KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMS

ALL SUBJECTS

First Set of Inter-Institutional Joint Examinations for the KCSE 2023 Candidates as they prepare for Mock and the Subsequent Post-Mock exams in readiness for final KCSE Examinations in November.

SUBJECTS TESTED;

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

SERIES 1

For Marking Schemes

Mr Isaboke 0746-222-000 / 0742-999-000

MWALIMU CONSULTANCY

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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
1-33	80	

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

1. Below is an image of a biological vector. Use it to answer questions that follow.



(a) Identify the parasite transmitted into human blood by the organism. **(1 mark)**

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(b) Name the blood cells that are destroyed by the parasite in (a) above. **(1 mark)**

……

……

(c) State one biological method used to eradicate the larvae of this organisms. **(1 mark)**

……

2. Give the structural adaptations of the following in an insect pollinated plant.

(a) Pollen grain. **(1 mark)**

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(b) Stigma. **(1 mark)**

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……

3. State the causative agents of the following diseases

(i) Tuberculosis. **(1 mark)**

……

(ii) syphilis **(1 mark)**

……

4. Use the illustration below to answer questions that follow.




(a) Identify the type of pollution that has such an effect. **(1 mark)**

……

(b) State two effects of the type of pollution identified in (a) above to the organism. **(2 marks)**

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5. Identify the following types of responses:

(a) Pollen tube growing towards the ovary **(1 mark)**

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(b) Maggots moving away from light**.** **(1 mark)**

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6. State two activities of the cell that are controlled by the nucleus. **(2 marks)**

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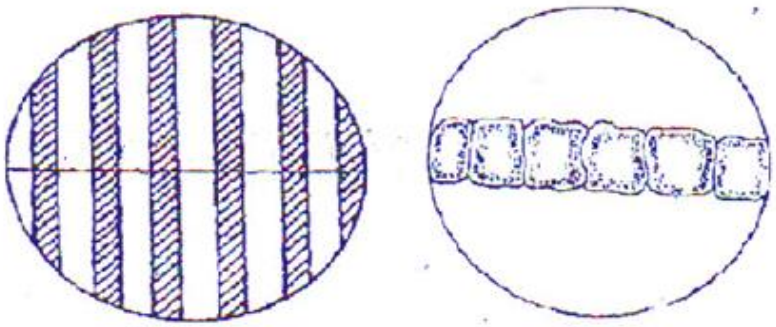
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7. Distinguish between botany and zoology. **(1 mark)**

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……

8. The field of view of a light microscope appeared as shown below in diagram A and the diameter in A was occupied by cells as shown in B.



A B

Calculate the length of one cell. **(2 marks)**

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9. State two importance of water in germination of seeds. **(2 marks)**

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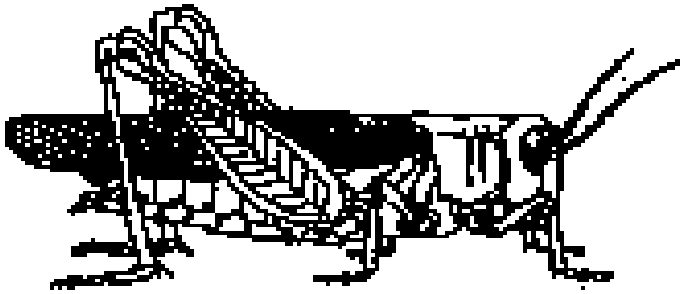
10. Why is sexual reproduction advantageous in flowering in plants? **(2 marks)**

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11. Below is an illustration of an organism captured by students during a practical lesson.



(a) Identify two features that enable the organism to be placed in the phylum Arthropoda. **(2 marks)**

……

……

(b) Explain why the organism will die when Vaseline is applied on its thorax**.** **(1 mark)**

……

……

12. Name two properties of enzyme amylase. **(2 marks)**

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……

13. State the significance of natural selection. **(2 marks)**

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14. Explain why a plant shoot develops lateral branches when its tip is removed. **(2 marks)**

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15. Why is eating a lot of biscuits harmful to the teeth**.** **(2 marks)**

……

……

……

16. The diagram below shows the structure of a neurone.



(a) Identify the neurone and state its function **(2 marks)**

……

……

(b) Name the part of the brain that is involved in learning and memory. **(1 mark)**

……

17. Explain what happens to the structures of the human eye when a student reading a white printed paper on a bright sunny day enters a dark room for examinations**.** **(3 marks)**

……

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……

……

18. Why is it important that the radicle develops first during germination? **(2 marks)**

……

……

19. (a) Explain one event of mitosis that restores the genetic constitution of an organism. **(1 mark)**

……

……

(b) Identify the following types of cell division:

(i) Division of generative nucleus into male nuclei. **(1 mark)**

……

(ii) Division of cells lining the seminiferous tubules. **(1 mark)**

……

20. State two observable characteristics that show discontinuous variations in *Drosophila melanogaster* **(2 marks)**

……

……

21. Explain why athletes breathe quickly and deeply after a 100 meters sprint**.** **(3 marks)**

……

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……

22.(a) State two proteins that determine human blood groups**.** **(1 mark)**

……

……

(b)(i) What is the role of blood capillary? **(1 mark)**

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……

(ii) Explain why blood does not clot in undamaged blood vessels. **(1 mark)**

……

……

23.(a) List one type of chromosomal aberrations. **(1 mark)**

……

(b) State one advantage of polyploidy in modern farming. **(1mark)**

……

……

24. Explain:

(a) Why insulin is not administered orally. **(1 mark)**

……

……

(b) Why stomach wall is lined with mucus **(1 mark)**

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25.(a) What is homeostasis? **(1 mark)**

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(b) State two behavioral mechanisms used by snakes to increase their body temperature. **(2 marks)**

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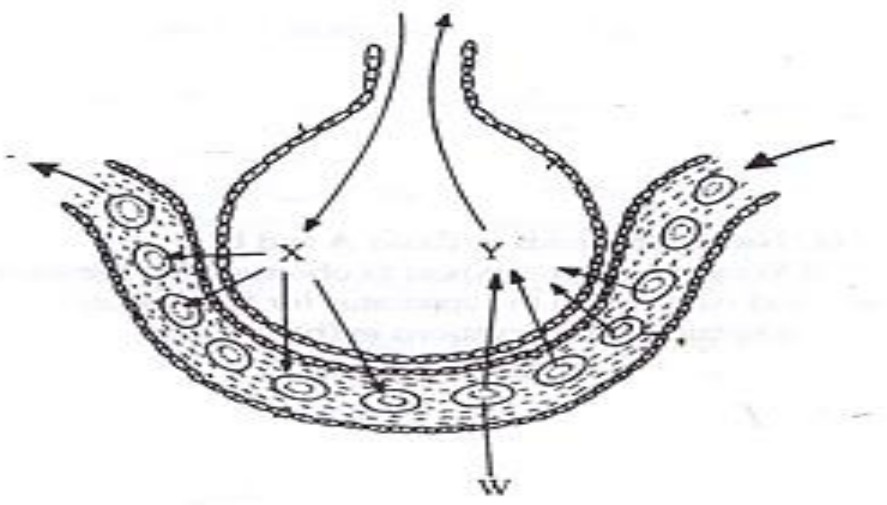
26. Explain why only a small amount of food materials taken up by herbivores is passed on to secondary consumers. **(2 marks)**

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……

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27. Below is a diagram of a respiratory surface. Use it to answer questions that follow.



(a) Name the physiological process involved in the exchange of gases in the structure above**.(1 mark)**

……

(b) Identify the substance in cell labeled w that has high affinity for gas X**.** **(1 mark)**

……

(c) State the advantage of gas Y being transported in cells labeled W **(1 mark)**

……

……

28. (a) Explain why when transplanting a young plant, it is advisable to remove some leaves. **(2 marks)**

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……

……

(b) Give one role of xylem vessels other than **transport** **(1 mark)**

……

……

29. The diagram below shows a specimen that was obtained from a tree



(a) Identify the class the plant from which the specimen was obtained from belongs to. **(1 mark)**

……

(b) Identify two observable characteristics that supports your answer in (a) above**.** **(2 marks)**

……

……

30. State two characteristics of a bony fish which enable it to reduce friction in water. **(2 marks)**

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31. (a) Identify the structural difference between the wing of a bird and the wing of an insect(**1 mrk)**

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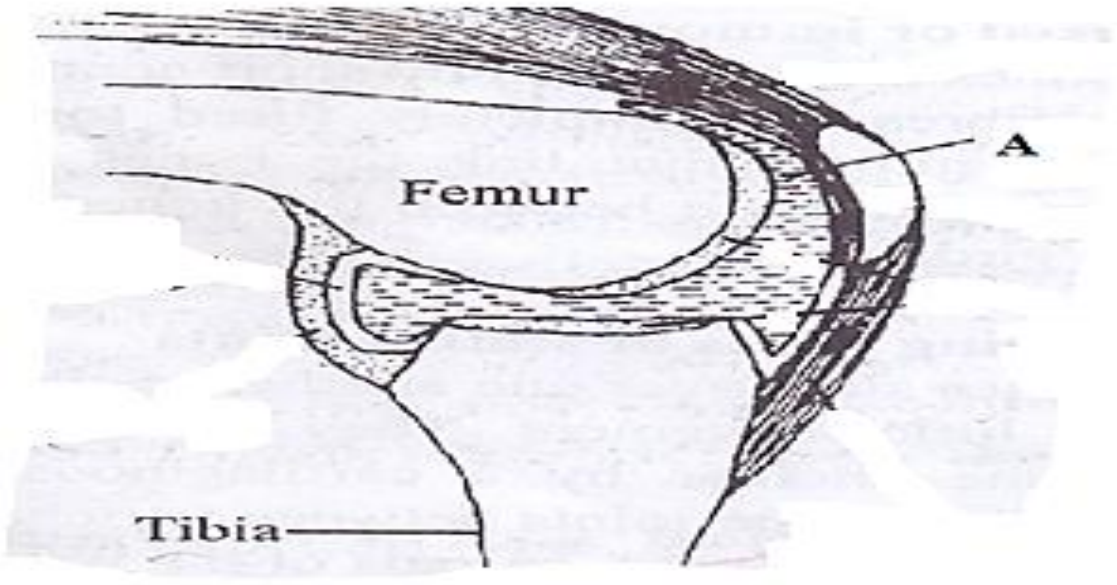
(b) Identify the type of evolution exhibited by the wings of birds and insects and state the name given to such structures. **(2 marks)**

……

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32. Use the illustration below to answer questions that follow



(a) Identify the fluid labeled A and state its function. **(2 marks)**

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……

(b) Name the type of joint shown above. **(1 mark)**

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33. (a) what is the role of a pollen tube. **(1 mark)**

……

……

(b) Identify the role of the following hormones in males:

(i) Follicle stimulating hormone. **(1 mark)**

……

……

(ii) Testosterone. **(1 mark)**

……

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

BIOLOGY

231/2

PAPER 2

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**	

QUESTIONS

1. **Colour blindness** is due to a recessive gene linked to the X chromosome. A man with normal colour vision married a woman with normal colour vision but one of their sons was colour blind.

a) Using letter N to represent the gene for normal colour vision, work out the genotype of the children. **(4mks)**

b) What is the probability of a child born by this couple being a boy and colour blind? **(2mks)**

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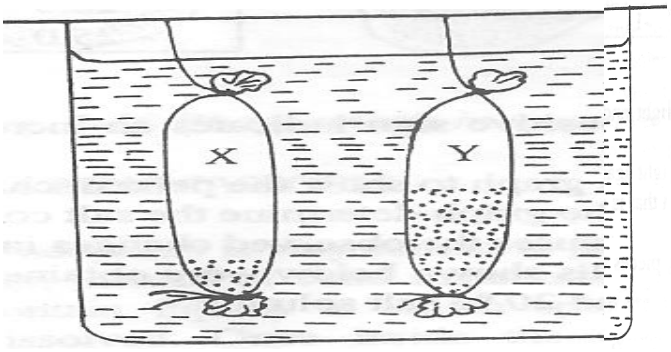
c) Explain why colour blindness is more common in males than females in a population. **(2mks)**

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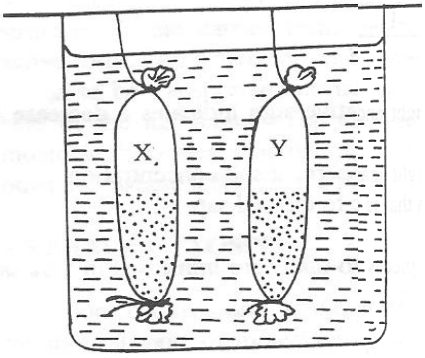
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2. Two visking tubings **X** and **Y** were each half filled with 10ml of sugar solutions of different concentrations. The tubings were then immersed in a beaker containing 15% sugar solution and left for four hours. The results were as shown in the diagrams below.



At the end of experiment



At the beginning of experiment

a) Name the process being investigated in the experiment. **(1mk)**

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b) Compare the nature of the solution in to that in the beaker. **(1mk)**

……

……

c) i) Account for the observation in Y. **(2mks)**

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ii) State and explain the observation that would be made if another visking tubing filled with 30% sugar solution is immersed in the same beaker. **(3mks)**

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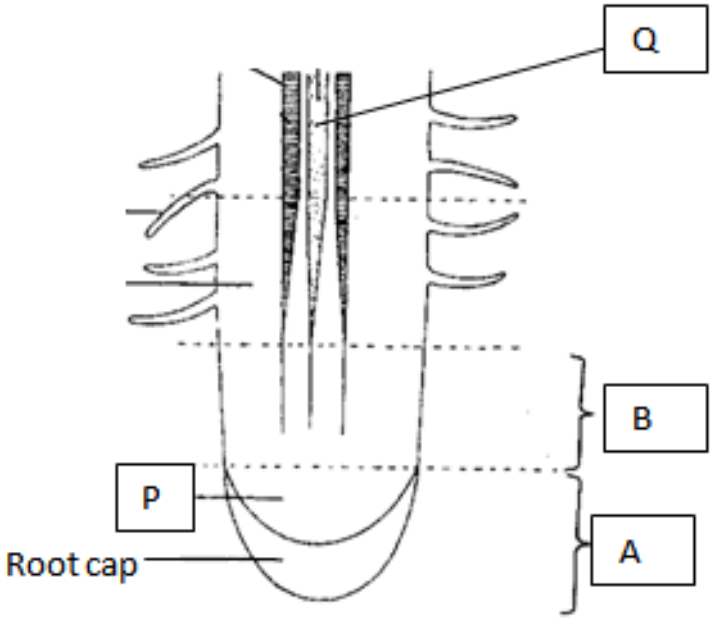
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d) Briefly explain the significance of the physiological process named in (a) above in gaseous exchange in plants. **(1mk)**

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……

3. The diagram below represents a longitudinal section of a root.



a) i) Identify zone A **(1mk)**

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ii) Give two characteristics of cells found in zone A. **(2mks)**

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b) State two ways in which structure Q is adapted to its functions. **(2mks)**

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……

c) Name the hormone produced in high concentrations in the part labelled P. **(1mk)**

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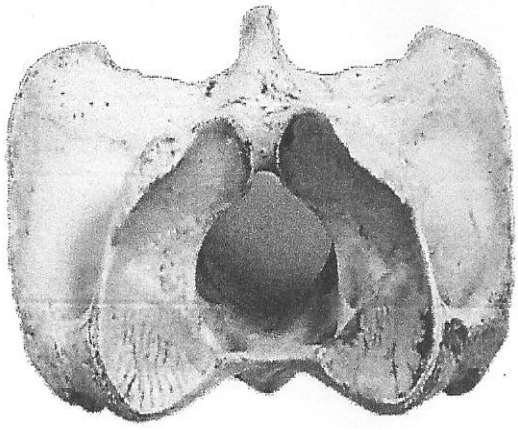
d) Give two roles of the hormone named in 3 © Above in plants. **(2mks)**

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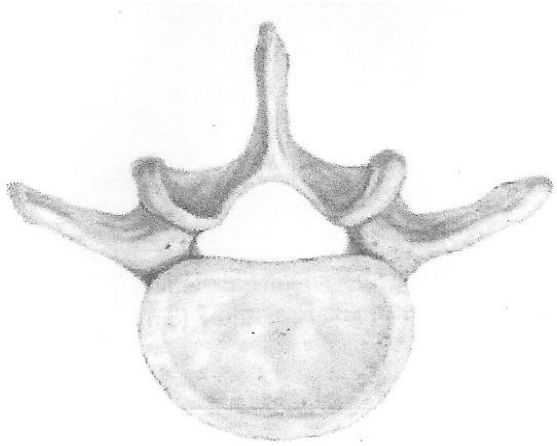
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4. The figures below show two bones that from part of the axial skeleton.



G



H

a) Identify the bones **(2mks)**

G.....

H.....

b) Give two structural adaptations of bone G **(2mks)**

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c) State two observable differences between bones G and H **(2mks)**

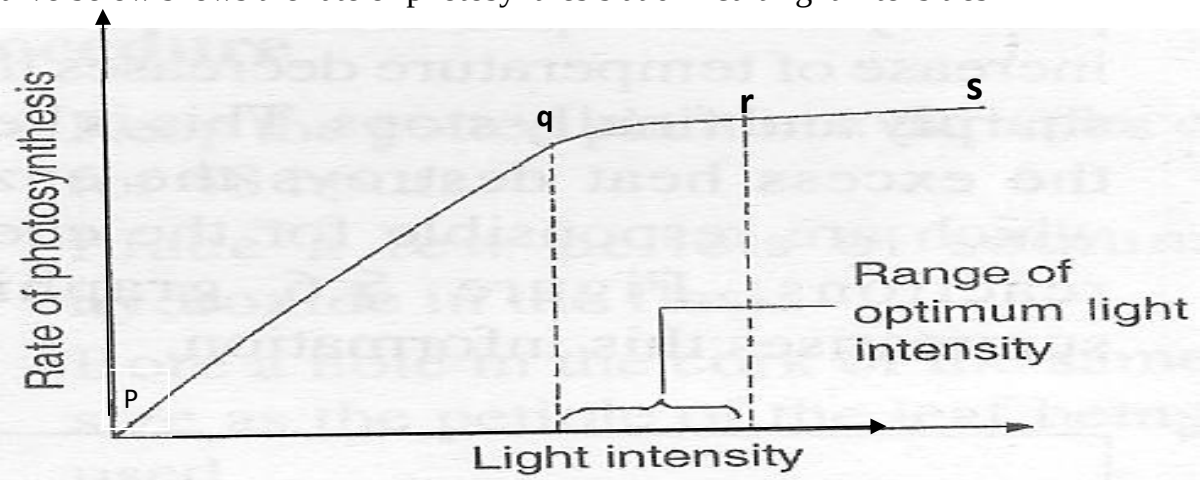
d) Give two functions of intervertebral discs. **(2mks)**

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5. The curve below shows the rate of photosynthesis at difficult light intensities



a) With reference to photosynthesis, give the meaning of the phrase limiting factor. **(1mk)**

……

……

b) Name the limiting factor between the following points **(2mks)**

i) P and Q

……

ii) R and S

……

c) Describe what happens during the light stage of photosynthesis. **(2mks)**

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d) Explain how light affects the rate of photosynthesis. **(2mks)**

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e) What is compensation point? **(1mk)**

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SECTION B

Answer question 6 and either question 7 or 8

6. Students carried out research on the effect of industrial emissions on the rate of growth of plant shoots and roots. After weeks of observations and analysis, they ended up with results as shown in the table below.

Concentration of Sulphuric acid (mol/dm^3)	**Mean root length (mm)**	**Mean shoot length (mm)**
0.0×10^{-3}	55.5	25.2
$1.0\ \ 10^{-3}$	63.4	18.4
3.0×10^{-3}	6.5	9.5
4.0×10^{-3}	2.0	4.6
6.0×10^{-3}	1.8	0.8
7.0×10^{-3}	1.5	0.5
8.0×10^{-3}	1.3	0.3
9.0×10^{-3}	1.3	0.0
10.0×10^{-3}	1.0	0.0

a) On the same grid, plot a graph of the mean root length and shoot length against the concentration of Sulphuric acid **(7mks)**

a) Describe the relationship between the concentration of Sulphuric acid and the

i) Growth of shoots **(2mks)**

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……

……

ii) Growth of roots **(2mks)**

……

……

……

b) Estimate the mean root and mean shoot length when the concentration of Sulphuric acid is 5.0

(2mks)

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……

……

c) State two other effects of acid rain **(2mks)**

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……

d) State the ways of preventing acid rain **(3mks)**

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e) What is eutrophication **(2mks)**

……

……

……

7.a) Describe the events that take place from the time a pollen grain lands on the stigma until fertilization. **(14mks)**

b) Describe the changes that take place in a flower after fertilization. **(6mks)**

8.a) Discuss the adaptations of the mammalian ear to its functions. **(20mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

BIOLOGY

231/3

PAPER 3

TIME: 1¾ HOURS

SCHOOL…… SIGN……

CONFIDENTIAL

Requirements for KCSE candidates

In addition to the apparatus and fittings found in a Biology laboratory, each candidate will require the following.

- *Ripe orange labelled specimen Q,, 1 per candidate*
- *A piece of visking tubing (8 cm long), 1 per candidate*
- *100ml beaker, 1 per candidate*
- *Two pieces of thread, 30cm long (2 per candidate)*
- *Knife/scalpel*
- *Labels, 3 per candidate*
- *0.1% DCPIP*
- *Benedict's solution*
- *Sodium Hydroxide*
- *Copper sulphate*
- *Distilled water*
- *Six testubes on a rack*

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

BIOLOGY

231/3

PAPER 3

(PRACTICAL)

TIME: 1¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO KCSE CANDIDATES

- *Write your name, Admision Number in the spaces provided above*
- *Write the date of examination in the space provided above*
- *Answer ALL the questions*

FOR EXAMINER'S USE ONLY

QUESTION	SCORE	CANDIDATES SCORE
1	14	
2	13	
3	13	
TOTAL	40	

1. a). You are provided with **specimen Q.** Cut it into two halves. Squeeze out juice from the two halves into a beaker. Sieve the juice to obtain solution Q1. Divide solution Q1 into two equal amounts. Label them as solution Q2 and Q3. Using the reagents provided, carry out food test on solution Q2. Record your results in the table provided below. **(9 marks)**

Food tested	Procedure	Observation	Conclusion

b) i) You have been provided with a visking tubing. Open it carefully. Tie one end with a piece of thread. Half- fill it with solution Q3. Tie the other end tightly to avoid leakage. Rinse the visking tubing and immerse it in a beaker with distilled water. Leave it to stand for 25 minutes. Using Benedict's solutions only, carry out food test on the contents of the beaker**.** **(2marks)**

Food substance	Procedure	Observation	Conclusion

ii) Account for your observation in b (i) above. **(3 Marks)**

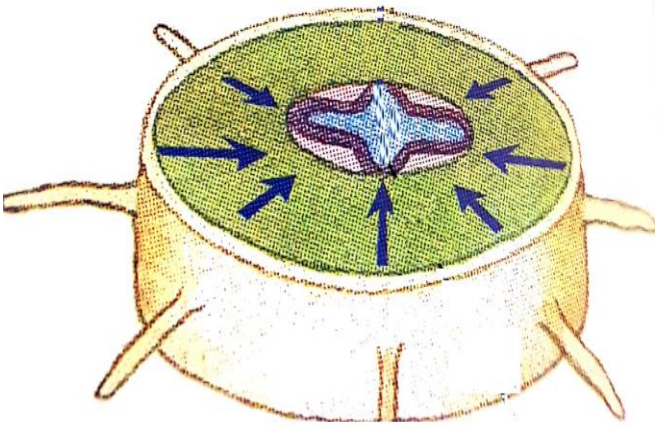
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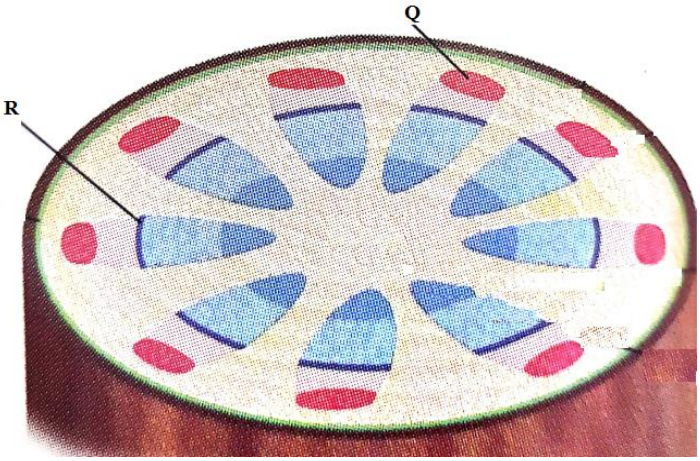
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2. Below are sections of dicotyledonous plant organs labelled S and T. Study them carefully and answer the questions that follow.



T



S

a) i) Give any three observable differences between the **sections** **(3marks)**

S	T

ii) On the diagram, label any three parts of section T **(3marks)**

iii) State the functions of the parts labelled Q and R on section S. **(2marks)**

Q……

R……

iv) How would section S compare with that of a monocotyledonous plant**?** **(3marks)**

……

……

……

……

b) Below is a section of a plant organ that develops from a flower after fertilization



i) Name the part of the flower from which the parts labelled R and U develop from. **(2marks).**

R……

U……

3. a) You are provided with photographs below labelled **A, B, C, D, E, F, G** and a dichotomous key. Complete the dichotomous key and use to answer the questions that follow. **(9 mrks).**



C



D



E





F

G



1. a) Animals with jointed appendages……..……..go to 3

b) Animals without jointed appendages……go to 2

2. a) Animals with slender long body……..……Nematoda

b) Animals with a thick short body……Mollusca

3. a) ……..go to 5

b) Animals without wings…….go to 4

4. a) Animals with numerous legs…….Myriapoda

b) ……..Hymenoptera

5. a) Animals with short antenna……..……Diptera

b) Animals with a pair of long antenna……..……go to 6.

6. a) Animals with cuticulized forewings……Dictyoptera

b) Animals with a pair of membranous wings……....Hymenoptera

Organism	Steps followed	Identity
A		
B		
C		
D		
E		
F		
G		

b) Name the type of metamorphosis in organism B. **(1 marks)**

……

e) Explain how the type of metamorphosis named in (b) above occurs**.** **(3marks)**

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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	

QUESTIONS

1. State two reasons why we use the non-luminous flame for heating in a laboratory instead of using the luminous flame**.** **(1mk)**

……

……

……

2. Chlorine has two isotopes with atomic mass **35** and **X** occurring in the ratio **3:1** respectively. The relative atomic (R.M.A) of chlorine is **35.5**. Determine the value of **X**. **(3mks)**

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3. During an experiment sulphur (IV) oxide gas was formed to diffuse through a certain pore at a rate of $25cm^3$ per minute. When the experiment was repeated under the same conditions with another gas G, gas G was found to diffuse through the same pore at a rate of $26.26cm^3$ per minute. Work out the molecular mass of Gas **G. (0=16, S=32)** **(3mks)**

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4. Calculate the volume of 0.6M sulphuric (VI) acid solution needed to neutralize $30cm^3$ of 0.2M potassium hydroxide**.** **(2mks)**

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5. A state of equilibrium between dichromate (vi) and chromate ions is established as shown below

$$Cr_2O_7^{2-}(aq) + 2OH^-(aq) \rightleftharpoons 2CrO_4^{2-}(aq) + H_2O(l)$$

Orange ***(Yellow)***

a. What is meant by dynamic equilibrium? **(1 mk)**

……

……

b. State and explain observation made, when a few pellets of Potassium Hydroxide are added to equilibrium mixture **(2 mks)**

……

……

……

6. Study the standard reduction potentials below and answer the questions that follow;The letters are not actual symbols of the elements

Half cell	E volts
$P^{2+}_{(aq)} + 2e \rightarrow P_{(s)}$	**- 0.76**
$R^{2+}_{(aq)} + 2e \rightarrow R_{(s)}$	**- 2.37**
$S^{+}_{(aq)} + 1e \rightarrow S_{(s)}$	**+ 0.80**
$T^{2+}_{(aq)} + 2e \rightarrow T_{(s)}$	**- 0.14**

i) Select the element which is the strongest reducing agent. Give a reason**.** **(1mk)**

……

ii) Select two half cells when combined would produce the largest e.m.f **(1mk)**

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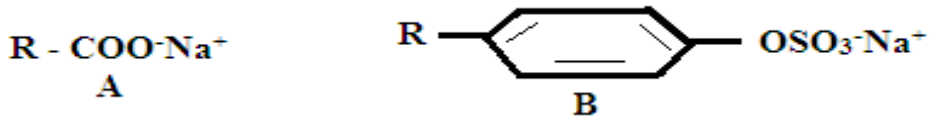
iii) Calculate the e.m.f of the electrochemical cell formed when the two half cells in (ii) above are combined. **(1mk)**

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7. The structure below represents two cleansing agents A and B.



a) Name the cleansing agents

A ……..(1mk)

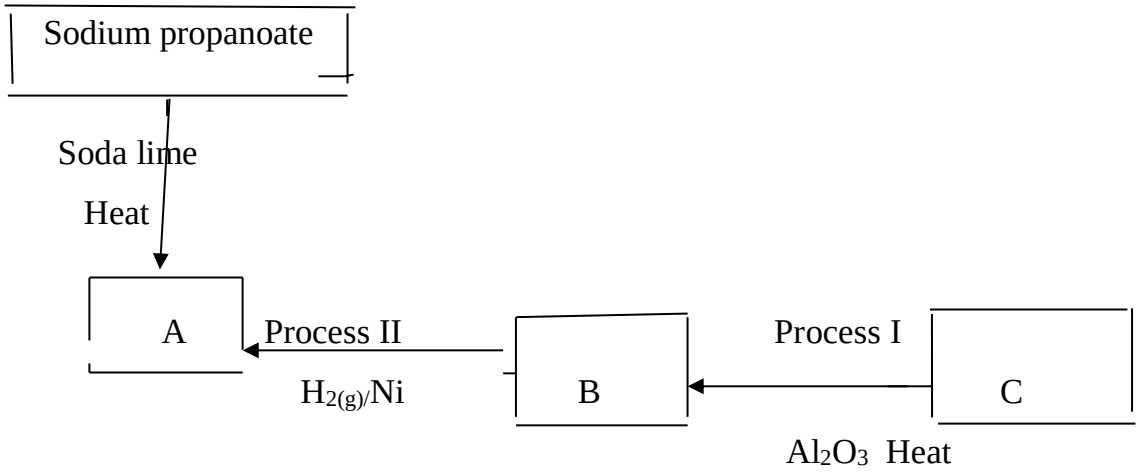
B ……..(1 mk)

b) State a cleansing agent that would be suitable for washing in water containing calcium chloride. Give a reason. **(1mk)**

……

……

8. Study the reaction scheme below and answer the questions that follow.



a) Identify substances **(1mk)**

A……

C……

b) Another substance D combines with one mole of hydrogen gas to form substance B. Give the structural formula of D . **(1mk)**

……

……

c) Explain how you would distinguish between C_2H_6O and **$C_2H_4O_2$** **(1mk)**

……

……

……

9. Name the following processes;

a) When anhydrous calcium chloride is left in an open beaker overnight a solution was formed.**(1mk)**

……

b) When sodium carbonate decahydrate crystals are left in an open beaker for some days it turned into a powder**.** **(1mk)**

……

10. The standard enthalpies of combustion of ethyne (C_2H_2), carbon (C) and hydrogen (H_2) are **-1300** kJ/mol**,-394** kJ/mol and **-286** kJ/mol respectively. Calculate the enthalpy of formation of ethyne. **(3mks)**

……

……

……

……

11. The following data gives the PH values of solutions A, B, C.

SOLUTION	PH
A	13.9
B	7.0
C	1.5

a) i) Which solution gives a pink colour after adding a few drops of phenolphthalein indicator? **(1mk)**

……

ii) Give the possible identity of that solution. **(1mk)**

……

b) Which solution would produce Carbon(IV)Oxide when reacted with Copper(II) Carbonate. **(1mk)**

……

12. Explain the following;

a) Oxide ion (O^{2-}) has a larger radius than oxygen atom (O). **(1mk)**

……

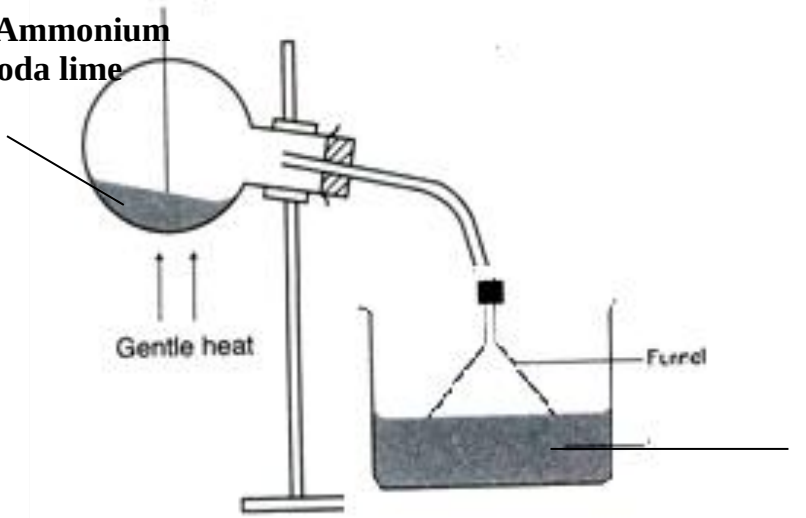
……

b) Calcium is a weaker conductor of electricity compared to aluminium**.** **(1mk)**

……

……

13. A student prepared ammonia gas and bubbled it into a solution of Copper (II) Sulphate as shown below.



a) State one observation made in the beaker and one made in the round bottomed flask.

