)

7. a) Explain the clauses of the 1900 Buganda agreement. (12 marks)

   b) How did these clauses affect the history of Uganda? (13 marks)

8. a) How was indirect rule policy applied by the British in Uganda? (13 marks)

   b) What problems did the British face during their administration? (12 marks)

9. a) Why did Chief Mkwawa resist German rule between 1890 and 1898? (13marks)

   b) Why was he eventually defeated? (12 marks)

10. a) Why was East Africa involved in World war I? (12 marks)

    b) How did the war affect the people of East Africa? (13 marks)

END

273/2
GEOGRAPHY
Paper 2
July/August 2023
2½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

GEOGRAPHY

Paper 2

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

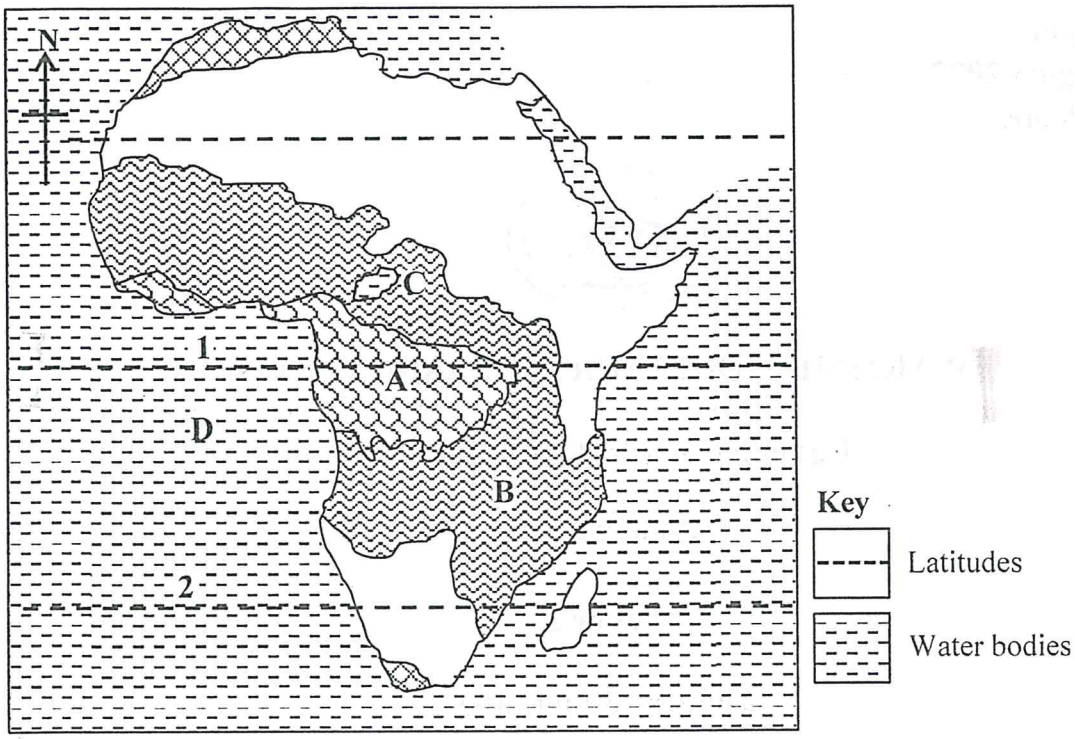
- *Answer **four** questions only.*
- *Choose **two** questions from part **I** and **two** questions from part **II.***
- *In part **II** only **one** question should be chosen from any **one** region.*
- *Any additional question(s) answered will **not** be marked.*

Turn Over

PART I : THE REST OF AFRICA

*Answer **two** questions only from this part.*

1. Study figure 1: Sketch map of Africa and answer the questions that follow:



(a) Name;
(i) Vegetation types; A and B.
(ii) Latitudes 1 and 2.
(iii) Water bodies C and D.
(6 marks)

(b) Describe the characteristics of the savanna vegetation. (6 marks)

(c) Explain how vegetation and climate have led to the economic activities carried out in the savanna region. (8 marks)

(d) State the climatic problems facing people living in the savanna region of Africa. (5 marks)

2. Study table I; below showing the exports of Zambia and answer the questions that follow:

Commodity	Percentage
Copper	82.7
Cobalt	12.1
Zinc	2.6
Lead	0.6
Tobacco	0.4
Others	1.6
Total	100%

Adapted from white RG Africa. Study of East Africa students

(a) Distinguish between Temperate Forests and tropical rain forests. (05 marks)
(b) Describe the factors that have led to growth of temperate forests in British Columbia. (08 marks)
(c) What problems face forest exploitation in British Columbia? (06 marks)
(d) What steps should be taken to improve the forestry sector in British Columbia? (06 marks)

REGION II: RHINELANDS

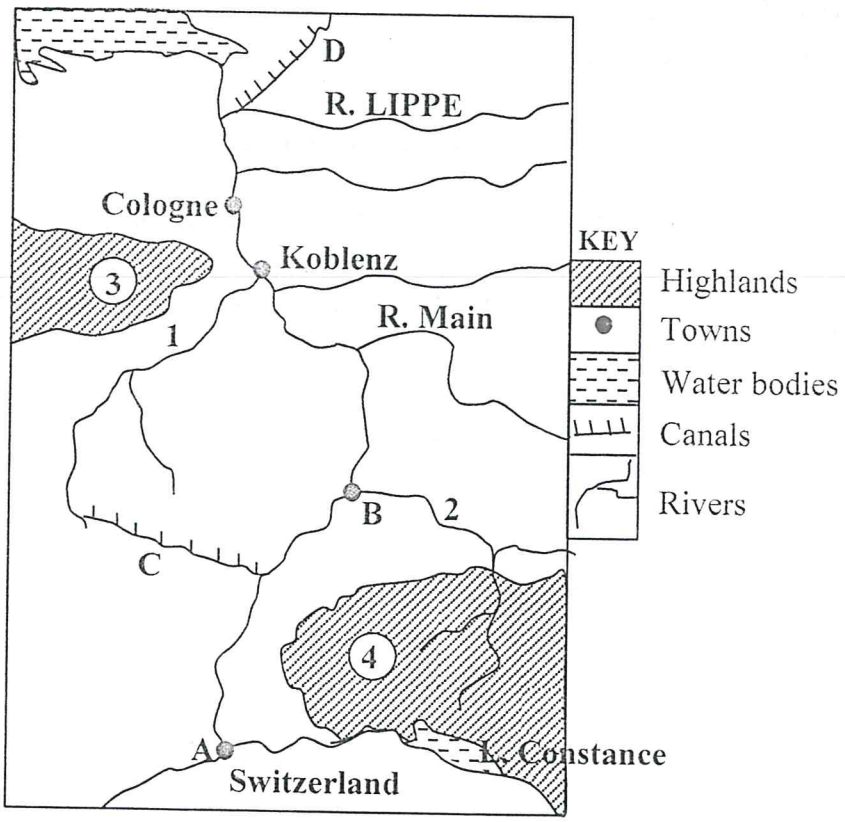
Answer **one** question

8. Study table II, showing land use types in Netherlands and answer the questions that follow:

Land use	Land area (000) acres
Arable	977
Pasture	1291
Forest	288
Built up area	805

(a) Draw a bar graph to represent the information in the table. (07 marks)
(b) (i) Calculate the percentage of land under agriculture. (02 marks)
(ii) Name one product from each of the following land use types.
- Arable
- Pasture
- Forests (03 marks)
(c) Explain why large areas are left under pasture. (08 marks)
(d) State the problems facing farmers on the polders. (05 marks)

9. Study fig. IV, showing the Rhine river valley and answer the questions that follow;



(a) Name (i) Towns A and B.
(ii) Rivers 1 and 2.
(iii) Canal C and D.
(iv) Highlands 3 and 4

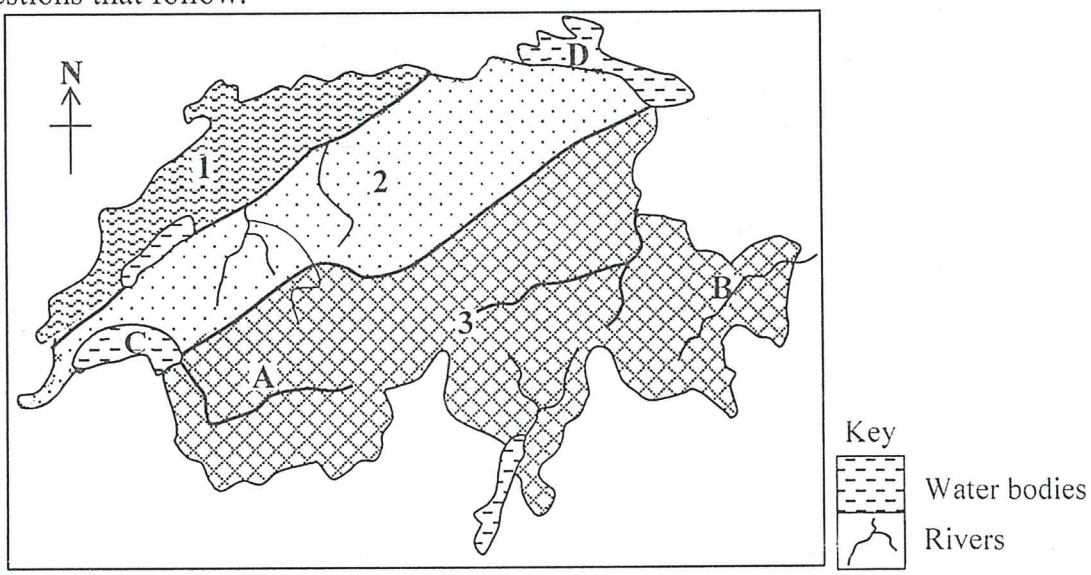
(07 marks)

(b) Describe the factors that have favoured the use of the Rhine water way.(08marks)

(c) Explain the challenges facing the Rhine water way. (06 marks)

(d) State the measures being taken to improve the Rhine water way. (04 marks)

10. Study figure V, showing a sketch map of Switzerland provided below and answer the questions that follow.



(a) Name;
(i) Physical regions marked 1, 2, and 3.
(ii) Rivers marked A and B.
(iii) Lakes marked C and D.

(07 marks)

(b) Outline the characteristics of the physical region marked 3. (06 marks)

(c) Explain the problems facing Land use in the physical region marked 3.
(06 marks)

(d) Suggest measures that can be taken to address the problems identified in (c) above. (06 marks)

REGION III – CHINA

*Answer **one** question.*

11. Study table III, showing China's population between 1980 – 2030

Year	Population in millions
1990	1134
2000	1260
2010	1340
2020	1400
2030	1,550 (Estimate)

Adapted from Demographic statistics of China: http:Ilen.

(a) Calculate the percentage change in China's population between 1990 and 2020. (02 marks)

(b) (i) Draw a line graph to show the trend of China's population growth. (07 marks)

(ii) Describe the trend of China's population growth. (02 marks)

(c) Explain the factors which have led to that population trend in China (08 marks)

(d) Outline the population problems facing China. (06 marks)

12. (a) Draw a sketch map of china and on it mark and name;
(i) Areas receiving less than 250mm of rainfall.
(ii) Areas receiving over 1000mm of rainfall.
(iii) Tropic of cancer.
(iv) Yellow sea.
(v) Towns; Kumming and Beijing. (07 marks)

(b) Explain the conditions which have led to the differences in the amount of rainfall received in China. (08 marks)

(c) (i) Mention any two land use types found in areas receiving over 1000mm of rainfall in China. (02 marks)

(ii) Outline the problems faced by the people living in areas which receive rainfall of over 1000mm. (04 marks)

(d) Describe the steps which have been taken to solve the problems in (c) (ii) above. (04 marks)

13. (a) (i) Name any two agricultural communes in China. (02 marks)

(ii) State the characteristics of agricultural communes in China. (05 marks)

(b) Describe the factors that favoured the establishment of communes in China. (08 marks)

(c) Explain the contributions of agricultural communes to the development of China. (06 marks)

(d) Outline the problems facing agricultural communes in China. (04 marks)

END

225/1
ISLAMIC
RELIGIOUS
EDUCATION
PAPER 1
July/August 2023
2 HOURS

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

ISLAMIC RELIGIOUS EDUCATION
(History of Islam)

Paper 1

2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of* **three** *sections; **A**, **B** and **C**.*
- *Answer* **four** *questions, taking at least* **one** *from each section.*
- **All** *questions carry equal marks.*
- *Any additional question(s) answered will* ***not*** *be marked.*

Turn Over

SECTION A

THE PROPHET MUHAMMAD (P.B.U.H) AND THE EARLY MUSLIM COMMUNITY.

1. (a) What did females experience in the Arab society before the advent of Islam? (13marks)
   (b) How did Islam help them to live a better life? (12marks)

2. (a) Give an account of the Muslim migration to Abbyssinia in 615 A.D? (13 marks)
   (b) How did this migration affect the early Muslim community? (12marks)

3. (a) Describe the Muslims and Meccans clash in 627 A.D? (13marks)
   (b) Account for the Muslims` victory in the above encounter. (12marks)

4. (a) Explain Prophet Muhammad's success during his stay in Medina. (13marks)
   (b) What challenges did Prophet Muhammad face while carrying out his mission? (12marks)

SECTION B

THE PERIOD OF THE FOUR RIGHTLY GUIDED CALIPHS.

5. (a) Explain the challenges faced by Abubaker Al-Swidiq during his time of office? (13marks)
   (b) How did he settle the challenging situation at the time? (12marks)

6. Explain the way in which Caliph Umar improved the following;
   (a) Judiciary. (13 marks)
   (b) Economic sector. (12 marks)

7. (a) Give the early life of Caliph Uthman. (12 marks)
   (b) Explain Uthman's services to Islam before becoming a Caliph. (13 marks)

8. (a) Explain the causes of the Fitina period? (13marks)
   (b) How did the above situation affect the Muslim community? (12marks)

SECTION C

ISLAM IN UGANDA.

9. (a) Explain the factors that favored the introduction of Islam in Uganda? (13 marks)
   (b) Why did it take long for Islam to spread to other parts of Uganda? (12 marks)

10. (a) What caused the religious clashes in Buganda in the 1880s? (13marks)
    (b) In what ways can we avoid such situations in the present times? (12marks)

11. How did the following groups of people help in the spread of Islam in Uganda?
    (a) Cultural leaders. (12marks)
    (b) Sudanese soldiers. (13marks)

12. (a) Describe the emergency of the Tabligh movement in Uganda? (12 marks)
    (b) Give their contribution in promoting Islam in Uganda from the 1980s. (13marks)

END

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225/2
ISLAMIC
RELIGIOUS
EDUCATION
Paper 2
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

ISLAMIC RELIGIOUS EDUCATION

(Beliefs and Practices of Islam)

Paper 2

2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of* **three** *sections;* **A, B** *and* **C.**
- *Answer* **four** *questions taking at least* **one** *from each section.*
- **All** *questions carry equal marks.*
- *Any additional question(s) answered* **will not** *be marked.*

SECTION A

PILLARS OF ISLAM AND MUSLIM CEREMONIES

1. (a) Explain the features of a Muslim dress. (12 marks)
   (b) What are the benefits of the above dress to the community? (13 marks)

2. Explain the Islamic teachings on;
   (a) Payment of Zakat. (13 marks)
   (b) Distribution of Zakat. (12 marks)

3. (a) Identify the categories of people who are required to make the pilgrimage (Hajj). (12 marks)
   (b) Why is it so important for a Muslim to make the pilgrimage (Hajj) at least once in a life time? (13 marks)

4. (a) Explain the main features of MAULED (Prophet's birth ceremony) (13 marks)
   (b) How beneficial is MAULED to the community? (12 marks)

SECTION B

IMAAN (FAITH)

5. Explain the Islamic teachings on;
   (a) Types of TAWHEED (Oneness of Allah) (13 marks)
   (b) How is ALLAH (God) different from MAN in nature? (12 marks)

6. (a) Explain the Islamic teachings on special duties of some angels. (13 marks)
   (b) In what ways is the belief in angels important to man? (12 marks)

7. (a) Explain the story of Prophet LUT (LOT) and his wicked people according to Islam. (13 marks)
   (b) What lessons can a believer learn from the above story? (12 marks)

8. (a) Identify the signs of the day of Judgment that have already appeared. (13 marks)
   (b) What will be the life experiences of the sinners between the time of death and Judgment? (12 marks)

SECTION C

IHSAAN (ISLAMIC MORALITY)

9. (a) How should a Muslim relate with his servants? (13 marks)
   (b) In what ways can the above relationship promote development in the society? (12 marks)

10. (a) Explain the teachings of Islam on the obligations of parents to their children. (13 marks)
    (b) Why are the parents neglecting their responsibilities in society today? (12 marks)

11. Explain the teachings of Islam on;
    (a) Good health. (13 marks)
    (b) Cleanliness. (12 marks)

12. Identify
    a) Lawful economic activities. (13 marks)
    b) Unlawful means of acquiring wealth according of Islam. (12 marks)

END

241/4
HISTORY OF SOUTH AFRICA
Paper 4
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

HISTORY OF SOUTH AFRICA

(c.1000 to independence)

Paper 4

2 hours

INSTRUCTIONS TO CANDIDATES:

- *Answer* **four** *questions only.*
- *Any additional question(s) answered* **will not** *be marked.*
- **All** *questions carry equal marks.*

1. (a) Describe the movement and settlement of the Bantu into South Africa before 1850. (13 marks)

   (b) How were they organized? (12 marks)

2. (a) Explain the reasons for the Dutch occupation of the cape in 1652. (13 marks)

   (b) Why did they lose the cape colony to the British in 1795? (12 marks)

3. (a) Describe the role of Shaka in the creation of the Zulu state. (12 marks)

   (b) How did Shaka's wars affect the people of South Africa? (13 marks)

4. (a) Why did Chief Bambatha conflict with the British in 1906? (13 marks)

   (b) What were the consequences of this conflict? (12 marks)

5. (a) Describe the developments that took place in South Africa between 1867 – 1910. (13 marks)

   (b) How did the discovery of minerals affect the Anglo-Boer relationship? (12 marks)

6. (a) Why did the British and Boers sign a treaty in 1902 in South Africa? (13 marks)

   (b) What were the terms of this treaty? (12 marks)

7. (a) Why were Bantu homelands created in South Africa during the 20th Century? (13 marks)

   (b) How did the creation of these homelands affect the Africans in South Africa? (12 marks)

8. (a) Why did South Africa rule Namibia for so long? (13 marks)

   (b) What problems did the Namibians face in their struggle for independence? (12 marks)

END

Name.....Centre/Index No.....

School..... Signature.....

545/3
CHEMISTRY
(PRACTICAL)
Paper 3
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHEMISTRY PRACTICAL

Paper 3

2 hours

INSTRUCTIONS TO CANDIDATES.

- *Answer **both** questions. All answers must be written in the spaces provided.*
- *You are **not** allowed to use any reference books (i.e text books or handouts on qualitative analysis etc).*
- ***All working must be clearly shown.***
- *Mathematical tables and silent non-programmable scientific calculators may be used.*

For Examiner's use only		
Q.1	**Q.2**	**Total**

Turn Over

1. You are provided with the following;

BA1, which is a solution containing 20.0 g/dm^3 of unknown hydrated salt, $RCO_3.xH_2O$.

BA2, which is a 0.2 M hydrochloric acid.

You are required to determine the number of Moles of water of crystallization, x, in $RCO_3.xH_2O$ and the percentage of the anhydrous salt, RCO_3.
(1 mole of hydrated salt reacts with 2 moles of hydrochloric acid)

Procedure

Pipette 25.0 cm^3 (or 20.0 cm^3) of **BA1** into a clean conical flask using a clean pipette. Add 2-3 drops of Methyl orange indicator and titrate it with **BA2** from the burette.

Repeat the procedure above until you obtain consistent results.

Record your results in the table below.

Results;

Volume of pipette used = ... (cm^3) (½mark)

	1	2	3
Final Burette reading (cm^3)			
Initial Burette reading (cm^3)			
Volume of **BA2** used (cm^3)			

(7½ marks)

Titre values of **BA2** used to calculate the average volume.

.....

.....(cm^3) (½mark)

Average volume of **BA2** used.

.....

.....(cm^3) (2½mark)

(a) Calculate;

(i) the number of moles of **BA2** that reacted. (03 marks)

.....

.....

.....

.....

.....

.....

.....

(ii) the concentration of the hydrated salt, $RCO_3.xH_2O$, in Moles per dm^3. (03 marks)

.....

.....

.....

.....

(iii) the relative formula mass of the dehydrated salt, $RCO_3.xH_2O$. (03 marks)

.....

.....

.....

.....

(b) Determine the;

(i) the value of x, in $RCO_3.xH_2O$. (02 marks)

[R = 46, O = 16, C = 12, H = 1]

.....

.....

.....

.....

.....

(ii) the percentage of the anhydrous salt RCO_3. (03 marks)

.....

.....

.....

.....

.....

