CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

SUBJECTS PREDICTED INCLUDE;

Mathematics, English, Kiswahili, CRE, Geography, History, Biology, Chemistry, Physics, French, Agriculture, Business, Computer, IRE, French, Electricity, German, Art &Design, Metal work, Building &Construction &Home-Science.

Series 1 of Detailed Possible Cross-Country Questions Predicted by KNEC Examiners to ALL KCSE 2021 CANDIDATES Sitting in MARCH 2022.

(SPECIAL APPRECIATION TO ALL EXAMINERS WHO PARTICIPATED)

(CONFIDENTIAL)

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

231/1

BIOLOGY

(THEORY)

PAPER 1

TIME: 2 HOURS

Instructions to 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**	

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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)**

……

(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 organism**.** **(1 mark)**

……

……

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

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

……

……

(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 a) What do you understand by the term ecologically balanced ecosystem? **(1mk)**

……

……

b) Give two reasons for loss of energy from one trophic level to another in a food web **(2mks)**

……

……

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……

5. Identify the following types of responses:

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

……

……

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

……

……

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

……

……

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

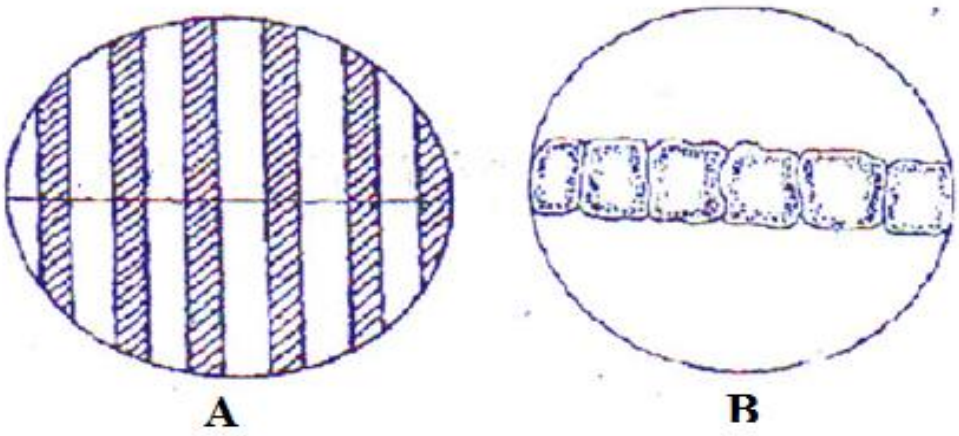
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8. The field of view of a light microscope appeared as shown below in diagram A and the diameter in **A** was occupied by cells as shown in **B.**



A B

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

……

……

……

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

……

……

……

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)**

……

……

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

……

……

……

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. a) Name the part of the chloroplast where each of the following activities take place.

i) Light stage……..**(1mk)**

ii) Dark stage……..**(1mk)**

b) Name two types of cells in a leaf that carry out photosynthesis **(2mks)**

……

……

……

17. State any three disorders due to Gene mutation in human beings **(3 marks)**

……

……

……

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)**

……

……

……

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(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. **(2 marks)**

……

……

……

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

……

……

……

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

……

……

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

……

……

……

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

……

(a) 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)**

……

……

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

……

……

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

……

……

……

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

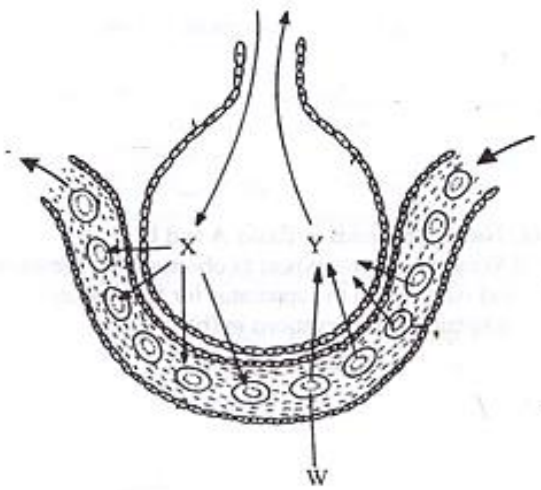
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27. Below is a diagram of a respiratory surface. Use it to answer questions that follow.