i) A short **while** **(1mk)**

……

ii) A long **while** **(1mk)**

……

b) Write the formula of the ion formed in the beaker for (ii) above. **(1mk)**

……

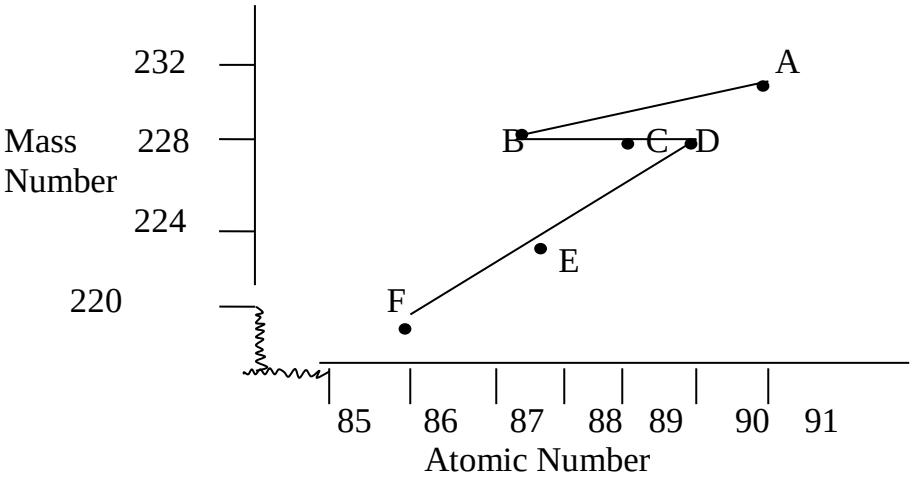
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14. a) Define the term half **life** **(1mk)**

……

……

b) The graph below represents a radio active decay series for Isotope A. Study it and answer the questions that follow;



a) Name the type of radiation involved when;

(i) A changes to B **(1mk)**

……

(ii) B changes to C **(1mk)**

……

15. a) One of the uses of sulphur is in vulcanization of rubber. Define vulcanization**.** **(1mk)**

……

……

b. State one properties that vulcanized rubber possesses. **(1mk)**

……

……

16. The table below shows the standard electrode potential of four elements.

Element	V	W	X	Y	
$E^{\ominus}$	-0.55	0.00	+0.20	+0.35	

a) Arrange the elements in order of reactivity starting with the most reactive. **(1mk)**

……

……

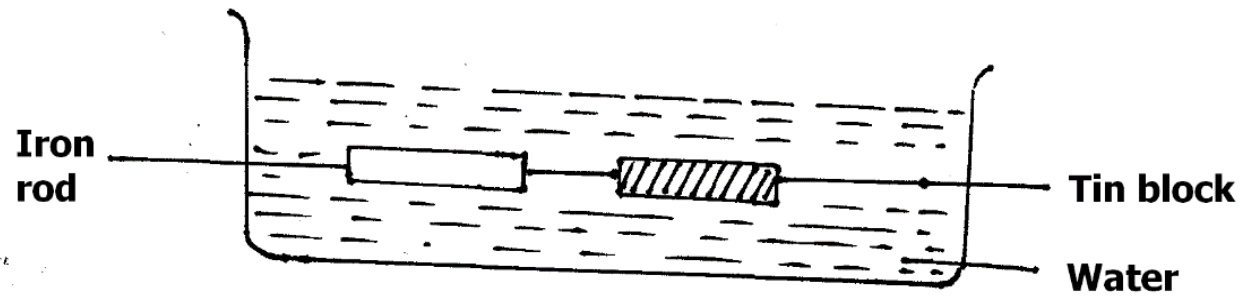
b) Identify element W. Give a reason for your answer. **(2mks)**

……

……

……

17. The set – up below was used by a student to try to prevent the rusting of an Iron rod.



(a) Did the student succeed in preventing the rusting of Iron using the set – up above? **(1mk)**

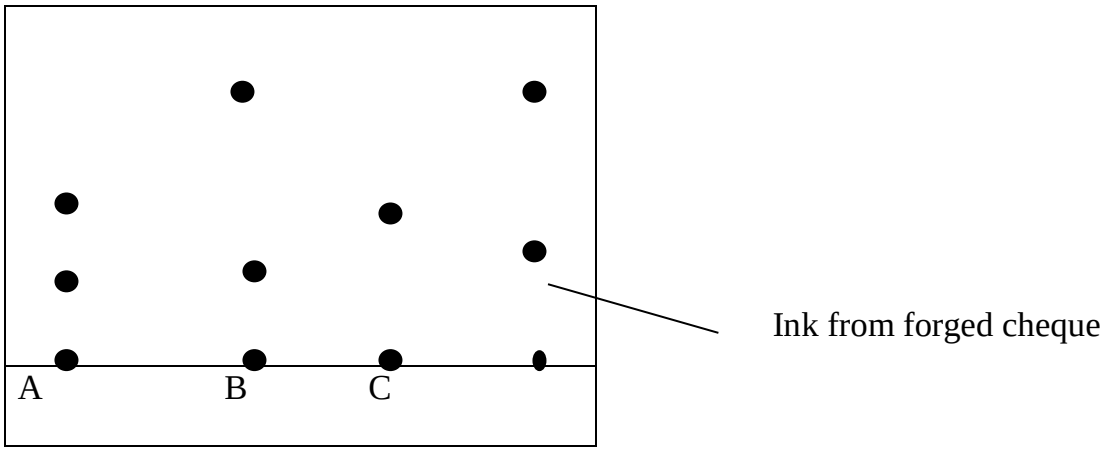
……

……

b) Which method of rust prevention was the student investigating. **(1mk)**

……

18. Ink from a signature that forged a cheque was compared with ink from pens of three suspects A, B, C using paper chromatography. The results were as follows;



a) Describe how the ink was taken from the forged cheque. **(2mks)**

……

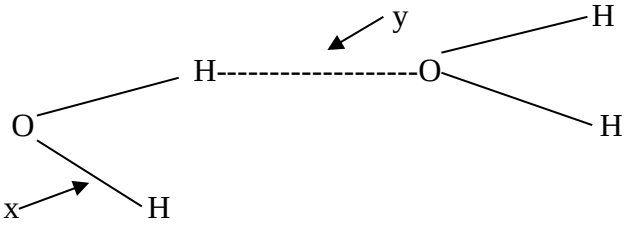
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b) Which suspect was not guilty? **(1mk)**

……

19. The diagram below shows the structure of the molecules of water.



a) Name the types of bonds labelled x and y. **(1mk)**

……

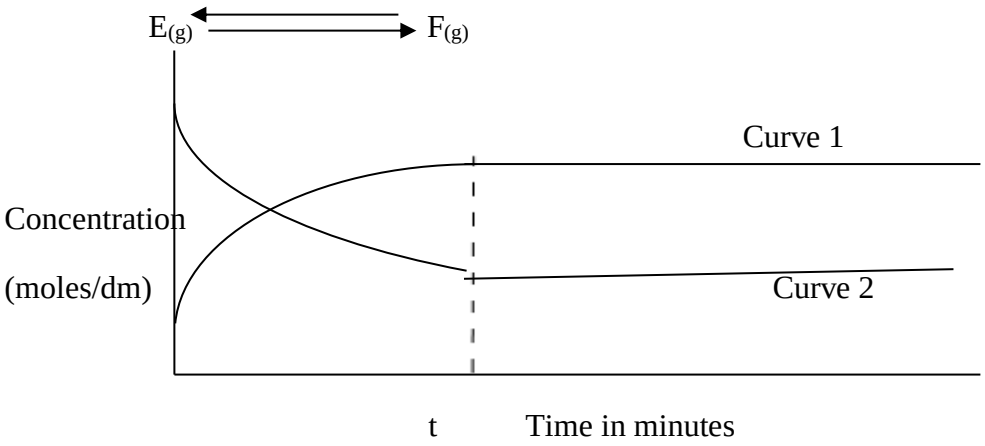
……

b) Explain why water has a higher melting point than Hydrogen Sulphide. **(1mk)**

……

……

20. The curves below represents the changes in the concentrations of substances E and F with time in the reaction.



a) Which curve represents the changes in the concentration of substance F? Give a reason. **(2mks)**

……

……

……

b) Give a reason for the shapes of the curves after time (t) minutes. **(1mk)**

……

……

22. Potassium salt gave white precipitate with Barium Nitrate solution. An addition of dilute Hydrochloric Acid, the white precipitate disappear and a colourless gas that turns acidified potassium dichromate (VI) green was evolved.

a) Write the formula of the compound which formed the white precipitate. **(1mk)**

……

……

b) Write the equation for the reaction between dilute hydrochloric acid and the compound whose formula is written in(a) above. **(1mk)**

……

……

23. NO_2 and N_2O_4 gases exists in equilibrium as shown below.

$$2NO_2(g) \rightleftharpoons N_2O_4(g)$$

(Brown) (Pale yellow)

a) State LeChartliers **principle** **(1mk)**

……

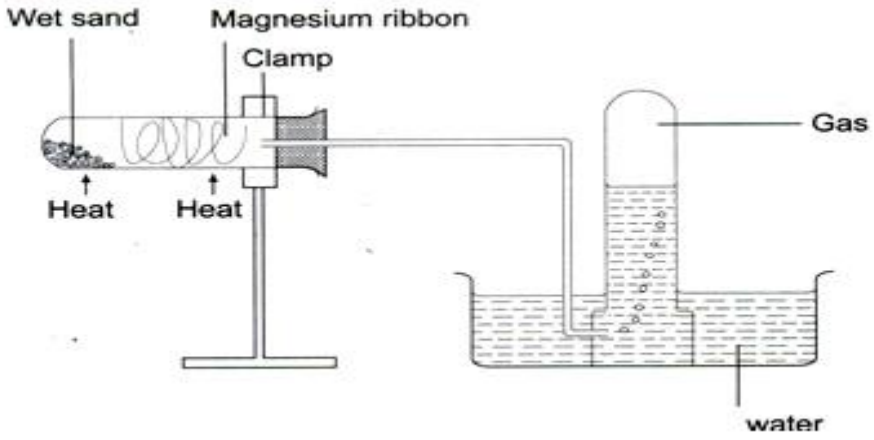
……

b) State and explain the effect of increased pressure on the equilibrium **.** **(1mk)**

……

……

24. A student set up the experiment below to collect gas Q.



a) Name the gas Q. **(1mk)**

……

b) Write the equation for the reaction in the boiling tube if magnesium was replaced with iron .

(1mk)

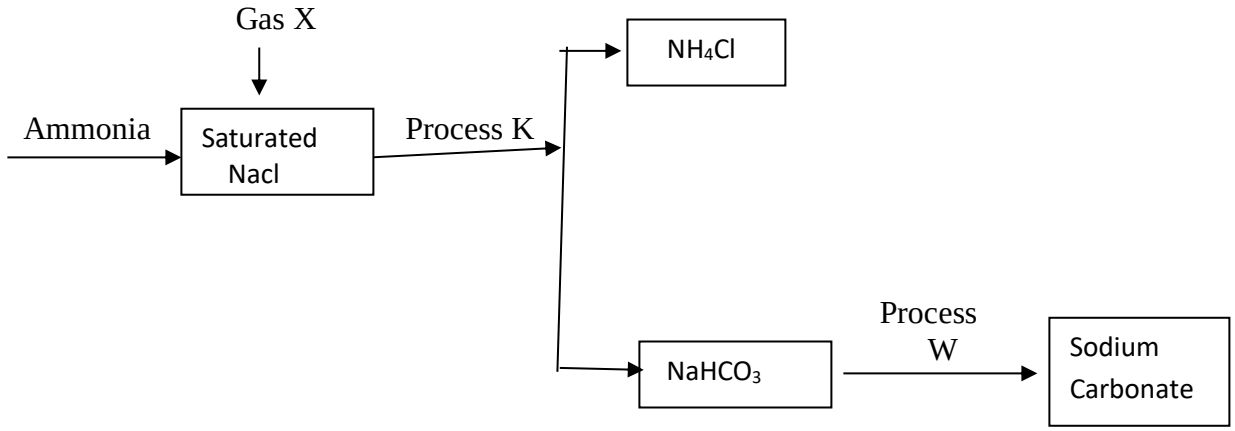
……

c) State two uses of gas **Q** **(1mk)**

……

……

25. The Schematic diagram is part of the Solvay process used for the manufacture of sodium carbonate.



i) Name gas x **(1mk)**

……

ii) Identify process K **(1mk)**

……

iii) Write the equation for the reaction in process W. **(1mk)**

……

26. The solubility of potassium nitrate is 85g/100g of water at 50^{o}c and 32g/100g of water at 25^{o}c.

a) Define the term solubility**.** **(1 mark)**

……

……

b) Calculate the mass of the crystals formed if a saturated solution of potassium nitrate in 50g of water at 50^{o}c is cooled to 25^{o}c. **(2 marks)**

……

……

……

27. Chlorine gas was bubbled through water and observation made after 24 hours

a) Draw a diagram to show the observation made after 24 hours. **(2 marks)**

b) Write an equation for the reaction that occurs when chlorine gas is bubbled into hot concentrated sodium hydroxide **(1mk)**

……

c) One of the products in (b) above is used as an antiseptic. State its other use **(1mk)**

……

28. Aluminiumm is extracted from its ore by the process of electrolysis . **(1mk)**

(i) Name the ore of aluminium that is normally used.

……

……

……

(**ii)** Aluminium ore in (i) above has very high melting point (2015°C) though it is electrolysed at a lower temperature of a bout 900°C. Explain how the low temperature is achieved**.** **(1mk)**

……

……

(iii) In the above process graphite electrodes are used. What is the disadvantage of using this kind of electrode. **(1mk)**

……

……

29. Study the reaction below and answer the questions that follow

$$NH_{3\,(g)} + H_2O_{\,(l)} \rightleftharpoons NH_4^{+}{}_{(aq)} + OH^{-}{}_{(aq)}$$

(a) Give the Bronstad-Lowry definition of acid **(1mk)**

……

……

(b) Identify an acid in the backward reaction **(1 mark)**

……

30. When 34. 8g of hydrated sodium carbonate $Na_2\,Co_3.\mathbf{n}H_2O$ were heated to a constant mass. 15.9g of anhydrous sodium carbonate were obtained. Find the value of "**n**" in hydrated carbonate (Na= 23), **(O = 16), (C= 12), (H = 1.0)** **(3 mks)**

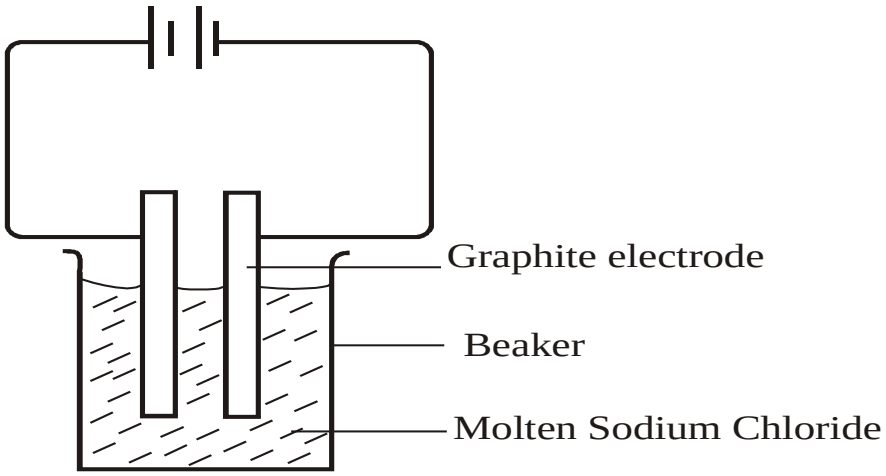
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31. The diagram below represents an experiment which was carried out by a student, to investigate the effect of passing an electric current on molten sodium chloride.



a. Molten sodium chloride is a binary electrolyte. State the meaning of the term binary electrolyte. **(1mk)**

……

……

b. State two observations made at the anode **(1 mk)**

……

……

c. Write an equation to show what happens at the cathode. **(1 mk)**

……

……

32. Starting with Copper metal, describe how a solid sample of Copper (II) nitrate can be prepared. **(3mks)**

……

……

……

……

……

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

CHEMISTRY

233/2

PAPER 2

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Write your name, admission number, date and school in the spaces provided.*
- *Answer all the questions in the spaces provided.*
- *All working must be clearly shown where necessary.*
- *Scientific calculators may be used.*

FOR EXAMINERS' USE ONLY

Questions	Maximum Score	Candidate's Score
1	14	
2	12	
3	07	
4	12	
5	14	
6	11	
7	13	
	80	

1.Use the information in the table below to answer the questions that follow. The letters do not represent the actual symbols of the elements.

Element	Atomic number	Melting point ^{0}C
R	11	97.8
S	12	650.0
T	15	44.0
U	17	-102.0
V	18	-189.0
W	19	64.0

(a) Give a reason why the melting point of;

(i) **S** is higher than that of **R**. **(2 marks)**

……

……

……

(ii) **V** is lower than that of **U**. **(2 marks)**

……

……

……

(b) How does the reactivity of **W** with chlorine compare with that of **R** with chlorine?**(2 marks)**

……

……

……

(c) When 0.30g or **R** was reacted with water 1600cm^3 of gas was produced. Determine the relative atomic mass of **R**. (Molar gas volume = 24000cm^3 r.t.p) **(3 marks)**

(d) Give **one** use of element **V**. **(1 mark)**

……

(e) Draw a structure of the compound formed when **S** reacts with **U**. **(1 mark)**

(f) Compare the atomic radius of element **S** and **V**. Give a reason. **(2 marks)**

……

……

……

2.(a) Give the name of the following processes.

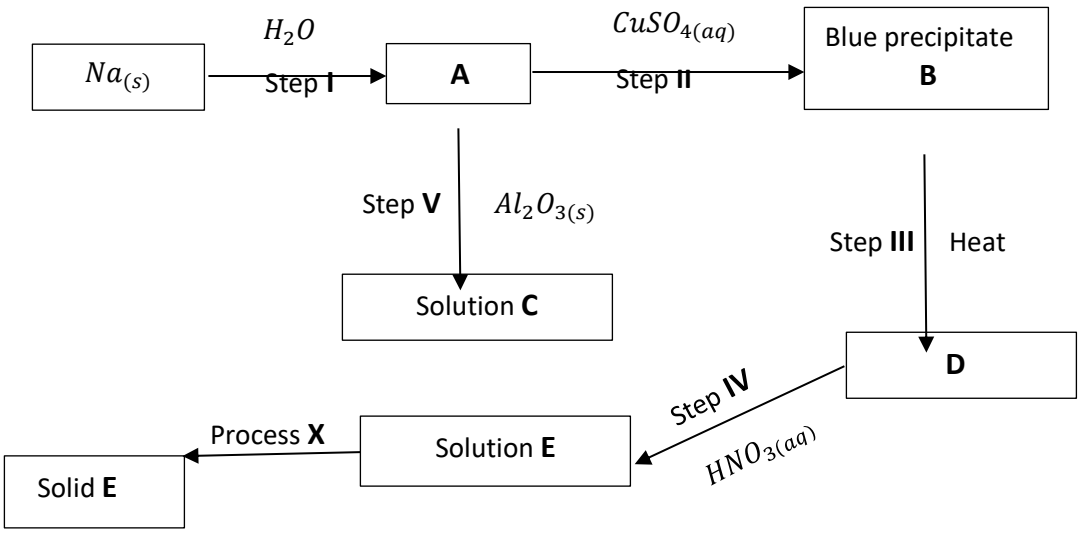
(i)A hot saturated solution of copper (II) sulphate is cooled to form crystals of copper (II) sulphate.

……**(1 mark)**

(ii)A white powder is formed when concentrated sulphuric (V) acid is added to blue hydrated copper (II) sulphate. **(1 mark)**

……

(b) Study the flow chart below and answer the questions that follow.



(i) Name substances: **(4 marks)**

B ……

C ……

D ……

Solid E ……

(ii) Write equations for the reactions in steps; **(2 marks)**

III

……..

V

……..

(iii) Write the ionic equation for the reaction in step **II**. **(1 mark)**

……

(iv) State any **two** observations made in step **I**. **(2 marks)**

……

……

(c) Write an equation to show how addition of ammonia solution is used to remove temporary water hardness. **(1 mark)**

……

3.4g zinc powder was added to 200cm^3 of 1M $CuSO_{4(aq)}$. During the experiment there was a temperature rise of 10K. If the density of the solution was 1g/cm^3 and specific heat of the solution was 4.2kJ/kg/K;

(a) determine the energy change of the reaction. (Zn = 65) **(2 marks)**

(b) What would be the enthalpy change of the above reaction? **(3 marks)**

……

……

……

……

(c) Write a thermochemical equation to represent the above reaction. **(1 mark)**

……

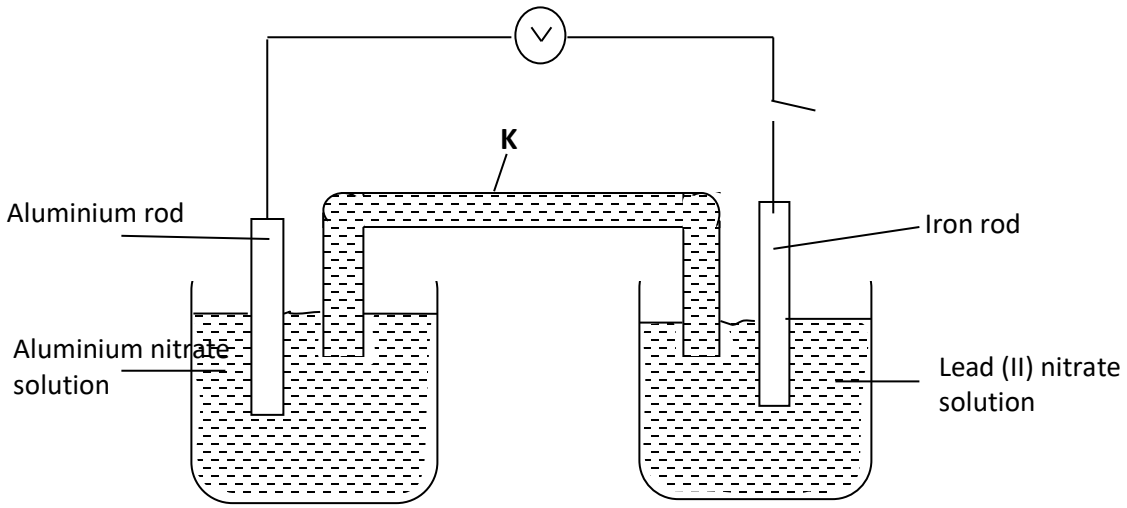
……

(d) State **two** observations made when zinc powder is added to copper II sulphate solution. **(1 mark)**

……

……

4.(a) The diagram below shows electrochemical cell. Study it and answer the questions that follow.



Given the following:

$Fe^{2+}{}_{(aq)} + 2e \longrightarrow Fe_{(s)};\ E^{\theta} = -0.44V$

$Al^{3+}{}_{(aq)} + 3e \longrightarrow Al_{(s)};\ E^{\theta} = -1.66V$

(i) On the diagram, show the direction of flow of;

(I) Electrons **(½ mark)**

(II) Current **(½ mark)**

(ii) Name a substance that is used to fill part **K**. Give a reason. **(2 marks)**

……

……

(iii) State the **two** observations made in the half cell containing iron (II) ions. **(2 marks)**

……

……

(iv) Write the half ionic equation for the reaction that results into oxidation. **(1 mark)**

……

……

(v) Write the cell diagram for this electrochemical cell. **(1 mark)**

……

……

(vi) Give any one use of the part **K**. **(1 mark)**

……

(b) In an experiment to electroplate iron with silver, current of 1 Ampere was passed through a silver solution of ions for 60 minutes.

(i) Give a reason why it is necessary to electroplate iron. **(1 mark)**

……

……

(ii) Calculate the mass of silver deposited on iron during the electroplating process. **(3 marks)**

(Ag = 108, IF = 96500c)

5.(a) Give the systematic names of the following compounds.

(i) $CH_2 = \underset{\underset{CH_3}{|}}{C} - CH_3$ …….. **(1 mark)**

(ii) $CH_3CH_2CH_2C \equiv CH$ ……. **(1 mark)**

(b) State the observations made when Propan-l-ol reacts with:

(i) Acidified potassium dichromate (VI) solution. **(1 mark)**

……

……

(c) Ethanol obtained from glucose can be converted to ethane as shown below.

$$C_6H_{12}O_6 \xrightarrow{\text{Step I}} C_2H_5OH \xrightarrow{\text{Step II}} CH_2 \equiv CH_2$$

Name and describe the process that takes place I steps I and II.

Step **I** **(1 mark)**

……

……

Step **II** **(1 mark)**

……

……

(d) Compounds A and B have the same molecular formula $C_3H_6O_2$. Compound A liberates carbon (IV) oxide on addition of aqueous sodium carbonate while compound B does not. Compound B has a sweet smell. Draw the possible structures of;

(i) Compound A **(1 mark)**

(ii) Compound B **(1 mark)**

(e) Give **two** reasons why the disposal of polymers such as polychloroethane by burning pollutes the environment. **(2 marks)**

……

……

……

(f) Some animal and vegetable oils are used to make margarine and soap. Give the reagents and conditions necessary for converting the oils into:

(i) Margarine **(1 mark)**

……

(ii) Soap **(1 mark)**

……

(g) (i) The use of CFCs has been linked to depletion of ozone layer. What does CFC stand for? **(1 mark)**

……

……

(ii) Explain the problem associated with the depletion of the ozone layer. **(1 mark)**

……

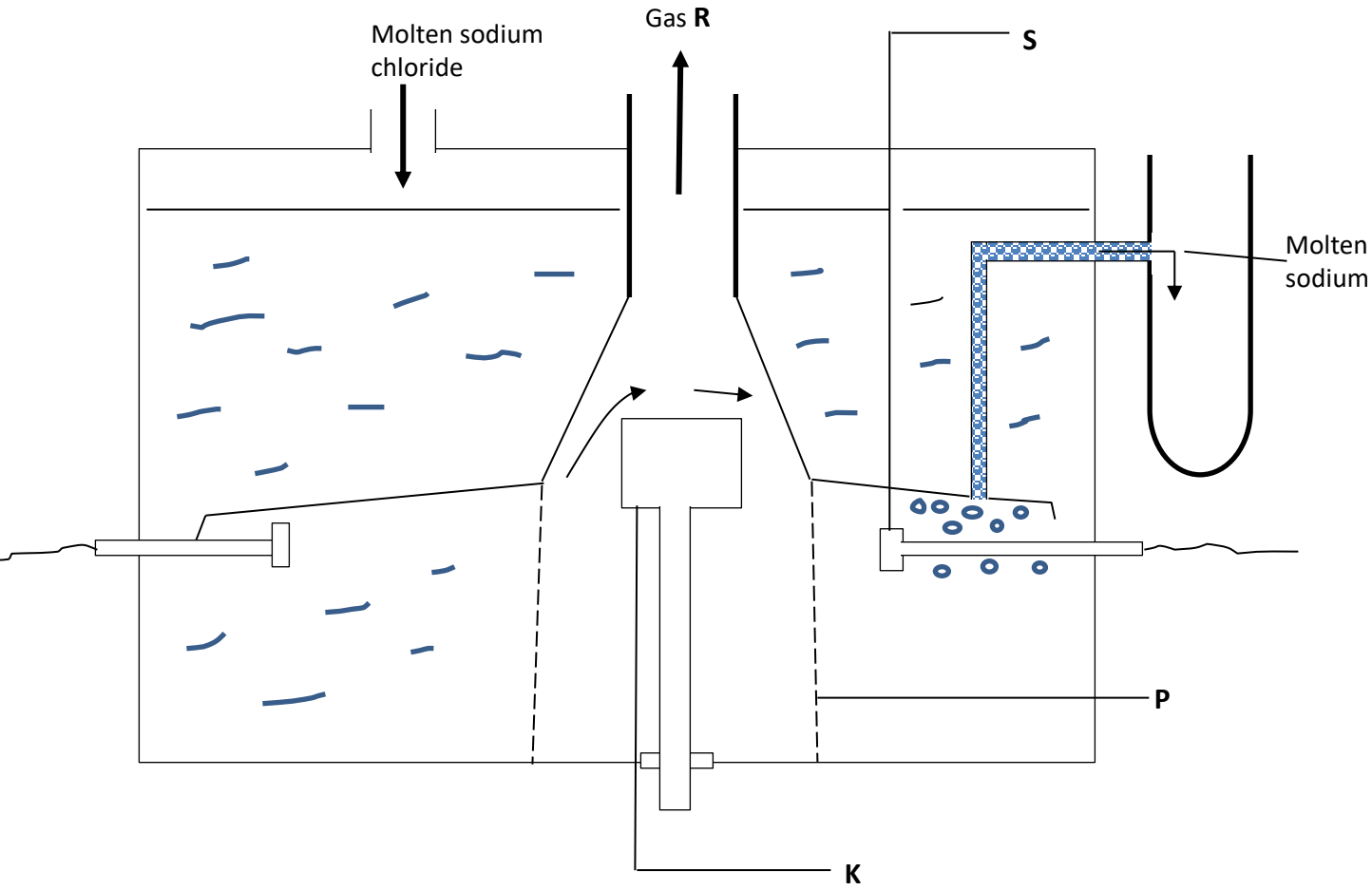
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(iii) State another environment problem caused by CFCs. **(1 mark)**

……

……

6.Use the diagram below to answer the questions that follow.



(a) Identify the substances labelled. **(2 marks)**

R ……

S ……

K ……

P ……

(b) What is the function of the part labelled **P**? **(1 mark)**

……

(c) Write half equations at the electrodes. **(2 marks)**

……

……

……

(d) Why is molten sodium chloride used instead of sodium chloride solution? **(1 mark)**

……

……

(e) Why is calcium chloride added in the electrolysis of molten sodium chloride? **(1 mark)**

……

……

(f) How is the calcium eventually separated from the sodium? **(2 marks)**

……

……

……

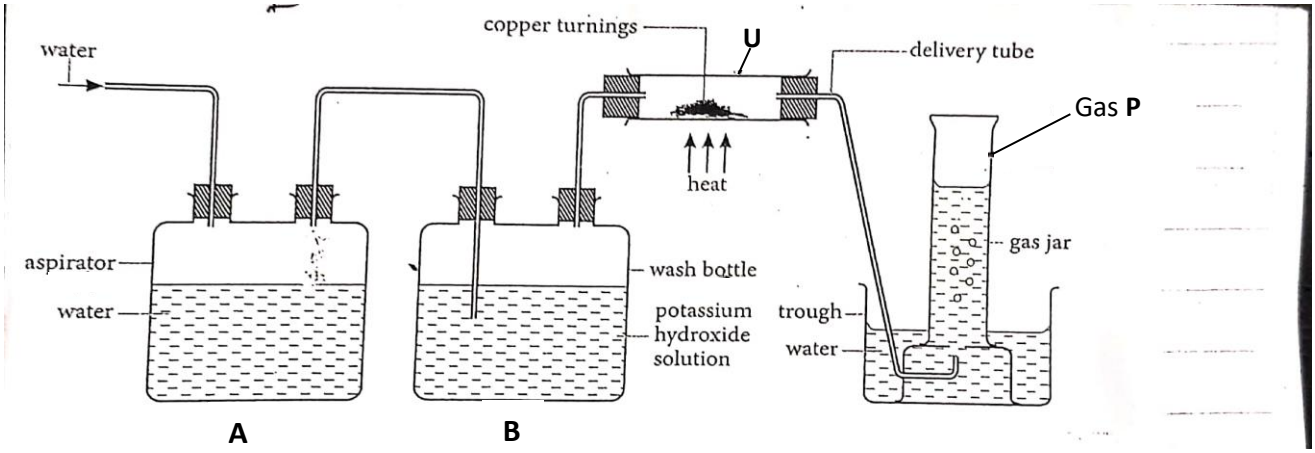
(g) When sodium is left exposed in the air a white solid is formed but when sodium is burnt in oxygen, a yellow solid is formed. Explain this difference using equations. **(2 marks)**

……

……

……

7.(a) The diagram below was used to obtain gas P in the laboratory. Study it and answer the questions that follow.



(i) State the role of aspirator **A**. **(1 mark)**

……

(ii) Write an equation in wash bottle **B**. **(1 mark)**

……

……

(iv) Give the name of apparatus **U**. **(1 mark)**

……

(v) State and explain the observation made in apparatus **U**. **(1 mark)**

……

……

(vi) Gas **P** was found to be denser than the form obtained when heating ammonium nitrate.

I. Write an equation for decomposition of ammonium nitrate. **(1 mark)**

……

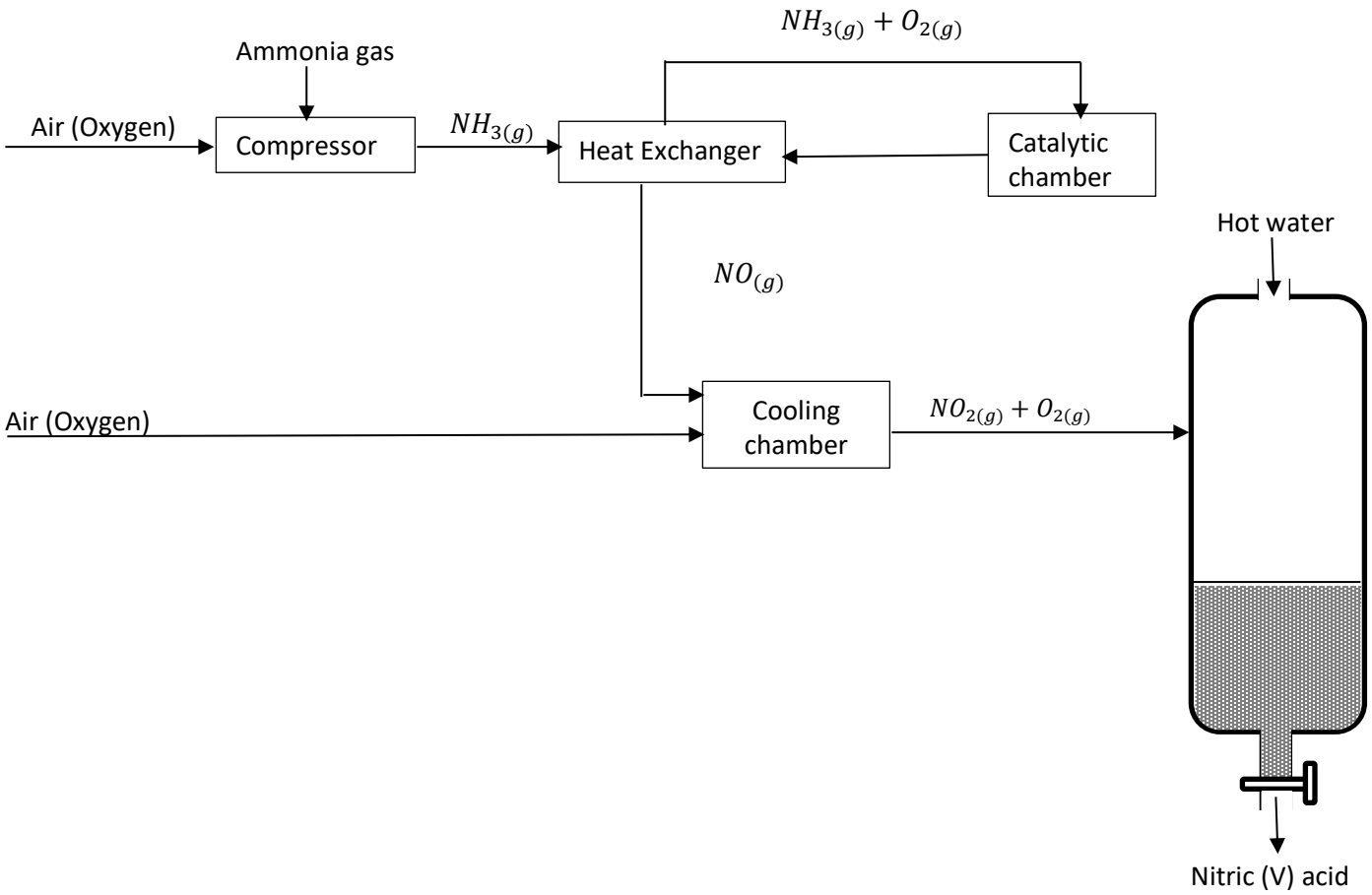
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II. Explain the difference in densities of two gases. **(1 mark)**

……

……

(b) The chart below is used in industrial preparation of Nitric (V) acid.