2. You are provided with substance **Q** which contains **two** cations and a common anion.
Carry out the following tests on **Q** to identify the cations and anion present. Identify any gas(es) evolved.
Record your observations and deductions in the table below. (23½ marks)

TEST	OBSERVATION	DEDUCTION
(a) To **one** spatula endful of Q in a clean test tube, add 4 cm^3 of distilled water and shake well. Filter and keep both the filtrate and residue. Divide the filtrate into **three** equal portions. (1 cm^3 each)		

Turn Over

(i) To the **first** portion add aqueous ammonia drop wise until in excess.		
(ii) To the **second** portion add aqueous sodium hydroxide drop wise until in excess and warm.		
(iii) To the remaining portion of the filtrate, add 3 drops of Lead (II) nitrate solution followed by dilute nitric acid solution drop by drop until in excess.		
(b) Add dilute Nitric acid to the residue until it dissolves. Divide the resultant solution into **four** equal portions.		
(i) To the **first** portion add aqueous sodium hydroxide drop wise until in excess.		
(ii) To the **second** portion add aqueous ammonia solution drop wise until in excess.		
(iii) To the **third** portion add 3 drops of dilute hydrochloric acid solution. Warm the mixture, then allow to cool under water.		
(iv) Use the **fourth** portion to carry out a test of your own choice to confirm the cation in the residue.		

(e) Identify the ions in Q;

(i) Cations :..... and ..... (01 mark)

(ii) Anion ..... (½ mark)

END

112/1
ENGLISH LANGUAGE
COMPOSITION
PAPER 1
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

ENGLISH LANGUAGE

COMPOSITION

Paper 1

2 hours

INSTRUCTIONS TO CANDIDATES:

This paper has **two** sections: Section **A** and Section **B**.

You must attempt **both** Sections.

Answer **two** questions in all.

Answer question **one (1)** in section **A** (compulsory) and **one** other question in section **B** selected among questions 2 - 7.

SECTION A: You are advised to spend **10** minutes preparing, about **30** minutes writing and **5** minutes checking and correcting your work.

SECTION B: You are advised to select only **one** question from this section and spend **10** minutes preparing, 1 hour writing and about **5** minutes checking and correcting your work.

- Any additional question(s) answered will **not** be marked.
- Composition should be original and relevant to the given topics.

SECTION A (20 Marks)

Compulsory

1. Imagine that there are rampant thefts in dormitories and classes in your school. The council of prefects together with class monitors and dormitory captains has called a meeting to address the problem. As the secretary of that meeting, write the minutes.

SECTION B (20 Marks)

Choose **one** *of the following topics and write a composition using 500 to 600 words.*

2. Write an original story to illustrate one of the following sayings:
   (a) "With love water is enough; without love food doesn't satisfy."
   (b) "Good things come to those who wait."

3. Describe a memorable outing you recently had.

4. Polygamy is the best form of marriage. Write for or against.

5. Write a story to end... When I saw them before the judge, I shed tears for my country.

6. No Ugandan should have more than four biological children. What is your view?

7. Explain the problems security agencies face in enforcing law and order.

END

Name: ..... Centre/Index No: .....

School..... Signature.....

112/2
ENGLISH LANGUAGE
PAPER 2
July/August 2023

2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

ENGLISH LANGUAGE

SUMMARY, COMPREHENSION AND GRAMMAR

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES:

- *All questions are to be answered.*
- *All your answers **must be** written on this question paper.*

For examiner's use only

Question	**1**	**2A**	**2B**	**3A**	**3B**	**Total**
Marks						

Turn Over

1. **Read the passage below and answer the question that follows it.**

If you are planning to travel at night, there are things you need to consider before you put your feet in that taxi or sit on that bodaboda. If you use public transport to and from work or to social events, you should be careful.

Never board a taxi where you are the only passenger especially if you are a woman. If the driver and conductor do not steal your belongings, they might rape you. The police officer in Kampala who usually travels at night says that even if you are late for a date, get your taxi from a recognized stage, and avoid one that finds you along the way or in between stages. If you don't feel comfortable with the taxi which stops for you, then trust your instinct and take another one.

If you are to sit on a bodaboda, do not flash your money and jewellery at night as it attracts thugs. If the bodaboda man does not steal it, his colleagues will. After midnight, avoid using taxis where most of the passengers are drunk, usually such people are barely in control of themselves. Get out at the nearest stage before they attack you.

It is always good to travel with a friend and alert friends where you are. I have known cautious friends who text the taxi registration number to their friends if they are moving at night.

If the driver is not using a route you are familiar with, please stop and get out when it is still early. Taxi drivers have a tendency to turn into strange roads under the pretext of avoiding traffic jam. If they do this at night, be wary.

Always make sure that there are lights in the taxi, otherwise the driver and his group might use the darkness to rob or molest you.

If you can, do not move with valuables like a laptop or camera at night and avoid receiving telephone calls because this might attract thieves. If someone follows you in the night and grabs your property, raise an alarm if you think help is nearby but do not follow. Many people have lost their lives trying to save their property.

It is your life, do not allow that bodaboda rider to take you anywhere; give him directions even if he complains that it is a long route. In a saloon car, it is safer to sit at the back. Safety experts advise passengers to sit at the back of cars rather than in the front seat as this keeps you at a safer distance from the driver should there be a problem.

You will also have two doors to leave the car in case of an emergency rather than one. In the minibus taxi, it is safer to sit close to the door for easy exit lest you are cornered in the back. If the front passenger door fails to open, do not concentrate on opening it. Let the conductor do it. This is a trick used to draw your attention to the door as your bag is being emptied of all its contents.

An accountant at a clinic out of town says he often uses bodaboda but he makes sure that he keeps on talking with the man so that he feels like they are friends. This way, he says, he may change his mind if he was planning to hurt you. But there is no evidence that this trick works.

(Adapted: Sunday Vision, November 1st, 2015)

Question

In not more than 130 words, write a summary of what one should consider when traveling at night.

SUMMARY

ROUGH COPY

FAIR COPY

Total marks for Q. 1	

2. A. **Read the following passage and then answer the questions that follow:**

Yes, there are two here at Bomba, but Daniel is more than four years older than me and in any case he's been here longer. He doesn't go on tour anymore, he's beyond that, touring is my department as father LeGuen says.

The one who was really delighted after mass was Zacharia. He embraced everybody and kept saying 'We are going on tour! we are going on tour! Tomorrow! Tomorrow!.

I know why he is so pleased. He is sure to be the one who goes with us on tour. The assistant cook Anatole only goes with the vicar. Zacharia is father superior's constant companion, a bit like St Peter with Jesus Christ. Sticking with him even after he'd betrayed him and Zacharia is always betraying the father. He is always full of tricks when we are on tour. Unknown to the father, he is always demanding girls, palm wine, goats and other things from the faithful, by promising to support them with the father if things go badly or to keep an eye on their children in the schools at Bomba.

Lots of complains have been made to the father about Zacharia but he refuses to believe them. Besides, he is keen on his blessed cook that it would take the **intervention** of Christ himself to separate them. Yet strangely enough Zacharia is far from **Indispensable.** Here at the mission it is Anatole who does all the work, while Zacharia spends his time drinking palm-wine or arguing with the bricklayers and carpenters. If he isn't at the brickyard or the sawmill, then he is sure to be wherever the girls of the sixa are working. Only when the Bishop comes to the mission, will you find Zacharia in the Kitchen. The father knows all this perfectly well, but he refuses to agree that Zacharia is really bad.

At Bomba, everyone says that Zacharia has grown very rich since he came to the mission, but I can't be certain of that because his home village is about fifteen miles off, and it's there, that he's supposed to keep his wealth. I only know that the father has built a house for him there, with brick walls and a tiled roof.

But if Zacharia is really rich, why is he always demanding a rise from the father? Is it really true that he wants to grow so rich that he can leave the mission and marry more wives? His real wife, the one he married in church has just born him a fine baby son, their second son already! Would she really agree to live with a husband who became a **polygamist**? This Zacharia upsets me.

I keep wondering why the prospect of this journey is so **disquieting,** fifteen days on the road.

Adapted from: "The poor Christ of Bomba" by Mongo Beti.

Answer questions 2.1 to 2.5 on the question paper.

2.1 Why does Daniel no longer go on tours? (2marks)

.....

.....

2.2. What evidence shows that Zacharia is always betraying the father? (2marks)

.....

.....

2.3. According to the passage, has Zacharia grown rich? State with evidence. (2 marks)

.....

.....

2.4. What is the narrator's feelings towards Zacharia ? Give reasons to support your answer. (2 marks)

.....

.....

2.5. Explain the meaning of the following words as used in the passage:

(i) Intervention

.....

(ii) Indispensable

.....

(iii) Polygamist

.....

(iv) Disquieting

.....

(2 marks)

Marks for Q.2A	

2B. Read the following passage and answer the questions that follow.

Young women in Western societies are subjected to enormous pressures to be "trim, taut and tanned" Television advertising portrays the heroines as slim, young and beautiful. Women magazines further encourage the belief that to "succeed" women should be slim. In these circumstances it is not surprising that a pre-occupation with body shape and size is widespread amongst young women. The expanding "weight-loss" industry is thriving.

Each year a considerable number of books extol an "exciting" new diet. Often these diets are nutritionally unsound and dangerous to health. Articles published in women's magazines have articles to help the reader achieve and maintain a reduced weight. This is questionable, because new diets appear as frequently and disappear as frequently to be superseded by another 'fad' diet. It seems that the contemporary female desires a miracle diet which is effective, painless psychologically and physically and can be adopted with no disturbance to her life style. No such diet exists or can exist.

However, the messages to be slim and successful induces many young women to diet and the dietary restrictions often alternates with episodes of binge-eating. About one young woman in every ten induces vomiting periodically as a means of controlling her weight and a smaller proportion use laxatives for the same purpose in the mistaken belief that they are effective. In a few young women a period of very restricted eating is followed by an episode of gross over eating. The loss of control over their eating behavior by these young women may result in the development of compulsive binge eating, or bulimia nervosa, which may disrupt the life of the woman

considerably and if dangerous methods of weight control, self-induced vomiting and laxative diuretic abuse- are used, may lead to serious illness.

Other young women are so concerned about losing control of their eating behavior that they starve themselves and stand on a relentless pursuit of thinness. They eat minimal amounts of food and often use the dangerous methods of weight control mentioned earlier. The result is that they become emaciated and their menstrual periods cease. They develop anorexia nervosa.

Extracted from "Eating Disorders, the Facts' by Suzanne Abraham

Put a ring ◯ on the letter that corresponds with the correct alternative.

2.6 What is the argument for the pre-occupation with body shape and size amongst young women?

A. To look beautiful and slim.
B. To look young and beautiful.
C. To look young and slim.
D. To look slim, young and beautiful.

2.7 According to the passage, what is the scientific term for binge eating?

A. Under eating.
B. Eating for pleasure.
C. Eating disorder.
D. Bulimia nervosa.

2.8 What explains why young women are mistaken to believe laxatives will help them to slim?

A. A means of controlling weight.
B. A means of gaining weight.
C. A means of looking good.
D. A means of looking young.

2.9 What do you think a fad diet consists of ?

A. Nutritious meals.
B. Junk food.
C. Weight reducing meals.
D. Fashionable diet.

2.10 According to the context, what is anorexia nervosa?

A. Building the body.
B. Losing weight.
C. Eating minimal food.
D. Vomiting.

Marks for Q.2B	
Total marks for Q.2	

3. A) **Rewrite the following sentences as instructed without changing the meaning.**

3.1 The room was too dark for us to see anything. (Re-write using: ….so ..)

……

……

3.2 She tried harder and harder, but achieved less and less. (Begin: The harder …)

……

……

3.3 Although Cathy was feeling quite unwell, she managed to pass her examinations. (Rewrite using: In spite ….)

……

……

3.4 He is more misery than I expect. (Replace "misery" with "generous")

……

3.5 Vitamin D is necessary for strengthening bones and fighting cancer. (Use: …. Besides….)

……

……

3.6 John's father had not been buried. His mother got married to his uncle. (Join the two sentences together beginning: Hardly……..)

……

……

3.7 The police prevented everyone from going near the accident. (Rewrite using: …. would not let…)

……

……

3.8 The staff is made up of ten men and fifteen women. (Rewrite using: comprise)

……

3.9 We are not used to working with computers. (Use: accustomed)

……

……

3.10 Peter wrote several letters to Grace, but there was no reply. (Rewrite: Although… she…them.)

……

……

Marks for Q. 3A	

3. B) Put a ring ◯ around the best choice.

3.11 Juma did not like the examination, and .....
A. John did neither.
B. neither did John.
C. neither John did.
D. nor John did.

3.12 The merciless landlady ..... her tenants unfairly for failure to pay a one month house rent.
A. convicted
B. chased
C. dismissed
D. evicted

3.13 Fatuma looked gorgeous in her .....dress.
A. linen new purple
B. purple new linen
C. new linen purple
D. new purple linen

3.14 The morning flood and mudslides resulted ..... loss of many lives and property.
A. into
B. in
C. from
D. to

3.15 David wondered whether he was ..... for the job.
A. legible
B. eligible
C. illegible
D. illegal

3.16 Agnes seldom says much. She is very .....
A. shut up
B. keep quiet
C. reserved
D. silent

3.17 I am sure he stole it. He..... because he was the only one there.
A. must have
B. must do
C. must be
D. must

Turn Over

3.18 After a hard day's work, we all slept .....
A. sluggishly.
B. soundly.
C. ruggedly.
D. roundly.

3.19 Her voice is ..... than that of any other girl in the class.
A. loudest
B. most loudest
C. more louder
D. louder

3.20 Rather than ..... in the manager's plan to embezzle company money, I resigned.
A. participation
B. participating
C. to participate
D. participate

Marks for Q.3B	
Total marks for Q.3	

END

Name: ..... Index No.....

School: ..... Signature: .....

553/2
BIOLOGY
(PRACTICAL)
PAPER 2
July/August
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

BIOLOGY

(PRACTICAL)

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES:

- This paper consists of **three** questions.
- Answer **all** questions.
- All answers should be written in the spaces provided.
- Drawings should be made in the spaces provided.
- Use sharp pencils for your drawings.
- Coloured pencils or crayons should **not** be used.
- No additional sheets of writing paper are to be inserted in the booklet.
- Work on additional sheets will **not** be marked.

FOR EXAMINER'S USE ONLY.

Question	Marks	Examiner's No. & Initials
1		
2		
3		
TOTAL		

1. You are provided with specimens A, B and solution Q.
Peel specimens A and B.

Cut four cubes from specimen A. each measuring 1cm × 1cm × 1cm.
Also cut one cube from specimen B of the same size.
Carry out the procedure below.

(i) Cut one of the cubes of A into four equal pieces.
(ii) Cut the second and third cube, each into eight equal pieces.
(iii) Leave the fourth cube intact.
(iv) Cut the cube of specimen B also into eight equal pieces.
(v) Label the boiling tube as A_1 and four test tubes as A_2, A_3, A_4 and A_5
(vi) Boil the eight pieces cut from the third cube of A in $5cm^3$ of water for 5 minutes. (keep the pieces of each cube separate)
(vii) Measure and add 5 cm^3 of solution Q to the boiling tube and to each of the test tubes A_2 to A_5.

(a) To each test tube and boiling tube, add the cut cubes as indicated in table 1 below.
Record your observations and deductions (10 marks)

TABLE 1

Test tube/ Boiling tube	Contents	Observations	Deductions
A_1	Q + intact cube of A		
A_2	Q + four pieces of A		
A_3	Q + eight fresh pieces of A		
A_4	Q + eight boiled pieces of A		
A_5	Q + eight Pieces of B		

(b) Explain the difference in your results in test tubes;

(i) A_1 and A_2 (02 marks)

(ii) A_3 and A_4 (02 marks)

(iii) A_3 and A_5 (02 marks)

(c) State what was being investigated in this experiment. (03 marks)

(d) State the role of specimen A and B in the experiment. (01 mark)

2. You are provided with specimens K and L which are animal structures.

(a) With reasons, state the identity of the animal structures.

Identity; _____ (01mark)

Reasons; (02 marks)

(b) Suggest the part of the body of the animal from which each specimen was obtained. Give a reason in each case. (04 marks)

Specimen	Part of the body	Reason
K		
L		

(c) Describe the structure of specimen L. (03 marks)

(d) State **three** structural differences between specimens K and L. (04 marks)

Specimen K	Specimen L

(e) Draw and label the anterior view of specimen L. (06 marks)

3. You are provided with specimens R and S.

a) Observe the specimens and give the identity of each using observable characteristics features.

Identity of R; _____ (01 mark)

Observable features; (02 marks)

_____

_____

Identity of S; _____ (01 mark)

Observable features; (02 marks)

_____

_____

b) Basing on your observations, state the class to which specimen S belongs. Give **two** reasons to support your answer.

Class; _____ (01mark)

Reasons; (02marks)

_____

_____

c) Examine specimen S and describe its leaves. (03 marks)

_____

_____

_____

_____

_____

_____

d) Explain how specimen R is suited for survival in its habitat. (02marks)

_____

_____

_____

_____

Turn Over

e) Cut specimen S transversally into two halves. Draw and label one half.
(06 marks)

END

Name..... Signature.....

School..... Index No.....

545/2
CHEMISTRY
Paper 2
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHEMISTRY

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES;

- *Section* **A** *consists of* **10** *structured questions. Answer* **all** *questions in this section.*

  Answers to these questions **must** *be written in the spaces provided.*

- *Section* **B** *consists of* **4** *semi – structured questions. Answer any* **two** *questions from this section.*

- *Answers to section* **B** *must be written in the answer booklet/sheets provided and stapled at the back of the question paper.*

- *Show all your working clearly in both sections.*
  Where necessary use;
  [Ca = 40, Na = 23, C = 12, O = 16, H = 1, Molar gas volume at s.t.p = 22.4dm^3]

For examiner's use only														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total

Turn Over

SECTION A

*Answer **all** questions in this section.*

1. (a) Steel and Magnesium oxide are both important chemical substances.

(i) State **two** properties that make steel different from magnesium oxide. (2 marks)

.....

.....

(ii) State the method by which the components in steel can be separated. (½mark)

.....

.....

(b) Ammonium chloride was dissolved in water to form a uniform solution.

(i) State what was observed when, the solution is tested with methyl orange indicator. (½marks)

.....

.....

(ii) Give a reason for your answer. (2 marks)

.....

.....

.....

2. The atom of element Z of mass number 31 has 15 protons.

(a) (i) State the number of neutrons in Z. (1 mark)

.....

(ii) Write the electronic configuration of the ion of Z. (1 mark)

.....

(b) To which group of the periodic table does Z belong? (½mark)

.....

(c) Write the formula of the oxide of Z and state the type of bond in the oxide.

Formular; ..... (1 mark)

Type of bond; ..... (½mark)

(d) An atom Q consists of 17 neutrons and 15 protons. Which term is used to describe the relationship between Q and Z.? (1 mark)

.....

.....

3. (a) Gas W can be prepared using a mixture of Zinc granules, dilute hydrochloric acid and Copper (II) sulphate.

(i) Identify gas W (½ marks)

.....

(ii) Write equation for the reaction leading to the formation of gas W. (1½ marks)

.....

(iii) State the role of copper (II) sulphate in the mixture. (½ marks)

.....

(b) Give a reason why nitric acid cannot be used instead of hydrochloric acid in the production of gas W. (1 mark)

.....

(c) Gas W was burnt in excess air. State how the product formed can be identified in the laboratory. (1½ marks)

.....

.....

.....

4. (a) Define the term **rate of reaction.** (1 mark)

.....

.....

(b) Oxygen can be prepared in the laboratory by decomposition of hydrogen peroxide.

(i) Write equation for decomposition of hydrogen peroxide. (1½marks)

.....

.....

(ii) State **two** factors that can affect the rate of production of oxygen gas. (2 marks)

.....

.....

(c) Name one other substance other than hydrogen peroxide that can be used to produce oxygen in the Laboratory. (½ marks)

.....

5. A compound R of formula mass 106 consists of 43.40% Sodium, 11.32% Carbon by mass and the rest being oxygen.

(a) Determine the molecular formula of R (Na = 23, C = 12, O = 16) (2 marks)

.....

.....

.....

.....

.....

.....

.....

.....

(b) To an aqueous solution of R was added a solution containing copper (II) ions.

(i) State what was observed. (½ marks)

.....

.....

(ii) Write ionic equation for the reaction that took place. (1½marks)

.....

.....

(c) Zinc dust was added to the product in (b) and the mixture warmed.
Write down equation for the reaction that took place. (1½marks)

.....

.....

6. Sodium Sulphite and Calcium Carbonate when separately treated with dilute hydrochloric acid, gaseous products were formed.

(a) Identify the gaseous products formed when dilute hydrochloric acid reacts with;

(i) Sodium sulphite (1 mark)

.....

.....

(ii) Calcium carbonate (1 mark)

.....

.....

(b) Write ionic equation for the reaction leading to the formation of the gaseous products identified in (a) (ii). (1½marks)

.....

.....

(c) When 1.55 g of a mixture of calcium sulphate and calcium carbonate was treated with dilute hydrochloric acid, 22.4 cm^3 of carbon dioxide gas was evolved at s.t.p.
Find the mass of calcium carbonate in the mixture. (2½marks)

.....

.....

.....

.....

.....

.....