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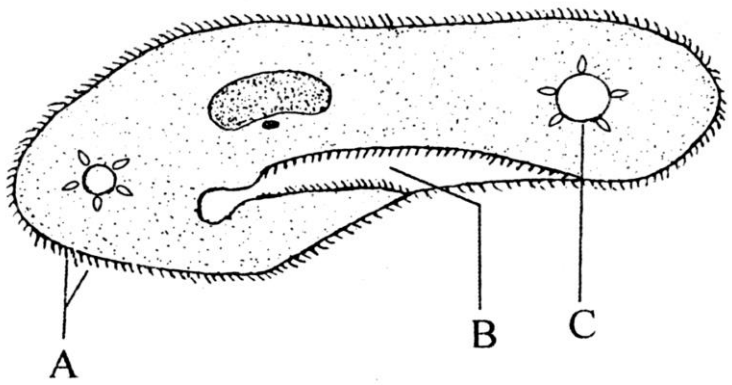
(b) Give one role of xylem vessels other than transport **(1 mark)**

……

……

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29. Study the diagram below and answer the question that follows:



(a) Name the kingdom from which the organism belongs to. **(1 mark)**

……

(b) State the function of the structure labelled **C**. **(1 mark)**

……

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

……

……

……

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

……

……

(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. Name two characteristics that are controlled by the gene located on:

i) Y chromosomes **(2mks)**

……

……

ii) X chromosomes **(2mks)**

……

……

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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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

231/2

BIOLOGY

PAPER 2

THEORY

TIME 2 HOURS

INSTRUCTIONS TO CANDIDATES

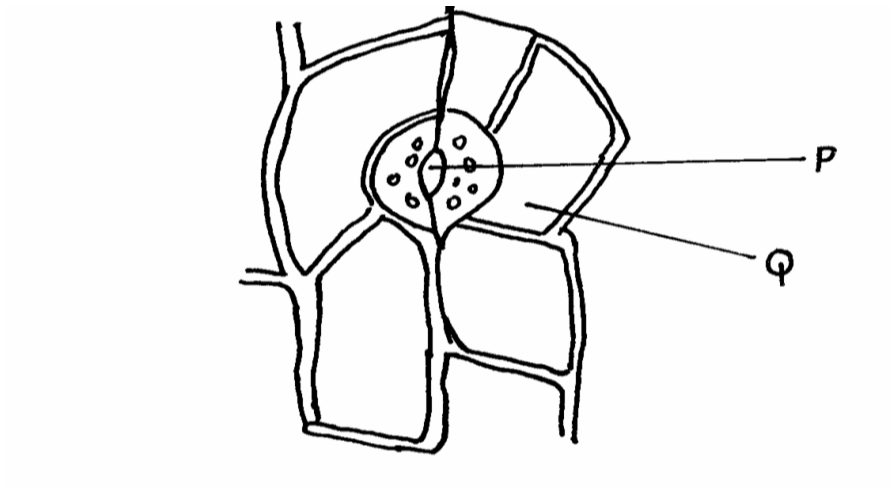
a) *Write your name and Admission number in the space provided above.*
b) *This paper has **two** sections **A** and **B**.*
c) *Answer **ALL** the questions in section **A** in the spaces provided on the question paper.*
d) *In section **B** answer question **6(compulsory)** and either question **7 or 8** in the spaces*
e) *Provided after question **8.***

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

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1. The diagram below shows a portion of a lower epidermis of a sukuma wiki leaf.