(i) State the role of heat exchange. **(1 mark)**

……

(ii) Write the equation in the catalytic chamber. **(1 mark)**

……

(iii) State **three** conditions in the catalytic chamber. **(1 ½ marks)**

……

……

……

(iv) State observations made in cooling chamber. **(½ mark)**

……

……

(v) Name **one** method of concentrating Nitric (VI) acid obtained. **(1 mark)**

……

……

(vi) State uses of Nitric (VI) acid. **(2 marks)**

……

……

……

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

CHEMISTRY

233/3

PAPER 3

TIME: 2¼ HOURS

SCHOOL…… SIGN……

(CONFIDENTIAL)

Requirements for candidates

In addition to the apparatus and fittings found in a Chemistry laboratory, each candidate will require the following.

1. *Exactly 4.5g of solid A*
2. *About 100cm^3 of solution B*
3. *One burette 0 – 50ml*
4. *One pipette 25ml*
5. *Two conical flasks 250ml*
6. *Thermometer*
7. *100ml measuring cylinder*
8. *About 1g of solid E*
9. *About 1g of solid F*
10. *Phenolphthalein indicator*
11. *Universal indicator solution*
12. *PH Chart (1-14 range)*
13. *About 500ml of distilled water in a wash bottle*
14. *5 dry test tubes*
15. *1 Boiling tube*
16. *Clean Metallic spatula*
17. *Blue and red litmus papers*
18. *About 0.5g sodium hydrogen carbonate solid*

Each candidate should have access to:

1. *Source of heat*
2. *2M sodium hydroxide supplied with a dropper*
3. *2M ammonium hydroxide supplied with a dropper*
4. *2M HCl acid supplied with a dropper*
5. *Lead (II) nitrate supplied with a dropper*
6. *Acidified potassium manganate (VII) supplied with a dropper*
7. *0.5M Barium chloride supplied with a dropper*

NOTES

1. Solid A is 4.5g of oxalic acid weighed accurately and stoppered.
2. Solid E is Ammonium aluminium sulphate
3. Solid F is maleic acid.
4. Solution B is 0.4M NaOH.

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

CHEMISTRY

233/3

PAPER 3

TIME: 2¼ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES.

- *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 2 ¼ hours allowed in this paper. This is to enable you read the question paper and make sure you have all the chemicals and apparatus you may need.*
- *Mathematical tables and Electronic calculators may be used.*
- *All working **must** be clearly shown where necessary.*

For Examiner's Use only

Question	Maximum Score	Candidates Score
1	20	
2	12	
3	8	
Total	40	

QUESTIONS

1. You are provided with:

✓ 4.5g of dibasic acid **$H_2X.2H_2O$**, **Solid A**

✓ **Solution B**, 0.4M sodium hydroxide.

You are required to:

a) You are required to determine the solubility of Solid A in water at different temperatures.

b) Determine RAM of dibasic A in $H_2X.2H_2O$.

Procedure I:

(a) Place all solid A into a clean boiling tube.

(b) Using a burette, add 4cm^3 of distilled water to solid A in the boiling tube. Heat the mixture while stirring with a thermometer to about 70^oC. When all the solid has dissolved allow the solution to cool while stirring with the thermometer. Note the temperature (Ts) at which crystals of solid **A** first appear. Record this temperature in table I

(b) Using the burette, add 2cm^3 of distilled water to the contents of the boiling tube, warm the mixture while stirring with the thermometer until **ALL** the solid dissolves. Allow the mixture to cool while stirring. Note and record the temperature at which crystals of solid **A** first appear.

(c) Repeat procedure (b) two more times and record the temperatures in table I.

Retain the contents of the boiling tube for use in procedure (II)

(d) Complete table I by calculating the solubility of solid **A** at different temperatures.

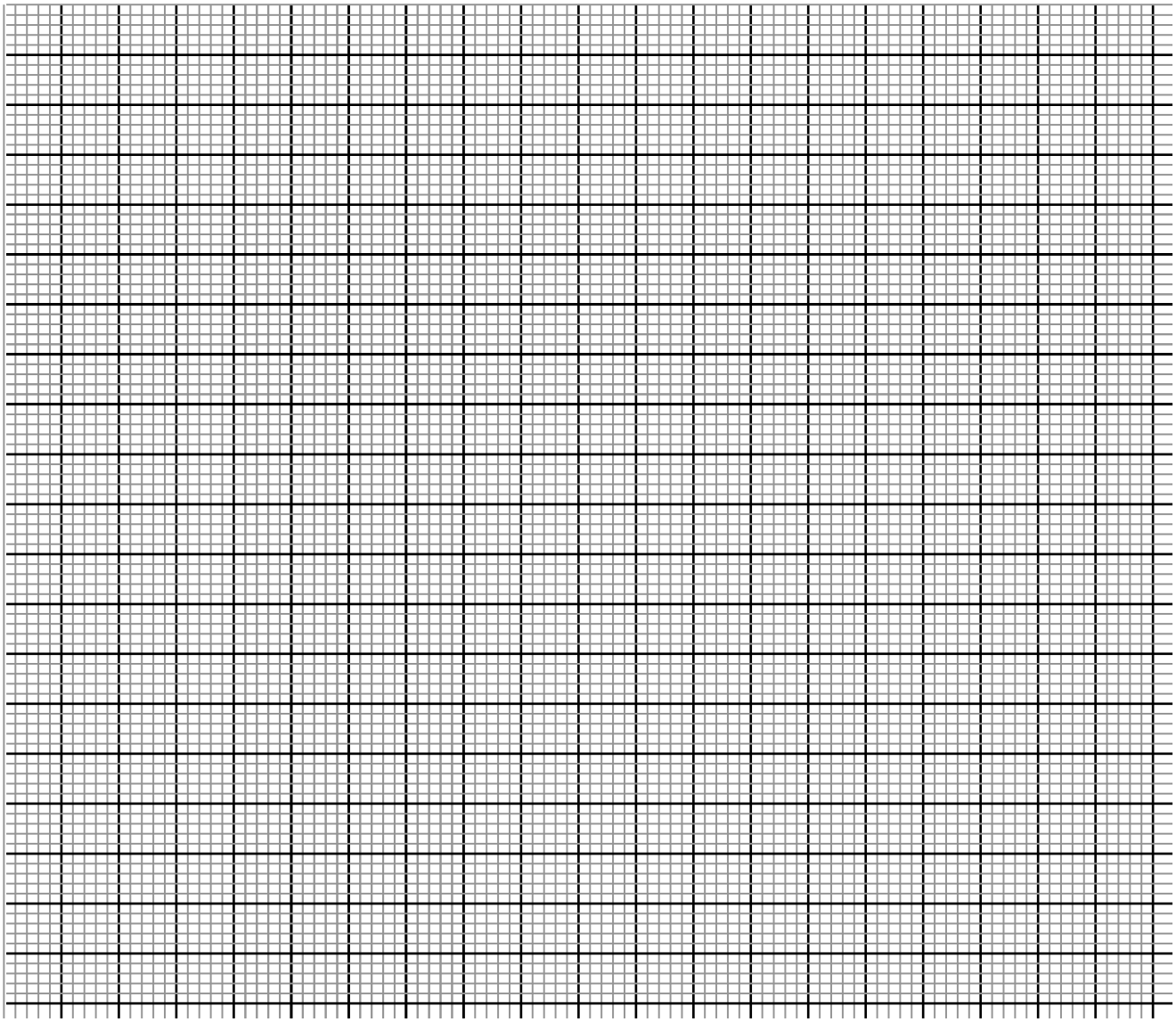
NOTE:

You may hasten cooling for the first two temperatures readings by pouring cold water from the tap on the sides of the boiling tube.

a) **TABLE I (6mks)**

Volume of water added (cm^3)	4	6	8	10
Crystallization temperature, Ts (°C)				
Solubility of solid C in g/l00g water				

(b) Plot a graph of solubility of solid A with crystallization temperature **Ts.** **[3mks]**



(c) Use your graph to determine

i. the solubility of solid A in water at 55°C. **[1 mk]**

ii. determine the temperature at which 100g of solid A would dissolve in 100 cm^3 of water**.** **[1 mk]**

PROCEDURE II

Transfer the content of the boiling tube into 100ml Measuring cylinder. Rinse both the boiling tube and thermometer with distilled water and add to the measuring cylinder and shake thoroughly. Add more water **carefully** to make up to 100 ml mark. Label this solution **A**. Fill the burette with solution **A** ($H_2X.2H_2O$). Pipette 25cm^3 of solution **B** into a conical flask. Add 2-3 of Phenolphthalein indicator and titrate with solution **A**. Record your readings in table **II** below. Repeat the procedure and complete table **II**.

Table II (4mks)

	I	**II**	**III**
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of solution A used (cm^3)			

i) Calculate the average volume of solution A used**.** **(1 mk)**

ii) Calculate the ;

I. Number of moles of sodium hydroxide in 25 cm^3 solution B**.** **(1mk)**

II. number of moles dibasic acid solution A used, given the equation for the reaction as;

$2NaOH + H_2X \longrightarrow Na_2X + \mathbf{2H_2O}$ **(1 mark)**

III. number of moles of dibasic acid in 100cm^3 of solution **A** **1 mark**

iii) Determine the ;

I. Relative formula mass of dibasic acid, $H_2X.2H_2O$. **1 mrk**

II. RAM of X in dibasic acid, **$H_2X.2H_2O$. (H=1,O=16)** **1 mark**

2. You are provided with **solid E** containing two cations and one anion. Carry out the tests given and record your observations and deductions in the space provided.

(a) Place half of solid **E** in a clean dry test-tube and heat gently then strongly. Test any gases produced with both blue and red litmus papers.

Observation	Deductions
(2 mks)	(1 mk)

(b) Place the remaining solid E into a boiling tube. Add about10cm^3 of distilled water and shake thoroughly. Divide the resultant mixture into 4 portions.

(i) To the first portion add a few drops of sodium hydroxide solution till in excess.

Observation	Deductions
(1 mk)	(1 mk)

(ii) To the second portion, add a few drops of ammonium hydroxide solution till in excess.

Observation	Deductions
(1 mk)	(1 mk)

(iii) To the third portion, add 2-3 drops of dilute hydrochloric acid.

Observation	Deductions
(1 mk)	(1 mk)

(iv) To the third portion, add 2-3 drops of Lead (II) nitrate solution.

Observation	Deductions
(1 mk	(1 mk)

(v) To the third portion, add a few drops of Barium chloride solution.

Observation	Deductions
(½ mk)	(½ mk)

3) You are provided with solid **F**. Carry out the tests below. Record your observations and inferences in the spaces provided.

i). Place about half of solid **F** on a metallic spatula and burnt it using a non-luminous flame

Observations	Inferences
(1mk)	(1mk)

ii) Place the remaining solid **F** in a clean boiling tube and add about $5cm^3$ of water and shake thoroughly.

I) To about $2cm^3$ of the solution **F**, put the universal indicator paper provided to determine its P^H.

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

II) To about $2cm^3$ of solution **F**, add three drops of acidified potassium manganate (VII) solution and warm.

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

III) To about $2cm^3$ of solution **F**, add solid sodium hydrogen carbonate.

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

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

PHYSICS

232/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Write your name, admission number, class and signature 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 spaces provided.*
- *Mathematical tables and electronic calculator may be used.*
- *All working MUST be clearly shown.*

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 12	25	
B	13	13	
	14	12	
	15	10	
	16	13	
	17	9	
	TOTAL SCORE	**80**	

SECTION A (25 MARKS)

Attempt all the questions in the spaces provided.

1.The figure (a) below shows the reading of a micrometer screw gauge when the micrometer is closed and figure (b) shows the reading on the same micrometer when used to measure the diameter of a marble.

Figure (a)

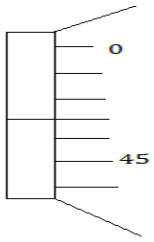
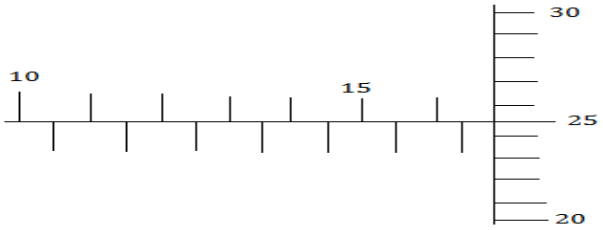


Figure (b)

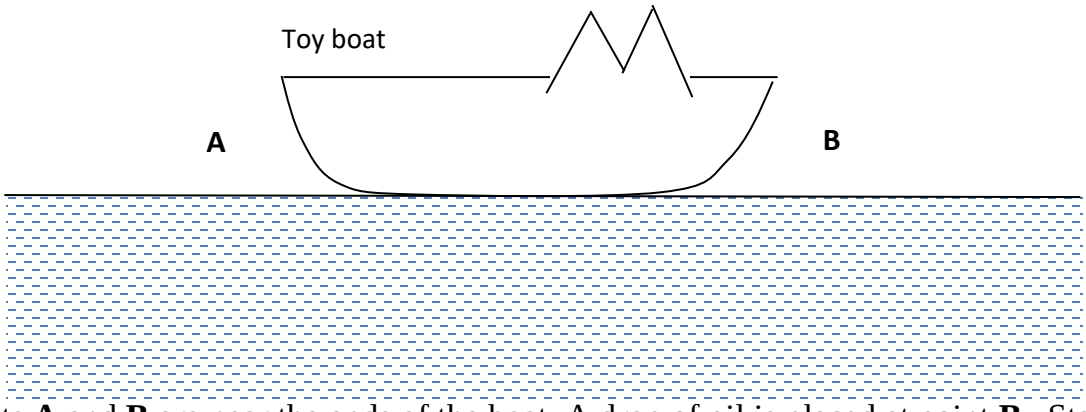


Determine;

(i) the zero error of the micrometer. **(1 mark)**

(ii) the actual diameter of the marble. **(2 marks)**

2.A small toy boat is carefully placed on water surface to float as shown in the diagram.



Points **A** and **B** are near the ends of the boat. A drop of oil is placed at point **B**. State and explain what happens to the boat. **(2 marks)**

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3. A girl in a school in Nakuru plans to make a barometer using a liquid of density $1.25gcm^{-3}$. If the atmospheric pressure in the school is $93750Nm^{-2}$. Determine the minimum length of the tube that she will require? **(3 marks)**

4. Smoke is enclosed in smoke cell and sealed. When illuminated and viewed under a microscope, it is observed to be moving in continuous random motion. State and explain the observation when cold water is poured on the smoke cell. **(2 marks)**

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5. At 27^0C the pressure of a gas is 50cmHg. At what temperature in degree Celsius would the pressure of the gas fall to 40cmHg if the volume is kept constant? **(3 marks)**

6. State **two** factors that affect the spring constant of a spring. **(2 marks)**

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7.Describe briefly how a fire alarm that uses a bi-metallic strip works. **(2 marks)**

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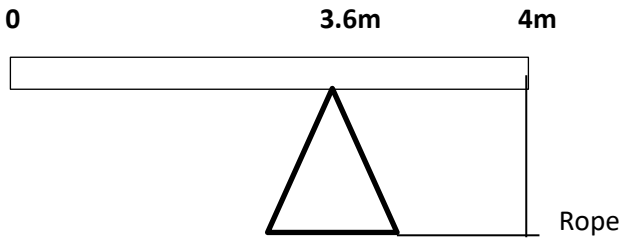
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8.An empty density bottle weighs 22g when empty and 65g when full of a liquid of density 800kg/m^3. Determine the volume of the bottle. **(2 marks)**

9.The figure below shows a uniform rod of length 4m and pivoted at 3.6m mark. The rod is held horizontally with a vertical rope at 4m mark as shown.



If the tension in the rope is 160N, determine the weight of the rod. **(2 marks)**

10. Water flows through a tube of length 60cm and cross-sectional area 5cm^2 in 0.05 minutes. Calculate the mass flow in kg/s. (density of water = 1000kg/m^3). **(2 marks)**

11. Explain why two thin blankets are warmer than a thick one. **(1 mark)**

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12. Distinguish between elastic collision and inelastic collision. **(1 mark)**

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SECTION B (55 MARKS)

Answer ALL questions in the spaces provided.

13. (a) Define angular velocity. **(1 mark)**

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(b) State the reason why a body in uniform circular motion is said to be accelerating. **(1 mark)**

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(c) The graph of centripetal force against the square of angular velocity (ω^2) is plotted as shown below.



(i) From the graph determine the slope. **(2 marks)**

(ii) Given that $F = mrw^2$; determine m when r = 1.23m. **(2 marks)**

(iii) Determine the angular velocity attained when a force of 16N is applied. **(2 marks)**

(d) An elastic spring of a spring constant 500N/m is compressed to give an extension of 10cm. A marble of mass 10g is placed on the spring and then released. Determine the velocity with which the marble will move. **(3 marks)**

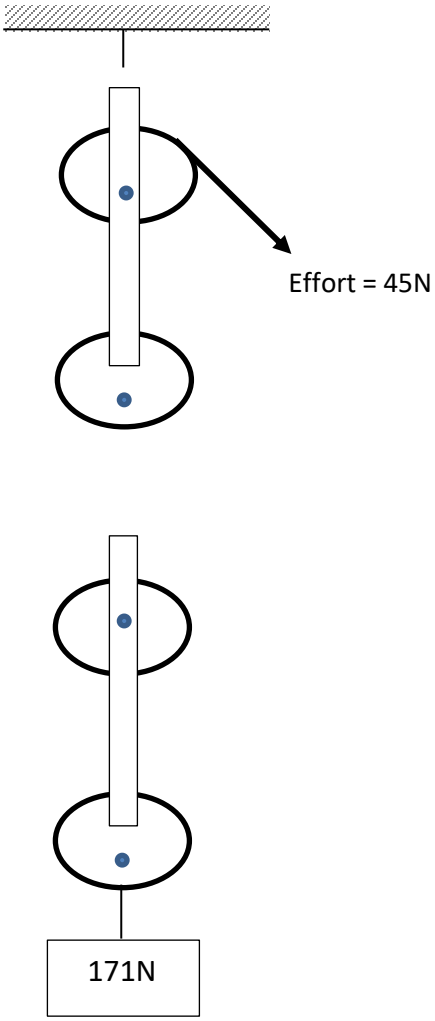
(e)A brick of mass 80kg is pulled along a horizontal surface with uniform velocity by a force of 60N. Determine the co-efficient of friction between the two surfaces? **(2 marks)**

14.(a) State the law of conservation of energy. **(1 mark)**

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.....

(b) Complete the diagram below by showing how the string is connected for the effort of 45N to be applied to raise a load of 171N through a height of 5m. **(1 mark)**



(c) From the block and tackle system shown in (b) above, determine;

(i) the velocity ratio. **(1 mark)**

(ii) the work done on the load. **(2 marks)**

(iii) the work input. **(2 marks)**

(iv) the efficiency of the system. **(2 marks)**

(v) Why is the efficiency of the machine less than 100%? **(2 marks)**

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(vi) It is observed that the efficiency of the machine increases when it is used to lift large loads. Give a reason for this. **(1 mark)**

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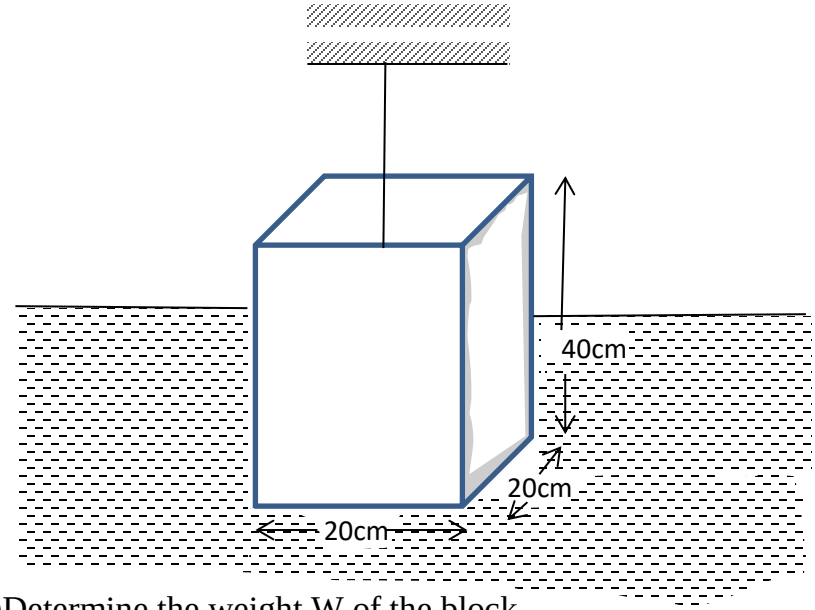
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15.(a) State Archimede's principle. **(1 mark)**

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(b) The following set-up shows a metal block of density 11,500 Kg/m^3 and dimensions $40cm \times 20cm \times 20cm$ suspended inside a liquid with ¾ of its volume submerged in the liquid. The block is held in position by a string attached to a point above the liquid.



(i) Determine the weight W of the block. **(2 marks)**

(ii) If the tension on the string is 1684N, determine the upthrust U of the liquid. **(1 mark)**

(iii) Determine the density of the liquid. **(2 marks)**

(iv) If a liquid of density 1100kg/m^3 is poured on top of the liquid until the block is just submerged, determine the new tension in the string. **(2 marks)**

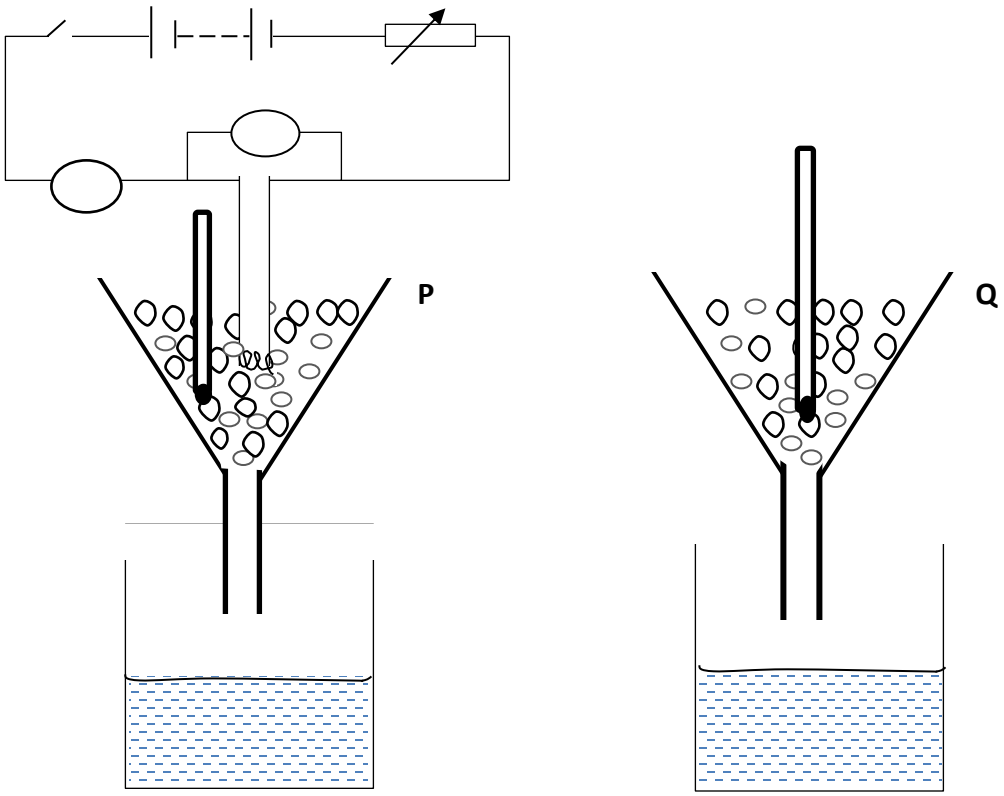
(c) A hydrometer of mass 30g floats in oil of density 0.9g/cm^3 with 6cm of its stem above the oil. If the cross-sectional area of the stem is 0.5cm^2, calculate the total volume of the hydrometer. **(3 mrks)**

16.(a) Define specific heat capacity of a substance. **(1 mark)**

……

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(b) The figure below shows a circuit that was used to determine the specific latent heat of fusion of ice by electrical method.



(i) Complete the circuit diagram shown above. **(1 mark)**

(ii) State the measurement to be carried out during the experiment. **(2 marks)**

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(iii) State the purpose of experiment Q. **(1 mark)**

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(c) Describe how the measurement taken can be used to determine the specific latent heat of fusion of ice. **(2 marks)**

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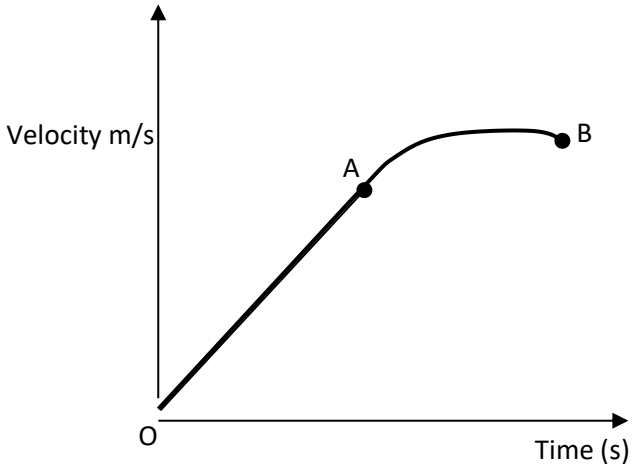
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(d) A heater rated 300W was used to heat water from 0^0C to 40^0C. If the heating took 5 minutes; determine;

(i) the heat capacity of water. **(2 marks)**

(ii) the mass of water. (specific heat capacity of water $4.2Jg^{-1}k^{-1}$) **(1 marks)**

17.(a) The figure below shows a velocity – time graph of a body.



Describe the motion of the body between;

(i) OA **(1 mark)**

……...

(ii) AB **(1 mark)**

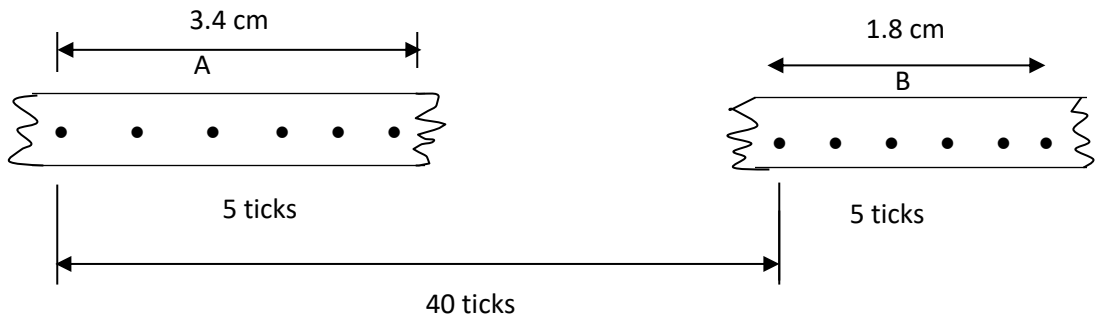
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(b)A simple pendulum is set swinging and the string is cut when the bob is at the centre of its oscillation and 8cm above the ground. If the velocity of the bob is then 2m/s;

(i) how long does the bob take to reach the ground? **(2 marks)**

(ii) how far does the bob travel horizontally. (Assume g = 10m/s) **(2 marks)**

(iii) A and B represents parts of the ticker tape of a trolley run. Each successive tick represents a time interval of $\frac{1}{50}th$ second.



(I) Find the initial velocity in region A. **(1 mark)**

(II) Find the final velocity in region B. **(1 mark)**

(III) Hence find the average acceleration of the trolley. **(1 mark)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

PHYSICS

232/2

PAPER 2

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Instructions to Candidates

1. Write your name, index number, class and admission number in the spaces provided above.
*2. This paper consists of **TWO** sections: Sections **A** and **B**.*
*3. Answer **ALL** the questions in sections **A** and **B** in the spaces provided.*
*4. ALL working **MUST** be clearly shown.*
5. Mathematical tables and electronic calculators may be used.

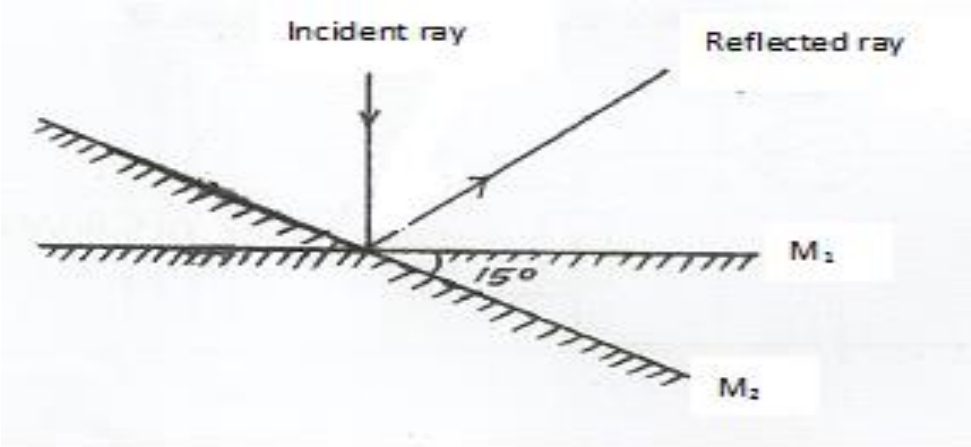
FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-12	25	
B	13	14	
	14	13	
	15	14	
	16	14	
TOTAL SCORE		80	

SECTION A (25 Marks)

Answer all questions in the spaces provided

1. The figure below shows a ray of light incident along the normal. The mirror is rotated at an angle of 15^o in a clockwise direction without changing the position of the incident ray,



Determine the angle through which the reflected ray is rotated. **(2 marks)**

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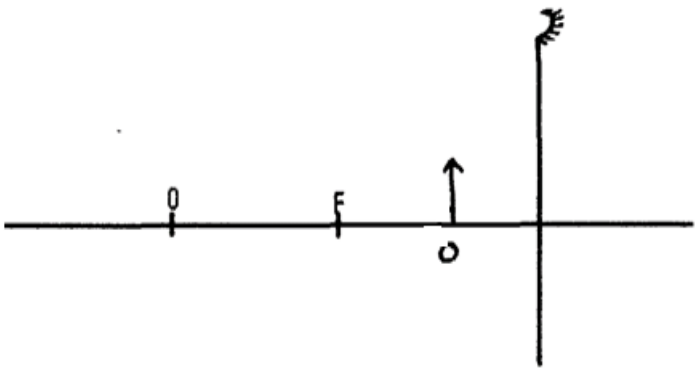
2. Describe how to charge a gold leaf electroscope positively by induction method using a polythene rod and a silk **cloth** **(2 marks)**

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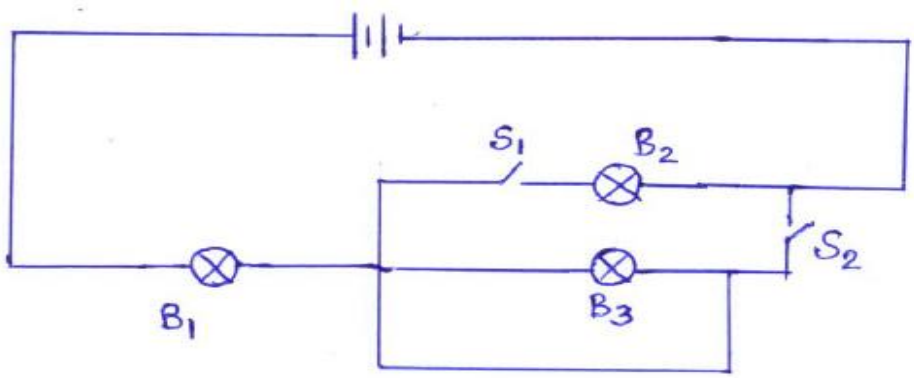
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3. An object O is placed in front of a concave mirror as shown in the figure below. Complete the light ray diagram to locate the position of the image. **(3 marks)**



4. A student set up the circuit shown in figure below.



State the observation when;

i. Switch S1 is closed **(1 mark)**

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ii. If all switches are closed; compare the lighting between B_1, B_2 and B_3 **(2 marks)**

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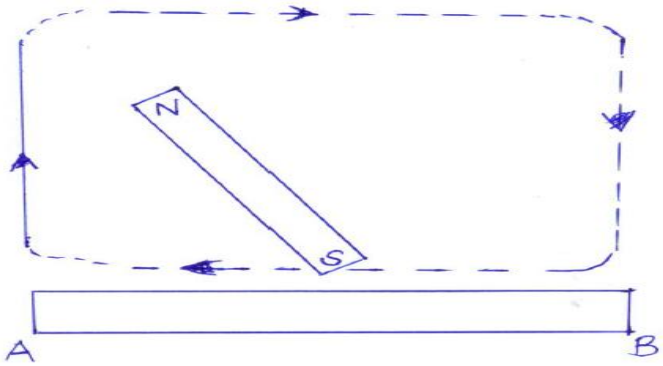
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5. State two ways of increasing the strength of an electromagnet**.** **(2 marks)**

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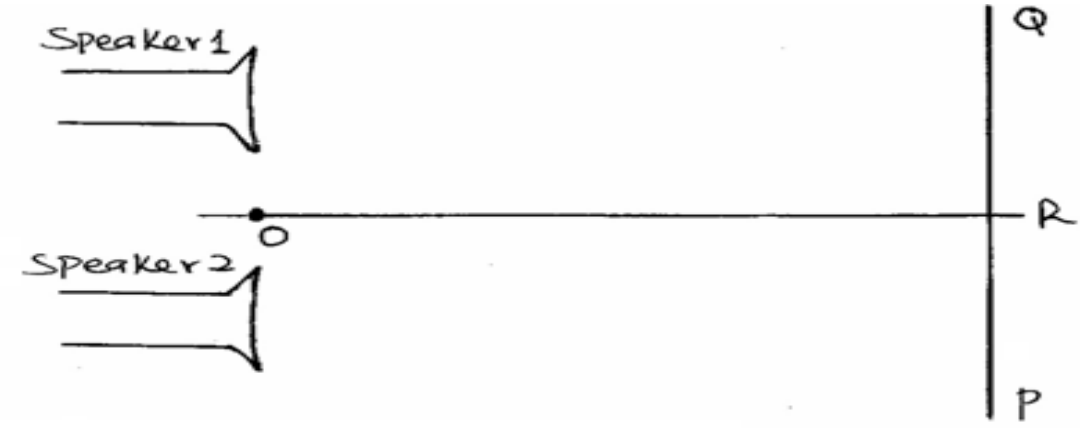
6. The figure below shows one of the method used to magnetise a magnetic material



State the polarity of B. **(1 mark)**

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7. Two identical loudspeakers are arranged as shown and connected to the same signal generator. Line OR is equidistant from the speakers.



i. An observer moves along line PQ. State and explain the observation. **(2 marks)**

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ii. If the frequency of sound from the generator is increased, what effect does this have on the interval at which the observer hears the soft sound? **(1 mark)**

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8. The figures below show the profiles of a transverse wave.