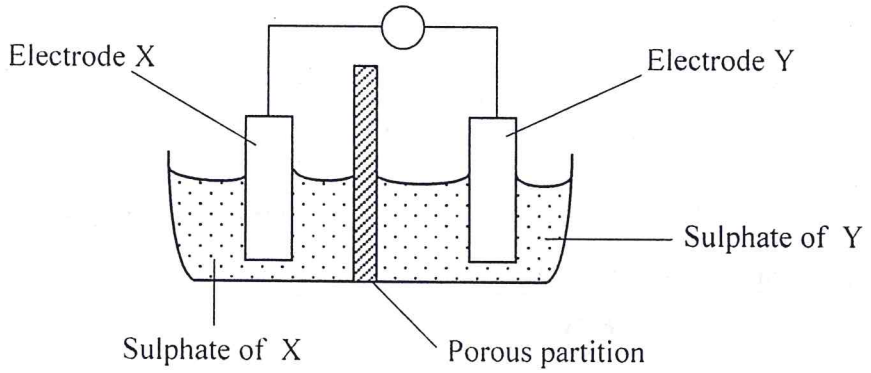
.....

.....

.....

.....

7. The diagram below shows a setup of a Daniell cell.



(a) Given that X and Y form divalent ions. Identify the metals that can be used as electrode X and Y.

(i) X ..... (½ mark)

(ii) Y ..... (½ mark)

(b) Write half cell equations for the reactions that took place at the electrode.

(i) X .....

.....

(1 mark)

(ii) Y .....

.....

(1 mark)

(c) Suggest with a reason the electrode acting as the cathode. (2 marks)

.....

.....

8. (a) Define the term **heat of combustion.** (1 mark)

.....

.....

(b) Methane burns in oxygen according to the equation.

$CH_{4(g)} + 2O_{2(g)} \longrightarrow CO_{2(g)} + 2H_2O_{(l)}$

Given that the enthalpy of combustion of methane is –890 KJ Mol^{-1}.

(i) Calculate the mass of methane that must be burnt to produce –5050 KJ of heat.
(2½marks)

.....

.....

.....

.....

.....

.....

Turn Over

(ii) Which of the two substances, methane and ethane, would produce more heat? Briefly explain your answer. (1½marks)

.....

.....

.....

9. (a) Complete each of the following organic reactions and in each case name the major product.

(i) $C_2H_5OH_{(l)} \xrightarrow[180^0C]{\text{Conc } H_2SO_4}$ ..... (1 mark)

Name of major product ..... (½marks)

(ii) $C_6H_{12}O_{6(l)} \xrightarrow[35^0C]{\text{yeast}}$ ..... (1 mark)

Name of major product ..... (½marks)

(b) Name a reagent that can be used to identify the major product in (a) (i) above. (1 mark)

.....

(c) Write the equation for combustion of the major product in (a) (ii) above. (1½marks)

.....

.....

10. (a) Common salt is prepared in the laboratory by reacting Sodium hydroxide and hydrochloric acid.
Name the process of salt formation used. (1 mark)

.....

(b) To an aqueous solution of common salt was added silver nitrate solution followed by dilute nitric acid.

(i) State what was observed. (1 mark)

.....

.....

(ii) Write the equation for the reaction that took place. (1½marks)

.....

.....

(c) Name **one** method that can be used to isolate common salt from its mixture with Sodium Carbonate. (½marks)

.....

.....

SECTION B

*Answer any **two** questions from this section.*

11. (a) (i) Draw a labelled diagram of the setup of apparatus that can be used to prepare sulphur dioxide in the laboratory. (3½ marks)

(ii) Write the equation for the reaction that takes place. (1½marks)

(b) State what is observed and write equation for the reaction in each case when sulphur dioxide is;

(i) passed through a jar containing red flowers. (2 marks)

(ii) treated with hydrogen sulphide. (2 marks)

(c) Using sulphur dioxide as a starting material describe the preparation of sulphuric acid on industrial scale (include equations in your answer). (6 marks)

12. During the extraction of nitrogen from air the mixture is first passed through heated copper, then through sodium hydroxide solution.

(a) State the reason for passing the air;

(i) Over heated copper. (1 mark)

(ii) Through sodium hydroxide solution. (1 mark)

(iii) Write equations for the reactions that take place in a(i) and a(ii) above. (3 marks)

(b) Describe the manufacture of ammonia using nitrogen as one of the raw materials. (4½ marks)

(c) Ammonia gas was dissolved in water and the resultant solution added to a solution of zinc sulphate drop wise until in excess.

(i) State what was observed. (1½marks)

(ii) Explain your observation. (4 marks)

13. (a) Describe how iron (III) chloride can be prepared in the laboratory. (diagram not required) (3 marks)

(b) Iron (III) chloride was dissolved in water and the resultant solution divided into two parts.
State what was observed when;

(i) Sodium hydroxide was added to the first portion drop wise until in excess. (1 mark)

(ii) Lead (II) nitrate solution was added to the second portion and warmed. (1½ mark)

Turn Over

(c) Extraction of iron is a reduction process that goes on in three stages.
Write equations to illustrate the chemical reaction that accompany the following processes in iron extraction.

(i) Formation of carbon monoxide from coke. (2½marks)

(ii) Reduction of the ore. (1½marks)

(iii) Removal of silicon dioxide by quick lime. (2½marks)

(d) Describe the reactions between iron and each one of the following;

(i) Hydrochloric acid. (1½marks)

(ii) Steam. (1½marks)

14. (a) Graphite is one of the crystalline allotropes of carbon.

(i) Define the term allotropes. (1 mark)

(ii) Draw the structure of graphite. (2 marks)

(iii) State why graphite conducts electricity while other allotropes do not. (1 mark)

(b) Explain each of the following observations.

(i) When a carbon dioxide is bubbled through calcium hydroxide for a long time, a white precipitate is formed which dissolves to form a colorless solution. (4 marks)

(ii) When a charcoal stove is used in a poorly ventilated room suffocation occurs; (2 marks)

(iii) Carbon dioxide is not satisfactorily prepared from calcium carbonate and dilute sulphuric acid. (3 marks)

(iv) Ammonia gas in the laboratory cannot be dried using sulphuric acid. (2 marks)

END

Name..... Signature.....

School..... Index No.....

545/1
CHEMISTRY
Paper 1
July/August 2023
1 ½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHEMISTRY

Paper 1

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

This paper consists of **50** *objective-type questions.*

Answer **all** *questions.*

You are required to write the correct answer **A**, **B**, **C** *or* **D** *in the box provided on the right hand side of each question.*

Use pen and write clearly.

Do not use pencil.

For examiner's use only

1. When a mixture of ethanol and water was distilled the initial vapour given off contained more ethanol than water vapour. This was observed because ethanol
   A. and water are miscible liquids.
   B. is more volatile than water.
   C. is more dense than water.
   D. is a solute and water is a solvent.

2. Which one of the following gases neither burns nor supports combustion?
   A. Nitrogen.
   B. Hydrogen.
   C. Methane.
   D. Carbon monoxide.

3. The two isotopes of chlorine are chlorine 35 and chlorine 37. The reason why the two isotopes show similar chemical properties is because of the ..... they have.
   A. different number of neutrons
   B. different mass numbers
   C. same number of electrons
   D. same atomic numbers

4. Which one of the following hydro carbons is unsaturated?
   A. CH_4
   B. C_2H_6
   C. C_3H_6
   D. C_4H_{10}

5. The process by which dilute hydrochloric acid converts starch to glucose under suitable conditions of $35 - 40^0C$ is called.
   A. hydrolysis.
   B. dehydration.
   C. fermentation.
   D. neutralization.

6. What is the percentage by mass of oxygen in iron (II) sulphate. heptahydrate, $FeSO_4.7H_2O$ (Fe = 56, S = 32, O = 16, H = 1)
   A. $\left(\frac{278}{176}\times 100\right)$
   B. $(176\times 100\times 278)$
   C. $\left(\frac{176\times 100}{278}\right)$
   D. $\left(\frac{176\times 278}{100}\right)$

7. Which one of the following reactions will yield nitrogen as one of the products?
   A. Oxidation of ammonia by heated copper (II) oxide.
   B. Reaction of Magnesium nitride with water.
   C. Catalytic oxidation of ammonia using hot platinum gauze.
   D. Heating of ammonium nitrate strongly.

8. Which one of the following substances absorbs much water from the atmosphere to the extent that it dissolves in it to form a solution?
   A. Ferric chloride
   B. Copper (II) oxide
   C. Anhydrous copper (II) Sulphate
   D. Hydrated Sodium Carbonate

9. Potassium nitrate decomposes on heating according to the equation.
   $2KNO_{3(S)} \longrightarrow 2KNO_{2(S)} + O_{2(g)}$
   The volume of oxygen at room temperature and pressure that would be produced on heating 5.0 g of Potassium nitrate is (K = 39, N = 14, O = 16; 1 Mole of a gas occupies 24 dm^3 at room temperature)
   A. 0.594 dm^3
   B. 0.954 dm^3
   C. 0.459 dm^3
   D. 0.696 dm^3

10. Which one of the following gases is collected by down ward displacement of air?
   A. Carbon dioxide
   B. Nitrogen dioxide
   C. Ammonia
   D. Chlorine gas

11. Which one of the following elements does NOT readily react with cold water?
   A. Calcium
   B. Sodium
   C. Magnesium
   D. Potassium

12. 9.35 g of hydrocarbon Y contains 8.01 g of carbon by mass. The empirical formula of Y is (C = 12, H = 1)
   A. CH_4
   B. CH_2
   C. C_2H_6
   D. C_2H_2

13. The gas evolved when a solution containing hypochlorous acid is exposed to sun rays is
   A. Hydrogen chloride gas.
   B. Chlorine gas.
   C. Oxygen gas.
   D. Nitrogen gas.

14. Which one of the following classes of organic compounds does Sodium stearate belong to?
   A. Esters
   B. Salt of carboxylic acid
   C. Carboxylic acids
   D. Alcohols

15. Students observed white coatings inside a school kettle that was used to boil borehole water. The compound in the white coating is.
   A. Calcium oxide
   B. Calcium hydroxide
   C. Calcium hydrogencarbonate
   D. Calcium carbonate

16. The colour of the universal indicator when mixed with lemon juice turned red. This means that a solution of lemon juice
A. has a pH value greater than 7.
B. can react with sodium metal liberating hydrogen gas.
C. turns the color of methyl orange from red to yellow
D. does not liberate carbon dioxide from carbonates.

17. Which one of the following metals is the most powerful reducing agent?
A. Copper
B. Zinc
C. Magnesium
D. Iron

18. A compound R contains 2.80 g of iron and 5.35 g of chlorine. The formula of the oxide of R is (Fe = 56, Cl =35.5)
A. FeO
B. FeO_2
C. Fe_2O_3
D. Fe_3O_4

19. Sulphur dioxide is oxidized to sulphur trioxide according to the equation.

$2SO_{2(g)} + O_{2(g)} \leftrightharpoons 2SO_{3(g)}$ + heat.

The following conditions will affect the equilibrium yield of sulphur trioxide except the use of;
A. low temperatures.
B. finely divided vanadium (V) oxide.
C. excess air in order to react all the sulphur dioxide.
D. high pressure.

20. 24.5 cm^3 of 0.046 M solution of an acid HnX required 22.6 cm^3 of a 0.15 M sodium hydroxide solution for complete reaction. The basicity of the acid HnX is
A. 1
B. 2
C. 3
D. 4

21. When a solution of sodium carbonate is treated with carbon dioxide, a white precipitate is formed. The formula of the compound formed is.
A. $NaHCO_3$.
B. NaOH.
C. $Ca(HCO_3)_2$.
D. Na_2O_2.

22. 0.1 moles of compound $X(HCO_3)_2$ weighs 14.6 g. The formula mass of the sulphate XSO_4 is
A. 100 g.
B. 106 g.
C. 115 g.
D. 120 g.

23. The electronic structure of element W is 2,8,2. Which one of the following is true about the chloride of W? It is
A. a gas at room temperature.
B. a covalent compound.
C. an electrolyte when in solution.
D. soluble in methyl-benzene.

24. Which one of the following substances is responsible for the bleaching action of chlorine water on dyes?
A. $CaOCl_2$
B. $HClO_3$
C. $NaClO_3$
D. $HClO$

25. Carbon dioxide is produced in the laboratory by the action of dilute hydrochloric acid on Calcium carbonate. The rate of production is highest when
A. powered Calcium carbonate is reacted with 2 M hydrochloric acid.
B. marble chips are reacted with 2 M hydrochloric acid.
C. powered calcium carbonate is reacted with 1 M hydrochloric acid.
D. marble chips are reacted with 1 M hydrochloric acid.

26. When 4 g of ammonium nitrate were dissolved in 100 g of water, the temperature dropped from 23^0C to 20^0C. The molar enthalpy change is....
(S.H.C of water = 4.18 $KJKg^{-1}K^{-1}$, N = 14, O = 16, H = 1)
A. $\left(\frac{100\times4.18\times3\times80}{4}\right)$KJ/mole
B. $\left(\frac{80\times4.18\times3}{4\times10}\right)$KJ/mole
C. $\left(\frac{4\times10}{80\times4.18\times3}\right)$KJ/mole
D. $\left(\frac{100\times4.18\times3\times4}{80}\right)$KJ/mole

27. Which one of the following is the name of the process by which the property of rubber is improved by heating rubber with sulphur?
A. Polymerization
B. Fermentation
C. Vulcanization
D. Saponification

28. Which one of the following substances dissolves in water to form a solution that can react with both Zinc oxide and hydrochloric acid?
A. Na_2O_2
B. P_2O_5
C. CO_2
D. SO_2

29. Which one of the following metals cannot be extracted from its ore by electrolysis?
A. Sodium
B. Aluminum
C. Iron
D. Magnesium

30. The purpose of hot compressed air during the extraction of sulphur from its deposit is to
A. melt the Sulphur in the deposit.
B. force the molten Sulphur upwards onto the surface.
C. separate Sulphur from sand and other impurities.
D. prevent oxidation of sulphur to Sulphur dioxide.

Turn Over

31. Which one of the following does **NOT** decompose on heating?
A. Sodium nitrate
B. Sodium carbonate
C. Calcium carbonate
D. Calcium nitrate

32. Element W of mass number 31 belongs to group V and period 3 of the periodic table. The number of neutrons in the atom of W is
A. 15.
B. 10.
C. 24.
D. 16.

33. Which one of the following ions will react with Lead (II) nitrate to form a yellow precipitate?
A. CO_3^{2-}
B. Cl^-
C. SO_4^{2-}
D. I^-

34. Sodium carbonate reacts with dilute nitric acid according to the equation.
$Na_2CO_{3(aq)} + 2HNO_{3(aq)} \longrightarrow 2NaNO_{3(aq)} + H_2O_{(l)} + CO_{2(g)}$
The mass of sodium nitrate that would be formed when 2.75 g of sodium carbonate is reacted completely with the acid is (Na = 23, O = 16, C = 12, N = 14, H = 1)
A. $\left(\frac{2.75\times85}{106}\right)g$
B. $\left(\frac{2.75\times2\times85}{106}\right)g$
C. $\left(\frac{2.75\times85}{106\times2}\right)g$
D. $\left(\frac{85\times2}{2.75\times106}\right)g$

35. Which one of the following oxides of metals will **NOT** be reduced by carbon monoxide upon heating?
A. Copper (II) oxide.
B. Iron (III) oxide.
C. Lead (II) oxide.
D. Calcium oxide.

36. Which of the following pairs of substances will cause a displacement reaction to occur when mixed?
A. Copper metal and zinc chloride Solution.
B. Iron filings and copper (II) sulphate solution.
C. Zinc granules and magnesium nitrate solution.
D. Bromine liquid and potassium chloride solution.

37. The equation for combustion of methanol is
$2CH_3OH_{(l)} + 3O_{2(g)} \longrightarrow 2CO_{2(g)} + 4H_2O_{(l)}$ $\Delta H = -510.4$ KJ/Mole. The amount of heat produced when 8 g of methanol is completely burnt in oxygen is
(C = 12, O = 16, H = 1)

A. $\left(\frac{510.4\times 8}{32}\right)$KJ

B. $\left(\frac{510.4}{8\times 32}\right)$KJ

C. $\left(\frac{32\times 8}{510.4}\right)$KJ

D. $\left(\frac{32\times 510.4}{8}\right)$KJ

38. Which one of the following nitrates will leave a shiny mirror coating on the walls of the test tube when heated strongly?
A. Copper (II) nitrate
B. Silver nitrate
C. Sodium nitrate
D. Ammonium nitrate

39. Which one of the following salts is prepared by double decomposition?
A. Na_2SO_4
B. $CaCl_2$
C. $PbSO_4$
D. $Pb(NO_3)_2$

40. Which one of the following substances will dissolves in water to form a solution whose pH is less than 7.
A. NH_4Cl
B. NH_3
C. Na_2O_2
D. Na_2CO_3

Each of the following questions 41 – 45 consists of an assertion (statement) on the left hand side and a reason on the right hand side.
Select as follows.

A. If both assertion and reason are **true** statements and the reason is the **correct** explanation of the assertion.
B. If both assertion and reason are **true** statements but the reason is **not** the **correct** explanation of the assertion.
C. If the assertion is **true** but the reason is **not** a **correct** statement.
D. If the assertion is **not** correct but the reason is a **correct** statement.

Instructions Summarised

Assertion	Reason
A. True	True(Reason is a correct explanation)
B. True	True (reason is not a correct explanation)
C. True	Incorrect
D. Incorrect	Correct

41.	Ammonium chloride when heated forms a white sublimate on cooling	because	the ammonia and hydrogen chloride formed recombine on cooling.	
42.	Sodium bicarbonate is an acidic salt	because	sodium bicarbonate is formed by replacing all the replaceable hydrogens of the acid by sodium.	
43.	Sodium amalgam reacts with water to form sodium hydroxide, hydrogen and mercury	because	sodium is an alkali metal.	
44.	Manganese (IV) oxide and Lead (IV) oxide are not considered as bases	because	they both oxidise concentrated hydrochloric acid to chlorine gas, the salt and water.	
45.	Zinc is used to form galvanized iron	because	Zinc is below Iron in the reactivity series.	

In each of the question 46 – 50 one or more of the answers may be correct. Read each question carefully and then indicate the correct answer as: A, B, C or D according to the following.

A. If 1, 2 and 3 only are correct.
B. If 1 and 3 only are correct.
C. If 2 and 4 only are correct.
D. If 4 only is correct.

Instructions Summarised

A	B	C	D
1, 2, 3 only	1 and 3 only	2 and 4 only	4 only

46. Which of the following gas(es) can **NOT** be suitably collected over water?
    1. Sulphur dioxide gas
    2. Hydrogen chloride gas
    3. Ammonia gas
    4. Carbon monoxide gas

47. The ion(s) that form hydroxide(s) which is/are soluble in excess ammonia is /are
    1. Pb^{2+}
    2. Cu^{2+}
    3. Al^{3+}
    4. Zn^{2+}

48. Which of the following element(s) is/are allotropic?
    1. Phosphorus
    2. Chlorine
    3. Sulphur
    4. Sodium

49. Methane is used as a fuel because,
    1. it burns with a non-sooty flame.
    2. it is a saturated hydrocarbon.
    3. it produces a lot of heat when burnt in oxygen.
    4. it is an alkane.

50. Which of the following is/are characteristics of metal(s)?
    1. They have high melting and boiling points.
    2. They conduct heat and electricity.
    3. They have high densities.
    4. They have low melting point(s)

END

223/1
CHRISTIAN
RELIGIOUS
EDUCATION
Paper 1
July/August 2023
2½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHRISTIAN RELIGIOUS EDUCATION

(CHRISTIAN LIVING TODAY)

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *Candidates must answer* **five** *questions, taking* **one** *from each of the sections,* **A, B, C, D** *and* **E.**
- **All** *questions carry equal marks.*
- *Any additional question(s) answered* **will not** *be marked.*

Turn Over

SECTION A

MAN IN A CHANGING SOCIETY

1. (a) Identify the changes that were experienced by the Israelites on their way to and after settling in the promised land. (10 marks)

   (b) How did the Traditional Africans prepare themselves for change in their communities? (10 marks)

2. (a) Why do some people have hatred for work in the modern times? (10 marks)

   (b) Explain the Old Testament teachings on work. (10 marks)

3. (a) Explain the secular ways in which most youths would like to spend their leisure time today. (10 marks)

   (b) What problems do youths face while spending their leisure time today? (10 marks)

SECTION B

ORDER AND FREEDOM

4. (a) Explain the common injustices witnessed in the Ugandan society today. (10 marks)

   (b) What Biblical teachings can help Christians in Uganda to deal with the above injustices? (10 marks)

5. (a) With examples, explain the ways in which some church leaders have failed to offer true services to the people in Uganda today. (10 marks)

   (b) What services did the following personalities render to their people in the early church history?
   (i) St. Paul (05 marks)
   (ii) St. Barnabas (05 marks)

6. (a) With examples, explain the rituals and practices carried out by Traditional Africans to express loyalty to God. (10 marks)

   (b) In what ways did the Uganda Martyrs demonstrate their loyalty to God. (10 marks)

SECTION C

LIFE

7. (a) What are the moments of happiness among Christians today? (10 marks)

   (b) What is the New Testament teaching on happiness? (10 marks)

8. (a) How were the dead recognized as important members in Traditional African Society? (10 marks)

   (b) What is the Christian understanding of eternal life? (10 marks)

9. (a) Explain the success Uganda has attained since independence. (10 marks)

   (b) Give the success attained by the apostles after the Pentecost day (10 marks)

SECTION D

MAN AND WOMAN

10. (a) Why was there limited sex abuses in the Traditional African families? (10 marks)
    (b) What are the characteristics of a happy family? (10 marks)

11. (a) Explain the causes of the many cases of homosexuality today? (10 marks)
    (b) Why does the church oppose the practice of homosexuality? (10 marks)

12. (a) For what reasons was divorce allowed in Traditional African marriages? (10 marks)
    (b) What is the New Testament teaching about marriage? (10 marks)

SECTION E

MAN'S RESPONSE TO GOD THROUGH FAITH AND LOVE

13. (a) Give evidence of man's search for God today. (10 marks)
    (b) In what ways is the African Traditional search different from the Christian search for God? (10 marks)

14. (a) Why is the church in Uganda struggling to maintain their Christians in faith? (10 marks)
    (b) Give the similarities in the way the Traditional Africans and Israelites evaded God. (10 marks)

15. (a) How was God involved in the affairs of the Israelites? (10 marks)
    (b) What lessons can modern religious leaders learn from God's involvement. (10marks)

END

Name: ……..…….. Index No……....