a) Name the parts labeled P and Q. **(2mks)**

P _____

Q _____

b) Briefly describe the photosynthetic theory of stomata opening. **(5mks)**

……

……

……

……

……

……

……

c) State one modification in the stomata of xerophyte plant other than being sunken and hairy. **(1mk)**

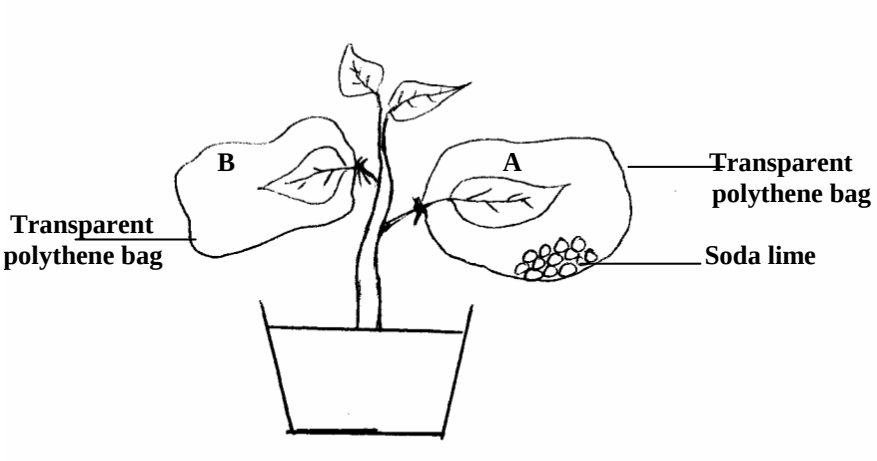
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2. The diagram below represents an experimental set-up to investigate an aspect of photosynthesis.



The set up was placed in darkness for 24 hrs and then exposed to light for 5 hrs.

(a) What was the aim of the experiment? **(1mark)**

……

(b) Leaves **A** and **B** were tested for starch.

(i) What would be the expected results? **(2marks)**

……

……

(ii) Give reasons for your answer in **(b) (i)** above. **(2marks)**

……

……

(c) What was the role of leaf **B** in the experiment **(1mark)**

……

(d) Why was the set – up placed in darkness for 24 hours? **(1mark)**

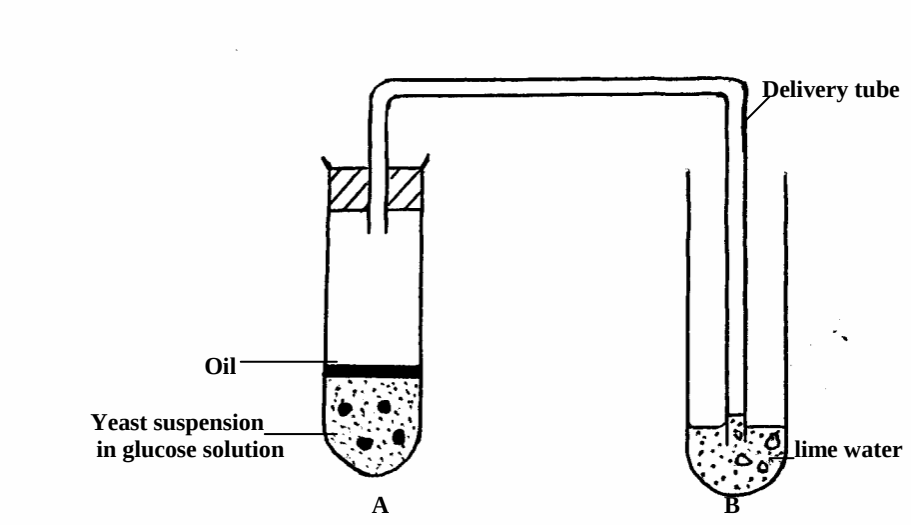
……

(e) Name the organelle in a plant where photosynthesis takes place **(1mark)**

……

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3. The diagram below illustrates an experiment to demonstrate a certain biological process.



