KCSE SMARTGRADE PREMOCK

SERIES 1 EXAMS - 2023

ALL SUBJECTS

A Joint Evaluation Examination Test for our KCSE 2023 Candidates. Special Project by a Team of Veteran Experienced Examiners within the National Group of Mwalimu Consultancy.

SUBJECTS TESTED;

Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, Geography, History, Business Studies, Agriculture, IRE, Home-science & Computer Studies.

SERIES 1

For Marking Schemes

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MWALIMU CONSULTANCY

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BIOLOGY

231/1

PAPER 1 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… **SIGN**……

INDEX NO…… **ADM NO**……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO KCSE CANDIDATES

a) *Write your name, class and admission number in the space provided above.*

b) *Write the date of the examination and sign in the space provided above.*

c) *Answer **all** the questions in the spaces provided.*

d) *You may be penalized for wrong spelling especially technical terms.*

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1-26	80	

*Attempt **All** the Questions*

1. Some KCSE 2023 candidates wanted to collect the following animals for study in the laboratory. State the suitable apparatus they should use.

i) Housefly **(1 mark)**

……

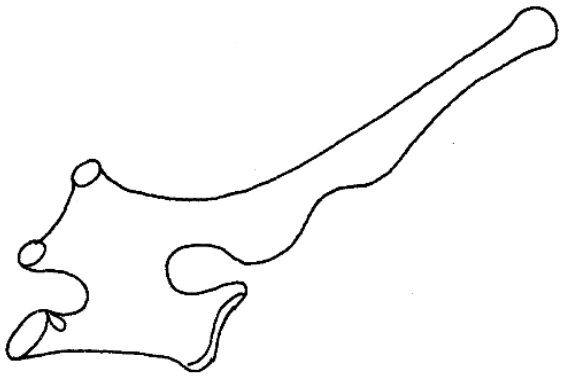
ii) Scorpion **(1 mark)**

……

iii) Ants **(1 mark)**

……

2. The diagram below represents a mammalian vertebra.



(a) Identify the vertebra represented above. **(1mk)**

……

(b) Give a reason for your answer. **(1mk)**

……

……

3. (a) Explain the role of oxygen in Active transport **(1mk)**

……

……

(b) Name two processes that depend on Active transport in animals **(2mks)**

……

……

4. Explain how sunken stomata lower the rate of transpiration **(2mks)**

……

……

……

5. State how xylem vessel is adapted to its function **(3mks)**

……

……

……

……

6). a) Define the term immunity. **(1mk)**

……

……

b) Distinguish between natural immunity and acquired immunity. **(1mk)**

……

……

c) Identify one immunizable disease in Kenya. **(1mk)**

……

7. (a) State two adaptations of the alveolus to its functions. **(2mks)**

……

……

……

(b) Why may an asthmatic patient produce a wheezing sound during breathing? **(1mk)**

……

……

(c) What is the significance of the cartilage found in the human trachea being incomplete (c-shaped rings) **(1mk)**

……

……

8. Define the following terms;

(i) Inter specific competition. **(1mk)**

……

……

(ii) Carrying capacity **(1mk)**

……

……

9. Suggest two methods that can be used to determine the type of food eaten by animals**. (2mks)**

……

……

10. (a) State one significance of genetics counseling (**1mk)**

……

……

(b) Part of a strand of DNA molecules was found to have the following sequence

A-T-C-G-G-G-A-T-C-T. What is the sequence?

(i) Of the complementary strand? **(1mk)**

……

(ii) On a m- RNA strand copied **(1mk)**

……

11). The paddles of whales and the fins of fish adapt these organisms to aquatic habitats.

a) Name the evolutionary process that may have given rise to these structures. **(1mk)**

……

……

b) What is the name given to such structures? **(1mk)**

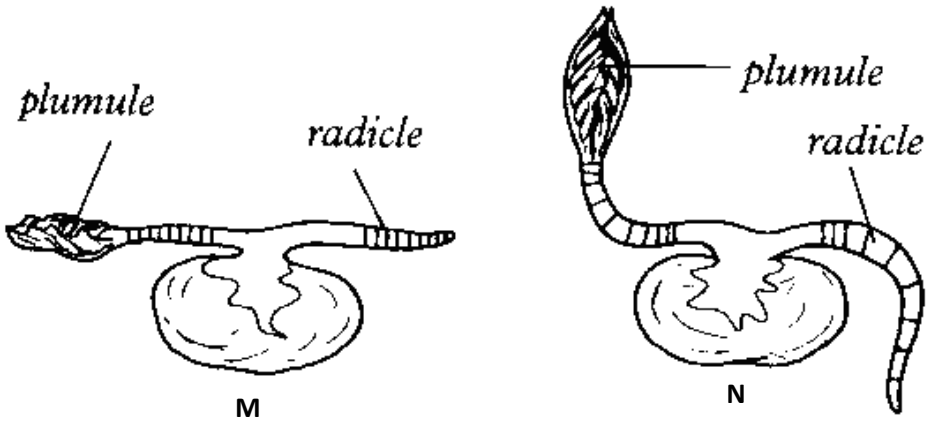
……

c) Give two examples of vestigial organs in man. **(2mk)**

……

……

12). An experiment was set to investigate a certain aspect of response. A seedling was put on a horizontal position as shown in figure M below. After 24 hours, the set up was as shown in figure N.



a) Name the response exhibited. **(1mk)**

……

b) Explain the curvature of the shoot upwards. **(3mk)**

……

……

……

……

13. The following is an equation representing a type of respiration

$$C_6H_{12}O_6 \longrightarrow 2C_2H_5OH + 2CO_2 + \text{Energy}$$

a) Identify the type of respiration. **(1mk)**

……

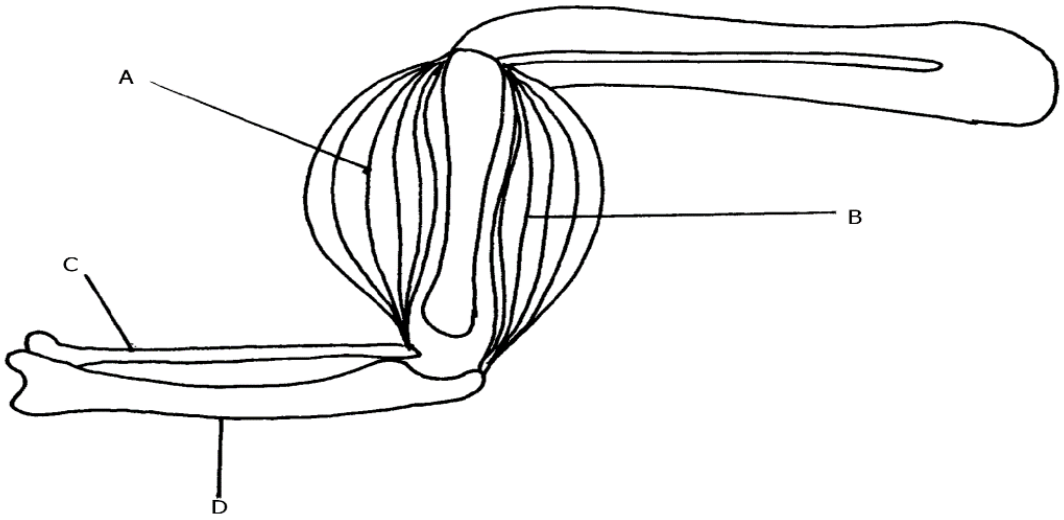
b) Suggest industrial applications of the process shown in the equation above **(2mks)**

……

……

……

14.



a) Name the bones labeled C and D. **(2 mark)**

C-……

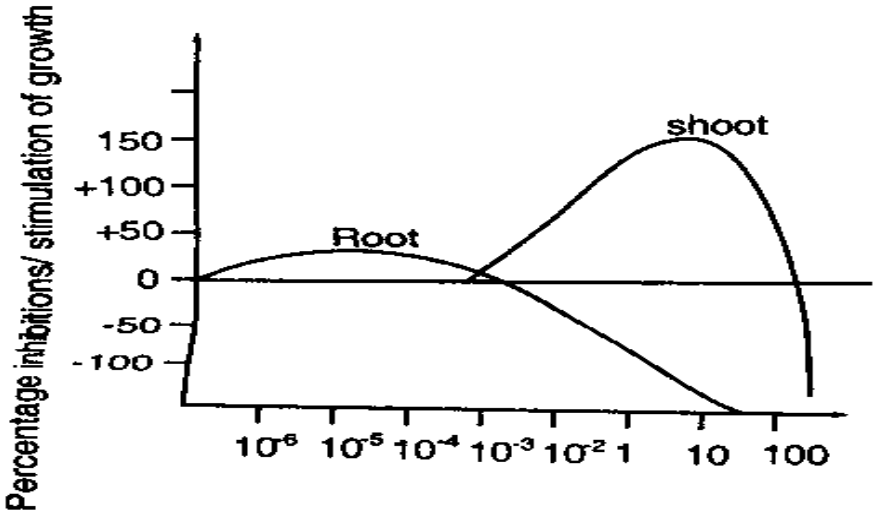
D-……

b) What happens to structure A and B as the arm is straightened **(1 mark)**

……

……

15. Below is a graphical representation of the effects of different concentration of auxins on shoot and root growth. Study it carefully and then answer the questions that follow.



Auxin concentration (ppm)

(a)Identify conclusions that can be drawn from the graph**.** **(3mks)**

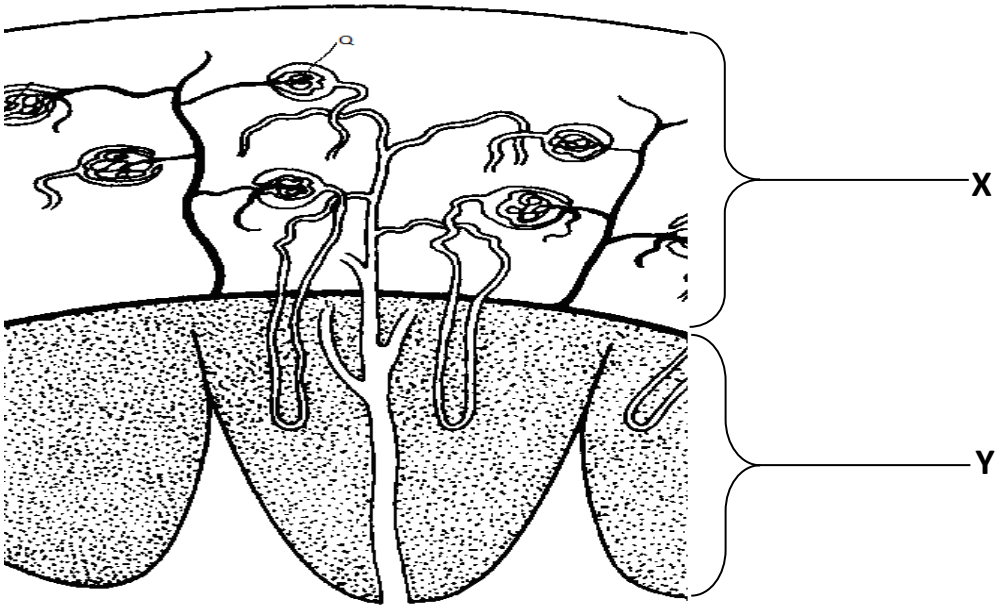
……

……

……

……

16. The illustration below shows a transverse section through a mammalian kidney.



(a) Name the structures labelled **X** and **Y**.

X ……(1mk)

Y ……(1mk)

(b) State the process in **Q** that leads to the formation of glomerular filtrate. **(1mk)**

……

……

17. State **three** differences in composition between umbilical artery and umbilical vein. **(3 marks)**

Umbilical vein	Umbilical artery

18. (a) What is meant by the term taxonomy? **(1mk)**

……

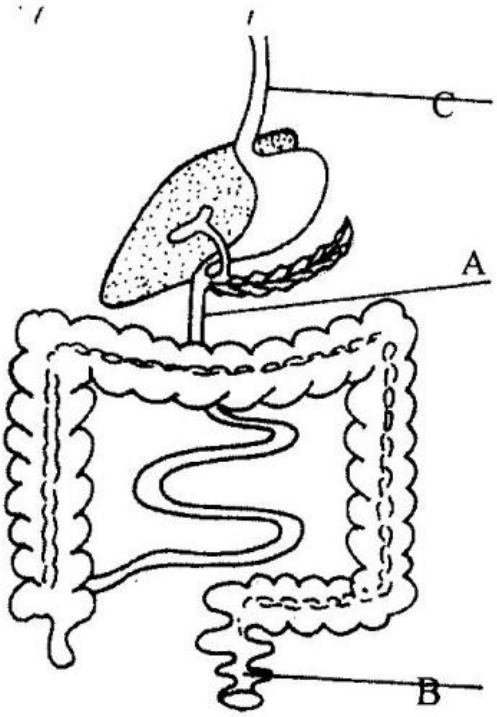
……

(b) When are two organisms considered to belong to the same species. **(2mks)**

……

……

19). The diagram below shows part of alimentary canal of a mammal



(i) Name the parts labeled A and C **(2mks)**

A –……

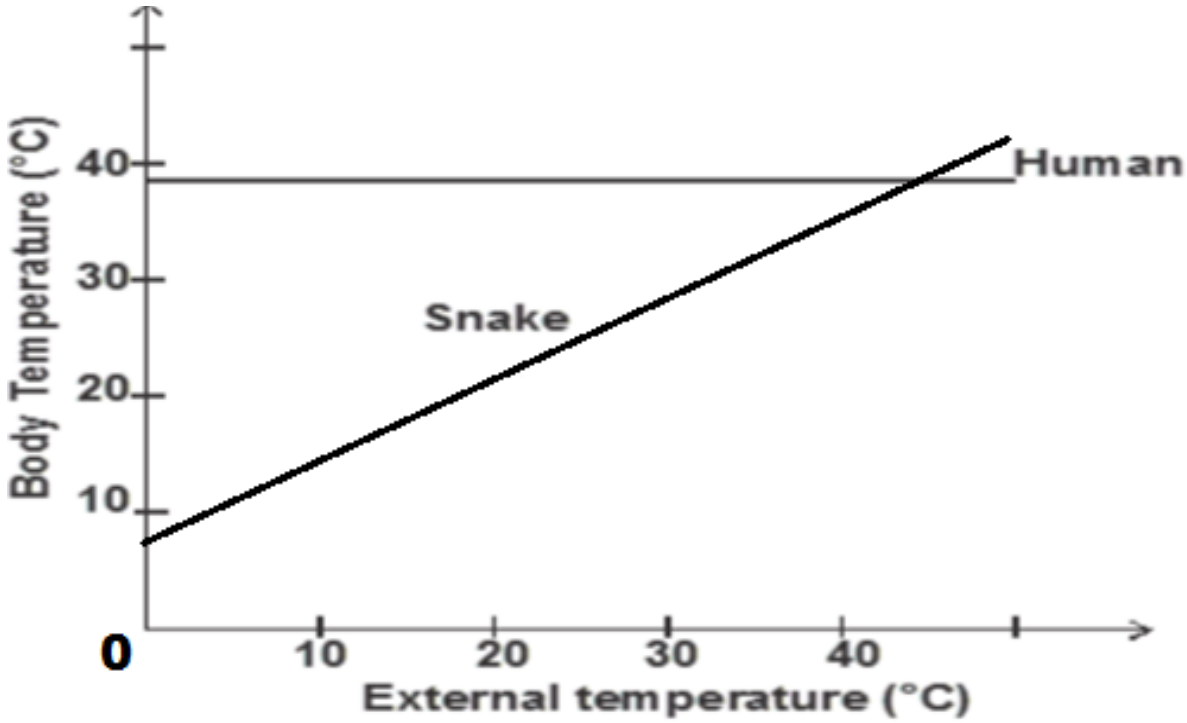
C –……

(ii) State the function of the part labeled B **(1mk)**

……

……

20). The graph below shows the relationship between body temperatures and external temperatures in a human being and a snake. Study it and answer questions that follow.



a) What happens to the temperature of each organism as the external temperature increases**.(2 mrks)**

Human –

……

……

Snake –

……

……

b) Humans are described as homoithermic. State the advantage of this condition. **(2marks)**

……

……

……

21. a) Name two products of light stage during photosynthesis. **(2 marks)**

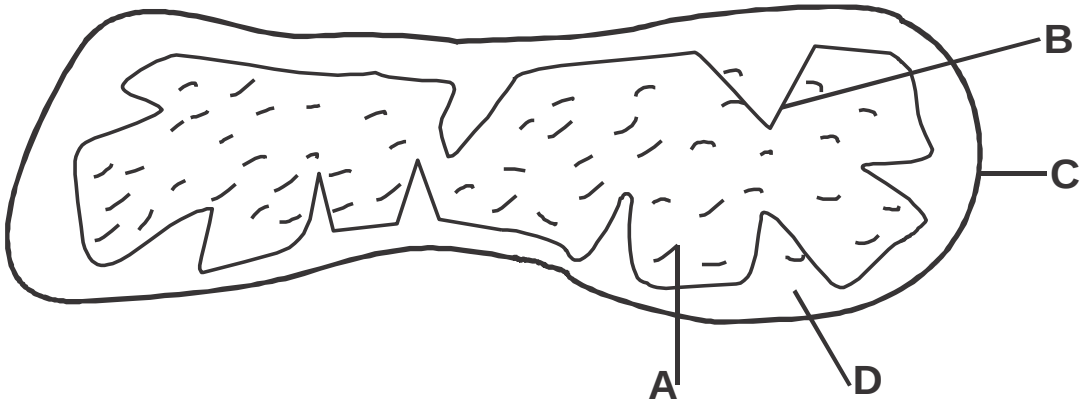
……

……

b) State three differences between light stage and dark stage of photosynthesis. **(3 marks)**

Light	Dark

22. The diagram below represents a cell organelle.



a) Identify the organelle. **(1 mark)**

……

b) Name the part labelled B **(1 mark)**

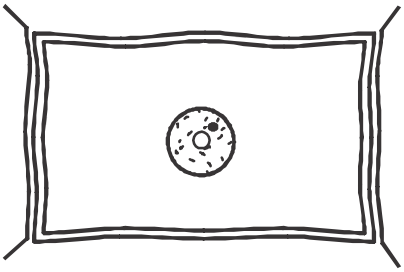
……

c) State the functions of the part labelled A **(1 mark)**

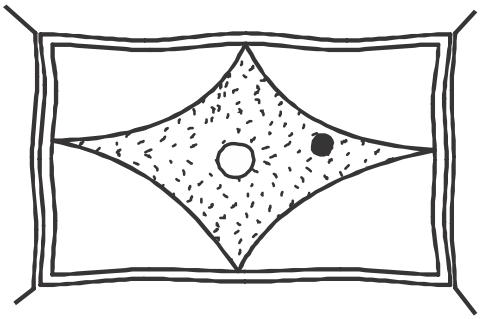
……

……

23 . The diagram below represents a plant cell that was subjected to a certain treatment.



At the start



At the end of the experiment

a) Account for the shape of the cell at the end of the experiment. **(2 marks)**

……

……

……

b) Draw a diagram to illustrate how an animal cell would appear if subjected to the same treatment**.**

(1 marks)

24.a)Give a reason why each of the following steps are followed when preparing cross sections of a leaf for examination under a microscope.

i) Cutting thin sections. **(1 mark)**

……

……

ii) Placing the sections in water. **(1 mark)**

……

……

25.a) Name two tissues in plants that provide mechanical support. **(2 marks)**

……

……

b. Name the types of joints formed by each of the following pairs of bones:

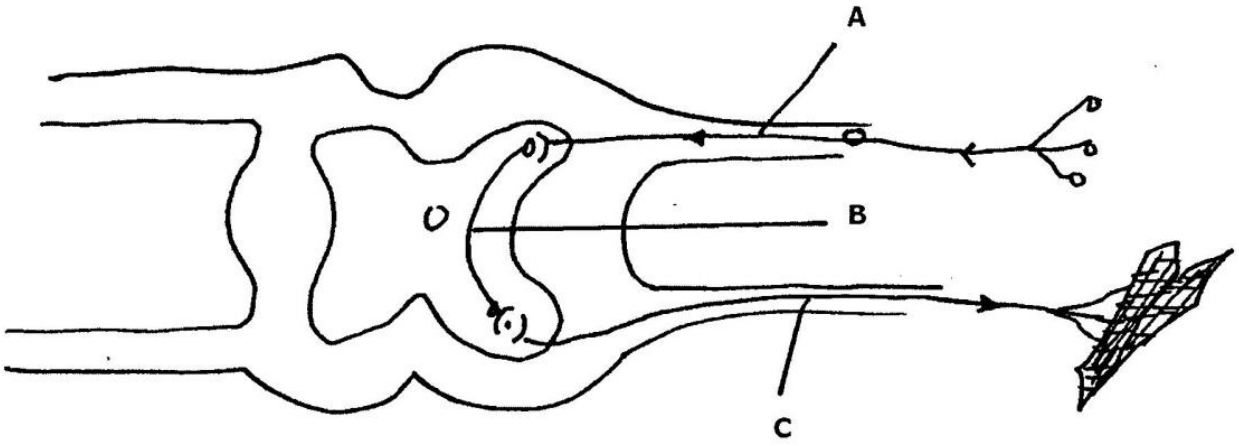
i) Axis and atlas. **(1 mark)**

……

ii) Humerus with clavicle and scapula. **(1mk)**

……

26.) The diagram below represents a simple reflex arc



(a) Name the parts labeled A, B and C **(3mks)**

A ……..

B……..

C…….

(b) What is the role of part **A** **(1mk)**

……

……

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BIOLOGY

231/2

PAPER 2 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:

- *Write **your name** and **index number** in the spaces provided.*
- *Answer **all** the questions in Section **A** in the spaces provided.*
- *In section **B** answer questions **6** (compulsory) and either question **7** or **8** in the spaces provided*

FOR EXAMINER'S USE ONLY:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	TOTAL	**80**	

SECTION A (40 MARKS)

Answer all questions in this section in the spaces provided.

1. **(a)** Name **two** disorders in human caused by gene mutation. **(2 marks)**

……

……

(b) Describe the following chromosomal mutations:

(i) Inversion **(1 marks)**

……

……

(ii) Translocation **(1 marks)**

……

……

(c) In mice the allele for **black fur** is **dominant** to the allele for **brown fur**. What Percentage of offspring would have brown fur from a cross between heterozygous black mice? Show working. Use letter **B** to represent the allele for **black colour**. **(4 marks)**

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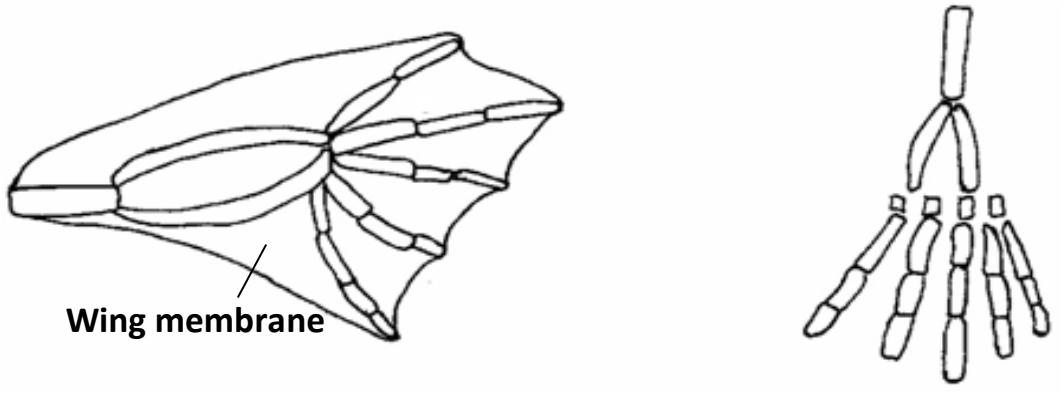
……

2. The diagram **below** shows structures of the bat wing and human arm.



(a) **These** structures are thought to have same ancestral origin. State **one** structural similarity and **one** adaptational difference between the two.

(i) Structural similarity. **(1mk)**

……

……

(ii) Adaptation difference. **(2mks)**

……

……

……

(b) Give **two** other examples of structures in nature that show the type of evolution as in (a) above. **(2mks)**

……

……

(c) Distinguish between the terms 'chemical evolution' and 'organic evolution'. **(2mks)**

……

……

……

(d) What is the study of fossils called? **(1mk)**

……

……

3 a) Name the causative agents for the following respiratory diseases.

i) Whooping cough…… **(1 mark)**

ii) Pneumonia……. **(1 mark)**

b) Describe how carbon (IV) oxide in the tissues reaches the lungs **(4 marks)**

……

……

……

……

……

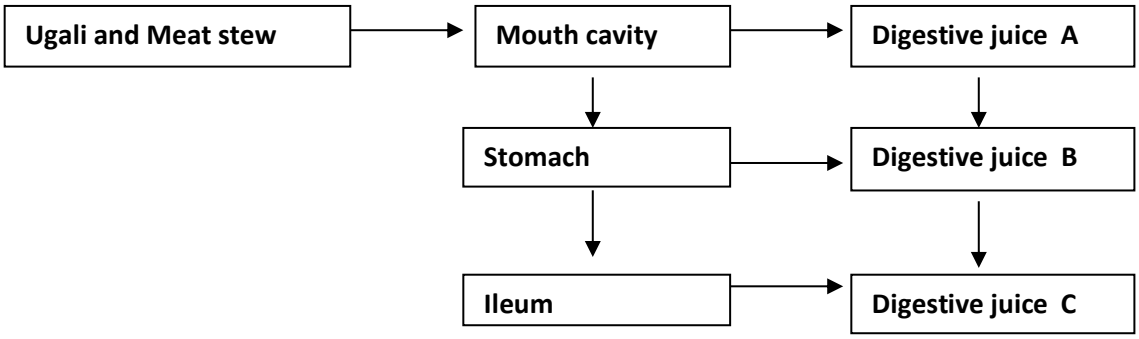
c) How are guard cells adapted to their functions**?** **2mks**

……

……

……

4.The flow diagram below represents passage of a meal through the human digestive system. Study the diagram and answer the questions that follow.



(a) Name the physical process that will occur in mouth cavity **(1mark)**

……

……

(b) Name the digestive juices **B** and **C** **(2 mrks)**

B…….

C…….

(c) Explain **two** ways in which the digestive system is protected from corrosive effects of digestive juices. **(2 marks)**

……

……

……

(d) Name the hormone that stimulate secretion of juice **B**. **(1mark)**

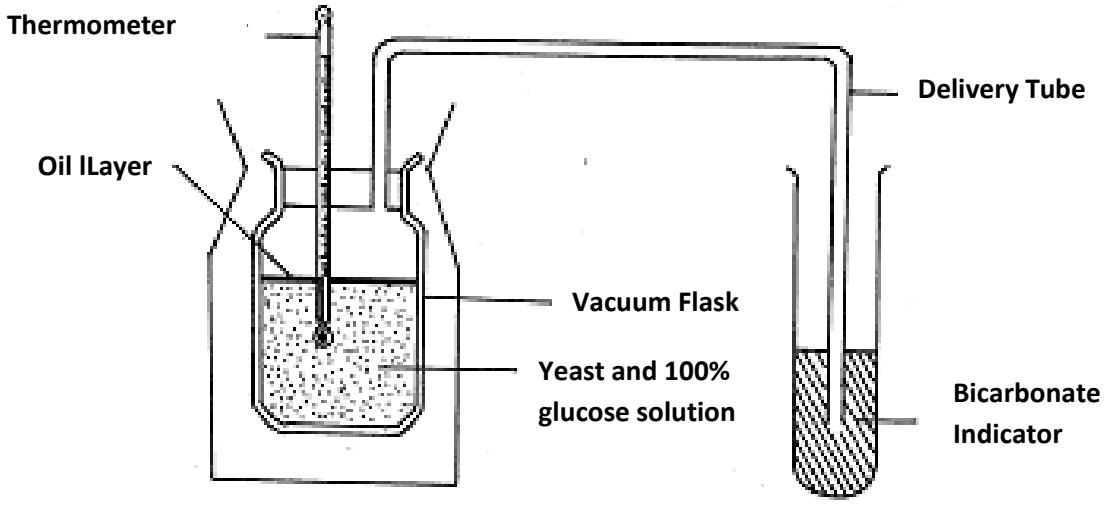
……

(e) Identify **two** contents of digestive juice **A** **(2 marks)**

……

……

5. The experiment below was set-up to investigate some physiological processes. The glucose solution was first boiled then cooled. The set-up was left for 24hrs.



(a) Suggest two aims of the experiment. **(2mks)**

……

……

(b)(i) State the expected observations after 24 hours. **(2mks)**

……

……

……

(ii) Explain your observations in a (i) above. **(2mk)**

……

……

……

(iii) Why was glucose solution boiled then cooled? **(1mk)**

……

……

(iii) Suggest a control for the above experiment **(1mk)**

……

……

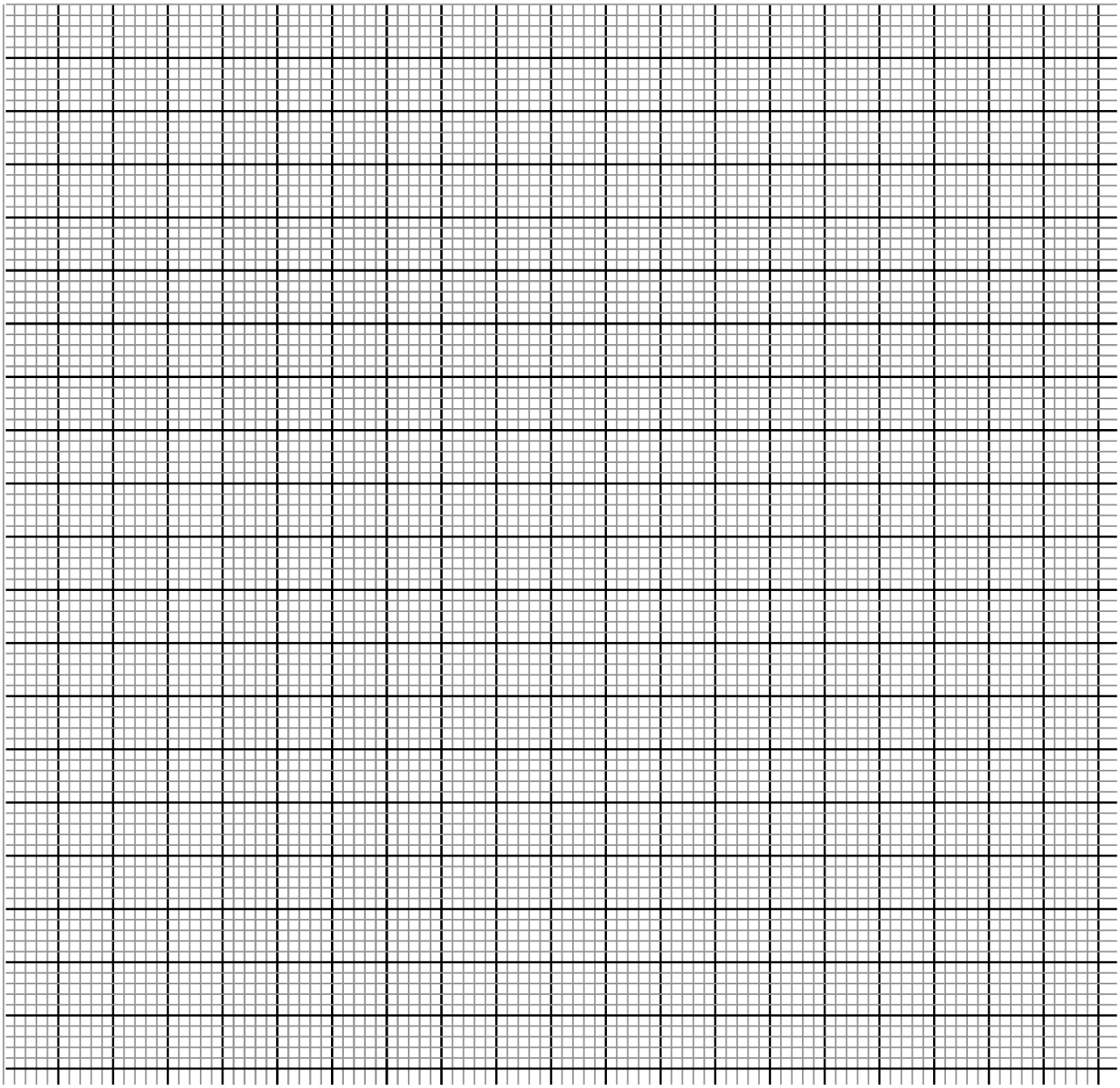
SECTION B (40 MARKS)

Answer question 6 ***(compulsory)*** *in the spaces provided and either question 7 or 8 in the spaces provided after question 8.*

6. In an experiment, a man drank one litre of water and the volume of urine produced was measured and recorded at an interval of one hour after drinking the water. On the second day, the man repeated the experiment but this time he drank one litre of 1.2% sodium chloride solution. The results are as shown in the table below:

Time (hours)	**Volume of urine produced (cm^3) on drinking**	
	Water	**1.2 % sodium chloride solution**
0	80	30
1	50	30
2	350	40
3	540	35
4	30	60
5	100	40
6	50	80
7	70	100

(a) On the same axes, plot graphs of urine produced on drinking water and 1.2%sodium chloride solution against time. **(8 marks)**



(b) From the graph, determine the volume of urine produced by the man two and a half hours after drinking water. **(1 mark)**

……

……

……

(c) Account for the production of urine produced by the man when he drank the litre of

(i) 1.2% sodium chloride solution. **(3 marks)**

……

……

……

……

(ii) Water **(3marks)**

……

……

……

……

(d) What is diabetes insipidus? **(2 marks)**

……

……

……

(e) Explain why treatment of diabetes mellitus is via injection and not through taking insulin tablets orally. **(2 marks)**

……

……

……

7. Explain how abiotic factors affect plants in their habitat. **(20 marks)**

8.Describe the structure and function of various parts of the heart **(20 marks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BIOLOGY

231/3

PAPER 3 (PRACTICAL)

TIME: 1¾ HOURS

SCHOOL…… SIGN……

CONFIDENTIAL

INSTRUCTIONS

REQUIREMENTS

Each candidate will require the following:

a) *One spatula of substance labelled L (Fortified Exe wheat flour)*

b) *2cm^3 Copper sulphate solution*

c) *2cm^{3}Sodium hydroxide solution*

d) *2cm^3 DCPIP solution*

e) *2cm^3 Benedict's solution*

f) *Source of heat*

g) *3 test tubes*

h) *3 droppers*

i) *2oml of distilled water in a beaker*

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BIOLOGY

231/3

PAPER 3 (PRACTICAL)

TIME: 1¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

a) *Write your name, admission number, date, and signature and school name in the spaces provided.*

b) *Answer **ALL** the questions in the spaces provided in the question paper*

c) *You are NOT allowed to start working with the apparatus for the first 15 minutes of the **1¾ hours** allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.*

d) *Additional pages must **not** be inserted*

FOR EXAMINERS USE ONLY

SECTION	QUESTION	CANDIDATES SCORE
	1	
	2	
	3	
TOTAL SCORE		

1. You are provided with the following materials;

Substance labelled L
2cm³ Copper sulphate solution
2cm³Sodium hydroxide solution
2cm³ DCPIP solution
2cm³ Benedict's solution
Source of heat
3 test tubes
3 droppers

You are provided with a substance labeled **L**. Make a solution of substance **L** by adding 20 ml of distilled water and stir thoroughly. Design an experiment to investigate the food materials present in **L**. **(9 marks)**

Substance	Chemical test	Procedure	Observations	Conclusion
L				
L				
L				

(a) State the importance of the food substances present in **L** to the human body.**(2 marks)**

……

……

……

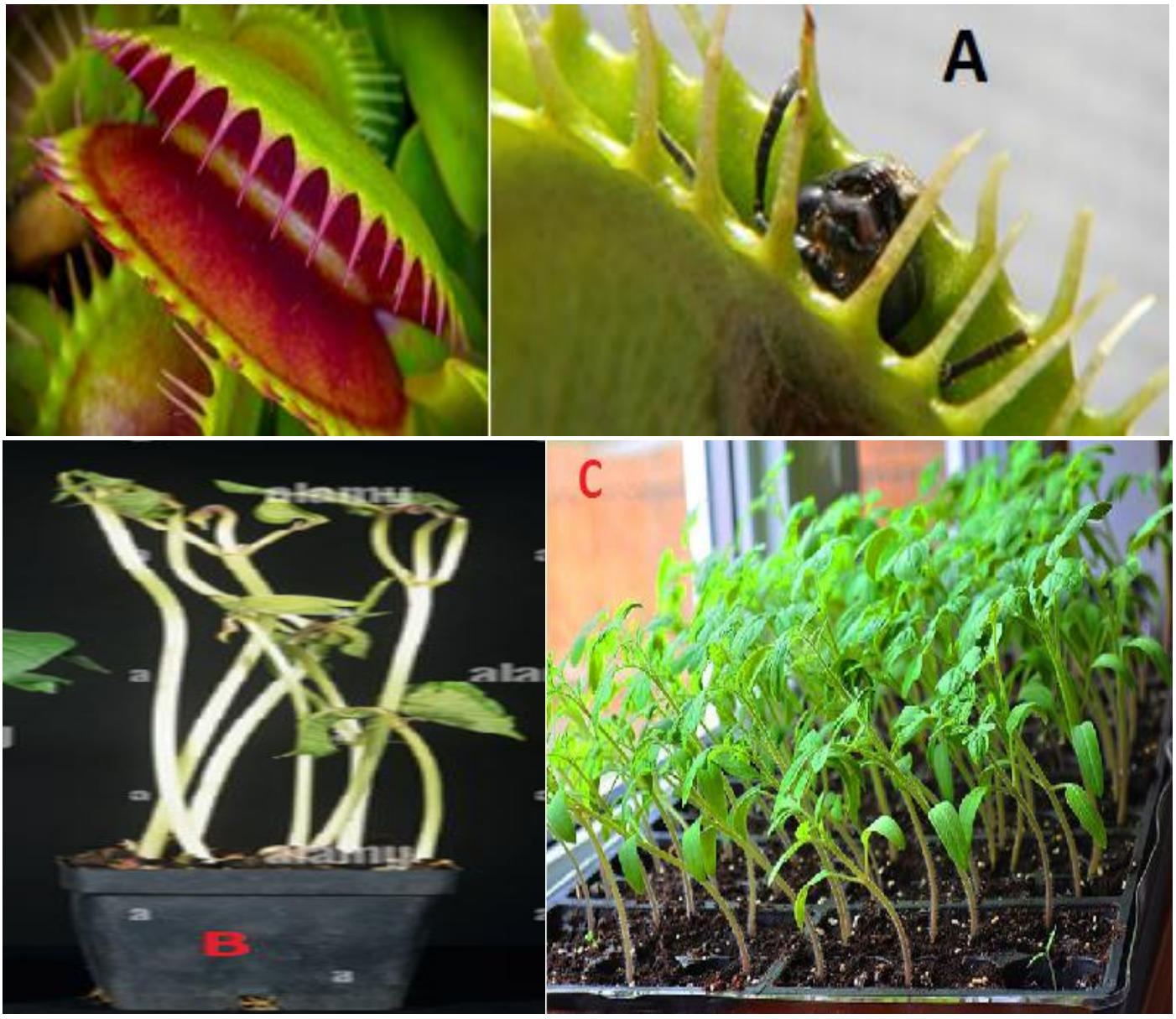
(b) Describe how the body deals with the substances mentioned in (a) above when they are in excess. **(2 marks)**

……

……

……

2. Study the photographs below and answer the questions that follow.



(a) (i) Identify the type of response exhibited by specimen **A.** **(1 mark)**

……

(ii) What is the survival value of the response you have identified in (a)(i) above **(1 mark)**

……

(b) (i) Identify the phenomenon exhibited by specimen **B.** **(1 mark)**

……

(ii) State the significance of the phenomenon in (b) (i) above. **(1 mark)**

……

……

(c) Explain how the response exhibited by seedlings in photograph **C** occurred. **(3 mrks)**

……

……

……

……

(d) Study the photograph below showing a certain trait in man.