School: ……..…… Signature: ……..

527/1
PRINCIPLES AND PRACTICES OF AGRICULTURE
(Theory)
Paper 1
July/August 2023
$2^{1}/_{2}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

THEORY

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *Answer* **all** *questions in part* **A** *and* **four** *questions in part* **B**, *choosing at least* **one question** *from each of the sections* **I, II, III** *of part* **B.**

FOR EXAMINER'S USE ONLY		
QUESTIONS	**MARKS**	**EXAMINER'S NUMBER**
PART A		
PART B; No.		
No.		
No.		
No.		
TOTAL		

Turn Over

PART A (20 MARKS)

Answer **all** questions in this part.

Answer all questions in this part. For question 1, write the letter corresponding to the best answer in the box provided. For numbers 2 to 5, write all answers in the spaces provided.

1. (a) Which of the following factors does not influence the supply of a commodity?
   A. Cost of transport.
   B. Number of producers.
   C. Technology used in production.
   D. Size of income.

   (b) Which stage of the liver fluke infests the host animal?
   A. Adult
   B. Miracidium
   C. Cercaria
   D. Sporocyst

   (c) Why is a DPC necessary during construction of a farm building?
   A. To support the building.
   B. To prevent termites from destroying the wall.
   C. To prevent upward movement of water in the wall.
   D. To prevent cracks in the wall.

   (d) Why is couch grass a difficult weed to control?
   A. Produce many viable seeds.
   B. Has numerous rhizomes.
   C. It is a hardy weed.
   D. It is a perennial weed.

2. State the information to be included in a breeding record. (02 marks)

   (i) .....

   (ii) .....

   (iii) .....

   (iv) ..... (04 marks)

3. Give **four** factors considered when selecting ingredients for formulating rations. (04 marks)

   (i) .....

   (ii) .....

   (iii) .....

   (iv) .....

4. State **five** reasons why farm buildings are important on the farm. (05 marks)

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

5. Give **five** factors that affect the quality of farm yard manure. (05 marks)

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

PART B (80 MARKS)

*Answer any **four** questions including **at least** one from each section.*

*Addition questions answered will **not** be marked.*

Write your answers in the answer booklet/sheets provided.

SECTION I

MECHANISATION AND FARM MANAGEMENT

6. (a) State the different market functions. (06 marks)

(b) Explain the problems faced while marketing agricultural products. (14 marks)

7. (a) State the features of a good spray race. (06 marks)

(b) What are the advantages and disadvantages of using a spray race? (10 marks)

(c) How can a spray race be maintained? (04 marks)

8. (a) Outline the components of the water cooling system of a tractor? (06 marks)

(b) Why is water commonly used as a coolant? (04 marks)

(c) How can the water cooling system be maintained? (10 marks)

SECTION II

CROP PRODUCTION

9. (a) Name five inorganic fertilizers that contain nitrogen used in crop growing. (05 marks)

   (b) State the uses of nitrogen in crop growth. (05 marks)

   (c) Explain the ways in which nitrogen is lost from the soil. (10marks)

10. (a) State the effects of soil erosion on land. (10 marks)

    (b) Explain factors that influence the rate of soil erosion. (10 marks)

11. (a) Why are farmers advised to dry crops before storage? (06 marks)

    (b) How can crop losses be reduced while in storage? (14 marks)

SECTION III

ANIMAL PRODUCTION

12. (a) With the aid of a diagram describe how an egg is formed in a hen. (14 marks)

    (b) State the abnormalities that occur during egg formation process. (06 marks)

13. (a) State the reasons for identifying farm animals. (06 marks)

    (b) Describe how the hot iron branding method is used on a calf. (12 marks)

    (c) Outline other methods used in identifying farm animals. (02 marks)

14. (a) What are the effects of diseases in animal production? (08 marks)

    (b) State the ways by which livestock diseases spread. (12 marks)

END

845/2
ENTREPRENEURSHIP EDUCATION
Paper 2
July/August 2023
2 ½ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

ENTREPRENEURSHIP EDUCATION

Paper 2

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of* **two** *sections* **A** *and* **B**.
- *Section A is* **compulsory**. *Answers to this section should be precise.*
- *Answer* **three** *questions from section B.*
- **All** *questions in section* **B** *carry* **equal** *marks.*
- *Any additional question(s) answered will* **not** *be marked.*
- *Credit will be given for use of relevant examples and illustrations.*

SECTION A (40 MARKS)

*Answer **all** questions in this section.*

1. (a) (i) Define the term **risk** as used in entrepreneurship. (01 mark)

(ii) State any **three** factors determining risk assessment. (03marks)

(b) (i) What is meant by the term **career**? (01 mark)

(ii) Mention any **three** examples of career sectors in your country. (03 marks)

(c) (i) What is a **business environment**? (01 mark)

(ii) State any **three** components of a business environment. (03 marks)

(d) Mention any **four** supportive skills required in the job market. (04 marks)

(e) (i) Distinguish between **business idea** and **business opportunities.** (02 marks)

(ii) Outline any **two** characteristics of a good business opportunity. (02 marks

(f) Give any **four** examples of indirect expenses incurred during business operations. (04 marks)

(g) (i) Define the term **tax compliance** as used in taxation. (01 mark)

(ii) State any **three** examples of taxes collected by local authorities in Uganda. (03 marks)

(h) Given

	Shs.
Debtors	60,000
Bank balance	20,000
Cash balance	20,000
Bank over draft	10,000
Creditors	30,000
Rental bills	50,000

Determine (i) Working capital ratio. (3 marks)

(ii) Interpret the results after. (01 mark)

(i) State any **four** stake holders of a business plan. (04 marks)

(j) (i) Define the term **Listing** as used in stock exchange. (01 mark)

(ii) Give any **three** qualifications for a company to be Listed. (03 marks)

SECTION B (60 MARKS)

*Answer any **three** questions from this section.*

2. (a) Mention any **eight** contents of a partnership deed. (08 marks)

   (b) What are the **merits** of a partnership over a sole proprietorship business? (12 marks)

3. (a) Give the objectives of packaging products by business entrepreneurs. (08 marks)

   (b) Explain **six** factors considered by entrepreneurs while selecting packaging materials. (12 marks)

4. (a) What are the steps followed when conducting personal selling as a technique used in marketing business products? (08 marks)

   (b) Explain the merits of personal selling to a business enterprise. (12 marks)

5. (a) Outline any **four** sources of recruitment of employees. (04 marks)

   (b) Explain the factors considered when recruiting business employees. (16 marks)

6. (a) Explain the business laws that are commonly applicable in Uganda. (10 marks)

   (b) Advise the government on the measures that can be undertaken to encourage entrepreneurs observe business laws in Uganda. (10 marks)

END

Name……..…… Signature……

School……..…… Index No……

527/2
PRINCIPLES
AND PRACTICES
OF AGRICULTURE
(Practical)
Paper 2
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES:

- *Answer* **all** *questions.*

  All *answers should be written in the spaces provided.*

FOR EXAMINER'S USE ONLY		
QUESTION	**MARKS**	**EXAMINER'S No.**
1		
2		
3		
4		
5		
TOTAL		

1. You are provided with specimen A and B, which are soil samples. Carry out tests on the specimens following the procedures provided.

Label two measuring cylinders as A and B.

Put specimen A in a measuring cylinder labeled A, while tapping the bottom of the cylinder gently to compact the soil being added until it reaches a volume of 20 cm^3.

Repeat the procedure as you put specimen 'B' into a measuring cylinder labeled 'B'

Now add 50 cm^3 of water into each measuring cylinder, stir each thoroughly using a glass rod and leave it to stand for 15 minutes.

(a) After 15 minutes; record the volume of the contents in each measuring cylinder.

(i) Volume in measuring cylinder; (1 mark)

A .....

B .....

(ii) From the results in (a) (i), calculate the percentage of air in each specimen. (2 marks)

A .....

.....

B .....

.....

(b) State the differences observed in the layers of the contents in the two cylinders. (2 marks)

A	B

(c) Using the results from your tests in (a) and observations in (b); state the type of soil each specimen is; giving a reason for your answer. (03 marks)

A .....

.....

B .....

.....

(d) (i) Which of the above specimen is NOT suitable for crop growth? (½ mark)

.....

(ii) Suggest three ways of improving the specimen you have given in d(i) (1½ mark)

.....

.....

.....

You are provided with specimens C_1, C_2, C_3, C_4, C_5, C_6 and C_7.

(a) What farm product can be made from the specimens? (½ mark)

.....

(b) Using specimens C_1 to C_7 which method can you use to make the product in (a) above? (½ mark)

.....

(c) Describe how the above materials can be used in preparation of the product in (a) using the method you have given in (b) above. (3½ mark)

.....

.....

.....

.....

.....

.....

.....

(d) Give reasons to support the above arrangement of the specimen C_1 to C_7 you have given in (c) above. (3½ mark)

.....

.....

.....

.....

.....

.....

.....

(e) State the benefits of using the product named in (a) above in vegetable production. (2 marks)

.....

.....

.....

Specimen E and F are livestock parasites.

(a) Examine the specimens using a hand lens and state the type of parasite each specimen is, giving a reason in each case.

(i) E .....

..... (1 mark)

(ii) F .....

..... (1 mark)

(b) Give two features on each specimen which enable it to adapt to a parasitic mode of life.

(i) E .....

.....

(2 marks)

(ii) F .....

.....

(2 marks)

(c) Suggest two ways of controlling each specimen as a parasite.

E .....

..... (2 marks)

F .....

..... (2 marks)

4. You are provided with specimens G_1 to G_4

(a) (i) Observe them critically and state where they are commonly used. (1 mark)

.....

(ii) Group the specimens according to their common function. (2 marks)

.....

.....

(b) Give one function for each specimen above. (2 marks)

G_1 .....

G_2 .....

G_3 .....

G_4 .....

(c) Suggest how each specimen is adapted to its function. (4 marks)

G_1 .....

G_2 .....

G_3 .....

G_4 .....

(d) How can the specimens above be maintained in good working conditions. (1 mark)

.....

5. Specimen Q is a crop plant. Use it to answer the questions that follow.

(a) (i) State the family to which the specimen belongs. (1 mark)

.....

(ii) Observe the root system of the specimen and record your observation. (4marks)

.....

.....

.....

.....

(b) Basing on the observations in (a) (ii) above, suggest the functions of the features to the specimen. (4 marks)

.....

.....

.....

.....

(d) Observe the leaf structure of the specimen and give reasons why it should be included in a cropping programme. (1 mark)

.....

.....

END

612/1
IPS Art and Crafts
STUDIO TECHNOLOGY
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

IPS Art and Crafts

STUDIO TECHNOLOGY

Paper 1

2 hours

INSTRUCTIONS;

- *Answer* **All** *questions.*
- *Drawings and Diagrams should be used where necessary.*
- *Credit will be given for their explanatory value.*

Turn Over

1. (a) Define the term **movement.** (01 marks)

   (b) Explain **three** ways of creating rhythm in an artwork. (03 marks)

2. (a) What is an **illustration?** (01 mark)

   (b) Give the qualities of a good poster. (04 marks)

3. (a) What is **textile printing?** (01 mark)

   (b) Outline **four** materials and **four** tools used in serigraphy. (04 marks)

4. Mr. Kasango made articles out of clay and never registered good results since most of his articles cracked and broke down before and in the process of firing.

   (a) Give reasons for the cause of damages. (03 marks)

   (b) Suggest ways how Mr. Kasango can prevent such incident to happen again. (03 marks)

5. Define the following terms as used in leather craft.

   (i) Pelt (01 mark)

   (ii) Hide (01 mark)

   (iii) Skin (01 mark)

   (iv) Raw hide (01 mark)

   (v) Casing (01 mark)

6. Describe the process of making a mask using strip mache technique. (07 marks)

7. With help of illustrations explain the following techniques of weaving.

   (i) Plain weave (01 mark)

   (ii) Twill weaves (01 mark)

   (iii) Ghiordes knot (01 mark)

   (iv) Satin weave. (01 mark)

8. (a) Distinguish between a **puppet** and a **puppeteer.** (02 marks)

   (b) Give the relevance of puppetry. (04 marks)

9. Mention the stages of wood carving. (04 marks)

10. Give the role of art exhibitions in your school. (04 marks)

END

335/2
LUGANDA
PAPER 2
July/August 2023
$2^{1}/_{2}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

LUGANDA

(Okusoma bwino, eby'obuwangwa ne Litulica)

Olupapula olwokubiri

Essaawa bbiri n'ekitundu.

EBIGOBERERWA:

- *Olupapula luno lugabanyiziddwamu ebitundu bisatu,* **A, B,** *ne* **C**
- *Ekitundu **A** ne **B** bya buwaze.*
- *Kitundu* **C,** *londamu ebibuuzo bisatu okuva mu butabo obw'enjawulo ng'akamu ku bwo ka bitontome.*

Bikkula

EKITUNDU A

1. Soma ekitundu ekikuweereddwa n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo. *(Obubonero 25)*

Ebya zaavugiddewa mu mikolo gy'okwanjula bisaana bidibizibwe. Nazzikuno ng'omukolo gw'okwanjula gubeera gwa maka abiri, aga Kawasa ne gw'awasa naye owa! kati bitabuse emikolo gyafuuka gya katemba na kweraga. Mwana mulenzi kasita kamutanda n'aleeta ebirabo eby'olusuluugi afuuka kisekererwa ku kyalo, mu mpapula z'amawulire, zitterefaayina zaakuno wamu ne mu bakoddomi be. Awo no oyo kawasa atwala ebingi omwogezi n'alyoka amusuusuuta n'amujajjatta nga bwe yafuna obuuma nga tannayiga na kububala. Enkola y'okulaga emikolo gy'okwanjula ku ntimbe za tterefayina ezaalidde abavubuka ebitukula makaayi by'azaalira ku nsiko anti kati atasobola bya kweraga ebyokwanjula abifuuwe mu ŋŋombe. Era kati buli bw'oyogera ku kwanjula abavubuka bangi kubawunyira zziizi.

Katikkiro wa Buganda, Charles Peter Mayiga azze avumirira enkola eno eyokwejjalabya, azze akubiriza abavubuka okukendeeza ku nsaasaanya basige ensimbi mu bintu ebisobola okwongera ku nfuna yaabwe; mu kifo ky'okuteeka ensimbi mu bakazannyirizi, abayimbi abajja ku mukolo mu lutemya lw'eriiso ne bakuuliita n'obulindo bw'ensimbi ezandiyambye kawasa ne mukyala we.

Wano mu Buganda omwana omuwala bwe yagendanga e Busoke oba Kiyite okuzza omukono emabega, ng'atuuse okufumbirwa. Ssenga w'omuwala yaweebwanga ekkatala okunoonyeza omuwala omwami beetange obuswavu mu maka. Ssenga bwe yazuulanga omusajja omutuufu asaanira muwala we ng'atandika okusala entotto ssaako n'okuluka olujegere wakati w'amaka g'omuwala n'omulenzi ayagala okuwasa.

Ssenga kimukakatako okulaba nga omulenzi ono asisinkana taata w'omuwala oba muyite mwannyina wa Ssenga. Omulenzi yagendanga n'abantu bana omuli Ssengaawe mwannyina, Jjajjawe, ssaako kkojja amanyi okusengeka ebigambo obulungi era nga y'amwogerera. Mu nsisinkano eno esooka, abantu okuva ku njuyi zombi beeyanjulanga ne beemanya, Omulenzi wano weyabotoleranga ekyama ky'okwagala okuwasa omuwala oyo. Wano nga basinziira ku byogeddwa okulaba oba ddala ababiri bano basobola okufumbiriganwa. Singa kyazuulibwanga mu maka g'omulenzi oba omuwala waliyo endwadde ez'olukonvuba, basezi, bagwa eddalu, oba amaka gombi geerinako oluganda ekyama kyakomanga awo. Ensisinkano eyokubiri yalinga yakusalawo oba bakkinziganyizza okutwala omukolo mu maaso. Ensisinkano zino zaabanga za kyama era nga singa ekyama kifa nga tewali muntu atabadde mu kyama kino akitegeera okusobozesa omuwala ono okufuna omulenzi omulala n'omulenzi okufuna omuwala omulala.

Naye singa abazadde b'omuwala bakkirizanga okusaba kw'amaka g'omulenzi, ab'enju y'omulenzi baaleetanga ebirabo ebisaamusaamu ng'akasiimo okubakkiriza okwegatta ku maka gaabwe. Ebyo nga biwedde Ssenga yaleeteranga taata w'omuwala ebbaluwa evudde mu maka g'omulenzi esaba okwanjulwa mu maka gye bazaala omuwala era taata w'omuwala yagiddangamu ng'alaga olunaku n'essaawa omulenzi kwaliyanjulirwa.

Ku lunaku lw'okwanjula nga batwala ebita by'omwenge bisatu ekimu nga kye kiyitibwa ekiggulaluggi ekyaweebwanga taata azaala omuwala bwe wabeeranga nga tokirina ng'ovunaanibwa okusaalimbira mu maka ago saako n'okutanzibwa, ekita eky'okubiri kye kiyitibwa enjogeza era nga kino kyanywebwanga abantu ku njuyi zombi. Beeyanjula

okusobola okwemanya nokusaba okukkirizibwa okuzaalibwa mu maka omwo. Ekita ekyokusatu kye kiyitibwa ekyanjula era oluvannyuma lw'okukiwaayo awo nga bagabulwa olwendo lw'amazzi n'akattamukago. Awo omuko yawanga taata azaala omuwala ne mukoddomi we ekkanzu, Maama we ne Ssenga nga baweebwa ggomesi, ebirabo ebirala mwabangamu embuzi ey'omubibbo (ennyama yembuzi) n'embuzi ennamba eyaggyibwangawo amangu okwewala okukuukumula omusulo oba okusuula obusa awo ssaako okwewala abako okulaba ebitundu byayo ebyekyama.

Awo ekiba kisigalidde kwe kuwaayo omutwalo era guno gwabanga munnyo, omanyi ebiseera ebyo okufuna omunnyo ng'osiitaana.

Ennaku zino bikyuse abazadde basaba engoye mpitirivu, waliwo gwe baasaba ggomesi kikumi (100) n'amakanzu kinaana (80) olaba n'abantu b'okukyalo bateekebwa ku lukalala lw'abanaafuna ebirabo! Abantu batuuse okwewola ensimbi mu banka oba mu bano ba mpolembuzi ndikuwa ente okusobola okugula ente, entebe, bodaboda, ttanka n'ebirala okusobola okweraga. Aboogezi nabo beefudde kirala, anti omukolo olutandika n'atandika okusala ag'enkolwa okusobola okukama abantu abazze ensimbi, ababuuza abataggwa ssaako n'okukyusa engoye ekiyitiridde, abayimbi, emikolo okuggwa ekiro byetamizza abantu omukolo guno.

Aboluganda tudde ku mukolo ogw'ennono , nazzikuno nga taata w'omuwala akala atya amaaso n'asaba okumuzimbira ennyumba, okuliisa abako abajja, okumugulira emmotoka, omugole okumaggulira amaaso mu kidaala?, Yalina nga kutunula ku nnyindo ye. Nga n'okuzira kizira n'okutta kitta okwenywegera mu kwanjula. Ssaako n'obako okuzina aga ffunduukululu mu maaso g'abakadde.

Bwewaba nga tewali atuloga ebintu ebimu tubiviireko ddala okusobola okuzza Buganda ku ntikko.

Ebibuuzo:

(a) Bintu ki omuwandiisi by'alaze nga bisaana kudibizibwa? *(obubonero 06)*

(b) Nyonnyola emigaso gya Ssenga okusinziira ku kitundu ky'osomye. Leeta ebiri (2) *(obubonero 04)*

(c) Lwaki omuwandiisi alaga nti omukolo gw'okwanjula tegusaana mu lujjudde? *(obubonero 02)*

(d) Okwanjula okw'ennono kwabanga kutya okusinziira ku kitundu ekyo? *(obubonero 05)*

(e) Ekitundu ky'osomye kiwe omutwe ogukituukirako obulungi. *(obubonero 02)*

(f) Nyonnyola amakulu g'ebigambo bino nga bwe bikozeseddwa mu kitundu ekyo. *(obubonero 03)*

i) Mpola – embuzi ndikuwa ente
ii) Kattamukago
iii) Obuuma.

Okuva ku (g) – (i) wandiika ebyokuddamu mu bufunze ddala.