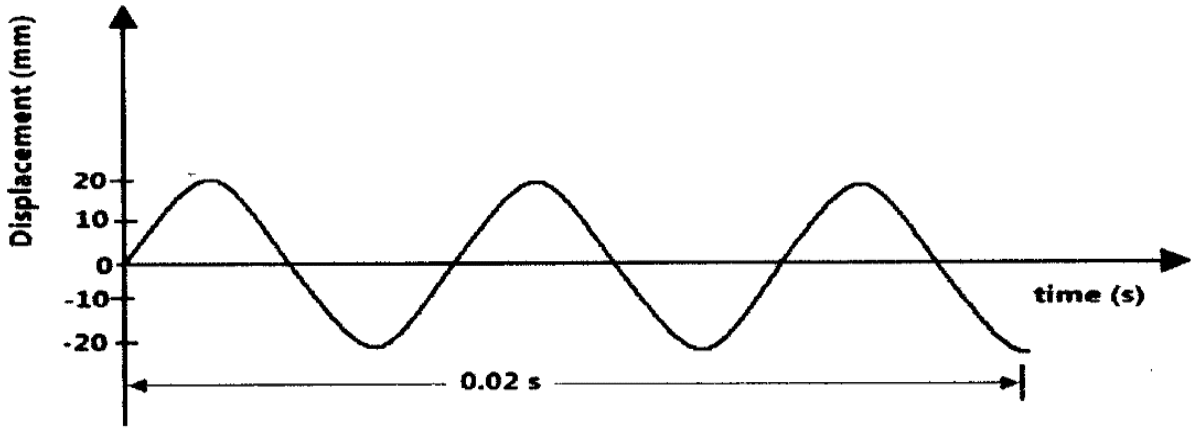
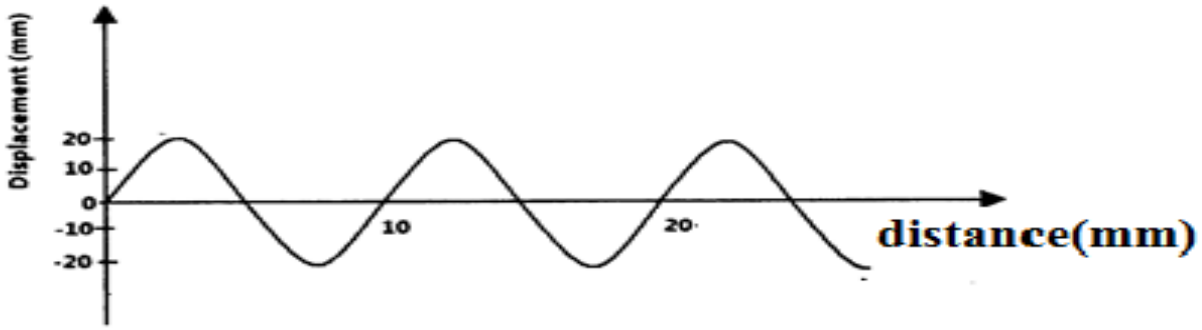


Figure 4



Determine for the wave the:

(i) Wavelength **(1mark)**

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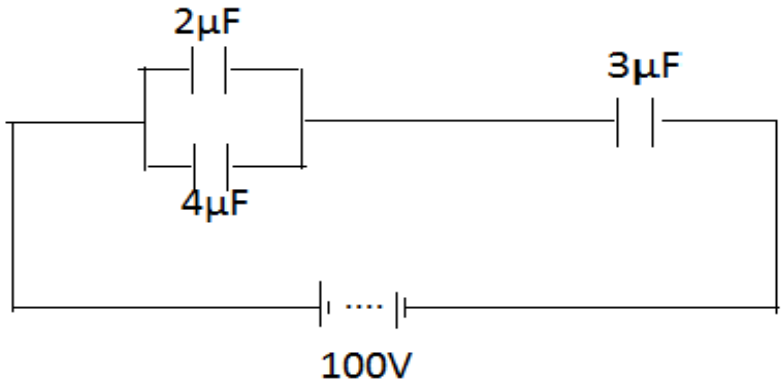
(iii) Velocity **(2 marks)**

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9. The diagram below shows a capacitor network connected to a 100V supply.



Calculate the total charge in the circuit. **(3 marks)**

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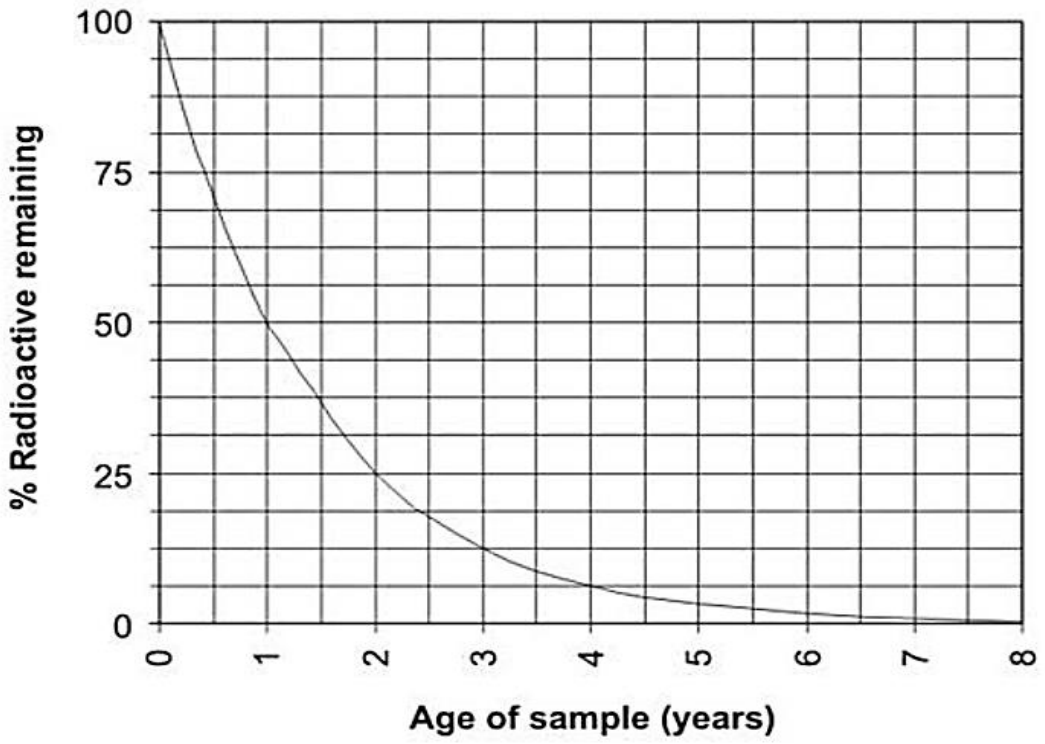
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10. Define the term doping as applied in **electronics** **(1 mark)**

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11. The graph below shows the variation of percentage mass remaining against age in years of a certain radioactive substance



Determine the half-life of the source **(1 mark)**

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12. State one difference between the Cathode ray tube of a television and that of a Cathode ray Oscilloscope. **(1mark)**

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SECTION B (55 marks)

Answer all questions in the spaces provided

13 (a) State the Ohm's law **(1mark)**

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(b) You are provided with the following apparatus; a coil of nichrome wire, two dry cells, ammeter, voltmeter, connecting wires, switch and rheostat.

(i) Draw a circuit diagram that can be used to verify Ohm's **law** **(1mark)**

(ii) State the measurements to be taken **(2marks)**

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(i) Describe how these measurements obtained can be used to verify Ohm's law **(3marks)**

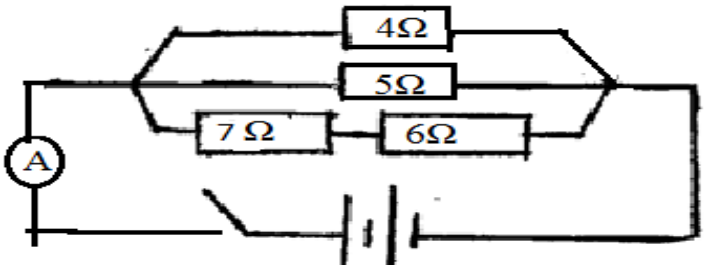
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(c) Study the figure below and answer the questions that follow



Determine:

(i) The combined resistance **(3 marks)**

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(ii) The total current flowing through the 6Ω resistor **(2 marks)**

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(iii) Voltage across the 7Ω resistor **(2marks)**

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14 (a) Define critical angle **(1mark)**

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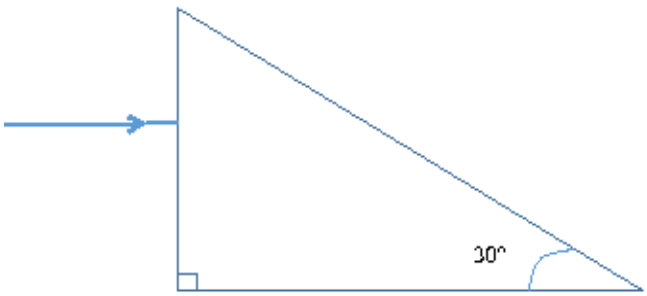
(b) Crown has a refractive index of 1.55. Determine its critical angle. **(3 marks)**

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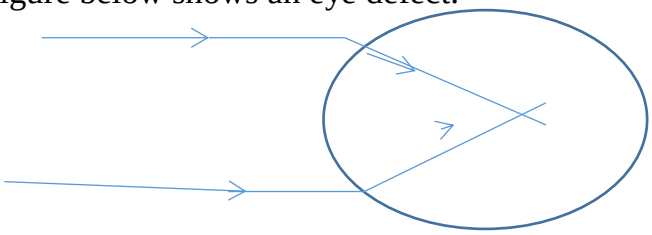
(c) A ray of light strikes the crown prism in (b) above as shown below.



Trace the path of the ray till it emerges (show your working above) **(3 marks)**

(d) Using a well labeled diagram, show how you would use a converging lens as a simple microscope **(3 marks)**

(e) The figure below shows an eye defect.



(i) Name the defect shown above **(1 mark)**

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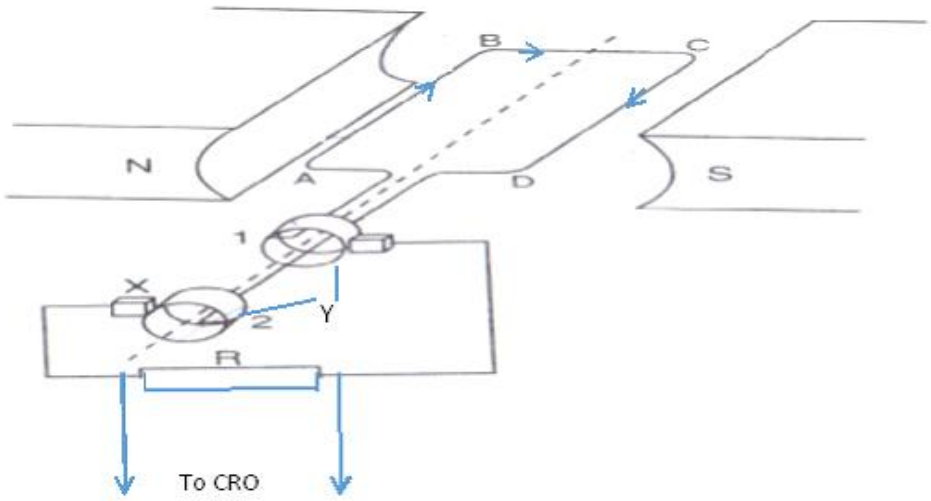
(ii) On the same diagram show how you can correct the above defect **(2 marks)**

15. (a) State the Lenz's Law **(1 mark)**

……

……

(b) The diagram below shows a simple generator



(i) Name the parts labeled**; (I) X** …… **(1 mark)**

(II) Y…… **(1 mark)**

(ii) On the diagram, show the direction of rotation, such that the current flows in the direction indicated by the arrows **(1 mark)**

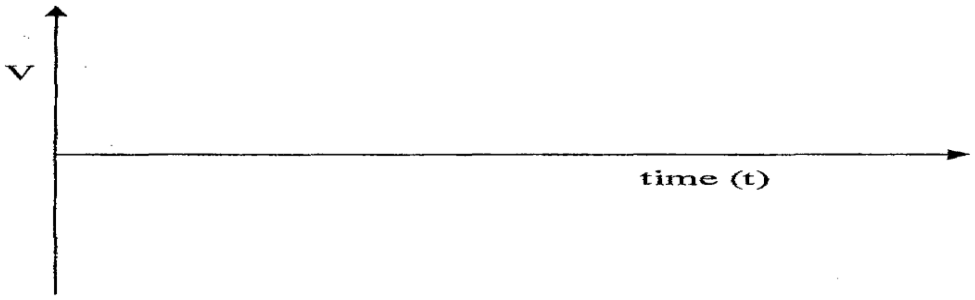
(iii) State two ways of making the generator produce more current **(2 marks)**

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(iv) On the axes below, sketch the graph of the output voltage for two complete cycles if the C.R.O is connected as shown **(1 mark)**



(v) Explain how you would modify the generator above to produce d.c. **voltage** **(1 mark)**

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(c) A power line supplies electrical energy to a transformer in a factory. The input voltage to the transformer is 11000V. The transformer changes voltage to 415V for use in a factory. The power input to the transformer is 40KW. Calculate the current in the secondary coil of the transformer if the transformer is 90 percent efficient. **(3 marks)**

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(d) A Form four student spent the April holiday at home and used the following electrical appliances per day:-

8KW cooker for 1 hour,

40W study bulb for 12 hours

(i) Find the total monthly bill for the above household if the power company charges ksh. 2.50 per unit if in addition to the energy consumed, the power company charges each consumer.

I A standing charge of Ksh.200.

II Fuel cost levy at 70 cents per unit. **(3 marks)**

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16 (a) Apart from the intensity of light, state two other factors which affect photoelectric effect. **2 mks)**

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(b) A material has a work function of 2.9eV. The wavelength of an incident radiation on its surface is 2.9 X 10^{-7} m. (Given that; C = 3.0 x 10^{8} m/s, h = 6.63 x 10^{-34} Js, 1eV = 1.6 x 10^{-19} and mass of an electron = 9.11 × 10^{-31}kg).

(i) Determine frequency of incident radiation **(2 marks)**

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(ii) Determine the stopping potential. **(3 marks)**

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(iii) Determine the speed of the emitted electrons **(3 marks)**

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(c) (i) State how you can increase the strength of X- rays **(1 mark)**

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(ii) Give one application of X- rays in industry. **(1 mark)**

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(iii) Give reason why the X- ray tube is evacuated. **(1 mark)**

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(iv) State why the anode is made of copper **(1 mark)**

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

PHYSICS

232/3

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

i) Write your name and Admission number in the spaces provided above.
ii) Answer all the questions in the spaces provided above.
iii) 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
iv) Marks are given for a clear record of the observations actually made their suitability, accuracy and the use made of them.
v) Candidates are advised to record their observations as soon as they are made.
vi) Non- programmable silent calculators and KNEC Mathematical tables may be used.

FOR EXAMINER'S USE ONLY

Question 1

	b (i)	b (ii)	c (i)	c (ii)	c (iii)
Maximum score	1	7	5	3	4
Candidates score					

Total

Question 2

	a (i-ii)	b (i)	b(ii)	c(i)	c(ii)	d	e(I-II)	f(i-ii)
Maximum score	4	1	4	1	1	2	2	5
Candidates scor								

Total

QUESTION ONE

You are provided with the following

- A pendulum bob.
- A thread 110cm long
- A retort stand, clamp and boss.
- Two pieces of wood.
- A metre rule.
- A stop watch.

Proceed as follows:

(a) Tie the pendulum bob with the thread provided as shown in **Figure 1**. Clamp the end of the thread between the two pieces of wood, so that the length L of the pendulum is 100cm

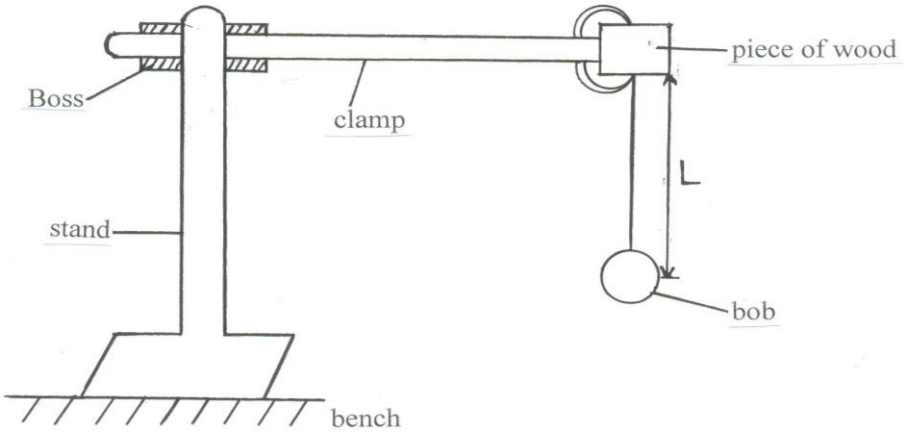


Figure 1

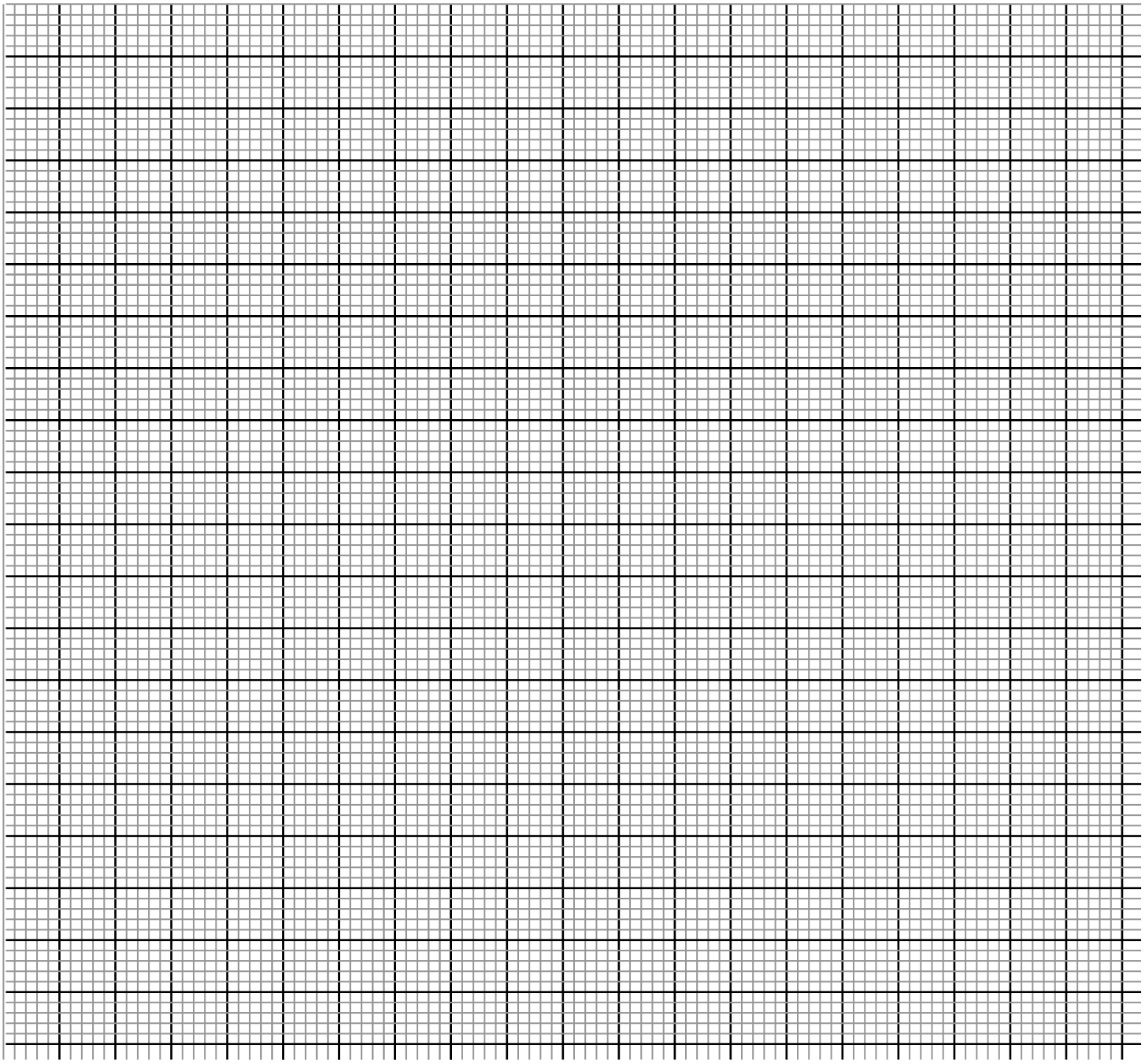
(b) (i) Give the bob a slight displacement and release it. Record time 20 oscillations when the length of the pendulum is 100cm.

time = …… s. **(1mark)**

(ii) Repeat b (i) above for values of L of 90cm, 80cm, 70cm, 60cm, 50cm, 40cm and 30cm and complete the table below. **7marks)**

Length L (m)	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3
Time t for 20 oscillations (s)								
Periodic time T (s)								
T^2 (S^2)								
Log T^2								
Log L	0	-0.05			-0.22			

(c) (i) Plot a graph of log L against log T^2 **(5marks)**



(ii) Determine the slope of the graph **(3marks)**

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(iii) Given that the relationship between L and T^2 is given by $\text{Log } L = \text{Log } T^2 - \left(\text{Log } \frac{39.44}{g}\right)$ where g is a constant. Use the graph to determine the value of g.

(4marks)

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QUESTION TWO

Part A

You are provided with the following:

-A lens and a lens holder.

-A screen with cross wires

-A candle

-A metre rule.

Proceed as follows:

a) Arrange the lightened candle, the lens and the screen as shown in **figure 2**. Adjust the position of the screen until a sharp inverted image of the candle is formed on the screen.

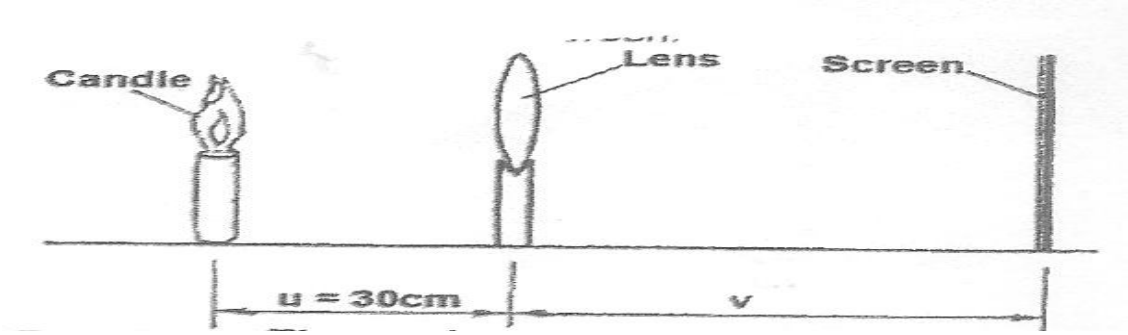


Figure 2

i) Measure the image distance.

v = …… cm **(1mark)**

ii) Determine the focal length of the lens using the formula $f = \frac{uv}{u+v}$ **(2marks)**

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b) Now arrange the lighted candle, the screen with cross wires and the lens as shown in **figure 3**. *Ensure that the centre of the lens, the cross-wires, and the candle flame lie on the same horizontal line*. The candle flames should be placed close to the cross-wires for better illumination.

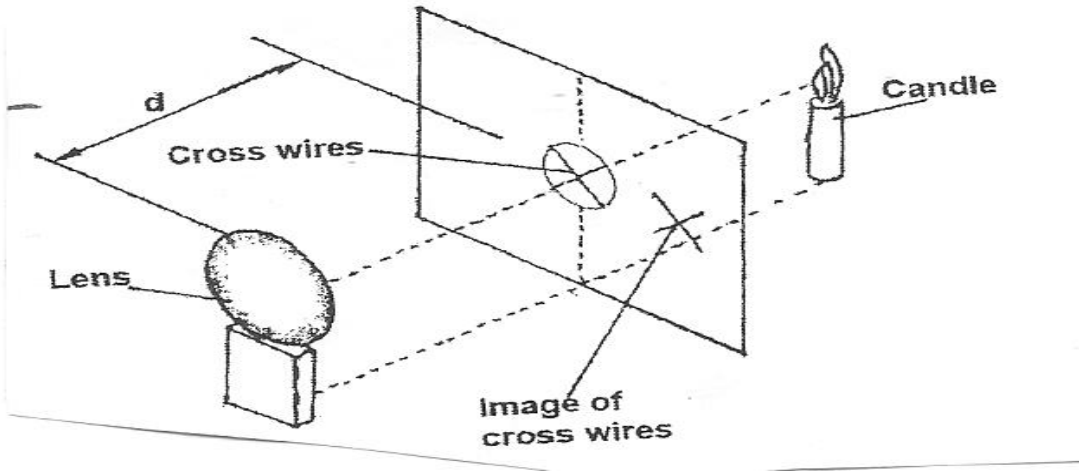


Figure 3

i) Adjust the position of the lens until a sharp image of the cross-wire is formed on the screen next to the cross wires. (*Hint: You have to rotate the lens slightly about a vertical axis so that the image of the cross-wires falls on the screen next to the cross-wires and not on the cross-wires.)*

Measure the distance d, between the lens and the screen.

d = ---------- cm **(1mark)**

ii) Determine the values of L and X:

a) $L = \frac{df}{f-d}$ **(2marks)**

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b) $X = \frac{L}{2f} + 1$ **(2marks)**

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PART B

You are provided with the following

-Amicrometer screw gauge (to be shared)

-A centre zero galvanometer

-A switch

-Connecting wires (at least five with a crocodile clip on one end)

-A resistance wire mounted on a millimeter scale labelled **AB**

-A resistance wire labelled **P**

-A resistance wire labelled **G**

-a metre rule or half metre rule

-two dry cells and a cell holder

Proceed as follows:

c) Using the micrometer screw gauge provided, measure the diameter

i) D of wire P

D = ----------**mm** **(1mark)**

ii) d of wire Q

d = ----------**mm** **(1mark)**

d) Determine $\mathbf{C_1}$, the value of the ratio $\frac{D}{d}$

$\mathbf{C_1}$ = ---------- **(2marks)**

e) Set up the circuit as shown in **Figure 4**. (*Ensure that each of the wires **P** and **Q** is 50cm long.)*

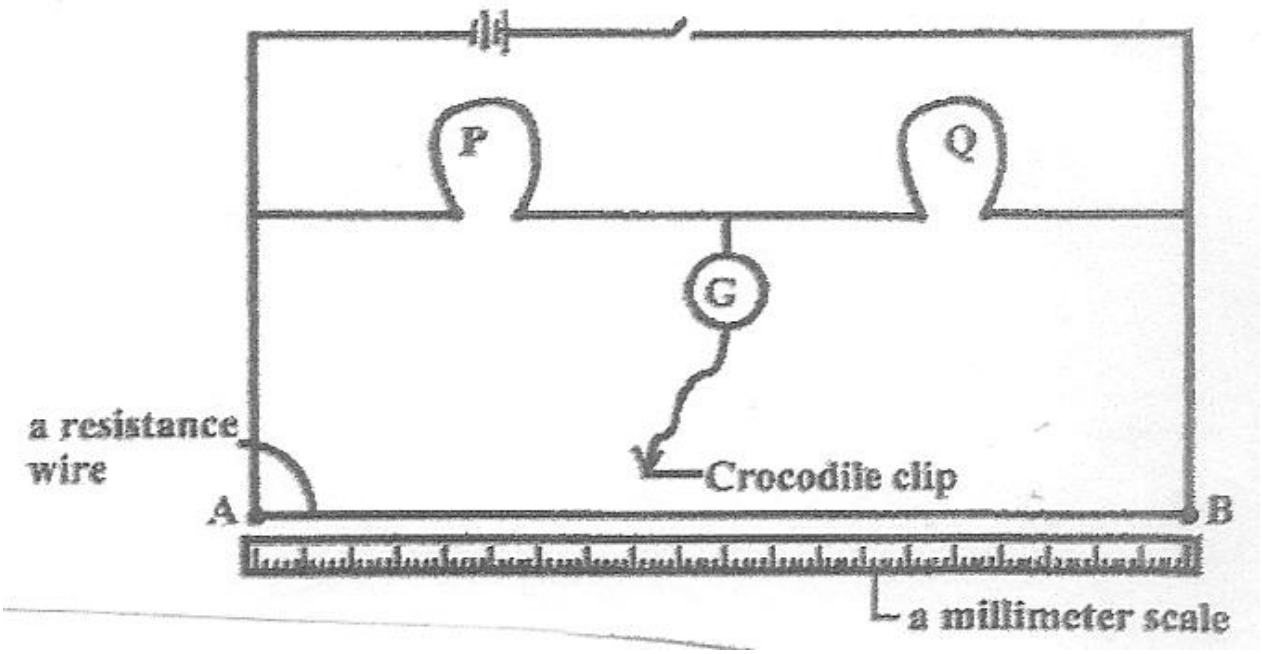


Figure 4

Close the switch. Using the clip at the free end of the wire from the Galvanometer, tap wire **AB** near end **A** and observe the deflection in the galvanometer.

ii) Then tap the wire near end **B** and again observe the deflection in the galvanometer

iii) Now tap the wire **AB** at various points between **A** and **B** to obtain a point K where there is no deflection in the galvanometer

I. Determine the length L_1, the distance from **A** to **K**

L_1 = ...cm **(1mark)**

II. Determine the length L_2, the distance from **B** to **K**

L_2 =..... cm **(1mark)**

f i) Given that the resistance $\mathbf{R_Q}$ of **Q** is 9.0 Ohms, determine the resistance $\mathbf{R_p}$ of **P** using the expression: **(2marks)**

$$\frac{R_p}{R_Q} = \frac{L_1}{L_2}$$

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ii) Determine the value of $\mathbf{C_2}$, given that, **(2marks)**

$\mathbf{C_2} = \sqrt{\frac{R_Q}{R_P}}$

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iii) Compare the value of $\mathbf{C_1}$, in part (b) with that of $\mathbf{C_2}$ **(1mark)**

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

AGRICULTURE

443/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… **SIGN**……

INDEX NO…… **ADM NO**……

INSTRUCTIONS:

a) *The paper has 3 sections.*

b) *Answer all questions in section A and B and any 2 questions in section C.*

SECTION A: (30MKS)

1. State four advantages of using farm yard manure. **(2mks)**

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2. State four merits of minimum tillage in crop production. **(2mks)**

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3. Mention four practices carried out to maintain grass pastures. **(2mks)**

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4. State four disadvantages of nomadic pastoralism. **(2mks)**

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5. Mention four cultural methods of used control in crop production. **(2mks)**

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6. State four ways of overcoming extremes of temperature in crop production. **(2mks)**

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7. List five precautions observed in harvesting tea to ensure high quality produce. **(2½ mks)**

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8. List three ways in which primary cultivation can be achieved. **(1 1/2mks)**

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9. An agriculture student was advised to apply complete fertilizer 40:30:10 in a (20x10) M plot and at the rate of 40kg per hectare.