(i) Identify the trait exhibited in the photograph above. **(1 mark)**

……

(ii) The trait you have identified in (d)(i) above is **sex linked**. In which chromosome is it contained. **(1 mark)**

……

(iii) Name any other sex linked trait in man. **(1 mark)**

……

(iv) The man in the photograph married a woman. Use a genetic cross to predict the offspring of the above marriage. Let $\mathbf{Y^H}$ represent the gene for the trait above. **(4 marks)**

(e) The photographs below show certain chromosomal mutations.

(i) Identify them

P …… **(1 mark)**

Q …… **(1 mark)**

3. Study the photographs below and answer the questions that follow.

(a) Give **two visible** survival adaptive features for the organism in photograph **X.(2 marks)**

……

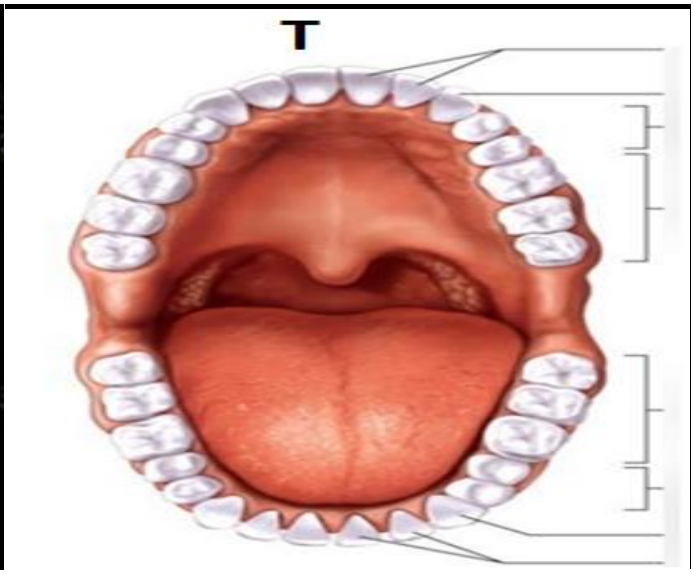
……

(b) Identify the dentitions exhibited in photograph **Y** and **Z** **(2 marks)**

Y ……

Z ……

(c) Study the photographs below showing a certain type of tooth and teeth arrangement in man.



(i) Label any **three** parts of the tooth in photograph **S.** **(3 marks)**

……

……

……

(ii) Give **two** adaptations of the tooth to its function. **(2 marks)**

……

……

……

(iii) Write the **dental formula** for the teeth arrangement in photograph **T.** **(1 mark)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHEMISTRY

233/1

PAPER 1 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:

1. *Write your name and index number in the spaces provided above.*

2. *Answer all the questions in the spaces provided.*

3. *All working must be clearly shown.*

4. *Non-programmable silent electronic calculators and KNEC mathematical tables may be used.*

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1 – 28	80	

1. Metal **Q** displaces metals **T** and **U** from their oxides but does not displaces metal **R.** Metal **T** displaces **U** form its oxide. Arrange the metals according to their reactivity starting with the strongest reducing agent**.** **(1 mark)**

……

2. Chlorine gas can be prepared in the laboratory using the following two methods;

Solid substance X and concentrated Hydrochloric acid

Solid substance X, concentrated sulphuric (VI) acid and solid Sodium Chloride.

a) Name the solid substance X **(1 mark)**

……

b) What is role of concentrated sulphuric acid in the reaction**?** **(1 mark)**

……

c) State how dry chlorine gas is collected**.** **(1 mark)**

……

……

3. A white crystalline solid Q when heated to forms a brown gas, colourless gas that relights a glowing wooden splint and a yellow residue which turns white on cooling. Aqueous solution of Q forms white precipitate which dissolves excess aqueous ammonia solution to form a colourless solution P.

a) Write the name and chemical formulae of complex ion in solution **P.** **(2 marks)**

Name;

……

Chemical formula;

……

……

b) State the observation made when the aqueous solution of P is reacted with few drops of sodium hydroxide**.** **(1 mark)**

……

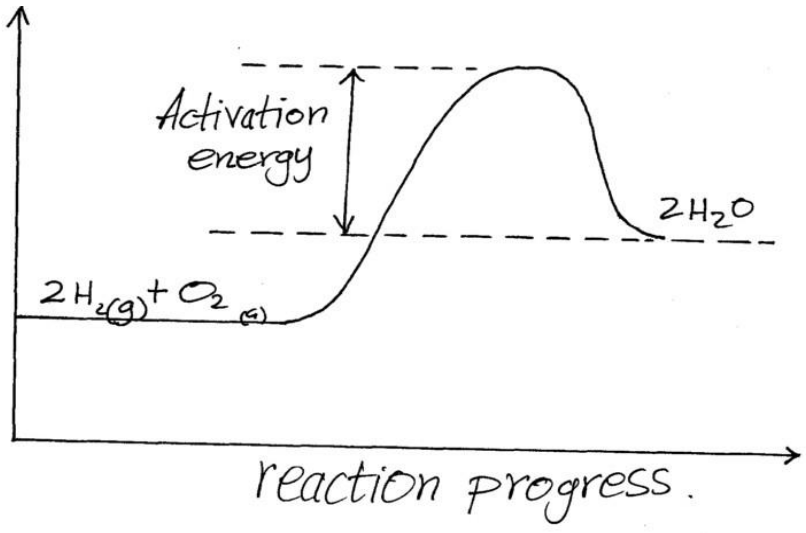
……

4(a) Define term Lattice energy **(1 mark)**

……

……

b) The reaction between hydrogen gas and oxygen releases energy. A student drew the reaction profile for the reaction between hydrogen gas and oxygen gas.



State two errors made when drawing the reaction profile. **(2mks)**

……

……

……

5. Ammonia gas is one of the substances recycled in the Solvay process.

a) Other than water name another substance that is recycled in the process. **(1 marks)**

……

b) Write a balanced chemical equation for the reaction that regenerates Ammonia gas in the process. **(1 mark)**

……

c) State an industrial use of the only waste product in the Solvay process**.** **(1 mark)**

……

……

6. Lead (II) iodide is a toxic bright yellow solid which was used as a paint pigment known as 'iodine yellow'. Describe briefly how you would prepare lead (II) iodide in the laboratory starting with lead (II) oxide. **(3 marks)**

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.....

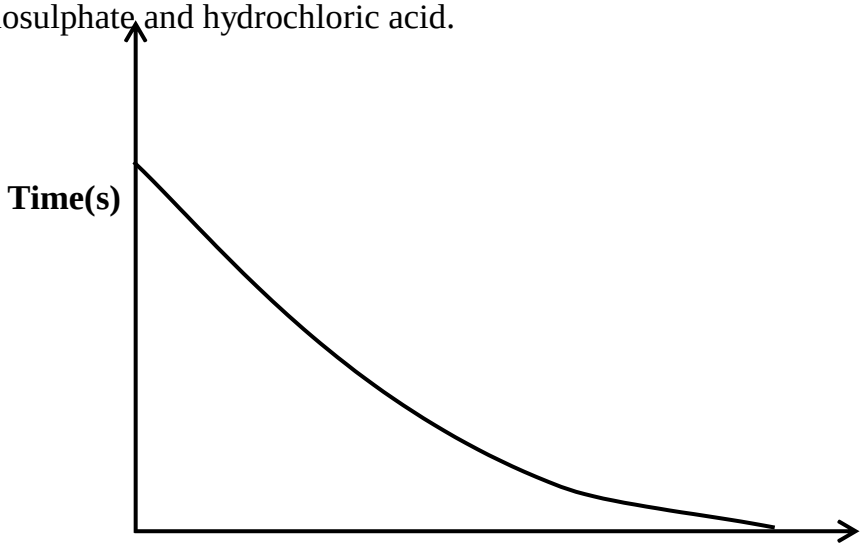
7. 5.0g of zinc carbonate were allowed to react with $25cm^3$ of 1M hydrochloric acid until there was no further reaction. Calculate the volume of gas that was formed at s.t.p. **(Zn = 65.4, O = 16, C = 12, molar gas volume at s.t.p = 22400 cm^3)** **(3 marks)**

8. Atoms of element P can be represented as ${}^{23}_{11}P$. Element P reacts with sulphur to form a yellow solid.

Using dots (•) and crosses (**X**) to represent electrons, draw the structure of the yellow solid. (S=16).

(2 marks)

9. The curve shown below shows the variation of time against temperature for the reaction between sodium thiosulphate and hydrochloric acid.



(a) Explain the shape of the curve**.** ***(2 marks)***

……

……

……

(b) Other than temperature name **one** factor that affects the rate of reaction**.** ***(1 mark)***

……

10.Magnesium ribbon was added to a solution of hydrogen chloride in methylbenzene. Another piece of Magnesium ribbon was added to hydrogen chloride in distilled water. State and explain observations made. **(2 marks)**

……

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……

11State **two** differences between luminous and non luminous flame of the Bunsen burner**.(2 marks)**

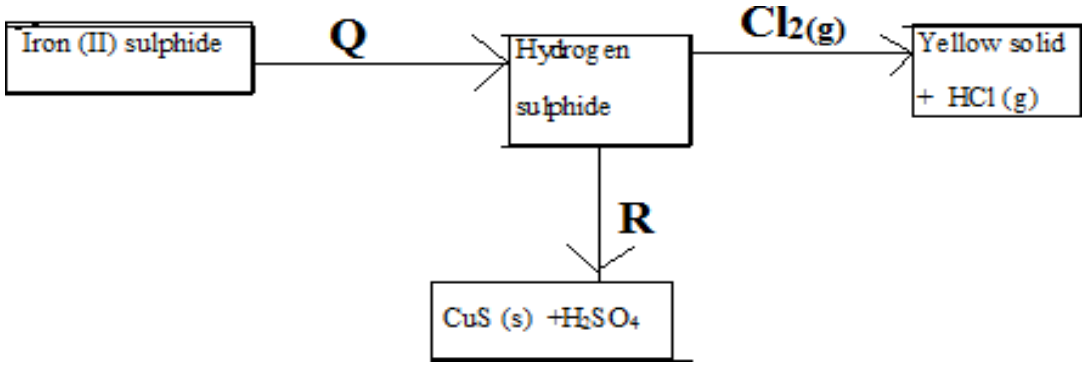
……

……

……

12 A fuel gas contains 50% of hydrogen gas and 44% of carbon (II) oxide by volume. The rest of is incombustible. Calculate the volume of gas that remains at room temperature when the 100 cm^3 fuel gas was ignited. **(3 marks)**

13 Study the diagram below and answer the questions that follow.



a) Name substances; **(1 mark)**

Q……..

R……..

b) Write the equation for the reaction that leads to the formation of the yellow solid. **(1 mark)**

……

c) Using a chemical test, describe how you would distinguish between hydrogen sulphide and sulphur (IV) oxide. **(1 mark)**

……

……

14. A gas occupies a volume of 400cm^3 at 227^oC and 760mmHg.What will be the temperature of the gas when the volume and pressure of the gas is 100cm^3 and 380mmHg respectively**.(2 marks**

15. For each of the following experiments, give the observations, and the type of change that occurs (Physical or chemical) **(3 marks)**

Experiment	**Observation**	**Type of change**
A few drops of concentrated sulphuric acid added to small amounts of suga		
A few crystals of Iodine are heated gently in a test tube		
A few crystals of copper (II) Nitrate ar heated strongly in a test tube.		

16. (a)Define solubility of a solute. **(1 mark)**

……

……

b) The solubility of potassium nitrate is 120g/100g of water at 80 ^{o}C and 70g/100g of water at 20^{o}C.What mass of the salt would crystallize if 80g of potassium nitrate solution saturated at 80 ^{o}C was cooled to 20 ^{o}C **(2 Marks)**

17. Zinc metal reacted with dilute hydrochloric acid. The gas produced was then passed over heated copper

(II) oxide in a combustion tube.

a) State two precautions that must be considered when the gas reacts with copper (II) Oxide in the combustion tube. **(2 marks)**

b) Write a balanced chemical equation between zinc and dilute hydrochloric acid. **(1 mark)**

18. The table below shows ammeter readings recorded when two equimolar solutions were tested separately.

Electrolyte	**Current (A)**
Dilute Sulphuric (VI) Acid	7.210
Ethanoic Acid	4.011

a) Explain the difference in the ammeter readings. **(2marks)**

……

……

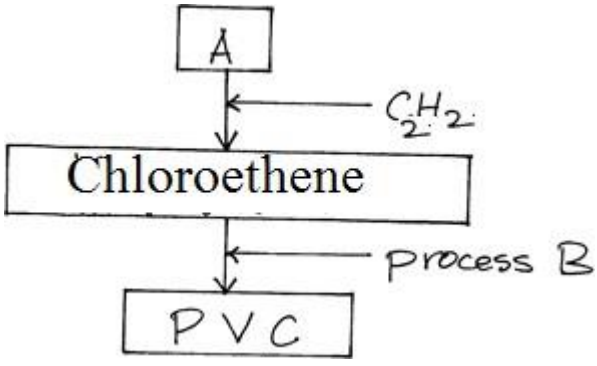
……

b) Compare the reactivity of equal length of magnesium ribbon with each of the electrolytes. **(1 mark)**

……

……

19. Study the scheme below and answer questions that follow



a) Identify reagent A. ***(1mk)***

……

b) Name process B ***(1mk)***

……

c) What does PVC stand for? ***(1mk)***

……

20. One of the disadvantages of hard water is wastage of soap.

a) State one other disadvantage **(1mk)**

b) The table below shows tests carried out in a sample of water and the results obtained.

Sample	Results	observations
A	Addition of sodium hydroxide drop wise until excess	Whit precipitate which dissolves in excess
B	Addition of excess ammonia solution	White precipitate
C	Addition of dilute nitric (V) acid followed by barium chloride	White precipitate

(i) Identify the **anion** present in the water sample ***(1 Mark)***

……..

(ii) Write an ionic equation for the reaction in **C** ***(1 Mark)***

……

21. A piece of sodium was burnt in excess oxygen gas. The product obtained was shaken with water to make a solution.

(a) Write a balanced equation for reaction between the product formed and water. **(1 mark)**

……

……

(b) State and explain the observation made when red and blue litmus papers are dipped into the solution. **(2 marks)**

……

……

……

22. Aluminium chloride and sodium chloride are both chlorides of period 3 elements in the periodic table. Use this information to explain the following observations.

a) A solution of Al_2Cl_6 in water turns blue litmus paper red while that of sodium Chloride does not. **(1½ marks)**

……

……

……

b) Sodium chloride has a melting point 801^oC is while Al_2Cl_6 sublimes 183^oC.**(1½ marks)**

……

……

……

23. The ionization energies of elements A and B are 495.9kJ/mol and 739.9kJ/ mol respectively. Both elements are in the same group of the periodic table.

a) What is ionization energy**?(1 mark)**

……

……

b) Compare the reactivity of elements A and B . Explain your answer**.(2 marks)**

……

……

……

24. Study the information given in the table below and answer the questions below.

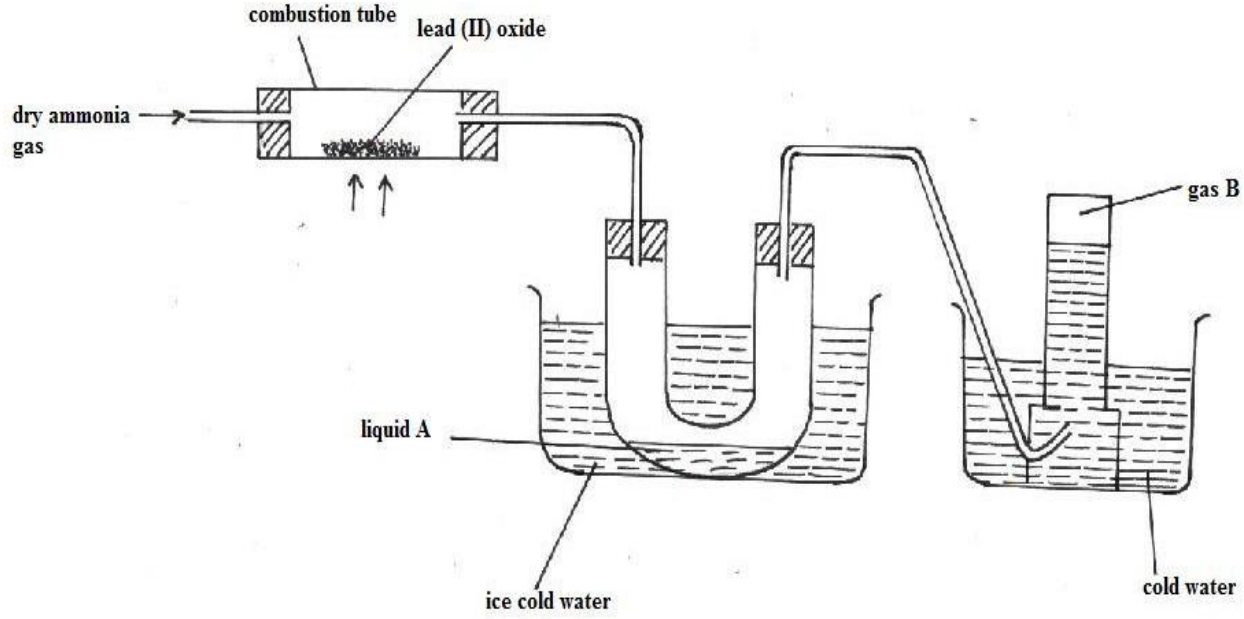
Bond	Bond energy(kJ/mol)
C-H	413
H-Cl	431
C-Cl	346
Cl-Cl	244
C – C	347

a) Calculate the enthalpy change for the reaction below.

$C_2H_6 (g) + Cl_2 (g) \rightarrow CH_3CH_2Cl (g) + HCl (g)$ **(2 marks)**

b) State a condition required for the reaction in (a) above to take place. (**1 mark)**

25. The diagram below represents a set-up that can be used to obtain nitrogen gas in the laboratory. Use the information on the diagram to answer the questions that follow



(a) Describe the chemical test for liquid **A.** **(1 mark)**

(b) What observation is made in the combustion tube during the reaction? (**1 mark)**

……

(c) State two uses of gas B. (**1 mark)**

……

……

26. a) State Graham's law of diffusion. ***(1mk)***

……

……

b) 50cm³ of nitrogen (ii) oxide was allowed to diffuse through a porous membrane in 20 seconds. Calculate the time taken by equal volume of carbon (ii) oxide to diffuse through the same membrane. (C=12, N=14, O=16). ***(2mks)***

……

……

……

27. Nitrogen (IV) oxide dissolves and reacts with Sodium hydroxide solution to form two salts and water.

a) What is the nature of Nitrogen (IV) oxide?**{1 mark}**

……

b) Write the Ionic equation for the reaction that takes place.**{1 mark}**

……

……

28. When powdered brass was reacted with excess dilute sulphuric (VI) acid, a solid residue was left.

(i) Name the residu**e.(1 mark)**

(ii) Explain why the residue was left**.(1 mark)**

(iii) State another observation made(**1 mark)**

29. During manufacture of sulphuric (vi) acid, sulphur (iv) oxide is oxidised to sulphur (vi) oxide in the presence of vanadium oxide catalyst as shown below:

$$2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)} \quad \triangle H = -197kJ/mol$$

The reaction is carried out at a pressure of 3 atmospheres and a temperature of 450^0C. State and explain the effect on the yield of sulphur (vi) oxide if the reaction is:

a) Carried out at 3 atmospheres and 600^0C. ***(2mks)***

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.....

b) In absence of a catalyst. ***(2mks)***

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHEMISTRY

233/2

PAPER 2 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Write your **Name, Admission Number** and **School** in the spaces provided above.*
- *Answer **all** the questions in the spaces provided after each question.*
- *Mathematical tables and non-programmable electronic calculators may be used.*
- ***ALL** working must be clearly shown where necessary.*

FOR EXAMINER'S USE ONLY

QUESTIONS	MAX SCORE	CANDIDATE'S SCORE
1	12	
2	10	
3	13	
4	11	
5	13	
6	10	
7	9	
TOTAL	**80**	

1. The grid below forms part of the periodic table. Study it and answer the questions that follow. The letters do not represent the actual symbols of the elements

P				T	V	W	Y	M
	Q		S	U		X		
	R						Z	

a) Write the general name given to the element P belong. **(1mark)**

……

b) An element N has an atomic number of 15. Write down its electronic arrangement and hence fix it in its right position on the grid above. **(1mark)**

Electronic arrangement

……

c) Compare the size of the atom of R and that of its ion. Explain your answer. **(2mks)**

……

……

……

d) Give the formula of the compound formed between **(1mark)**

i. P and W ……

ii. T and Y ……..

e) Compare the melting points of element Q and S. Explain **(2Mks)**

……

……

……

f) State the least reactive element in the grid. Give a reason for your answer **(1mk)**

……

……

g) Give two advantages that element S has over element Q in making electric cables **(2mks)**

……

……

h) Draw (a) dot (.) and cross (x) diagram to represent the bonding in compound formed between T and Y **(2 marks)**

……

……

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……

2. a) Study the table below and answer the questions that follow

Bond type	bond energy $kJmol^{-1}$
C-C	346
C = C	610
C-H	413
C-Br	280
Br-Br	193

i) Calculate the enthalpy change for the following reaction **(3 marks)**

$C_2H_{4(g)} + Br_{2(g)} \longrightarrow C_2H_4Br_{2(g)}$

……

……

……

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……

……

ii) Name the type of reaction that took place in (a) above **(1mark)**

……

b) Butane C_4H_{10} cannot be prepared directly from its elements but its standard heat of formation (ΔH_f^θ) can be obtained indirectly.

The following heats of combustion are given.

ΔH_C^θ (Carbon) = -393kJ/mol

ΔH_C^θ (Hydrogen) = -286kJ/mol

ΔH_C^θ (Butane) =-2877kJ/mol

i) Draw an energy cycle diagram linking the heat of formation of butane with its heat of combustion and the heat of combustion of its constituents elements. **(2mk)**

……

……

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……

……

ii) Calculate the heat of formation of butane ΔH_f^θ (C_4H_{10}) **(2mks)**

……

……

……

c) Given that the lattice enthalpy of potassium chloride is +690kJ/mol and hydration enthalpies of K^+ and Cl^- are -322kJ and -364kJ respectively. Calculate the enthalpy of solution of potassium chloride. **(3 mks)**

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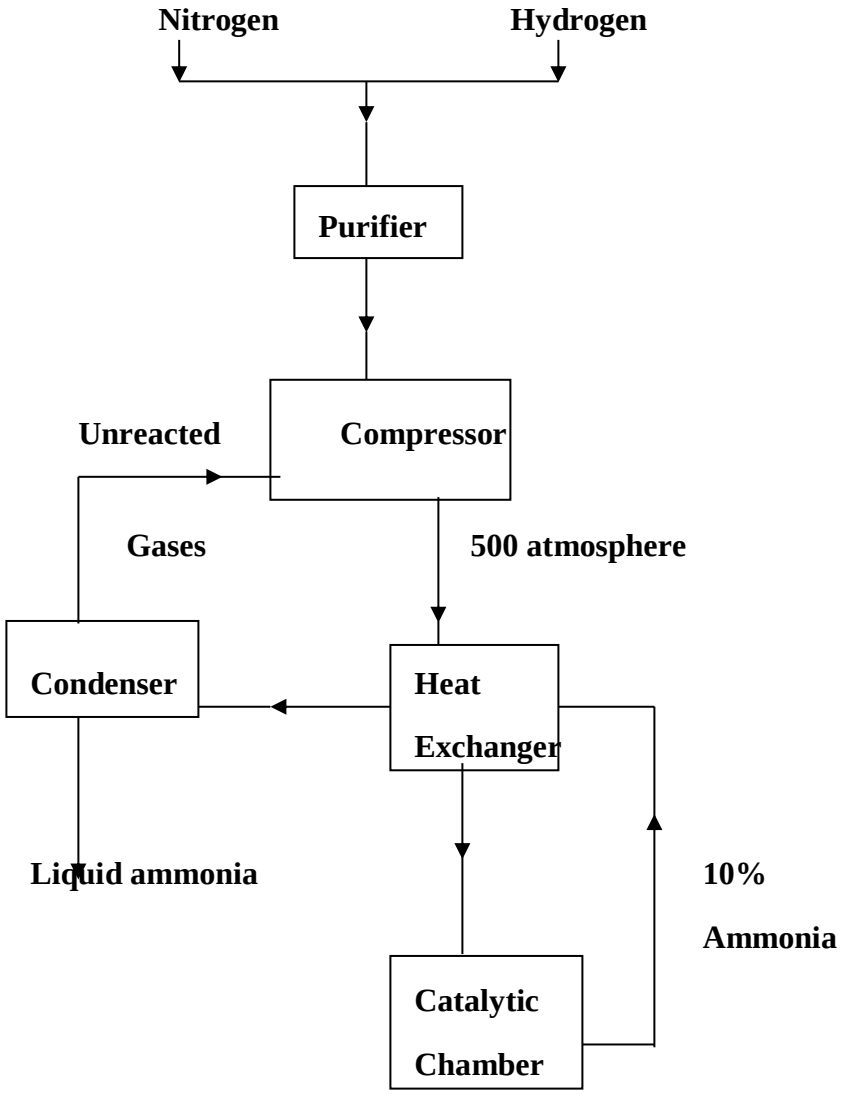
3. The diagram below represents the Haber process for the manufacture of ammonia. Study it and answer the questions that follow.



a) Name any two impurities removed by the purifier. **(1mark)**

……

……

b) The catalyst used in the process is finely divided iron. Why iron is finely divided? **(1mk)**

……

……

c) In the Haber process the conversion of nitrogen and hydrogen into ammonia is only 10%. The remaining unreacted gases are recycled. What is the advantage of this? **(1mk)**

……

……

d) A part from iron catalyst and pressure of 500 atmospheres, name any other condition required for this process. **(1mk)**

……

e) Give any two uses of ammonia **(1mk)**

……

……

f) In the manufacture of nitric (v) acid from ammonia and air, ammonia is catalytically oxidized to nitrogen (ii) oxide

(i) Name the catalyst used in this reaction **(1mk)**

……

(ii) Write a balanced chemical equation for the reaction between ammonia and air**.** **(1mk)**

……

……

(iii) State one environmental problem likely to be faced in an area where nitric (v) acid manufacturing plant is located. **(1mark)**

……

……

g) (i) In the preparation of chlorine gas in a school laboratory, either manganese (IV) oxide or potassium manganate(VII) may be used on concentrated hydrochloric acid. State one advantage of potassium manganate (VII) over manganese (IV) oxide in this reaction. **(1mark)**

……

……

(ii) State and explain what would be observed when dry litmus papers are dipped in a gas jar of chlorine. **(1mark)**

……

……

(iii) Freshly prepared chlorine water bleaches but chlorine water exposed to sunlight for sometime does not bleach. Explain. **(2marks)**

……

……

……

(iv) When preparing hydrogen chloride gas from sodium chloride and sulphuric (VI) acid, two conditions are necessary. State the conditions. **(1mark)**

……

……

4. A label on the bottle containing Sulphuric (IV) acid has the following information

- Density = 1.836 g/cm3
- Percentage purity = 98%
- Relative formula mass = 98

(a) Calculate:

i. The concentration of the **acid** **(3 mks)**

……

……

……

……

……

ii) The volume of concentrated sulphuric (IV) acid that should be diluted to produce 2 litres of 2 M Sulphiric (IV) **acid** **(2 mks)**

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……

(b) A solution of sodium hydroxide was found to contain 12.4g/dm^3 of sodium hydroxide. 25cm^3 of this solution reacted with 15cm^3 of a solution of sulphuric (VI) acid. (Na=23.0, H=1.0, S=32.0, O=16.0)

(i) Find the molarity of the sodium hydroxide solution. **(1 mark)**

……

……

(ii) Calculate the number of moles of sodium hydroxide solution used. **(1 mark)**

……

……

(iii) Calculate the number of moles of the acid used. **(1 mark)**

……

……

(iv) Determine the concentration of the sulphuric (VI) acid solution in g/dm^3. . **(3mrks)**

……

……

……

……

5. Define a saturated solution. **(1 mark)**

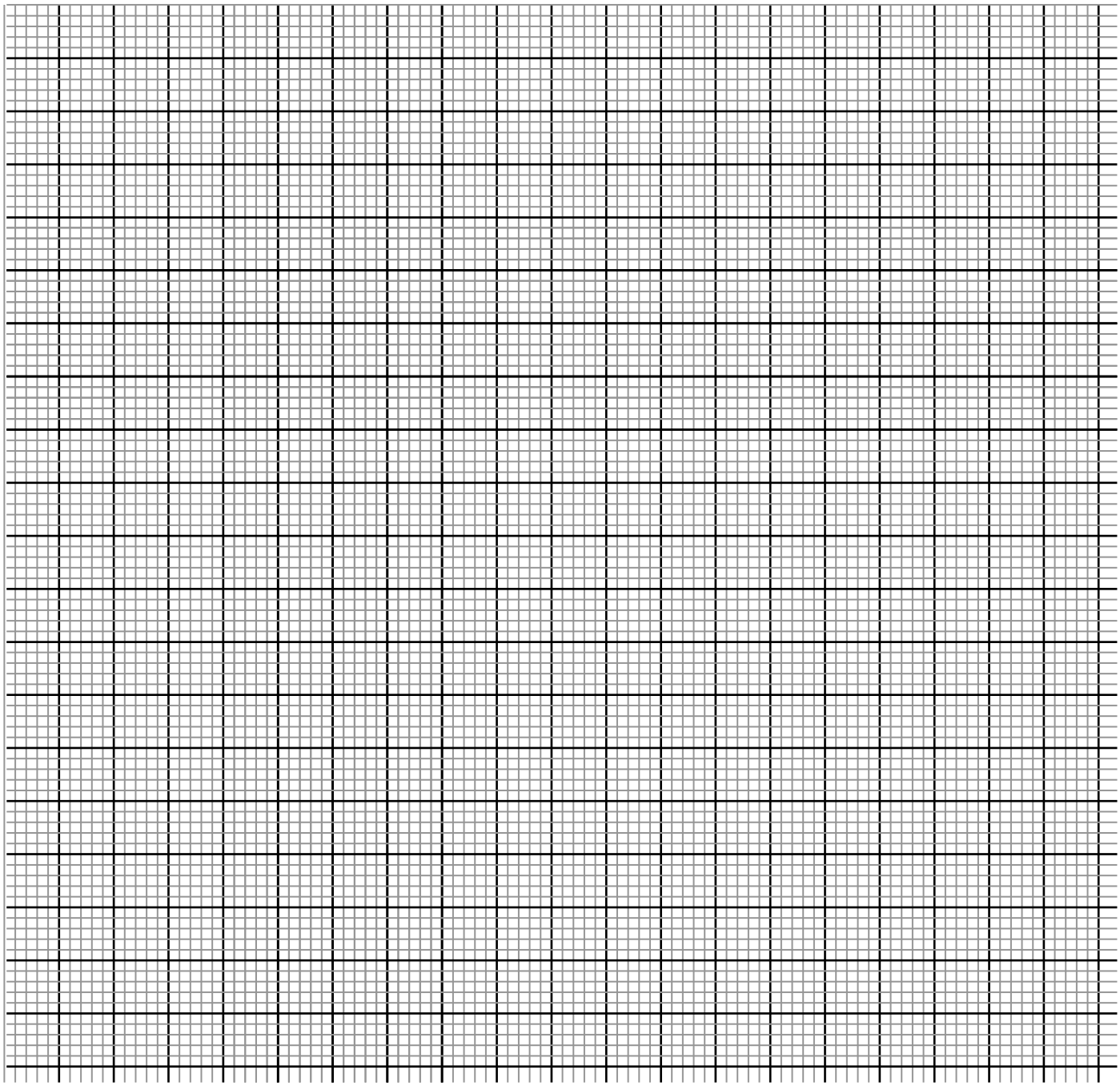
……

……

(b) The table below represent the solubilities of sodium nitrate and Sulphur (IV) oxide at different temperatures.

Temp (^oC)	10	18	26	34	42
Solubility of Sodium Nitrate (g/ 100g of water)	20	29	40	53	68
Solubility of Sulphur (IV) Oxide (g/ 100g of water)	78	55	45	40	36

On the grid provided below, plot a graph of solubilities of sodium nitrate and Sulphur (IV) oxide against temperature. **(4 marks)**



Using the graph;

i. Determine the solubility of Sulphur (IV) oxide at $16^{o}C$. **(1 mark)**

……

……

……

ii. The concentration, in moles per litre, of sodium nitrate at 16 ^{o}C. (assume density of solution is 1 g/cm^{3}) (**Na=23, 0=16, N=14).** **(3 marks)**

……

……

……

……

iii. Mass of crystals formed when a solution of sodium hydroxide is cooled from 40^{o}C to 26^{o}C. **(2 marks)**

……

……

……

iv. What is the relationship between solubility of sodium nitrate and temperature? **(1 mark)**

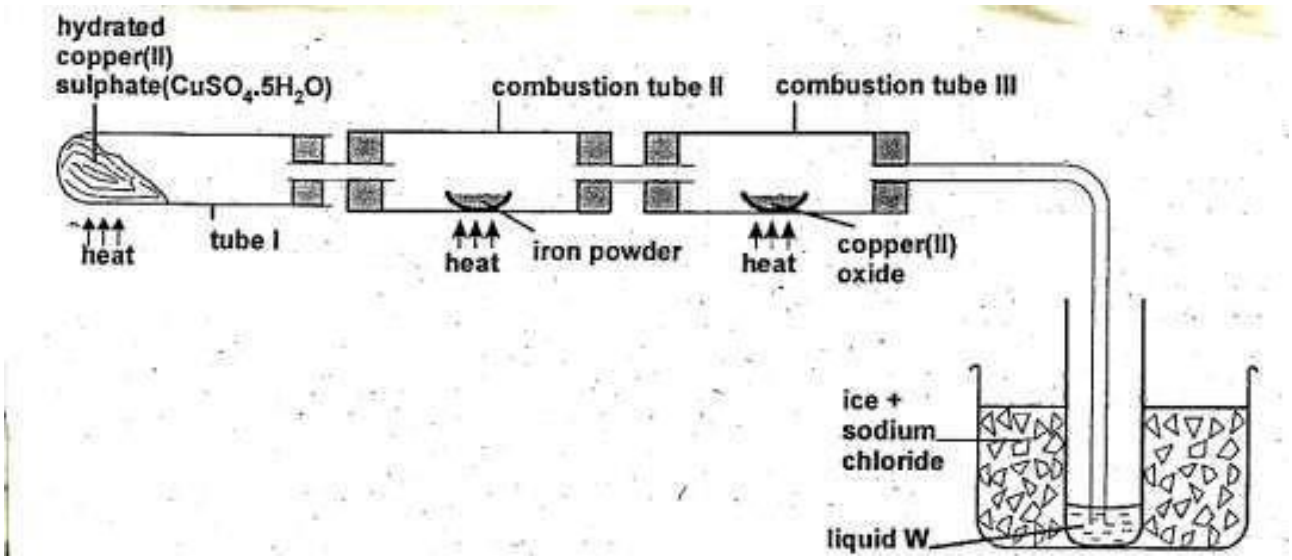
……

……

(c) Give one advantage of hard water. **(1 mark)**

……

6. The diagram below shows the apparatus for the preparation of gas A and investigate on its properties . Study it and answer the questions that follow.



a) (i) Name gas A. **(1 mark)**

……

(ii)suggest property of gas A under investigation **(1mark)**

……

(iii) Write chemical equations for the reactions in the;

Boiling tube I **(1 mark)**

Combustion tube II **(1 mark)**

b) (i) State and explain the observation made in

Tube I. **(1 mark)**

Combustion tube II **(1 mark)**

c) (i)What is the use of hydrated copper (II) sulphate in the experiment**?** **(1 mark)**

(ii)Name one other substance that comes out of tube III. **(1 mark)**

(iii)Name liquid W. **(1 mark)**

(iv) What is the role of sodium chloride in the ice (freezing mixture) **(1 mark)**

7. Study the condensed formulae below and answer the questions that follow

(a) I $CH_3CH\ (CH_3)\ CH_2CHCH_2$

II $CH_3CHCH(CH_3)CH_3$

i. Draw the structural formula of each of the compounds I and II **(2mks)**

I. .

II.

ii. Give the systematic name of each of the compounds represented by the formulae above **(2mks)**

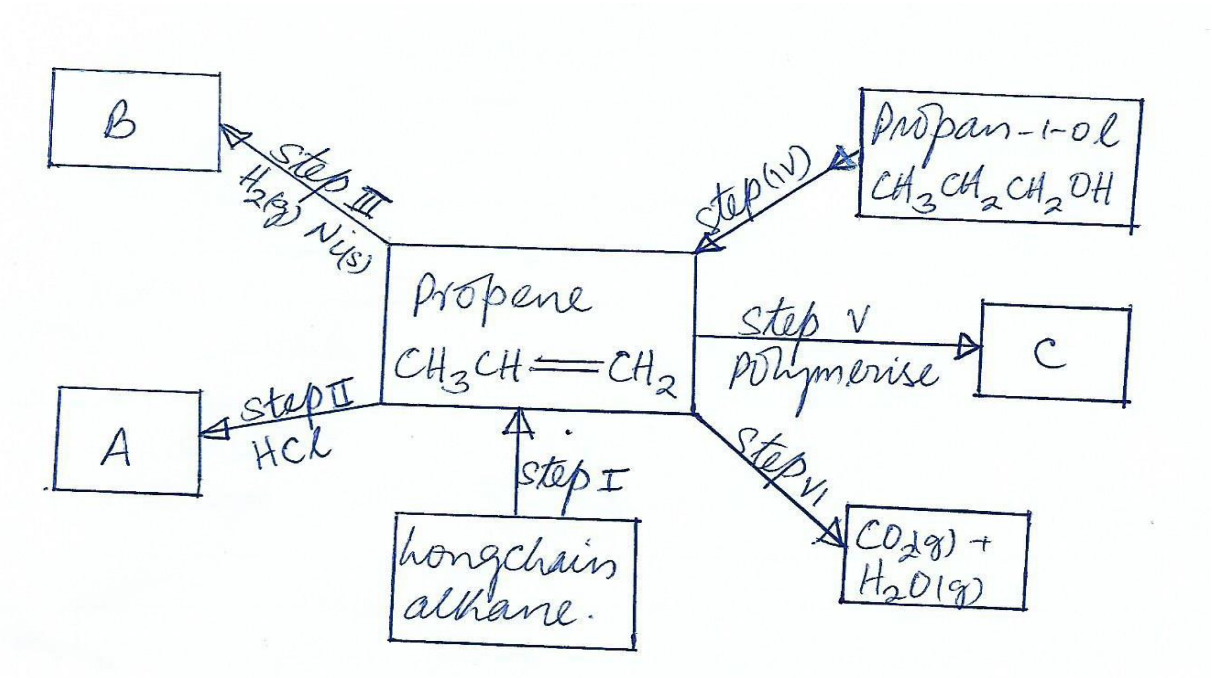
I_____

II_____

iii. To which homologous series does the compound represented by I belong **(1/2 mk)**

……

(b) The flow chart below shows some reactions starting with a long chain alkane. Study it and answer the questions that follows.



i. Name substance **(1 1/2 mks)**

A_____

B_____

C_____

ii. What is the name given to the process represented by

Step I_____ **(½ mk)**

Step III_____ **(½ mk)**

Step IV_____ **(½ mk)**

Step VI_____ **(½ mk)**

iii. Write down the chemical equation represented by the reaction in step **VI** **(1mk)**

……

……

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHEMISTRY

233/3

PAPER 3 (PRACTICAL)

TIME: 2¼ HOURS

SCHOOL…… SIGN……

CONFIDENTIAL TO SCHOOLS

Each candidate will require

1.2.0 g solid A weighed accurately and supplied in a stoppered container.
2.About 60cm^3 solution B
3. About 130cm^3 Sodium hydroxide solution
4.One thermometer -10 ^{0}C - 110^{0}C
5. One Stop watch
6. One 100ml plastic beaker
7. One burette 0-50ml
8. One pipette
9. One volumetric flask
10. About 500ml distilled water
11. 3 labels
12. 2 Conical flasks
13. One 10ml measurimg cylinder
14. One 100ml measurimg cylinder
15. One boiling tube
16. 0.5g Solid E
17. 6-clean dry test tubes
18. 0.2g Solid F
19. 0.5g Solid G
20.pH Chart
21.Metallic spatula
22. Six droppers

ACCESS TO

- *2M NaOH*
- *2M Sulphuric (VI) acid*
- *0.5M Potassium iodide*
- *Bromine water*
- *Barium chloride soln. ($BaCl_2$)*
- *Universal indicator soln*
- *Acidified $KmnO_4$.*
- *Phenolphthalein indicator*
- *Source of heating*

NOTES

1. Solid A —Borax salt.
2. Solid E-Lead Nitrate
3. Solid F-Sodium Carbonate
4. Solid G-.Maleic acid

PREPARATIONS

1. Solution B is prepared by adding 172cm3 (1.18g/cm3)of concentrated hydrochloric acid to about 500ml distilled water and diluting to 1 Litre solution.
2. Sodium hydroxide solution is prepared by dissolving 4gms of the soild in about 500ml of water then diluting to 1 Litre (0.1 M).
3. Bromine water is prepared 1ml of liquid water and dissolving it 100ml of distilled water in a fume chamber.(Freshly Prepared).
4. Acdified KMnO4 is prepared by dissolving 3.16g of solid potassium manganate(VII) in about 200ml of 2M Sulphuric (VI) acid and top up to 1 Litre of distilled water.