(g) "Ebirabo ebyolusuluugi." Omuwandiisi ategeeza ki? *(akabonero 01)*

(h) Lwaki Katikkiro Charles Peter Mayiga ayogeddwako mu kitundu kino? *(akabonero 01)*

(i) Okugenda e Busoke kiraga nti, "Omwana omuwala..... *(akabonero 01)*

Bikkula

EKITUNDU B

Kola 2(a) ne 2(b)

2. (a) Maririza engero zino nga bwezoogerebwa: *(Obubonero 10)*

(i) Entamu ennyangu .....

(ii) Omuyonjo omutono .....

(iii) Lubaale maliba.....

(iv) Abasajja ssubi.....

(v) Ow'ensonyi.....

(vi) ..... tassa mukono.

(vii) ..... amuleka ku mmere nnuma.

(viii) ..... tazibirirwa budde.

(ix) ..... enkaajumbe temala nju.

(x) ..... etuuka nnyinimu ku muze.

(b) Nnyonnyola amakulu g'engero zino agoomunda. *(Obubonero 05)*

i) Omutamiiru tabaaga mbwa.

ii) Omwana gy'amannyi enkuba gyetonnya.

iii) Amaanyi tegawala luga.

iv) Ennyonnyi eteyise ekolerera makaayi.

v) Eyeewa ezomumba gwe bazikuba.

EKITUNDU C

Ddamu ebibuuzo bisatu (3) byokka mu kitundu kino, ng'obiggya mu butabo obwenjawulo nga akamu ku bwo ka bitontome.Toddamu kibuuzo kisukka mu kimu ku buli katabo.

WAALABYEKI MAGOBA; *Mbayiwa w'abato*

Kola 3(a) oba 3(b)

3. (a) Soma ekitundu kino n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo.

Eby'eddiini si bye yali agenderako ennyo, naye ku mulundi guno yagenda okulaba nga tewali mulala yenna ayinza kumudduukirira mu kutya ne mu kweraliikirira bye yalimu wazira Katonda. Kye yava akyamako.....gye yayitangako bulijjo ng'agenda ku mulimu. Kyazira kuyingira bwati n'awulira eddembe ery'enjawulo mu mutima gwe. Awo natandika okusaba Katonda amuyambe.

Ebibuuzo:

(i) Ebigambo ebyo bisimbuddwa mu ssuula ki ey'olugero? *(obubonero 02)*

(ii) Ayogerwako akyama wa? Era ayagala Katonda amuyambe mu ki? *(obubonero 04)*

(iii) Nyonnyola ensonga musanvu (7) ezireeseewo okweraliikirira n'okutya mu bulamu bw'ayogerwako atuuke n'okusaba Katonda amuyambe. *(obubonero 14)*

oba

(b) Omuwandiisi w'olugero *Mbayiwa* atukyayisa atya embeera z'ekibuga? Nyonnyola, ensonga kkumi (10) engeri gye kiragiddwa. *(obubonero 20)*

RUTH .N. KABOGGOZA: *Amaggwa n'emitego mu buvubuka.*

Kola 3(a) oba 3(b)

4. (a) Soma ekitundu kino n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo.

"Omulenzi yatya n'alowooza bw'anaabitebya nga omuwala amufiiriddeko mu nju nga tabiraba, omulenzi bw'aba anyumya agamba nti "Bannange amaziga g'ekisajja gava wala naye ku olwo nakaaba n'entuuyana ne nkamala.....ne nneekola n'ekyokuganza obwana obusoma"

Ebibuuzo:

(i) Mulenzi ki ayogerwako mu kitundu ekyo? *(obubonero 02)*

(ii) Kiki ekyali kiguddewo ekimuleetera okutuuyana. *(obubonero 02)*

(iii) Ruth Kaboggoza alaze atya nti abalenzi be baviirako ebizibu ebituuka ku baana abawala mu lugero. Leeta ensonga munaana (8) ezooleka kino. *(obubonero 16)*

oba

(b) Ssomo ki ly'ofuna okuva mu kubuulirirwa kwa Cissy okuva mu buto bwe? *(obubonero 20)*

NAKITTO PRISCA: *Nze mbimaze*

Kola 5(a) oba 5(b)

5. (a) Soma ekitundu kino n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo.

"..... Sha nga nzira ku mbwa okwekerebenda nayo mbunno olw'okuva ku buko? Ha Maama Katonda yeebale obutantondera mu mulembe ogwo ogwedda saandisobodde. Bambi abakazi nga baabonaabona nnyo! Weebale emboozi yo nnungi naye sikyegomba kuzaalibwa mu mirembe egyo eggyedda. Naye omulembe guno abaana abalenzi nga beesiimye. Singa nno nnazaalibwa nga ndi mulenzi....."

Ebibuuzo:

(i) Ani ayogera ebigambo ebyo era abigamba ani? *(obubonero 02)*

(ii) Ebigambo ebyo bisimbuddwa mu kitundu ki eky'omuzannyo? *(obubonero 02)*

(iii) Omwogezi asinziira ku ki okwegomba okuzaalibwa nga mulenzi? Leeta ensonga munaana (8). *(obubonero 16)*

Oba

(b) Laga engeri omuwandiisi gy'atuzimbiddemu omulembe ogwedda n'omulembe ogwa leero mu muzannyo Nze Mbimaze . *(obubonero 20)*

SSALI DAMASCUS: *Obuwoomi bw'Ekitontome*

Ddamu nnamba 6(a) oba 6(b)

6. (a) Ssali Damascus tosobola kumwawukanya ku buwangwa bwa nsi ye. Kino kyeyolese kitya mu bitontome *Obuwoomi bw'Ekitontome.*

Oba

Bikkula

(b) Soma ekitontome kino n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo.

EKIJJOOMANYI

Abaatuzaala be baŋŋamba,
N'abaatukuza ne bassa okwo,
Ne bagerenjula ez'e Gganda,
Nga batunuulira eby'Abedda,
Nti bwokula ogira n'ogejja,
Naye olumangako ku ggumba.

Saamanya bifa wa jjajja,
Oli eyasenguka e Bwebajja,
Eyagenda ne Nankanja,
Bamale balime eri e Kkojja,
Gye baakozanga ku kyennyanja,
Ekyabasuubulwa e Bwebajja.

Bwe bwaziba ekiro mu ttumbi,
Ababbi ne banoonya ensimbi,
Abandi ne bakwata enkumbi,
Bajaasi ne bava mu nkambi,
Balwanyise agasajja agabbi,
Agaali gayasa n'ensumbi.

Abantu baakubanga amalebe,
Abandi ne bakoona ebikebe,
Batere bakange omulabe,
Ne wabula abataasa omugabe,
Beezizibye bakutte obutebe,
Mbu batere bakange omulabe.

Nadduka nzira mu kisambu,
Ne mwannyinaze Nansambu,
Tugubagguba mu mbubbu,
Tuyolekera e Lwannumbu,
Gye baatusenza mu lwetumbu,
Bwe ntyo ne mponya Nansambu.

Ebibuuzo:

(i) Omuwandiisi azimbye atya sitanza mu kitontome kino. *(obubonero 05)*

(ii) Laga ebintu ebyeyambisiddwa okuzimba entunnunsi mu kitontome kino. *(obubonero 05)*

(iii) Obuyiiya bw'omuwandiisi w'ekitontome kino obwesigamya ku bintu ki? *(obubonero 07)*

(iv) Nyonnyola amakulu ga Vvaasi zino wammanga. *(obubonero 03)*
   (a) Beezizibye bakutte obutebe.
   (b) Twagubagguba mu mbubbu.
   (c) Ne bagerenjula ez'e Gganda.

NAMAGANDA ALICE: *Ebitontome Ebiseeneekerevu*

Kola 7(a) oba 7(b)

7. (a) Bw'osoma ebitontome ebiseeneekerevu otegeera mangu nti Namaganda ategeera bulungi ebizibu ebiruma abantu be. Kozesa ebitontome ebyenjawulo okukakasa ensonga eyo. *(obubonero 20)*

Oba

(b) Soma ekitontome kino n'oluvannyuma oddemu ebibuuzo ku nkomerero yaakyo.

TULABYE N'ABANYUUNYUNSI

Ebiremesa enkulaakulana
Z'entalo ezitaggwa wano
Tuli bankuseere nnyo
Ntandikwa nzibu nnyo wano
Baatunyagako ebyaffe
Batunyagako ebyaffe
Twafune mbu bwetwaze
Byonna byoya bya nswa sso
Tuliko abanyuunyunsi!

Okusuubula okuliwo
Batutwalako ppamba
Mmwanyi ne baziggya wano
Ebikomo ne zzabu
Emmere bagiggya wano
bibala babiggya wano
Ennyama bagiggya wano
Batufootola ebbeyi
Tulabye n'abanyunyuunsi

Twafugibwa n'obudde
Baatusuuza n'ebyaffe
Tukoppererera bya mweru
Bo ne bafuna ssente

Endwadde zituguuya wano
Ate batuguza mmundu
Twetugumbule entakera
Ne batuwola ssente
Tweddaabirize mbu nno
Tulabye nabanyuunyunsi

Enjawukana ezaffe
Ezimu ziva ku ddiini
Ebibu biba byabufuzi
Twesanjagisa mbazzi
Enfuga etetuuse nnyo
Abaluvu b'ensimbi
Be balabe b'ensi eno
Tulabye n'abanyuunyunsi

Bikkula

Bwe batuwola ssente
Ate n'obukwakkulizo
Ne bakuguza essaawa
So nga oyagala nkumbi
Ensomesa y'omweru
Ekonyeza ddala ensi eno
Emirimu gy'emikono
Obutale bw'omweru
Birimu amakoona sso
Tulabye n'abanyuunyunsi

Nneekubagizaamu biki?
Kizibu kinaggwaawo?
Oba lwe banaawulira?
Kye kiseera twegatte
Okugaziya obutale
Enfuga etereere wano
Tekinologiya aleetwe
Tweggyeko abanyuunyunsi.

Ebibuuzo:

(i) Omwogezi mu kitontome kino akiikiridde bantu ba ngeri ki? *(obubonero 02)*

(ii) Lwaki omutontomi yeeyambisizza obubonero bw'empandiika mu kitontome kino? *(obubonero 04)*

(iii) Ekitontome kino kitegekeddwa kitya kiryoke kibalibwe nga ekitontome. *(obubonero 12)*

(iv) Nnyonnyola amakulu g'ennyiriri zino zombi. *(obubonero 02)*

BIKOMYE WANO

612/3
IPS ART AND CRAFT
PAPER 3
July/August 2023
3¼ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

INTEGRATED PRODUCTION SKILLS (IPS)

(Drawing/Painting from human figure)

Paper 3

3 hours 15 minutes

INSTRUCTIONS

This paper is for the supervisors' use only in consultation with the Art Teacher. Attention is directed to the syllabuses and to the standing instructions as given in the subject syllabus.

N.B: *Candidates must be instructed that ruling by any means whatsoever is forbidden.*

The Art Teacher should supply Candidates with cards measuring 5cm wide by 12cm long with which the Candidates will demarcate the area on the top right hand corner of the front surface of the paper. In this area, the candidate's name, Centre number and index number in that order must be written clearly. This area must not be painted.

The setter of the groups in this paper must interpret the sides mentioned in questions set below (i.e left to right) according to the position of candidates facing the model.

Alternative A

Head and Torso

A female or male model wearing a sleeveless blouse / shirt, sits on a chair behind an office table. The left hand rests on the table with its palm facing downwards on a book. The right hand rests on the table by elbow as the palm party supports the chin and the right chic with the head slightly tilted towards the right. The model looks directly at the candidates.

Candidates draw the torso.

Alternative B

Full Figure

A male or female youth full model dressed in a sort sleeved shirt/blouse and wearing only the left shoe sits on a wooden chair with the right leg crossing the left leg. The left leg firmly rests on the floor/ground.

He or she rests the left hand on the right thigh and holds an open counter book/black book in the right hand which also rests on the right leg towards the knee.

The model faces the candidates and the underneath of the bare right leg should be clearly seen by the candidates.

Candidates draw the full figure.

END

612/2
IPS – ART AND CRAFT
PAPER 2
July/August 2023
$2^{1}/_{2}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

INTEGRATED PRODUCTION SKILLS (IPS)

(Drawing or Painting from still life and Nature)

Paper 2

2 hours 30 minutes

INSTRUCTIONS;

This paper is for the supervisors' use only in consultation with the Art Teacher. Attention is directed to the syllabuses and to the standing instructions as given in the subject syllabus. Candidates are free to attempt one alternative from either still life or nature.

N.B: *Candidates must be instructed that ruling by any means whatsoever is forbidden. The Art Teacher should supply Candidates with cards measuring 5cm wide by 12cm long with which the Candidates will demarcate the area on the top right hand corner of the front surface of the paper. In this area, the candidate's name, Centre number and index number in that order must be written clearly. This area must not be painted.*

The setter of the groups of objects in this paper must interpret the sides mentioned in the questions set below i.e (left to right) according to the position of the candidates facing the objects.

The center supervisor should ensure that the teachers in-charge of preparing specimens do not substitute specimens specified in earlier instructions with other specimens of their choice, otherwise the candidates' work will be considered irrelevant and hence will **not** *be marked or graded.*

EITHER: STILL LIFE

Alternative A

On a low table near a wall, place a banana leaf longitudinally at a ¾ view. On its top, place a cluster of matooke with the matooke fingers facing the wall. On its left, place a cabbage in its upright position.

In between, the cabbage and matooke, randomly place two big onions and 2 big tomatoes.

An avocado (half – way cut to expose the seed) is placed in front of the cabbage.

Alternative B

On the floor near a wall corner, place a half filled 50 kg sack with any food items like garden food or fruits. On its left but slightly infront, place a right leg gumboot in an upright position at a ¾ view to the candidates, facing to the left.

Towards the right of the sack but slightly in front, place a hoe in its upright position with the blade tilted at ¾ view to face on the right hand side.

In between the hoe and gumboot but in front of the of the sack, scatter three potatoes of different sizes.

OR: NATURE

Alternative C

Make a study/studies of an uprooted pineapple plant.

Alternative D

With the help of a hand lens, make a study/studies of a soldier termite.

OR: LANDSCAPE

Alternative E

Draw or paint a landscape with a path (having same flowers along) leading to the school canteen. Some trees and bananas plants should be seen in the background.

END

Name..... Index No.....

School..... Signature .....

535/1
PHYSICS
PAPER 1
August 2023
$2^{1}/_{4}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

PHYSICS

Paper 1

2 hours 15 minutes

INSTRUCTIONS TO CANDIDATES:

- *This paper has* **two** *sections;* **A** *and* **B.**
- *Section* **A** *contains* **40** *objective type questions. You are required to write the correct answer* **A, B, C** *or* **D** *in the box on the right hand side of the question.*
- *Section* **B** *contains* **10** *structured questions. Answers to this section are to be written in the spaces provided on the question paper.*
- *Assume where necessary:*
  - *acceleration due to gravity, g* = $10\ ms^{-2}$
  - *density of water* = $1000\ kgm^{-3}$
  - *density of mercury* = $13600\ kgm^{-3}$
  - *density of hydrogen* = $0.089\ kgm^{-3}$
  - *density of air* = $1.29\ kgm^{-3}$
  - *speed of sound in air* = $330\ ms^{-1}$
  - *Speed of light in Vacuum* = $3.0 \times 10^{8}\ ms^{-1}$

For examiners use only

Q.41	Q.42	Q.43	Q.44	Q.45	Q.46	Q.47	Q.48	Q.49	Q.50	MCQ	Total

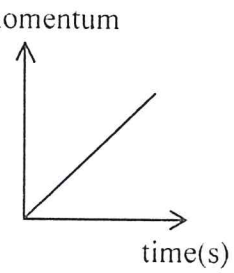
SECTION A (40 Marks)

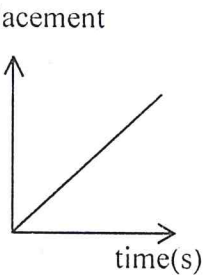
Answer **all** questions in this section

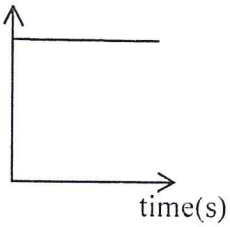
1. Which one of the following substances undergoes plastic deformation?
   A. Copper
   B. Wood
   C. Glass
   D. Concrete

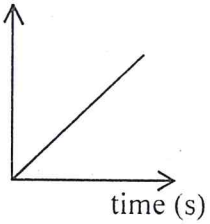
2. A body of mass 120 g and density 2.5 gcm^{-3} is placed in a measuring cylinder containing water and the level of water rises to 80 cm^3. Find the initial level of the water.
   A. 48 cm^3
   B. 40 cm^3
   C. 32 cm^3
   D. 30 cm^3

3. A body of a given mass is moving with uniform momentum. Which of the following graphs describes its motion?

   A.
   

   B.
   

   C.
   

   D.
   

4. Which of the following statements are true about light colour filters.
   (i) Magenta filter absorbs red and transmits blue and green.
   (ii) Magenta filter absorbs green and transmits red and blue.
   (iii) Cyan filter absorbs blue and transmits red and green.
   (iv) Yellow filter absorbs blue and transmits red and green.

   A. (ii) and (iv) only.
   B. (i), (ii) and (iii) only.
   C. (i) and (iii) only.
   D. (i) and (iv) only.

5. The process of using a material of low thermal conductivity to prevent heat loss is called
   A. lagging.
   B. cooling.
   C. absorption.
   D. contraction.

6. In an experiment to find how the force of repulsion between two magnets varies with their distance apart, the following results in a table below were obtained.

Force (N)	Distance (m)
30	1
120	4
480	16

From the results it can be deduced that:

A. $F \alpha d^2$

B. $F \alpha d$

C. $F \alpha \frac{1}{d}$

D. $F \alpha \frac{1}{d^2}$

7. A ray of light AO is incident on a plane mirror and it is reflected along OB as shown in figure 1 below.

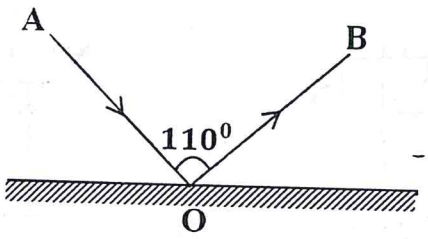


Fig. 1

The glancing angle is;

A. 35^o

B. 40^o

C. 55^o

D. 60^o

8. In order to charge a gold leaf electroscope positively by induction, the following is the correct order of the process involved:

(i) A negative rod is brought close to the cap.

(ii) The cap is earthed.

(iii) The negative rod is withdrawn.

A. (i), (iii) and (ii)

B. (ii), (iii) and (i)

C. (ii), (i) and (iii)

D. (i), (ii) and (iii)

9. Two girls are swinging in turns. One of them complained how it was hard to set her friend in motion. The property that accounts for this tendency is

A. friction.

B. inertia.

C. gravitational force.

D. momentum.

10. Two boys P and Q of masses 40 kg and 60 kg respectively climb a distance of 8 m each in 10 seconds and 15 seconds respectively. One of the following statements is correct about them.

A. The power of P equals to the power of Q.

B. The power of P is greater than that of Q.

C. The power of Q is greater than that of P.

D. The work done by P is greater than done by Q.

11. **Fig. 2**

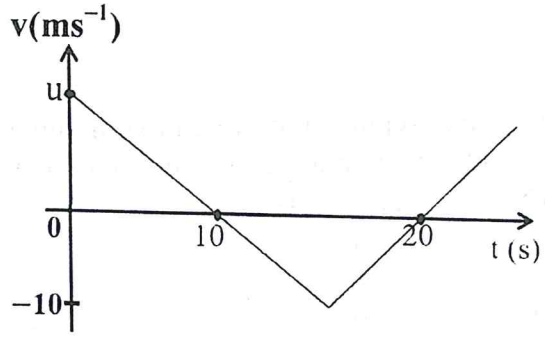
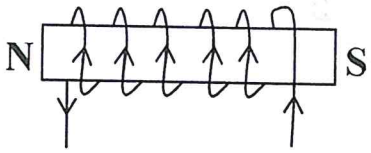


Figure 2 above shows motion of a body which covered a total displacement of 50 m. Find the value of its initial velocity u.

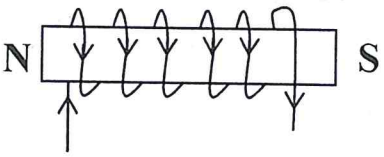
A. $4.5\ ms^{-1}$
B. $10\ ms^{-1}$
C. $16\ ms^{-1}$
D. $20\ ms^{-1}$

12. The diagrams below show electric field and polarity of an electromagnet. Which of them is correct?

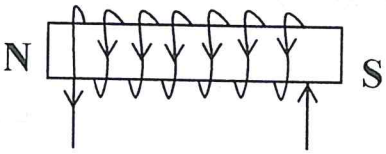
A.



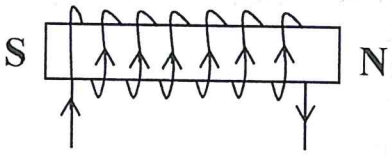
B.



C.



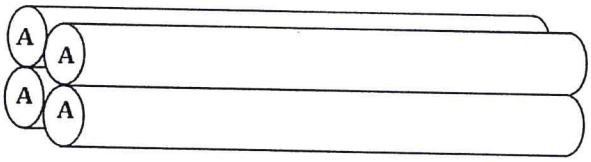
D.