(i) Calculate the percentage of P_2O_5 in the complete fertilizer. **(2mks)**

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(ii) Calculate the amount of fertilizer the student would require for the plot. **(2mks)**

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10. State four divisions of livestock farming. **(2mks)**

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11. List four methods commonly used for applying nitrogenous fertilizers. **(2mks)**

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12. Name four factors influencing soil formation. **(2mks)**

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13. A farmer owns one hectare on which he can grow maize whose yield is 15 bags/hectare but has chosen to grow sorghum whose yield is 20 bags/hectare. If maize is sold at shs 1200 per bag while sorghum is sold at shs 700 per bag. Calculate the opportunity cost. **(2mks)**

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14. State four characteristics of plants used for preparation of green manure. **(2mks)**

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SECTION B (20MKS)

15. Students in an agriculture class set out to investigate the constituents of soil sample from school. They carried out a series of tests on various portions of the sample. They then prepared a table a shows below:

Description	Quantity
Mass of an empty evaporating disk	10g
Fresh soil on evaporating disk	35g
Mass of dried soil at 105oC on evaporating disk	28g
Vol. of water in the tin	250cm^3
Vol. of water and soil after stirring	410cm^3
Mass of empty silica disk	15g
Mass of silica disk and soil after ignition	45g
Mass of silica disk and dried soil before ignition	65g
Volume of water and soil before stirring	500cm^3

a) Calculate the percentage of soil water in the sample. **(1mk)**

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b) Why was soil heated at 105^{o}C? **(1mk)**

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c) Calculate the percentage of soil air in the sample? **(1mk)**

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d) Calculate the percentage of soil organic matter in the sample. **(1mk)**

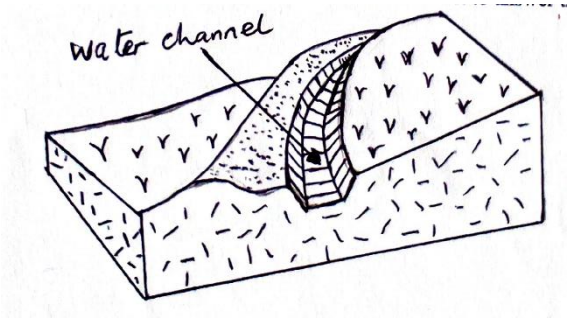
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e) Name one other soil constituent not tested above. **(1mk)**

……

16. The diagram below shows a construction on farm. Use it to answer the questions that follow.



a) Identify the above structure. **(1mk)**

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b) State four areas where water in the channel is directed to: **(4mks)**

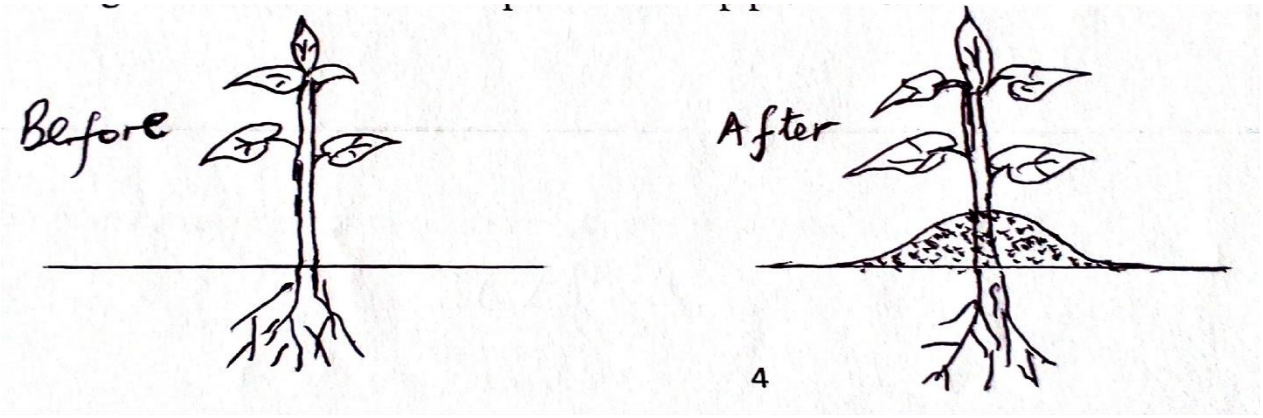
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17. The diagram below shows a field practice in crop production.



a) Identify the practice. **(1mk)**

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b) State two advantages of the practice named in (a) above to Irish potatoes. **(2mks)**

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c) Name two other crops that require the above practice. **(2mks)**

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18. Use the diagram below to answer the questions.



(a) Identify the sorghum variety shown above. **(1mk)**

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(b) State two bird pests that commonly attack the crop. **(2mks)**

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(c) Name two other varieties commonly grown by farmers. **(2mks)**

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SECTION C (40MKS)

19. (a) Outline the procedure for soil sampling. **(8mks)**

(b) Give five reasons for ridging sweet potatoes. **(5mks)**

© Outline seven properties of nitrogenous fertilizers. **(7mks)**

20. (a) Discuss five benefits of weeds to the farmer. **(10mks)**

(b) Discuss five importance of draining a waterlogged area. **(10mks)**

21. (a) Discuss five factors influencing crop rotation. **(10mks)**

(b) Discuss five government policies that regulate production, marketing and distribution of agricultural products. **(10mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

AGRICULTURE

443/2

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… **SIGN**……

INDEX NO…… **ADM NO**……

INSTRUCTIONS TO CANDIDATES:

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

(b) Answer all the questions in section A and B.

(c) Answer any two questions in section C.

(d) Answers should be written in the spaces provided.

SECTION A: (30 MARKS)

1. Name two exotic breeds of dairy goats. **(1 mk)**

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2. State four advantages of natural method of rearing calves. **(2 mks)**

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3. (a) Name livestock commonly attacked by keds. **½ mk)**

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(b) Give three signs of attack by keds on livestock named in 3(a) above. **1½ mk**

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4. State four disadvantages of a hedge in a farm. **(2 mks)**

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5. (a) Name a tool used in carrying out each of the following practices:

(i) Cutting galvanized iron sheet - **½ mk)**

(ii) Cutting wood along the grains - **½ mk)**

(iii) Marking lines parallel to the edge of stock - **½ mk)**

(iv) Placing mortar between construction stones - **½ mk)**

6. State four maintenance practices carried out on a jack plane. **(2 mks)**

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7. State four signs of parturition in a cow. **(2 mks)**

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8. Explain how the following methods help in controlling livestock diseases:

(i) Mass slaughter **½ mk)**

(ii) Proper feeding - **½ mk)**

(iii) Quarantine - **½ mk)**

(iv) Vaccination - **½ mk)**

9. Give two uses of litter in a brooder. **(1 mk)**

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10. State two reasons for dehorning in cattle. **(2 mks)**

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11. Give four essentials of clean milk production in a herd. **(2 mks)**

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12. Give four predisposing factor of pneumonia in cattle. **(2 mks)**

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13. State four factors that determine digestibility of a feed. **(2 mks)**

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14. Give four methods of preserving fish. **(2 mks)**

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15. Give four disadvantages of using thatch in construction of farm buildings. **(2 mks)**

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16. State four reasons for swarming in bees. **(2 mks)**

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SECTION B: (20 MARKS)

17. (a) A farmer was advised to prepare 180kg of calf ration containing 20% DCP. Using pearsons square method, calculate the amount of maize containing 10% DCP and sunflower containing 40% DCP the farmer needs to use. Show your working. **(4 mks)**

(b) State two factors considered when formulating a livestock ration. **(2 mks)**

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



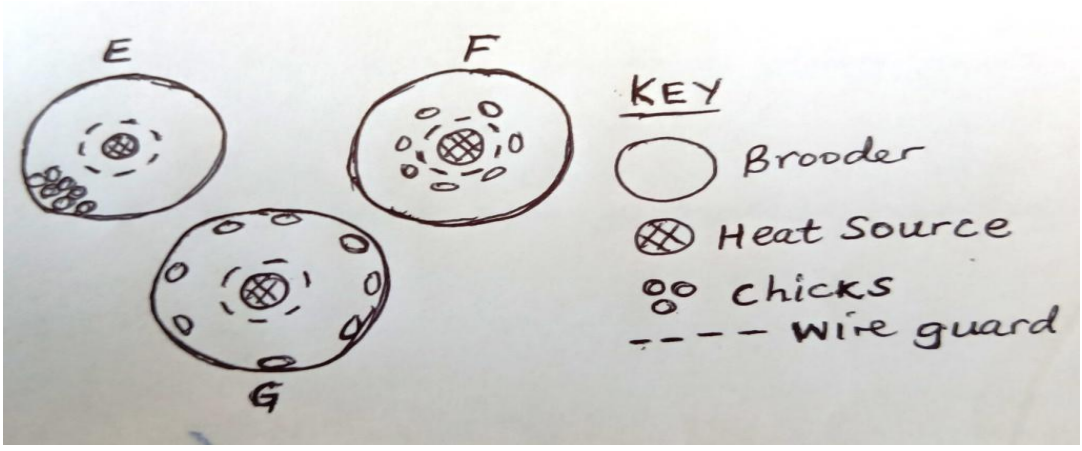
(a) Name the type of identification illustrated above. **(1 mk)**

(b) Give the identification number of the pig illustrated above. **(1 mk)**

(c) Using a diagram, illustrate how animal number 83 can be identified using the above method. **(2 mks)**

(d) What is the use of metal rails in a farrowing pen. **(1 mk)**

19. The diagrams below shows the behaviour of chicks in a brooder in response to heat.



(a) Explain the behaviour of chicks in brooder;

E – **(1 mk)**

F – **(1 mk)**

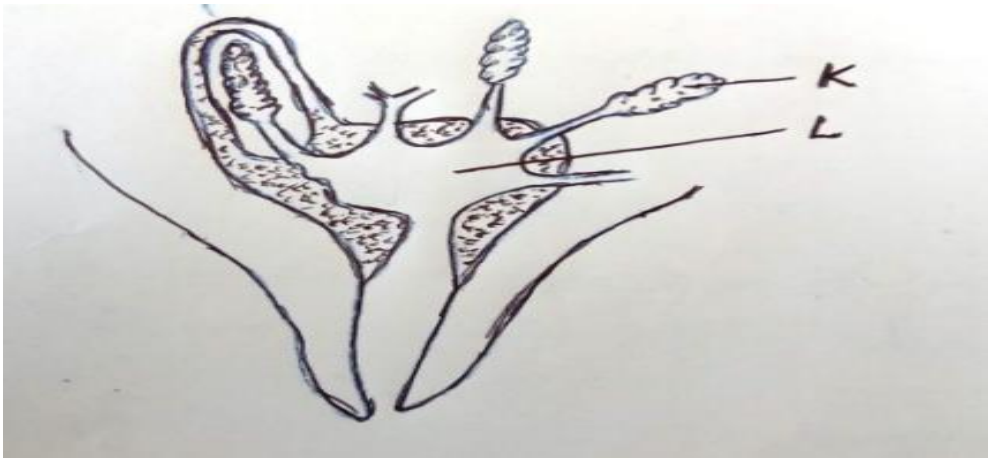
G – **(1 mk)**

(b) Explain why the brooder is rounded. **(1 mk)**

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20. The diagram below shows the structure of the udder of a cow. Study it then answer the questions that follow.



(a) Identify parts labeled **K and L.** **(2 mks)**

K –

L –

(**b)** Name two hormones that control milk let-down in a dairy cow. **(2 mks)**

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(c) Name one disease that attacks part labeled L. **(1 mk)**

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SECTION C: (40 MARKS)

21. **(a)** Describe the physical characteristics of a good dairy cow for breeding. **(10 mks)**

(b) **(i)** State five functions of water in the body of livestock. **(5 mks)**

(ii) Explain the advantages of a four stroke cycle engine. **(5 mks)**

22. **(a)** Explain five factors that affect milk composition in dairy cattle. **(5 mks)**

(b) Describe five factors that may lead to failure of a cow to conceive after service. **(5 mks)**

(c) Explain the factors that a farmer should consider when selecting materials to construct a zero grazing unit. **(10 mks)**

23. **(a)** Describe milk fever under the following sub-headings:

(i) Animal affected. **(1 mk)**

(ii) Cause of disease. **(1 mk)**

(iii) Symptoms. **(5 mks)**

(iv) Control measures. **(3 mks)**

(b) Outline the advantages of artificial insemination in cattle. **(10 mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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 reasons why food is considered basic want. **(4mks)**

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2. Highlight four reasons that can lead to the dissolution of a cooperative society. **(4mks)**

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3. The following table contains information relating to business A, B and C. Determine the figures represented by W, X and Y. **(4mks)**

BUSINESS	ASSETS	CAPITAL	LIABILITIES
A	620,000	230,000	W
B	420,000	X	500,000
C	Y	500,000	300,000

i) W……

ii)X……

iii)Y……

iv)Account for the value of X ……

4. State the discipline given to each of the following statements. **(4mks)**

STATEMENT	DISCIPLINE
a) Study of activities that are carried out in an office	
b)study of trade and aids to trade	

c)study of how human beings strive to satisfy their unlimited wants using the limited resources	
d)study of the process of identifying business opportunity and acquiring resources to start and run a business	

5. Identify any four roles of intermediaries in the chain of distribution. **(4mks)**

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6. Advertising primarily aims at promoting a particular line of a product. Suggest four ways in which advertising can be beneficial to the consumer. **(4mks)**

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7. Agency banking is becoming increasingly popular among commercial banks in Kenya. Highlight four benefits of this development to bank account holders. **(4mks)**

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8. Outline four circumstances under which a business person may find air transport more appropriate than water transport. **(4mks)**

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9. Outline four problems encountered in measuring national income using output approach. **(4mks)**

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10. Mrs Atieno is the human resource manager to the ABC Holdings. Advise her on four ways that can help improve the performance of the entire work force. **(4mks)**

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11. On 1st January 2005, Kamau started a furniture shop with capital of Ksh120,000. During the year he took Kshs12,000 for his sons birthday party. He also brought into the business private furniture worth Ksh20,000. At the end of the period he had made a profit worth Ksh35,000. Determine Kamau's capital at the end of the period. **(4mks)**

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12. State four fiscal policies that can be used to control inflation. **(4mks)**

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13. Highlight four reasons why a business may find it necessary to adopt a landscape office layout.

(4mks)

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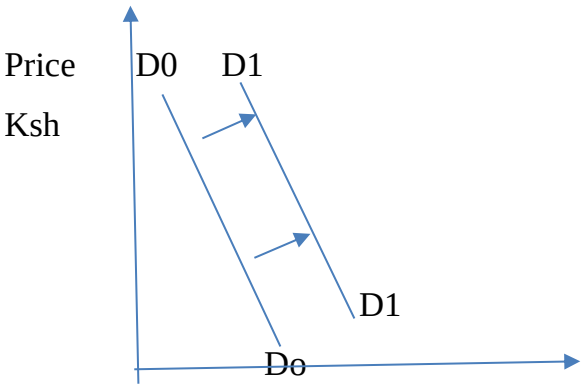
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14. The diagram below shows a demand curve D_0D_0 and D_1D_1



Quantity demanded

Highlight four factors that account for the above phenomena. **(4mks)**

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15. State four functions of a proforma invoice as used in Home trade. **(4mks)**

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16. In the table below, state the journal whose source document is given. **(4mks)**

Source document	**Journal**
Invoice issued	
Payment voucher	
Incoming invoice	
Receipt issued	
Credit note issued	

17. Outline four importance of pooling or risks to an insurance company. **(4mks)**

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18. Mention four benefits of establishing several firms in an industry. **(4mks)**

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19. In an oligopoly market structure, all firms face a kinked demand curve. Draw a kinked demand curve and briefly outline the concept of price rigidity. **(4mks)**

20. Differentiate between reproductive debt and dead-weight debt as used in public finance. **(4mks)**

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21. Outline four challenges that a young population poses to a country. **(4mks)**

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22. Highlight four 2030 development goals that the Kenya government aim to achieve. **(4mks)**

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23. The following is a list of ledger accounts. Name the ledger book, in which they are maintained. **(4mks)**

Account	**Ledger book**
a)drawings	
b) Kamiritu (Customer)	
c)Sales	
d)Machinery	

24. Define the following terms as used in International Trade. **(3mks)**

a) Terms of trade

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b) Balance of trade

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c) Balance of payment

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25. The following balance sheet belongs to Dowling enterprises.

Dowling Enterprises

Balance sheet

As at 31/12/2015

Fixed Assets			Capital		
Land	450,000		Capital		
Vehicles	250,000				
Fittings	7,500		543,000		
			Long term liabilities		
707,500			Loan from KIE	100,000	
Current assets			Loan from ICDC	75,000	
Stock	20,000				
Debtors	12,500		175,000		
Bank	8,000		Current liabilities		
Cash	5,000		Creditors	25,000	
	45,500		Salaries owing	10,000	
	753,000				35,000
					753,000

Required: Calculate ; **(4mks)**

a) Capital owned

b) Borrowed capital

c) Working capital

d) Capital employed

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

BUSINESS STUDIES

565/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Instructions to candidates

a) *This paper consists of* ***six*** *questions*
b) *Answer any* ***five*** *questions*
c) *All questions carry equal marks*

QUESTION	1	2	3	4	5	6	TOTAL
MARKS SCORE							

1. a) State and explain any five factors to consider when choosing an appropriate means of communication. **(10 marks)**

b) Discuss five negative effects of inflation in the economy. **(10 marks)**

2 a) Illustrate using a diagram a circular flow of income and give four assumptions. **(10 marks)**

b) Explain five challenges faced by a county government in service provision. **(10 marks)**

3 a) Discuss any five problems associated with Barter system of exchanging goods.

b)On 1st June 2018, Ndovu Traders had cash in hand of Sh. 25,000 and Sh. 56,200 at bank. During the month, the following transactions took place:

2018

June 2 Cash sales, Sh. 42,000.

June 5 received a cheque of Sh. 70,500 from Abdala Traders after deducting a 6% cash discount.

June 7 Paid salaries Sh. 24,000 in cash

June 9 Tenai settled his account of Sh.45,000 in cash and was allowed

Sh. l,800 cash discount.

June 12 Cash sales Sh. 46,500.

June 18 Paid Thuita's debt of Sh l00,000 by cheque after deducting 5% cash discount.

June 24 Withdrew Sh.26,000 from the bank for office use.

June 30 Banked all the cash except Sh. 25,000.

Prepare a 3-column cashbook and balance it off on 30th June, 2018. **(10marks)**

4 a) Explain five ways in which the activities in a bonded warehouse are beneficial to the government **(10marks)**

b) Explain any five methods that a county may put in place to prevent free movement of goods and services from other countries. **(10 marks)**

5 a) Unemployment is one of the major economic problems facing this country. Describe any five measures that the Kenyan government may undertake to solve unemployment.

b) Explain **five** principles that serve as a guide to a good public expenditure system in a country. **(10marks)**

6 a) Big Sam intend to start a hardware business. Explain **five** characteristics he should possess in order to be a successful entrepreneur **(10marks)**

b) The following information relates to Harun's enterprises;

Details	**shs**
Stock on 1st Jan 2012	430,000
Purchases	930,000
Sales	1,155,000
Carriage outwards	25,000
Carriage inwards	10,000
Returns outwards	20,000
Returns inwards	30,000
General expenses	100,000
Insurance	25,000
Stock on 31st Dec 2012	470,000

Required;

a) Prepare trading, profit and loss account **(6 marks)**

b) Calculate

i) Rate of Stock Turnover **(2 mark)**

ii) mark-up. **(2 marks)**

iii) Margin. **(2 mark)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

ENGLISH

101/1

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary School Education

INSTRUCTIONS TO STUDENTS

1. *Write your name admission number and class in the spaces provided above.*
2. *Answer **all** the questions in this question paper.*
3. *All your answers **must** be written in the spaces provided in this question paper.*

For Examiner's use only

QUES.	MAX. SCORE	STUDENT'S SCORE
1	**20**	
2	**10**	
3	**30**	
TOTAL SCORE		

1. FUNCTIONAL WRITING (20 MARKS)

Your friend **Mr Isaboke** in the **United States of America** is very interested in your studies. Recently he asked you to tell him about the set books you are currently studying. Write a book review for The ***A Silent Songs and Other Stories*** *by* ***Godwin Siundu*** which you will send to him/her. **20 marks**

……

……

……

2. CLOZE TEST (10 MARKS)

Read the passage below and answer the questions that follow. (10 marks)

Universities (i)……. been the subject of public discourse in the (ii)……. few weeks for several reasons. The first is the (iii)…… enrolments due to a reduced number of qualifiers as the government tightens the nuts in (iv)…… administration at high school, locking out cheats and stabilising performance. The second, and quite critical, is the inability of some (v)…….and several courses to (vi)…… students, technically rendering them untenable, hence an inevitable shutdown. The (vii)……., and which is the subject here, is the excruciating financial (viii)……. afflicting the institutions of higher learning. The latest Auditor-General's report presents a grim picture of the financial upheavals in (ix)……. universities. Private universities are no exception either, only that they are not audited by the (x)……; they are equally hard-hit, if not worse.

3. ORAL SKILLS (30 MARKS)

a) Read the following poem and answer the questions that follow

RAIN FOREST

The forest drips and glows with green
The tree frog croaks his far-off song
His voice is stillness, moss and vain
Drunk from the forest ages long

We cannot understand that call
Unless we move into his dream
Where all is one and one is all
And frog and python are the same

We with our quick dividing eyes
Measure, distinguish, and are gone
The forest burns, the tree frog dies
Yet one is all and all are one

(Judith Wright)

QUESTIONS

i) Chart the rhyme scheme of the poem above. **(2mks)**

……

……

……

ii) Apart from rhyme, how else does the writer achieve rhythm is the poem? **(2mks)**

……

……

……

iii) How would you perform the last two lines of the poem? **(2mks)**

……

……

……

b) Imagine that you are a journalist with one of the leading media house. You have been assigned to interview one of the most prominent business man in the country. What three things would you do before the interview? **(3mks)**

……

……

……

……

c) You have had a successful group discussion on 'Blossoms of the Savanna' by H.E Ole Kutet. Mention three factors that made the group discussion effective. **(4mks)**

……

……

……

……

d) Provide a word that is pronounced the same as each of the following words **(3mks)**

i) Cue

ii) Pier

iii) Himn

iv) Quire

e) Your classmate had been asked to execute a presentation on the integration of ICT in learning. During his speech, he sweated and appeared nervous. State any thee ways he would have overcome that. **(3mk)**

……

……

……

……

f) Underline the silent letter in the following words. **(2mks)**

i) Vehemence

ii) Yacht

g) For each of the following utterances; indicate whether you would say it with rising or falling intonation. **(4mks)**

i) Which factory does John work?

ii) Did you say you are moving out?

iii) How do you rate the Liverpool team?

iv) They offer very delicious food in that hotel

h) Your neighbor is being attacked by thugs in his house. You hear the distress call and decide to call the nearest police station.

i) Below is part of the telephone conversation. Fill in the missing parts

You (1): .....

Duty officer: I'm sorry the O.C.S is not at the station for now. Could you please identify yourself and state what I can do for you?

You(2): .....

Duty Office: That's very unfortunate. Could you give me the details of your exact location?

You(3):

.....

.....

Duty Office: I'll get in touch with the O.C.S right away and see what we can do about it.

You:

(4):.....

.....

Duty Office: No, no, it won't take long. We'll try to be there as soon as we call. Bye for now.

You (5):

.....

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

ENGLISH

101/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

101/2

ENGLISH

Paper 2

(Comprehension, Literary Appreciation and Grammar)

Time: 2½ Hours

Instructions to Candidates

- *Write your **name, index number and class** in the spaces provided.*
- *Answer **all** the questions in the spaces provided.*
- *Write legibly and neatly.*

FOR EXAMINER'S USE ONLY

Question	Max Score	Student's Score
1	20	
2	25	
3	20	
4	15	
TOTAL SCORE	**80**	

1. Read the passage below and then answer the questions that follow. (20 MARKS)

Happiness arises largely from the mental qualities of contentment, confidence, serenity and active good-will. It includes the pain of losing as well as the pleasure of finding. It thrives best in a crowded life. The men and women who are recorded in history and biography as the most happy were with always somewhat more to do than they could possibly do. Every waking hour of their lives was occupied with ambitious projects, literature, love, politics, science, friendship, commerce, professions, trades, their religious faith, and a thousand other matters. The secret of happiness may be found by making each of these interests count to its utmost as part of the fabric of life.

We need to avoid the extremes of sluggish placidity and feverish activity. We are not going to be satisfied with **felicity** which resembles that of a stone, unfeeling and unmoving, but will look back from future years with sorrow and regret if we run to and fro, giving in to what Socrates called 'the itch'.

Happiness obviously includes two sorts of behavior: active and passive. We may say that the active part consists in searching and sharing, while the passive part is made up of security and possession. Neither part is complete in itself, nor yields full satisfaction if it is over-emphasized. Philosophers from the ancient Greeks to the present day have been **extolling** a balanced life as the happiest life, and many unhappy people can, when they face the issue, trace their discontent to imbalance.

The recipe for happiness cannot be given in any single word because its many virtues have to be combined in their proper quantities, at the proper times for proper purposes.

It is legitimate to seek happiness. We cannot help observing that while followers of some schools of thought are telling us to avoid seeking happiness, they **intimate** that if we do so, we shall be happy.

The search requires a plan. We need to know what sort of happiness we seek, what the ingredients are, what are our strongest wants, and what we have to start with. We should train ourselves to keep the programme simple, and free from complications and side trips, to pay attention to little things, to deflate quickly after being praised and to bounce back quickly from disappointment, to seize to create opportunities to put our special abilities to work, to seek excellence in everything we do, to remain modest, and to review and revise periodically.

Most of us do not really have to seek far and wide. Happiness grows at our own fireside, if we cultivate it.

a) According to the writer, what is the source of happiness? **(1mks)**

……

……

b) What two sorts of behaviour does happiness include? **(2mks)**

……

……

……

c) What does the writer mean when he talks about a balanced life? **(1 mk)**

……

……

d) In a paragraph of about 30 words, summarize the things we must know as we search for happiness. **(4mks)**

……

……

……

……

……

e) Explain the irony in the passage. **(2 marks)**

……

……

……

f) Explain the writer's point in the last paragraph of the passage. **(2mks)**

……

……

……

f) The recipe for happiness cannot be given in any single word.

(Rewrite the sentence beginning: *No single word*…) **(1mk)**

……

……

g) Identify and comment one figure of speech used in the passage. **(2mks)**

……

……

……

h) Describe the tone of this passage. **(2mks)**

……

……

……

i) Explain the meaning of the following words as used in the passage: **(3mks)**

i) Extolling ……...

ii) Intimate

……

iii) Felicity

……..

2. Read the passage below and answer the questions after it. (25 marks)

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

Nora: *(meditatively, and with 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 Tovald is no longer as devoted 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 by no means easy for me to meet my engagements punctually. I may tell you that there is something called, in business, quarterly interest, and another thing called payment in installments, and it is always so dreadfully difficult to manage them. I have had to **save a little here and there,** where I could, you understand. I have not been able to put aside much from my **housekeeping money**, for Tovald must have a 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 come out of your own necessaries of life, poor Nora?

Nora: Of course. Besides, I was the one responsible for it. Whenever Tovald 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 the cheapest things. Thank Heaven, any clothes look well on me, and so Tovald has never noticed it. But it was often very hard for me, Christine – because it is delightful to be well dresses, isn't it?

Mrs. Linde: Quite so.

Nora: Well, then I have found other ways of earning money. Last winter I was lucky enough to do a lot of copying to do; so I locked myself up and sat writing every evening until quite late at night. Many

times I was desperately tired; but all the same it was a tremendous pleasure to sit there working and earning money. It was like being a man.

Mrs. Linde: How much have you been able to pay off in that way?

Nora: I can't tell you exactly. You see it is very difficult to keep an account of a business mater of that kind. I only know that I have paid every penny that I could scrape together. Many a time I was wits' end *(smiles)* Then I used to sit there and imagine that a rich old gentleman had fallen in love with me –

Mrs. Linde: What! Who was it!

Nora: Be quiet! – that he died; and that when his will was opened, it contained, written in big letters, the instruction: "The lovely Mrs. Nora Helmer is to have all I poses paid over to her at once in cash."

a) Where and when does this encounter take place**?** **(2marks)**

……

……

……

b) What is this secret that Nora wants to guard so jealously? Explain with evidence from elsewhere in the play**.** **(3 marks)**

……

……

……

……

c) Describe Nora's Mood as she tells Mrs. Linde her story**.** **(3 marks)**

……

……

……

……

d) Why is it necessary that Nora tells Mrs. Linde her story**.** **(2 marks)**

……

……

……

e) Comment on any two themes that are highlighted in this extract. **(4 marks)**

……

……

……

……

……

f) "Be quiet!" (Rewrite this in reported speech.**)** **(1 mark)**

……

g) Give an example of "wishful thinking" found in this extract. **(1 mark)**

……

……

h) Referring to Nora's first speech in the extract, identify and comment on any two traits of hers.

(4 marks)

……

……

……

……

……

i) "It was like being a man" Basing your observation on this statement, briefly comment on the society's attitude towards women. **(2 marks)**

……

……

……

j) Explain the meaning of the following expressions as used in the extract**:** **(3marks)**

i) palled: ……

ii) save a little here and there. ……...

iii) housekeeping money. ……..

Read the poem below and answer the questions that follow (20mks)

HE PROMISED ME HEAVEN.

He promised me heaven
As side by side walked we down the aisle
As the chime of the wedding bell brightened the day
As sweet — sounding songs soothed our souls
As he held my hand and inserted this ring into my finger
I knew that my heaven had come
For then he promised me heaven.

As we sat close and cherished our moon of honey
As he whispered cream icing into my ears
Dramatically conjuring metaphor after metaphor
Humming lullaby after lullaby
How elated I felt for being so much elevated
For here he was, my guardian angel
To take me to heaven
For he promised me heaven

As one year later he slapped me again and again
I quickly forgave and forgot
For he was my idol
Who had promised me heaven
Even as the floodgate of blow after blow
Kick after kick
Opened from its cage of disaster

Defacing and eroding the beauty he so much praised
Converting me into a shell of torture
How patiently I clung to him
Anticipating the heaven he had promised me
Now as I lie in the hospital bed
Unable to rise from his violent battery
Waiting for the Angel of Death
I realize he kept his promise
For I am soon going to heaven
Because he promised me heaven.

Questions

a. Identify the persona? **(2marks)**

……

……

……

c. Using the plot of the poem, explain the major changes in the subject matter**.** **(4marks)**

……

……

……

……

……

d. What is speakers mood in the last six lines of the poem?. **(2marks)**

……

……

e. Give one character trait of the persona **(2 marks)**

……

……

f. Explain the irony in the poem **(2marks)**

……

……

g. Apart from irony, identify and illustrate one style used in the poem**.** **(2marks)**

……

……

h. What is the tone in stanzas 1 and 2 of this poem **(2marks)**

……

……

……

i, Explain the meaning of the following line: **(2marks)**

i. As he whispered cream icing into my ears.

……

……

4.

a) Without changing the meaning, rewrite the following sentences according to the instructions after each. **(4 marks)**

i) Passing examination is a goal. Every candidate should aim at it. (Write as one sentence using 'to')

……

ii) I thought that you would like to hear what happened. *(rewrite using 'occurred' in place of 'thought'.)*

……....

iii) I shall be saved a lot of trouble by that. (Begin: *That)*

……

iv) The president was impressed by her good performance. He sponsored her education. (*combine using a past participle*)

……

……

b) Rewrite the following sentences to remove gender bias. **(3 marks)**

i) The fire man fought a losing battle against the raging fire.

……

ii) The governor appointed his mistress secretary of the CDF project.

……

iii) The head of state should treat his or her citizens with respect.

……

c) Explain the difference between this pair of sentences. **(2marks)**

i) The thief ran so fast that I could not catch up with him.

……

……

ii) The thief ran fast so that I could not catch up with him.

……

……

d) Determine whether the verbs in the sentences below have been used transitively or intransitively. **(3 marks)**

i) Manchester city won the premium league.

……

ii) The deceased wept bitterly.

……

iii) Obed bought a car.

……

e) Replace the underlined idiomatic expressions using a single word. **(1 mark)**

i) The student complained that his father was close-fisted.

……

f) Chose the correct alternative from the pronouns given to complete the sentences. **(2marks)**

i) The shooting at night startled Mike and ……. (I /me)

ii) The principal and ……. (she/her) left the compound.

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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	

*Answer **three** questions only.*

1. Imaginative Composition (Compulsory)

Either

(a) Write a composition ending with the following statement :

……..when I finally heard the gunshot, I instinctively closed my eyes and waited for the impact.

Or

(b) Write a story to illustrate the proverb;

Good things come to those who wait.

2. The Compulsory Set Text

H.R. Ole Kulet, *Blossoms of the Savannah.*

Man is the defacto leader of the family and when he faulters many things are bound to go wrong. Using Ole Kaelo for your illustrations show how the faults by the head of family affect

3. The Optional Set Texts

(a) The Short Story: Memories we Lost.

Misuse of power leads to regret. Write an essay in support of the statement with illustrations from A Man of Awesome Power by Naguib Mahfouz. **(20 marks)**

(b) The Novel

Kazuo Ishiguro, ***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? **(20 marks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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.***

h) *Insha zote sharti ziandikwe katika nafasi ulizoachiwa kwenye kijitabu hiki cha maswali.*

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	20	
2	20	
3	20	
4	20	
Jumla	**40**	

MASWALI

1. Wewe ni mtangazaji wa kituo cha utangazaji cha Uzalendo. Studioni umetembelewa na mwanamke mtetezi wa haki za wanawake kuzungumzia namna mwanamke ametelekezwa katika jamii ya sasa. Andika mahojiano kuhusu mchakato huo. **(Alama 20)**

2. Kuna njia anuai zinazoweza kutumiwa kulitandarukia tatizo la ajira nchini. Tetea. **(Alama 20)**

3. Andika kisa kinachoafiki methali**; Mgagaa na upwa hali wali mkavu.** **(Alama 20)**

4. Tunga kisa kitakacho kamilika kwa kauli ifuatayo;

…niliduwaa, nikasimama kisha nikaangalia nyuma huku machozi yakinitoka. Nilikumbuka wosia wa walimu na wazazi wangu, lakini kitumbua changu kilikuwa kimeingia mchanga **(Alama 20)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

KISWAHILI

102/2

KARATASI A 2

MUDA: SAA 2½

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Maagizo kwa watahiniwa

1. *Andika jina lako, nambari, na darasa lako katika nafasi ulizoachiwa hapo juu.*
2. *Andika tarehe ya mtihani na utie sahihi yako katika nafasi ulizoachiwa hapo juu.*
3. *Jibu maswali **yote.***
4. *Andika majibu yako katika nafasi ulizoachiwa baada ya kila swali katika kijitabu hiki cha maswali.*

Kwa matumizi ya mtahini pekee

SWALI	UPEO	ALAMA
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

1. **UFAHAMU (Alama 15)**

Soma Makala yafuatayo kisha ujibu maswali.