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHEMISTRY

233/3

PAPER 3 (PRACTICAL)

TIME: 2¼ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES.

- *Write your name and admission number in the spaces provided above.*
- *Sign and write the date of examination in the spaces above.*
- *Answer **ALL** the questions in the spaces provided.*
- *You are not allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed time for the paper.*
- *Use the 15 minutes to read through the question paper and make sure that you have all the chemicals and apparatus that you may require.*

FOR EXAMINER'S USE ONLY.

Question	Maximum score	Candidate's score
1	19	
2	11	
3	10	
Total score	40	

1.You are provided with:-

- 2.0 g solid A.
- 2.0 M hydrochloric acid solution B.
- 0.1M Sodium hydroxide solution

You are required to determine the;

(i.) Enthalpy change (ΔH)for the reaction between solid **A** and **one** mole of hydrochloric acid.

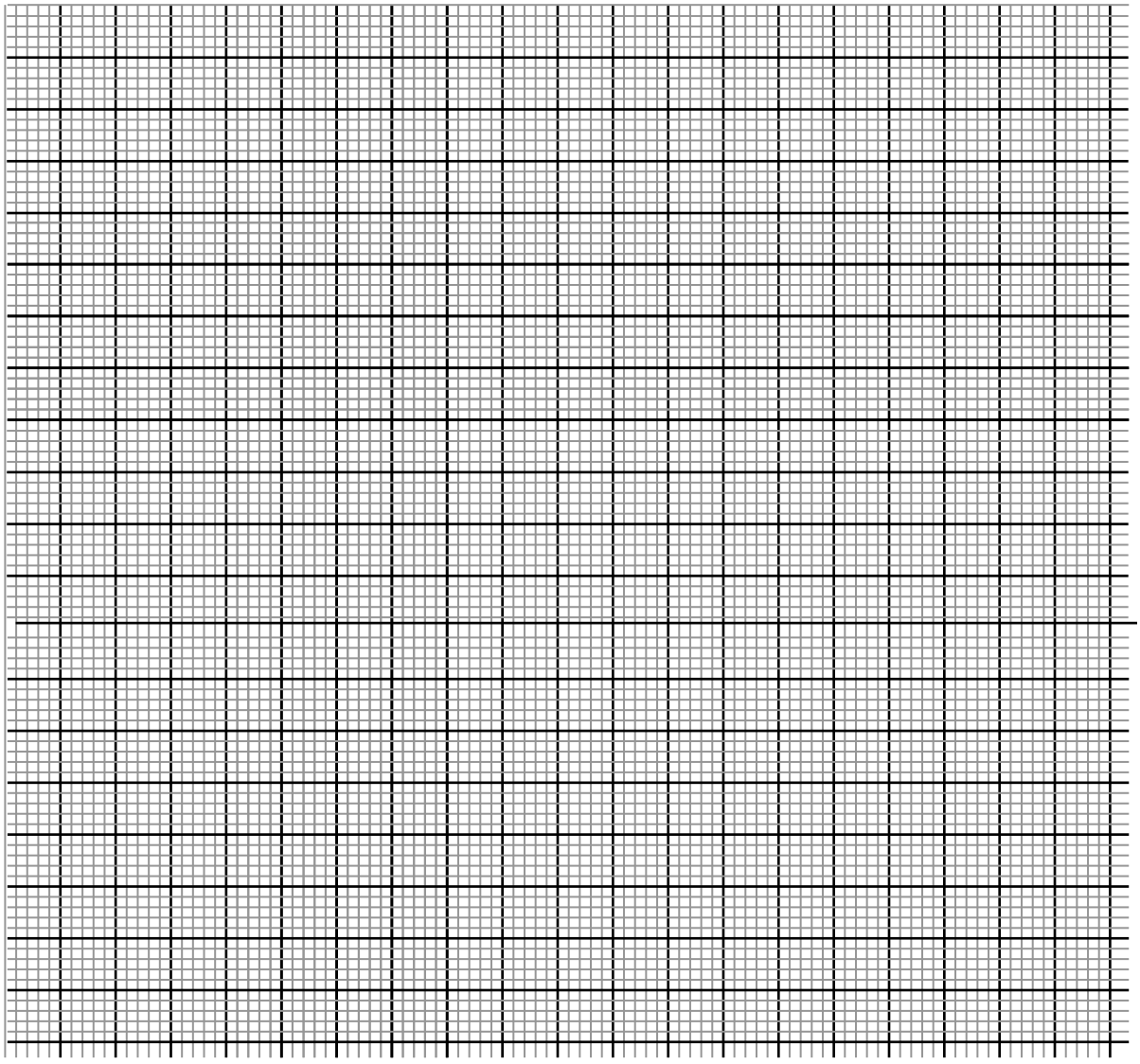
PROCEDURE I

Using a burette,place 20.0cm^3 of 2.0M hydrochloric acid,solution B in a 100cm^3 plastic beaker.Measure the temperature of the solution after every half-minute and record the values in table 1.At exactly 2 1/2 minutes,add all of solid A to the acid and stir the mixture gently with the thermometer. Measure the temperature of the mixture after every half-minute and record the values in table 1.Retain the mixture for use in procedure II.

Table 1 **(3mks)**

Time (mins)	0	$^1/_2$	1	$1^1/_2$	2	$2^1/_2$	3	$3^1/_2$	4	$4^1/_2$
Temperature ^0C										

(i) Plot a graph of temperature against time**.** **(3mks)**



(ii) Using the graph, determine the change in temperature (Δ**T**) **(1mk)**

(i) Calculate heat change for the reaction.(Assume specific heat capacity of the mixture is 4.2J/g/K, Density of solution=1.0g/cm^3**))** **(2mks)**

Procedure II

Rinse the burette thoroughly and fill with sodium hydroxide solution. Transfer all the contents of 100cm^3 plastic beaker used in procedure I into a 250cm^3 volumetric flask. Add distilled water to make up to the mark. Label this solution **C**.

Using a pipette and pipette filler, place 25cm^3 of solution C into a clean conical flask and add 2 drops of phenolphthalein indicator and titrate against sodium hydroxide solution. Record your results in table 2 below. Repeat the titration two more times to complete the table 2 below.

TABLE I

	1	2	3
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of sodium hydroxide solution used (cm^3)			

(4mks)

(a) Determine the average volume of sodium hydroxide solution A used. **(1 mk)**

(b) Calculate number of moles of;

(i) sodium hydroxide used **(1 mk)**

(ii) hydrochloric acid in $25cm^3$ of solution **C** . **(1 mk)**

(iii) hydrochloric acid in $250cm^3$ of solution **C** . **(1 mk)**

(iv) hydrochloric acid in $20cm^3$ of solution B. **(1 mk)**

(ii) hydrochloric acid that reacted with solid A. **(1 mk)**

(c) Calculate the enthalpy of reaction between solid A and one mole of hydrochloric acid solution **B.** **(1mk)**

2. You are provided with solid **E**,**F** and **G**. Carry out the tests below and write the observations and inferences in the spaces provided.

a) Place all solid E in a boiling tube and add about $15cm^3$ of distilled water. Shake the boiling tube until all the solid dissolves. Label this solution **E**. Divide the solution **E** into 4 portions.

Observations	**Inferences**
(1mk)	**(1mk)**

i) To the first portion of solution E in a test tube, add 4 drops of 2M sulphuric (VI) acid.

Observations	**Inferences**
(1mark)	**(1mark)**

ii) To the second portion of solution E in a test tube,add sodium hydroxide drop wise until in excess.

Observations	**Inferences**
(1mark)	**(1mark)**

b) Place one half of solid F in a test tube .Add $2cm^3$ of distilled water and shake well. Add 3 drops of this solution to the third portion of solution E.

Observations	Inferences
(1mark)	**(1mark)**

c) To the fourth portion of solution E in a test tube ,add 2 drops of aqueous potassium iodide.

Observations	Inferences
(1mark)	**(1mark)**

(iii) Name the cation present in solid **E**…….. **(1mk)**

3. You are provided with solid G. Carry out the tests below and write the observations and inferences in the spaces provided.

(a) Using a metallic spatula, place a third of solid **G** and ignite on a non-luminous flame.

Observations	Inferences
(1mark)	**(1mark)**

(c) Place the remaining solid G in a boiling tube. Add 10cm^3 of distilled water and shake well. Label this solution **G**. Use the solution G for the tests below.

(i) To the first portion of solution G in a test tube, determine its pH value.

Observations	Inferences
(1mark)	**(1mark)**

(ii) To the second portion of solution G in a test tube,addd 3 drops of acidified potassium manganite (VII).

Observations	Inferences
(1mark)	**(1mark)**

(iii) To the third portion of solution G in a test tube, add 2 drops of bromine water.

Observations	Inferences
(1mark)	**(1mark)**

(iv) To the fourth portion of solution G in a test tube,add the remaining solid F.

Observations	Inferences
(1mark)	**(1mark)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

PHYSICS

232/1

PAPER 1 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… **SIGN**……

INDEX NO…… **ADM NO**……

INSTRUCTIONS TO CANDIDATES

- *Write your **Name, Adm no., class** and **date** in the spaces provided at the top of the page.*
- *This paper consists of two sections **A** and **B.***
- *Answer all the questions in the two sections in the spaces provided after each question*
- *All working must be clearly shown.*
- *Electronic calculators, mathematical tables may be used.*
- ***Take g=10ms^{-2} and Specific Heat capacity of water=4,200JKg^{-1}K^{-1}***

SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1 – 13	25	
B	14	11	
	15	13	
	16	12	
	17	08	
	18	11	
TOTAL		80	

SECTION A: 25 MARKS

Answer All the Questions in this Section.

1. On the space provided below sketch a micrometer screw gauge clearly showing the reading **14.43mm.** (*Take the pitch of the screw gauge as 0.5mm*) **(2mks)**

2. Distinguish between Cohesive and Adhesive forces. **(2mks)**

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3. The **fig.1** below shows a liquid-in-glass thermometer.

Fig. 1

a) Name the:

Thermometer…… **(1mk)**

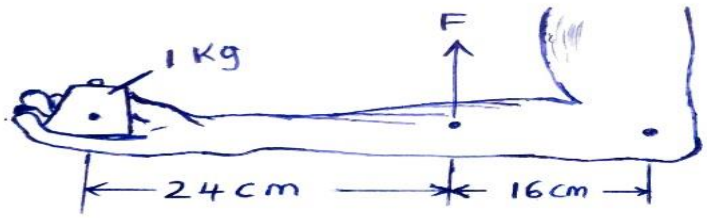
: Part labeled Y……..…….. **(1mk)**

b) State the change that can be made to the capillary bore in order to make the thermometer more sensitive. **(1mk)**

……

……

4. A form four student lifts on his palm a mass of 1Kg as shown in as shown in **fig.2**



Determine force **F** required to keep holding the mass horizontally as shown**.** **(3mks)**

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5. Give a reason why pollen grains placed on the surface of clean water are seen moving continuously and randomly. **(1mk)**

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6. In the **Fig.3** below, the cardboard is pulled suddenly. State the reason why the coin falls into the beaker**.** **(1mk)**

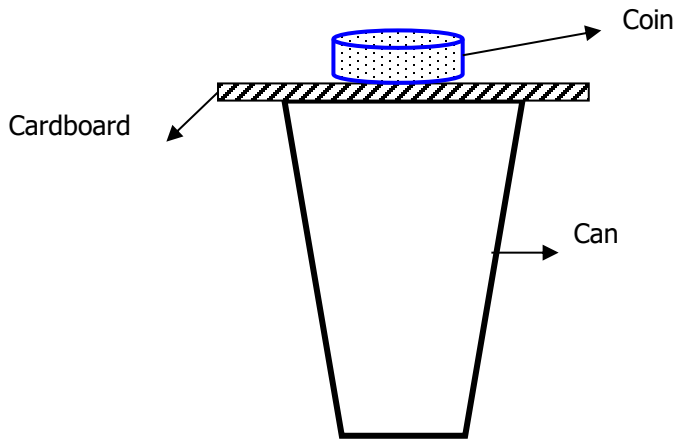

Fig. 3

7. Fig.4 below shows a single movable pulley used to raise a load of 50N.

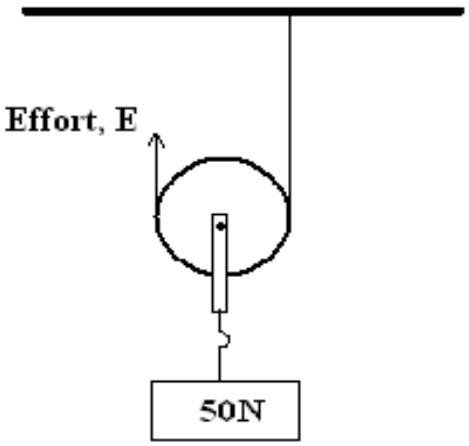

Fig.4

i) State the velocity ratio of this arrangement. **(1mk)**

ii) Assuming that friction experienced is negligible and the weight of the pulley wheel is 7.5N, determine the minimum force required to raise the load at a constant speed. **(1mk)**

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8. State the pressure law of gases. **(1mk)**

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9. A block of copper mass 0.5Kg and specific Heat capacity $400JKg^{-1}K^{-1}$ initially at 80°C is immersed in water at 20◦C. If the final temperature is 21◦C, determine the mass of the water.

(3mks)

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10. State the reason why heat transfer by radiation is faster than conduction. **(1mk)**

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11. A dripless candle is weighted slightly on the bottom so that it floats upright in a container filled with water as shown in **Fig. 5** below.

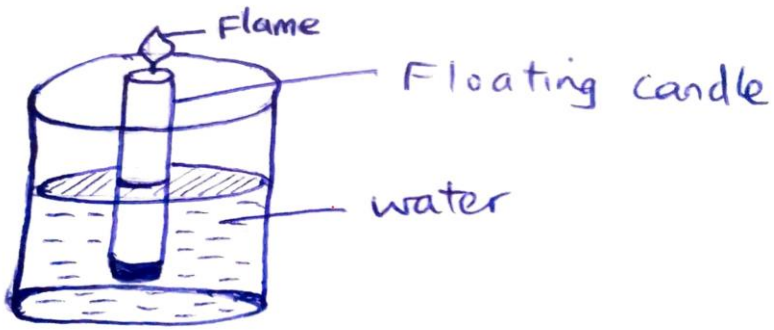

Fig.5

State and explain what happens as the candle burns**.** **(2mks)**

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12. Determine the least pressure that can be exerted by a 20kg solid of dimensions 10cmx20cmx40cm on a horizontal surface. **(3mks)**

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13. State the SI unit of the quantity amount of substance. **(1mk)**

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SECTION B: 55 Marks.

14. a) State the Archimedes' principle. **(1mk)**

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b)Fig.6 below shows a simple hydrometer.

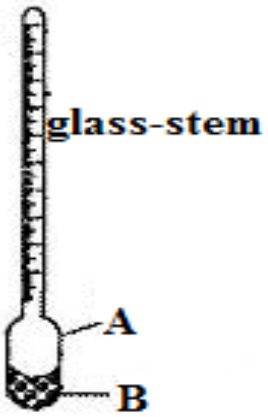

Fig.6

A…….. (1mk)

B……..…… (1mk)

i) Identify the parts labelled A and B.

ii) State the purpose of part labelled B**.** **(1mk)**

……

……

iii) How the hydrometer would be made more sensitive. **(1mk)**

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……

c) A weather balloon of volume 1.2m^3 is tied to a rigid support while being filled with helium gas. The mass of the fabric making the balloon is 0.30kg. Determine the maximum tension on the string tying the balloon to the rigid support.

(Density of air is 1.25kgm^{-3} and density of helium is 0.18kgm^{-3}**).** **(4mks)**

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d) Explain how a submarine can be made to float and sink in water. **(2mks)**

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15. a) State Hooke's law. **(1mk)**

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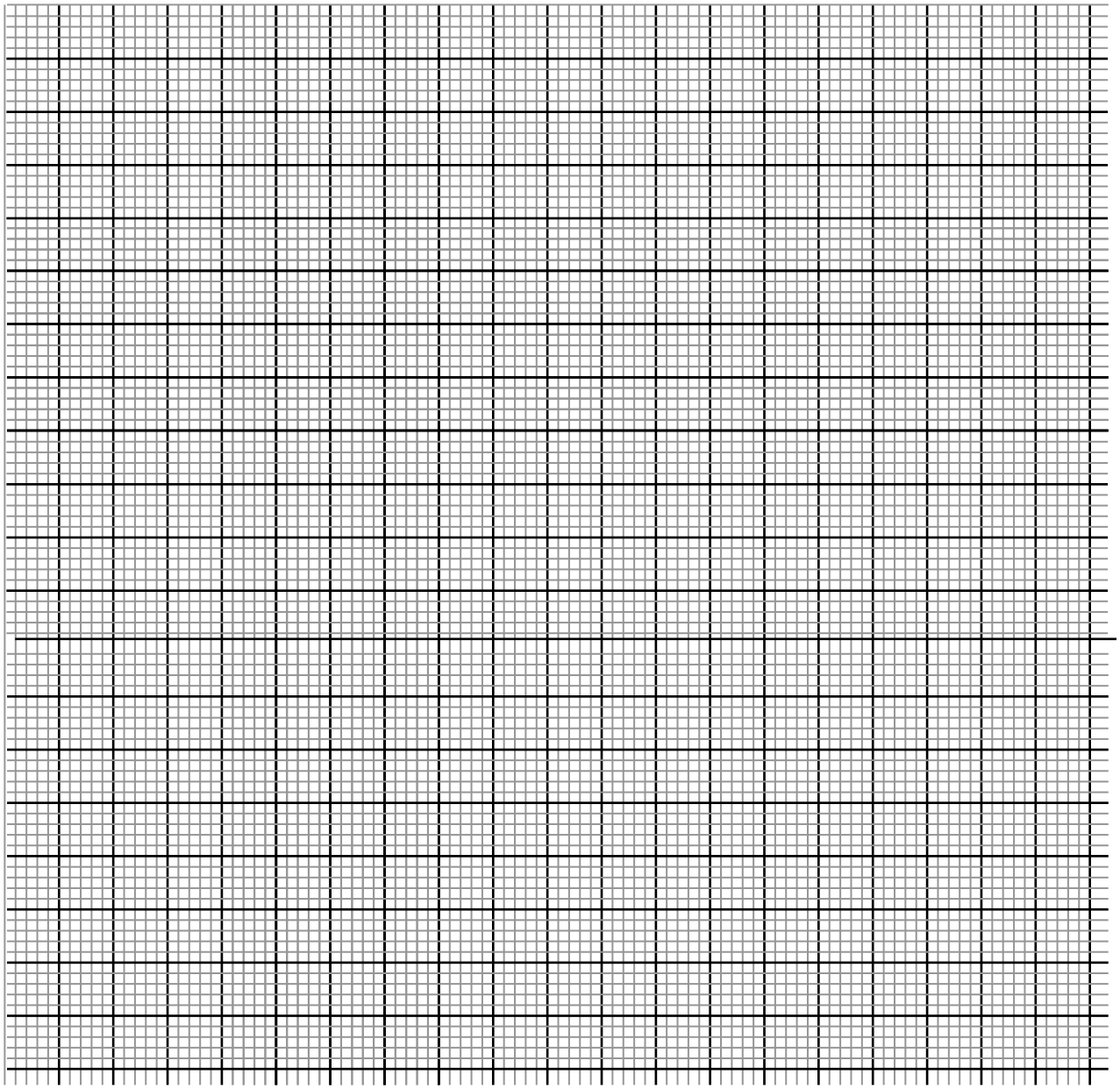
a) A student carried out an experiment to investigate the relationship between the force and extension produced on a spiral spring. The student tabulated his results as shown below.

Force (N)	0	0.8	1.5	3.0	4.5	6.0	7.5
Extension (cm)	0	0.5	1.0	2.0	3.0	4.0	5.0

i) Plot a graph of extension in (cm) y-axis against Force (N**)** **(5mks)**



ii) Determine the spring constant. **(4mks)**

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iii) What force would be required to produce an extension of 2.5cm**?** **(1mk)**

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iv) What extension is produced by:

i) A force of 5.5N…… **(1mk)**

ii) A mass of 700g…… **(1mk)**

16. a) Define a radian as applied in circular motion. **(1mk)**

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b) A car negotiating a corner at a constant speed is said to have a change of momentum.

Explain this observation**.** **(1mk)**

……

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b) The **Fig.7** below shows a ball being whirled in a vertical plane.

Sketch on the same figure the path followed by the ball if the string cuts when the ball is at the position shown in the figure. **(1mk)**

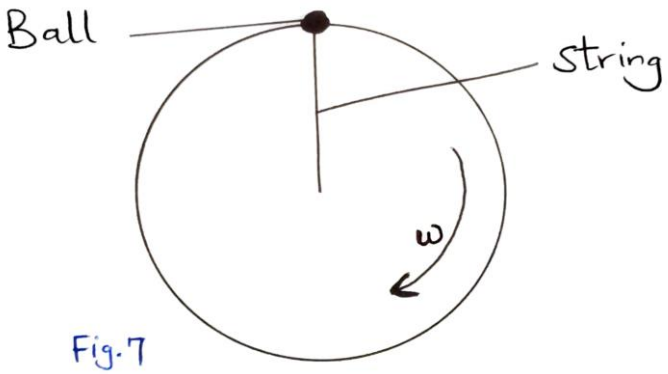

Fig.7

c) State the purpose of banking roads at bends**.** **(1mk)**

……

……

d) A boy whirls a stone of mass 0.2kg tied to a string of length 0.4m in a vertical plane at a constant speed of 2rev/s. (Take $g=10ms^{-2}$)

i) State two forces acting on the stone when it is at the highest point. **(2mks)**

……

……

ii) Determine the :

I angular velocity of the stone; **(3mks)**

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II tension in the spring when the stone is at the highest point; **(3mks)**

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17. a) State Bernoulli's principle. **(1mk)**

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b) **Fig.8** below shows a tube of varying cross-sectional area. $V_1V_2V_3$ and V_4 represents the velocities of water as it flows steadily through the sections of the tube.

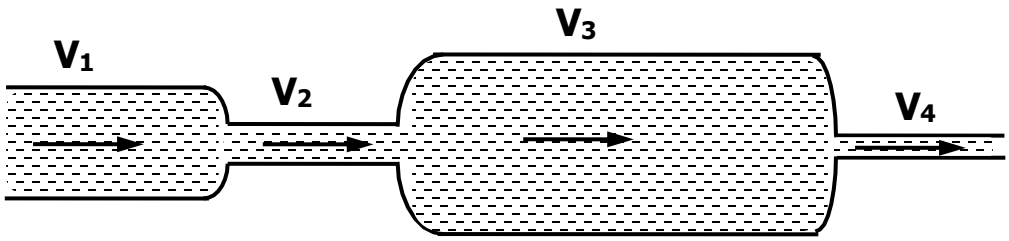
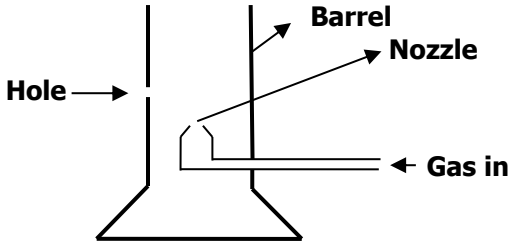


Fig. 8

Arrange the velocities V_1, V_2, V3 and V_4 in descending order. **(1mk)**

c)The diagram below shows a Bunsen burner



Explain how air is drawn into the barrel **(2mks)**

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d)The **Fig.8** below shows air being blown through a tube of a varying cross-sectional area.

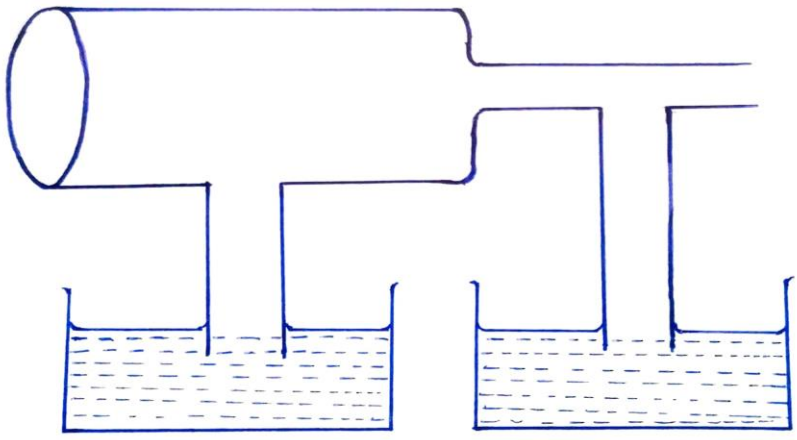

Fig. 8

Using the information in the diagram

i) Calculate the outlet velocity v_2. **(2mks)**

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ii) Show the relative water levels in the two capillary tubes. **(2mks)**

18. a) **Fig.9** below shows the path of a light ball projected horizontally.

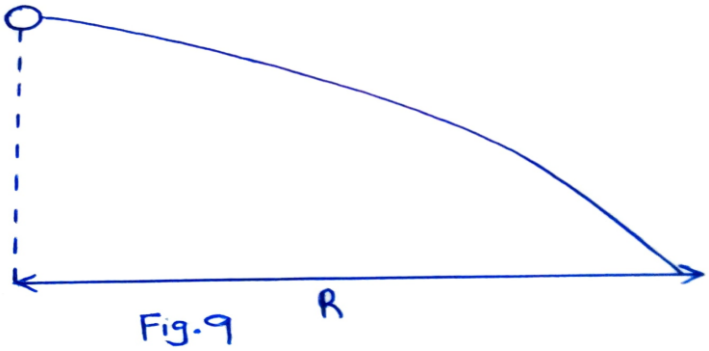

Fig.9

The ball is then made to spin in an anticlockwise direction as it moves;

On the same axis, sketch the new path of the ball. **(2mk)**

b) Using the definition of impulsive force, show that F=ma. **(3mks)**

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c) Two stationary trolleys A and B are separated by a compressed spring and held together by a thread. The mass of trolley A is 2.0kg and that of B is 1.0kg. When the thread is cut the trolleys move rapidly apart.

i) What is the cause of movement of trolleys when the thread is cut? **(1mk)**

……

……

ii) What is the total momentum of the trolleys just before the thread is cut. **(2mks)**

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iii) If trolley A moves off with a speed of 0.25m/s. Calculate the speed with which trolley B moves off. **(3mks)**

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

PHYSICS

232/2

PAPER 2 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:

(a) Write your name, index number in the spaces provided above.

(b) Sign and write the date of the examination in the spaces provided.

*(c) This paper consists of **TWO** Sections: **A** and **B**.*

*(d) Answer **ALL** the questions in section **A** and **B** in the spaces provided.*

*(e) All working **MUST** be clearly shown.*

(f) KNEC mathematical tables and silent non-programmable electronic calculators may be used.

FOR EXAMINERS USE ONLY

Section	Question	Maximum score	Candidate's score
A	1 – 12	25	
B	13	09	
	14	15	
	15	15	
	16	9	
	17	07	
	TOTAL SCORE	80	

SECTION A (25 MARKS)

Answer All the questions in this section in the spaces provided

1. **Figure 1** shows the path of a ray of light after striking two mirrors at an angle. Determine the angle between the two mirrors. (**Show your working**) **(1 mark)**

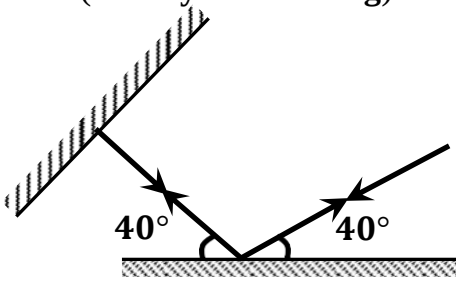

Figure 1

…… ……

2. Polarization is a defect of a primary cell.

(a) Define polarization **(1 mark)**

……

……

(b) State the other defect. **(1 mark)**

……

3. Determine the time it will take a ray of light to traverse a transparent glass block of length 20 cm given that the velocity of light in air is $3.0 \times 10^8\ ms^{-1}$. (Take the absolute refractive index of glass as 1.5) **(3 mrks)**

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4. State one other factor that increases the speed of sound in solid a part from increase in temperature. **(1 mark)**

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5. **Figure 2** shows an object placed at the center of curvature of a concave mirror. Draw a ray diagram to show how the image of the object is formed by the mirror.

(2 marks)

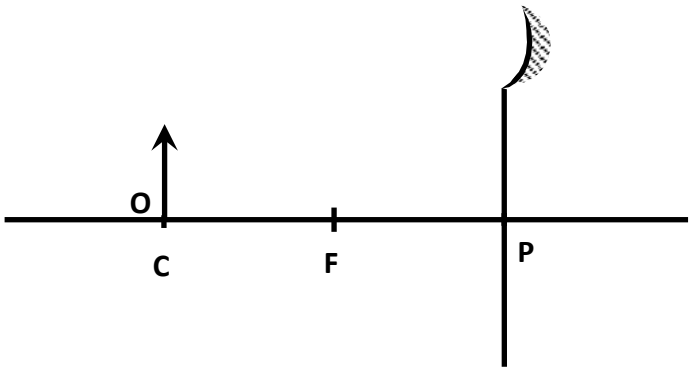

Figure 2

6. A charge of 240 μC flows through a conductor of resistance 4 k□ in 2 $minutes$. Determine the work done to move the charge through the conductor. **(3 marks)**

……

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7. State the reason why radio signals have clear reception than television signals in area that is surrounded by hills. **(1 mark)**

……

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8. A physics student dipped a bar magnet into iron fillings during an experiment in the lab. When the student lifted the bar magnet, the distribution of iron fillings around the bar magnet was as shown in **Figure 4**.

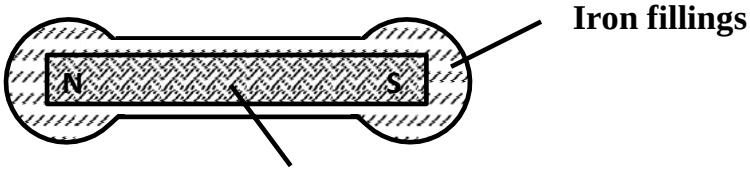

Figure 4

State the conclusion the student made. **(1 mark)**

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……

9. **Figure 3** shows a copper rod AB lying across two metal rods L and M which are fixed onto a plastic support and also connected to a battery.

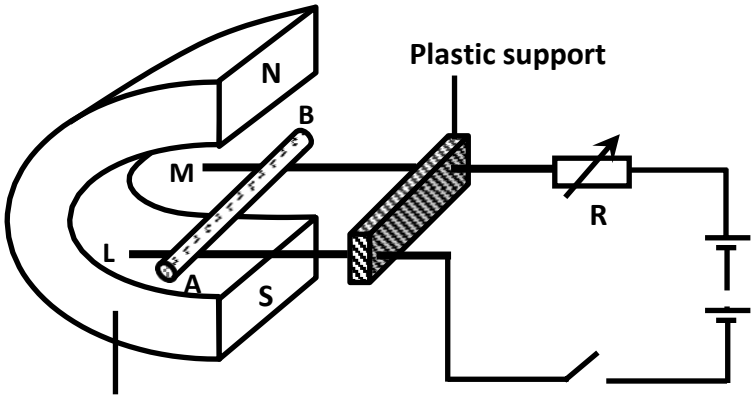

Figure 3

(i) Indicate on the diagram the direction of force experienced on the copper rod AB. **(1 mark)**

(iii)State the direction of force on copper rod AB if the direction of both current and magnetic field are reversed simultaneously. **(1 mark)**

……

(iv)State one way of increasing the force on the copper rod AB. **(1 mark)**

……

……

10. State one advantage and one disadvantage of using a convex mirror as a driving mirror. **(2 marks)**

Advantage:

……

……

Disadvantage:

……

……

11. Give a reason why a pinhole camera forms a blurred image of an object in front of it if the diameter of the pinhole is reduced to less than 1.00 *mm*. **(1 mark)**

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……

12. **Figure 5** below shows a ferromagnetic material PQ being magnetized.

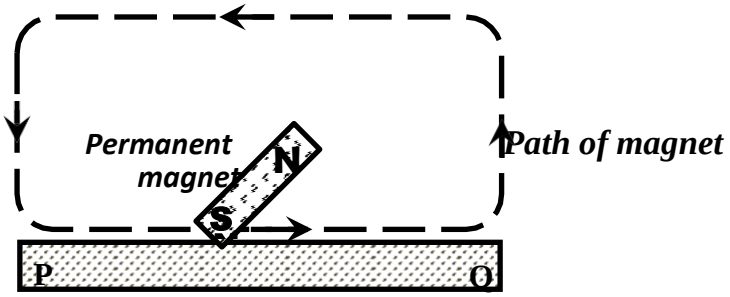


Figure 5

(a) (I)State the method of magnetization being used.

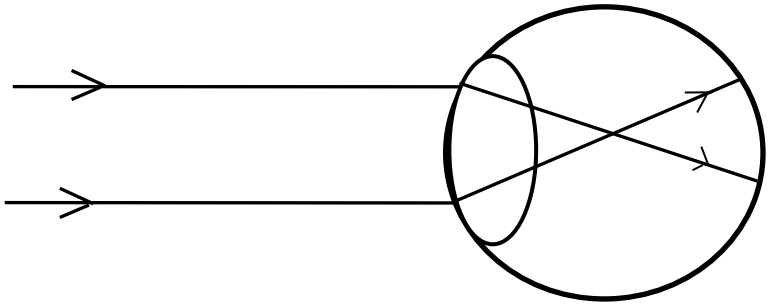
(1 mark)

……

(II)State the pole acquired at P. **(1 mark)**

……

(b) The figure below shows how a distant object is focused in a defective eye.



i) State the nature of the defect. **(1mark)**

……

ii) On the same diagram, sketch the appropriate lens to correct the defect and sketch rays to show the effect of the lens. **(2 mrks)**

SECTION B (55 MARKS)

Answer All the questions in this section in the spaces provided.

13. (a) When current flows through a coil of nichrome wire in an electrical circuit, the wire becomes very hot.

(i) Give a reason why the nichrome wire becomes very hot. **(1 mark)**

……

……

(ii) Give a reason why heat is produced only across nichrome wire and not across other devices in the circuit. **(1 mark)**

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(iii) State one factor that determines the amount of electrical energy converted to heat energy by nichrome wire. **(1 mark)**

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(b) **Figure 6** shows a workman using a cordless electric drill.