Before adding yeast suspension in tube **A**, the glucose solution was first boiled and cooled.

a. What biological process was being demonstrated? **(1mark)**

……

(b) (i) What observation would be made in tube **B** after 20 minutes of the experiment? **(2marks)**

……

……

(ii) Account for the observations made in **(b) (i)** above **(2marks)**

……

……

……

(c) Write down an equation to summarize the reaction taking place in tube **A**. **(1mark)**

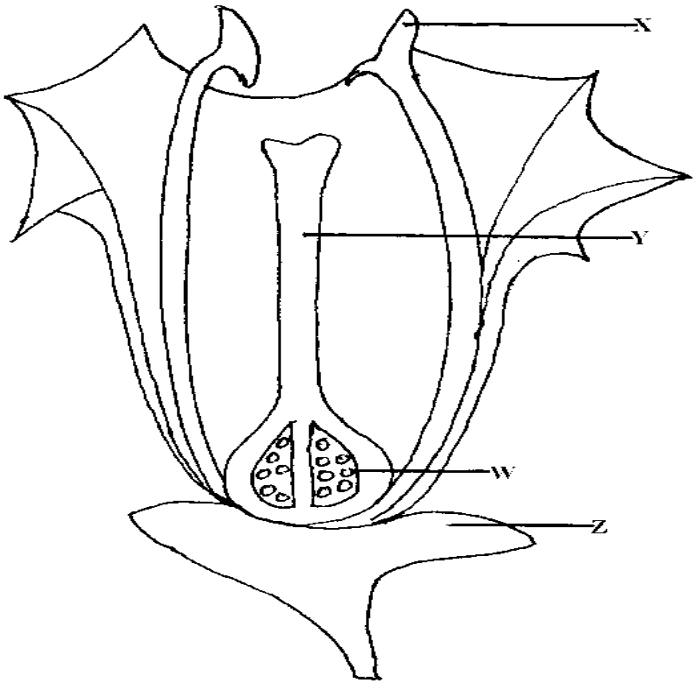
(d) State two industrial applications of the chemical reaction taking place in tube **A**. **(2marks)**

……

……

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4. The diagram below represents a flower.



(a) Name the parts labeled X and Y. **(2mks)**

X ……

Y ……

(b) Describe the ovary position. **(1mk)**

……

(c) (i) **Suggest** an agent of pollination of the flower above **(1mk)**

……

……

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

……

(d) On the diagram above, which part do you expect to find haploid nucleus after meiosis?

(1mk)

……

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(e) In the flower above its sepals cell was found to have 20 chromosomes. **What** would be the number of chromosomes found in the endosperm cell of the flower embryo sac after fertilization? **(1mk)**

……

(f) **State one** way in which flowers prevent self – pollination. **(1mk)**

……

5. When the offspring of purple and white flowered pea plants were crossed, they produced purple and white flowered plants in the ratio of 3: 1

Using letter H to represent the gene for purple colour

(a) State the genotype of:

(i) Parents **(2 mks)**

……

……

(ii) F_1 Generation **(1 mk)**

……

(b) Work out the cross between plants in the F_1 generation **(4 mks)**

(c) Account for the colour the flowers in plants of the F_1 generation

……

…… **(1 mk)**

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SECTION B (40 marks)

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

6. In an experiment to investigate the effect of temperature on the activity of salivary amylase enzyme, test tubes containing 5 cm^3 of starch solution were placed in water baths maintained at different temperatures. After 30 minutes, 0.1cm^3 amylase solution was added into each of the tubes. At one minute intervals, a drop of the mixture in each tube was tested for presence of starch. The time taken for all the starch to be digested was taken and recorded. The results were as shown in the table below.