Yasemekana kuwa Shungwaya ndicho kitovu cha watu waishio Giriama katika janibu za pwani ya Kenya na wanaojulikana kwa jumla kana Wamijikenda. Yaaminika kuwa bado wakiwa Shugwaya, walimuua Mgalla mmoja mwenyeji wa Shungwaya na kitendo hicho kiliamsha hasira kali za Wagalla, hata ikawawia vigumu Wamijikenda kuishi kwa usalama pamoja na ndugu zao hao.

Hata hivyo, Wamijikenda hawakugura mara moja wala wote kwa pamoja bali walihama katika vipindi tofuati na katika makundi madogomadogo. Kila kundi lililofika Giriama lilijenga 'kaya' au mji wake. Kwa jumla, walihama kwa makundi tisa.

Vile vile, Wamijikenda walihama na fingo yao ambayo ilifukiwa na viongozi wao katikati ya kaya zao, palipokuwa na msitu mdogo. Hakuna ajuaye hasa mahali ilipofukiwa ila wazee hao waliopenda kufanyia baraza mahali hapo.

Mnamo mwaka wa 1870, mzee Menza na mkewe walibarikiwa kufungua kizazi kwa kupata mtoto wa kike waliyemwita Mekatilili. Walimlea vizuri na alipoanza kuzungumza, alionyesha dalili za kuwa na kipawa cha pekee. Kwanza, alipenda kujua kila kitu kilichoihusu jamii yake na pili alichukizwa sana na kiumbe aliyemdhulumu kiumbe mwenzake. Kwa mfano, aliwaonea vipepeo imani walipoliwa na ndege. Tena alizipenda sana mila na desturi za watu wa jamii yake – Wamijikenda.

Siku moja, baada ya Mekatilili kufikia utu uzima, mama yake alimwita chemba akamwambia, "Mwanangu sasa umeshabalehe, nami ningependa kuwaona wajukuu wangu kabla sijawafuata wazee waliotangulia. Waonaje tukikuoza? Mimi na baba yako tumepata mume ambaye ni kufu yako kabisa."

"Ninaelewa, maana hizi ni desturi zetu, lakini ningefurahi zaidi kama mngeniruhusu nijichagulie mume ninayempenda." Binti alimjibu mamaye.

"Mnazi na uwe mrefu, huyumba kufuata upepo." Mama akajibu. Tangu hapo binti akawa hana la kujibu ila kukubali.

Siku ya harusi, watu wengi walihudhuria na wakastarehe kwa tembo la mnazi ambalo lilikuwa limetengenezewa kwa wingi. Jioni hiyo, mekatilili alichukuliwa kwa mumewe Masendeni, karibu na mto Sabaki. Ikawa hangeonana na wazazi wake kila siku kama ingalivyokuwa mapenzi yake. Wakati huu kote nchini Kenya kulikuwa kumejaa wageni, wengi wao wakiwa walowezi na watawala wa kibeberu. Walikuwa wameanzisha mashamba ya mikonge, kahawa na chai. Walihitaji watu wa kupalilia mashamba yao hayo. Hata hivyo Waafrika hawakuwa na haja ya kulima wala pesa. Hata walipolima, ni kwa minajili ya kubadilishana mazao na kula.Iliwabidi Wazungu kutumia mizungu ili kuwashurutisha Waafrika kuwalimia. Baadhi ya mikakati waliyobuni ni kuwateka nyara watu barobaro na kutoza kodi. Ni katika harakati kama hizo ambapo mumewe Mekatilili alitekwa, asirudi tena kwake. Wakati uo huo, wazazi wa Mekatilili waliaga dunia.

Mambo haya yalimpa mekatilili msukumo. Baada ya muda wa kuomboleza kuisha, alijiunga na wazee wapigania ukombozi, mmoja wao akiwa Wanje, kakaye mumewe. Aliwaunganisha wanawake na kuwahimiza wasiige mila na desturi za kizungu. Aliwahutubia wanaume na

kuwakumbusha kuwa ilikuwa lazima wailinde nchi yao. Siku moja alishikwa kwa kuwalisha watu kiapo. Alipelekwa bara, Kisii, mbali kabisa na kwao, Masharibi mwa Kenya na akatiwa kizuizini pamoja na Wanje. Hata hivyo, walifaulu kutoroka na kwa muda wa siku ayami walipitia kwenye mabonde na milima, misitu na nyika hadi wakarudi Giriama.

Mabeberu walikasirika sana. Hata hivyo, walikuwa wamechelewa. Katika safari yao kurudi Giriama, walifaulu kuhubiria wengi dhidi ya mgeni. Vita vya ukombozi vilikuwa vimeshika.

Maswali

1. Ni kwa nini Wagiriama wanajulikana kama Wamijikenda? **(al.1)**

……

……

2. Ni maafa gani yaliyompata Mekatilili katika maisha yake? **(al.4)**

……

……

……

……

……

3. Ni hali gani inayotawala katika makala haya. **(al.2)**

……

……

……

4. Taja masuala ya kijinsia yanayojitokeza katika Makala haya. **(al.2)**

……

……

……

5. Wazungu walitumia mbinu gani ili kuwashurutisha watu kuwafanyia kazi mashambani mwao. **(al.2)**

……

……

……

6. Andika maneno mengine yeney maana sawa na;

i) Kugura**…….(al.1)**

ii) Kubalehe**……..(al.1)**

7. Eleza maana ya;

i) Mnazi na uwe mrefu huyumba kufuata upepo

……(al.1)

ii) Kitovu cha watu waishio Giriama

……..…(al.1)

2. UFUPISHO (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali.

Kiswahili tunasema ni lugha yetu kwa sababu ndiyo lugha ya Kiafrika inayoongewa katika nchi nyingi Barani Afrika. Ni lugha yetu kwa sababu ni lugha asilia mojawapo za Afrika. Siyo lugha iliyoletwa na watu wa nchi za nje kama vile Kiingereza, Kifaransa na Kireno. Uzuri wa Kiswahili sasa ni kuwa kimeenea kote Afrika Mashariki na Kati.

Wenyeji asilia waliokuwa wakiongea lugha hii tangu awali ni Waswahili. Waswahili hawa hata leo wako na wanaendelea kuitumia lugha hii kama lugha yao ya mama, kama vile Wakikuyu watumiavyo Kikikuyu, Wakamba, Kikamba na Wadigo lugha ya Kidigo. Makao yao Waswahili tangu jadi yanapatikana kaunti ya Pwani. Makao yao yameanzia upande wa Kaskazini Mashariki ya Kenya , na wanapakana na nchi ya Somalia huko. Wameenea katika upwa huo wa Pwani, ikiwamo Lamu, Malindi, Mombasa, Pemba, Unguja, Visiwa vya Ngazija na kuendelea.

Lugha ya Kiswahili ina lahaja nyingi kulingana na sehemu wanamoishi. Kwa mfano, Waswahili wa Lamu huongea lahaja ya Kiswahili inayoitwa Kiamu. Waswahili wa Mombasa huongea lahaja ya Kimvita. Pemba wanaongea Kipemba, Ngazija lahaja ya Kingazija, Unguja lahaja ya Kiunguja na kadhalika. Kutokana na lahaja hizi na nyinginezo za Kiswahili ambazo hazikutajwa hapo, wataalamu wa lugha walitokea na Kiswahili sanifu. Hiki Kiswahili sanifu ndicho kitumiwacho katika mafunzo ya shule, uandishi wa vitabu na mawasiliano ya kiserikali na kibiashara.

Nchini Kenya, kwa muda mrefu Kiswahili hakikuthaminiwa kama Lugha ya Kiingereza. Sababu mojawapo ni kuwa Kiswahili hakikufanywa somo la lazima katika rasimu za shule, wala kutahiniwa katika shule za msingi. Hata katika shule za upili, katika kufunzwa na kutahiniwa hakikupewa umuhimu wowote. Kwa ajili hii wanafunzi wengi waliacha kujifunza Kiswahili kama somo. Hali hiyo ilifanya Kiswahili kuonekana kama lugha inayoongewa na wale watu wasio na kisomo ama elimu nyingi. Kwa ajili ya fikira hizi, watu wengi wamekuwa wakikichukia, kukidunisha na kujaribu kuongea Kiingereza kila nafasi inapojitokeza.

Miaka michache iliyopita, Kiswahili kilianza kutiliwa mkazo katika shughuli zote nchini Kenya. Kwa upande wa msimamo wa nchi lugha hii ilionekana yenye manufaa katika kuleta umoja na

kuwaunganisha wananchi wote. Jambo hili ni muhimu kwa maendeleo ya nchi iwayo yote. Umoja huleta maelewano na undugu. Hali hizi mbili zinapokuwapo, amani husambaa nchini mote.

Tukitazama mfumo wa elimu wa 8-4-4, Kiswahili kimepewa nafasi sawa katika ratiba za shule kama lugha ya Kiingereza. Kiswahili kinatahiniwa kama somo muhimu kuanzia shule ya msingi hadi shule ya upili. Kinyume na enzi za zamani, siku hizi mwanafunzi anayesoma Kiswahili, hata asipofaulu vizuri katika lugha ya Kingereza ana nafasi sawa ya kupata kazi kama wengine.

Maswali

a) Fupisha aya tatu za mwanzo kwa maneno 80**.** **(alama 7)**

Matayarisho

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Jibu

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b) Eleza vile Kiswahili hakikuthaminiwa na namna hali hii inavyobadilika. (**alama 8)**

Matayarisho

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Jibu

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3. MATUMIZI YA LUGHA (Alama 40)

(a) Toa **maelezo** ya jinsi ambavyo hewa huzuiliwa wakati wa kutamka sauti hizi. **(alama 2)**

i)/p/.....

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ii) /ch/.....

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iii) /m/.....

iv) /r/.....

(b) Tenga silabi katika neno: Alimhukumu. **(alama 1)**

.....

(c) Tunga sentensi moja yenye kitenzi shirikishi kikamilifu na vitenzi sambamba. **(alama 3)**

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(d) Tumia neno **mji** kama **kielezi cha mfanano**. **(alama 1)**

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(e) Onyesha **namna tatu** za kutumia kiambishi "ji" katika **sentensi moja**, kisha ueleze **matumizi** husika. **(alama 3)**

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.....

(f) Ziweke nomino hizi katika **ngeli** zake. **(alama 2)**

i) waya .....

ii) Kilembwe .....

(g) Tambua virai vilivyopigiwa mistari ni vya **aina** gani kisha uonyeshe **miundo** yake. **(alama 4)**

(i) Kikapu kilichofumwa juzi kitauzwa marikiti.

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(ii) Wenzetu walikuwa wakijinaki kabla ya dimba.

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(h) Eleza **maana mbili** za sentensi**:** Zainabu alisema atakusaidia. **(alama 2)**

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(i) Onyesha **majuku** ya mofimu katika neno**:** awaliaye **(alama 3)**

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(j) Andika kinyume: Aliiangika picha ukutani baada ya sherehe. **(alama 2)**

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(k) Unda nomino kutokana na vitenzi vifuatavyo bila kutumia kiambishi ku. **(alama 2)**

i) Tuma .....

ii) Pinda .....

(l) Eleza tofauti iliyopo kati ya ukanushaji na kinyume. **(alama 2)**

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(m) Andika kwa usemi wa taarifa: "Viungo hivi havitatosha kuunga mchuzi wenu", mpishi alalamika. **(alama 2)**

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(n) Tumia **visanduku** kuchanganua sentensi ifuatayo**:** Alipotuona alitupuuza, lakini sisi tulimsalimia. **(alama 4)**

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(o) Tumia vitate vya jua , toa na baka katika sentensi **tatu tofauti.** **(alama 3)**

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(p) Kamilisha kwa viigizi mwafaka. **(alama 2)**

(i) Ameanguka ..... matopeni.

(ii) Mlango ulibishwa .....

(q) Tofautisha sentensi. **(alama 2)**

(i) Ungalisoma kwa bidii, ungalipita mtihani.

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(ii) Ungelisoma kwa bidii, ungelipita mtihani.

.....

4. ISIMU JAMII (Alama 10)

Maswali

a) "..... unaweza kukata rufaa iwapo unaonelea kuwa umehiniwa ....."

i) Bainisha sajili ya mazungumzo haya. **(al.1)**

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ii) Fafanua sifa za matumizi ya lugha katika muktadha huu. **(al.4)**

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b) Jadili changamoto zinazokumba kuimarika kwa Kiswahili katika jamii ya sas**a.(al.5)**

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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*

SWALI LA LAZIMA

CHOZI LA HERI – A MATEI

"Maisha yangu yalijaa shubiri tangu utotoni."

a) Eleza muktadha wa dondoo hili **(al. 4)**

b) Kwa kutolea mfano, bainisha tamathali ya usemi inayojitokeza katika kauli hii. **(al.2)**

c) Jadili athari za vita katika jumuia ya Chozi la Heri **(al. 14)**

TAMTHILIA – BEMBEA YA MAISHA

Jibu swali 2 au 3

2. ***"Mwanangu usifanye hofu. Nikujuavyo mimi, hukuingia katika bahari si yako. Wala hakuna refu lisilokuwa na ncha. Yote yanakikomo eti. Ipo siku haya yote yatapita. Mkulima hodari ni libasi yake huwa imechakaa na kuchoka lakini moyoni anabaki safi kama theluji kwa kutosheka na tija ya sulubu zake. Huwezi kumlinganisha na mkulima wa nguo safi zilizopigwa pasi zikanyooka"***

Chambua mtindo **(alama10)**

Jadili changamoto alizopitia msemewa wa maneno haya **(alama10)**

3.

Eleza ufaafu wa anwani **Bembea ya Maisha** katika tamthilia ya **Bembea ya Maisha** **(alama20)**

HADITHI FUPI – MAPAMBAZUKO YA MACHWEO

Jibu swali 4 au 5

Urumo umekita mzizi katika jumuiya ya ***Mapambazuko ya Machweo.*** Jadili **(alama 20)**

Miti katika misitu ilizidi kuangamizwa kwa makali ya shoka lakini miti ilizidi kulifurahia shoka...miti ikafikiri shoka ni mmoja wao!" **(alama 20)**

<u>USHAIRI</u>

jIbu swali 6 au 7

6. Soma shairi lifuatalo kisha ujibu maswali

Alikwamba wako mama, kajifanya hupuliki,
Kakuasa kila jema, ukawa ng'oo! Hutaki,
Sasa yamekusakama, popote hapashikiki,
Uliyataka mwenyewe!

Babayo lipokuonya, ukamwona ana chuki,
Mambo ukaboronganya, kujifanya hushindiki,
Sasa yamekunganya, kwa yeyote hupendeki,

Uliyataka mwenyewe!

Mazuri uliodhania, yamekuletea dhiki,
Mishikeli miania, kwako ona haitoki
Mwanzo ungekumbukia, ngekuwa huaziriki,
Uliyataka mwenyewe!

Dunia nayo hadaa, kwa fukara na maliki,
Ulimwenguni shujaa, hilo kama hukumbuki,
Ya nini kuyashangaa? Elewa hayafutiki,
Uliyataka mwenyew!

Mwenyewe umelichimba, la kukuzika handaki,
Ulijidhania samba, hutishiki na fataki,
Machangu yamekukumba, hata neno hutamki,
Uliyataka mwenyewe!

Kwa mno ulijivuna, kwa mambo ukadiriki,
Na tena ukajiona, kwamba we mstahiki,
Ndugu umepatikana, mikanganyo huepuki,
Uliyataka mweyewe!

Maswali

a) Eleza dhamira ya shairi hili **(al.2)**

b) Tambua njia mbili anazotumia mtunzi wa shairi hili kuusisitiza ujumbe wake. **(al.2)**

c) Taja na utoe mifano ya aina zozote mbili za tamathali za usemi zilizotumika katika shairi. **(al.4)**

d) Andika ubeti wa tatu katika lugha nathari/tutumbi **(al.4)**

e) Kwa kutoa mfano mmoja mmoja onyesha aina mbili za idhini ya kishairi katika shairi hili **(al.4)**

f) Bainisha toni ya shairi hili **(al.2)**

g) Eleza maana ya maneno haya kama yalivyotumiwa katika shairi **(al.2)**

i) mstahiki
ii) hupuliki

SHAIRI

7. Soma shairi lifuatalo kisha ujibu maswali

Nikiwa na njaa na matambara mwilini
Nimehudumika kama hayawani
Kupigwa na kutukanwa
Kimya kama kupita kwa shetani

Nafasi ya kupumzika hakuna
Ya kulala hakuna
Ya kuwaza hakuna
Basi kwani hili kufanyika
Ni kosa gani lilotendeka
Lilonileta adhabu hii isomalizika?

Ewe mwewe urukaye juu angani
Wajua lililomo mwangu moyoni
Niambie pale mipunga inapopepea
Ikatema miale ya jua
Mamangu bado angali amesimama akinisubiri?
Je nadhari hujitokeza usoni
Ikielekea huku kizuizini?
Mpenzi mama, nitarudi nyumbani
Nitarudi hata kama ni kifoni
Hata kama maiti yangu imekatikakatika
Vipande elfu, elfu kumi
Nitarudi nyumbani
Nikipenya kwenye ukuta huu
Nikipitia mwingine kama shetani
Nitarudi mpenzi mama...
Hata kama kifoni.

Maswali

a) Lipe shairi hili kichwa mwafaka **(al.1)**
b) Tambua nafsineni katika shairi hili **(al.2)**
c) Eleza toni katika shairi hili **(al.2)**
d) Taja mambo manne ambayo mshairi analalamikia **(al.4)**
e) Fafanua dhamira katika shairi hili **(al 2)**
f) Thibitisha kuwa hili ni shairi huru **(al 2)**
g) Taja na ufafanue sifa mbili za mshairi **(al 2)**
h) Fafanua mbinu 3 za kimtindo zilizotumika katika ubeti wa tatu **(al 3)**
i) Eleza maana ya maneno yafuatoyo kama yalivyotumiwa katika shairi hili **(al 2)**
i) Hayawani
ii) Nadhari

FASIHI SIMULIZI

a) Maudhui na Fani ya maigizo hutegemea mwigizaji. Thibitisha kwa hoja tano. **(al. 5)**
b) Taja aina mbili za miviga **(al. 2)**
c) Eleza hasara tatu za miviga **(al. 3)**
d) Soma kifungu kifuatacho kisha ujibu maswali

Ikiwa wewe kweli ni mkazamwanangu
Name ndiye nilompa uhai mwana unoringia
Anokufanya upite ukinitemea mate
Chakula kuninyima, wajukuu kunikataza ushirika,
Miungu nawaone chozi langu, wasikie kilio changu,
Mizimu nawaone uchungu wangu
Radhi zao wasiwahi kukupa,
Laana wakumiminie,
Uje kulizwa mara mia na wanao,
Usiwahi kufurahia hata siku moja pato lao,
Watalokupa likuletee simanzi badala ya furaha
Wakazawanao wasikuuguze katika utu uzima wako!

Maswali

i. Tambua aina ya mazungumzo katika tungo na utoe sabau **(al.2)**
ii. Msemaji ni nani katika tungo hili **(al. 1)**
iii. Tambua sifa mbili za anayeelekezewa mazungumzo haya **(al. 2)**
iv. Taja na ueleze sifa tano za kipera hiki cha mazungumzo **(al. 5)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

CHRISTIAN RELIGIOUS EDUCATION

313/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

-Answer ALL the questions.

- Each question on its own foolscap.

-Question must be answered neatly in a good hand writing.

QTN	1	2	3	4	5	TOTAL SCORE
SCORE						

QUESTIONS

1. a) Outline the first account of creation in Genesis 1:1-2:49 **(7mks)**

b) State **seven** responsibilities given to human beings by God in the genesis stories of creation. **(7mks)**

c) Outline **six** ways in which Christians care for God's creation today. **(6mks)**

2. a) Explain the factors that led to the division of Israel after the death of King Solomon. **(7mks)**

b) Identify **seven** reasons that led to the Mt. Carmel contest. **(7mks)**

c) State **six** reasons why leaders are rejected in society today. **(6mks)**

3. a) Mention seven ways in which the old Testament prophets communicated their messages. **(7mks)**

b) Give **seven** reasons why Israel and Judah would face God's judgement according to prophet Amos. **(7mks)**

c) State six ways in which modern Christians may invite Gods punishment on them. **(6mks)**

4. a) Describe the call of prophet Jeremiah. **(7mks)**

b) Outline **seven** reasons why Jeremiah condemned human sacrifice. **(7mks)**

c) State **six** ways in which Christians can reduce human suffering. **(6mks)**

5. a) Identify seven factors that promote harmony and social responsibility in traditional African Community. **(7mks)**

b) Mention seven factors that influence the naming of children in traditional African society. **(7mks)**

c) Show how modern trends have affected burial rites in traditional African communities. **(6mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

CHRISTIAN RELIGIOUS EDUCATION

313/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Instructions to candidates

a) *Answer ALL the five questions.*

b) *Each question should be done on a separate foolscap.*

c) *Questions must be answered neatly in a good hand writing*

QUESTION	1	2	3	4	5	TOTAL SCORE
SCORE						

QUESTIONS

1. a) Outline Nathan's prophecy concerning the coming of the **messiah.** **(6mks)**

b) Describe the birth of John the Baptist according to **Luke 1:57-79.** **(7mks)**

c) Give seven reasons why Christians sing in church **today.** **(7mks)**

2. a) Outline **seven** teachings of Jesus from the sermon on the plain on tru**e discipleship.** **(7mks)**

b) Using examples give **four** reasons why Jesus faced opposition from the Jewish,religious leaders in **Galilee .** **(8mks)**

c) Outline **Five** ways in which the church leaders are preparing in the society for the second coming of **Jesus.** **(5mks)**

3. a) Narrate the parable of the **great feast.** **(7mks)**

b) Identify **seven** teachings of Jesus on eschatology according **to Luke 21:5-38.** **(7mks)**

c) State **six** reasons why Christians celebrate the last supper **today.** **(6mks)**

4.a) Give **seven** instructions Paul gave to the church in Corinth on how to use Spiritual **gifts.** **(7mks)**

b) Explain how the unity of believers is expressed in the image of the bride Rev.2:1-2 **2 cor11:2.** **(6mks)**

c) Outline the importance of the Holy Spirit to Christians today. **(7mks)**

5. a) Outline **seven** moral duties of employers to employees. **(7mks)**

b) Mention **seven** factors that determine a just wage. **(7mks)**

c) Show how retrenchmentof workers affect their families. **(6mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

HISTORY AND GOVERNMENT

311/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

HISTORY AND GOVERNMENT

Paper 1

Instructions to Candidates

(a) *This paper consists of **three** sections **A, B** and **C.***

(b) *Answer **all** questions in section **A, three** from Section **B** and **two** from Section **C.***

(c) *Answers to all the questions must be written legibly in the answer booklet provided.*

(d) ***This paper consists of two printed pages***

(e) ***Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing***

(f) ***Candidates should answer the questions in English***

Section A (25 marks)

Answer all questions in this section

1. What is a manuscript as a written source of information on History and Government? **(1 mark)**
2. Identify the largest linguistic group in Kenya. **(1 mark)**
3. Which community in Kenya played a leading role in the long distance trade? **(1 mark)**
4. State **two** ways in which Seyyid Said promoted international trade. **(2 marks)**
5. Identify **two** ways in which one can become a Kenyan citizen. **(2 marks)**
6. Give **two** symbols of national unity. **(2 marks)**
7. Outline the **major** change brought by the constitutional amendment of 1982.**(1 mark)**
8. What **two** situations can make a registered vote in Kenya be denied the right to vote**(2 marks)**
9. Name **two** officers who worked in the Provincial Administration in colonial Kenya**(2 marks)**
10. State the document that stopped the call for self-government by the Whites in Kenya.**(1 mrk)**
11. Identify **two** methods used by trade unionists to demand for their rights during the colonial period. **(1 mark)**
12. Give **two** reasons that can make the parliament of Kenya be dissolved. **(2 marks)**
13. Name the first Prime Minister in independent Kenya**.** **(1 mark)**
14. Identify the **main** reason why the government of Kenya introduced Constituency Development Fund (CDF**).** **(1 mark)**
15. State the **two** levels of education provided by the County **government.** **(2 marks)**
16. Name the body that is charged with tax collection in **Kenya.** **(1 mark)**
17. Identify **two** roles of the Controller of **Budget.** **(2 marks)**

Section B (45 marks)

Answer any three questions from this section

18. **(a)** Give **five** reasons why the Luo migrated from their original homeland. **(5 marks)**
    (b) Describe the political organization of the Agikuyu during the pre-colonial period**(10 marks)**

19. **(a)** State **five** economic reasons why the British were interested in establishing their rule in Kenya. **(5 marks)**
    (b) Explain **five** effects of urbanization in Kenya during the colonial period **(10 marks)**

20. **(a)** State **five** features of African Socialism in Kenya**.** **(5 marks)**
    (b) Explain **five** roles of Harambee in economic development in Kenya. **(10 marks)**

21. **(a)** State **five** challenges hindering government efforts to eradicate illiteracy in Kenya. **(5 marks)**
    (b) Explain **five** challenges facing multi-party democracy in Kenya. **(10 marks)**

Section C (30 marks)

Answer any two questions from this section

22. **(a)** Identify **five** social factors that can hinder national unity in Kenya**. (5 marks)**

(b) Explain **five** importance of national integration in Kenya. **(10 marks)**

23. **(a)** Identify **five** groups that monitor human rights in Kenya**. (5 marks)**

(b) Explain **five** merits of democracy. **(10 marks)**

24. **(a)** State **five** functions of the County Governor in Kenya. **(5 marks)**

(b) Explain **five** ways in which the County government spends revenue annually. **(10 marks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

HISTORY AND GOVERNMENT

311/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

HISTORY AND GOVERNMENT

Paper 2

Instructions to Candidates

(g) *This paper consists of **three** sections **A, B** and **C.***

(h) *Answer **all** questions in section **A, three** from Section **B** and **two** from Section **C.***

(i) *Answers to all the questions must be written legibly in the answer booklet provided.*

(j) ***This paper consists of three printed pages***

(k) ***Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing***

(l) ***Candidates should answer the questions in English***

Section A (25 marks)

Answer all questions in this section

1. Give **one** contribution of archaeology to the study of history. **(1 mark)**
2. Name **two** species of Australopithecus. **(2 marks)**
3. State **one** way in which agrarian revolution contributed to rural-urban migration in Europe.**(1 mk)**
4. Give **two** results of the invention of the wheel in Mesopotamia. **(2 marks)**
5. Give **two** means of water transport used during the ancient times. **(2 marks)**
6. Name **two** nationalist parties that fought for independence in Mozambique. **(2 marks)**
7. Name the person who invented the telephone. **(1 mark)**
8. Give the **main** political function of London. **(1 mark)**
9. Name **one** official who assisted Kabaka of Buganda to administer the kingdom. **(1 mark)**
10. State **one** way in which the United Nations has promoted the rights of women in the society. **(1 mark)**
11. Identify **one** country in Africa where the British used direct rule. **(1 mark)**
12. List **two** reasons why the United States of America joined the Second World War. **(2 mks)**
13. Give **two** reasons why the location of Samori Toure's second empire contributed to his defeat by the French. **(2 marks)**
14. Identify **two** financial institutions of the African Union (AU). **(2 marks)**
15. Identify **one** problem faced by nationalists in Ghana. **(1 mark)**
16. Mention **one** house of parliament in the United States of America. **(1 mark)**
17. List **two** conditions required for one to qualify as a candidate to the House of Commons in Britain. **(2 marks)**

Section B (45 marks)

Answer any three questions from this section

18.(a) Identify **five** ways which the Homo Erectus attempted to improve his way of life **(5 marks)**

(b) Describe the way of life of man during the New Stone Age. **(10 marks)**

19.(a) Identify **five** factors that led to industrial revolution in Continental Europe. **(5 marks)**

(b) Explain **five** reasons why third world countries are lagging behind in industrialization. **(10 marks)**

20. (a) State **five** achievements of the Pan-African Movement. **(5 marks)**

(b) Explain **five** challenges facing Economic Community of West African States **(10 marks)**

21. (a) Identify **five** reforms introduced by Mobutu Sese Seko after taking over leadership of Congo in 1965. **(5 marks)**

(b) Explain **five** social developments that have taken place in Tanzania since Independence. **(10 marks)**

Section C (30 marks)

Answer any two questions from this section

22. (a) State **five** factors for the growth of Asante Kingdom during the pre-colonial period.

(5 marks)

(b) Describe the social organization of Buganda kingdom during the pre-colonial period.

(10 marks)

23. (a) State **five** causes of the First World War (1914-1918). **(5 marks)**

(b) Explain **five** reasons why the central powers were defeated in the First World War.

(10 marks)

24. (a) State **five** functions of the Prime Minister in Britain. **(5 marks)**

(b) Explain **five** functions of the House of Lords in Britain. **(10 marks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

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) What is a weather station? **(2 marks)**

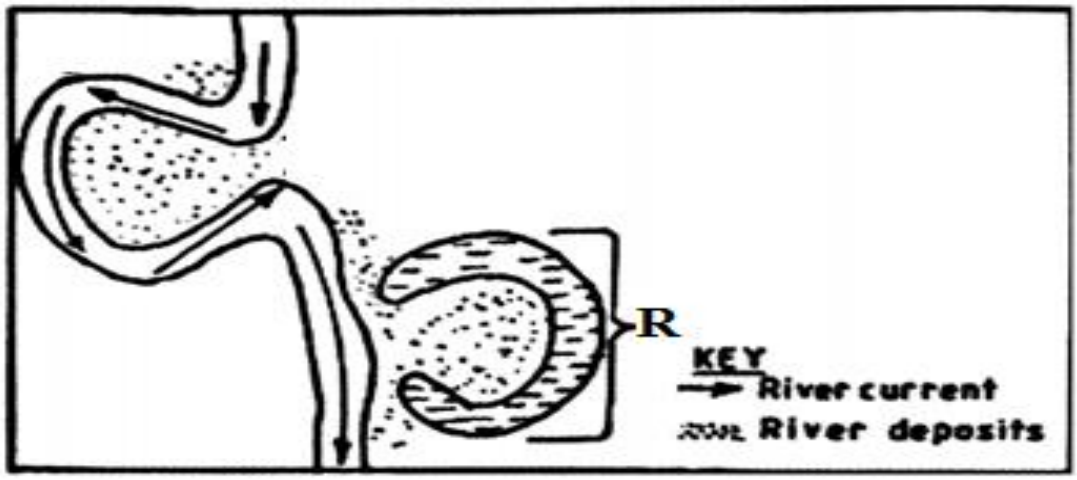
(b) Give **three** factors that influence wind direction. **(3 marks)**

2. (a) Name **two** types of tectonic plate boundaries. **(2 marks)**

(b) Give **three** effects of the movement of tectonic plates. **(3 marks)**

3. State **four** causes of the decline of the areas under forests in Kenya. **(4 marks)**

4. The diagram below shows a section of a river. Use it to answer the questions that follow.



(a) Identify the stage of development of the section of the river. **(1 mark)**

(b) A part from feature marked **R**, give **two** other features formed at this stage**.** **(2 marks)**

(c) State **three** conditions necessary for the formation of the feature marked **R**. **(3 marks)**

5. (a) Differentiate between an aquifer and a water table. **(2 marks)**

(b) Give **three** problems associated with artesian wells. **(3 marks)**

SECTION B

Answer question 6 and any other two questions from this section

6. Study the map of Nyeri 1:50,000 (sheet 120/4) provided and answer the following questions.

(a) (i) Give the longitudinal extent of the area covered by the map. **(2 marks)**

(ii) Give the six figure grid reference of the trigonometric station at Nyeri Hill forest. **(2 marks)**

(iii) Calculate the area of Nyeri forest. Give your answer in square kilometres. **(2 marks)**

(b) (i) What is the bearing of The Ark Lodge from the trigonometric station **120 UT 16.** **(2 marks)**

(ii) Identify **three** man-made features in grid square **7263.** **(3 marks)**

(iii) Give **three** drainage features found in the area covered by the map. **(3 marks)**

(c) Describe the relief of the area covered by the map. **(5 marks)**

(d) Citing evidence from the map, identify **three** social services offered in Nyeri Township. **(6 marks)**

7. (a) (i) What is a mineral? **(2 marks)**

(ii) Describe the following characteristics of minerals:

- Lustre **(2 marks)**
- Colour **(2 marks)**
- Cleavage **(2 marks)**

(b) Describe **three** ways in which igneous rocks are formed. **(9 marks)**

(c) Explain **four** significance of rocks to the economy of Kenya. **(8 marks)**

8. (a) (i) State **three** causes of faulting. **(3 marks)**

(ii) Differentiate between a normal fault and a reverse fault. **(4 marks)**

(b) (i) A part from rift valley, give **three** other relief features formed due to **faulting.** **(3 marks)**

(ii) With the aid of diagrams, describe how compressional forces can lead to formation of a rift valley. **(8 marks)**

(c) Students from your class are planning to carry out a field study on an area affected by faulting.