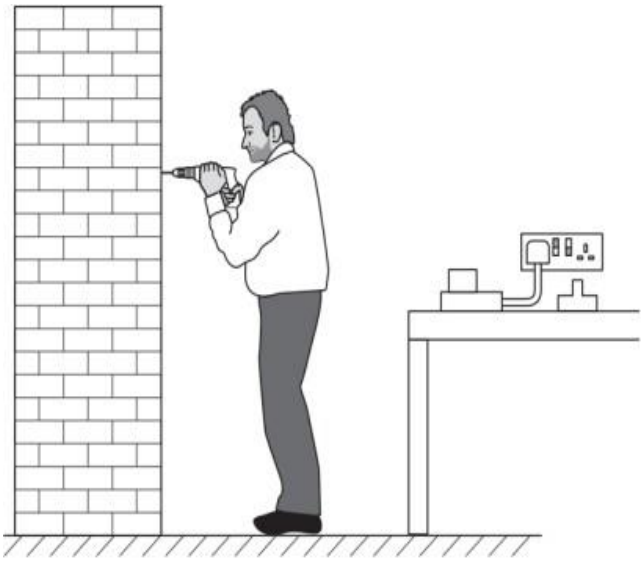

Figure 6

The motor of the drill is powered by a rechargeable battery with an e.m.f. of 23 V. When the drill is used, the power supplied to the motor is 550 W. The workman uses the drill for 1 hour and 30 minutes. Calculate;

(i) The electrical energy supplied to the motor. **(3 marks)**

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……

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(ii) The charge that the battery supplies. **(3 marks)**

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14. (a) (i) Distinguish between a transverse wave and a longitudinal wave. **(1 mark)**

……

……

(ii) State one example of a transverse wave and a longitudinal wave. **(2 marks)**

Transverse wave: ……

Longitudinal wave: ……

(b) **Figure 7 (a)** shows a wave profile for a pendulum bob X released from point P and allowed to swing through Q to R and back a number of times as shown in **Figure 7 (b)**.

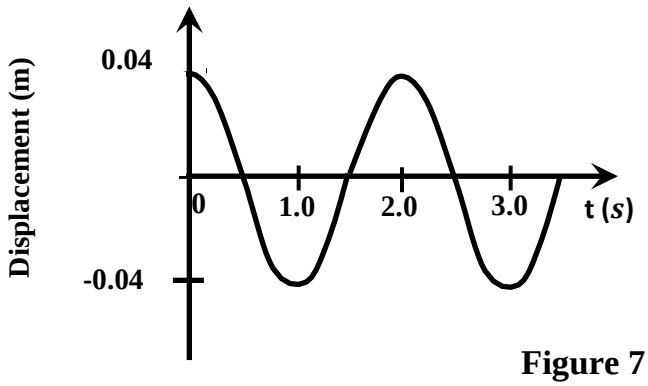

Figure 7 (a)

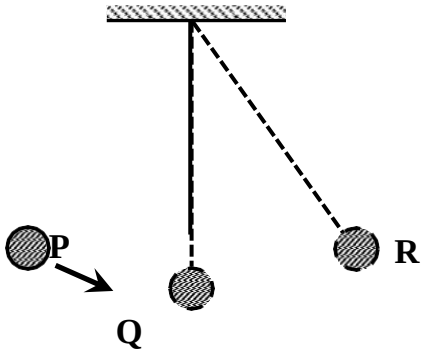

Figure 7 (b)

(i) Determine the amplitude of the wave. **(1 mark)**

……

(ii) Calculate the frequency of the wave. **(3 mrks)**

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(iii) Sketch a wave profile on the same axes for a similar pendulum bob Y released from point R and oscillating on its own path through Q to P and back a number of times at the same frequency but with half-amplitude as the pendulum bob X. **(2 marks)**

(c) In an experiment to observe the interference of light waves, a double slit was placed close to the source of monochromatic light as shown in **Figure 8**.

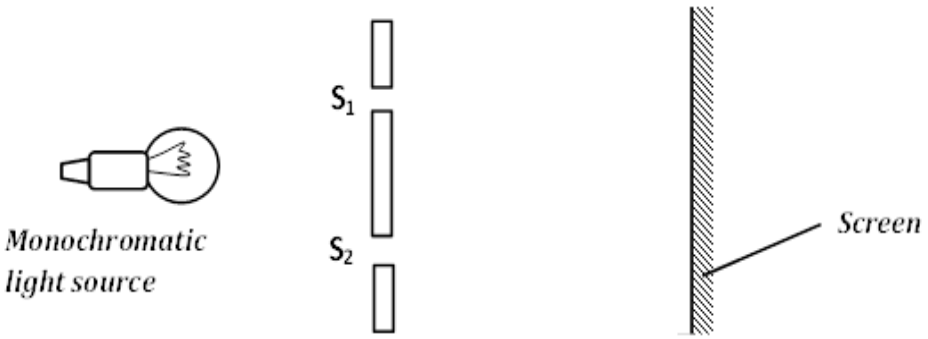

Figure 8

(i) State one condition for interference to occur. **(1 mark)**

……...

(ii) State the function of the double slit. **(1 mark)**

……

……

(iii) State the observation made on the screen. **(1 mark)**

……

……

(iv) Explain the observation made on the screen. **(2 mrks)**

……

……

……

(v) State what would happen if the monochromatic light source was replaced with white light source. **(1 mark)**

……

……

15. (a) Define critical angle. **(1 mark)**

……

……

(b) There are two conditions necessary for total internal reflection to occur. One is that the ray of light must be moving from an optically denser medium to a rarer medium. State the other condition. **(1 mark)**

……

……

(c)**Figure 9** shows the interface between water and diamond.

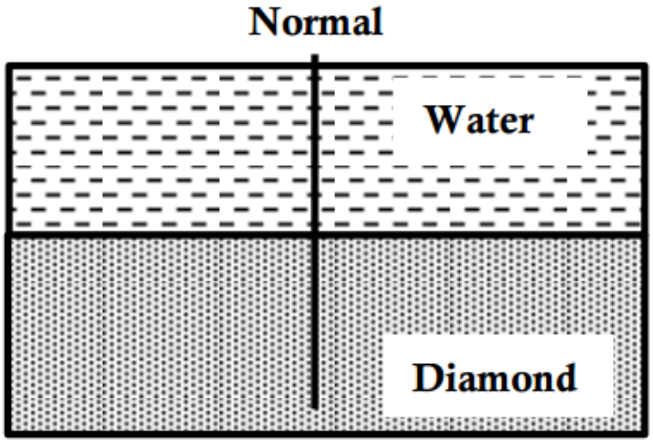

Figure 9

(i) Draw on the figure a ray diagram to illustrate the critical angle C. **(2 marks)**

(i) Calculate the critical angle C given that ${}_{a}n_{w} = \frac{4}{3}$ and ${}_{a}n_{d} = 2.42$. **(3 marks)**

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(d) **Figure 10** shows a small piece of an optical fibre cable.

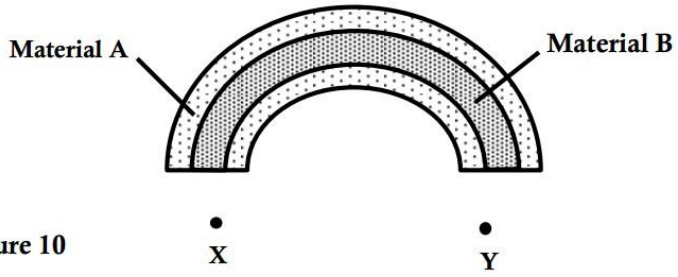

Figure 10

(i)State which material has a higher refractive index. **(1 mark)**

……

(ii)A ray of light enters the optical fibre at X and emerges from Y.

I. Sketch the path of the ray through the optical fibre. **(1 mark)**

II. State the reason why light travels through the fibre as in (i) above. **(1 mark)**

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……

(iii) State one advantage of optical fibre over conventional copper cables as used in telecommunication. **(1 mark)**

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……

(iv)Apart from its use in telecommunication, state any other application of optical fibre cable. **(1 mark)**

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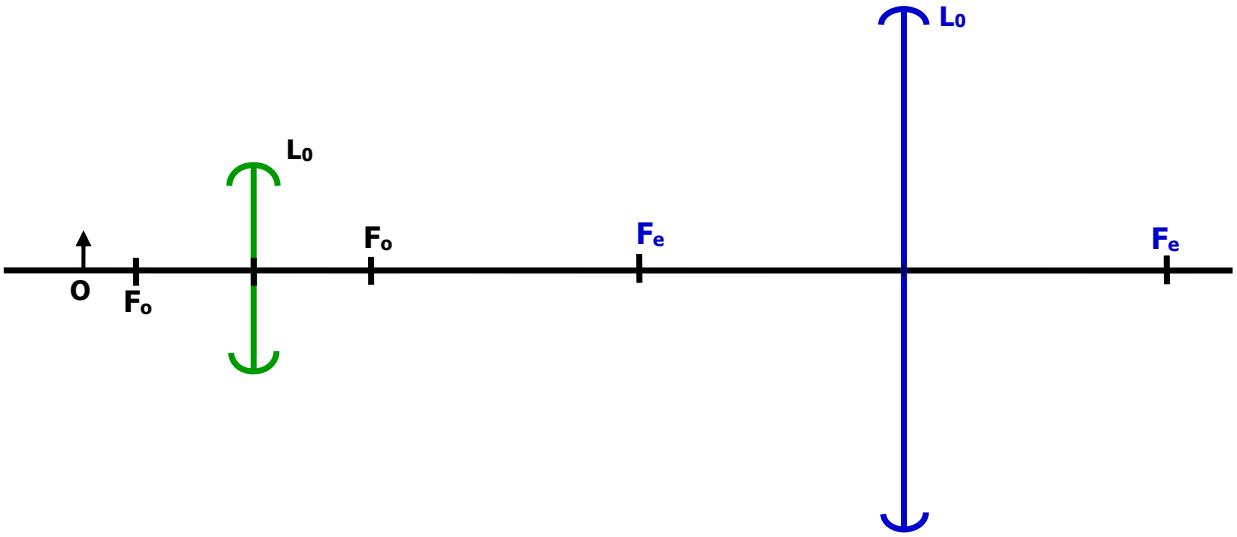
……

(e) The diagram shows an arrangement of lenses; L_o and L_e used in a compound microscope F_0 and F_e are principal foci of L_0 and L_e respectively. Draw the rays to show how the final image is formed in the microscope. **(3 marks)**



16.(a) Define electromotive force (e.m.f) of a cell. **(1 mark)**

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(b) **Figure 11** shows ammeters, resistors and a voltmeter connected to a battery of e.m.f E and internal resistance r of 0.25 Ω. The reading of ammeter A_2 is 2.0 A.

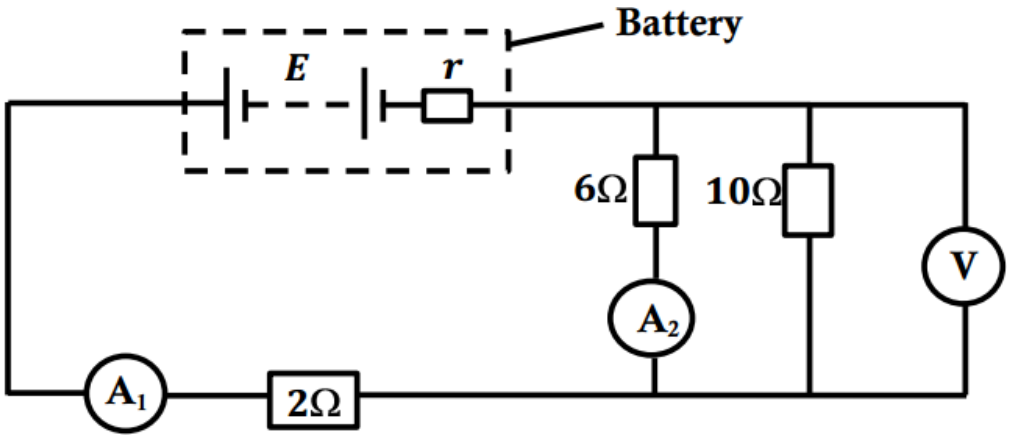

Figure 11

Calculate the;

(i) Total resistance of the circuit. **(2 marks)**

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(ii) Voltmeter reading. **(3 marks)**

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(iii) Reading of ammeter A_1. **(1 mark)**

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(iv)e.m.f, E of the battery. **(2 marks)**

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17(a) Define capacitance of a capacitor. **(1 mark)**

……

……

(b) **Figure 12** shows three capacitors connected to a battery of voltage 12 V.

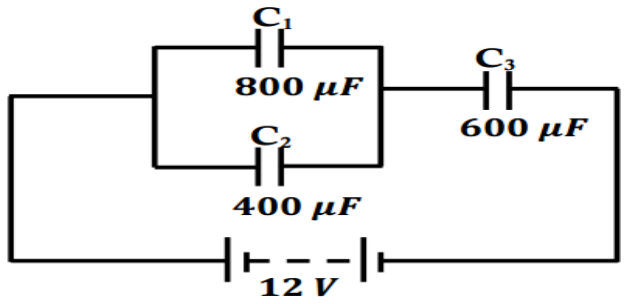

Figure 12

(i) Calculate the effective capacitance of the arrangement. **(2 marks)**

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(ii) Calculate the charge on the 6 μF capacitor. **(3 marks)**

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(c) The conductors A and B in **Figure 13** are positively charged and each placed on insulating stands. Show the distribution of charges on conductors A and B. **(2 marks)**

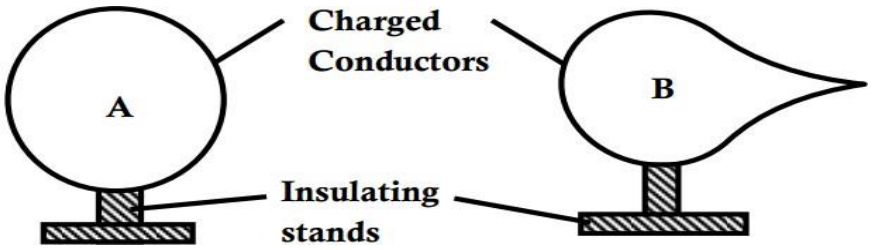

Figure 13

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

PHYSICS

232/3

PAPER 3 (PRACTICAL)

TIME: 2½ HOURS

SCHOOL…… SIGN……

CONFIDENTIAL INSTRUCTIONS

Each candidate should be provided with the following set of apparatus.

Question one

- *Two meter- rulers*
- *Two stand*
- *Two bosses*
- *Two clamps*
- *Three pieces of thread 30cm each.*
- *A piece of celltape or plastic line*
- *One mass of 200g*
- *A stop watch*
- *Spiral spring of length (4-6cm), diameter 1cm*

Question two

- *Two dry cells size D 1.5v each*
- *One bulb 2.5-3.0 volts*
- *Voltmeter (0 - 3v or 0 - 2.5v)*
- *Ammeter (0 - 2.5A)*
- *A switch*
- *Seven connecting wires (at least two with crocodile clips)*
- *Nichrome wire 325WG mounted on a meter rule or millimeter scale.*
- *Micrometer screw gauge (to be share*

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

PHYSICS

232/3

PAPER 3 (PRACTICAL)

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO THE CANDIDATES:

1. *Write your **name** and **Index Number** in the spaces provided above.*
2. ***Sign** and write the **date of examination** in the spaces provided above*
3. *Answer **all** the questions in the spaces provided in the question paper.*
4. *You are supposed to spend the first **15 minutes** of the 2 ½ hours allowed for this paper reading the whole paper **carefully** before commencing your work.*
5. *Marks are given for **a clear record of the observations** actually made, their suitability, accuracy and the use made of them.*
6. *Candidates are advised to **record** their observations as soon as they are made.*

FOR EXAMINER'S USE ONLY

Q1

QUESTION	e	h	i	**j**	**k**	**TOTAL**
MAXIMUM SCORE	***1***	***8***	***5***	***3***	***3***	
CANDIDATES SCORE						

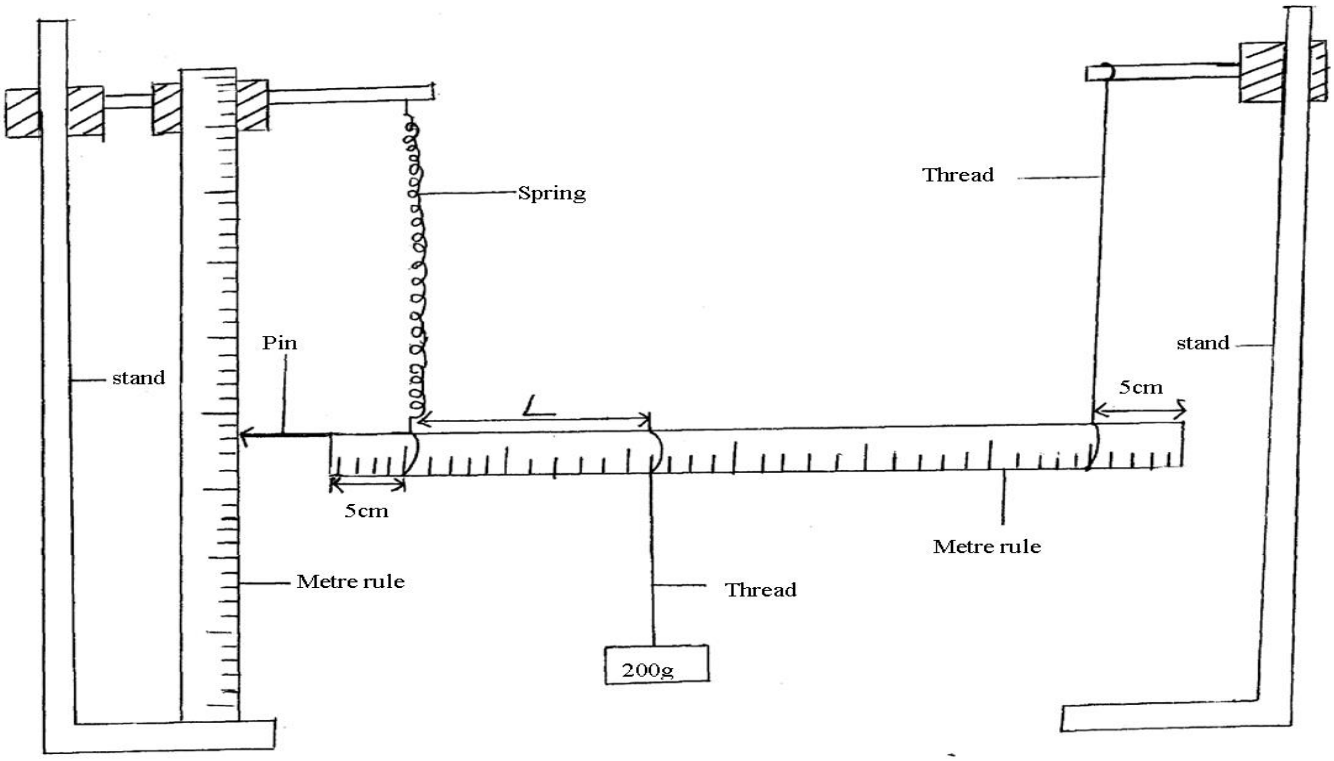
Q.2

QUESTION	a(ii)	a(iii)	a(iv)	**a(v)**	**a(vi)**	**b(i)**	**b(ii)**	**b(iii)**	**b(iv)**	**TOTAL**
MAXIMUM SCORE	***4***	***1***	***5***	***3***	***1***	***1***	***2***	***1***	***2***	
CANDIDATES SCORE										

1. You are provided with the following apparatus:-

- Two meter rules
- Two stands and two clamps
- Two bosses
- Three pieces of thread (at least 30cm each)
- One optical pin
- A piece of cello tape and a plasticine
- A spiral spring
- One mass of 200g
- One stop watch

(a) Set the apparatus as shown in the diagram 1. Below ;Attach the pin (to act as the pointer)at one end of the meter –rule using cellotape or plasticine;



(b) Suspend one end of the metre –rule with thread at 5cm mark from the end .

(c) Suspend the other end with a spring also 5cm from the end so that metre rule is horizontal.

(d) Hold the other rule (with the spring)vertical on the beneath so that it is near the end with a pointer as shown in the diagram.

(e) Read the pointer position .Lo=……cm, (1mk)

(f) Hang on the horizontal l metre rule, the 200g mass at a length, L =10cm from the spring.

Record the extension, e of the spring in the table below.

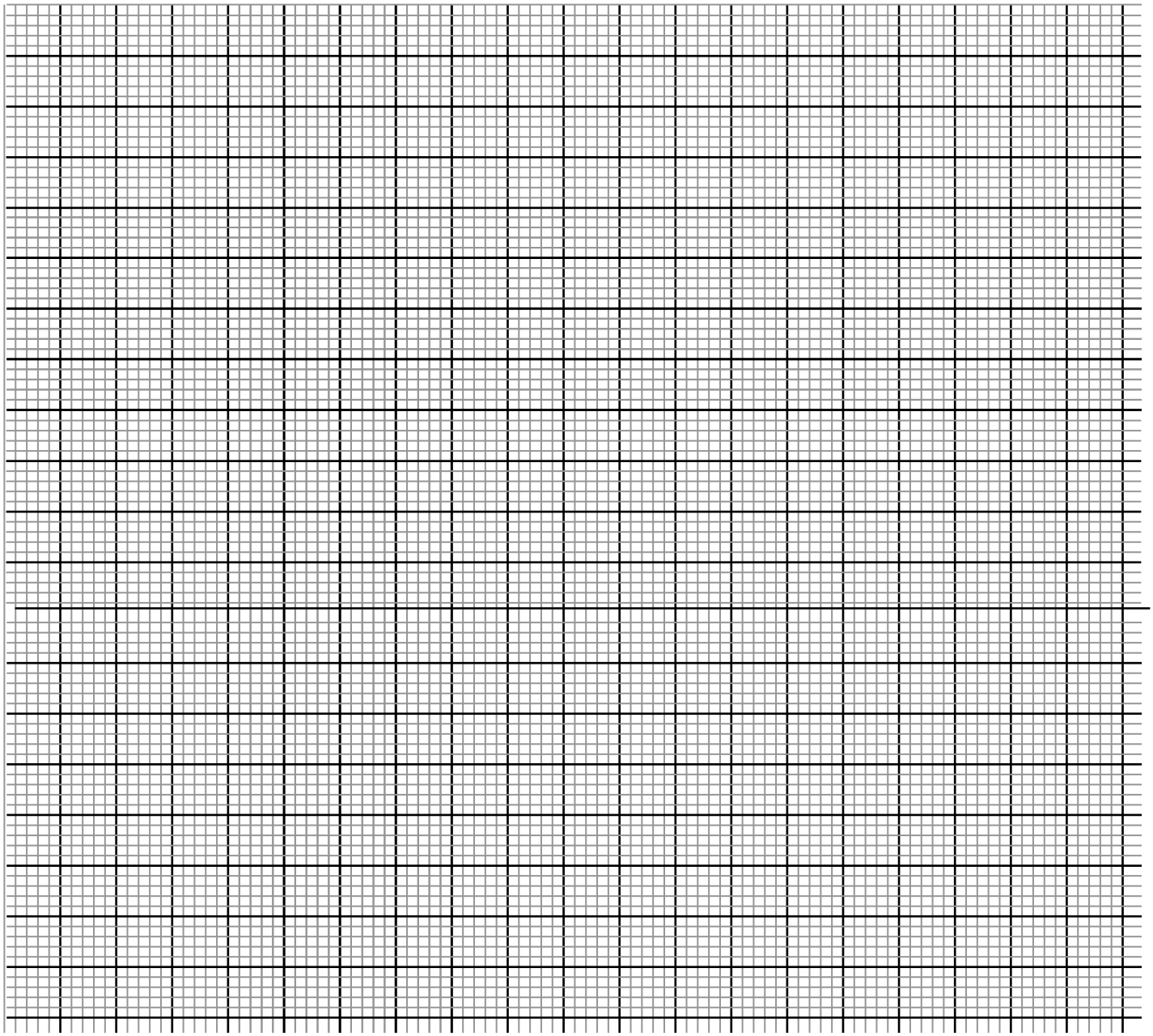
(g) Displace the mass slightly downwards and release it to oscillate vertically. Take time for 20 oscillations and record in the table below.

(h) Repeat for other position of L, of the mass.

N/B before taking the reading, ensure the oscillation is steady. ***(8mks)***

L(cm)	Extension e(cm)	Time (+) for 20 oscillation	Periodic table T(s)	$T^2(s^2)$
10.0 20.0 30.0 40.0 50.0				

(i) On the grid provided plot a graph of extension, e (m) y-axis against $T^2(s^2)$(5



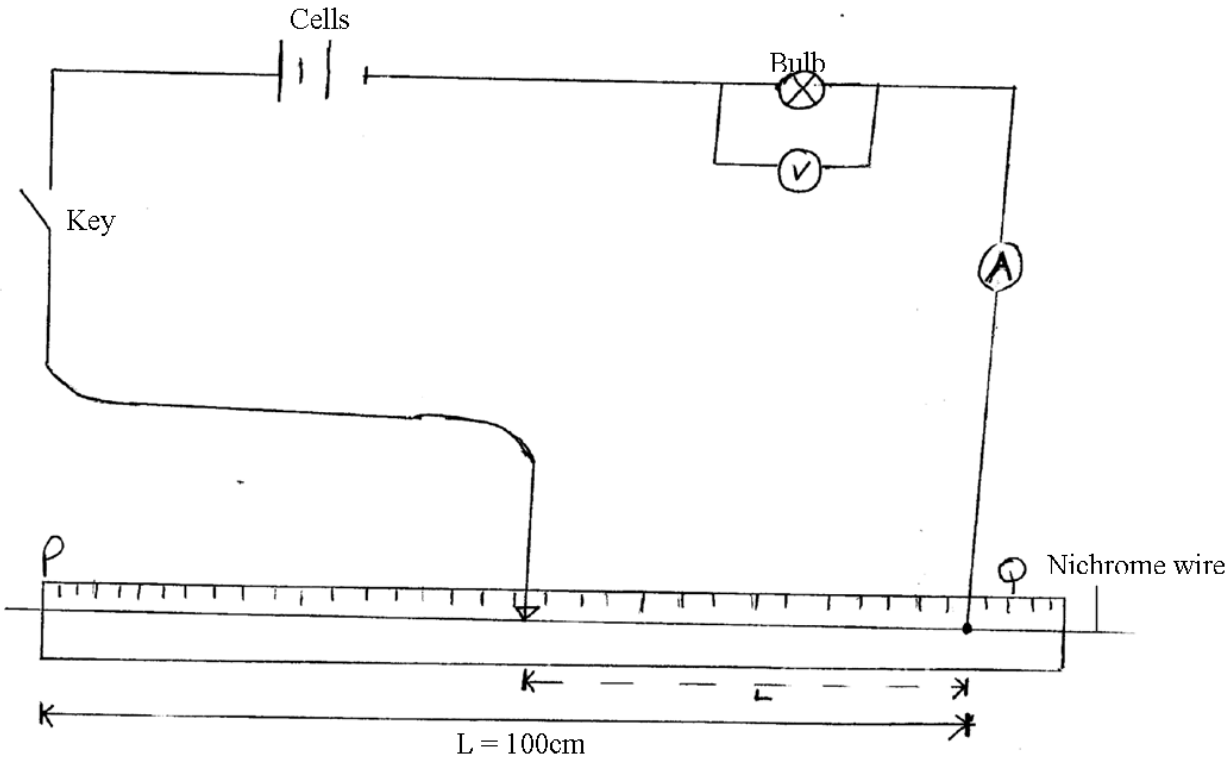
(j) Calculate the gradient of the graph drawn **(3mks)**

(k) Given that $e = \frac{RT^2}{4\prod^2} + C$, determine the value of R **(3mks)**

2. You are provided with the following

- *An ammeter*
- *A voltmeter*
- *Two dry cells size D*
- *A mounted resistance wire on a metre-rule or millimeter scale*
- *A bulb on bulb holder*
- *A cell holder*
- *A switch*
- *A jockey or crocodile clip*
- *Micrometre screw gauge (can be shared)*

(a) **(i)** Connect the apparatus provided as shown in the circuit diagram below diagram **2.**



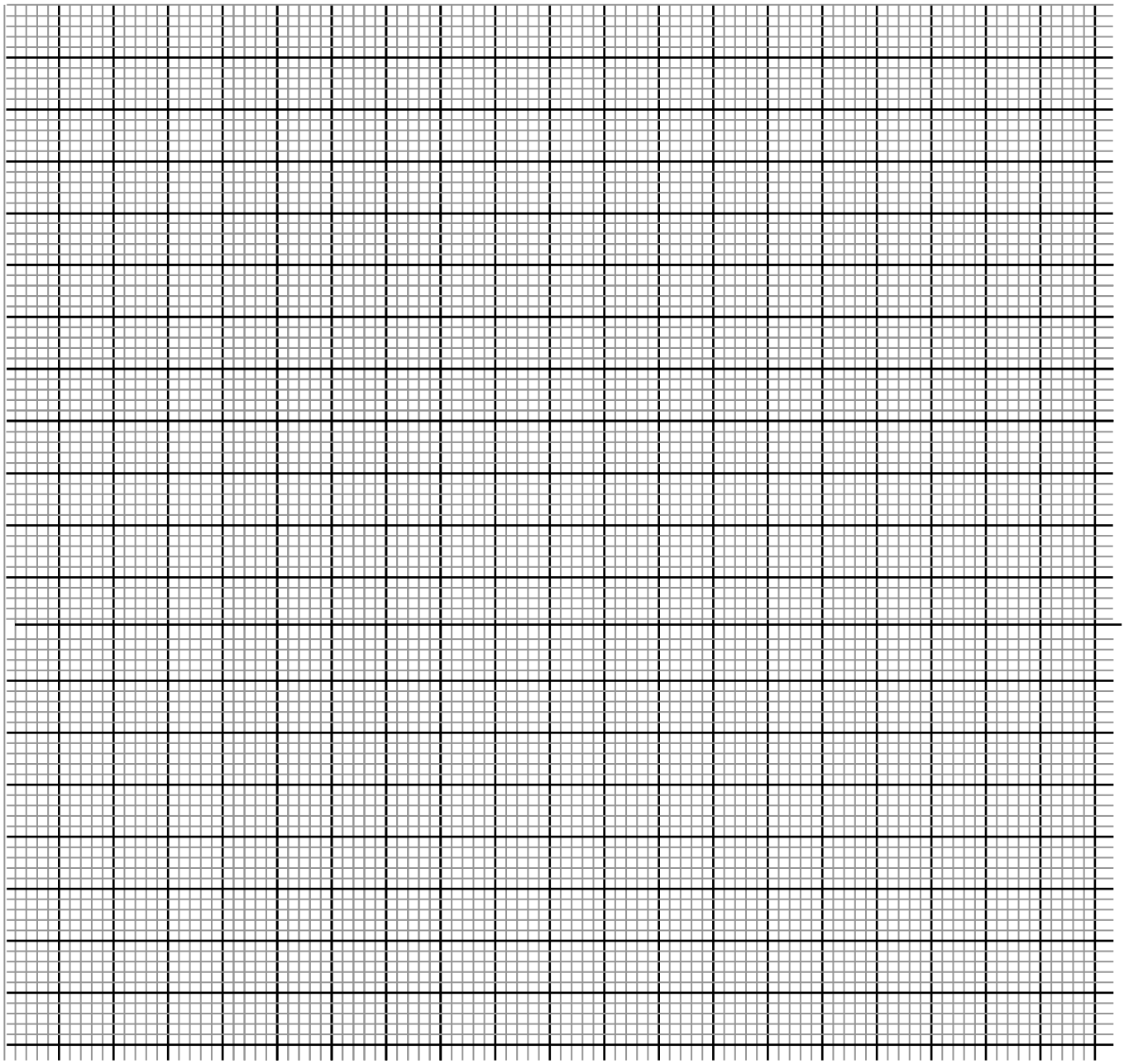
(ii) With the crocodile clip at P take the voltmeter reading and the ammeter reading, Record V and I, Repeat the readings for L=80,60,40,20 and 0, respectively.

Complete the table below. **(4mks)**

Length l(cm)	Voltage v(v)	Current I(A)
100 80 60 40 20 0		

(iii) What changes do you observe on the bulb as L decreases from P? **(1mk)**

(iv) On the grid provided plot the graph of Ammeter reading (y-axis) against voltmeter reading.**(5mks)**



(v) Determine the slope of your graph at v =1volt. **(3mks)**

(vi) What physician quantity is represented by the slope of the graph at the point in (v)above **(1mk)**

(b)(i) Given the apparatus in a (i) above, draw a diagram of the circuit you would use to determine the current through the resistance wire and potential differences across it **.(1mk)**

(ii) Set up the circuit you have drawn using the available apparatus in a(i) above. Record the ammeter reading I and voltmeter reading v, when L =100cm. **(2mks)**

V =……

I = …….

(iii) Using a micrometer screw gauge provided, measure the diameter d of the wire**.(1mk)**

(iv) Calculate the quantity $P = 0.785\left(\frac{V}{I}\right)\left(\frac{d}{L}\right)^2$ and give its SI units, where L is IM**.(2mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

AGRICULTURE

443/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:

a) *Write your name and ADM number in the spaces provided above.*

b) *Sign and write the date of examination in space provided.*

c) *This paper consists of three sections; A, B and C.*

d) *Answer all the questions in section A and B.*

e) *Answer any two questions in section C.*

f) *All answers should be written in spaces provided in question paper.*

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
A	1 - 15	30	
B	16 - 19	20	
C	20-22	20	
		20	
	Total score	90	

SECTION A:(30MARKS)

Answer all the questions in this section.

1. State four advantages of intensive system of farming. **(2mks)**

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……

2. Give four conditions likely to facilitate land fragmentation. **(2mks)**

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3. a) List four post-harvest practices done on crops. **(2mks)**

……

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……

b) What is earthing up in crop production? **(1mk)**

……

……

4. Give four reasons as to why burning as a method of bush clearing is not recommended.

(2mks)

……

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……

……

5.a) Give the form in which the following elements are available to plants **(1mk)**

i) Nitrogen -

ii) Sulphur–

b) State two liming elements in crop production. **(1mk)**

……

……

6. State four effects of ill- health and HIV /AIDs in agricultural production **(2mks)**

……

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……

……

7. State the functions of the following components in a compost heap. (2mks)

i) Ash……

ii) Garden soil ……

iii) Organic manure……

iv)Stick……

8. State four factors that can enhance rooting in stem cuttings**.** **(2mks)**

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9. Outline four reasons a farmer should have breeding records in livestock production. **(2mks)**

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10. Give four ways of treating water for use in the farm. **(2mks)**

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……

11. List Four methods of harvesting water in a farm. **(2mks)**

……

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……

12. Give two methods of conserving forage. **(1mk)**

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……

13. State four Farming activities that encourage soil erosion. **(2mks)**

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14. State four roles of agriculture in national **development** **(2mks)**

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15. State four advantages of budding. **(2mks)**

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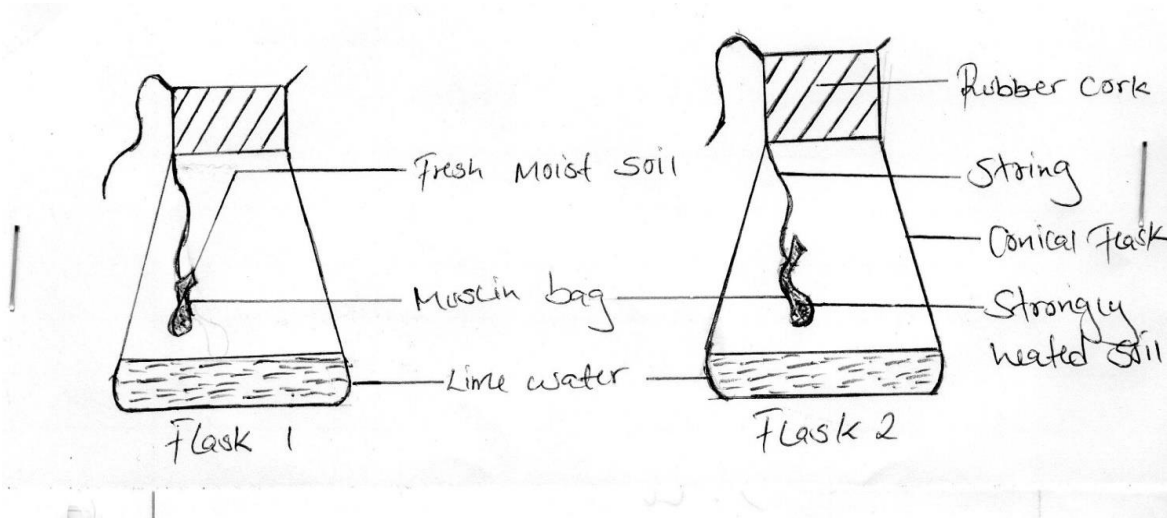
SECTION B:(20MKS)

Answer all questions in this section.

16. The diagrams below show an experiment that was carried out by Mwatate agriculture students. Study it carefully and answer the questions that follow.



a) What was the aim of the experiment. **(1mk)**

……

……

b) What observation did the students make in the two flasks at the end of the experiment.