Temperature (^{0}c)	5	10	15	20	25	30	35	40	45
Time taken to digest all starch (mins)	80	60	48	26	18	9	3	14	75

(a) On the grid provided **plot** a graph of time taken to digest all the starch against temperature. **(6 marks**

(b) **What** was the optimum temperature range for this enzyme? **(1mark)**

……

……

(c) Account for the results obtained at

(i) 5^0C **(2marks)**

……

……

……

(ii) 45^0C **(2marks)**

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……

……

……

(d) Apart from temperature **name three** other factors that would affect the above reaction.**(3marks)**

……

……

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(e) Name two regions in a human body where digestion of starch occurs. **(2marks)**

……

……

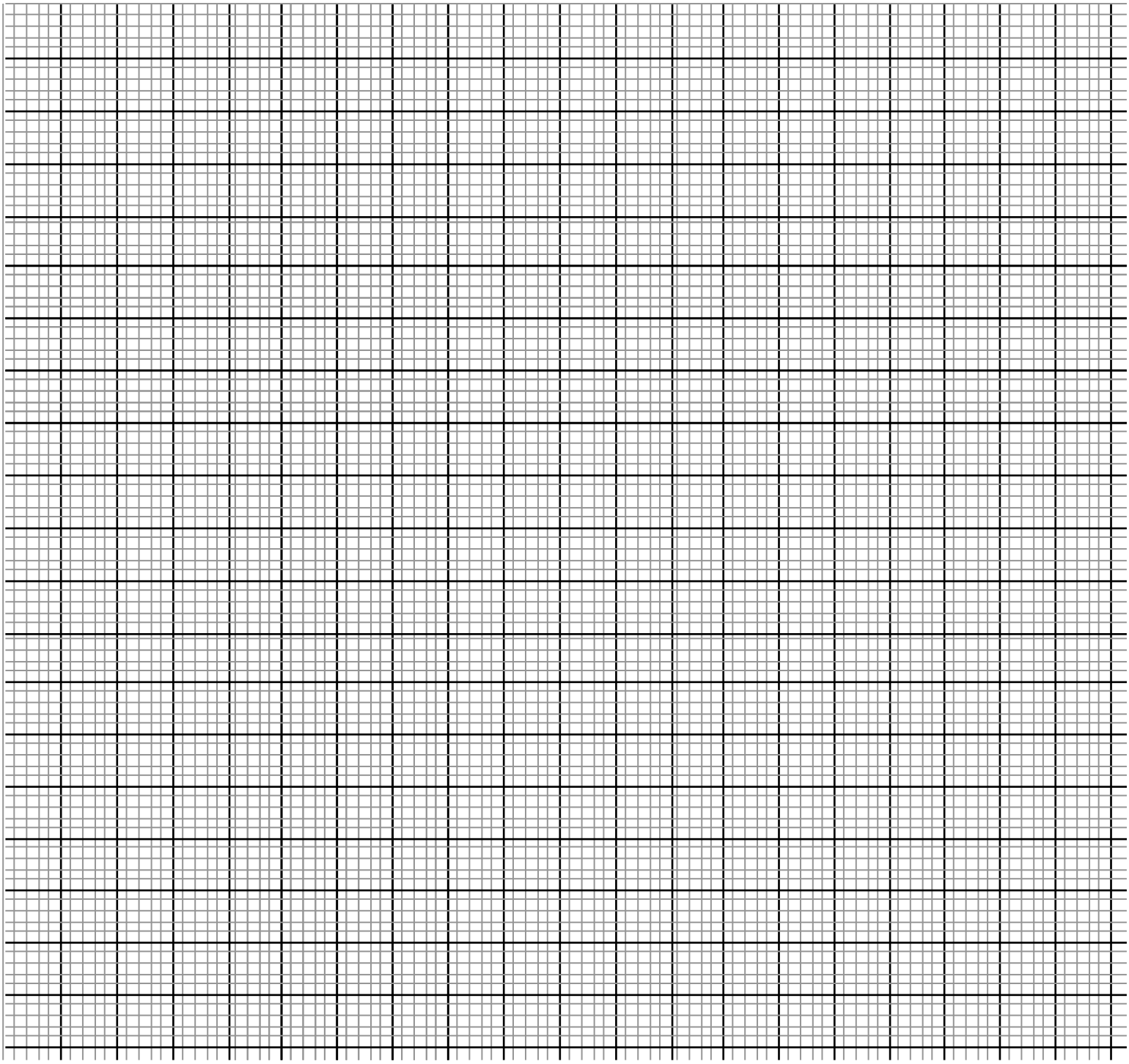
(f) (i) Give three metallic ions that act as enzyme co- factors in a human body. **(2marks)**