13. Plane waves are diffracted as circular waves in a narrow gap. When the gap is made narrower the plane waves become

A. straight waves.
B. more circular.
C. standing waves.
D. reflected.

14. **Fig. 3**



Four identical cylindrical resistors each of cross sectional area A, resistivity **ρ**, and length ***l*** are combined in a bundle as shown in figure 3 above. Their effective resistance **R** is given by:

A. $\frac{\rho l}{4A}$
B. $\frac{4\rho l}{A}$
C. $\frac{4A}{\rho l}$
D. $4A\rho l$

15. Which of the following are true about a wave travelling from deep to shallow water?

(i) wavelength reduces.
(ii) velocity reduces.
(iii) wave length increases.
(iv) velocity increases.

A. (i) and (iv) only.
B. (ii) and (iii) only.
C. (i) and (iii) only.
D. (i) and (ii) only.

16. A magnified virtual image can only be produced by a
A. plane mirror.
B. convex mirror.
C. concave mirror.
D. driving mirror.

17. The density of a substance can be termed as the
A. quantity of matter per unit square metre.
B. space occupied by a substance.
C. quantity of matter per unit space occupied by a substance.
D. gravitational force working on a substance.

18. Full wave rectification can be achieved by using either of the following
(i) one diode
(ii) two diodes
(iii) three diodes
(iv) four diodes
A. (i) only
B. (ii) and (iv) only
C. (iii) and (iv) only
D. (iv) only

19. A fixed mass of an ideal gas has temperature, **T**, volume, v, and pressure **P**. When its pressure is halved and volume is trippled, its new temperature becomes.
A. $\frac{3}{2}T$
B. $\frac{2}{3}T$
C. $\frac{1}{6}T$
D. $6T$

20. Four bar magnets A, B, C and D were placed next to one another as shown in fig. 4 below.

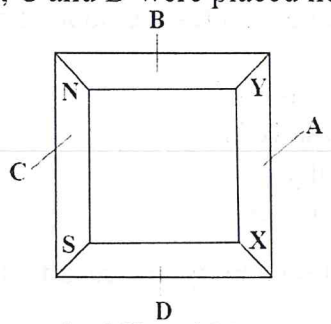


Fig. 4

The poles of magnet **A** marked **X** and **Y** are respectively
A. south and north.
B. south and south.
C. north and north.
D. north and south.

21. A nuclide ${}^{10}_{6}\mathbf{X}$ decays to nuclide **Y** by emission of a Beta particle and Alpha particle. The nucleon number of **Y** is:
A. 16
B. 11
C. 6
D. 1

22. A high AC voltage can be obtained from a low DC voltage by use of a
A. rectifier.
B. inverter and transformer.
C. transformer.
D. diode and a transformer.

23. A uniform beam of mass 250 g is pivoted at point P as shown fig 5 below.

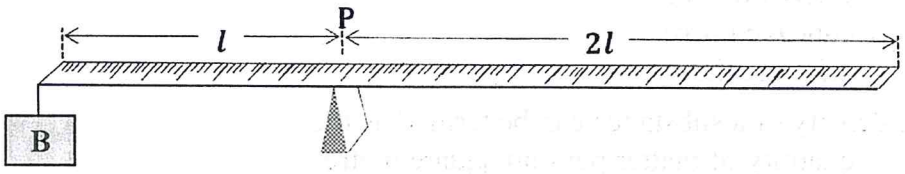


Fig. 5

Determine the mass B to be put at one end for the beam to balance.
A. 120 g
B. 122 g
C. 125 g
D. 250 g

24. Which of the following statements is/are correct about a body moving with uniform velocity.
(i) Resultant force is zero.
(ii) Acceleration is zero.
(iii) Momentum is zero.
A. (i) and (ii)
B. (i) and (iii)
C. (iii) only
D. (i) (ii) and (iii)

25. In gears a large velocity ratio is obtained when,
A. effort is applied on a small gear to drive a large gear.
B. effort is equal to the load.
C. effort is applied on a large gear to drive a small gear.
D. the gears move in opposite directions.

26. A fish in a pond looks at a man standing besides the pond. To the fish, the man appears to be
A. smaller and nearer than he actually is.
B. smaller and further than he actually is.
C. larger and nearer than he actually is.
D. larger and further than he actually is.

27. When Action and Reaction forces act on a body, the resultant is
A. greater than zero.
B. one.
C. less than zero.
D. zero.

28. A liquid of density $1.0 \times 10^3 kgm^{-3}$ fills a vessel of uniform cross-sectional area of 200 cm^2 to a depth of 500 mm. Calculate the force exerted by the liquid at the bottom of the vessel.
A. 50 N
B. 100 N
C. 150 N
D. 200 N

29. Three resistors are connected to a 12.0 V battery of negligible internal resistance as shown in the circuit below in fig.6.

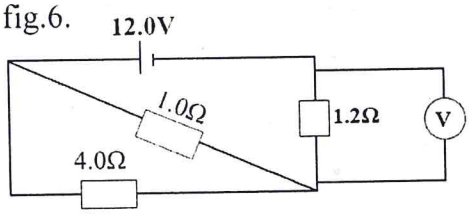


Fig. 6

Find the voltmeter reading.

A. 6.0 V
B. 7.2 V
C. 8.0 V
D. 12.0 V

30. Clouds are 1650 m from the observer on the ground. Find the time that elapses between the lightening flash and thunder. (Speed of sound in air = 330 ms^{-1})

A. 0.005 s
B. 050 s
C. 5.0 s
D. 50 s

31. The advantage(s) of mercury over alcohol as a thermometric liquid is/are

(i) mercury is opaque.
(ii) mercury has a high temperature coefficient of expansion.
(iii) mercury is more sensitive.
(iv) mercury is a good conductor of heat.

A. (i), (iii) and (iv) only.
B. (i) and (ii) only.
C. (iv) only.
D. (i), (ii) and (iii) only.

32. One of the following statements is true about the working of simple cells.

A. Polarisation is caused by impure zinc.
B. The hydrogen produced at the zinc plate causes polarisation.
C. The formation of hydrogen bubbles at the copper plate causes local action.
D. Potassium dichromate is used to minimise polarization.

33. It is easier to charge insulators than conductors because

A. insulators do not allow the charge to flow away but conductors do.
B. conductors allow the charges to flow through them but insulators don't.
C. it is impossible to charge conductors under any condition.
D. insulators just receive charge from the atmosphere without being rubbed.

34. State what would happen to the size of a football inner tube when its pressure is increased, if it exactly obeys Boyle's law.

A. It would increase.
B. It would reduce.
C. It would not change.
D. It would lead to immediate bursting.

35. 93.75% of a radioactive material decays after 80 days. Find its half-life.

A. 20 days
B. 40 days
C. 80 days
D. 120 days

Turn Over

36.

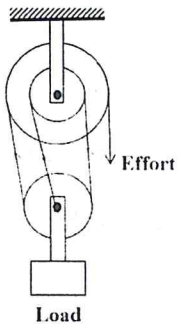


Fig. 7

The diagram in figure 7 above shows a pulley system. Which of the following statement(s) is true about it?

(i) The mechanical advantage of the system increases up to a limit as the load increases.

(ii) The mechanical advantage cannot exceed 3 depending on the load.

(iii) The efficiency of the system increases as the load increases.

A. (i) and (ii) only

B. (ii) and (iii) only

C. (i) and (iii) only

D. (iii) only

37.

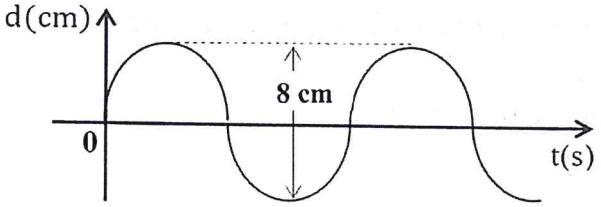


Fig. 8

Figure 8 above shows a wave in motion. If its wavelength is half the amplitude with a frequency 50 Hz, calculate its velocity.

A. 0.5 ms^{-1}

B. 1.0 ms^{-1}

C. 2.0 ms^{-1}

D. 4.0 ms^{-1}

38. A charge of 30 C flows through a coil for one sixth of a minute. If the resistance of the coil is 4.0 Ω find the pd across it.

A. 10.0 V

B. 12.0 V

C. 14.0 V

D. 16.0 V

39. In Optics, which of the following is true in both concave mirrors and convex lenses during image formation?

A. An incident ray parallel and close to the principal axis passes through the principal focus after reflection or refraction.

B. An incident ray through the principal focus is reflected/refracted through the centre of carvature.

C. A ray through the principal focus is reflected/refracted along the same path.

D. A ray through the optical centre is undeviated during reflection from the lens.

40. An electric heater is used to heat $2x10^{-4}m^3$ of water for 200 s. Find the p.d across the heater if the current through it is 0.5 A and the temperature of the water rises by 25°C.

A. 145 V
B. 175 V
C. 210 V
D. 240 V

SECTION B (40 Marks)

*Answer **all** questions in this section.*

41. (a) (i) What is meant by **gravitational pull?** *(01 mark)*

.....

.....

(ii) State any **two** factors affecting a freely falling body in a vacuum. *(01 mark)*

.....

.....

(b) A doctor of mass 80 kg is moving in a lift accelerating at 2 ms^{-2} from sixth to ground floor. Find the reaction of the lift on the doctor. *(02 marks)*

.....

.....

42. (a) Define **Pressure.** *(01 mark)*

.....

.....

(b)

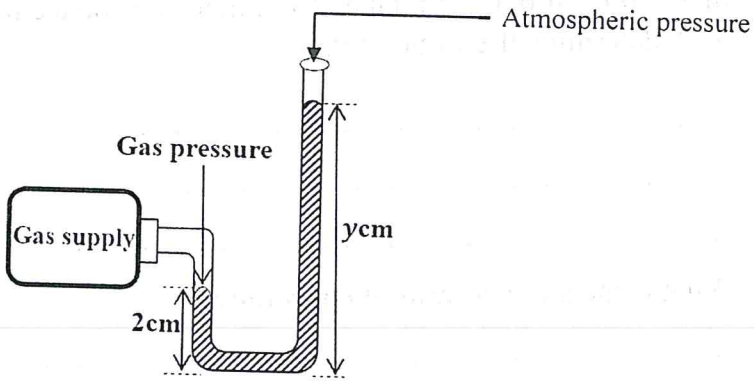


Fig. 9

The diagram in figure. 9 shows an instrument for measuring gas pressure in a laboratory. If the gas pressure is 123,760 Pa, find the value of y. *(03 marks)*

.....

.....

.....

43. (a) (i) Differentiate between a **virtual** and a **real** image. *(01 mark)*

.....

.....

(ii) State the conditions for total internal reflection to occur. *(01 mark)*

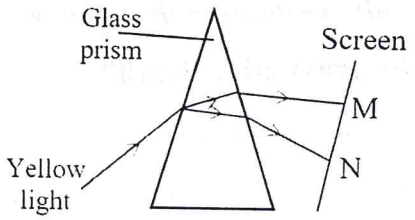
.....

.....

.....

(b) Yellow light is incident on a glass prism as shown in figure 10.

Fig. 10



(i) Name the colours M and N. *(01 mark)*

M .....

N .....

(ii) Colour M is mixed with Cyan. Name the resultant colour. *(01 mark)*

.....

.....

44. (a) Define **Latent heat of fusion.** *(01 mark)*

.....

.....

(b) An electrical heater rated 1000 W is immersed in a plastic bucket of ice of mass 500 g at $0^{o}C$. If it takes 10 minutes for the ice to raise its temperature to θ, determine the value of θ. *(03 marks)*

.....

.....

.....

45. (a) What is meant by a **fundamental note?** *(01 mark)*

.....

.....

(b) (i) A column of air 26.25 cm in a closed tube resonates to a sounding tuning fork and produces a note of lowest frequency. If the velocity of sound in air 330 ms^{-1}, determine the frequency of the fork. *(02 marks)*

.....

.....

(ii) State **one** advantage of using open over closed pipes as musical instruments. *(01 mark)*

.....

.....

46. (a) An energy bulb saver is rated 240 V , 15 W. What is meant by this rating? *(01 mark)*

.....

.....

(b) (i) Give **one** difference between a shunt and a multiplier. *(01 mark)*

.....

.....

(ii) A multiplier has internal resistance 5.0 Ω and full scale deflection of 20 mA. Calculate the value of the resistor which will enable it to be converted to a shunt so that a maximum current of 5 A can be measured. *(02 marks)*

.....

.....

.....

.....

47. (a) (i) What is meant by **Corona discharge?** *(01 mark)*

.....

.....

.....

(ii) Write **two** applications of Corona discharge. *(01 mark)*

.....

.....

(b) Draw a labeled diagram of a gold leaf electroscope. *(02 marks)*

48. (a) (i) Define **nuclear fusion.** *(01 mark)*

.....

.....

(ii) Mention **two** conditions for nuclear fusion to occur. *(01 mark)*

.....

.....

(b) The nuclide $^{215}_{84}Po$, decays to nuclide X by emission of two alpha particles and one Beta particle. Write a balanced equation for the decay. *(02 marks)*

.....

.....

49. (a) (i) Define **magnetic saturation.** *(01 mark)*

.....

.....

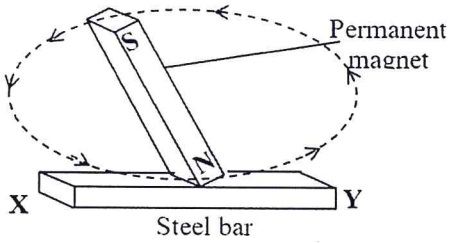
(ii) Explain briefly why increase in temperature destroys the magnetism of a magnet. *(02 marks)*

.....

.....

(b) Figure 11 below shows magnetisation of a steel bar by a permanent magnet.

Fig. 11



Name the polarity X and Y. *(01 mark)*

X .....

Y .....

50. (a) (i) Define **capillarity.** *(01 mark)*

.....

.....

(ii) State any **two** applications of capillarity. *(01 mark)*

.....

.....

(b) A small spherical metal ball was dropped in oil contained in a vessel. Draw a diagram to show the forces acting on the metal ball. *(02 marks)*

END

NAME:..... CENTRE/ INDEX No.....

SCHOOL..... SIGNATURE:.....

553/1
BIOLOGY
(Theory)
PAPER 1
July/August 2023
$2^{1}/_{2}$hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

BIOLOGY

(THEORY)

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of* ***three*** *sections;* **A, B** *and* **C.**
- *Answer* **all** *questions in sections* **A** *and* **B,** *and any* **two** *questions from section* **C.**
- *Any additional questions answered will not be marked.*
- *Answers to section* **A** *should be written in the boxes provided, on the right side of each question.*
- *Answers to section* **B** *should be written in the spaces provided.*
- *Answers to section* **C** *should be written in the answer booklet/sheets provided.*

For Examiner's use only			
Section		**Marks**	**Examiner's Initials & No.**
A			
B	**No. 31**		
	No. 32		
	No. 33		
C	**No.**		
	No.		
Total			

Turn Over

SECTION B (30 MARKS)

Answer **all** questions in this section.

Write the letter representing the most correct answer to each question, in the box provided.

1. The major problem faced by land organisms with lungs is that;
   A. oxygen diffuses very slowly in the air.
   B. gaseous exchange involves water loss.
   C. they use a lot of energy to breathe.
   D. lungs are located deep in the body increasing diffusion distance.

2. Which one of the following trophic levels has the least amount of energy?
   A. Producer
   B. Secondary consumer
   C. Primary Consumer
   D. Tertiary consumer

3. Water logged soils have
   A. large air spaces.
   B. large soil particles.
   C. small soil particles.
   D. low capillarity.

4. Which one of the following methods allow a mammal to lose heat?
   A. Relaxaction of erector pilli muscles.
   B. Contraction of arterioles.
   C. Development of goose pimples.
   D. Closing of jaws for a long time.

5. Which one of the following sets of bones form a joint allowing a person to squat?
   A. Humerus, tibia and radius.
   B. Femur, tibia and radius.
   C. Humerus, tibula and radius.
   D. Femur, tibia and fibula.

6. Which one of these shows a correct crop rotation?
   A. Maize, millet, sorghum and beans.
   B. Beans, groundnuts, cassava and pasture.
   C. Maize, ground nuts, cassava and pasture.
   D. Pasture, cassava, Potatoes and Yams.

7. Tendons join
   A. bone to muscle.
   B. muscle to Bone.
   C. bone to bone.
   D. bone to cartilage.

8. Blood enters the heart through vena cava and pulmonary vein, which of the following paths does the blood follow after entry?
   A. Right auricle to right ventricle.
   B. Left auricle to right ventricle.
   C. Right auricle to left ventricle.
   D. Right auricle to left auricle.

9. Which name is given to plants which during their first year, produce roots and shoots and store food material to be used during the second year for rapid growth?
   A. Perennials
   B. Biennials
   C. Annuals
   D. Deciduous

10. A daily meal accompanied with orange and lemon juice would prevent
    A. Rickets.
    B. Anaemia.
    C. Beriberi.
    D. Scurvy.

11. Which one of the following characteristics allows insects to live in dry habitats?
    A. Spiracles
    B. Hairy bodies
    C. Wings
    D. Waxy bodies

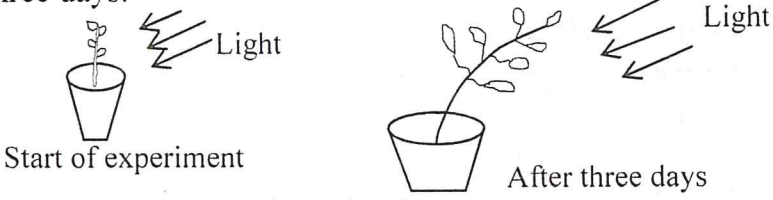
12. The scent from a flower spreads throughout a very big room. How does this scent spread?
    A. By diffusion
    B. By conduction
    C. By Osmosis
    D. By transpiration

13. Rats feed on rice and cats feed on rats. What would cause the highest increase in number of rats?
    A. Less rice and few cats.
    B. More rice and less cats.
    C. Less rice and more cats.
    D. More rice and more cats.

14. Which one of these processes is an example of development?
    A. Cell absorbing water and increasing in size.
    B. A cell dividing by mitosis.
    C. A root tip cell becoming a phloem cell.
    D. A sperm cell fertilizing an egg-cell.

15. What is the role of yeast in bread making?
    A. For aerobic respiration to produce alcohol.
    B. For aerobic respiration to produce carbon dioxide.
    C. For anaerobic respiration to produce alcohol.
    D. For anaerobic respiration to produce carbon dioxide.

16. The drawings below show a plant shoot at the start of an experiment, and the same plant after three days.



All the life process are correct about the above except.
    A. Movement
    B. Growth
    C. Excretion
    D. Sensitivity

17. Which one of the following is the best function of a companion cell in vascular tissues of plants?
A. Absorb water and dissolve minerals for the plants.
B. Transport food materials in the plant.
C. Responsible for formation of lateral roots in plants.
D. Provide the necessary energy for transportation of food.

18. Which part of the eye contain blood vessels that do supply oxygen and nutrients and remove metabolic wastes from the eye?
A. Choroid
B. Retina
C. Ciliary body
D. Cornea

19. In human reproduction, which of the following sequence of events is correct?
A. Menstruation → Ovulation → implantation → fertilization
B. Menstruation → Ovulation → fertilization → implantation
C. Ovulation → Menstruation → fertilization → implantation
D. Ovulation → Menstruation → implantation → fertilization

20. Which of these two characteristics show discontinuous variation?
A. Height and weight.
B. Eye color and Height.
C. Tongue rolling and eye color.
D. Blood groups and height.

21. Which one of the following structures of a neuron connect with other neurons?
A. Cell body
B. Axoplasm
C. Long distance
D. Dendrites

22. The structures in the human male reproductive system that are responsible for secretion of the alkaline milky fluid that neutralizes acidity of the vagina is the
A. Cowper's gland
B. Epididymis
C. Prostate gland
D. Testis

23. The following are the similarities between mitosis and meiosis EXCEPT
A. Both lead to evolution.
B. Both use energy from ATP.
C. Both involve formation of spindle fibers.
D. Both involve formation of daughter cells.

24. The following are birth control methods
(i) Vasectomy
(ii) Tubal ligation
(iii) Intra uterine device
(iv) Spermicide

Which of the methods are irreversible once applied?

A. (i) and (iii)
B. (i) and (ii)
C. (ii) and (iv)
D. (iii) and (iv)

25. Which of the following activities can take place together during temperature regulation.

A. Vasodilation, increase in sweating, contraction of erector pili muscles.
B. Vasodilation, increase in sweating, shivering.
C. Vasodilation, increase in sweating, relaxation of erector pili muscles.
D. Vasodilation, increase in sweating, shivering.

26. Which one of the following conditions would cause the adrenal gland of man to produce a hormone?

A. Hearing a song.
B. Smelling a flower scent.
C. Eating a carrot.
D. Seeing a burglar.

27. A cube which measures 2 cm has an area of 24 cm^2, its surface area to volume ratio is:-

A. 2 : 1
B. 4 : 1
C. 1 : 12
D. 3 : 1

28. Which of the following substance is present in lower concentration in renal artery than renal vein?

A. Amino acid
B. Glucose
C. Carbon dioxide
D. Urea

29. The opening of stomata during night and closure during day is an attempt to

A. stop gaseous exchange.
B. conserve water.
C. conserve energy.
D. lower the atmosphere.

30. Which one of the four seeds would provide greatest quality and quantity of nutrients for the growth of a fetus in an expectant mother?