(2mks

Flask 1

……

Flask 2

……

c) Give a reason for the observation made in flask 1 **(1mk)**

……

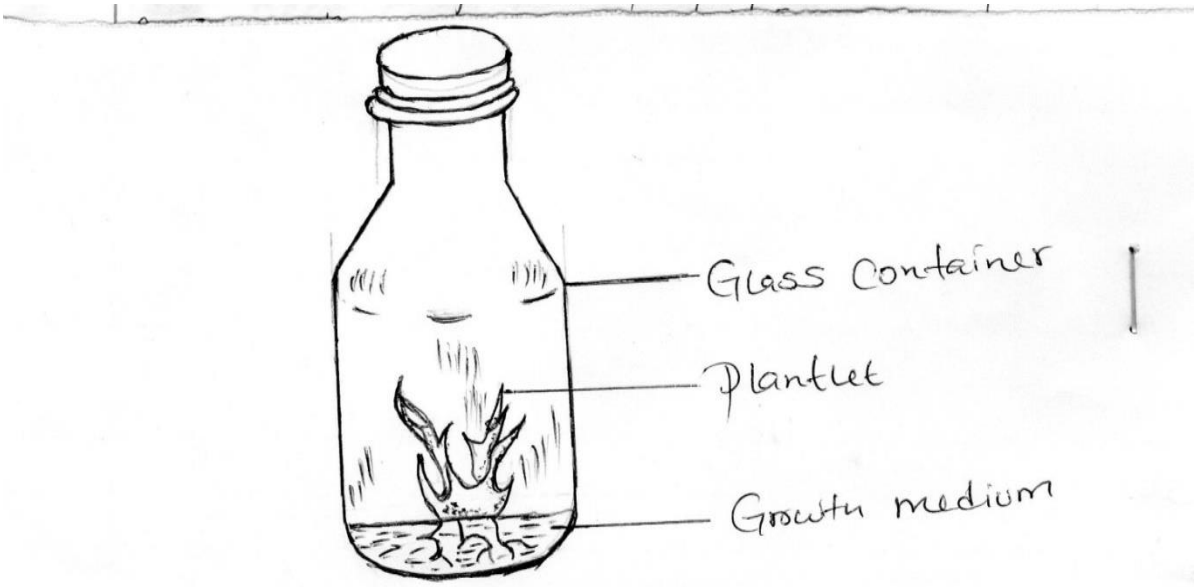
……

d) Why did the students heat the garden soil in flask 2 strongly**?** **(1mk)**

……

……

17. The diagram below illustrates materials, and a method of vegetative propagation. Study it and answer the questions that follow.



i) Identify the method of propagation illustrated above. **(1mk)**

……

ii) Name a common crop propagated through the method. **(1mk)**

……

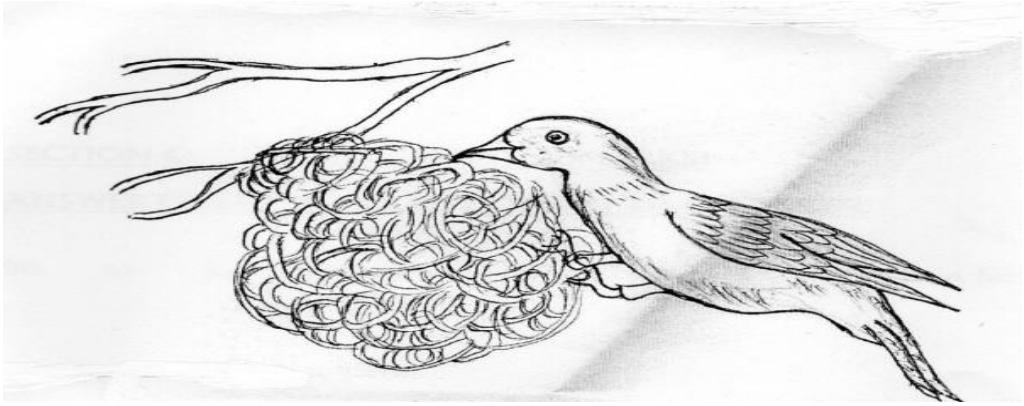
iii) Give three disadvantages of this method of propagation. **(3mks)**

……

……

……

18. The diagram below shows a bird which is a field crop pest. Study it and answer the question that follow.



a) Identify the pest **(1mk)**

……

b) State two damages caused to crops by the pest. **(2mks)**

……

……

c) Give two methods which can be used to control the pest**.** **(2mks)**

……

……

19.a) Given that the spacing of coffee is 2.7m by 2.7m, calculate the plant population in 1 hectare (Ha) of land **(2mks)**

……

……

b) Give three reasons why crops should be planted at the correct spacing. **(3mks)**

……

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SECTION C (40MARKS)

20. a) State **four** benefits of sowing annual crops early. **(4mks)**

b) Describe **eight** effects of fragmentation and sub division of land. **(8mks)**

c) Explain **eight** effects of weeds**.** **(8mks)**

21. a) Describe the various field management practices for tomatoes. **(8mks)**

b) State the precautions that should be observed when harvesting cotton**.** **(4mks)**

c)Explain four importance of crop rotation**.** **(8mks)**

22. a) Explain **four** factors to consider in choosing the type of irrigation to use in the farm. **(8mks)**

b) Describe **five** farming practices that destroy soil structure**.** **(5mks)**

c) Describe **seven** reasons why farmers need to keep good farm records. **(7mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

AGRICULTURE

443/2

PAPER 2

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

a) Write your name and Admission number in the spaces provided above.

b) This paper consists of three sections A, B and C.

c) Answer all the questions in section A and B.

d) Answer any two questions in section C.

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MARKS	SCORE
A	1 – 22	30	
B	23 – 26	20	
C		20	
		20	
TOTAL SCORE		90	

SECTION A (30MARKS)

Answer all the questions

1) State **four** disadvantages of natural mating. **(2marks)**

……

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……

2) Give **two** reasons for supplementary feeding of bees **(1mark)**

……

……

3) Name any **two** methods used to identify goats. **(1mark)**

……

……

4) List **three** signs of lambing. **(1½marks)**

……

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……

5) Explain the meaning of cropping as used in fish production. **(1mark)**

……

……

6) State **two** reasons why jersey breed is suitable than Friesian in marginal areas. **(1mark)**

……

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……

7) State **four** methods used to control cannibalism in a flock of layers in a deep litter system.

(2mark)

……

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……

8) State **two** reasons why we have a footbath in a cattle dip. **(1mark)**

……

……

……

9) State **four** uses of solar energy in the farm. **(2marks)**

……

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10) List f**our** functions of water in an animal's body. **(2marks)**

……

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……

11) State **four** reasons for controlling livestock diseases. **(2marks)**

……

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……

12) State **one** importance of guard rails in a farrowing pen. **(1mark)**

……

……

13) List **two** groups of vitamins used in livestock feeding. **(1mark)**

……

……

14) State the functions of the following farm tools

Shovel **(½mark)**

……

Rubber ring and elastrator **(½mark)**

……

15) List **three** control measures for fowl pox disease in poultry **(1½mark)**

……

……

……

16) What is a production ration? **(1mark)**

……

……

17) State **two** maintenance practices carried out on slasher. **(1mark)**

……

……

18) Name the hormone responsible for milk let down **(½mark)**

……

19) List any **two** chemicals used to treat wood against weather elements. **(1mark)**

……

……

20) State any **four** characteristics of exotic breeds of cattle. **(2marks)**

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21) State **three** uses of biogas on a farm. **(1½marks)**

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22) State **four** practices done to make wooden fence posts last longer. **(2marks)**

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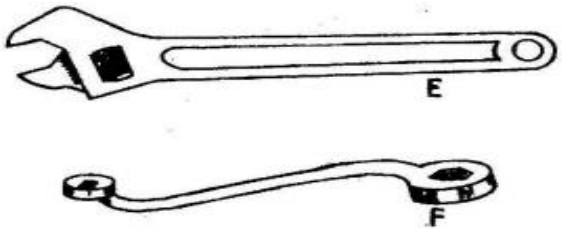
SECTION B (20mks)

23) A dairy farmer is required to prepare 100kgs of dairy meal containing 20% DCP (Digestible crude protein). Using the Pearson's square method, Calculate the quantity of soya beans 40% DCP and rice 16% DCP the farmer requires for the dairy meal. **(5marks)**

24) The following diagrams illustrate some workshop tools. Study them carefully and answer the question that follows.



(a). Identify the tools labeled E and F **(2marks)**

E……

F……

(b). State the functional advantage tool E has over tool F. **(1marks)**

……

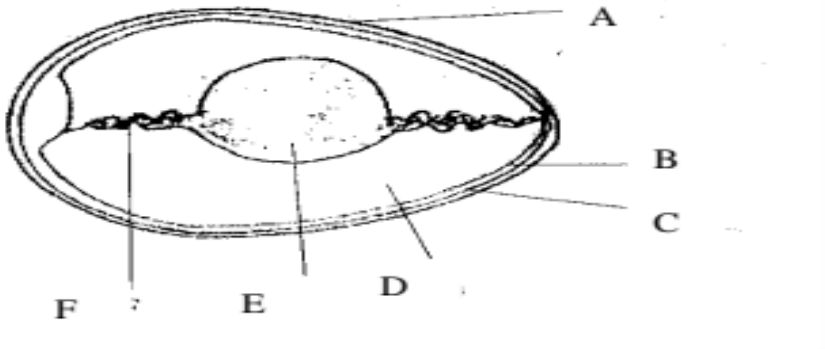
……

(c) State <u>two</u> maintenance practice carried out on tool E. **(2marks)**

……

……

25. Study the diagram below of an egg and use it to answer the questions that follow.



a) Name the parts labeled B, C, D and F. **(2marks)**

B)……

C)……

D)……

F)……

b) List any **<u>two</u>** structural qualities of an egg to be incubated. **(2marks)**

……

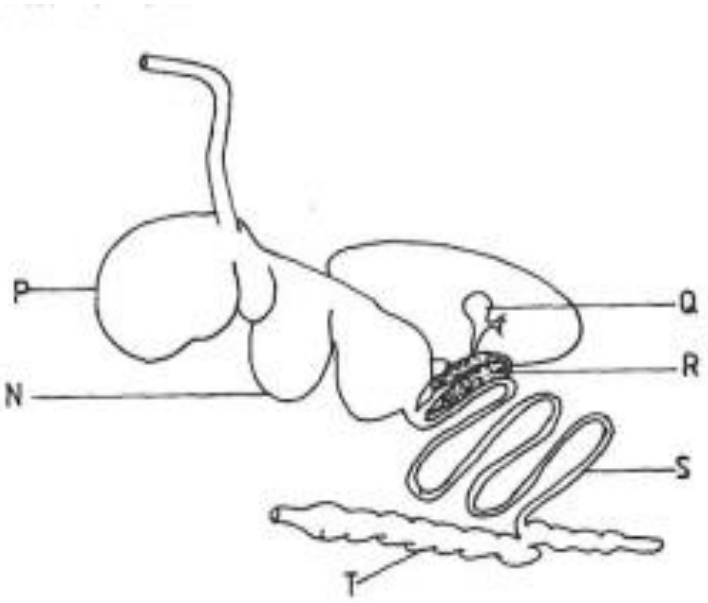
……

(c) Give the functions of part labeled E in a fertilized egg **(1mark)**

……

……

26. The diagram below shows the parts of the digestive system of cattle. Study it and answer the questions that follow.



a) Name the parts labeled N, P, R and Q. **(2marks)**

N……

P……

R……

Q……

b) List **<u>three</u>** microbial activities that take place in the part labeled P. **(3marks)**

……

……

……

SECTION C (40MARKS)

ATTEMPT ANY TWO QUESTIONS IN THIS SECTION

27. a) Discuss the preparation of the brooder before the arrival of chicks. **(5marks)**

b) Describe the management practices carried out on ewes two weeks before mating to weaning of lambs. **(15marks)**

28. (a) Outline any **eight** control measures for ticks. **(8marks)**

(b) Outline the daily maintenance practices that should be carried out on a farm tractor. **(12 marks)**

29. (a) Describe the uses of **five** materials and equipment required during hand milking **(10marks)**

b) Discuss mastitis disease under the following sub –heading

i. Animals affected **(1mark)**

ii. Casual organism **(1mark)**

iii. Predisposing factors **(4marks)**

iv. Control and treatment **(4marks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BUSINESS STUDIES

565/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

565/1

Paper 1

BUSINESS STUDIES

2 HOURS

Instructions

- *Answer ALL the questions in the spaces provided.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

16	17	18	19	20	21	22	23	24	25

TOTAL

QUESTIONS

1. Outline four benefits of entrepreneurship in a country. **(4mks)**

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2. Name any four occupations that are found at the extractive level of production. **(4mks)**

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3. The table below describes goods produced in a country. Name the goods described below;

(4mks)

Description of goods	**Classification**
i) Goods used to produce other goods	
ii) Goods for final use by the consumers	
iii) Goods offered freely by the state	
iv) Goods still in the production process	

4. State four benefits of SACCOs to members. **(4mks)**

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5. Highlight four features of a parastatal**.** **(4mks)**

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6. State the principle of insurance described in the statements given below. **(4mks)**

a) Restoring the insured's financial position after suffering loss from an insured risk

……

b) Existence of a very close relationship between the losses suffered and insured risk.

……

c) The insurer taking ownership of the remains of the remains of the destroyed property after the insured is duly compensated

……

d) Proof that the insured will suffer direct financial loss if the property is destroyed

……

7. Give four measures that the government may take to create employment for the youth. **(4mks)**

……

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8. Outline four channels of distribution that a local farmer may use to distribute her farm produce locally**.** **(4mks)**

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9. The following is a format of the credit side of a three column cash book

Date	(a)	(b)	(c)	(d)

Name the columns labeled **a, b, c** and **d** **(4mks)**

a) ……

b)……

c)……

d)……

10. Give four assumptions associated with the circular flow of income in a two sector economy. **(4mks)**

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11. State four challenges that a business without a plan will encounter in its operations. **(4mks)**

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12. Outline four circumstances under which gaps in the market may be identified**.** **(4mks)**

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13. Outline any four trends in product promotion. **(4mks)**

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14. Highlight four functions of commercial attaches. **(4mks)**

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15. State four types of internal economies of scale to a fir**m.** **(4mks)**

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16. Outline four reasons why an organization needs to file its documents**.** **(4mks)**

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17. For each of the following source documents, name the relevant book of original entry**(4mk)**

Source document Book of original entry

a) Invoice issued

b) Credit note received

c) Cheque received

d) Invoice received

18. Sherry traders had the following assets and liabilities as at 1st January 2004

SHS

Furniture 350,000
Debtors 45,000
Cash 7,000
Creditors 48,000
During the year the following were realized
i) Additional capital was Sh. 24,000
ii) Drawings were Sh. 20,000
iii) Net profit was Sh. 34,000
Determine the capital as at 31st December 2004 **(4mks)**

19. State four characteristics of money

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20. Calculate the gross profit given the margin of 1/6 and the cost of goods sold is Ksh.400,000 **(4mks)**

21. The following information was extracted from the records of Kimani Traders for the month of January 2022. Record in the relevant book of original entry. **(4mrks)**

January 2nd: Bought a motor car on credit from Onyango enterprises worth Ksh. 250,000.

22. Record the following transactions in the respective ledger accounts:

January 1st: Returned goods worth Ksh. 5000 to Mary Mount Wholesalers

January 3rd: Bought goods on credit from Kanze worth Ksh. 6000.

23. Show the effect of each of the following transactions on the capital, liabilities and assets indicating whether it is an increase, a decrease or no effect. **(4mks)**

Transaction	Capital	Assets	Liabilities
a) Converted private land into business land			
b) Paid creditors in cash			
c) Sold goods on credit			
d) Sold a business van valued at Shs.600,000 for Shs.400,000 on credit			

24. Outline four measures that the government may take to attract firms to an area. **(4mks)**

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25. Outline four factors that may negatively affect the demand for a product. **(4mks)**

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

BUSINESS STUDIES

565/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- Answer **all** questions in the spaces provided in the question paper
- All your workings **MUST** be shown

FOR EXAMINERS USE ONLY

1	2	3	4	5	6	TOTAL

QUESTIONS

1. a) Explain **five** ways in which Kenya may benefits from being a member of the East Africa community. **(10mks)**

b) Describe **five** principles that distinguish cooperatives from other forms of business organizations. **(10mks)**

2. a)Explain **five** services that the central bank of Kenya may offer as a banker to commercial banks **(10mks)**

b) Discuss any **five** reasons why a firm may consider hiring a machine rather than buying.

3. a) Planning is an important aspect of economic development. Explain **five** reasons why a country should carry out development planning. **(10mks)**

b) Explain **five** challenges that may be experienced by a new entrepreneur who is intending to start a business in **Kenya.** **(10mks)**

4. a) Outline **five** circumstances under which a firm would carry out personal selling. **(10mks)**

b) The following transaction took place in Zaodon enterprises in the month of June 2015.

June 1	credit purchases	Bunface 25,00 , Mary 30,000 Angela 40,000
June 4	credit sales	Kopiyo 16,00, Francis 20,000
June6	credit purchase	Margaret 10,000, Mary 35,000,Kadenge 50,000
June8	credit sales	Zachary 60,000, Kopiyo 26,000 and Kidila 45,000
June 13	goods returned by Zaodon enterprises to Bunface 4000, Margaret 1,500 and Kadenge 3,000	
June18	Credit purchase	From Natalia 70,000
June 22	Goods returned at Zaodon enterprises by Kopiyo 1000 and Francis 2,4000	
June 26	Credit sales to Kopiyo 54,000	
June 31	Goods returned to Zaodon enterprises by Kidila 2000 and Kopiyo 4,000	

Required

Record the above transactions in the relevant books of original entry.

5. a)The table below shows the demand and supply schedules for product A in a week

Price (sh)	Quantity demanded ('000' tones)	Quantity supplied('000' tones)
35	5	80
30	10	65
25	20	55
20	25	40
15	30	35
10	40	20
5	55	5

Using the information given in the table above, draw the price mechanism curves showing the equilibrium of the product. **(10mks)**

b) Explain five ways of making face to face communication effective. **(10mks)**

6. a) Pemba is an Island within the Indian Ocean. She had registered an improvement in her national income. Explain five factors that may have contributed to this trend. **(10mks)**

b) The following Trial balance was extracted from ISABOKE STORES on 31st Dec 2022

	Dr. Shs.	Cr. Shs.
Capital		250000
Stock	25000	
Machinery	250000	
Motor vehicles	87000	
Purchase	360000	
Sales		600000
Returns inwards	40000	
Return outwards		20000
Discount received		5000
Carriage inwards	2000	
Carriage outwards	3000	
Bad debts (written off)	80000	
General expenses	88000	
Debtors	18000	
Creditors		49000
Rent	1000	
	954000	**954000**

Additional information;-

Closing stock was valued at sh. 22,000

Prepare ISABOKE STORES; Trading, profit and loss accounts for year ending 31/12/2022.

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

ENGLISH

101/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

(a) *Write your name and admission number in the spaces provided above.*

(b) *Sign and write the date of the examination and class in the spaces provided above.*

(c) *Answer **all** the questions in this paper.*

(d) *All your answers must be written in the spaces provided in the question paper.*

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	10	
3	30	
	TOTAL SCORE	

1. FUNCTIONAL WRITING (20mks)

1. You are the chairperson of the Creative Writing Club in your school. The club would like assistance in publishing the winning entry in a recent competition which is one of the compulsory set text (A Doll's House). Write a letter to a publisher by the name Mwalimu Publishers asking them to consider the book for publication. Remember to write through the principal. In your letter, include the following;

i. The title of the book and name of author.

ii. A brief description of what the book is about.

iii. Why it is important for the book to be published?

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Q.2. CLOZE TEST **(10 marks)**

Read the passage below and fill in each blank space with an appropriate word.

Four strangers checked **1………….**at The Seamount Hotel in Banjul one evening. None of them knew of the other three, or about being **2…………**of the four. And this would remain the **3…………..**because, unknowingly, the hotel assigned them to different rooms on different floors in **4……………..**wings.

First to check in, was a man,**5…………**about sixty years. His hairline **6 …………**retreated all the way back to his crown, but there it had held: no more hair loss. He had a strange habit of

smacking his lips **7.....**he talked, appearing to shape each word first and to add voice to it only after. Arrival formalities **8.....**him to complete and sign a registration card at the hotel's front desk. **9.....**signed it as Karanja Kimani, professor in the Institute of Development Studies at the University of Nairobi, Kenya. The hotel gave him a room on the fourth floor of **10.....**East Wing.

(Adapted from: ***Fathers of Nations by Paul B. Vitta, Oxford University Press Ltd 2013)***

3.**ORAL SKILLS** **(30 marks)**

a. Read the oral poem below and answer the questions that follow:

Make me a grave where're you will
In a lowly **plain,** or a lofty hill;
Make it among earth's humblest graves,
But not in a land where men are slaves.

I could not **rest** if around my grave,
I heard the steps of trembling slave;
His shadow above my silent tomb,
Would make it a place of fearful gloom

QUESTIONS

i. What makes this poem rhythmic? **(2 marks)**

……

……

……

ii. How would you say the last line of the poem? **(2 marks)**

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iii. Which words are you likely to stress in the **fourth** line of **first** stanza and why**? (2 marks**)

……

……

……

iv. Give a word that is pronounced as each of the following **(3 marks)**

a) Would.....

b) Plain.....

c) Rest.....

b. Study the genre below and answer the questions that follow

If Peter Piper picked a peck of pickled peppers, where's the peck of pickled peppers Peter Piper picked?

i. Giving reasons, classify the genre **(2 marks)**

.....

.....

.....

ii. Identify the dominant sound pattern used in the above genre **(2 marks)**

.....

.....

.....

iii. State **two** functions of the genre above **(2 marks)**

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.....

c. Two classmates, James and Erick have a debate. Erick strongly feels that boarding schools should be done away with. James, on the other hand, argues that they should remain.

i. If your teacher of English brought the same motion to your class, how would you prepare for the debate? **(3 marks)**

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ii. Explain **three** verbal cues that you would use to make your presentation effective **(3 marks)**

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iii. Advise the above classmates on **four** things they should do in order to disagree in a polite manner so that their conversation does not degenerate into a dispute. **(4 marks)**

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d. Complete the following conversation between the principal and a parent

Mr. Kamau: Good morning, sir, my name is Mr. Kamau.

Principal: **..... (1 mark)**

Mr. Kamau: I received your message inviting me to school over the conduct of my son. For how long has he been absent from school?

Principal: **..... (2 marks)**

Mr. Kamau: **..... (1 mark)**

Principal: Thank you Mr. Kamau for coming and accepting to discipline your son.

Mr. Kamau: **..... (1 mark)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

ENGLISH

101/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Comprehension, Literary Passage, Oral Poetry and Grammar

INSTRUCTIONS TO CANDIDATES

1. *Write your name, admission number, class, date and index number in the spaces provided.*

2. *Answer all questions in the spaces provided.*

FOR EXAMINERS' USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCRE
1	20	
2	25	
3	20	
4	15	
TOTAL	80	

1 COMPREHENSION 20MARKS.

Read the passage below and then answer the questions that follow,

Moving to a new country can be an exciting, even exhilarating experience. In a new environment, you somehow feel more **alive:** seeing new sights, eating new food, hearing the foreign sounds of a new language, and feeling a different climate against your skin stimulate your senses as never before. Soon, however, this sensory bombardment becomes sensory overload. Suddenly, new experiences seem stressful rather than stimulating, and delight turns into discomfort. This is the phenomenon known as culture shock. Culture shock is more than jet lag or homesickness, and it affects nearly everyone who enters a new culture - tourists, business travellers, diplomats and students alike. Although not everyone experiences culture shock in exactly the same way, many experts agree that it has roughly five stages.

In the first stage, you are excited by your new environment. You experience some simple difficulties such as trying to use the telephone or public transportation, but you consider these small challenges that you can quickly overcome. Your feelings about the new culture are positive, so you are eager to make contact with people and to try new foods.

Sooner or later, differences in behaviour and customs become more noticeable to you. This is the second stage of culture shock. Because you do not know the social customs of the new culture, you may find it difficult to make friends. For instance, you do not understand how to make "small talk," so it is hard to carry on a casual, get-acquainted conversation. One day in the school cafeteria, you overhear a conversation. You understand all the words, but you do not understand the meaning. Why is everyone laughing? Are they laughing at you or at some joke that you did not understand? Also, you aren't always sure how to act while shopping. Is this store self-service or should you wait for a clerk to assist you? If you buy a sweater in the wrong size, can you exchange it? These are not minor challenges; they are major frustrations.

In the third stage, you no longer have positive feelings about the new culture. You feel that you have made a mistake in coming here. Making friends hasn't been easy, so you begin to feel lonely and isolated. Now you want to be with familiar people and eat familiar food. You begin to spend most of your free time with students from your home country, and you eat in restaurants that serve your native food. In fact, food becomes an **obsession,** and you spend a lot of time planning, shopping for, and cooking food from home.

You know that you are in the fourth stage of culture shock when you have negative feelings about almost everything. In this stage, you actively reject the new culture. You become critical, suspicious, and irritable. You believe that people are unfriendly, that your landlord is trying to cheat you, that your teachers do not like you, and that the food is making you sick. In fact, you may actually develop stomachaches, headaches, sleeplessness, lethargy, or other physical symptoms.

Finally, you reach the fifth stage. As your language skills improve, you begin to have some success in meeting people and in **negotiating** situations. You are able to exchange the sweater that was too small, and you can successfully chat about the weather with a stranger on the bus. Your self-confidence grows. After realizing that you cannot change your surroundings, you begin to

accept the differences and tolerate them. For instance the food will never be as tasty as the food in your home country, but you are now able to eat and sometimes even enjoy many dishes. You may not like the way some people in your host country dress or behave in public, but you do not regard their clothes and behaviour as wrong -just different.

In conclusion, nearly everyone moving to a new country feels some degree of culture shock. Symptoms may vary, and not all people experience all five stages. Newcomers with a strong support group may feel at home immediately in the new culture, while others may take months to feel comfortable. Staying in touch with friends and family, keeping a positive attitude, and, above all, learning the language as soon as possible are ways to overcome the difficulties and frustrations of adapting to life in a new land.

From: *Writing Academic English,* Alice Oshima and Ann Hogue, Pearson Education, Longman (2006)

QUESTIONS

(a) According to the passage, what is the meaning of culture shock? **(2 marks)**

……

……

……

(b) Identify any **three** factors that can cause culture shock**.** **(3 marks)**

……

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(c) What evidence does the author give to show "you understand all the words, but you do not understand the meaning**"?** **(2 marks)**

……

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(d) Give any **three** features that characterize a person in the worst state of culture shock. **(3 marks)**

……

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(e) In note form, give the difficulties experienced in the second stage of culture shock. **(4 marks)**

……

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(f) Why is making friends helpful in overcoming culture shock? **(2 marks)**

……

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……

(g) Explain the meaning of the following words as used in the passage: **(3 marks)**

alive .....

obsession .....

negotiating .....

(h) Staying in touch with friends and family, keeping a positive attitude, and, above all, learning the language as soon as possible are ways to overcome the difficulties and frustrations of adapting to life in a new land.

(Rewrite the sentence above without changing the meaning. Begin: You ....) **(1 mark)**

……

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QUESTION 2: LITERARY COMPREHENSION 25 MARKS

Read the following excerpt and then answer the questions that follow.

Nora: But it was absolutely necessary that he should not know! My goodness, can't you understand that? It was necessary he should have no idea what a dangerous condition he was in. It was to me that the doctors came and said that his life was in danger, and that the only thing to save him was to live in the south. Do you suppose I didn't try, first of all, to get what I wanted as if it were for myself? I told him how much I should love to travel abroad like other young wives; I tried tears and **entreaties** with him; I told him that he ought to remember the condition I was in, and that he ought to be kind and indulgent to me; I even hinted that he might raise a loan. That nearly made him angry, Christine. He said I was

thoughtless, and that it was his duty as my husband's not to indulge me in my whims and caprices – as I believe he called them. Very well, I thought, you must be saved- and that was how I came to devise a way out of the difficulty…

Mrs. Linde: And did your husband never get to know from your father that the money had not come from him?

Nora: No, never. Papa died just at that time. I had meant to let him into the secret and beg him never to reveal it. But he was so ill then-alas, there never was any need to tell him.

Mrs. Linde: And since then have you never told your secret to your husband?

Nora: Good heavens, no! How could you think so? A man who has such strong opinions about these things! And besides, how painful and humiliating it would be for Torvald, with his manly independence, to know that he owed me anything! It would upset our mutual relations altogether; our beautiful happy home would no longer be what it is now.

Mrs. Linde: Do you mean never to tell him about it?

Nora: (*meditatively, and with a half-smile*) yes-someday perhaps, after many years, when I am no longer as nice-looking as I am now. Don't laugh at me! I mean, of course, when Torvald is no longer as devoted to me as he is now; when my dancing and dressing-up and reciting have palled on him; then it may be a good thing to have something in reserve- (*breaking off)* what nonsense! That time will never come. Now, what do you think of my great secret, Christine? Do you still think I am of no use? I can tell you, too, that this affair has caused me a lot of worry. It has been by been by no means easy for me to meet my engagements punctually. I may tell you that there is something that is called, in business, quarterly interest, and another thing called payment in installments it is always so dreadfully difficult to manage them. I have had to save a little here and there, where I could, you understand have not been able to put aside much from my housekeeping money, for Torvald must have good table. I couldn't let my children be shabbily dressed 'I have felt **obliged** to use up all he gave me for them, the sweet little darlings!

Mrs. Linde: So it has all had to come out of your own necessaries of life, poor Nora?

Nora: Of course. Besides, I was the responsible for it. Whenever Torvald has given me money for new dresses and such things, I have never spent more than half of it: I have always bought the simplest and cheapest things. Thank heaven, any clothes look well on me, and so Torvald has never noticed it. But it was often very hard on me, Christine-because it is delightful to be really well dressed, isn't it?

(*Adapted from, a Dolls House by Henrik Ibsen, EAEP, 2017)*

a) What had Mrs. Linde said before this excerpt to prompt Nora to say, '...My goodness can't you understand that?' **(2 marks)**

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b) How did Nora try to convince her husband to go south? **(3 marks)**

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c) What do we learn about the character trait of Nora from this excerpt? **(4 marks)**

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d) Give reasons why Nora found it difficult to reveal her secret to Torvald. **(3 marks)**

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e) What themes emerge from this excerpt? Illustrate your answer. **(4 marks)**

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f) Briefly explain how keeping the secret from Torvald has affected Nora. **(2 marks)**

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g) After this excerpt, Nora reveals what else she has been doing to earn money. What revelation does she make? **(1 mark)**

……

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h) From your knowledge elsewhere in the text, how would you describe Nora and Torvald's marriage/relationship? **(3 marks)**

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i) It would upset our mutual relations altogether; our beautiful happy home would no longer be what it is now. (Rewrite beginning: It would both…) **(1 mark)**

……

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j) Explain the meaning of the following words as used in the passage**.** **(2 marks)**

i. Entreaties_____

ii. Obliged _____

3. Read the oral poem below and answer the questions that follow.

The poor man knows not how to eat with the rich man.
When they eat fish, he eats the head.

Invite a poor man and he rushes in
licking his lips and upsetting the plates.

The poor man has no manners, he comes along

with the blood of lice under his nails.

The face of a poor man is lined
from hunger and thirst in his belly.

Poverty is no state for any mortal man.
It makes him a beast to be fed on grass.

Poverty is unjust. If it befalls a man,
though he is nobly born, he has no power with God.

QUESTIONS

a) Identify and illustrate any **four** features of oral poetry evident in the poem above**. (8marks)**

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b) Describe a probable situation in which such a poem could be performed. **(2 marks)**

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c) During a recitation of this oral poem, what **three** elements should be emphasized? **(3 marks)**

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d) What does the phrase '…with the blood of lice under his nails' reveal about the poor man?

(2 marks)

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e) Describe with illustrations the tone of this oral poem. **(3 marks)**

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f) Explain the meaning of the following: **(2 marks)**

(i) he eats the head

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……

(ii) he has no power with God

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4) GRAMMAR 15MARKS

Rewrite the following sentences according to the instructions given after each. Do not change the meaning. (5 marks)

i) We have never witnessed such cruel behaviour by one child to another. (Begin; never…)

……

……

ii) David says; "I have been saying prayers everyday" (change to reported speech)

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……..….

iii) The time keeper rang the bell earlier than expected. (Begin; The bell….)

……

iv) He knows very little about the surprises which are waiting for him. (begin; little..)

……

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v) Mary is a good teacher. She is good like any teacher you can find anywhere else. (join into one using,….as….)

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……..…….

b) Use the correct form of the words in brackets. **(3 marks)**

i) He was, however, possessed of a logical rather than an ……..…….…. (intuition) mind.

ii) His decision to quit his job is completely …….. (explain).

iii) It was a sure sign he was forgiven for his…….…….……. (revere) try at changing the old –age ritual.

c) Fill in the blank spaces using an appropriate preposition. **(3 marks)**

i) My dependence……coffee is unhealthy.

ii) She has little experience…… backpacking.

iv) People find it difficult to part……..….. their hard earned wealth.

d) Fill in the blank spaces with the most appropriate word. **(2 marks)**

i) Put your clothes …… (all together, altogether) in one pile and I will wash them for you.

ii) This person needs the …….. (council, counsel) of a psychiatrist.

e) Explain two possible meaning of this sentence. **(2 marks)**

He fed her cat food.

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

ENGLISH

101/3

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTION TO STUDENTS:

- *Answer **three** questions only.*
- *Questions **one** and **two** are **compulsory.***
- *In question **three** choose only **one** of the optional texts you have prepared on.*
- *Where a candidate presents work on more than optional text, only the first one to appear will be marked.*
- *Each of your essays must **not** exceed **450** words.*
- *All answers should be written on in the answer booklet provided.*

FOR OFFICIAL USE ONLY

QUESTION	MAXIMUM SCORE	STUDENT'S SCORE
1	20	
2	20	
3	20	
TOTAL	60	

QUESTIONS

l. Imaginative Composition (Compulsory) **(20 marks)**

a) write a story to illustrate the proverb, "Hurry has no blessing.

Or

b) Write a story beginning, "Screams of sirens rented the air...

2. The Compulsory Set Text **(20 marks)**

"Determination is the key to success." With reference to Resian in the novel, Blossoms of the Savannah by Henry Ole Kulet, write an essay to support this statement.

3. The Optional Set Texts **(20 marks)**

a) An Artist of the Floating World

How does Ishiguro distinguish the atmosphere of the "**floating world"** from that of the regular world using imagery and figurative language?

Or

b) A Silent Songs and Other Stories

Ninema is a short story about challenges of women in life. By referring to the life of Ninema, support this assertion.

Or

c) "The plight of Kutula citizens is as a result of poor governance." Drawing illustrations from the play, **Inheritance** by David Mulwa, validate this statement.

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

KISWAHILI

102/1
KARATASI YA 1
MUDA: SAA 1¾

NAME……

SCHOOL…… **SIGN……**

INDEX NO…… **ADM NO……**

MAAGIZO

a) *Andika jina lako na nambari ya usajili kwenye nafasi ulizoachiwa hapo juu.*

b) *Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.*

c) *Andika insha* ***mbili****. Insha ya kwanza ni ya* ***lazima.***

d) *Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.*

e) *Kila insha isipungue maneno* ***400****.*

f) *Kila insha ina alama* ***20.***

g) *Kila insha lazima iandikwe kwa lugha ya* ***Kiswahili.***

KWA MATUMIZI YA MTAHINI PEKEE

Swali	Upeo	Alama
1	**20**	
2	**20**	
Jumla	**40**	

MASWALI

1. Lazima

Kumekuwa na visa vingi vya utovu wa nidhamu shuleni mwenu. Ukiwa katibu wa viranja, andika kumbukumbu za mkutano uliojadili vyanzo vya utovu huo na suluhisho lake.

2. Usafiri wa pikipiki za bodaboda una manufaa zaidi kuliko hasara. Jadili.

3. Andika insha itakayodhihirisha maana ya methali ifuatayo:

Mpiga ngumi ukuta huumiza mkonowe.

4. Tunga kisa kitakachomalizia maneno yafuatayo:

…nikamtazama Marina huku machozi yakinitiririka njia mbilimbili kutokana na majuto yaliyonijaa.

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

KISWAHILI

102/2
KARATASI YA 2
MUDA: SAA 2½

NAME……

SCHOOL…… **SIGN……**

INDEX NO…… **ADM NO……**

MAAGIZO

a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
*c) Jibu maswali **yote.***
d) Majibu yako yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.
*e) Majibu yote **lazima** yaandikwe kwa lugha ya Kiswahili.*

KWA MATUMIZI YA MTAHINI PEKEE.

SWALI	UPEO	ALAMA
1	**15**	
2	**15**	
3	**40**	
4	**10**	
Jumla	**80**	

1. UFAHAMU: (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali.

Meli alipokivuka kizingiti cha lango la shule ya kitaifa ya Tungambele alikuwa na azma ya kusoma kwa bidii ili kuinukia kuwa kijana wa kutegemewa na jamii yake. Alikuwa kalelewa katika familia yenye pato wastani. Akasoma kwa juhudi za wazazi wake hadi darasa la nane alipokwangura alama za kumwezesha kujiunga na shule hii ya kifahari. Meli alijua kwamba alikuwa mwanagenzi, si katika masomo ya shule ya upili tu, bali pia katika maisha ya jijini ambamo shule hii ilipatikana. Kwa kweli hii ndiyo ilikuwa mara yake ya kwanza kutia guu kwenye jiji hili ambalo habari zake akizisoma, ama katika magazeti machache yaliyowahi kufika kijijini, au kupitia somo la Elimujamii. Hata hivyo, Meli hakuwa mtu wa kuogopa au kunywea machoni mwa changamoto. Alijiambia kwamba kwa vyovyote vile atapambana na maisha haya mapya.

Saa mbili kamili asubuhi ilimpata Meli kapiga foleni katika afisi ya kuwasajili wanafunzi wageni. Wasiwasi wa aina fulani ulianza kumnyemelea alipotazama hapa na pale bila kuona dalili ya mja yeyote aliyemfahamu. Alijihisi kama yule kuku mgeni ambaye mwalimu wake alishinda kuwaambia kuwa hakosi kamba mguuni. Hata hivyo aliupiga moyo wake konde na kujiambia kuwa kuja kwake hapa kulitokana na juhudi zake mwenyewe na katu hatauruhusu ugeni wa mazingira kuifisha ari yake ya masomo.

Usajili ulikamilika, naye Meli na wenzake wakajitosa katika ushindani wa kimasomo jinsi waogeleaji wajitumbukizapo kidimbwini wakapiga mbizi, baadhi wakiambulia ushindi na wengine wakifedheheka kwa kushindwa. Meli na wenzake walibainikiwa kwamba wote walikuwa mabingwa kutoka majimbo na wilaya zao. Ilimbidi kila mmoja wao kujikakamua zaidi ili kuelea katika bahari hii ya ushindani. Muhula wa kwanza ulishuhudia kishindo cha Meli kubwagwa chini na majabali wenzake. Alijipata miongoni mwa wanafunzi kumi wa mwisho; au kama alivyozoea **kuwatania** wenzake katika shule ya msingi, “wanafunzi kumi bora kuanzia mwisho”! Hili lilimwatua moyo Meli na kumfanya kutahayari. Alifika kwao amejiinamia kama kondoo aliyeumia malishoni. Akawataka wazazi wake wambadilishie shule lakini wakakataa.

Muhula wa pili na wa tatu mambo yalikuwa yaleyale. Meli akahisi kama askarijeshi aliyeshindwa kabisa kutambua mbinu za kuwavizia maadui. Akaona kwamba njia ya pekee ni kujiunga na wenzake kama yeye katika vitendo vya utundu kama vile kuvuruga masomo kwa kupiga kelele darasani, kupiga soga bwenini na hata kuvuta sigara. Mwanzoni alichukia vitendo hivi lakini alimeza mrututu akisema kwamba ndiyo njia ya pekee ya **kujipurukusha**na aibu. Wazazi wa Meli hawakusita kutambua mabadiliko katika hulka ya mwanao. Wakajaribu kumshika sikio nyumbani lakini akawa hasikii la mwadhini wala la mteka maji msikitini. Wakawahusisha wataalamu wa ushauri nasaha ambao waliwaambia kuwa Meli hakuwa na tatizo lolote la kuyadumu masomo. Kile alichokosa ni kujiamini tu.