……

……

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(ii) What is the role played by enzyme co- factors in the physiology of human body? **(1mark)**

……

……

(g) **Name** the major respiratory substrate in a mammalian body during severe starvation. **(1mark)**

……

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7. How are leaves of mesophytes suited to their function? **(20mks)**

8. Describe the adaptations of the mammalian skin to its functions. **(20mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN……..**

DATE……..

CONFIDENTIAL

BIOLOGY PAPER 3

1. ***Each candidate should be supplied with the following.***

   (i) *4 test tubes in test tube rack.*

   (ii) *1 boiling tube*

   (iii) *Iodine solution – supplied with a dropper*

   (iv) *Adequate distilled water*

   (v) *Benedict solution– supplied with a dropper*

   (vi) *Means of heating*

   (vii) *10% Sodium Hydroxide– supplied with a dropper*

   (viii) *1% Copper (II) Sulphate– supplied with a dropper*

   (ix) *DCPIP– supplied with a dropper*

   (x) *$10cm^3$ of solution W in a boiling tube labeled as* ***solution W***

   NB: *measure 30gms of glucose and 15gms of egg albumen in a 500ml beaker, add $200cm^3$ of distilled water and stir to dissolve. Top up with distilled water to make $500cm^3$solution. Label this solution as solution* ***W***

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

TIME: $1^{3}/_{4}$ Hours

INSTRUCTIONS TO CANDIDATES

- *Write your **name, Admission number** and **name of your school** in the spaces provided above*
- ***Sign** and write the **date** of examination in the spaces provided.*
- *Answer **all** the questions in the spaces provided.*
- *You are required to spend the first 15 minutes of the $1^{3}/_{4}$ Hours allowed for this paper reading through all the questions before commencing your work.*