(i) State **four** reasons why it is important to have a pre-visit to the area. **(4 marks)**

(ii) Give **three** reasons why it would be inappropriate to use observation to collect data during the field study. **(3 marks)**

9. (a) (i) What are ocean tides? **(2 marks)**

(ii) Name **two** ocean currents along the western coast of Africa. **(2 marks)**

(b) State **three** factors that determine the rate of coastal erosion. **(3 marks)**

(c) With the aid of labeled diagrams, describe the formation of the following coastal features:

(i) Fringing reef **(5 marks)**

(ii) Spit **(5 marks)**

(**d)** Explain the significance of oceans to human activities. **(8 marks)**

10. (a) Name three components of soil. **(3 marks)**

(b) Explain how the following factors influence the formation of soil:

(i) Climate **(4 marks)**

(ii) Topography **(4 marks)**

(c) Describe how laterization occurs. **(6 marks)**

(d) Explain four ways in which human activities contribute to soil erosion. **(8 marks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

GEOGRAPHY

312/2

PAPER 2

TIME: 2¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

312/2

Paper 2

GEOGRAPHY

INSTRUCTIONS TO CANDIDATES

- *This paper has **two** sections **A** and **B***
- *Answer **ALL** the questions in section **A**.*
- *In section **B** answer questions **6** and any other **TWO** questions.*
- *Candidates should check to ascertain that all pages are printed and that no questions are missing.*
- *Candidates should answer the questions in section **B** on separate answer sheets.*

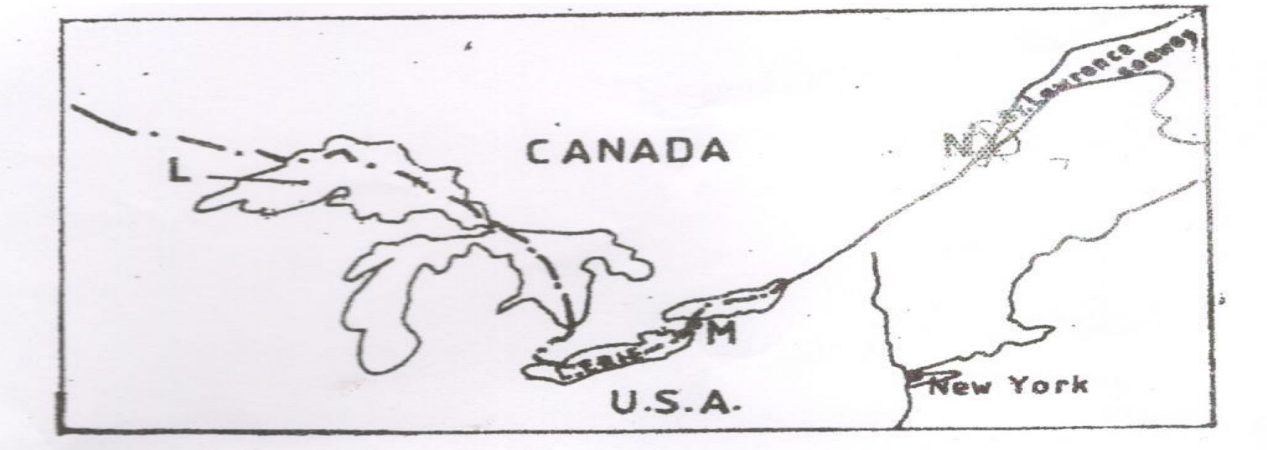
SECTION A	MARKS
QUESTION 6	
QUESTION 7	
QUESTION 8	
QUESTION 9	
QUESTION 10	
TOTAL	

SECTION A

1. a) Give three reasons why we study Geography. **(3marks)**

b) Explain the relationship between Geography and Economics **(2marks)**

2. a) Study the map of the Great Lakes and the St. Lawrence seaway



i) Name the ports marked X, Y **(2marks)**

ii) Name the canal marked Z **(1mark)**

iii) State two problems experienced along the Great Lakes and St. Lawrence River before construction of the sea way. **(2marks)**

3. a) Name two exotic breeds of dairy cows reared in Kenya. **(2 marks)**

b) State three physical factors that have favoured dairy farming in the Kenya Highlands. **(3marks)**

4. a) State three causes of flooding in Kenya. **(3marks)**

b) Give two effects of drought. **(2marks)**

5. Describe drifting as a method of fishing. **(5 marks)**

SECTION B

*Answer question **6** and any other **TWO** questions from this section.*

6. Study the photograph below and use it to answer questions (a)(i) and (ii).



(a)(i) Identify the type of photograph shown above. **(1 mark)**

(ii)Draw a rectangle measuring 15cm by 10cm. On it sketch and label **five** features shown on the photograph. **(5 marks)**

(b) Apart from transporting bulky goods, state **three** advantages of transporting goods by railway. **(3 marks)**

(c)(i)Explain **three** reasons why there is limited use of river transport in Africa. **(6marks)**

(ii)State the efforts being taken by the government to improve road transport in Kenya. **(4marks)**

(d) Explain the role of transport in economic development of Africa. (**6marks)**

7. (a)(i) State **three** physical conditions that favour cocoa farming in Ghana. **(3marks)**

(ii)Describe the stages involved in the processing of cocoa from harvesting to marketing. **(7marks)**

(b) State **four** characteristics of shifting cultivation. **(4marks)**

(c)(i) Explain problems facing maize farmers in Kenya. **(8marks)**

(ii) State **three** measures being taken by the government to promote Maize farming in Kenya. **(3marks)**

8. a)i) What is Wildlife? **(2marks)**

ii) Differentiate a National Park from a Game Reserve **(2marks)**

iii) State four reasons for establishment of National Parks in Kenya. **(4marks)**

b) i) Explain three problems facing the Kenya Government in the effort to conserve Wildlife. **(6marks)**

ii) Give three economic benefits of Tourism to Kenya. **(3marks)**

c) Explain four factors that make Switzerland receive more tourists than Kenya**.** **(8marks)**

9.(a) **(i)**What is energy conservation? **(2 marks)**

(ii) Identify **three** non-renewable sources of energy. **(3 marks)**

(iii) State **three** advantages of Hydroelectric Power as a source of energy. **(3 marks)**

(b) (i) What are the causes of energy crisis. **(4 marks)**

(ii) Explain **four** measures being taken by the government to conserve energy. **(8 marks)**

(c) Students from your school carried out a field study at Olkaria Geothermal Power Generation station.

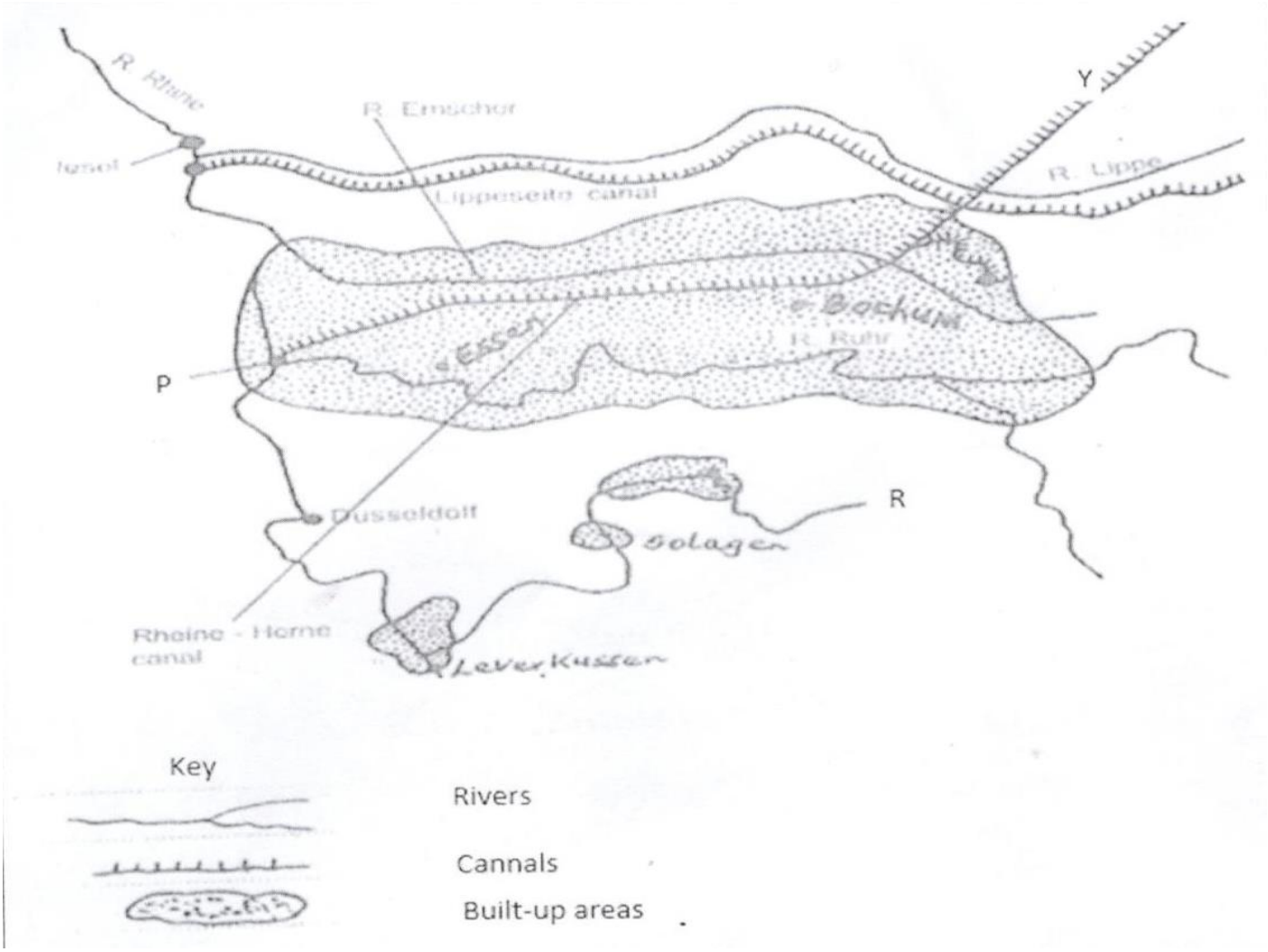
(i) What preparations did they take before going out for the field study? **(3 marks)**

(ii) State the follow up activities that they undertook. **(2 marks)**

10.a) i) Name three agricultural non-food manufacturing industries in Kenya. **(3marks)**

ii) State four reasons for establishing industries in Kenya. **(4 marks)**

b) Study the outline map below and answer the questions that follow.



i) Name the canal marked Y **(1 mark)**

ii) Name the river marked R **(1 mark)**

iii) Name the pot marked P **(1mark)**

c) Give four measures taken by the County Government to promote Jua Kali Industries in Kenya. **(4 marks)**

d) i) State three reasons why paper milling industries are located near water sources. **(3 marks)**

ii) Explain four factors that have favoured car manufacturing in Japan. **(8marks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

MATHEMATICS

121/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… **SIGN**……

INDEX NO…… **ADM NO**……

INSTRUCTIONS TO CANDIDATES

- *Write your name and Admission number in the spaces provided at the top of this page.*
- *This paper consists of two sections: Section I and Section II. Answer **ALL** questions from section I and **ANY FIVE** from section II*
- *All answers and workings must be written on the question paper in the spaces provided below each question.*
- *Show all the steps in your calculation, giving your answer at each stage in the spaces below each question.*
- *Non – Programmable silent electronic calculators and KNEC mathematical tables may be used, except where stated otherwise.*

FOR EXAMINERS USE ONLY

SECTION 1

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	**TOTAL**
Marks																	

SECTION II

Question	17	18	19	20	21	22	23	24	**TOTAL**
Marks									

TOTAL MARKS

SECTION A

1. Evaluate leaving your answer in simplified form ***(3marks)***

$$\frac{\frac{2}{3}+\frac{2}{3}\ of\ \frac{4}{18}\div\frac{4}{5}-\frac{1}{5}\div\frac{4}{5}}{\frac{5}{6}-\frac{1}{6}\times\frac{2}{3}\div\frac{7}{9}}$$

2. Calculate the value of $\sqrt{\frac{4^3\times 46656^{\frac{1}{3}}}{0.0001}}$ using factor notation. ***(3marks)***

3. The length of three wires are 36m,48m and 72m. pieces of wire of equal lengths were cut from the three wires, calculate the least number of pieces obtained. (***3marks)***

4. A two-digit number is such that the sum of the digits is 14. When the digits are reversed its value is 36 more than the original number. Find the original number. ***(3marks)***

5. Simplify $\frac{3x^2 - 4xy + y^2}{9x^2 - y^2}$ ***(3marks)***

6. The area of a rhombus is $60cm^2$ given that one of its diagonal is 15cm long, calculate the perimeter of the rhombus (***4marks)***

7. The sum of two numbers is 23 and their difference is 3. Find the sum of the squares of the two numbers. (***3marks)***

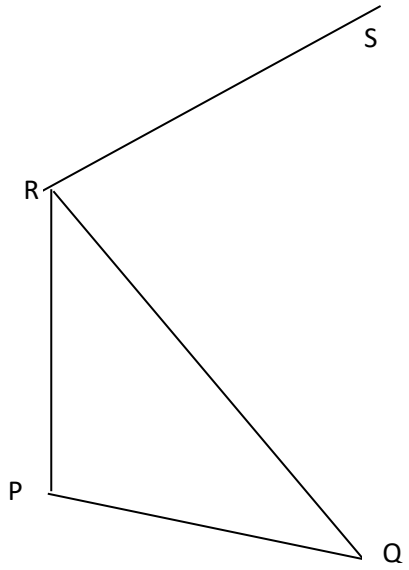
8. A Kenyan bank buys and sells foreign currency as shown in the table below.

	Buying (Ksh)	Selling (Ksh)
1 US dollar	95.34	95.87
1 UK pound	124.65	125.13

A tourist arrived in Kenya with 15000 pounds which he converted into Ksh at a commission of 8%. He later used half of the money before changing the balance into dollars at no commission. Calculate to the nearest dollar the amount he received. ***(3marks)***

9. The sum of interior angles of a regular polygon is 24 times the size of the exterior angle. Find the number of sides of the polygon and hence name it (***3marks)***

10. The figure below shows a solid wedge PQRSTU. Complete the solid showing all the hidden edges with dotted lines. (***3marks)***



11. Solve the equation (***3marks)***

$3^x \times 3^y = 1$

$2^{2x-y} - 64 = 0$

12. Using tables, find the reciprocal of 0.432 and hence evaluate $\frac{\sqrt{0.1225}}{0.432}$ ***(3marks)***

13. The angle of elevation of the top of a building from a point P is 45^{o}. From another point T, 15 meters nearer the foot of the building, the angle of elevation of the top of the building is 52^{o}. Calculate the height of the building. ***(3marks)***

14. The data below represents the ages in months at which 6 babies started walking; 9, 11, 12, 13, 14 and10. Find the root mean squared deviation of the data ***(4marks)***

15. Find all the integral values of x which satisfy the inequalities ***(3mks)***

$20 - x > 5 + 2x \geq x + 5$

16. a) Matrices P and Q are given by P = $(3 \quad 1 \quad 2)$ and Q = $\begin{pmatrix} 1 \\ 2 \\ -1 \end{pmatrix}$ Find the product PQ. ***(1mk)***

b) Given A = $\begin{pmatrix} 10 & 7 & 5 \\ 9 & 11 & 12 \end{pmatrix}$ and B $\begin{pmatrix} 3 & 4 \\ 1 & 6 \\ 0 & 3 \end{pmatrix}$ find AB ***(2mks)***

SECTION B

17. (a). The price of an article is marked as sh.12,000. Mr. Mulmulwas sold the article at a discount of 10% and still made a profit of 5%. Calculate the cost of the article. ***(3marks)***

(b). Mr. Mulmulwas made a loss of 30% by selling an electric kettle at sh.700. What profit would he have made if she had sold it at sh.1150? ***(3marks)***

(c). Mr. Mulmulwas is a real estate agent who is entitled to a commission on all properties bought through him. During a certain month he sold 2 mansions at sh. 2.54 million each, 4 flats at sh. 582,000 each and 5 bungalows at sh.354,000 each and he was paid a total commission of sh.458,900. Calculate the percentage rate of commission he was paid. ***(4mks)***

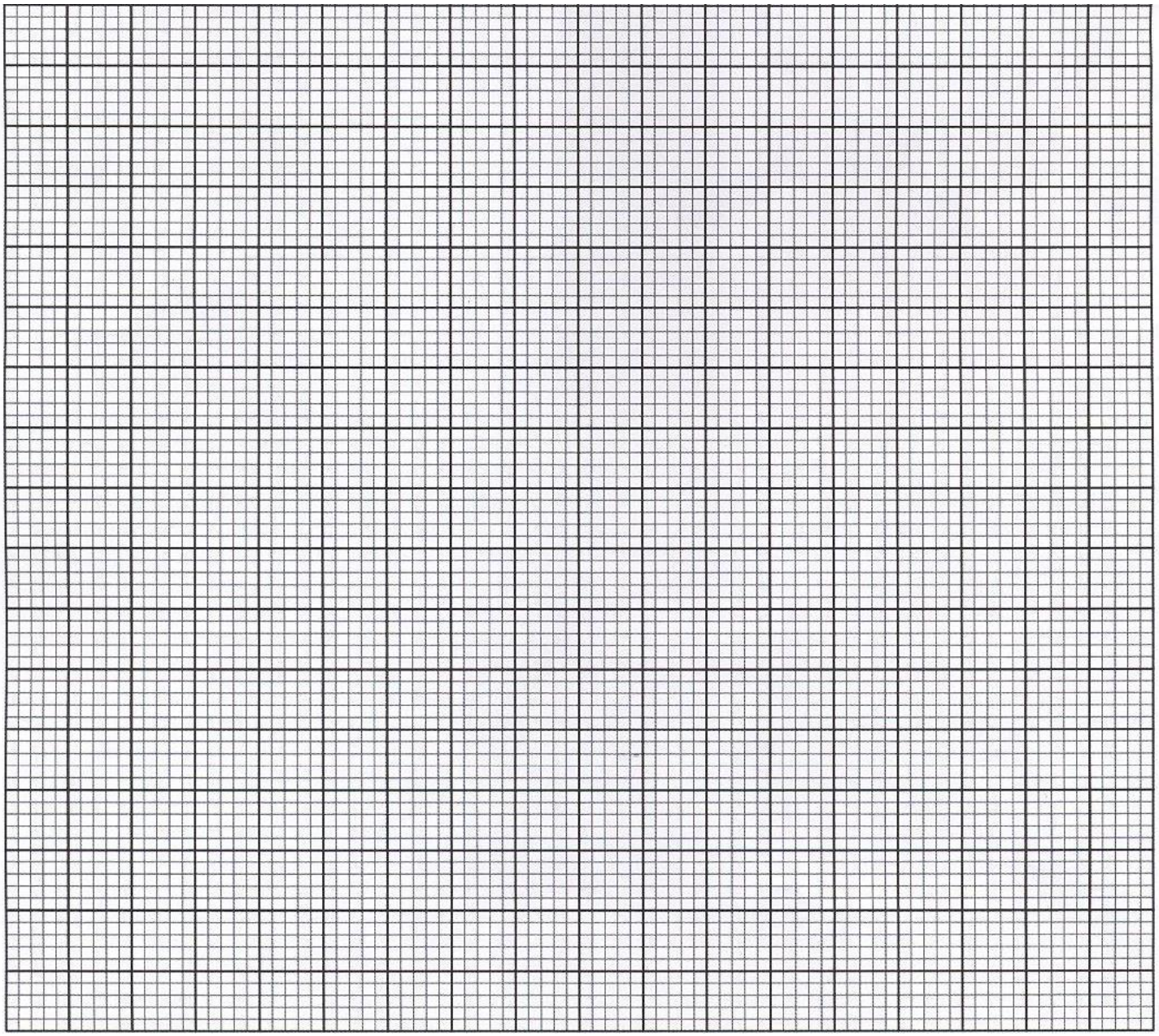
18. The coordinates of the points P and Q are (1, -2) and (4, 10) respectively. A point T divides the line PQ in the ratio 2:1.

a. Determine the coordinates of T (***3marks)***

b. Find the gradient of a line perpendicular to PQ, hence determine the equation of the line perpendicular to PQ and passing through T (***4marks)***

c. If the line meets the y-axis at R, calculate the distance TR to three significant figures. (***3marks)***

19. A triangle PQR has vertices at P (1,1), Q (2,4) and R (4,2) Draw on the same axes triangle PQR and its image $P^IQ^IR^I$ after a reflection in the line $y = x$ ***(3marks)***

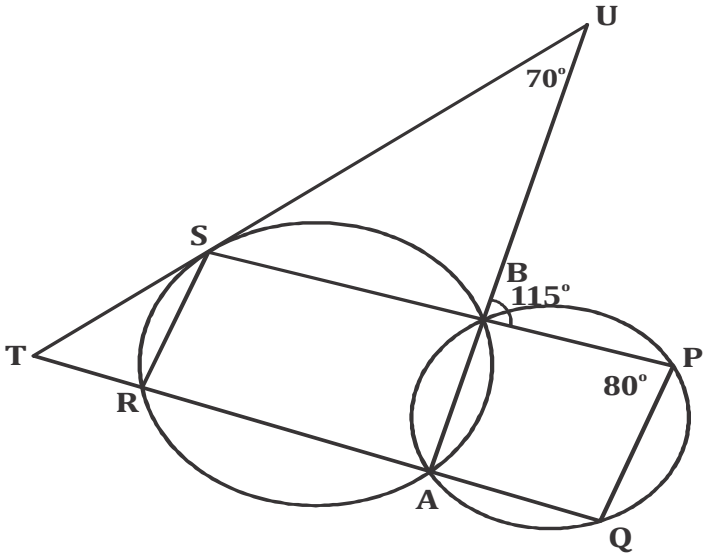


b) On the same axes draw $P^{II}Q^{II}R^{II}$ the image of $P^I\ Q^I\ R^I$ after -90° turn about the origin and state the co-ordinates of Δ $P^{II}Q^{II}R^{II}$ ***(2marks)***

c) Describe the transformation that maps $\Delta P^{II}Q^{II}R^{II}$ onto ΔPQR. ***(2marks)***

d) Draw $\Delta P^{III}Q^{III}R^{III}$ the image of $\Delta P^{II}Q^{II}R^{II}$ under a reflection in the line x = 3. State the co-ordinates of $\Delta P^{III}Q^{III}R^{III}$. ***(3marks)***

20. The figure above shows two circles ABPQ and ABSR intersecting at A and B. QART, PBS and ABU are straight lines. The line TSU is a tangent to the circle ABSR at S. Given that <BPQ = 80°, <PBU = 115° and <BUS = 70°.



Find state reasons the following angles

a) <BRS *(2 marks)*

b) <BSU *(2 marks)*

c) <STR *(2 marks)*

d) <BAR *(2 marks)*

e) <ARB *(2 marks)*

21. Helena left town A at 8:00 am and travelled towards town B at an average speed of 64 km/h. half an hour later, Joan left town B and travelled towards A at the same speed if the two towns are 384km apart:

a. At what time of the day did they meet? ***(5marks)***

b. How far from town B was their meeting point? ***(2marks)***

c. How far apart were they at 10:30am ***(3marks)***

22. Four towns A, B, C and D are such that B is 84km direct to the north of A and C is on a bearing of N65°W from A at a distance of 60km. D is on a bearing of 340° from C at a distance of 30km. Using a scale of 1 cm rep 10km

a) Make an accurate scale drawing showing the relative positions of the towns ***(5marks)***

b) Find the distance and bearing of B from C ***(2marks)***

c) Find the distance and bearing of D from B ***(2marks)***

d) Find the bearing of A from D ***(1mark)***

23. (a) Complete the table below for the function $y = 2x^2 + 3x - 5$.

(2mks)

x	-4	-3	-2	-1	0	1	2
$2x^2$		18			0		
$3x$	-12			-3			6
-5							
y							

(b) On the grid provided draw the graph of $y = 2x^2 + 3x - 5$ for $-4 \leq x \leq 2$ ***(4mks)***

(c) Use your graph to state the roots of

(i) $2x^2 + 3x - 5 = 0$ ***(1mark)***

(ii) $2x^2 + 6x - 2 = 0$ ***(3marks)***

24. The speed of projectile $v\ m/s$ at a given time t is given by $v = 10(10t - t^2)$ calculate

a. The time when the velocity is maximum ***(3marks)***

b. The maximum velocity attained ***(2marks)***

c. The distance travelled by the body in the first 6 seconds ***(3marks)***

d. The acceleration of the projectile at $t = 6.5sec$ ***(2marks)***

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

MATHEMATICS

121/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Write your name and Admission number in the spaces provided at the top of this page.*
- *This paper consists of two sections: Section I and Section II.*
- *Answer **ALL** questions from section I and **ANY FIVE** from section II*
- *All answers and workings must be written on the question paper in the spaces provided below each question.*
- *Show all the steps in your calculation, giving your answer at each stage in the spaces below each question.*
- *Non – Programmable silent electronic calculators* and KNEC mathematical tables may be used, except where stated otherwise.

FOR EXAMINERS 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)

1. In this question, show all the steps in your calculations, giving the answer at each stage. Use logarithms correct to decimal places, to evaluate. ***(4 marks)***

$$\left(\frac{8.574 \log 5.843}{\sqrt{0.005124}}\right)^{\frac{-2}{5}}$$

2. Make h the subject of the formula $E = 1 - \pi\sqrt{\frac{h-0.5}{1-h}}$ ***(4 marks)***

3. **(a)** Expand and simplify $\left(x - \frac{1}{2x}\right)^6$ up to the term in x^3 and state the constant term. ***(2 marks)***

(b) Use this expansion to calculate to 4 d.p the value of $(0.96)^6$. ***(2 marks)***

4. Solve for x in $\log_3\left(3^{x^2-13x+28}+\frac{2}{9}\right)=\log_5 0.5$ ***(3 marks)***

5. Use the method of completing the square to solve ***(3 marks)***

$4-9x-3x^2=0$

6. Given that $\frac{8}{4-2\sqrt{3}}= a + b\sqrt{3}$ and that a and b are rational numbers, find the values of a and b.

(3 marks)

7. The radius and height of a cylindrical Kentank rounded to 1 cm are 105 cm and 300 cm respectively. Calculate the percentage error in its volume. ***(3 marks)***

8. Given that P varies directly as V and inversely as the cube root of R and that $P = 12$ when $V = 3$ and $R = 2$,

(i) Find an equation connecting P, V and R. ***(2 marks)***

(ii) Find the percentage change in P if V is increased by 12% and R decreased by 36% ***(2 marks)***

9. The cost of a matatu was sh. 950 000.It depreciated in value by 5% per year for the first 2 years and 15% per for the subsequent years. Calculate the value of the matatu after 5 years. ***(3 marks)***

10. The mass of two similar solid are 324g and 768g. Find the surface area of the smaller solid if the surface area of the bigger solid is 40cm². ***(3 marks)***

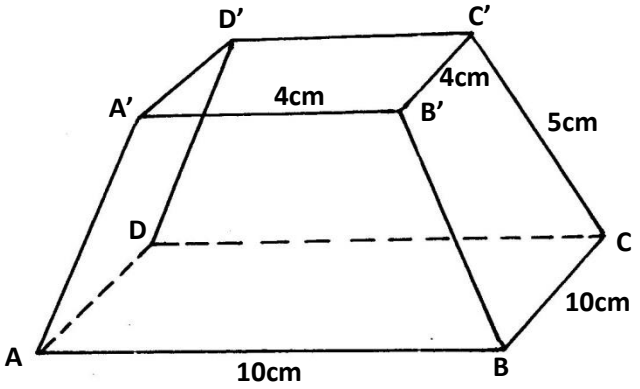
11. Calculate all the values of x between -180° and +180° which satisfy the equation
$6\cos(x-30)^\circ = -3$ ***(3 marks)***

12. The diameter of a circle has its ends with coordinates A(6, 10) and B(0, 2). Determine the equation of the circle giving your answer in the form
$x^2 + y^2 + ax + by + c = 0$. ***(3 marks)***

13. Triangle ABC has vertices A(1,0), B(4,0) and C(1,4) is mapped onto A'B'C' under a shear matrix, x-axis invariant and C(1,4) is mapped onto C'(7,4). Find the shear matrix hence find the coordinates of the image of P(2,-3) and Q(-2,-3). ***(3 marks)***

14. Draw a line $DF = 4.6cm$.Construct the locus of point K above DF such that angle $DKF = 70^0$. ***(3 marks)***

15. The figure below shows a frustum of a square based pyramid (not drawn to scale). The based ABCD is a square of sides 10cm. The top A'B'C'D' is a square of side 4 cm and each slant edges of the frustum is 5cm long. Calculate the angle between AC' and the line AC. ***(4 marks)***



16. Two circles centres A and B and radii 2.5cm and 1.5cm respectively. The distance between A and B is 7cm.

(a) Draw the required circles and construct the direct common tangents to the two circles. ***(2 marks)***

(b) Measure the length of the tangent ***(1 mark)***

SECTION II (50 MARKS)

(Answer ANY FIVE questions in the spaces provided)

17. An aeroplane that moves at a constant speed of 600 knots flies from town A (14^0N, 30^0W) southwards to town B (X^0S, 30^0W) taking $3\frac{1}{2}$ hrs. It then changes direction and flies along latitude to town C (X^0S, 60^0E). Given $\pi = 3.142$ and radius of the earth $R = 6370\ km$

(a) Calculate

(i) The value of X ***(3 marks)***

(ii) The distance between town B and town C along the parallel of latitude in km. ***(2 marks)***

(b) D is an airport situated at (5^0N, 120^0W), calculate

(i) The time the aeroplane would take to fly from C to D following a great circle through the South Pole. ***(3 marks)***

(ii) The local time at D when the local time at A is 12.20 pm ***(2 marks)***

18. The first term of A.P is 3.5, the common difference is d if the difference of 20^{th} and 6^{th} terms is 40.

(a) (i)find the common difference, d ***(2 marks)***

(ii) calculate the sum of the first 40 terms of the AP ***(2 marks)***

(b) The progression is such that the 2^{nd} , 14^{th} and 85^{th} terms of the AP forms the first 3 terms of a G.P. If the common difference of A.P is 2.5

Find

(i) 2^{nd} term of the G.P ***(3 marks)***

(ii) Sum of the two 10 terms of G.P ***(3 marks)***

19. The probability that a boy goes to school by bus is 1/3 and by matatu is ½. If he uses a bus the probability that he is late to school is 1/5 and if he uses a matatu the probability of being late is 3/10. If he uses other means of transport, the probability of being late is 1/20. What is he probability that;

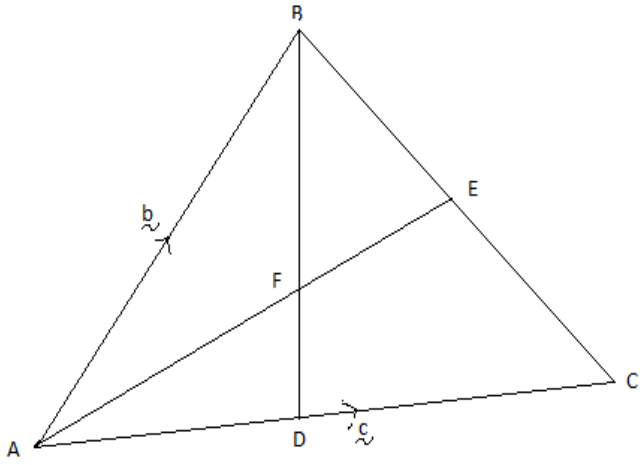
(a) He will be late to school ***(2 marks)***

(b) He will not be late to school ***(3 marks)***

(c) He will be late to school if he does not use a matatu ***(3 marks)***

(d) He neither uses a bus nor matatu but arrives to school early. ***(2 marks)***

20. In the figure below, E is the midpoint of BC. AD : DC=3:2 and F is the meeting point of BD and AE.



(a) Express the following vectors in terms of ***b*** and ***c***

(i) $\overrightarrow{BD}$ ***(2 marks)***

(ii) $\overrightarrow{AE}$ ***(2 marks)***

(b) If **BF**= *t***BD** and **AF**=*n***AE**, find the value of *t* and *n* ***(5 marks)***

(c) State the ratio in which F divides BD and AE ***(1 mark)***

21. **(a)** Using trapezoidal rule estimate the area bounded by the curve $y = 3x^2 - 2$ and the lines $x = -4$,$x = 4$ and $x - axis$. ***(4 marks)***

(b) find the actual area bounded by the curve $y = 3x^2 - 2$and the lines $x = -4$,$x = 4$ and $x - axis$. ***(3 marks)***