Wazazi wa Meli waliona kuwa ni muhimu kuwahusisha walimu katika kutatua tatizo la mwanao. Mwanzo wa muhula wa pili uliwapata wazazi hawa afisini mwa naibu wa mwalimu mkuu. Mazungumzo kati ya wazazi, naibu wa mwalimu mkuu na mwalimu wa darasa la Meli yalidhihirisha kwamba walimu walikuwa wamemuasa Meli kuhusu kujiingiza katika makundi yasiyomfaidi lakini rai zao ziliingia katika masikio yaliyotiwa nta. Aliyopenda Zaidi Meli

nishughuli zilizomtoa nje ya shule kama vile tamasha za mziki, ukariri wa mashairi na drama. Mazungumzo yalibainisha kwamba Meli alihitaji ushauri na uelekezaji Zaidi kutoka kwa mtaalamu wa nasaha pale shuleni.

Meli alianza vikao na mtaalamu huyu ambaye pia alimpendekezea Meli ushauri zaidi kutoka kwa washauri marika. Hili lilimchangamsha zaidi Meli kwani aliwaona hawa kama wenzake waliojua changamoto zake. Juhudi za mtaalamu wa nasaha na washauri marika zilifua dafu. Mwisho wa kidato cha pili ulishuhudia mabadiliko makuu katika hulka na utendaji kimasomo wa Meli. Aliukata kabisa uhusiano wake na marafikiwaliompotosha na kuanza kuandamana na wanafunzi waliotia juhudi masomoni. Polepole alama zake ziliimarika. Matokeo ya mtihani wa kidato cha nne yalimweka kwenye safu ya wanafunzi bora zaidi nchini.

a) "Wanafunzi wawapo shuleni hukumbana na changamoto nyingi". Thibitisha ukweli wa kauli hii kwa kurejelea hoja sita kutoka kwenye taarifa**. .** **(alama 6)**

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b) Eleza mchango wa washikadau mbalimbali katika kumsaidia Meli kupata ufanisi masomoni.**(al 4**

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c) Bainisha mbinu **tatu** za lugha ambazo msimulizi anatumia katika kuwasilisha ujumbe wake katika kifungu. **(alama 3)**

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d) i. Andika kisawe cha '**kijipurukusha'** kwa mujibu wa taarifa **(alama 1)**

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ii. Andika maana ya '**kuwatania'** kulingana na taarifa. **(alama 1)**

……

2. UFUPISHO (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali yafuatayo.

Bei ghali ya vyakula ni jambo linalowaathiri wakenya wengi kwa hivi sasa. Inasikitisha kupata kwamba bei ya unga wa ugali imepanda hadi sh. 200. Ni wazi kwamba familia nyingi nchini hukosa lishe lao kutokana na kufumka kwa bei ya bidhaa muhimu. Hata hivyo ibainike kwamba nchi isiyowakimu raia wake kwa chakula ni sawa ng"ombe aliyeshindwa kumnyonyesha ndama wake.

Kwa muda mrefu, viongozi wamekuwa wakipambana na tatizo la ukosefu wa chakula. Msimu wa kiangazi unapobisha hodi, watu wengi hasa wale wahitaji hupukutika kutokana na mngato wa njaa. Japo serikali na wafadhili hutuma vyakula vya msaada kwa jamii zilizoathirika, chakula hiki huwa kama nguo ya kuazima, na bila shaka ya kuazima haikidhi haja.

Mojawapo ya vyanzo vikuu vya uhaba wa chakula ni kiwango cha chini cha uzalishaji na uhifadhi wa chakula chenyewe. Zipo seheu nyingi ambazo ni kame nchini.sehemu hizi hukabiliwa na ukosefu wa maji kwani, ama mvua hainyeshi au inaponyesha haitoshelezi mahitaji ya mimea. Mimea mingi hujikaukia ikiwa michanga na kudhihaki juhudi za wapanzi. Zipo sehemu katika nchi hii ambazo huenda kwa misimu hata mitano bila kupata zao lolote kutoka mashambani. Hali ikiwa hivi makali ya uhitaji huzidi na wakazi wa sehemu hizi hulazimika kuwa wategemezi kwa majirani na serikali. Wengine wanapokosa chakula kabisa huazimia kula visivyoliwa.Wanaamwa la mbwa baada ya kukosa la mama.

Hali kadhalika japo zipo sehemu zingine ambazo hazina tatizo la ukame, mbinu hasi za kilimo husababisha utoaji wa mavuno haba, hivyo kutojitosheleza kwa chakula. Bilas haka wanapopanda ovyo wanavuna ovyo. Kuna wakulima ambao hupalilia mmomonyoka wa udongo kwa kulima kando kando ya mito, kupanda zao lile lile katika sehemu ile ile ya ardhi miaka nenda miaka rudi, na kutopanda mimea ambayo hukinga tabaka la juu la udongo dhidi ya kumomonyolewa na maji au upepo. Matokeo ya haya yanaweza kutabiriwa; udongo wenye rutuba huoshwa na mashamba kutwaa utasa ambao huzidisha kuzalisha kwa chakula haba. Wakulima wengine hukaidi wito wa kupanda mimea ambayo hustahimili ukame kama vile mbaazi mihogo, mtama na wimbi. Baadhi ya wakulima hufuga mifugo wengi ambao hushindwa kustahimili kiangazi. Si ajabu kupata kwamba katika baadhi ya maeneo mizoga ya ngombe na hata ngamia imezagaa kote tanuri la kiangazi linapofanya kazi yake.

Sehemu zingine zimebarikiwa na ukwasi wa chakula. Hata hivyo baadhi ya wakazi wa sehemu hizi hawana mwao kuhusu umuhimu wa lishe bora. Wapo wanaodhani kuwa chakula ni chakula bora

tumbo lipate haki. Hawa hula vyakula kama vile viazi, mahindi, na wengine nyama bila kujua wanahiyaji vyakula vyenye virutubisho muhimu, yani wanga, protini , vitamini na madini. Wapo wanaodhani kuwa protini pekee ni nyama. Hawa hula nyama mawio na machweo, matokeo yakiwa kuambulia magonjwa kama vile shinikizo la damu.

Katika kukabiliana na tatizo la uhaba wa chakula, serikali kupitia wizara husika imeanzisha miradi ya kuhakikisha kuwa kuna uzalishaji wa chakula kwa kiwango cha kuridhisha. Serikali ya Ruto sasa imepunguza bei ya mbolea hadi sh 3500 ili kuwawezesha wakulima kupanda chakula kwa wingi. Visima na mabwawa ya maji pia vitachimbwa katika maeneo kame ili kunyunyuzia mashamba maji. Baadhi ya wakulima wameanza kupanda mimea ambayo inapevuka na kutoa mazao kwa haraka ipo mimea ya kuatika ambayo hutoa matunda baada ya muda mfupi, hivyo kusaidia kupunguza makali ya njaa. Wafugaji wengine wameanzisha miradi ya kufuga kuku wa kututumuliwa. Hawa hukuwa na kukomaa kwa muda mfupi na huweza kutoa nyama na mayai. Wafugaji wa kuku hawa huweza kuwauza kununua aina nyingine ya chakula.

Wakulima pia wanahimizwa kutumia njia za kisasa za kuzalisha na kuhifadhi chakula.chakula kinapohifadhiwa vyema, hata mvua isiponyesha raia huweza kujitegemea. Ikiwa maghala ya halmashauri za kuhifadhi chakula nchini hayahifadhi chakula mara nyingi hulazimika kuagiza chakula kutoka nje kiangazi kinapojiri. Aidha chakula kisipohifadhiwa vyemahuishia kuharibika na kuhasiri wanaokila ikawa msiba juu ya mwingine.

Ni muhimu kufahamu kuwajukumu la kupambana na ukosefu wa chakula ni la kila raia. Hali ya kungojea kila mara kulishwa na serikali inatufanya kuwa wategemezi Zaidi. Wadogo wadogo ambao huuza vyakula kwa bei ya chini sana mara tu wanapovitoa mashambani wanapaswa kujiasa dhidi ya mazoea haya na kujua kuwa akiba haiozi. Wanaoishi katika sehemu za vinamasi wasaidiwe kuzitunza sehemu hizi na kuzitumia kwa njia endelevu. Vijana wahimizwe wawaunge wazee mkono kushughulikia kilimo katika sehemu za mashambani badala ya kuhamia mijini kutafuta kazi za ajira ambazo ni haba.

a) Fupisha ujumbe wa aya tano za kwanza kwa maneno 100**.** **(alama 9, 1 ya mtiririko)**

Matayarisho

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Jibu

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b) Kwa kurejelea aya tatu za mwisho, eleza njia sita za kukabiliana na uhaba wa chakula. (maneno 85) (alama 6, 1 ya mtiririko)

Matayarisho

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Jibu

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3.MATUMIZI YA LUGHA **(ALAMA 40)**

a) Eleza maana ya kipashio kidogo cha lugha**.** **(alama 1)**

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b) Andika maneno yenye sifa zifuatazo**:** **(alama 2)**

i) kikwaruzo ghuna cha ufizi, vokali ya chini-wastani, kizuiwa ghuna cha midomo, kiyeyusho cha midomo, irabu ya chini-kati

……

ii) Kipua ghuna cha ufizi, kipasuo cha ufizi, irabua ya mbele-juu, nazali ghuna ya midomo, irabu ya nyuma-juu.

……

c) Ainisha uamilifu wa kisarufi wa mofimu kwenye neno hili**.** **(alama 3)**

Lilimjisha

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d) Tunga sentensi **moja** kuonyesha matumizi **mawili**ya **"tu**". **(alama 2)**

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……

e) Unda kitenzi kutokana na nomino **toba** kisha ukitungie sentensi**.** **(alama 2)**

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f) Yakinisha kwa kutumia kiambishi cha masharti ya uwezekano kwa wingi**.** **(alama 2)**

Usiposoma kwa bidii hutofaidika.

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g) Tumia nomino ya ngeli ya mahali dhahiri pamoja na kivumishi kirejeshi cha kati kwa sentensi. **(alama 2)**

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h) Andika kinyume cha sentensi hii. **(alama 2)**

Mjomba alimtwika mwanawe mzigo akabana mlango.

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i) Bainisha kijalizo katika sentensi ifuatayo**.** **(alama 1)**

Tajiri huyo shupavu ana magari makubwa mno.

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j) Tunga sentensi kwa kutumia chagizo cha ulinganisho. **(alama 2)**

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k) Andika upya sentensi kwa wakati uliopita hali endelevu, kauli ya tendesheka**.** **(alama 2)**

Wenyeji wamewapokea wageni kwa taadhima.

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l) Tunga sentensi **moja** kuonyesha maana mbili za neno **tema.** **(alama 2)**

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m) Ainisha aina ifuatayo ya sentensi kiutendakazi. (**alama 1)**

Safari imekuwa ikitusumbua sana.

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n) Onyesha kiima na utambue muundo wake katika utungo huu. **(alama 2)**

Pesa zote zilihifadhiwa na mwekahazina shujaa.

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o) Tumia kishazi tegemezi kwenye sentensi kuonyesha vigezo vifuatavyo**.** **(alama 2)**

i) Wakati

……

ii) Jinsi

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p) Changanua kwa kielelezo cha mistari. **(alama 4)**

Aliponijia kwa mkopo, nilikuwa nasali sebuleni.

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q) Andika upya kwa kuanza na yambwa tendwa**.** **(alama 2)**

Mvua iliwanyea wanunuzi sokoni hivi majuzi.

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r) Tunga sentensi katika udogo ukitumia kihusishi cha uhusiano**.** **(alama 2)**

……

s) Eleza matumizi ya kiambishi **po** katika sentensi**.** **(alama 2)**

Achezapo anapofika sisi hushangilia.

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t) Twasema oyee tunapofurahia jambo……..tunapotahadharisha na

…… Tunapotoa himizo **(alama 2)**

4: ISIMU JAMII **(alama 10)**

Soma makala haya kisha ujibu maswali;

Rafiki yako amezongwa na mambo magumu na anafikiria suluhu ni kujiua umepewa jukumu la kumshauri.Fafanua sifa **kumi** za lugha utakayotumia ili kufanikisha ujumbe wako.

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KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

KISWAHILI

102/3

KARATASI YA 3

MUDA: SAA 2½

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Hati ya Kuhitimu Kisomo cha Sekondari

KISWAHILI
Karatasi ya 3
FASIHI
Muda: Saa 2½

MAAGIZO

a) *Jibu maswali manne pekee.*

b) *Swali la kwanza ni la lazima.*

c) *Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki; yaani: Hadithi fupi, Ushairi, Tamthilia na Fasihi Simulizi.*

d) *Usijibu maswali mawili kutoka sehemu moja.*

e) *Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.*

f) *Majibu yaandikwe kwa lugha ya Kiswahili*

SEHEMU YA A

Swali la lazima

1. Soma shairi lifuatalo kisha ujibu maswali yafuatayo;

Sinisumbue akili, nakusihie mwandani,
Afiya yangu ni dhalili, muno nataka amani,
Nawe umenikabili, nenende sipitalini,
Sisi tokea azali, twenda zetu mizimuni,
Nifwateni sipitali, na dawa ziko nyumbani!

Mababu hawakujali, wajihisipo tabani,
Tuna dawa za asili, hupati sipitalini,
Kwa nguvu ya kirijali, mkuyati uamini,
Kaafuri pia kali, na dawa ya ndwele fulani,
Nifwateni sipitali, na dawa ziko nyumbani!

Mtu akiwa halali, tumbo lina walakini,
Dawa yake ni shubili, au zogo huauni,
Zabadi pia zahali, kwa maradhi yako ndani,
Au kwenda wasahili, wenyewe walo pangani,
Nifwateni sipitali, na dawa ziko nyumbani!

Mtu kwenda sipitali, ni kutojuwa yakini,
Daktari kuona mwili, tanena kansa tumboni,
Visu vitiwe makali, tayari kwa pirisheni,
Ukatwe kama figili, tumbo nyangwe na maini,
Nifwateni sipitali, na dawa ziko nyumbani!

Japo maradhi dhalili, kuteguliwa tegoni,
Yakifika sipitali, huwa hayana Kifani,
Waambiwa damu kalili, ndugu msaidieni,
Watu wakitamali, kumbe ndio buriani,
Nifuateni sipitali, na dawa ziko nyumbani!

Mizimu yakupa kweli, wakueleze undani,
Maradhiyo ni ajali, yataka vitu dhamani,
Ulete kuku wawili, wa manjano wa kijani,
Matunda pia asali, vitu vya chanoni,
Nifwateni sipitali, na dawa ziko nyumbani!

MASWALI

a) Lipe shairi hili anwani mwafaka**.** **(alama 2)**
b) Liweke shairi hili katika bahari mbili. **(alama 2)**
c) Andika ubeti wa nne kwa lugha nathari. **(alama 4)**
d) Kwa nini mshairi anakataa kwenda hospitali? **(alama 2)**
e) Ni nani nafsi neni katika shairi hili? **(alama 1)**
f) Tambua toni ya shairi hili. **(alama 1)**
g) Eleza muundo wa ubeti wa pili. **(alama 4)**
h) Eleza jinsi uhuru wa kishairi ulivyotumika katika shairi hili. **(alama 2)**
i) Eleza maana ya msamiati ufuatao kama ulivyotumika katika shairi. **(alama 2)**

1. Pangani
2. Nenende

SEHEMU YA B: HADITHI FUPI: MAPAMBAZUKO YA MACHWEO NA HADITHI NYINGINE.

2. "Yu wapi kirukanjia wako? Wajua yuko wapi? Uliacha mbachao kwa msala upitao. Atakutunza nani, maana kwako fadhila za punda ni mashuzi!"

a. Yaweke maneno haya katika muktadha wake. **(alama 4)**
b. Taja mbinu mbili za lugha zilizotumika katika dondoo hili. **(alama 2)**
c. Bainisha toni ya dondoo. **(alama 1)**
d. Fafanua sifa zozote tatu za mzungumziwa. **(alama 3)**
e. Kwa kurejelea hadithi "Fadhila za punda" onyesha ukweli wa kauli kuwa fadhila za punda ni mashuzi kwa mifano mwafaka. **(alama 10)**

Au

3. Huku ukirejelea hadithi zifuatazo tano jadili maudhui ya migogoro kwa kutoa mifano maridhawa. **(alama 20)**

a. Fadhila za punda
b. Msiba wa kujitakia
c. Mapambazuko ya machweo
d. Harubu ya maisha

SEHEMU YA C: RIWAYA YA CHOZI LA HERI

4. "Kisa cha kaniki cha usiku wa manane kimetanda. Anayetazama anamwona mja aliyevaa koti kuukuu…..Anaimba huku ameshika chupa mkononi….."

(a) Eleza muktadha wa dondoo hili. **(alama 4)**
(b) Tambua aina nne za taswira zinazojitokeza katika dondoo hili. **(alama 4)**
(c) Fafanua maudhui yanayochangiwa na mrejelewa huku ukirejelea riwaya. **(alama 2)**
(d) Eleza sifa tatu za mrejelewa. **(alama 3)**

5. Changanua kifungu kifuatacho.

(a) Changanua mtindo katika kifungu kifuatacho. **(alama 10)**

Mkuu wa shule, walimu na wanafunzi wenzangu, suala la uhifadhi wa mazingira ni jukumu la kila mmoja wetu. Tumeona jinsi misitu ilivyovamiwa na viongozi wenye mate ya fisi. Naskia baadhi ya vinara wa taasisi mbalimbali za umma wamewaacha wanyama kama mayatima kwa kupoka makazi yao. Maelfu ya maekari ya misitu yamefyekwa na kujengwa viwanda. Badala ya mibambakofi na miti mingine inayosafisha hewa, michai imetwaa nafasi yake. Wanaohusika na matendo haya wanapoulizwa hudai kuwa michai si adui wa mazingira! Wengine wanasema kuwa misitu haina budi kukatwa ili kupanda mimea inayotoa chakula, kwani jamii sharti ijitosheleze kwa chakula.

(b) Mbali na maswara yanayojitokeza katika kifungu, eleza namna mwandishi alivyoshughulikia uharibifu wa mazingira katika riwaya ya chozi la heri. **(alama 6)**

(c) Jadili mchango wa vijana katika kubomoa jamii katika riwaya ya chozi la heri. **(alama 4)**

6. SEHEMU YA D: TAMTHILIA YA BEMBEA YA MAISHA

"Mwanangu binadamu mchoyo kwa lake lakini mkarimu ajabu kwa la mwenziwe. Atakukarimu kwa la mwenziwe na atakupa nyongeza usiohitaji lakini lake atalizika katika giza la kina cha moyo wake. Ndiyo hulka yake mwana wa Adamu."

a. Eleza muktadha wa maneno haya**.** **(alama 4)**

b. Jadili namna chanya msemaji na wenzake wa jinsia ya kike walivyosawiriwa katika tamthilia ya Bembea ya maisha. **(alama 6)**

c. Fafanua umuhimu wa mazungumzo kati ya msemaji na msemewa katika tamthilia ya Bembea ya Maisha **(alama 10)**

7. Jadili maudhui yafuatayo kwa kutolea mifano maridhawa kama yanavyoshughulikiwa katika tamthilia ya Bembea ya maisha.

(a) Mabadiliko

(b) Migogoro

8. SEHEMU YA E: FASIHI SIMULIZI

Dunia hii ina matatizo x2
Watu wengi hawajajua
Ni dunia yataabu
Hata hivyo usijali.

Karibu malaika karibu x2
Mimi nikukaribishe
Kwa mikono yote miwili

Dunia mti mkavu.

Usilie mtoto usilie x2
Kwa kuiona dunia
Iliyo na masumbuko
Umebebwa miezi tisa.

Maswali

a. Huu ni wimbo wa aina gani**?** **(alama 1)**
b. Eleza ujumbe wa wimbo huu. **(alama 2)**
c. Eleza sifa za nyimbo za bembea . **(alama 4)**
d. Taja tanzu kuu nne za fasihi simulizi. **(alama 4)**

(e) Unanuia kukusanya data za kipera kilicho hapo juu. Pendekeza njia tano utakazotumia. **(alama 5)**

(f) Eleza changamoto nne utakazokumbana nazo katika kukusanya data zako. **(alama 4)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHRISTIAN RELIGIOUS EDUCATION

313/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

a) *This paper consist of* ***six*** *questions*

b) *Answer any* ***FIVE*** *questions in the answers sheet provided..*

c) *Question must be answered neatly in a good hand writing.*

QN	1	2	3	4	5	TOTAL SCORE
SCORE						

QUESTIONS

1)

a) Describe the second account of creation in Gen. 2:4b-25. **(6mks)**

b) Identify lessons Christians learn about work from Genesis stories of creation. **(6mks)**

c) Explain four ways in which Christians are continuing with God's work of creation. **(8mks)**

2)

a) Describe God's covenant with Abraham Gen. 15:1-19. **(10mks)**

b) Identify instructions of God on the circumcision of Abraham and his descendants. **(5mks)**

c) Mention acts of faith for Christians. **(5mks)**

3)

a) Explain reasons why Samuel was against kingship in Israel. **(8mks)**

b) Identify lessons learnt by Christians from the failures of Saul. **(7mks)**

c) Explain how corruption has affected the society in Kenya today. **(5mks)**

4)

a) Describe the visions of Amos concerning the coming judgement on the people of Israel. **(10mk)**

b) Identify evils that Jeremiah condemned. **(5mks)**

c) Identify the relevance of prophets of the Old Testament to Christians today. **(5mks)**

5)

a) Explain the social background of Nehemiah. **(7mks)**

b) Mention occasions when Nehemiah prayed. **(8mks)**

c) State importance of prayer in a Christian life. **(5mks)**

6)

a) Outline the teachings on meaning of life and its wholeness in the traditional African society. **(8mks)**

b) Explain examples of African moral values. **(7mks)**

c) State changes that are taking place in community in Traditional African Community. **(5mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

CHRISTIAN RELIGIOUS EDUCATION

313/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

a) *This paper consist of* ***six*** *questions*

b) *Answer any* ***FIVE*** *questions in the answers sheet provided..*

c) *Question must be answered neatly in a good hand writing.*

QN	1	2	3	4	5	TOTAL SCORE
SCORE						

QUESTIONS

1) Explain the Jewish expectations concerning the messiah **(7mks)**

State 7 similarities in the annunciation of the birth of John the Baptist and that of Jesus Christ. **(7mks)**

Identify six lessons Christians learn from the annunciation of the birth of Jesus Christ **(6mks)**

2) What was the importance of the transfiguration of Jesus? **(8mks)**

Identify 6 occasions when Jesus prayed. **(6mks)**

Give the lessons that Christians learn about Jesus from the transfiguration. **(7mks)**

3) State 6 teachings of Jesus on the duties of discipleship **(6mks)**

Narrate the parable of a friend at mid-night Luke 11 : 5 – 13 **(7mks)**

(c) What is the importance of prayer in a Christian life? **(7mks)**

4) Identify 5 ways in which the work of the Holy Spirit was manifested on the day of Pentecost. **(5mks)**

State the fruits of the holy spirit according to Gal 5 : 22) **(8mks)**

State 7 reasons why some Christians find it difficult to help the sick. **(7mks)**

5) Give 7 advantages of a monogamous marriage **(7mks)**

Outline the importance of children in both Christianity and traditional African communities. **(6mks)**

Identify ways through which Christians help to minimize conflicts between parents and their children in Kenya today **(7mks)**

6) Explain ways in which science and technology has improved human life. **(8mks)**

(b)Give 6 reasons why a Christian should donate blood. **(6mks)**

List down reasons why tobacco is a health hazard **(6mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

HISTORY AND GOVERNMENT

311/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

The paper consists of three sections

- *Answer all questions in section A* ***(25 marks)***
- *Answer three questions in section B* ***(45 marks)***
- *Answer two questions in section C* ***(30 marks)***
- *All questions should be answered in correct English*

FOR EXAMINER'S USE ONLY

SECTION	A	B				C			
QUESTION	1-17	18	19	20	21	22	23	24	Total score

SECTION A (25 MARKS)

1. **Identify** two pre historic sites where the remains of Kenyapithecus were discovered by archeologists**.** **(2mks)**
2. **State two** ways in which the migration of the Cushites into Kenya affected the Agikuyu during the pre-colonial period. **(2mks)**
3. **Identify** the town established by missionaries in kenya as a centre for freed slaves in the advent of the 19th century**.** **(1mks)**
4. **Give one** historical monuments that establish evidence of the activities of the Portuguese along the east African coast. **(1mk)**
5. **Give two** economic responsibility of a Kenyan **citizen.** **(2mks)**
6. **Give one** economic factor that promotes national unity in **Kenya.** **(1mk)**
7. **Give two** peaceful methods of resolving conflicts in **Kenya.** **(2mks)**
8. **Give one** reason why the British used indirect rule in some parts of **Kenya.** **(1mk)**
9. **Identify two** education commissions established in Kenya before **independence.** **(2mks)**
10. **Name** the body that made laws in Kenya during the colonial **period.** **(1mk)**
11. **Outline two** problems experienced by political associations in Kenya up to **1939.** **(2mks)**
12. **Give one** type of parliamentary election held in **Kenya.** **(1mk)**
13. **Give two** reason why the Africans in Kenya started independent schools during the colonial **period.** **(2mks)**
14. **State the main** fuctions of parliament in **Kenya.** **(1mk)**
15. **Name** one ex-officio member of the **senate.** **(1mk)**
16. **Identify** the political party formed in 1960 to champion the interest of minority group in Kenya. **(1mk)**
17. **Give two** types of human **rights.** **(2mks)**

SECTION B (45MARKS)

18. a) State five economic activities of the Agikuyu during the pre-colonial **period. (5mks)**

b) Discuss five effects of the migration and settlement of the highland Nilotes during the pre-colonial **period.** **(10mks)**

19.a) Give three reasons why the early visitors came to the Kenyan coast before 1500A.D**. (3mks)**

b. Explain six factors that contributed to the development of trade between the Kenyan coast and outside world by 1900**. (12mks)**

20.a) Give five grievances of the Kikuyu Central Association which were presented by Jomo Kenyatta to the colonial secretary in **1929. (5mks)**

b) Explain five problems faced by Africans working for the European settlers during the colonial **period. (10mks)**

21.a) Identify five roles played by women in the MAUMAU **uprising. (5mks)**

b) Explain five reasons why the MAUMAU movement was able to last for a long time. **(10mks)**

SECTION C (30MARKS)

22.a) State five responsibilities of a Kenyan **citizen. (5mks)**

b. Describe five features of the constitution of **Kenya (2010). (10mks)**

23.a) Name five types of courts in **Kenya. (5mks)**

b) Explain the rights of an accused person in **Kenya. (10mks)**

24.a) Outline five functions of Independent Electoral and Boundaries Commission of Kenya. **(5mks)**

b) Describe five functions of the president of **Kenya. (10mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

HISTORY AND GOVERNMENT

311/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

The paper consists of three sections

- *Answer all questions in section A* ***(25 marks)***
- *Answer three questions in section B* ***(45 marks)***
- *Answer two questions in section C* ***(30 marks)***
- *All questions should be answered in correct English*

FOR EXAMINER'S USE ONLY

SECTION	A	B				C			
QUESTION	1-17	18	19	20	21	22	23	24	Total score

SECTION A:(25MARKS)

1. Identify the theory explaining that the world and all that is in was created by a special supreme being. **(1mk)**

2. Name the group of old stone age man, who is associated with oldwan tools. **(1mk)**

3. Name **two** ancient writing in Mesopotamia and Egypt. **(2mks)**

4. Give **two** items used as currency in pre-colonial Africa **(2mks)**

5. Give **two** forms of water transport used during ancient times. **(2mks)**

6. State **two** uses of horn blowing in traditional African societies. **(2mks)**

7. State **one** reason why African slaves were preferred during the Trans- Atlantic slave trade.**(1mk)**

8. Identify **two** chartered companies used to administer East Africa during the process of colonization. **(2mks)**

9. State **two** factors that facilitated scientific revolution in Europe from 14^{th} century. **(2mks)**

10. Give **two** duties of the Katikiro in the Buganda community. **(2mks)**

11. State **one** main function of the royal fire in Mwene Mtapa Kingdom. **(1mk)**

12. Identify **one** way through which the Europeans maintained peace among themselves during the partition of Africa. **(1mk)**

13. Name two former Portuguese colonies in Africa. **2mks)**

14. Give one specialized UN agency which finances development programmes in developing Nations. **(1mk)**

15. Give the immediate cause of the first world war **(1mk)**

16. Name one type of dwelling used by early man during the stone age period **(1mk)**

17. Give one military organization formed by power blocks during the cold war period. **(1mk)**

SECTION B: (45MARKS)

Answer any <u>three</u> questions from this section

18. a) Give three stages in the evolution of man after Homo Habilis. **(3mks)**

b) Explain six cultural practices of Homo-erectus during the old stone age period. **(12mks)**

19. a) Outline three disadvantages of road transport. **(3mks)**

b) Explain six effects of telecommunication in modern society. **(12mks)**

20. a) Give three systems of administration used by the colonists in Africa. **(3mks)**

b) Explain six positive results of the collaboration between the British and Lewanika. **(12mks)**

21. a)Give three methods used by Mozambican nationalists to struggle for Independence.**(3mks)**

b) Explain six challenges faced by FRELIMO in nationalist struggle. **(12mks)**

SECTION C: (30MARKS)

Answer any two questions from this section

22. a) Give three reasons why the British used direct rule to administer Zimbabwe. **(3mks)**

b) Explain six reasons for the failure of majimaji rebellion **(12mks)**

23. a) Apart from Britain name three permanent member states of the UN security council**.(3mks)**

b) Explain six causes of the cold war after 1945. **(12mks)**

24. a) Name the three countries that formed tripple entente **(3mks)**

b) Discuss six results of the first world war (**12mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

GEOGRAPHY

312/1

PAPER 1

TIME: 2¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

(a) *Write your name, admission number and class in the spaces provided above.*

(b) *This paper has **two** sections: **A** and **B***

(c) *Answer **all** the questions in section **A***

(d) *Answer **question 6** and any other **two** questions from section **B***

(e) *All answers must be written in the spaces provided after Question 10.*

FOR EXAMINATION USE ONLY.

	Maximum Score	Candidate Score
Section A.	25	
Question 6	25	
Question 7	25	
Question 8	25	
Question 9	25	
Question 10	25	
TOTAL	**100%**	

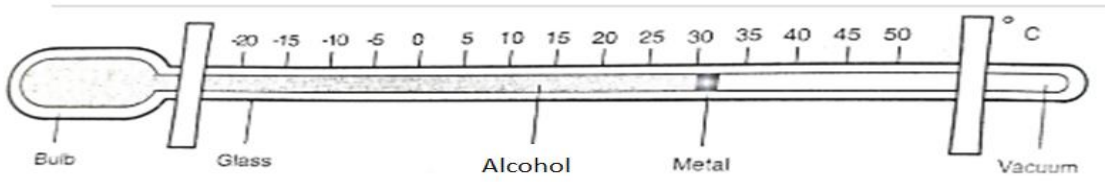
SECTION A

Answer all questions in this section.

1. (a) Name ***two*** types of environment. **(2 marks)**

(b) List ***three*** main branches under physical geography. **(3 marks)**

2. Use the following weather instrument to answer the questions that follow.



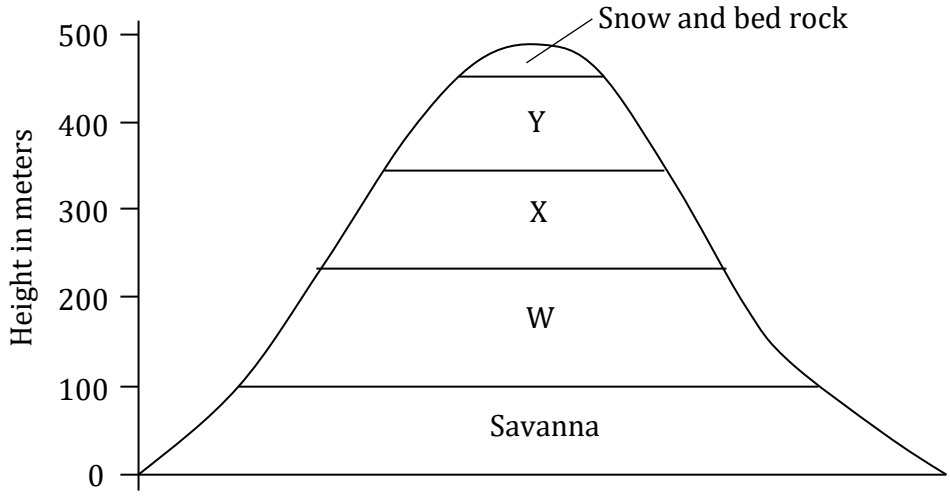
(a) Name the above instrument. **(1 mark)**

(b) Describe how the instrument above works. **(4 marks)**

3. (a) Give ***two*** types of sedimentary rocks. **(2 marks)**

(b) State ***three*** characteristics of sedimentary rocks. **(3 marks)**

4. The diagram below represents zones of natural vegetation on a mountain in Africa. Use it to answer questions **A** and **B.**



(a) Name the vegetation zones marked **W, X** and **Y**. **(3 marks)**

(b) Give ***two*** uses of Savannah vegetation. **(2 marks)**

5. (a) What is soil erosion? **(2 marks)**

(b) Name ***three*** types of soil erosion. **(3 marks)**

SECTION B

*Answer question **6** and any other **TWO** questions in this section.*

6. Study the map of **Nyeri 1:50,000** (sheet 120/4) provided and answer the following questions.

(a) (i) Give the ***six figure*** grid reference of the forest Guard Post at grid square 5059. **(2 marks)**

(ii) What is the magnetic variation of the map? **(2 marks)**

(b) (iii) What is the general direction of the flow of river Chanya? **(1 mark)**

(c) (i) Using a vertical scale of ***1cm*** to represents ***50m;*** draw a cross section along Northing 64 from Easting 68 to Easting 78. On it mark and label the following.

- All weather road
- A hill.
- River. **(7 marks)**

(ii) Calculate the vertical exaggeration of the cross section. **(2 marks)**

(iii) Determine the intervisibility of the cross section. **(1 mark)**

(d) Citing evidence from the map, identify ***three*** social services offered in the area covered by the map. **(6 marks)**

(e) Explain ***two*** ways relief has influenced the distribution of settlement in the area covered by the map. **(4 marks)**

7. (a) (i) Define the term volcanicity. **(2 marks)**

(ii) Name ***two*** active volcanoes in Kenya. **(2 marks)**

(b) (i) Differentiate between solfatara and moffete. **(2 marks)**

(ii) Identify ***two*** areas in Kenya where geysers are found. **(2 marks)**

(c)(i) A part from batholiths, name ***three*** features resulting from intrusive vulcanicity. **(3 marks)**

(ii) With the aid of a diagram describe how a batholith is formed. **(6 marks)**

(d) Explain ***four*** negative effects of vulcanicity. **(8 marks)**

8. (a) **(i)** What is weathering? **(2 marks)**

(ii) Give ***three*** factors influencing the rate of weathering **(3 marks)**

(b) Name ***three*** processes of slow mass wasting. **(3 marks)**

(c) (i) A part from block disintegration, list ***four*** other physical weathering processes. **(4 marks)**

(ii) Describe how block disintegration occurs. **(5 marks)**

(d) Explain ***four*** significance of weathering to human activities. **(8 marks)**

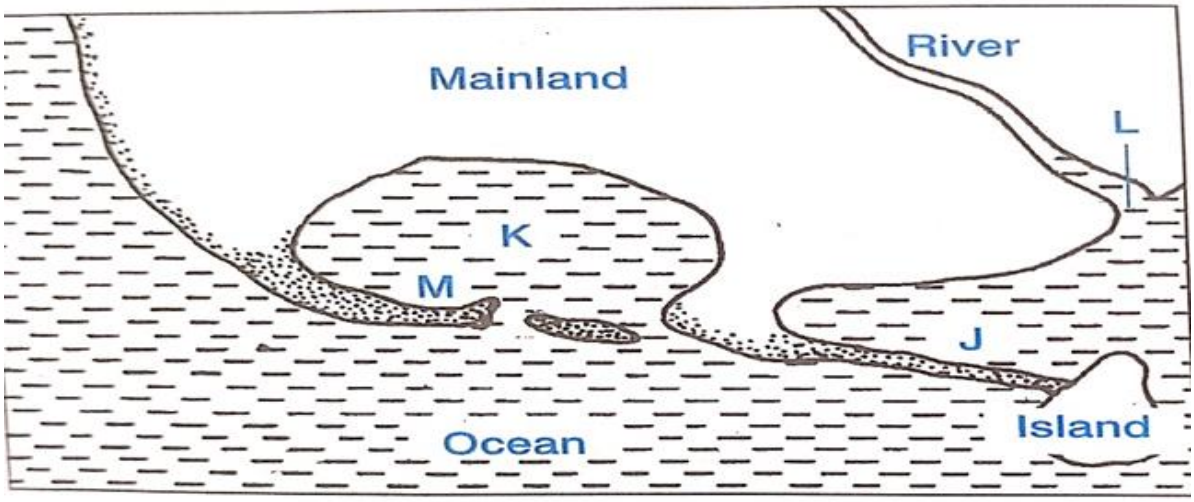
9. (a) (i) Define the term **ocean** **(2 marks)**

(ii) Name ***three*** types of coasts **(3 marks)**

(b) **(i)** List ***three*** features that result from wave erosion **(3 marks)**

(ii) Describe the longshore drift. **(3 marks)**

(c) The diagram below shows coastal features resulting from wave deposition



(i) Name the features marked **J, K** and **M.** **(3 marks)**

(ii) Describe how the feature marked **M** is formed **(5 marks)**

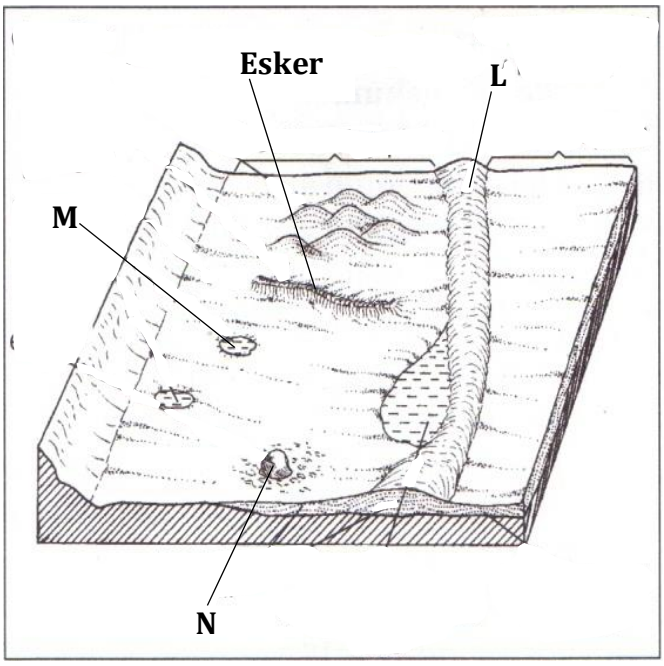
(iii) State ***three*** conditions that favor for the growth of coral polyps. **(3 marks)**

(c) State ***three*** significances of coastal features to human activities. **(3 marks)**

10. (a) (i) Differentiate between an ice sheet and an ice berg. **(2 marks)**

(ii) Name ***three*** types of glacial moraines. **(3 marks)**

(c) The diagram below shows features resulting from glaciation in a low land area.