For Examiners Use Only

Question	Maximum score	Candidate's score
1	14	
2	13	
3	13	
Total Score	40	

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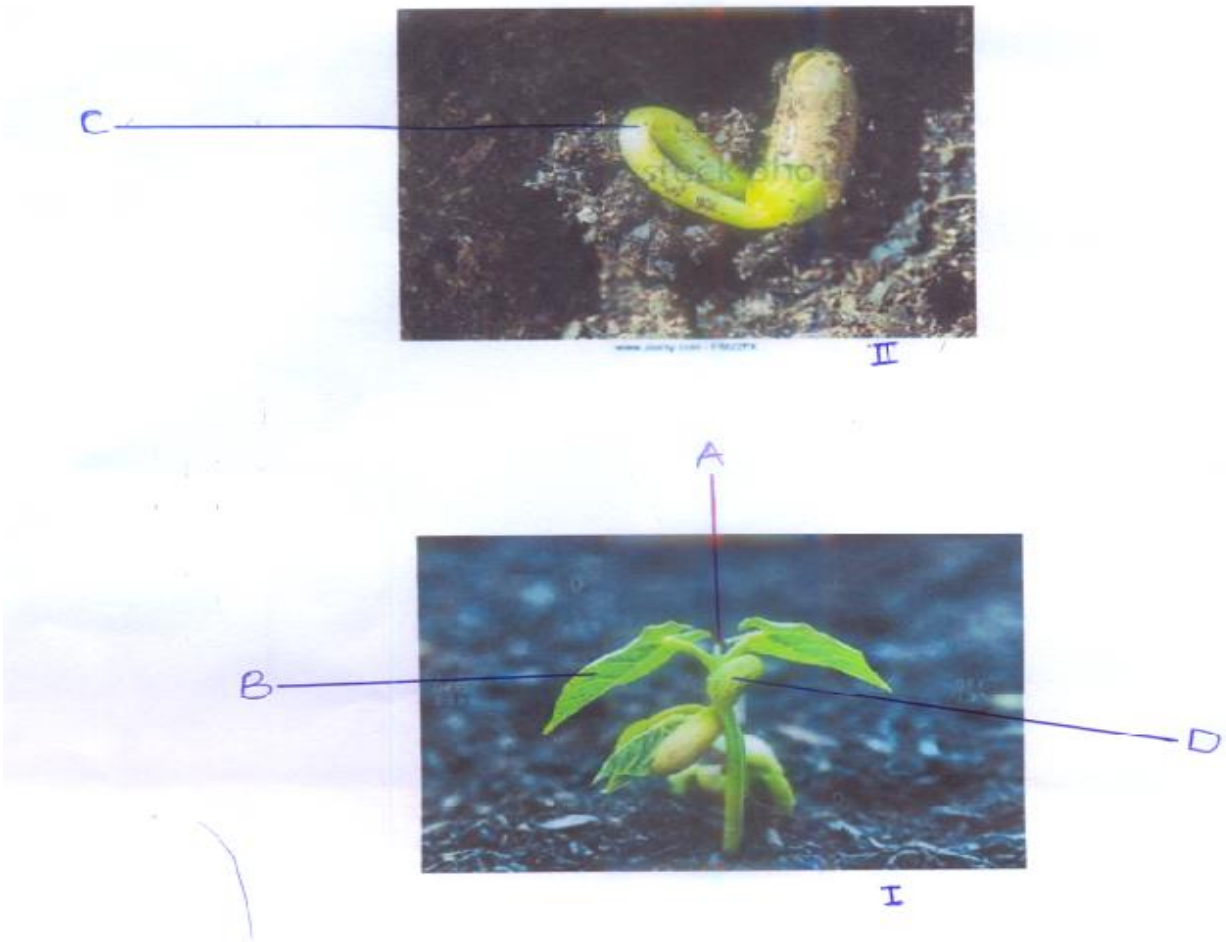
1. You are provided with solution W in a boiling tube. Using the provided reagents, carry out possible food tests to identify food substances present in solution. **(14marks)**

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

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2. Examine the photographs I and II of seedling specimen shown below and answer the questions that follows;



a) Name the parts labelled **A, C** and **D.** **(3 marks)**

A_____

C_____

D_____

b)(i) Name the class to which the specimen belongs. **(l mark)**

_____

(ii) Give two reasons, using observable features to support your answer in (b) (i) above **(2 marks)**

_____

_____

(c) Give two functions of the structure labeled D. **(2 marks)**

_____

_____

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d) Explain how the curvature labeled **C** is formed **(3marks)**

_____

_____

_____

_____

_____

e) Name the type of germination exhibited by the seedlings. Give a reason for your answer.

(2marks)