A. Beans
B. Maize
C. Rice
D. Castor oil

SECTION B

Answer **all** questions in this section.

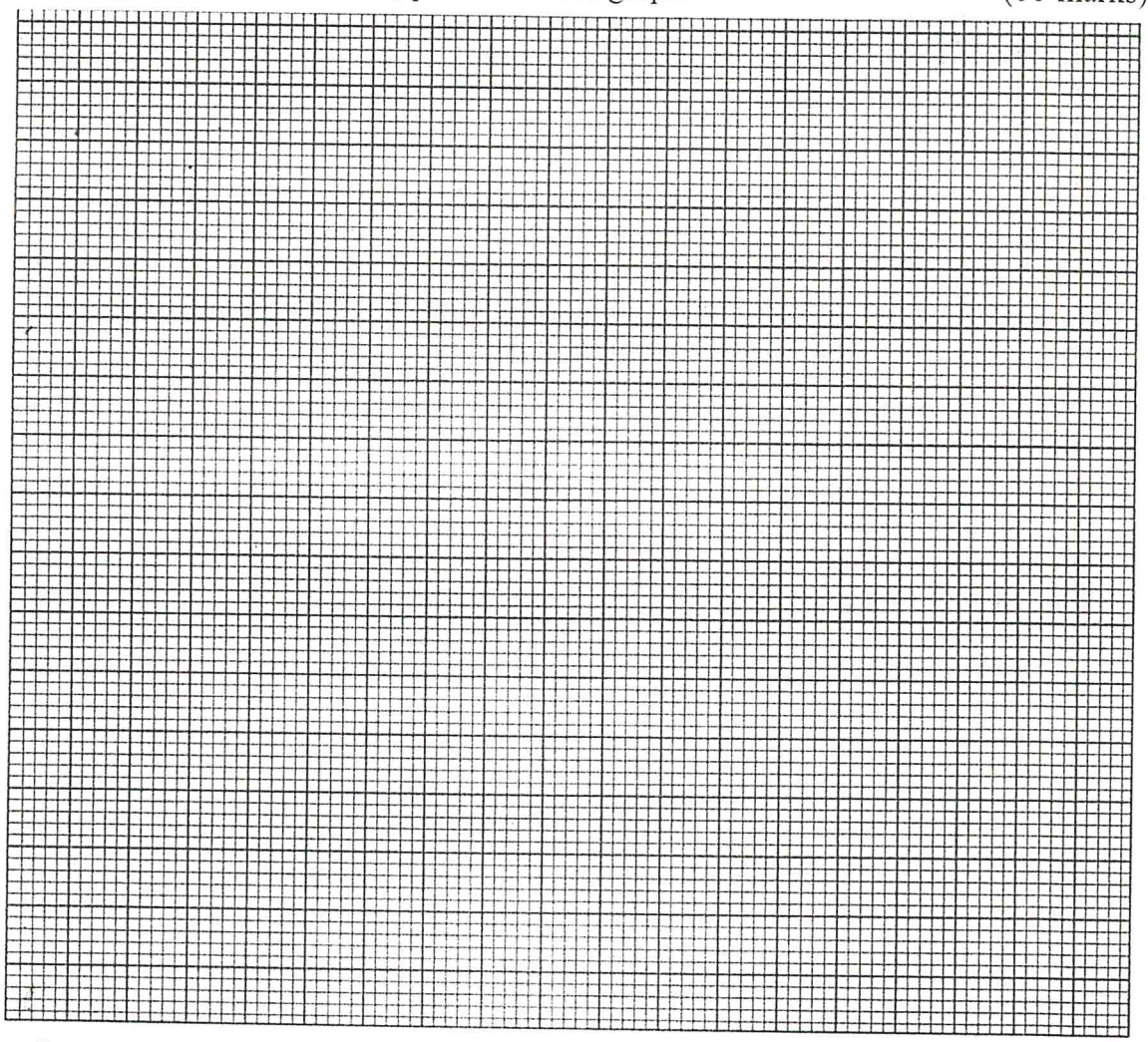
All answers **must** be written in the spaces provided.

31. In an experiment the effect of oxygen concentration on the absorption of sodium ions by a plant was studied and the following results were obtained.

Concentration of sodium ions (arbitrary units)	8	30	50	61	65	65
Concentration of oxygen in culture solution (%)	0	10	20	30	40	50

Turn Over

a) Using the data in the table, plot a suitable graph. (06 marks)



b) Describe the shape of the graph you have plotted. (03 marks)

c) Explain the effect of oxygen concentrations on the absorption of sodium ions by the plant. (07 marks)

d) State **one** other factor that may increase the absorption of sodium ions. (01 mark)

e) Name the physiological process that was responsible for the absorption of sodium ions by the plant. (01 mark)

_____

f) Name **two** areas in the human body where the physiological process named above is applied. (02 marks)

_____

_____

32. A class of students carried out an experiment to investigate the percentage of air in three types of soils. The class results are summarized in the table below. Study the table carefully and answer the questions that follow.

Type of soil	Percentage of air by volume
Soil A	20
Soil B	06
Soil C	13

a) If all the three soil types were mixed in equal amounts, without losing any of their contents, what would be the average percentage of air of the soils? Show your working in the space below. (01 mark)

_____

_____

b) Using the information in the table above, identify the soil types giving a reason in each case. (06 marks)

Soil type A _____

Reason

_____

_____

Soil type B _____

Reason

_____

_____

Soil type C _____

Reason

_____

_____

c) Giving a reason, state which of the soil types A, B and C drains fastest? (01 mark)

_____

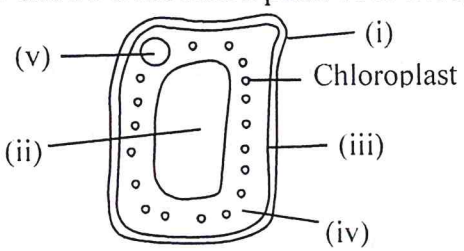
_____

d) With a reason state the types of soil which is most suitable for rice growing? (02 marks)

_____

_____

33. The figure below shows a modified plant cell. Study it and answer the questions that follow.



a) Name the parts labeled (i) to (iv) (02 marks)

(i) _____

(ii) _____

(iii) _____

(iv) _____

b) Name the layer in the leaf from which the cell could be obtained. (01 mark)

_____

c) State how **two** observable features on the above structure adapt a leaf for photosynthesis? (04 marks)

_____

_____

_____

_____

d) Why is it advisable for an athlete to double his carbohydrate intake two weeks before the race? (03 marks)

_____

_____

_____

SECTION C (30 marks)

Answer any **two** questions from this section.
Answers to these questions **must** be written in the answer booklets/sheets provided.

34. a) Describe how the structure of the respiratory system in man is suited for movement of air along it. (06 marks)

b) Outline the mechanism of ventilation in man. (09 marks)

35. a) (i) Explain the difference between Hypogeal and Epigeal germination. (04 marks)

(ii) State the conditions necessary for germination to take place. (03 marks)

b) Explain the series of events that lead to germination of a maize seed. (08 marks)

36. a) What is soil degradation? (01 mark)

b) Explain how the following human activities degrade soil.

(i) Deforestation. (02 marks)

(ii) Over application of inorganic fertilizers. (02 marks)

c) How can man conserve soil on a flat bare land? (05 marks)

d) Explain the effects of soil erosion. (05 marks)

37. a) What is meant by an allele? (01 mark)

b) In a breeding experiment, a round pea seed shaped plant was crossed with a wrinkled pea seed shaped plant and all the first filial generation were round seed shaped plants.

i) Using suitable genetic symbols, show how the F_1 off springs were obtained. (05 marks)

ii) Work out the genotypic and phenotypic ratio of the F_2. (06 marks)

c) State **three** applications of genetics. (03 marks)

END

612/5
IPS Art and Crafts
Paper 5
July/August 2023
$5^1/_4$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

INTEGRATED PRODUCTION SKILLS (IPS)
(Graphics)

Paper 5

Planning Session: $2^1/_4$ hours

Practical Examination: 3 hours

INSTRUCTIONS TO CANDIDATES

*Answer **one** question, stating its number.*
Drawing Instruments, tracing paper, letra sets and similar aids are allowed.

The Art teacher should supply the candidates with cards measuring 5cm wide by 12cm long with which the candidates will demarcate the area on the top right hand corner of the front surface of the paper. In this area, the candidate's name, centre and index numbers, in that order, must be written clearly. This area must not be painted.

A part from the particular media asked for in the question, candidates are recommended to consider a choice of different materials and processes and are reminded that the following are possible:- Coloured inks, posters and water colours, stencils, wax resist. Collage or printing from Lino, potato and vegetable/fruit or the use of any material such as Junk, wire or string which may give an interesting texture.

Instructions to candidates for the PLANNING SESSION ($2^1/_4$Hrs)

*You are required to spend **2 hours** and **15 minutes** doing the following:*

(i) Reading and selecting both task and materials.
(ii) Sketching.
(iii) Transfer if necessary.

*On no account may you take **out** of the Examination room a copy of the tests or your plans/sketches and you must not bring in any other note/sketches or any such specimen into the examination room on returning for the practical session.*

Your plans/sketches must bear your school name, index number, your name and the number of the task you have selected.

All these should be handed over to the supervisor at the end of the practical test.

Attempt **one** question stating its number.

1. In an area of **18 cm × 25 cm × 3 cm,** design a Novel cover with the title "PRIDE OF AFRICAN CULTURE" by Miller Muggu and published by Kissha printers. Use not more than three colours.

2. Design an emblem for "GYM OF WAKISO" with the slogan "Fitness for all". Use a working space of **15 cm × 20 cm** and not more than three colours of your choice.

3. In an area of **30 cm × 40 cm,** design a poster informing the public to avoid corpal punishment in the community.
Use red and any other two colours.

4. In a well decorated boarder of **18 cm × 29 cm,** design the following poem in good calligraphic handwriting.

THE SPIDER
I am told that the spider
Has coiled up inside her,
Enough silky material
To spin an aerial.
One-way track
To the moon and back
Whilst I
Cannot even catch a fly.
Frank Colly more

END

535/2
PHYSICS
PAPER 2
July/August 2023
$2^{1}/_{4}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

PHYSICS

Paper 2

2 hours 15 minutes

INSTRUCTIONS TO CANDIDATES:

- Answer any **five** questions.
- Any additional question(s) answered will **not** be marked.
- Mathematical tables and silent non- programmable calculators may be used.

These values of Physical quantities may be useful to you,

Acceleration due to gravity, g	=	$10ms^{-2}$
Specific heat capacity of water	=	$4200Jkg^{-1}K^{-1}$
Specific heat capacity of Iron	=	$450Jkg^{-1}K^{-1}$
Density of water	=	$1000kgm^{-3}$
Density of Mercury	=	$13,600kgm^{-3}$
Speed of sound in air	=	$340ms^{-1}$
Velocity of electromagnetic waves	=	$3 X 10^{8}ms^{-1}$

Turn Over

1. (a) Distinguish between **uniform velocity** and **uniform acceleration.** (02 marks)

(b) Figure 1 below shows Velocity-time graph for the motorist.

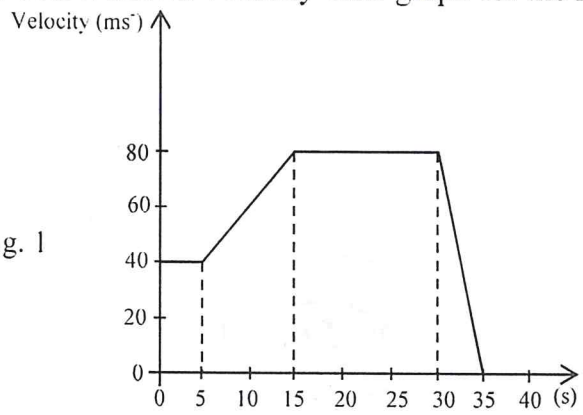


fig. 1

(i) Describe the motion of the motorist. (05 marks)

(ii) Find the total distance covered by the motorist. (04 marks)

(c) Explain what happens to a passenger in a car when a driver brakes suddenly. (03 marks)

(d) State **two** instances where the law of conservation of momentum is applied. (02 marks)

2. (a) (i) Define **pressure** and state its SI unit. (02 marks)

(ii) Explain why water in a river flows faster at a narrow section than at a wide section. (03 marks)

(b) Figure 2 below shows a U-tube containing two liquids balanced over mercury.

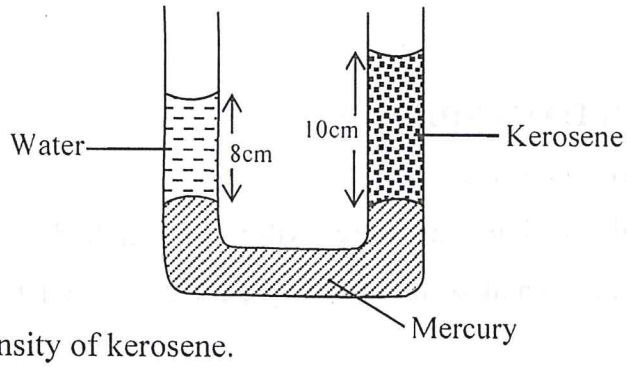


Fig. 2

Calculate the density of kerosene. (03 marks)

(c) State the **law of floatation.** (01 mark)

(d) A block of wood of volume 0.01 m^3 is placed and floats in water with three quarters of its volume submerged. Calculate the density of wood. (03 marks)

(e) Briefly describe a simple experiment to measure density of a solid using Archimedes' principle. (04 marks)

3. (a) Define the following terms as applied to converging lens.

(i) **Power of a lens.** (01 mark)

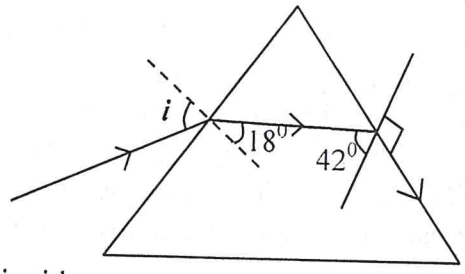
(ii) **Focal length.** (01 mark)

(b) (i) A finite object is placed between the optical centre and principal focus of a converging lens. Using a ray diagram, state any **three** properties of the image formed. (03 marks)

(ii) Determine the power of the diverging lens of focal length 20 cm. (02 marks)

(c) Light of the same wave length is incident at angle *i* on a glass prism, the light is refracted and follows the path shown in figure 3.

Fig. 3



Find the angle of incidence, *i*. (05 marks)

(d) (i) Explain why its easier to read writings in white chalk on a black board. (02 marks)

(ii) Why are concave mirrors not used as driving mirrors. (02 marks)

4. (a) Define the following terms as applied to waves

(i) **Period.** (01 mark)

(ii) **Wave length.** (01 mark)

(b)

Fig. 4

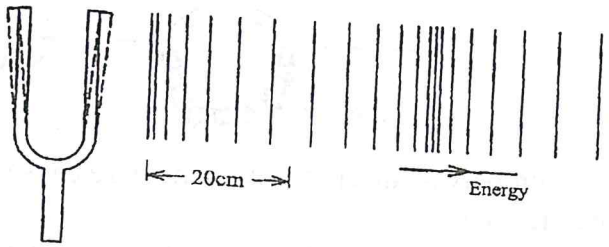


Figure 4 shows a sound wave produced from a tuning fork vibrating at 800 Hz.

(i) Calculate the velocity of the wave in the medium. (02 marks)

(ii) State **two** factors which determine the velocity of sound in air. (02 marks)

(c) Describe an experiment to show that sound is a mechanical wave. (05 marks)

(d) (i) What is meant by **diffraction of waves?** (01 mark)

(ii) Sketch the diffraction pattern of straight wave fronts incident on a barrier into a narrow slit and wide slit. (04 marks)

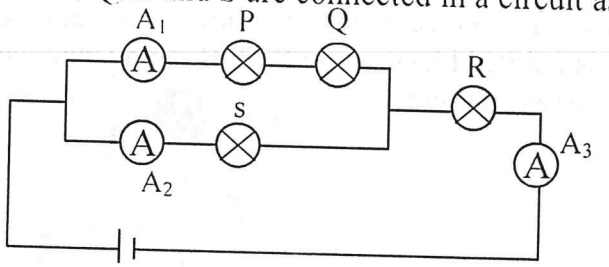
5. (a) (i) Define **emf of a cell.** (01 mark)

(ii) Draw a diagram to show the structure of a simple cell. (02 marks)

(iii) Polarisation is one of the defects of a simple cell. Explain how it is minimized. (02 marks)

(b) Four similar bulbs P, Q, R and S are connected in a circuit as shown.

Fig. 5



(i) Which bulb(s) will light brightest? (01 mark)

(ii) If ammeter A_1, reads 1.5 A and ammeter A_2 reads 2.0 A, what is the reading on ammeter A_3? Explain your answer. (02 marks)

(c) Given that the resistors P,Q,R and S are of resistances 2 Ω, 3 Ω, 10 Ω and 5 Ω respectively arranged as shown in figure 5.

Calculate ; (i) the total resistance. (03 marks)

(ii) power dissipated in the circuit network. (03 marks)

(d) Explain why domestic appliances are arranged in parallel. (02 marks)

Turn Over

6. (a) (i) State **two** differences between cathode rays and gamma rays. (02 marks)

(ii) A radio isotope $^{160}_{70}Co$ decays by emission of an alpha particle, two beta particles and gamma rays to form nuclide Y.
Write a balanced equation to show this decay. (02 marks)

(b) (i) With the aid of a labeled diagram, describe how X-rays are produced. (05 marks)

(ii) State **one** medical and **one** industrial use of x-rays. (02 marks)

(c) Explain why alpha particles are deflected differently from beta particles by magnetic field. (02 marks)

(d) State the function of the main components of C R O. (03 marks)

7. (a) (i) What is a **magnetic field?** (01 mark)

(ii) Describe an experiment to determine field pattern of a bar magnet using iron fillings. (04 marks)

(b) Figure 6 shows the head of a cassette tape recorder.

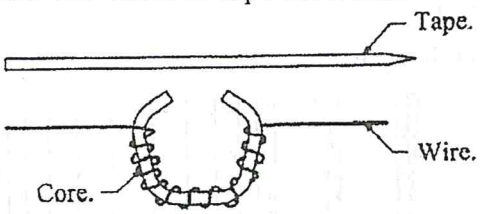


Fig. 6

(i) Explain why a current through the wire causes the tape to become magnetized. (02 marks)

(ii) The tape is usually made of plastic and coated with thin layer of iron oxide. Why is iron oxide used? (02 marks)

(c) (i) A 240 V step down mains transformer is designed to light ten X-ray box lamps rated 12 V, 20 W and it draws a current of 1.0 A in the primary coil. Calculate the efficiency of the transformer. (05 marks)

(ii) State **two** causes of power loss in a transformer. (02 marks)

8. (a) (i) What is a **notch?** (01 mark)

(ii) State **one** advantage of a notch in daily use. (01 mark)

(iii) State **two** factors on which the strength of material depends. (02 marks)

(b) Define the terms below as applied to heat.

(i) **Temperature.** (01 mark)

(ii) **Specific heat capacity**. (01 mark)

(c) Two flasks are connected to a manometer containing ether as shown in figure 7. Flask A is painted black while flask B is polished white. A flame is then placed midway between them.

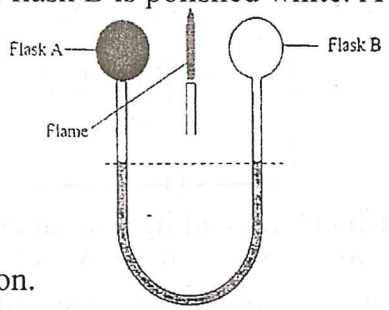


Fig. 7

(i) State what is observed. (01 mark)

(ii) Explain your observation. (03 marks)

(d) (i) Use the kinetic theory of matter to explain the concept of absolute temperature. (03 marks)

(ii) A 10 kg mass of iron at 70^0C is dropped into water in a calorimeter. If the mass of water is 20 kg and its temperature is 10^0C, before the iron is added. Calculate the final temperature of mixture. (03 marks)

END

273/1
GEOGRAPHY
Paper 1
July /August 2023
$2^{1}/_{2}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

GEOGRAPHY

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

- This paper consists of parts **I** and **II.**
- **Part I** and Section **A** of **Part II** are Compulsory.
- Answer only **one** question from Section **B** of **Part II.**
- Any additional question(s) answered will **not** be marked.
- Answers to **all** questions must be written in the answer booklet/sheets provided.

Turn Over

PART I

OBJECTIVE - TYPE QUESTIONS (30 MARKS)

*There are **30 compulsory questions.** Each question carries **one mark.***

Answers to this part must be written in the answer booklet/sheet provided.

1. The major economic activity carried out on the slopes of Mt. Muhavura is
   A. Agro-forestry.
   B. Crop cultivation.
   C. Livestock keeping.
   D. Wildlife conservation.

2. Man-made lakes in Kenya are mainly found along river.
   A. Tana.
   B. Nzola.
   C. Turkwell.
   D. Nyando.

3. The major economic activity carried out in the dry corridor of western Uganda is
   A. cattle ranching.
   B. wildlife conversation.
   C. plantation farming.
   D. irrigation farming.