(i) Name the features marked **X, Y** and **Z.** **(3 marks)**

(ii) Describe how a terminal moraine is formed. **(4 marks)**

(c) Your class carried out a field study on glacial erosional features in a glacial lowland area.

(i) Give **two** methods of collecting data you could use. **(2 marks)**

(ii) State ***three*** importance of dividing into groups. **(3 marks)**

(d) Explain ***four*** economic significance of glaciation in lowland areas**.** **(8 marks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

GEOGRAPHY

312/2

PAPER 2

TIME: 2¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO THE CANDIDATES.

- *This paper has two sections **A** and **B.***
- *Answer **ALL** questions in section **A**. in section **B** answer question **6** and any other **TWO** questions.*

FOR EXAMINERS' USE ONLY

SECTION	CANDIDATE'S SCORE
SECTION A	
QUESTION 6	
QUESTION 7	
QUESTION 8	
QUESTION 9	
QUESTION 10	
TOTAL	

SECTION A

Answer all questions in this section.

1. (a) State **three** importance of studying geography. **(3 marks)**

(b) Explain the relationship between geography and demography. **(2 marks)**

2. Study the mining method shown below and answer the following questions

(a) Identify the mining method **(1 mark)**

(b) State the negative effects of the above method to the environment. **(4 marks)**

3. (a) Define industrialization. **(2 marks)**

(b) Give **three** characteristics of Jua kalI industries in Kenya. **(3 marks)**

4. (a) Define international trade. **(2 marks)**

(b) Name **three** imports from Europe to Kenya. **(3 marks)**

5. (a) Name **two** rivers in the lowlands of western rift valley causing flooding. **(2 marks)**

(b) State **three** methods used to control floods in Kenya. **(3 marks)**

SECTION B

*Answer question **6** and any other **TWO** questions in this section.*

6. The table below shows Kenya's leading imports by value. Use it to answer question (a). value in '000' million shillings.

Year	2013	2014	2015
Machinery	80	75	60
Petroleum	50	70	40
Fertilizers	30	40	45
Others.	45	30	25

(a) **i)** What was Kenya's total value of imports in the year 2015**.** **(1 mark)**

ii) Describe the trend of Kenya's imports between 2013 to 2015. **(3 marks)**

iii) Give **three** reasons why Kenya imports some agricultural produce yet she is a producer of the same commodities. **(3 marks)**

iv) Draw a comparative bar graph to show Kenya's import by value between 2013 and 2015. **(7 marks)**

(b) i) Name **two** counties to the East of Rift Valley where tea is grown. **(2 marks)**

ii) State three physical conditions that influence the growing of tea in Kenya. **(3 marks)**

(b) Describe the stages involved in the cultivation of tea from land preparation to harvesting. **(6 marks)**

7. (a) i) Define the term forestry. **(2 marks)**

ii) Name two types of forests found in Kenya. **(2 marks)**

iii) Give two examples of forest reserves in Kenya. **(2 marks)**

(b) Explain three physical factors favoring the development of soft wood forests in Kenya. **(6 marks).**

(c) Compare soft wood forests in Kenya and Canada under the following.

- Growth. **(2 marks)**
- Logging. **(2 marks)**
- Forests products. **(2 marks)**

(d) A Mokasa Geography class intended to carry out a field study in Mau forest in the Rift Valley.

i) Name the methods they would use to record data during the study. **(4 marks)**

ii) State three problems they are likely to face during the study. **(3 marks)**

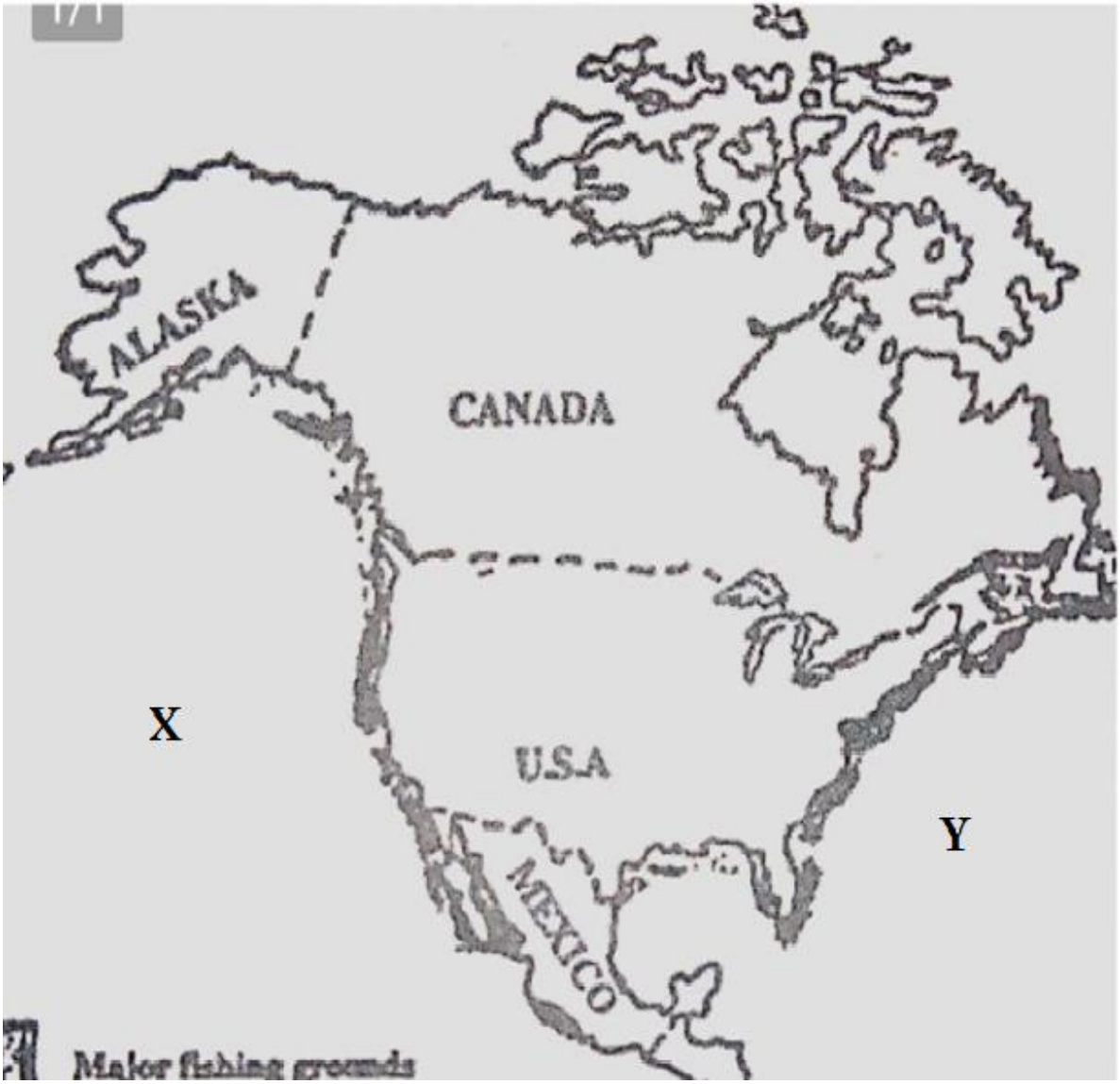
8. (a) i. Define fisheries **(2 marks)**

ii). State four ways in which marine fisheries in Kenya can be conserved. **(4 marks)**

(b) i) What is fish farming. **(2 marks)**

ii) State three ways in which fish farming contribute to the economy of Kenya. **(3 marks)**

(c). Use the map below to answer the following questions.



i) Identify the following grounds marked X and Y **(2 marks)**

ii) Name four fish species caught along the fishing ground marked Y. **(4 marks)**

iii) Explain four physical factors favoring fishing in the region marked Y. **(8 marks)**

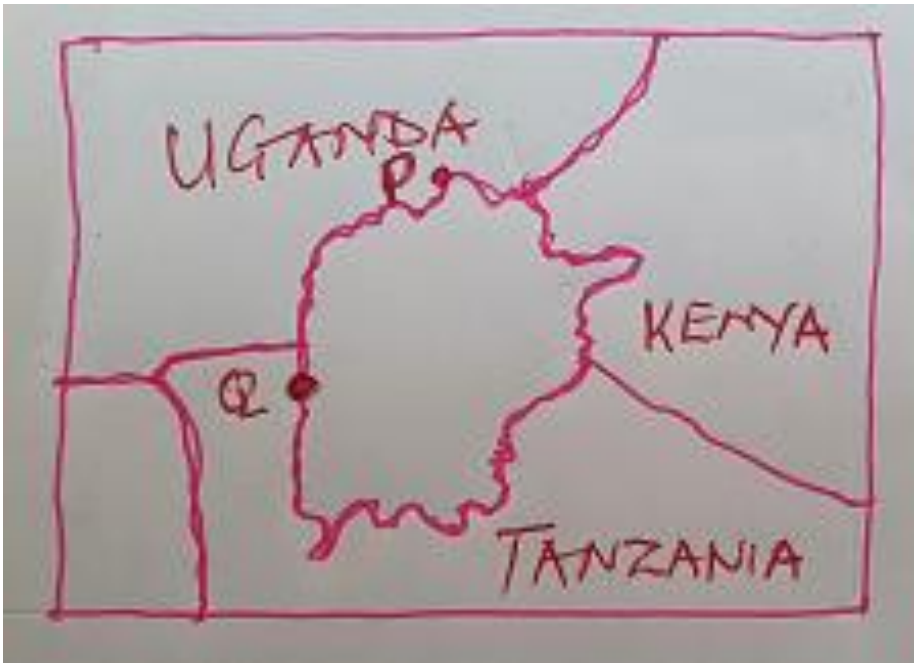
9. (a) i) Differentiate between transport and communication. **(2 marks)**

ii) Name three means used on land transport. **(3 marks)**

iii) Explain the following factors how they influence development of transport and communication.

- Technology **(2 marks)**
- Urbanization. **(2 marks)**

(b). The diagram below shows the major ports around Lake Victoria, use it to answer questions that follows.



i) Name the ports labelled P and Q. **(2 marks)**

ii) State four advantages of using containers at the port of Kisumu. **(4 marks)**

(c).i) Identify three canals along the St Lawrence and Great Lakes sea way in USA and Canada. **(3 marks)**

ii) Name four products transported along the sea way route. **(4 marks)**

iii) Explain how the following problems faced at the st Lawrence sea route were improved.

- Siltation. **(2 marks)**
- Freezing of water. **(2 marks)**

10. a) i) Define the term settlement. **(2 marks)**

ii) Give any two types of rural settlement patterns. **(2 marks)**

iii) Explain how the following factors influencing settlement.

- Drainage **(2 marks)**
- Vegetation. **(2 marks)**

b) Apart from central business district, name three other functional zones of urban Centre. **(3 marks)**

c) State any three negative effects of urbanization. **(3 marks)**

d) Explain four factors that led to the growth of Eldoret town. **(8 marks)**

e) State three factors that contribute to the emergence of slums in urban centers. **(3 marks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

MATHEMATICS

121/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:

1. *Write your name, index number and school in the spaces provided above.*
2. *Sign and Write the date of examination in the spaces provided above.*
3. *This paper consists of two Sections; Section **I** and Section **II**.*
4. *Answer all the questions in Section **I** and any **FIVE** questions from Section **II**.*
5. *All answers and working must be written on the question paper in the spaces provided below each question.*
6. *Non-programmable silent electronic calculators and **KNEC** Mathematical tables may be used.*

FOR EXAMINER'S USE ONLY:

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

SECTION II

17	18	19	20	21	22	23	24	TOTAL

GRAND TOTAL

SECTION I (50 MARKS)

Answer ALL questions in this section in the spaces provided

1. Without using mathematical tables or calculator evaluate; **(3mks)**

$$\sqrt{\frac{1.90\times 0.032\times 1.08}{2.00\times 0.0038}}$$

2. Simplify completely $\dfrac{9a^2y-16b^2y^3}{4by^2-3ay}$ **(3mks)**

3. A water tank has a capacity of 50 litres. A similar model tank has a capacity of 0.25litres. if the larger tank has a height of 100cm. calculate the height of the model tank. **(3mks)**

4. Simplify $\sqrt{\frac{12x^4\,y^{-1}\,Z^5}{3x^{-2}y^{-3}\,Z^3}}$ **(2 mks)**

5. One interior angle of a certain polygon is 84^0. If each of the other angles is 147^0, how many sides does this polygon have? **(3 mks)**

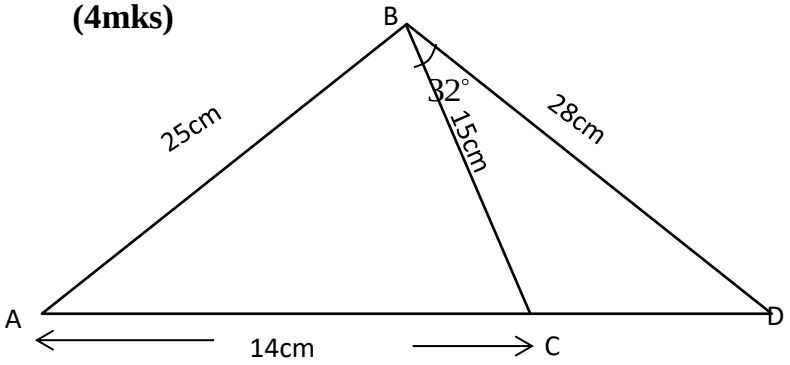
6. During a certain period the exchange rates at a Pesa point were;

	Buying shs	Selling shs
Riyal	19.68	19.78

A tourist arrived with 5480 Riyal which he changed to Kshs. He spend $\frac{2}{3}$ of the total in visiting various sites. As he was leaving he changed all he had to Riyal. How much did he leave with? Answer to 1 d.p. **(3 mks)**

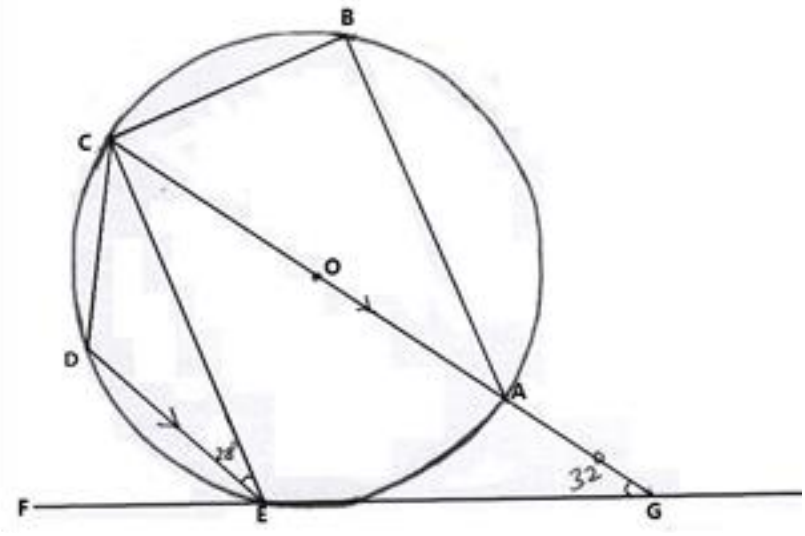
7. Find the area of the triangle below given that lines AB=25cm, BC = 15cm, AC = 14cm, BD = 28cm and $\angle CBD = 32^\circ$

(4mks)



8. A shear parallel to the x-axis maps point (1,2) onto a point (7, 2). Determine the shear factors and hence state the shear matrix (invariant line is y = 0) **(3mks)**

9. The diagram below shows a circle ABCDE. The line FEG is a tangent to the circle at point E. Line DE is parallel to CG,



Calculate

(a) AEG **(2mks)**

(b) ABC **(2mks)**

10. Wasike and Wanjala live 40km apart. Wasike starts cycling from his home at 8.00a.m toward's Wanjala's house at 16km/h. Wanjala stars cycling towards Wasike's house 30 minutes later at 8km/h. **what** time did they meet. **(3mks)**

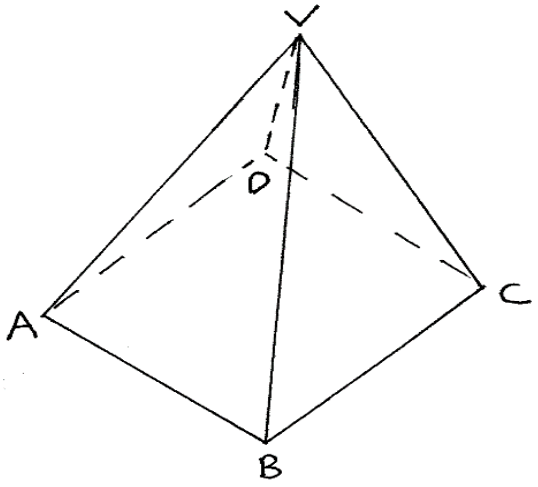
11. The line which joins the point A (3, K) and B (-2, 5) is parallel to the line whose equation is 5y+2x-7=0. Find the value of K. **(3mks)**

12. Given that Cos A = $\frac{5}{13}$ and angle A is acute, without using tables or calculator, find the value of **(3 mks)**

2 tan A + 3 sin A.

13. Find the greatest integral value of x which satisfies. $\frac{2x+3}{2} < \frac{8-3x}{5} < \frac{5x+6}{3}$ **(3mks)**

14. The figure below (**not drawn to scale)** is a right pyramid with slant height of 5cm and square base of 3cm.



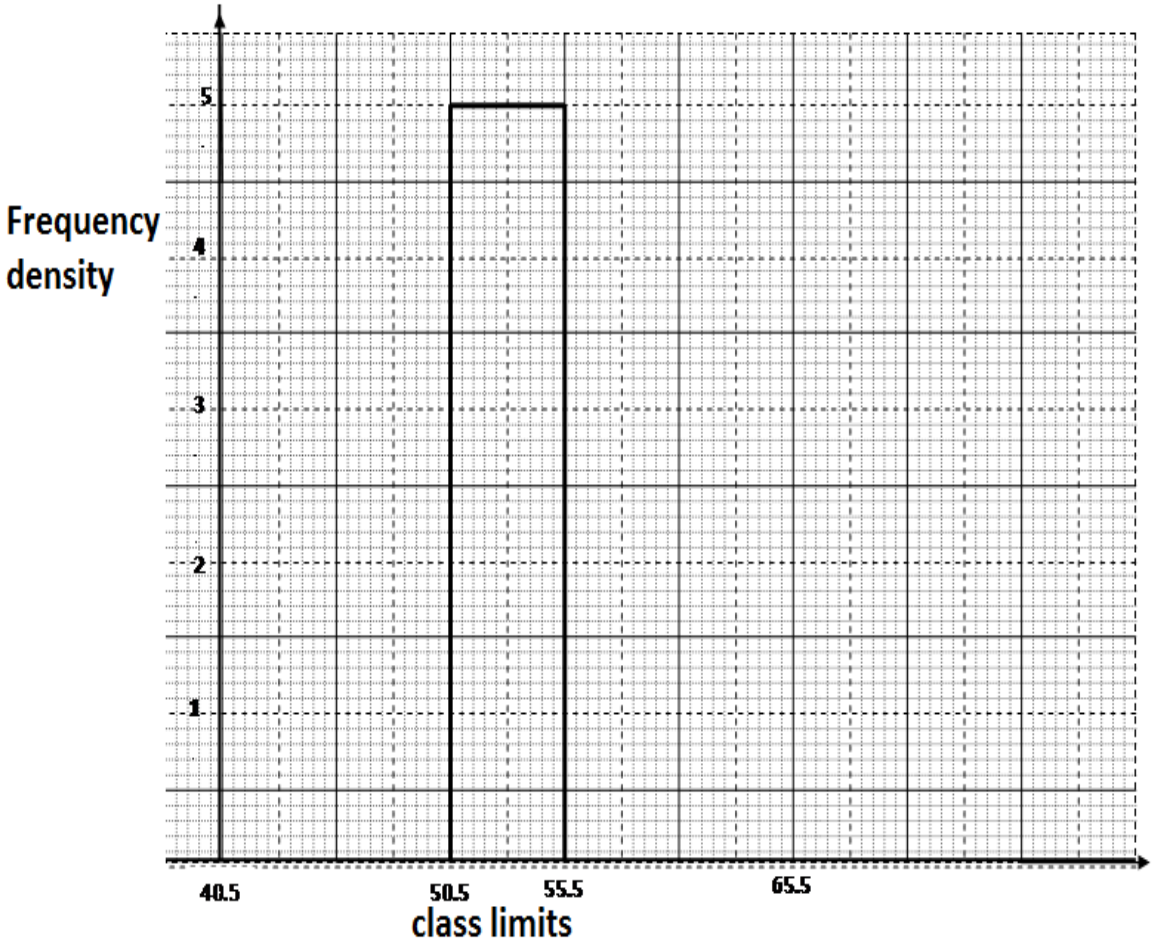
(a) Draw its net and label it. **(2mks)**

(b) Calculate the total surface area. **(2mks)**

15. A plane leaves town P to town Q on a bearing of 130º and a distance of 350km. it then flies 500km on a bearing of 060º to town R. Find, by scale drawing the distance between town R and town P. **(3 mks)**

16. The following data was obtained from the mass of a certain animal. Complete the table and the histogram below. **(3 marks)**

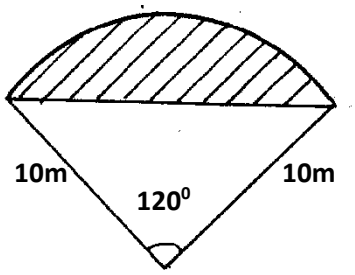
Mass(kg)	frequency
41-50	20
51-55	
56-65	40



SECTION II: (50 MARKS)

Answer only FIVE question from this section.

17. The ends of the roof of a workshop are segment of a circle of radius 10m. The roof is 20m long .The angle at the centre is 120^0 as shown in the figure below.



(a) Calculate:

(i) The area of one end of the roof. **(4mks)**

(ii) The area of the curve surface of the roof. **(2mks)**

(b) What would be cost to the nearest shilling of covering the two ends and the curved surface with galvanized iron sheet costing sh.80 per square meter. **(4mks)**

18. A rectangular tank whose internal dimensions are 1.7m by 1.4m by 2.2m is three quarters full of milk.

a) Calculate the volume of milk in litres. **(3 marks)**

b) The milk is packed in small packets in a shape of a right pyramid with an equilateral base triangle of side 16cn. The height of each packet is 13.6cm. Full packets obtained are sold at ksh.25 per packet.

i) The volume in cm^3 of each packet to the nearest whole number. **(3 marks)**

ii) The number of full packets of milk. **(2 marks)**

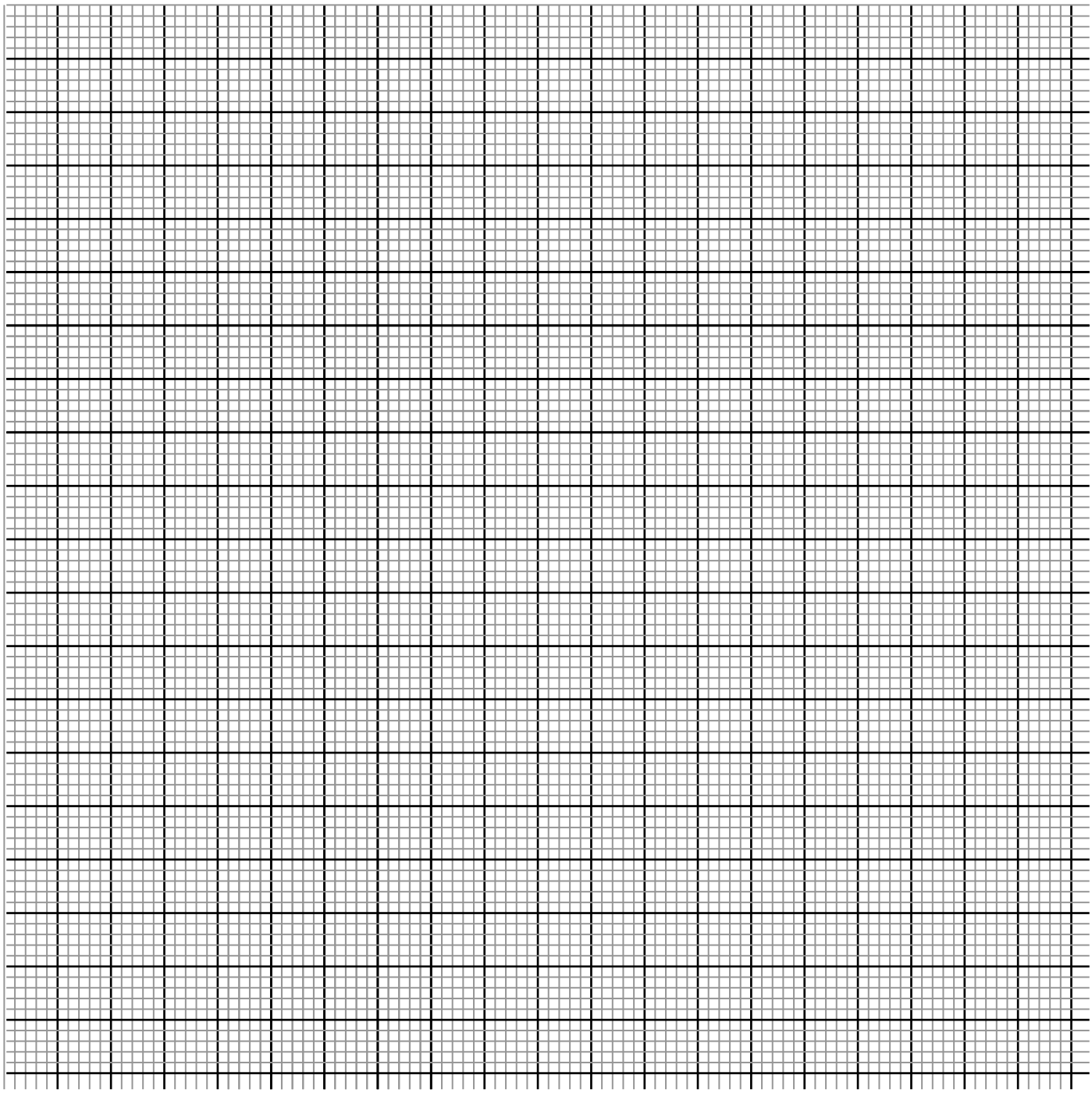
iii) The amount of money realized from the sell of milk. **(2 marks)**

19. (a) On the grid provided below, plot the polygon A(3, 7), B(5, 5), C(3, 1), D(1, 5) on a cartesian plane **(2mks)**

(b) $A^1B^1C^1D^1$ is the image of ABCD under a translational $T\begin{pmatrix}-6\\-9\end{pmatrix}$. Plot $A^1B^1C^1D^1$ and state its coordinates. **(2mks)**

(c) Plot $A^{11}B^{11}C^{11}D^{11}$, the image of $A^1B^1C^1D^1$ after a rotation about (-1, 0) through a positive quarter turn. State its coordinates. **(3mks)**

(d) $A^{111}B^{111}C^{111}D^{111}$ is the image of $A^{11}B^{11}C^{11}D^{11}$ after a reflection in the line Y=x + 2. Plot $A^{111}B^{111}C^{111}D^{111}$and state its coordinates **(3mks)**



20. A straight line passes through the points (8, -2) and (4,-4).

a) Write its equation in the form ax + by +c = 0, where a, b and c are integers. **(3 Marks)**

b) If the line in (a) above cuts the x-axis at point P, determine the coordinates of P. **(2 Marks)**

c) Another line, which is perpendicular to the line in (a) above passes through point P and cuts the y axis at the point Q. Determine the coordinates of point Q. **(3 Marks)**

d) Find the length of QP **(2 Marks)**

21. Matrix P is given by

$$\begin{pmatrix} 4 & 7 \\ 5 & 8 \end{pmatrix}$$

(a) Find p^{-1} **(3mks)**

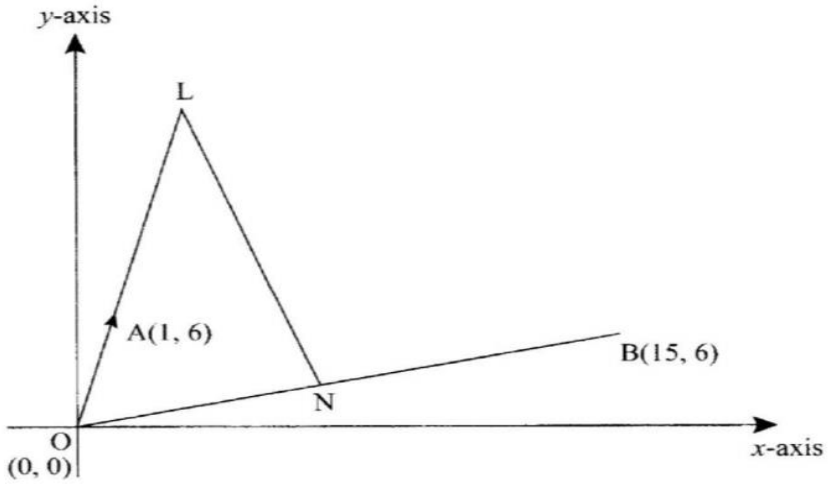
(b) Two institutes regions and Alphax purchased beans at sh.B per bag and maize at sh.M per bags. Regions purchased 8 bags of beans and 14 bags of maize for sh. 47,600. Alphax purchased 10 bags of beans and 16 bags of maize for sh. 57,400.

(i) Form a matrix equation to represent the information above **(2mks)**

(ii) Use the matrix p-1 to find the prices of one bag of each item **(3mks)**

(c) The price of bean later went up by 5% and that of maize remain constant. Regions bought the same quality of beans but spent the same total amount of money as before on the two items. State the new ratio of beans and maize. **(2mks)**

22. In the diagram below, the coordinates of points A and B are (1, 6) and (15, 6) respectively. Point N is on OB and that 3 ON = 2 OB.ne OA is produced to L such that OL = 3 OA



(a) Vector LN. **(3 marks)**

(b) Given that a point M is on LN such that LM:MN = 3:4, find the coordinate of M**. (2 marks)**

(c) If line OM is produced to T such that OM:MT = 6:1

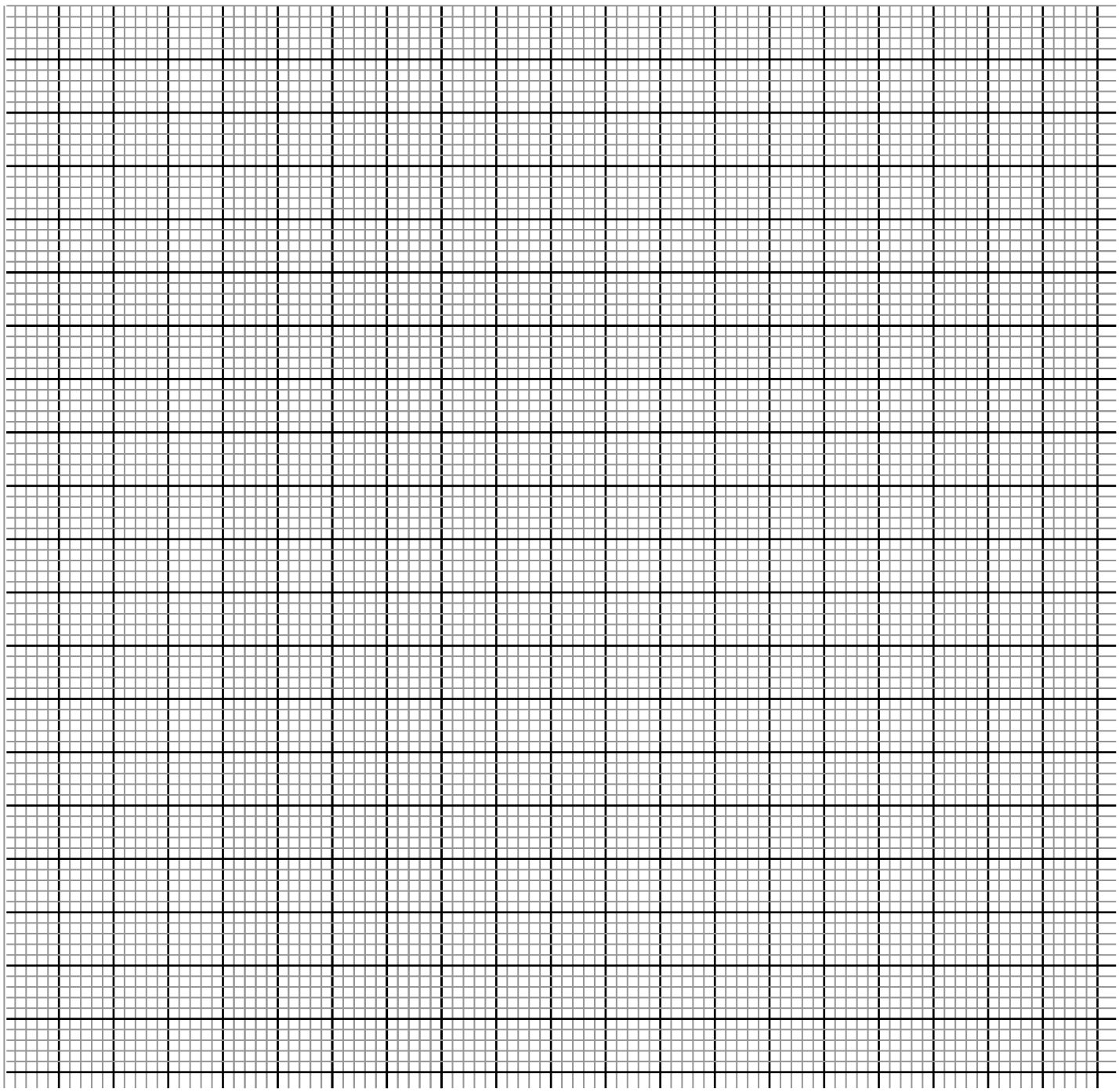
(i) Find the position vector of T. **(1 mark)**

(ii) Show that points L, T and B are collinear. **(4 marks)**

23. Complete the table below for the functions $y = 2x^2 - 3x - 5$ *for* $-2 \leq x \leq 3$ **(2 mks**

x	-2	-1	0	1	2	3
y						

(b) Draw the graph of $y = 2x^2 - 3x - 5$ from the table above. **(2 mks)**



(c) Use your graph to solve the equation $y = 2x^2 - 3x - 5 = 0$ **(1 mk)**

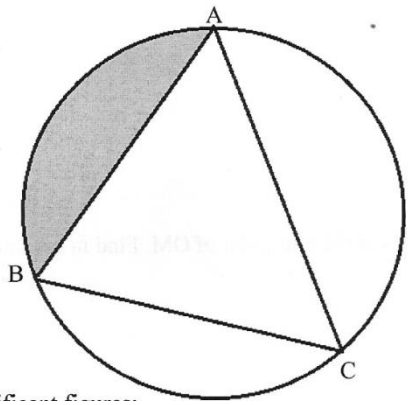
(e) From your graph, find the value of X which satisfy the simultaneous equations. **(1 mk)**

$y = 2x^2 - 3x - 5$

$y = 2x - 2$

(d) Write down the equation which is satisfied by the values of x in (e) above in the form $ax^2 + bx + c = 0$ **(2 mks)**

24. The diagram below shows a circle ABC with AB=12cm, BC=15cm, and AC=14cm



Calculate to 4 significance figures:

(a) The angle ACB **(3mks)**

(b) The radius of the circle. **(3mks)**

(c) The area of the shaded region **(4mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

MATHEMATICS

121/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

a) Write your name, index number and date in the spaces provided at the top of this page.

b) Write name, admission number and class in the spaces provided above.

*c) This paper contains **TWO** sections: **section I** and **section II***

d)** Answer **ALL** the questions in **Section I** and only **five** questions from **section II.

e) Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.

f) Marks may be given for correct working even if the answer is wrong.

*g) **Non-programmable** silent electronic calculators and KNEC mathematical tables may be used except where stated otherwise.*

FOR EXAMINER'S USE ONLY:

Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	**TOTAL**

Section II

17	18	19	20	21	22	23	24	**TOTAL**

GRAND TOTAL

SECTION 1 (50 MARKS)

Answer all questions in this section in the spaces provided.

1. A positive two digit number is such that the product of the digits is 24. When the digits are reversed, the number formed is **greater** than the original number by 18. Find the number. **(3mks)**

2. Use tables of squares, square roots and reciprocals to evaluate **(4mks)**

$$\frac{234}{\sqrt{0.02698}} + \frac{16}{(0.18149)^2}$$

3. The height and radius of a cone are measured as 21 cm and 14.0 cm respectively. Taking π= 3.142, find the **percentage error** in the volume of the cone**.** **(3mks)**

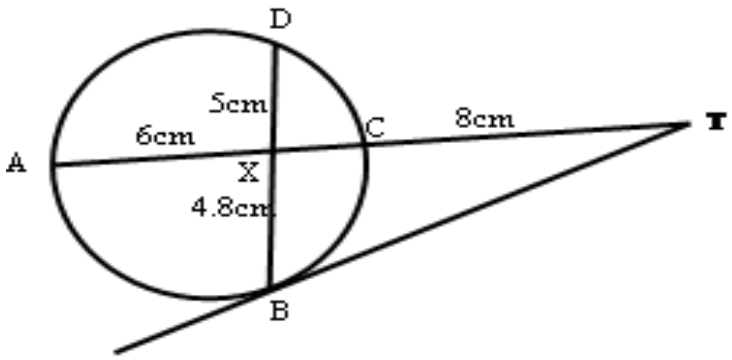
4. Express the following in **surd form** and simplify by rationalizing the denominator without using a calculator and leave your answer in the form $a + b\sqrt{c}$ **(3mks)**

$$\frac{1 + Cos\ 30^0}{1 - Sin\ 60^0}$$

5. Solve for **x** in: $Log_2(x + 7) - Log_2(x - 7) = \mathbf{3}$ **(3mks)**

6. A businessman obtained a loan of Ksh 450,000 from a bank to buy a Matatu that was valued at the same amount. The bank charges interest at 24% per annum compounded quarterly per year. Calculate the **total amount** of money the businessman paid to clear the loan in $4\frac{1}{2}$ years to the nearest shilling. **(3mks)**

7. In the diagram below, BT is a tangent to the circle at B. AXCT and BXD are straight lines. AX = 6cm, CT = 8cm, BX = 4.8cm and XD = 5cm.