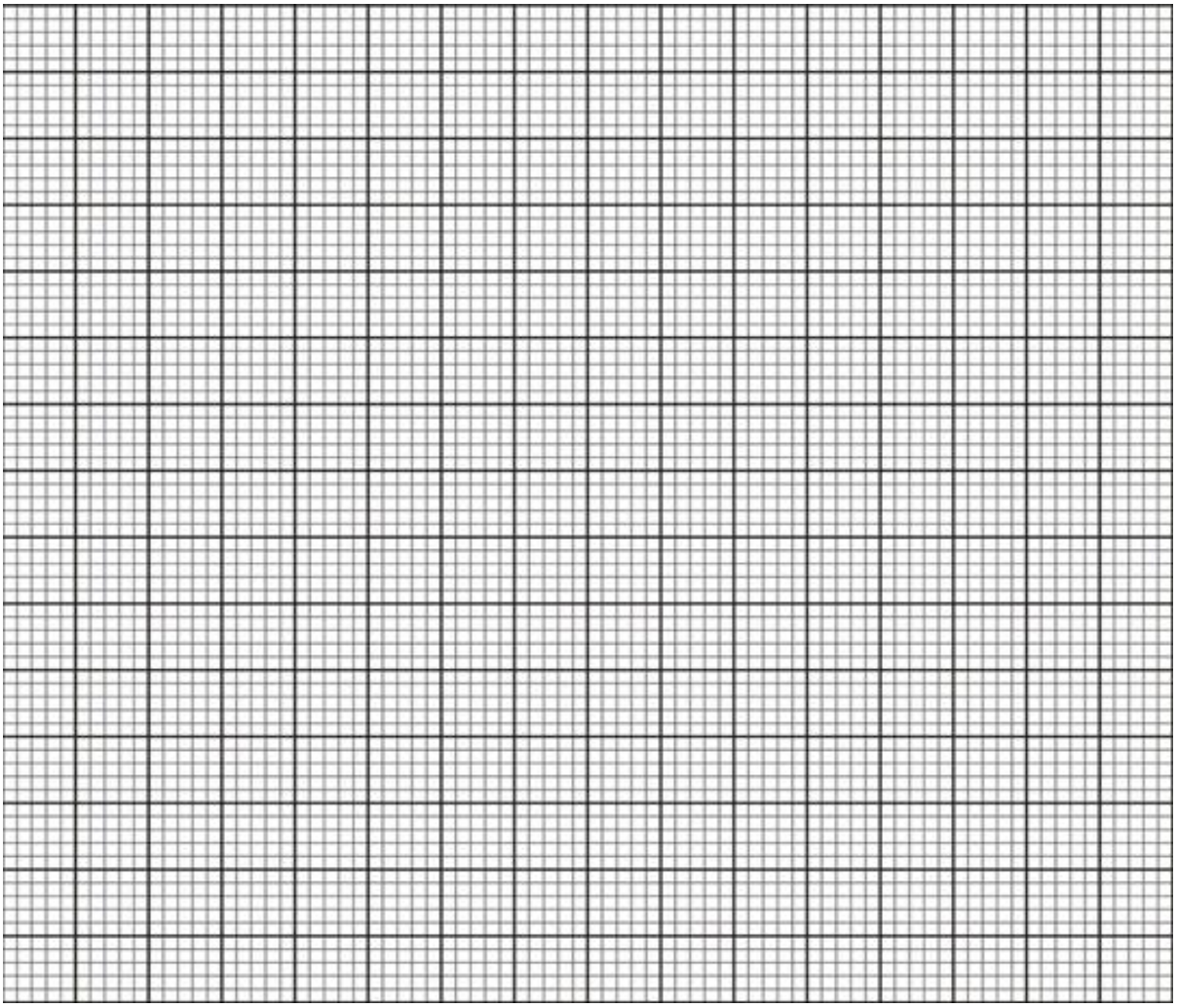
(c) Calculate the percentage error when trapezoidal rule is used. ***(3 marks)***

22. The table below gives the marks obtained in a mathematics test by 47 students.

Marks	41-45	46-50	51-55	56-60	61-65	66-70
No of students	3	7	14	13	7	3

(a) State the modal class *(1 mark)*

(b) Draw a cumulative frequency curve to represent the above data. *(4 marks)*



(c) Use your graph to estimate

(i) Median *(1 mark)*

(ii) Lower quartile *(1 mark)*

(iii) Upper quartile *(1 mark)*

(d) Calculate the quartile deviation *(2 marks)*

23. The table below shows the income tax rates

Income per annum in K£	Rate in Sh per K£
1-1980	2
1981-3960	3
3961-5940	5
5941-7920	7
7921-9920	9
Over 9920	10

Juma is a salaried employee who is given an automatic house allowance of sh8000 monthly. He also gets a single relief of Ksh1320. If his P.A.Y.E is Ksh 5420 a month,

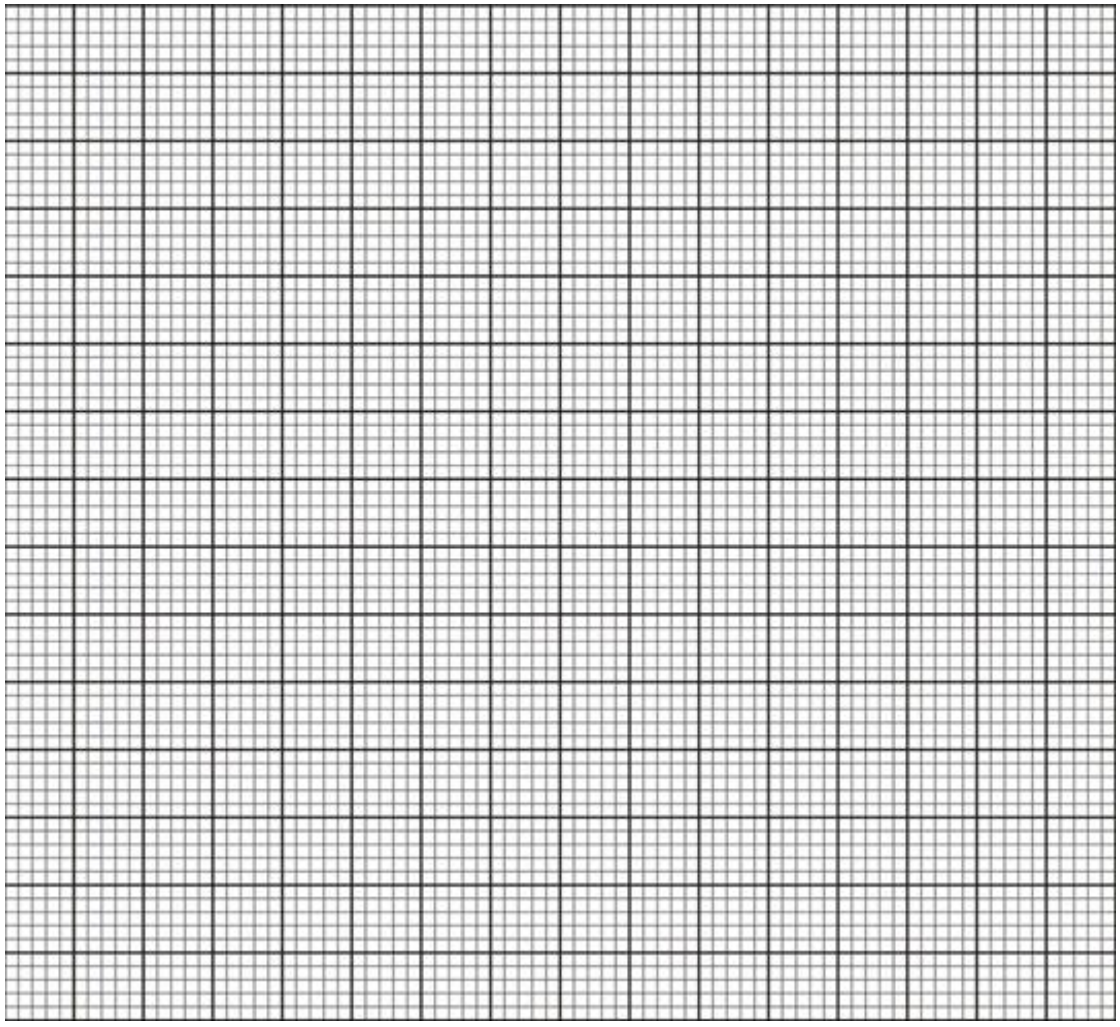
(a) Find his total tax in shillings per annum ***(3 marks)***

(b) How much does he earn per month? ***(7 marks)***

24. A certain uniform supplier is required to supply two types of shirts: one for girls labeled G and the other for boys labeled B. The total number of shirts must not be more than 400. He has to supply more of type G than of type B. However the number of type G shirts must not be more than 300 and the number of type B shirts must not be less than 80. By taking x to be the number of type G shirts and y the number of type B shirts.

(a) Write down in terms of x and y all the inequalities representing the information above. ***(4 marks)***

(b) On the grid provided draw the inequalities and shade the unwanted regions. ***(4 marks)***



(c) Given that type G costs Ksh 500 per shirt and type B costs Ksh. 300 per shirt

(i) Use the graph in (b) above to determine the number of shirts of each type that should be made to maximize profit. ***(1 mark)***

(ii) Determine the maximum profit ***(1 mark)***

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

COMPUTER STUDIES

451/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTION TO CANDIDATES

a) *Write your name and index number in the space provided above.*

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

c) *This paper consists of **two** sections **A** and **B**.*

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

e) *Answer question **16** and any other **three** questions from section **B.***

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

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total		

Section A (40 Marks)

Answer all question in this section in the spaces provided

1. Molly a secretary at Kassu Secondary School carries out her daily duties using computers and suffers wrist strain. State two ways she would reduce wrist strain. **(2 mark)**

……

……

2. There are two booting processes of the computer. Explain the cold booting process **(2 Marks)**

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3. The manager of KASSU Co. Ltd. wishes to purchase an output device for the company. State three factors to consider when selecting the output device to purchase. **(2 Marks)**

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4. State **two** disadvantages of entering data using touch sensitive screens in tablet computers. **(2 marks)**

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5. Due to the rapid change in technology, the world is slowly moving from the magnetic and optical storage devices to solid state storage devices.

a. Define the term "solid state storage device" **(1 Mark)**

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b. State any two advantages of solid state storage devices **(2 Marks)**

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6. Differentiate between HDMI and firewire interface cables **(2 Marks)**

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7. Lamura games teacher at Tatu secondary school wants to invites several schools for Basketball tournament. She was advised to use mail merging technique to create invitation letters for the respective schools identified. State three benefits of this technique. **(3 Marks)**

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8. In a relational database, it is important to identify and create relationships between the database objects. Mentioning the type of relationship, state circumstances under which each relationship is formed. **(3 Marks)**

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9. Suggest any four application areas in which you would expect a supermarket retail manager to use the internet. **(4 Marks)**

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10. State the stages of system development life cycle in which each of the following activities that place. **(3 Marks)**

(a) Staff training

……

(b) Error correction

……

(c) Cost effectiveness

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11. The use of ICT has affected every aspect of human life. State one disadvantage and two advantages of ICT on physical fitness in the society **(3 Marks)**

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12. The Internet is a massive network of networks that connects millions of computers together globally. Explain two ways through which an individual can access the **internet.** **(2 Marks)**

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13. State two ways in which ICT can be used to register a citizen for *huduma* number **(2 Marks)**

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14. Using the twos complement & 8 bit binary notation, perform the calculation $15_{10} - 41_8$ leaving your answer in decimal number. **(6 Marks)**

15. Distinguish between a special purpose computer and a dedicated computer. **(2 Marks)**

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Section B (60 Marks)

Answer question 16 and any other three from this section in the spaces provided.

16. Below is a pseudocode for a prgoram that is meant to be used for calculating the sum and average of all even numbers between 50 and 100 and display results.

1. *set sum = 0*

2. *for num = 0 to 100 do*

3. *num = num + 1*

4. *sum = num + sum*

5. *average = sum/count*

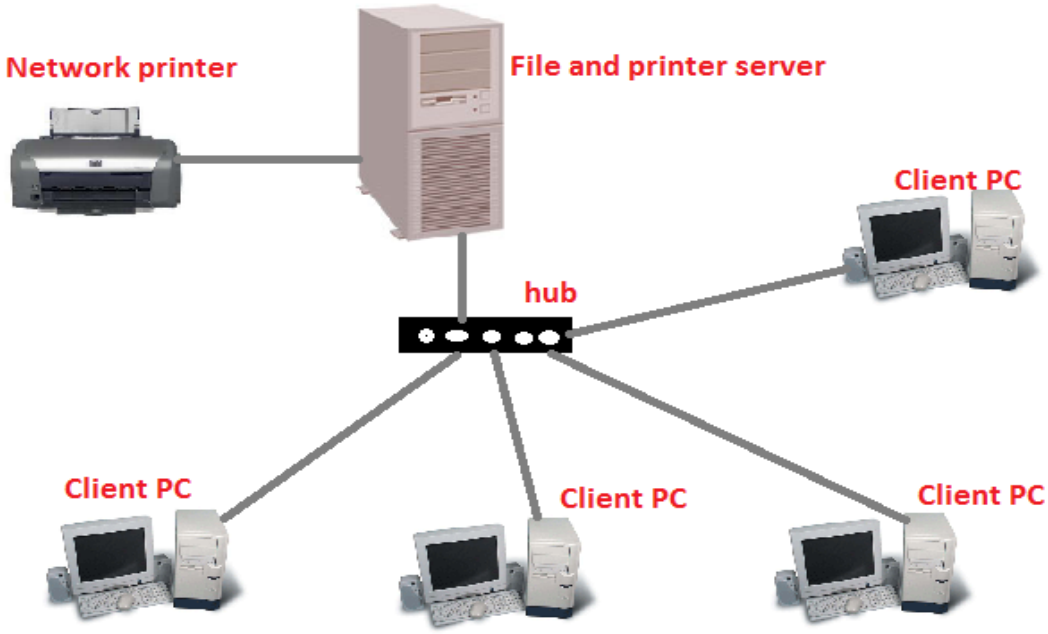
6. *end*

7. *print sum, average*

a. The pseudocode has four logical errors, identify and correct the errors. **(8 Marks)**

b. Draw a flowchart for the corrected version of the pseudocode in (a) above. **(7 Marks)**

17. Study the diagram below of a school network and use it to answer the questions that follow.



a. Identify the network represented in the diagram **(1 Mark)**

……

b. State any two advantages and two disadvantages of the above network **(4 Marks)**

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c. Distinguish between multiplexing and demultiplexing as used in data transmission. **(2 Mrks)**

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d. State the importance of multiplexing during data transmission **(1 Marks)**

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e. Distinguish between packet switching and circuit switching of packets during transmission **(2 Mrks)**

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f. Data is constantly under threat from everyone handling it and the larger society. Identify any two physical threats to data by the employees of the organization to its information system **(2 Marks)**

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g. Mark, an employee of the institution used his computer to access his boss's computer to get some classified information and gave it to one of the clients at a fee.

i. State the type of crime committed by Mark **(1 Mark)**

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ii. State two possible ways of protecting the data against the crime committed by Mark **(2 Marks)**

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18. (a) Explain the difference between *freeware and open source softwares*. **(4 marks)**

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(b) Describe how operating systems handle the following in a computer system.

i. Errors **(2 marks)**

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ii. Interrupt **(2 marks)**

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(c).

i. State the meaning of the term fragmentation as used in disk management. (**1 mark)**

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ii. State two effects of fragmentation in a computer system. **(2 marks)**

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(d). Explain the purpose of the following in a computer. **(2 marks)**

i. Cache memory

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ii. Output buffer

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(e). State **two** characteristics of Random Access memory. **(2 marks)**

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19. a. Data collection is a process of gathering data from all the relevant sources. List the data collection stages. **(4 Marks)**

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b. Explain three advantages of time sharing as a data processing mode. **(3 Marks)**

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c. Differentiate between a webmaster and a web developer. **(2 Marks)**

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d. Differentiate between automatic recalculation and what if analysis as used in spread sheet programs. **(2 Marks)**

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e. With aid of an example in each case, describe each of the following cell referencing methods.

i) Range reference **(2 Marks)**

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ii) Referencing using labels **(2 Marks)**

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20.

a. There are many systems developed some of which contrast each other. Distinguish between a conceptual and physical system. **(2 Marks)**

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b. Every organization requires an information system.

i. Define an information system **(1 Mark)**

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ii. Describe any three reasons why it is necessary for an organization to change its existing information system **(3 Marks)**

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c. Testing systems after development is a very critical process in systems development. State any four test conditions to be covered for effective testing of the system. **(4 Marks)**

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d. With examples for each, Distinguish between a page layout based DTP software and graphical based DTP software **(3 Marks)**

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e. State two reasons why it is important to implement the use computers in the monitoring and control processes of industrial products **(2 Marks)**

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KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

COMPUTER STUDIES

451/2

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

1. *Type your name and admission 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*

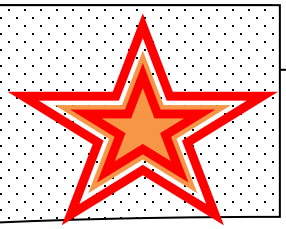
8. *All answers must be saved in your compact disks*

9. *Make a printout of the answers on the answer sheets provided*

10. *Hand in all the printouts and the compact disks.*

1. **(a)** (i) Create a **folder** and name it as the **last three digits** of your index number.**(1 mark**
(ii)Create the document as it appears and save as **OS_RAW"**. **(17 Marks)**

TYPES OF OPERATING SYSTEMS



When identifying an operating system, it is important to consider certain aspects of classification in order to group them correctly. Therefore operating systems can be classified according to:

1. *Number of tasks*
2. *Number of users*
3. *User interface*

CLASSIFICATION ACCORDING TO NUMBER OF TASKS	
SINGLE TASKING OPERATING SYSTEM	**MULTITASKING OPERATING SYSTEM**
llows the computer to perform only one task a a time	allows a single CPU to perform severa operations at the same time.
he processing task taking place must firs finish executing before another task i assigned the processor	he processor switches from one task to anothe as directed by the operating system at a ver high rate

CLASSIFICATION ACCORDING TO INTERFACE

~~**INTERFACE**~~ refers to the method of interaction between the user and the computer and interface is seen as what lies between the user and the computer that brings them together in an understandable form by the user, hence making the use of the computer possible.

The underlying principle in operating system as design is to make the interface as easy as possible. The consideration of operating systems mainly depends on the interface, that is user friendly (ease of using) it is, therefore the more user friendly the interface is, the more easy to operate the computer.

COMMAND-LINE BASED OPERATING SYSTEMS

ommand-line user interface operating systems was used by the first operating systems which only provided the user with a black screen to type a command at the prompt. The computer reads the typed command from the command line and executes it. For the command –line operating system to be more user friendly, English like words- descriptive verbs ie print, copy etc and unique abbreviations ie DEL, REN, CHKDSK etc were used as commands.

Command-line operating systems are not user friendly because;

- It is difficult to remember all the commands
- It cannot process complex graphics
- It cannot support the emerging hardware and software technologies.

(a) Set the page as follows: **(4 marks)**

(i) Paper size: A4

(ii) Measurements: inches.

(iii) Set margins: 1.2" all round

(iv) Font type: Times Roman

(b) Spell check the document. **(1 marks)**

(c) Save the document above as **OS_FORMAT**, in the folder created and apply the following format. **(1 mark)**

(d) (i) Apply hanging Indent the first paragraph starting with "***When identifying an operating system*** ……" By 0.8". **(1 mark)**

(ii) Convert all the text from the paragraph starting with "***The underlying principle ……"*** into three columns of the same width and height and a line between**.** **(2 marks)**

(ii) Change the line spacing for the entire paragraph starting with "Command-line user interface ….." to 1.5. **(1 mark)**

(e) Format the "*Star*" as follows: **(2 marks)**

- Height: 0.74"
- width: 0.92"

(f) Apply the following format to the document;

(i) Insert water mark with the text "*Operating Systems*" on the document of font size 20 and running diagonally from left to right. Apply red colour. **(4 marks)**

(ii) Insert page numbering at the bottom centre of every page *x of y*. **(1 mark)**

(iii) Insert the text "name and index number " as the header align to the right. **(2 marks)**

(iv) Replace the word **REN** with the word **RENAME** **(1 Mark)**

(v) Insert an endnote to explain the meaning of the term CHKDSK in the document. **(2 marks)**

(vi) Create page border made of dotted line. **(2 marks)**

(g) Insert a break at the end of the document created such that the new section on a new page. **(1 mark)**

(h) (I) Table 1 below shows various operating system market dominance from the year 2017 to 2019 in percentage. Insert a bar chart in the new section to represent the information shown in the following table. **(3 marks)**

OS Name	Year 2019	Year 2018	Year 2017
Windows	75.47	71.4	69.72
MacOS X	12.33	9.67	8.13
Linux	1.67	1.51	1.42
Chrome OS	1.11	1.01	0.91
Others	9.42	8.82	8.15

Table 1

(II) Apply a grey background to the area created in (ii) above. **(1 mark)**
(III) Insert the caption "*Operating System Market Dominance 2017-2019*". **(1 mark)**
(VI) Change the orientation of the page containing the chart to landscape. **(1 mark)**
(VII) Save the document in the folder created and print on both sides of the paper. **(1 mark)**

2. The table below shows extract orders made by several school in Kopiyo Carpentry Workshop.

School Number	Furniture Number	School Name	School Category	Furniture Name	Furniture Material	Carpenter Name	Carpenter Number	Number Ordered
104	11-01	Vision	Mixed	Desk	Mahogany	Alpha	CA-1	12
106	11-02	karatasi	Boys	Chair	Elgon teak	Baya	CA-2	13
120	12-01	Dove	Girls	Table	Elgon teak	Maria	CA-3	16
189	12-02	Manar	Mixed	Single bed	Mahogany	Alpha	CA-1	12
199	13-01	Pepeo	Boys	Office desk	Cedar	Baya	CA-2	13
200	11-01	Rehema	Girls	Desk	Mahogany	Maria	CA-3	16
210	11-02	Kasuku	Mixed	Chair	Metallic	Alpha	CA-1	12
222	12-01	Kapema	Mixed	Table	Cedar	Baya	CA-2	13
234	13-01	Ravel	Boys	Office desk	Mahogany	Maria	CA-3	16
244	13-02	Eagle	Girls	Double bed	Metallic	Maria	CA-3	16
256	11-02	Goose	Boys	Chair	Metallic	Tom	CA-4	20
270	13-02	Hornbill	Girls	Double bed	Metallic	Tom	CA-4	22

Table 2

(iii) Using a database application package, create a database file named **Kopiyo Carpentry.**
(1 mark)

(iv) Create three tables, one to store school details, furniture details and carpenter's details. Name the tables as **School_Details** and **Furniture_ Details** and **Carpenters _ Details**.
(3 marks)

(v) Assign an appropriate primary key to each table. **(2 marks)**

(vi) Create a relationship between the three tables. **(2 marks)**

(v) Enforce referential integrity **(1 mark)**

(b) (i) Create data entry form for each table. **(2 marks)**

(ii) Use the forms to enter the respective the data in table 1 above. **(15 marks)**

(c) Modify the furniture table so as to capture the purchase price of each item as shown below. **(3 marks)**

Furniture Number	Purchase Price
11-01	3800
11-02	2000
12-01	2600
12-02	4800
13-01	4000
13-02	4600

Table 3

(d) (i) Create a query named **B_Query** to display furniture number, school name, school category, furniture material, carpenter and number ordered. **(3 marks)**

(ii) Create a query named **Order_Query** to display school names, furniture name, material, purchase price and number of ordered items. Show records whose school name start with letter "**K**" and ordered chairs. **(5 marks)**

(e)Create a report named **S_Report** to display furniture number, school name, furniture name, purchase price, number of items ordered and total income collected. **(10 marks)**

- The records in the report should be grouped by furniture material.
- Show the number of items per group.
- Landscape orientation
- Title the report "Kopiyo Carpentry Worshop Services".

(f) Print the following: **(3 marks**

(i) Tables: School_Details and Furniture_ Details

(iii) Queries : B_Query and Order_Query

(iv) Report: S_Report

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

HOME-SCIENCE

441/1

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Answer all questions in section A in the spaces provided*
- *Section B is compulsory*
- *Choose any two questions from section C*
- ***Do not remove any pages from this booklet.***
- ***Answer all questions in English.***

FOR EXAMINERS USE ONLY

SECTION	Question	Maximum score	Candidate's score
Section A	1-38	40	
Section B	39	20	
Section C	40-42	40	
Total score		100	

SECTION A (40 MARKS)

1. Give **two** advantages of using cosmetics. **(1mk)**

_____

_____

_____

2. State **one** function of the nerve endings. **(1mk)**

_____

_____

3. Highlight **two** areas covered in consumer education. **(1mk)**

_____

_____

_____

4. Mention **two** rules of first aid. **(1mk)**

_____

_____

_____

5. Name **two** ideal locations for a pit latrine. **(1mk)**

_____

_____

6. Give **two** reasons why buffing the floor after polishing is necessary. **(1mk)**

_____

_____

7. Outline **two** ways of caring for varnished wood. **(1mk)**

_____

_____

8. Identify **four** favorable for growth of micro-organisms. **(2mks)**

_____

_____

_____

9. Fat should be heated to the right temperature before putting food. Give a reason for this. **(1mk)**

_____

_____

_____

10. Name **two** methods of fabric construction. **(1mk)**

_____

_____

_____

11. Mention **two** points to note when working stitches. **(1mk)**

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12. State **two** points to consider when choosing a charcoal iron. **(1mk)**

_____

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_____

_____

13. Name **two** factors that determine a good laundry detergent. **(1mk)**

_____

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_____

14. Give **two** reasons for removing stains before washing. **(1mk)**

_____

_____

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_____

15. State **two** points to consider when replacing buttons. **(1mk)**

16. Give **two** general points to consider when storing clothes. **(1mk)**

17. Name **two** reasons why food fortification is important. **(1mk)**

18. Give **two** examples of self-neatened seams. **(1mk)**

19. Name **two** ways of graining a fabric. **(1mk)**

20. Give **two** reasons why impulse buying is not encouraged. **(1mk)**

21. Give **two** reasons why advertising is done. **(1mk)**

22. List **two** factors that affect normal foetal development. **(1mk)**

23. State **two** importance of immunization. **(1mk)**

24. State **two** reasons why a baby may not be able to breastfeed. **(1mk)**

25. Mention **two** ways of sterilizing baby's equipment. **(1mk)**

26. Highlight **two** ways habits can be acquired. **(1mk)**

27. Give **two** factors to consider when weaning. **(1mk)**

28. State **two** ways of reinforcing a dart. **(1mk)**

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_____

29. List **two** disadvantages of simple non-installment credit. **(1mk)**

_____

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_____

30. Write down **two** steps in making a budget. **(1mk)**

_____

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_____

31. State **two** points to bear in mind when cleaning a sick person's room. **(1mk)**

_____

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_____

_____

32. State **two** ways of conserving fuel during cooking. **(1mk)**

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33. State **two** reasons for coating food before deep frying. **(1mk)**

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34. Give **two** points to consider when buying fabrics for soft furnishings. **(1mk)**

35. Salting is a method of food preservation. Explain how it works **(2mks)**

36. State **two** factors to consider when using left over foods. **(1mk)**

37. Give **two** reasons why gliding doors are commonly used in banks. **(1mk)**

38. Mention **two** reasons why convenience foods are not accessible to a majority of households. **(1mk)**

SECTION B Compulsory question (20 Marks)

39. You are expected to help your mother in doing the following chores.

(a) Cleaning a painted oil based wall. (7mks)

(b) Clean a white cotton butcher's apron/coat with a blood stain. (7mks)

(c) Clean an aluminum sufuria used for making baby's porridge. (6mks)

SECTION C (40 MARKS)

40. (a) Identify **four** ingredients used in flour mixtures and give their uses. **(4mks)**

(b) Using **two** well labelled diagrams explain how to work a double **stitched seam.** **(6mks)**

(c) Explain **four** ways consumers can deal with scarcity of **resources.** **(4mks)**

(d) Using **two** well labelled diagrams explain how easing is worke**d.** **(6mks)**

41. (a) Explain **four** ways air is introduced mechanically into a **mixture.** **(4mks)**

(b) Using **two** well labelled diagrams explain how to work an open seam**.** **(6mks)**

(c) State **five** functions of the Kenya Bureau of standards**.** **(5mks)**

(d) Highlight **five** points to observe when laying pattern pieces onto the fabric and cutting out. **(5mks)**

42. (a) Identify and explain **four** laundry processes done during special treatment**.** **(4mks)**

(b) Mention **four** points to bear in mind when fixing fasteners**.** **(4mks)**

(c) Explain how to prepare a set-in sleeve in readiness for **attachment** **(8mks)**

(d) Give **four** reasons why consumer protection is important**.** **(4mks)**

KCSE ACHIEVERS PREMOCK

2023 SERIES 1 EXAMINATIONS

HOME-SCIENCE

441/2

PAPER 2

PRACTICAL

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

Kenya Certificate of Secondary Education

HOME SCIENCE

(CLOTHING CONSTRUCTION)

PAPER 2

PRACTICAL

TIME: 2 ½ HOURS

Instructions to candidates

- *This paper consists of **3** printed pages.*
- *Candidates should check the question paper to ascertain that all pages are printed and no questions are missing.*

A pattern of a dress is provided. You are advised to study the question, the patterns and the layout before you begin the test.

Materials provided

1. Pattern pieces
   - A - Front Bodice
   - B - Back Bodice
   - C - Skirt Front
   - D - Skirt Back
   - E - Collar
   - F - Pocket
   - G - False Hem

2. A 1cm button of a contrasting colour to that of the fabric.
3. Light weight cotton fabric of 60cm long by 90cm wide.
4. Cotton sewing thread to match the fabric.
5. A4 envelope.

THE TEST

Using the materials provided, cut out and make up the **LEFT HALF** of the dress to show the following:

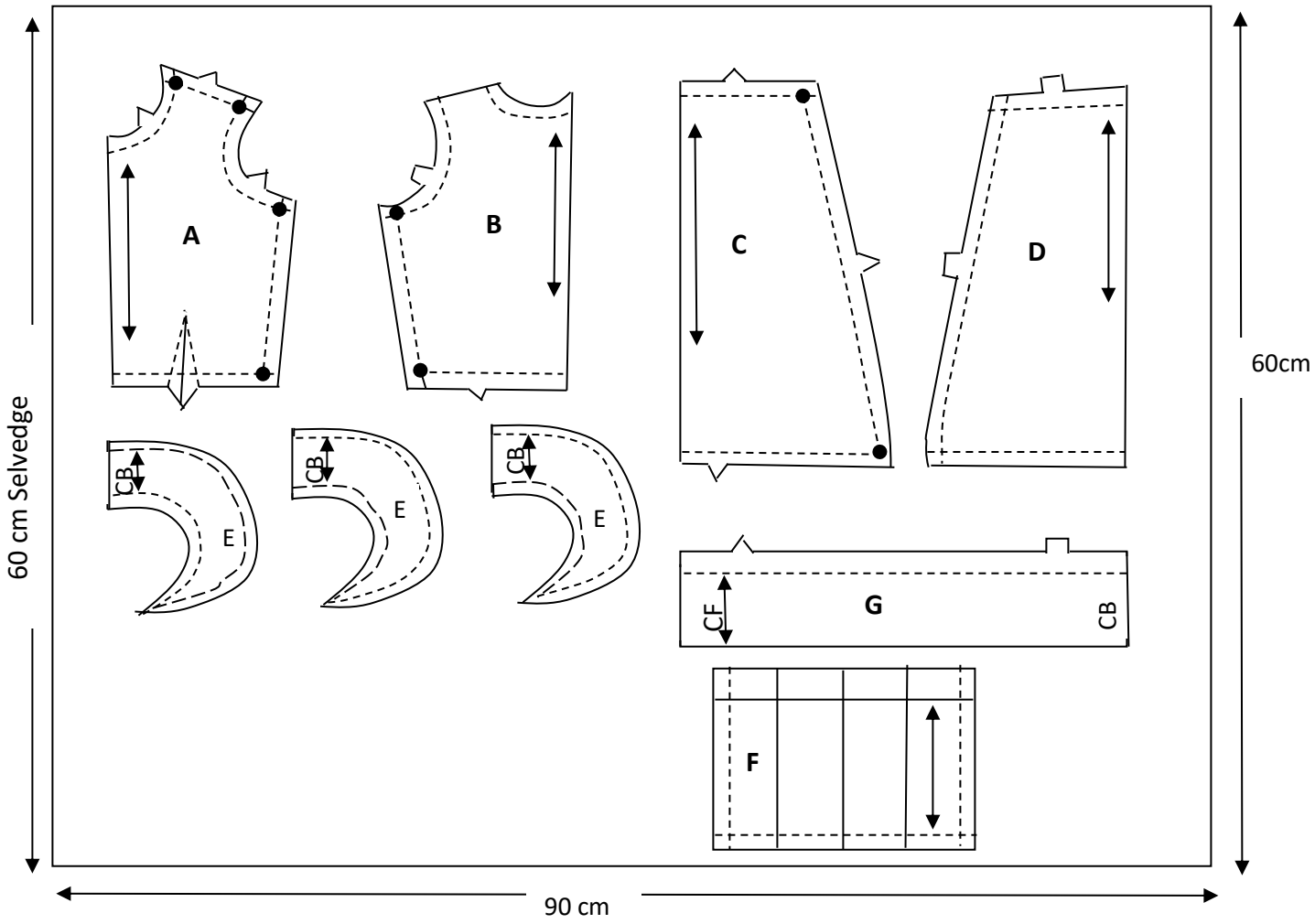
1. Cutting out. (16 ½ marks)
2. Making of the front bodice dart. (4 marks)
3. The preparation and attachment of the patch pocket to include the making of a box pleat. (14 marks)
4. Making of the shoulder seam using open seam. (5 ½ marks)
5. Joining the front and the back bodices using a double stitched seam. (5 ½ marks)
6. Joining the front and back skirts using French seam. (5 ½ marks)
7. Joining the bodices to the skirt using overlaid seam. (10 marks)
8. Preparation and attachment of an interfaced collar using self-neatening method. (12 marks)
9. Neatening the lower dress using false hem and holding it in place with hemming stitches. (8 ½ marks)
10. Attaching a decorative button. (3 marks)
11. Presentation. (5 ½ marks)

NB:

At the end of the examination, firmly sew on your work on single fabric a label bearing your name and index number. Remove the needles and pins from your work, then fold your work neatly and place it in the envelope.

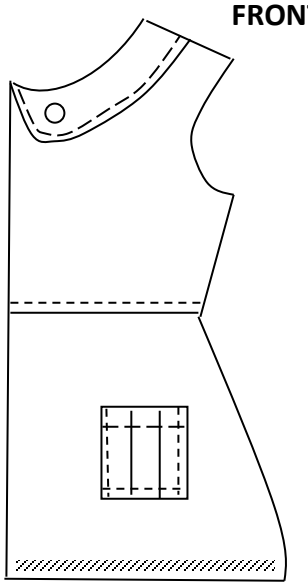
DO NOT PUT SCRAPS OF FABRIC IN THE ENVELOPE AND DO NOT SEAL THE ENVELOPE.

LAYOUT NOT DRAWN TO SCALE

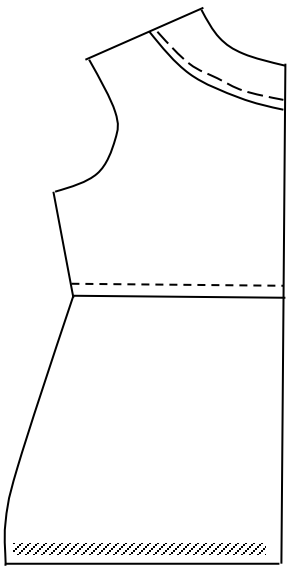


VIEWS

FRONT VIEW



BACK VIEW



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

CALL/TEXT/WHATSAPP

0746 222 000

0742 999 000

mwalimuconsultancy@gmail.com

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