4. Rapid population increase in the Urban areas of East Africa is mainly caused by
   A. better health care.
   B. polygamous marriages.
   C. improved food supply.
   D. internal migration.

5. Horticulture is well developed in the Kenya highlands mainly because of:
   A. heavy rainfall.
   B. fertility of the soil.
   C. reliable market.
   D. efficient transport.

6. Soil erosion in Kigezi highlands has mainly been controlled by
   A. terracing land.
   B. mixed farming.
   C. re – afforestation.
   D. contour farming.

7. The major problem caused by Limestone mining activity at Tororo is
   A. degradation of landscape.
   B. pollution of environment.
   C. lowering of water table.
   D. destruction of vegetation.

8. The movement of eroded material along the coast is called
   A. off – shore drift.
   B. long shore drift.
   C. swash.
   D. backwash.

9. Which one of the following is a characteristic of trees in the Savannah region of East Africa?
   A. Presence of buttress roots.
   B. Trees have broad leaves.
   C. Periodic shedding of leaves.
   D. Trees have climbing plants.

10. Industrial development at Namanve park has mainly been favoured by
   A. abundant land.
   B. ready market.
   C. cheap power.
   D. government policy.

11. The major cause of deforestation in the Islands of Kalangala district is
   A. lumbering.
   B. crop cultivation.
   C. fire outbreaks.
   D. boat making.

12. The major benefit of Mabira forest to Lake Victoria basin is
   A. climate modification.
   B. wildlife conservation.
   C. timber production.
   D. water catchment.

13. Which of the following sanctuaries is used for the protection of chimpanzees?
   A. Zawa.
   B. Bwindi.
   C. Ngamba islands.
   D. Pian – upe.

14. Which type of trees are mostly used for purposes of afforestation?
   A. Conifers and eucalyptus
   B. Mahogany and Rosewood
   C. Ceder ad podocarp
   D. Wattle and Mahogany

15. The North-western Kenya region experiences a high diurnal range of temperature because of;
   A. presence of clear skies.
   B. absence of large water bodies.
   C. the dry north east trade winds.
   D. relief.

16. Conservation of natural resources can best be described as
    A. utilization of natural resources.
    B. preservation of natural resources at minimum cost.
    C. using natural resources only when necessary.
    D. preservation of natural resources while exploiting them with care.

17. A circular coral reef enclosing a lagoon is known as
    A. barrier reef.
    B. Atoll.
    C. fringing reef.
    D. coral reef.

18. Leaching refers to;
    A. the vertical movement of soluble mineral nutrients from top layer of the soil to the subsoil layer.
    B. the movement of soluble minerals to the surface by capillary action.
    C. lateral movement of soluble mineral materials from one place to the other in a soil.
    D. the infiltration of water into a soil.

19. Protection of wetlands in East Africa is mainly intended to promote
    A. eco – tourism.
    B. environmental conservation.
    C. the crafts industry.
    D. fishing.

20. Glacial lakes which are found in glaciated highlands are called
    A. tarns.
    B. corries.
    C. kettle lakes.
    D. moraine-dammed lakes.

21. Which of the following greatly limit expansion of area under cropland in Kenya?
    A. Inaccessibility of most areas.
    B. Occurrence of pests and diseases.
    C. The dry winds.
    D. Severe water shortage.

22. Which of the following products is used in the manufacturing of paper?
    A. Fibre wood
    B. Plywood
    C. Wood dust
    D. Wood pulp

23. Which of the following forest types is found along the East African coast?
    A. Equatorial forests.
    B. Montane forests.
    C. Mangrove forests.
    D. Bamboo forests.

24. The main factor encouraging the development of market gardening in East Africa is
    A. increasing demand for vegetables.
    B. improved transport facilities.
    C. improved technology.
    D. availability of skilled labour.

25. The introduction of Parish development model (PDM) in Uganda today is aimed at
    A. building infrastructures.
    B. increasing household incomes.
    C. addressing vulnerability among women.
    D. mindset change.

26. Coral limestone in East Africa is mined at
    A. Tororo
    B. Hima
    C. Mombasa
    D. Kilwa

27. Infant mortality rate in East Africa has gone down mainly due to
    A. improved hygiene.
    B. improved medical care.
    C. improved child nutrition.
    D. family planning.

28. Which of the following measures has been taken to control indiscriminate fishing on Lake Victoria?
    A. regulating periods of fishing activities.
    B. practising fish farming.
    C. enforcing strict laws on fish net sizes.
    D. burning of fish nets.

29. All the following lakes are found in the Eastern arm of the rift valley of East Africa except
    A. Magadi.
    B. Turkana.
    C. Naivasha.
    D. Rukwa.

30. Fish population in Uganda's lakes is declining mainly because of
    A. indiscriminate fishing.
    B. predation by the Nile perch.
    C. pollution of the waters.
    D. seasonal changes in water levels.

PART II

MAPWORK, PHOTOGRAPH INTERPRETATION, FIELD WORK AND EAST AFRICA.

Answer **four** questions from part **II,** including question **1, 2** and **3** which are compulsory.

SECTION A

1. ***Compulsory Question*** **: MAPWORK** **(20 Marks)**

Answer **all** parts of this question.

Study the EAST AFRICA **1:50,000 UGANDA: BULISA** map extract part of sheet 29/14 series Y732 Edition 3-U.S.D and answer the questions that follow.

(a) (i) Identify the man made feature found at grid reference 231375 (01 mark)

(ii) State the grid reference of Katara secondary trigonometrical station. (01 mark)

(b) (i) Measure and state in kilometres, the distance covered by the loose surface road from Bulisa road junction to grid reference 300370. (02 marks)

(ii) Calculate the average height of the area shown on the map extract. (02 marks)

(iii) State with evidence the direction of flow of river Sambiye. (02 marks)

(c) Draw a cross section of Bulisa from grid reference 285488 to grid reference 285430. On it mark and name;

i) Victoria Nile

ii) Knoll

iii) River valley

iv) Two boundary types (07 marks)

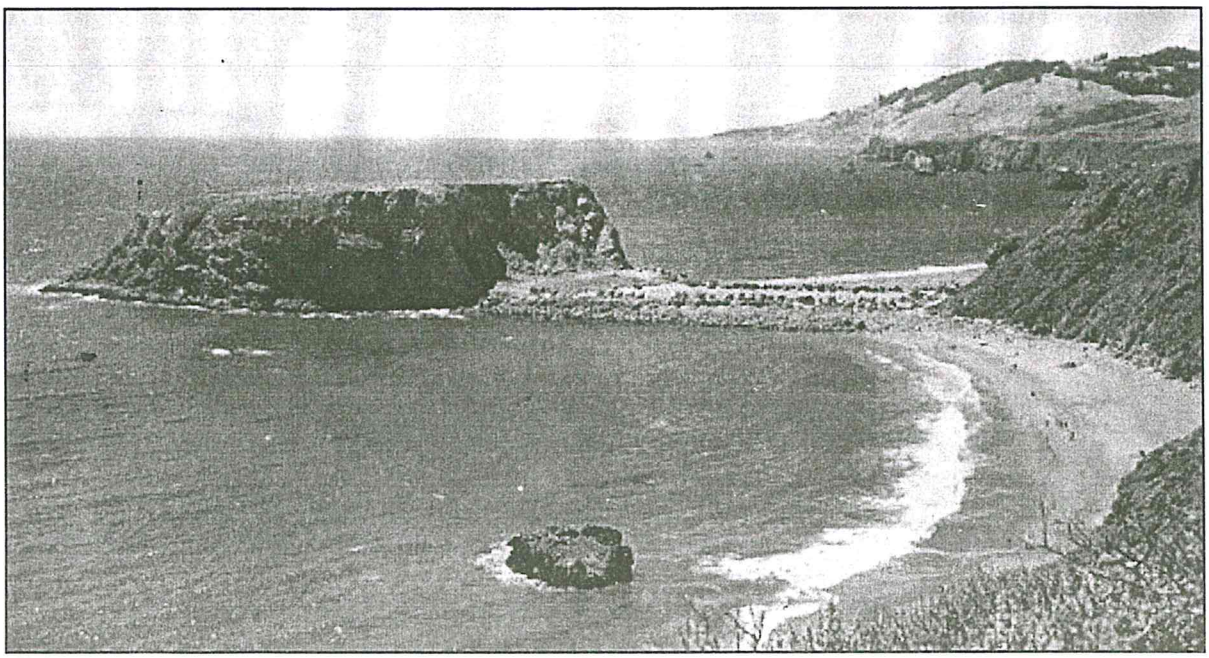
(d) Describe the;

(i) Relief of the area of Bulisa. (03 marks)

(ii) Relationship between relief and drainage in the area shown on the map extract. (02 marks)

2. **PHOTOGRAPH INTERPRETATION (Compulsory)** **(15 marks)**

Study the photograph provided below and answer the questions that follow:



a) Draw a landscape sketch of the area shown on the photograph and on it, mark and name;
   (i) Two coastal erosional features
   (ii) Two coastal deposition features
   (iii) Vegetation type
   (iv) Water body
(7 marks)

b) Describe the process that led to the formation of the coastal feature in the left background. (4 marks)

c) With evidence, identify the land use activities likely to be carried out in the area; (3 marks)

d) Giving reasons for your answer, suggest one area in East Africa where the photograph was taken. (1 mark)

3. FIELD WORK (Compulsory) **(15 marks)**

For any one fieldwork study that you have conducted either as a group or as an individual;

(a) State the;
   (i) topic of the study, (02 marks)
   (ii) objectives of the study. (02 marks)

(b) Draw a relief section of the area studied and on it mark and name;
   i) Any two physical features.
   ii) Any two land use types. (05 marks)

(c) Describe the relationship between relief and land use activities in the area studied. (04 marks)

(d) Explain the recommendations to land use activities in the area studied. (02 marks)

SECTION B: EAST AFRICA

Answer only **one** question from this section.

4. Study the table below showing the natural vegetation coverage in East Africa (in km^2) in 2019 and answer the questions that follow.

% Natural vegetation cover	Uganda	Kenya	Tanzania
Total natural vegetation cover (km^2)	113,000	142,000	214,000
Forest %	29.3	14.1	28.1
Woodland %	26.5	_____	39.4
Dry Bush and thicket %	15.3	38.6	_____
Swamps %	_____	9.1	10.3
Alpine %	10.5	11.4	2.7
Bamboo %	5.4	8.3	3.2

***Adapted:** Word resource Institute: World development indicators 2019*

(a) Calculate the;
   (i) Percentage area under woodland in Kenya. (01 mark)
   (ii) Percentage land area under Swamps in Uganda. (01 mark)
   (iii) Actual land area under dry bush and thickets in Tanzania (02 marks)

(b) Draw a pie chart to show the relative distribution of various natural vegetation cover in Uganda. (08 marks)

(c) Explain the factors which have led to the growth of natural vegetation in East Africa. (05 marks)

(d) Outline the effects of natural vegetation destruction on the climate of any one country in East Africa. (03 marks)

Turn Over

5. (a) Draw a sketch map of East Africa and on it mark and name the following;

(i) Rivers: Nile and Rufigi (02 marks)

(ii) Fishing ports: Mtwara and Kigoma (02 marks)

(iii) Indian Ocean (01 mark)

(b) (i) State any two methods of fishing used in salt water fishing grounds of East Africa. (02 marks)

(ii) Describe any two fish preserving method commonly used in East Africa. (06 marks)

(c) Describe the physical factors which have favoured fishing in East Africa. (04 marks)

(d) Outline the problems caused by fishing on the physical environment in East Africa. (03 marks)

6. (a) Distinguish between primary and secondary industries in East Africa. (02 marks)

(b) Name any;

(i) three industrial centres in East Africa.

(ii) two industries found in each of the industrial centres named in (b) (i) (06 marks)

(c) Explain the factors that have led to the development of industries in East Africa. (06 marks)

(d) Outline the problems which have resulted from industrial development in East Africa. (06 marks)

7. Study figure 1, map of Tanzania provided and answer the questions that follow;

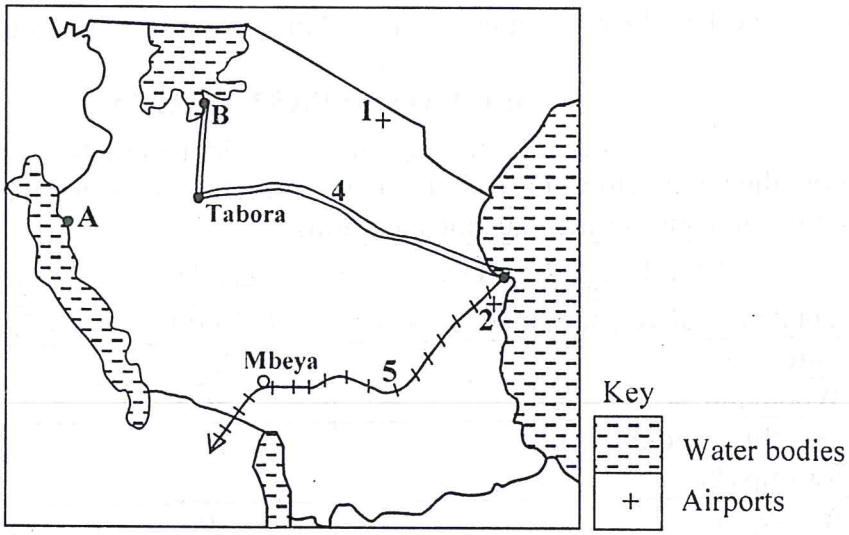


fig.1

(a) Name the;

i) Inland ports marked A and B.

ii) Airports marked 1 and 2.

iii) Transport routes marked 4 and 5. (06 marks)

(b) Describe the factors influencing the distribution of roads and railway transport networks in East Africa. (06 marks)

(c) Explain the role of the transport network to the development of East Africa. (04 marks)

(d) Outline the factors limiting the effectiveness in utilizing road transport in East Africa. (04 marks)

END

Name.....Centre/Index No.....

School..... Signature.....

545/3
CHEMISTRY
(PRACTICAL)
Paper 3
July/August 2023
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

CHEMISTRY PRACTICAL

Paper 3

2 hours

INSTRUCTIONS TO CANDIDATES.

- *Answer **both** questions. All answers must be written in the spaces provided.*
- *You are **not** allowed to use any reference books (i.e text books or handouts on qualitative analysis etc).*
- ***All working must be clearly shown.***
- *Mathematical tables and silent non-programmable scientific calculators may be used.*

For Examiner's use only		
Q.1	**Q.2**	**Total**

Turn Over

1. You are provided with the following;

BA1, which is a solution containing 20.0 g/dm^3 of unknown hydrated salt, $RCO_3.xH_2O$.

BA2, which is a 0.2 M hydrochloric acid.

You are required to determine the number of Moles of water of crystallization, x, in $RCO_3.xH_2O$ and the percentage of the anhydrous salt, RCO_3.
(1 mole of hydrated salt reacts with 2 moles of hydrochloric acid)

Procedure

Pipette 25.0 cm^3 (or 20.0 cm^3) of **BA1** into a clean conical flask using a clean pipette. Add 2-3 drops of Methyl orange indicator and titrate it with **BA2** from the burette.

Repeat the procedure above until you obtain consistent results.

Record your results in the table below.

Results;

Volume of pipette used = ... (cm^3) (½mark)

	1	2	3
Final Burette reading (cm^3)			
Initial Burette reading (cm^3)			
Volume of **BA2** used (cm^3)			

(7½ marks

Titre values of **BA2** used to calculate the average volume.

.....

.....(cm^3) (½mark

Average volume of **BA2** used.

.....

.....(cm^3) (2½mark

(a) Calculate;

(i) the number of moles of **BA2** that reacted. (03 marks

.....

.....

.....

.....

.....

.....

.....

(ii) the concentration of the hydrated salt, $RCO_3.xH_2O$, in Moles per dm^3. (03 marks)

.....

.....

.....

.....

(iii) the relative formula mass of the dehydrated salt, $RCO_3.xH_2O$. (03 marks)

.....

.....

.....

.....

(b) Determine the;

(i) the value of x, in $RCO_3.xH_2O$. (02 marks)

[R = 46, O = 16, C = 12, H = 1]

.....

.....

.....

.....

.....

(ii) the percentage of the anhydrous salt RCO_3. (03 marks)

.....

.....

.....

.....

.....

2. You are provided with substance **Q** which contains **two** cations and a common anion.
Carry out the following tests on **Q** to identify the cations and anion present. Identify any gas(es) evolved.
Record your observations and deductions in the table below. (23½ marks)

TEST	OBSERVATION	DEDUCTION
(a) To **one** spatula endful of Q in a clean test tube, add 4 cm^3 of distilled water and shake well. Filter and keep both the filtrate and residue. Divide the filtrate into **three** equal portions. (1 cm^3 each)		

Turn Over

(i) To the **first** portion add aqueous ammonia drop wise until in excess.		
(ii) To the **second** portion add aqueous sodium hydroxide drop wise until in excess and warm.		
(iii) To the remaining portion of the filtrate, add 3 drops of Lead (II) nitrate solution followed by dilute nitric acid solution drop by drop until in excess.		
(b) Add dilute Nitric acid to the residue until it dissolves. Divide the resultant solution into **four** equal portions.		
(i) To the **first** portion add aqueous sodium hydroxide drop wise until in excess.		
(ii) To the **second** portion add aqueous ammonia solution drop wise until in excess.		
(iii) To the **third** portion add 3 drops of dilute hydrochloric acid solution. Warm the mixture, then allow to cool under water.		
(iv) Use the **fourth** portion to carry out a test of your own choice to confirm the cation in the residue.		

(e) Identify the ions in Q;

(i) Cations :..... and ..... (01 mark)

(ii) Anion ..... (½ mark)

END

Name: ..... Index No.....

School: ..... Signature: .....

553/2
BIOLOGY
(PRACTICAL)
PAPER 2
July/August
2 hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

BIOLOGY

(PRACTICAL)

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES:

- This paper consists of **three** questions.
- Answer **all** questions.
- All answers should be written in the spaces provided.
- Drawings should be made in the spaces provided.
- Use sharp pencils for your drawings.
- Coloured pencils or crayons should **not** be used.
- No additional sheets of writing paper are to be inserted in the booklet.
- Work on additional sheets will **not** be marked.

FOR EXAMINER'S USE ONLY.

Question	Marks	Examiner's No. & Initials
1		
2		
3		
TOTAL		

1. You are provided with specimens A, B and solution Q.
Peel specimens A and B.

Cut four cubes from specimen A. each measuring 1cm × 1cm × 1cm.
Also cut one cube from specimen B of the same size.
Carry out the procedure below.

(i) Cut one of the cubes of A into four equal pieces.
(ii) Cut the second and third cube, each into eight equal pieces.
(iii) Leave the fourth cube intact.
(iv) Cut the cube of specimen B also into eight equal pieces.
(v) Label the boiling tube as A_1 and four test tubes as A_2, A_3, A_4 and A_5
(vi) Boil the eight pieces cut from the third cube of A in $5cm^3$ of water for 5 minutes. (keep the pieces of each cube separate)
(vii) Measure and add 5 cm^3 of solution Q to the boiling tube and to each of the test tubes A_2 to A_5.

(a) To each test tube and boiling tube, add the cut cubes as indicated in table 1 below.
Record your observations and deductions (10 marks)

TABLE 1

Test tube/ Boiling tube	Contents	Observations	Deductions
A_1	Q + intact cube of A		
A_2	Q + four pieces of A		
A_3	Q + eight fresh pieces of A		
A_4	Q + eight boiled pieces of A		
A_5	Q + eight Pieces of B		

(b) Explain the difference in your results in test tubes;

(i) A_1 and A_2 (02 marks)

_____

_____

_____

_____

(ii) A_3 and A_4 (02 marks)

_____

_____

_____

_____

(iii) A_3 and A_5 (02 marks)

_____

_____

_____

_____

(c) State what was being investigated in this experiment. (03 marks)

_____

_____

_____

(d) State the role of specimen A and B in the experiment. (01 mark)

_____

_____

2. You are provided with specimens K and L which are animal structures.

(a) With reasons, state the identity of the animal structures.

Identity; _____ (01mark)

Reasons; (02 marks)

_____

_____

_____

(b) Suggest the part of the body of the animal from which each specimen was obtained. Give a reason in each case. (04 marks)

Specimen	Part of the body	Reason
K		
L		

(c) Describe the structure of specimen L. (03 marks)

_____

_____

_____

_____

(d) State **three** structural differences between specimens K and L. (04 marks)

Specimen K	Specimen L

(e) Draw and label the anterior view of specimen L. (06 marks)

3. You are provided with specimens R and S.

a) Observe the specimens and give the identity of each using observable characteristics features.

Identity of R; _____ (01 mark)

Observable features; (02 marks)

_____

_____

Identity of S; _____ (01 mark)

Observable features; (02 marks)

_____

_____

b) Basing on your observations, state the class to which specimen S belongs. Give **two** reasons to support your answer.

Class; _____ (01mark)

Reasons; (02marks)

_____

_____

c) Examine specimen S and describe its leaves. (03 marks)

_____

_____

_____

_____

_____

_____

d) Explain how specimen R is suited for survival in its habitat. (02marks)

_____

_____

_____

_____

Turn Over

e) Cut specimen S transversally into two halves. Draw and label one half.
(06 marks)

END