Find the length of **BT**. **(3Marks)**

8. Find the possible values of x given that $x\begin{pmatrix} +8 & 8 \\ 6 & x \end{pmatrix}$ is a **singular** matrix. **(3mks)**

9. The cost C of operating an electronic business is partly constant and partly varies as the square of labour input L. If **C=25,000** when **L=20** and **C=45,000** when **L=30**. Find **C** when **L=8. (3Mks)**

10. The **2nd, 4th** and **7th** terms of an A.P. are the first 3 consecutive terms of a G.P. Find the **common ratio** of the G.P if the common difference of the A.P. is 2. **(3mks)**

11. P and Q are two points such that OP=i + 2j + 3k and OQ = 4i + 5j – 3k. M is a point that divides PQ externally in the ratio 3:2. Find the co-ordinates of M, given that O is the origin. **(3mks)**

12. A circle Centre C (5, 5) passes through points A (1, 3) and B (a, 9). Find the equation of the circle and hence the possible values of a. **(4mks)**

13. Tap A can fill an empty tank in 3 hours, while tap B can fill the same tank in 2 hours. When the tank is full, tap C can empty the tank in 5 hours. Tap A and C are opened for 4 hours and then closed.

a) Determine the fraction of the tank that is still empty. **(1mks)**

b) Find how long it would take to fill the remaining fraction of the tank if all the three taps are opened. **(2mks)**

14. Determine the interquartile range for the following set of numbers. **(2mks)**
4, 9, 5, 4, 7, 6, 2, 1, 6, 7, 8.

15. Solve the equation $\text{Sin}(3x - 10)^0 = 0.4337$ for $0^0 \leq \Theta \leq \mathbf{180^0}$ **(3mks)**

16. (a) Expand and simplify $(3x - y)^4$ **(2mks)**

(b) Use the first three term of the expansion to approximate the value of $(6 - 0.2)^4$ **(2mks)**

SECTION II (50MARKS) ANSWER ANY 5 QUESTIIONS ONLY

17. Mrs. Mutua earns a basic salary of K£ 12,000 p.a. and is housed by the employer at a nominal rent of Shs 1,200 per month. She is entitled to a personal relief of K£ 1,320 p.a. and a premium relief of 10% on her insurance premium of K£ 800 p.a. The table of tax rate is as below.

Taxable income (K£ p.a.)	Rate (%)
1 – 2100	10
2101 – 4200	15
4201 – 6300	20
6301 – 8400	25
Over 8400	30

Calculate;

a) Calculate the net tax per annum. **(7mks)**

b) Other deductions includes W.C.P.S Shs 600 per month, NHIF Shs. 500 per month. Calculate her net pay per month. **(3mks)**

18. The Line AB = 5cm is a side of a triangle ABC in which angle ABC = 90º and angle BAC = 60º.

a) Construct triangle ABC **(2mks)**

b) Construct the Locus P such that angle APB = angle ACB **(2mks)**

c) Locate by construction points Q1 and Q2 which satisfy the conditions below:

(i) Q1 and Q2 lie on the same side of line AB and C **(3mks)**

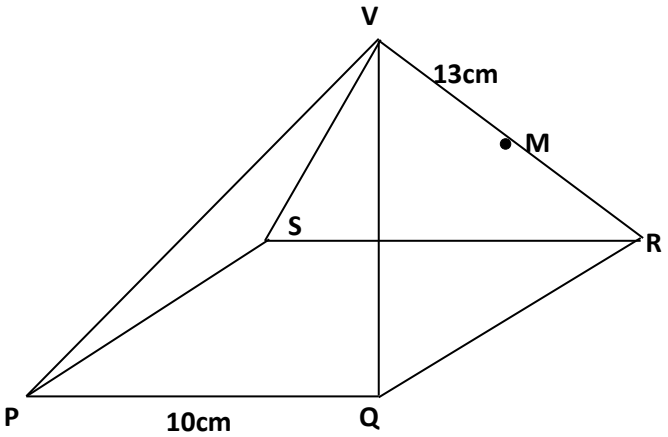
(ii) Area of triangle AQ1B=Area of triangle AQ2B= 3/4 Area of triangle ABC

(iii)Angle AQ1B=Angle AQ2B =30º

Measure the length of the line **Q1Q2 (3mks)**

d) Calculate the area above the line Q1Q2 bounded by the locus of point **P** **(3mks)**

19. The diagram below shows a square based pyramid **V** vertically above the middle of the base. **PQ** = 10cm and **VR** = 13cm. **M** is the midpoint of **VR**.



Find to 2 decimal places

(a) (i) the length **PR**. **(2mks)**

(ii) The height of the pyramid. **(2mks)**

(b) (i) the angle between **VR** and the base **PQRS**. **(2mks)**

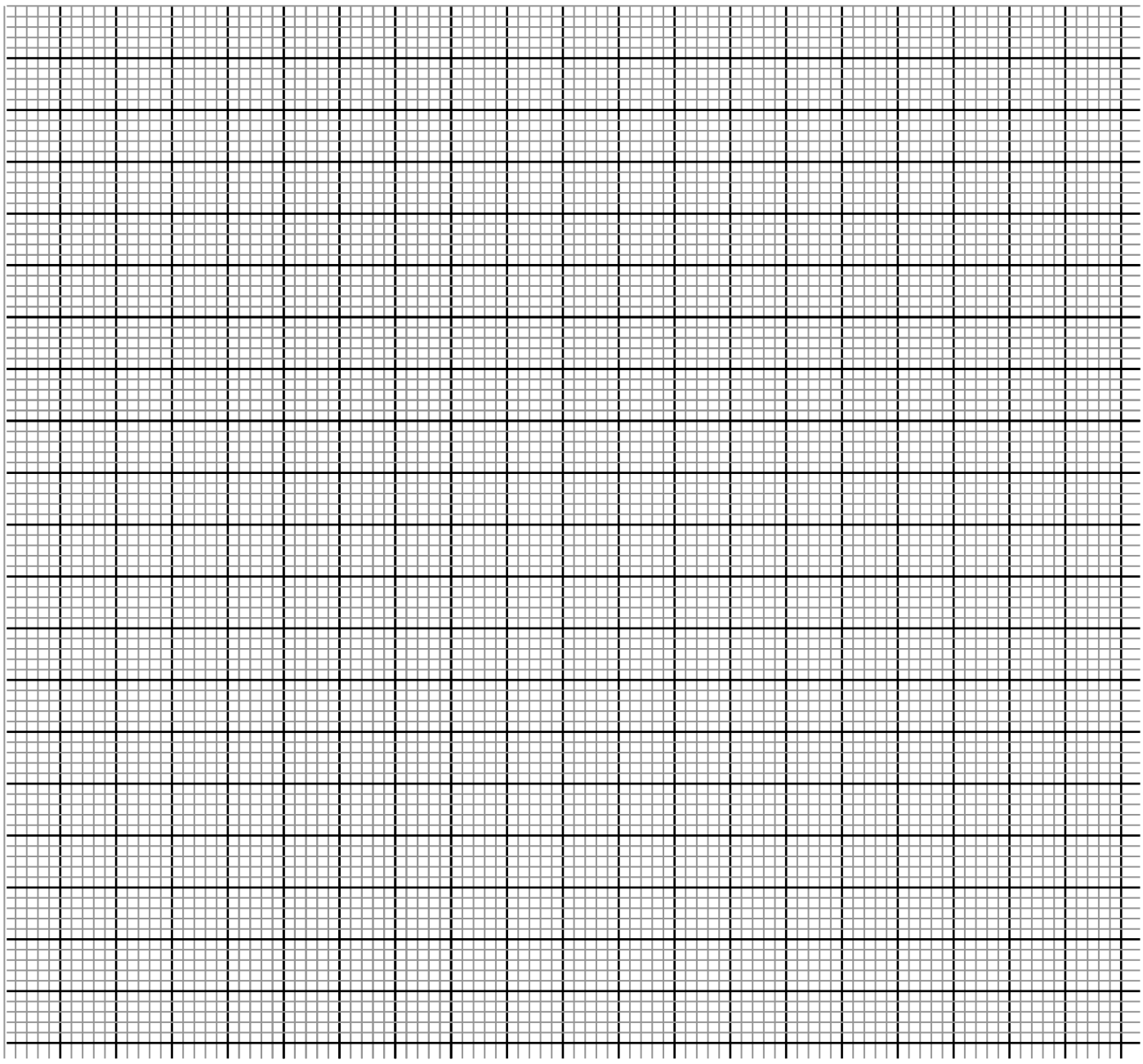
(ii) The angle between **MR** and the base **PQRS**. **(2mks)**

(iii) The angle between the planes **QVR** and **PQRS.** **(2mks)**

20. a) Complete the table below for y=sin 2x and y=sin (2x + 30) giving values to 2d.p(2mks)

X	0	15	30	45	60	75	90	105	120	135	150	165	180
Sin 2x	0				0.87				-0.87				0
Sin (2x +30)	0.5				0.5				-1				0.5

b) Draw the graphs of y=sin 2x and y = sin (2x + 30) on the axis. **(4mks)**

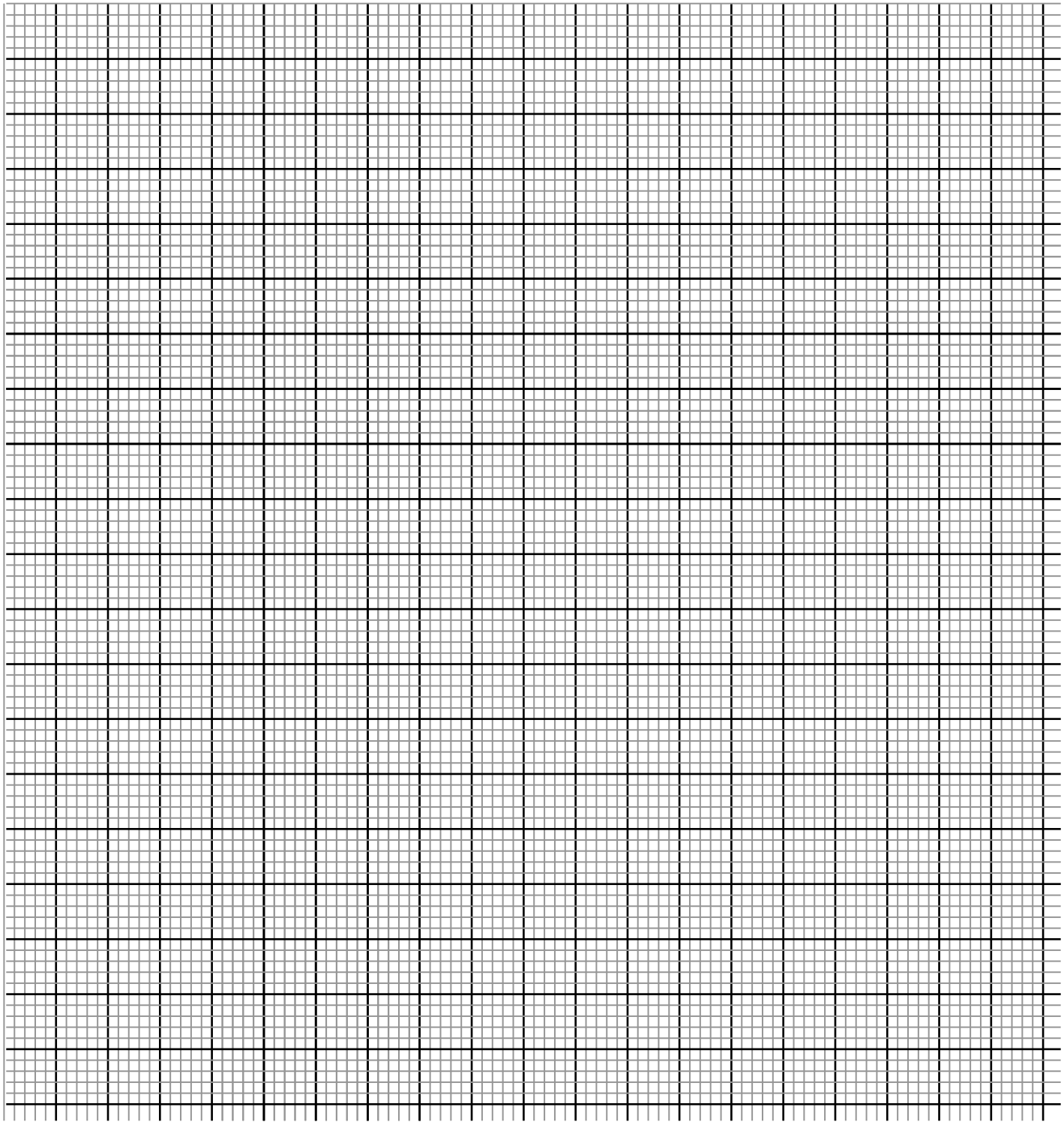


c) Use the graph to solve $sin\ (\ 2x\ +\ 30) - sin\ 2x\ =\ 0$ **(1mk)**

d) Determine the transformation which maps $sin\ 2x\ onto\ sin\ (2x\ +\ 30)$ **(1mk)**

e) State the period and amplitude of $y\ =\ sin\ (\ 2x\ +\ 30)$ **(2mks)**

21. OABC is a parallelogram with verities 0(0,0), A(2,0) B(3,2) and C(1,2). O,A,B,C is the image of OABC under transformation matrix. $\begin{pmatrix} -2 & 0 \\ 0 & -2 \end{pmatrix}$



a) Find the coordinates of $O^1A^1B^1C^1$ **(2mks)**

ii) On the grid provided, draw OABC and $O^1A^1B^1C^1$ **(2mks)**

b) Find $O^{11}A^{11}B^{11}C^{11}$, the image of $O^1A^1B^1C^1$ under transformation matrix $\begin{pmatrix} 1 & 0 \\ 0 & -2 \end{pmatrix}$ **(2mks)**

ii) On the same grid draw $O^{11}A^{11}B^{11}C^{11}$ **(1mk)**

c) Find a single matrix that maps $O^{11}A^{11}B^{11}C^{11}$ onto OABC **(3mks)**

22. The following table shows the distribution of marks obtained by 50 students in a test.

Marks	45-49	50-54	55-59	60-64	65-69	70-74	75-79
No. of Students	3	9	13	15	5	4	1

By using an assumed mean of 62, calculate

a) The mean (**5mks)**

b) The variance **(3mks)**

c) The standard deviation (**2mks)**

23. A box contains 3 brown, 9 pink and 15 white cloth pegs. The pegs are identical except for the colour.

(a) Find the probability of picking.

(i) A brown peg. **(1mark)**

(ii) A pink or a white peg. **(2 marks)**

(b) Two pegs are picked at random, one at a time without replacement. Find the probability that:

(i) Atleast one brown peg is picked **(4marks)**

(ii) both pegs are of the same colour. **(3marks)**

24. A wholesaler stocks two types of rice: Refu and Tamu. The wholesale prices of 1 kg of Refu and 1 kg of Tamu are Ksh 80 and Ksh 140 respectively. The wholesaler also stocks blend A rice which is a mixture of Refu and Tamu rice mixed in the ratio 3 : 2.

a. (i)A retailer bought 10 kg of blend A rice. To this blend, the retailer added some Tamu rice to prepare a new mixture blend X. The .ratio of Refu rice to Tamu rice in blend X was **1:2.**

Determine the amount of Tamu rice that was added. **(3marks)**

(ii) The retailer sold blend X rice making a profit of 20%. Determine the selling price of 1 kg of blend **X. (3 marks)**

b. The wholesaler prepared another mixture, blend B, by mixing *x* kg of blend A rice with *y* kg of Tamu rice. Blend B has a wholesale price of Ksh130 per kg.

Determine the ratio *x* : *y***.** **(4mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

COMPUTER STUDIES

451/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *This paper consists of **TWO** Sections **A** and **B***
- *Answer all questions in Section **A***
- *Answer question **16 (compulsory)** and any other **THREE** question in section **B***
- *All answers should be written in the space provided in the question paper*

FOR OFFICIAL USE ONLY:

Section	Question	Candidates Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

SECTION A:ANSWER ALL QUESTIONS

1. Define the following terms **(2mks)**

a) Multiplexing

……

……

b) Baseband signal

……

……

2. a. Give two reasons why two's complement is preferred to one's complement in computing. **(2mks)**

……

……

……

b. Write these abbreviations in full: **(2mks)**

FOTRAN……

BCD…….

ASCII…….....

EBCDIC…….

3. Computers have evolved through a number of generations. List any three characteristics of the first generation of computers. **(3mks)**

……

……

……

4. a) Define an electronicspreadsheet and give two examples of the software. **(2mks)**

……

……

……

b) Differentiate between formula and function as used with spreadsheets. **(2mks)**

……

……

……

5. Explain the difference between digital signal and analog signal in data communication.
(2mks)

……

……

……

6. List down two types of computer viruses **(2mks)**

……

……

7. Explain graphic based DTP software. **(1mk)**

……

……

8. Give two possible ways of fitting a document in one page. **(2mks)**

……

……

9. a) Draw a well labelled diagram of the data processing cycle. **(3mks)**

b) Give two disadvantages of electronicdata processingmethod. **(2mks)**

……

……

……

10. Why must food and beverages be kept out of the computer lab? **(2mks)**

……

……

……

11. a) What are toggle keys in relation to keyboards? **(1mk)**

……

……

b) What type of keyboard would you prefer for the following and why? **(4mks)**

i) Visually impaired users

……

……

ii) Busy restaurant

……

……

12. Why are repeaters necessary when setting up a large network? **1mk)**

……

……

13. During class discussion, a Form One student was asked to present his findings on what Operating Systems perform in a computer. Explain two key points he will address. **(2mks)**

……

……

……

14. As a computer expert, you were approached by certain organization to help them secure some computers they require. You were keen at certain considerations based on the knowledge you have in computing. What would the following considerations imply? **(3mks)**

i) Software Authenticity

……

……

ii) Multi-media capability

……

……

iii) Software portability

……

……

15. Outline four benefits of using word processors over manual typewriters. **(2mks)**

……

……

……

……

SECTION B: ANSWER Q 16 AND ANY OTHER THREE QUESTIONS

16. a State **two** distinct differences between compilers and interpreters. **(2mks)**

……

……

……

b i) Outline three demerits of using low level programming languages. **(3mks)**

……

……

……

(ii) Differentiate between monolithic and modular programs. **(1mk)**

……

……

……

c Study the following statements and answer the questions that follow.

Start

Initialize x to 3 and y to 4

Count = 1

While Count <=10

Increment x by 1

Update y by multiplying y by 2 and subtracting ½

Add x to y to attain z

Increase the value of Count by 2

Endwhile

Print the values for x, y and z

Stop

i) What does the above statements represents? **(1mk)**

……

……

ii) What is the value for y and z? **(2mks)**

……

……

……

ii) Implement the above statements using a program flowchart. **(6mks)**

17. Otieno was tasked with entering marks for a certain exam that was done by an entire class.

a) State two types of errors he is likely to encounter during this exercise. **(2mks)**

b) How can the above identified errors be avoided? **(1mk)**

c) Other than the errors identified above, list two other errors that can be encountered during data processing. **(1mk)**

d) A certain research institution had his staff collect data from the field. The collected data are then surrendered to the central location where they are processed as a unit over a period of term. What processing mode is being used? **(1mk)**

State one merit of this mode. **(1mk)**

e) Describe data integrity. **(1mk)**

f) There are so many ways that can be used to reduce threats to data integrity. Mention any two. **(2mks)**

g) Give the best file organization employed by Magnetic tapes and SD Cards. **(1mk)**

h) i) The school's LAN is done using UTP cable. List **two** advantages of using this type of cable. **(2mks)**

ii) List **two** advantages of using fibre optic cable in networking. **(2mks)**

iii) Data flows in the school's LAN in a duplex manner. List **two** other modes of data transmission in a network. **(1mk)**

18. a. Outline three ways - 4 can be represented in a computer. **(3mks)**

b. Use one's compliment to represent -6_{10} in 8-bits formation. **(2mks)**

c. Differentiate between wavelength and frequency of a signal. **(2mks)**

d. Describe each of the following computer terminologies as used in data representation. **(4mks)**

i. Word

ii. Bit

iii. Byte

iv. Nibble

e. Convert 9.625_{10} to binary. **(2mks)**

f. Study the passage below:

Raila Amolo Odinga (born 7 January 1945) is a Kenyan politician who served as the Prime Minister of Kenya from 2008 to 2013.He is assumed as the Leader of Opposition in Kenya since 2013 as the New Constitution of Kenya does not prescribe for such a position. He was the Member of Parliament (MP) for Langata from 1992 to 2007. Raila Odinga served in the Cabinet of Kenya as Minister for Energy from 2001 to 2002, and as the Minister for Roads, ~~Public Works and Housing~~ from 2003 to 2005. Odinga was appointed High Representative for Infrastructure Development at the African Union Commission in 2018.

Outline four formatting styles that have been applied to the passage. **(2mks)**

19. a) State one function of each of these objects in a database. **(4mks)**

i) Table……

ii) Query……

iii) Forms……

iv) Reports……

b) State two features of a primary key field. **(2mks)**

c) Briefly describe the following field properties **(3mks)**

i) Format……

ii) Input mask

iii) Required……

d) List any two sources of graphics in a word processor **(2mks)**

e) List two health problems associated with improper sitting posture while using a computer. **(2mks)**

f) State two ways of mitigating intellectual property theft (piracy) **(2mks)**

20. a) Human activity systems are said to be soft systems. Give threereasons why they are said to be so. **(3mks)**

b) What are hard information systems? **(2mks)**

c) Discuss any five characteristics of a system. **(10mks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

COMPUTER STUDIES

451/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

TIME: 2 ½ HRS

INSTRUCTIONS TO CANDIDATES

1. *Type your name and index number at the top right hand corner of each printout.*

2. *Sign and write the date of the examination below the name and index number on each printout.*

3. *Write your name and index number on the compact disks.*

4. *Write the name and version of the software used for each question attempted in the answer sheet.*

5. *Passwords* ***should not be used*** *while saving in the compact disks.*

6. *Answer all the questions.*

7. *All questions carry equal marks.*

8. *All answers must be saved in your compact disks.*

9. *Make a printout of the answers on the answer sheets provided.*

10. *Hand in all the printouts and the compact disks.*

QUESTIONS

1. The following data was extracted from Applicants' file for Momaliche high school comp/Maths teacher recruitment

(a) (i) Enter the data as it appears in a spreadsheet. And save it as **INTERVIEW** (13mks)

	A	B	C	D	E	F	G	H	I
1	NAME	ADDRESS	TOWN	comp	Math	Eng	MEAN	APPLICANT'S POSITION	REMARK
2	Willington	400	Nairobi	40	60	60			
3	Benjamin	3201	Kisumu	55	50	40			
4	Nyambane T.	5600	Kisii	70	60	50			
5	Grace	1236	Bungoma	30	80	70			
6	Rebbeca	48	Eldoret	75	70	80			
7	Fatuma A	6032	Mombasa	40	30	50			
8	Kamau J.	8021	Nyeri	50	40	55			
9	Achieng .	209	Siaya	80	50	70			

(ii) Insert two blank rows at the top of the worksheet. **(1 mark)**

(iii) Enter the following title and subtitle in the blank rows respectively; MOMALICHE HIGH SCHOOL RECUIRTMENT FILE and APPLICANTS DETAILS. **(3marks)**

(iv) Centre the title and subtitle across the columns that contain data. **(2marks)**

(b) Using functions, compute:

(i) The mean for each Applicant and format it to 2 decimal places. **(3marks)**

(ii) The position of each Applicant. **(3marks)**

(i) The highest and lowest score for Benjamin, enter the answers in L3 and M3 respectively **(3marks)**

(c) The school wishes to analyze the applicants' data in order to find those applicants who qualify for recruitment. Successful candidates MUST meet the following minimum requirements;

i. Must have scored a mean of 40 marks and above;

ii. Must have scored 60 marks and above in Computer;

iii. Must have scored 50 marks and above in either Mathematics or English.

Use the above criteria to remark If the applicants qualifies, the function should display 'Successful'. Otherwise it should display 'Unsuccessful'. **(5mark)**

(d) Using a function find the number of applicants who are successful. (**2marks)**

(e) Copy the entire worksheet to sheet 2 and rename it as Successful Applicants. (**2marks)**

(f) Filter the 'Successful Applicants' sheet to display the records of those applicants who are successful. **(2marks)**

(g) In a new worksheet Create a bar chart to compare the performance of mathematics and computer for all applicants **(4marks)**

(i) Insert SUBJECT **PERFORMANCE** as the heading of the chart (**2 mark)**

(ii) Assign the appropriate LEGENDS to the chart **(1 mark)**

(ii) Name the axis appropriately **(2 marks)**

(h) Print: **(2 marks)**

I. **INTERVIEW**;

II. Successful Applicants Sheet;

2. The document below is a brochure of KENYA UNIVERSITY AND COLLEGES CENTRAL PLACEMENT SERVICE (KUCCPS). Use a desktop publishing package to design it exactly the way it appears with the following specifications:

(a) Create a brochure named KUCCPS by creating a new master page with the following page layout.

(i) Paper size A4

(ii) Orientation: Landscape.

(iii) Margins guides 0.5inch or 1.3cm on top and bottom, 0.5 inch or 1.3cm inside and outside.

(iv) Put 30% tint accent 3 **background** **(7 marks)**

(b) Enter the text and objects and format them as they appear. Use Font size 12 for the text and font size 14 for the titles**.** **(40 marks)**

(c) Save the publication as KUCCPS **(1 mark)**

(d) Print the publication **(2 marks)**

KENYA UNIVERSITIES AND COLLEGES CENTRAL PLACEMENT SERVICE

FUNCTIONS

1. Coordinate the placement of government sponsored students to universities and colleges.
2. Disseminate information on available programmes, their costs and the areas of study prioritised by the government.
3. Collect and retain data relating to university and college placement.
4. Advise government on matters relating to university and college student placement.
5. Develop career guidance programmes for the benefit of students.
6. Perform any other function as assigned by the universities Act of 2012.

PLACEMENT

- All universities that offer bachelor's degree programmes and are duly registered by the commission for University Education (CUE) or one of its predecessors are eligible.
- Colleges are eligible if they offer diploma programmes approved by the Technical and Vocational Education and Training Authority (TVETA) or its one of its predecessors.

PROGRAMME ELIGIBILITY

- For a specific programme to be eligible for government sponsorship, it must:
- Be approved by the respective regulating agency.
- Be offered exclusively by the eligible university or college.
- Lead to the award of a Bachelor's degree offered by an eligible
- institution
- Lead to the award of a diploma offered by an eligible institution.
- Obtain, in advance, accredation by the relevant professional/regulating bodies where applicable.
- Be identified as priority area of training by the government.
- Attract applications from eligible applicants.

APPLICANTS ELIGIBILITY

An applicant is eligible if he/she is:

- A Kenyan citizen
- A KCSE candidate who has never before benefited from government Sponsorship; however, candidates of the year preceding the selection are given priority.

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

HOME-SCIENCE

441/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education (K.C.S.E.)

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided.*
- *This paper consists of three section **A,B** and **C***
- *Answer **all** the questions in section **A** and **B***
- *Answer only **two** questions in section **C.***
- *Answers should be written in proper English and in the spaces provided in this booklet.*

FOR EXAMINER'S USE ONLY:

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1-20	40	
21	20	
22	20	
23	20	
24	20	
Total	**100**	

SECTION A (COMPULSORY) 40 MARKS

Answer all the questions in this section in the spaces provided.

1. State **two** methods of cooking using dry heat. **(2 marks)**

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2. Name **two** types of tacking stitches. **(2 marks)**

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3. List **two** types of hand sewing needles**.** **(2 marks)**

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4. Highlight **two** ways of enhancing personal health**.** **(2 marks)**

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5. Give **two** advantages of baking as a cooking method**.** **(2 marks)**

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6. Give **two** methods of ventilation**.** **(2 marks)**

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7. Mention **two** ways of reducing a bulk in a seam. **(2 marks)**

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8. List **four** items in the house that can be **recycled** **(2 marks)**

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9. Mention **two** general functions of minerals in the body**.** **(2 marks)**

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10. Give the meaning of Kitchen hygiene**.** **(2 marks)**

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11. Mention the **two** colour schemes that are used for interior decoration**.** **(2 marks)**

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12. State **two** functions of sebaceous glands in the skin. **(2 marks)**

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13. Give **two** uses of a seam ripper. **(2 marks)**

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14. Give **two** agents used in coating food during deep frying. **(2 marks)**

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15. Give **two** factors that determine size of a patch pocket. **(2 marks)**

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16. State **two** points to be observed when washing articles with non-fast colour**.** **(2 marks)**

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17. Mention **two** ways to identifying silk using burning test. **(2 marks**

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18. Mention **two** ways of enriching leftover foods**.** **(2 marks)**

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19. Give **two** disadvantages of using candles for lighting. **(2 marks)**

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20. Mention **two** uses charcoal as fuel**.** **(2 marks)**

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SECTION B (COMPULSORY) 20 MARKS

Give your answers in the space provided after the question

21.) You have been left alone at home and you have decided to do some cleaning,

a) Describe how you would wash a neglected aluminum pan **(4marks)**

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b) Explain how to thorough clean an enamel plate. **(7 marks)**

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c) Give the procedure of cleaning a hurricane lamp (omitting the glass) **(9 marks)**

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SECTION C (40 MARKS)

Answer only two questions from this section and use the spaces provided below. Each question carries equal marks

22 a) Give **five** points on conservation of energy in lighting. **(5 marks)**

b) Explain **three** suitable conditions for the growth of yeast. **(6 marks).**

c) Describe how to prepare and attach a shaped round patch pocket . **(9 marks)**

23 a) Explain **four** advantages of stewing as a method of cooking. **(8 marks)**

b) Draw and name three different symbols likely to be found on care label of a woolen garment. **(6 marks)**

c) Describe how to prepare a front and back facing using one well labeled diagram. **(6 marks)**

24 a) Explain **four** reasons why hospitals would not use silk fabric for their bed sheets. **(8 marks)**

b) Give **four** precautions to observe when using a micro – wave oven. **(6 marks)**

c) Explain **three** good qualities of a kitchen plan. **(6 marks)**

KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

HOME-SCIENCE

441/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

441/2

(CLOTHING CONSTRUCTION)

PAPER 2

(PRACTICAL)

TIME: 2½ HOURS

Kenya Certificate of Secondary Education (K.C.S.E.)

Instructions

A pattern of a pair of shorts is provided.

You are advised to study the sketches, instructions, and the layout carefully before you begin the test

MATERIALS PROVIDED

1. Pattern pieces
    a. Short front
    b. Short back
    c. Motif
    d. Waist band
2. Plain light weight cotton fabric 50cm long by 90cm wide.
3. Cotton sewing thread to match the fabric.
4. Embroidery thread 125 cm long.
5. One button 1.3 cm with two holes.
6. One large envelope.

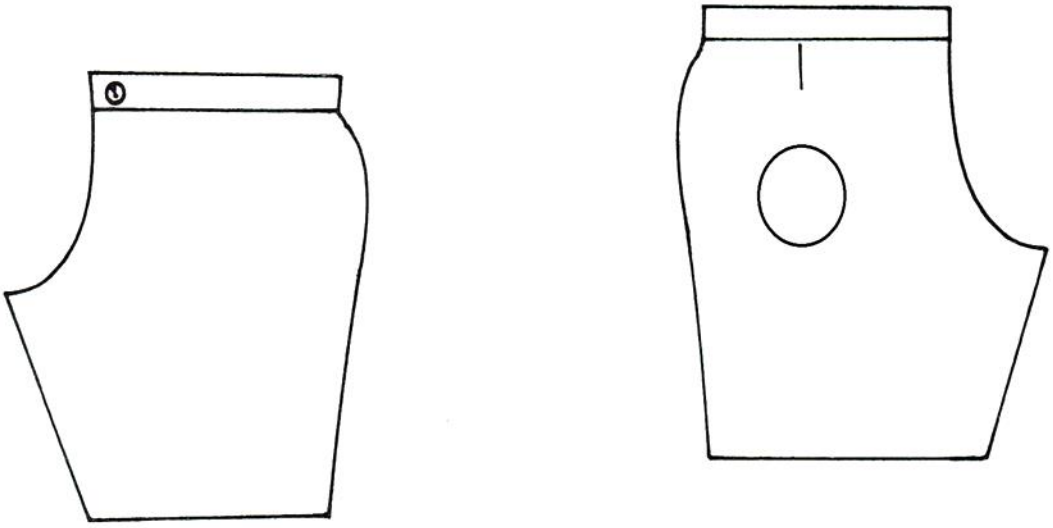
THE TEST

Using the materials provided, cut out and make the LEFT LEG of the shorts to show the following processes:

a. Cutting of the pattern pieces. **(13 ½marks)**
b. Making of the back dart**.** **(7 ½ marks)**
c. Placement of the motif using satin stitches. **(14 marks)**
d. Working on the side seam using an open seam**.** **(12 marks)**
e. Working of the inner leg seam using a French seam. **(10 ½ marks)**
f. Preparing and attaching the waistband. **(14 marks)**
g. Fixing the button. (5 ½ marks)
h. Managing half of the slip hemming stitches (include both seams). **(6 marks)**
i. Presentation of the work**.** **(7 marks)**

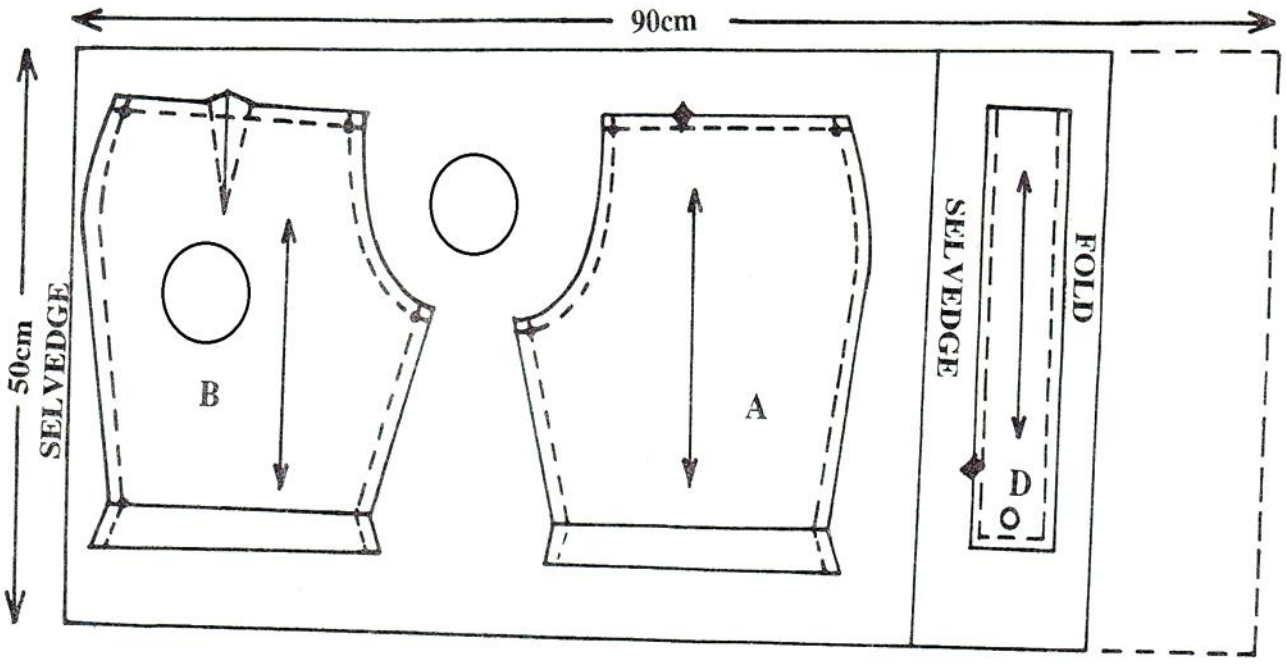
At the end of the examination, firmly sew on your work, on a single fabric, a label bearing your name and index number. Remove the needle and pins from your work, then fold your work neatly and place it in the envelope provided. Do not put scraps of fabric in the envelope.

SHORT VIEW



FRONT **BACK**

LAYOUT (Not Drawn to scale)



KCSE SMART-GRADE PREMOCK

SERIES 1 TEST - 2023

HOME-SCIENCE

441/3

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

441/3

HOMESCIENCE

(FOOD AND NUTRITION PRACTICAL)

PAPER 3

TIME: 1 ¼ HOURS

Kenya Certificate of Secondary Education (K.C.S.E.)

INSTRUCTIONS TO CANDIDATES

- *Read the test carefully*
- *Write your name and index number on every sheet of paper.*
- *Textbooks and recipes books may be used during planning session as reference materials.*
- *You will be expected to keep to your order of work during the practical session*
- *You are only allowed t o take away your reference materials at the end of the planning*
- *You are not allowed to bring additional notes to the practical session.*

THE TEST

You are expecting your former school mate at around 4 o'clock. Using the ingredients listed below prepare, cook and serve two items and a beverage for the two of you.

Ingredients.

- Wheat flour.
- Bread
- Cooking oil.
- Eggs/sausage
- Sugar
- Beverage
- Milk
- Lettuce/cabbage
- Baking powder
- Essence.

PLANNING SESSION: 30 MINUTES

Use separate sheets of paper for each task listed below and a carbon paper to make duplicate copies.

Then proceed as follows:

1. Identify the dishes and then write down their recipes
2. Write down your order of work.
3. Make a list of the foodstuffs and equipment you will require.

THE END

FOR THE FOLLOWING;

- ✓ ONLINE TUITION
- ✓ REVISION NOTES
- ✓ SCHEMES OF WORK
- ✓ SETBOOKS VIDEOS
- ✓ TERMLY EXAMS
- ✓ QUICK REVISION KITS
- ✓ KCSE TOPICALS
- ✓ KCSE PREMOCKS
- ✓ TOP SCHOOLS PREMOCKS
- ✓ JOINT PREMOCKS
- ✓ KCSE MOCKS
- ✓ TOP SCHOOLS MOCKS
- ✓ JOINT MOCKS
- ✓ KCSE POSTMOCKS
- ✓ TOP SCHOOLS PREDICTIONS
- ✓ KCSE PREDICTIONS
- ✓ KCSE REVEALED SETS

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