Type

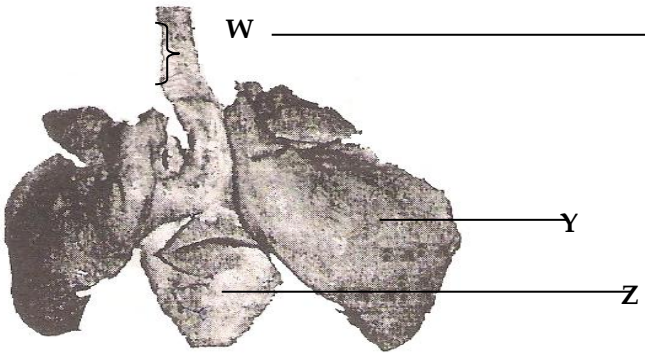
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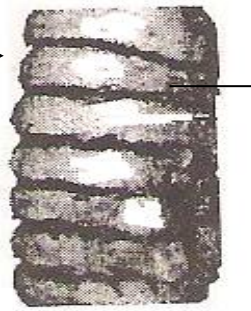
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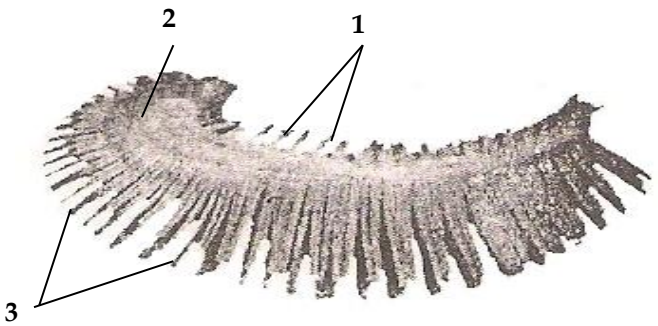
3. Below are photographs labelled J and K of organs obtained from different animals. The organs perform similar functions. Examine them.



Photograph J



Part labelled W Enlarged



Photograph K

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a) Name the phylum to which the organs were obtained from **(1 mark)**

_____

_____

b) Identify the organs. **(2 marks)**

J_____

K_____

c) State the function performed by the organs. **(1 mark)**

_____

_____

d) Name the parts labelled X, Y and Z in **photograph J** **(3 marks)**

X_____

Y_____

Z_____

e) Identify the parts labelled 1, 2 and 3 in **photograph K**. **(3 marks)**

1_____

2_____

3_____

f) Using observable features, state how the parts labelled **1** and **3** you identified in **(d)** above are adapted to their functions **(3 marks)**

_____

_____

_____

_____

_____

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

233/1

CHEMISTRY

THEORY

Paper 1

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign and write the date of examination in the spaces provided above.***
- *Answer **ALL** the questions in the spaces provided.*
- ***Mathematical tables and electronic calculators may be used.***
- *All working **MUST** be clearly shown where necessary.*

FOR EXAMINERS USE ONLY

Questions	Maximum Score	Candidate's Score
1 – 31	80	

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1. State and explain the observation made when excess ammonia gas reacts with chlorine gas.

(2 marks)

……

……

……

……

2. Hydrogen gas reacts with ethene to form ethane. Calculate the volume of hydrogen required to convert 14g of ethene to ethane at S.T.P. **(3 marks)**

$C_2H_{2\,(g)} + H_{2\,(g)} \longrightarrow C_2H_6$

(C = 12, H = 1, molar gas volume at S.T.P. is 22.4 litres)

……

……

……

……

3. The table below shows the relative molecular masses and boiling points of propan-l-ol and Ethanoic acid.

	Relative Molecular Mass	**Boiling point (^oC)**
Propan –l-ol	60	36
Ethanoic acid	60	118

Explain why the boiling point of Ethanoic acid is higher than that of propan –l-ol and yet they have same molecular mass. **(2 marks)**

……

……

……

……

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4. In an experiment an equal amount of iron fillings and sulphur powder was heated in a test tube. The mixture was left to cool then dilute hydrochloric acid added to it.

a) State the observations that were made;

(i) In the test tube. **(1 mark)**

……

……

(ii) Dilute hydrochloric acid was added to the mixture after cooling. **(1 mark)**

……

……

b) Write an equation for the reaction which occurred in a) (ii) above. **(1 mark)**

……

……

5. **a)** What is meant by double decomposition? **(1 mark)**

……

……

b) Starting with 1M sodium sulphate solution, describe how you would prepare dry lead II sulphate. **(2 marks)**

……

……

……

……

6. 6.84g of aluminium sulphate were dissolved in 200cm^3 of water. Calculate the Molar concentrations of the sulphate ions in the solution.(Relative formula mass of aluminium sulphate is 342**)** **(3 marks)**

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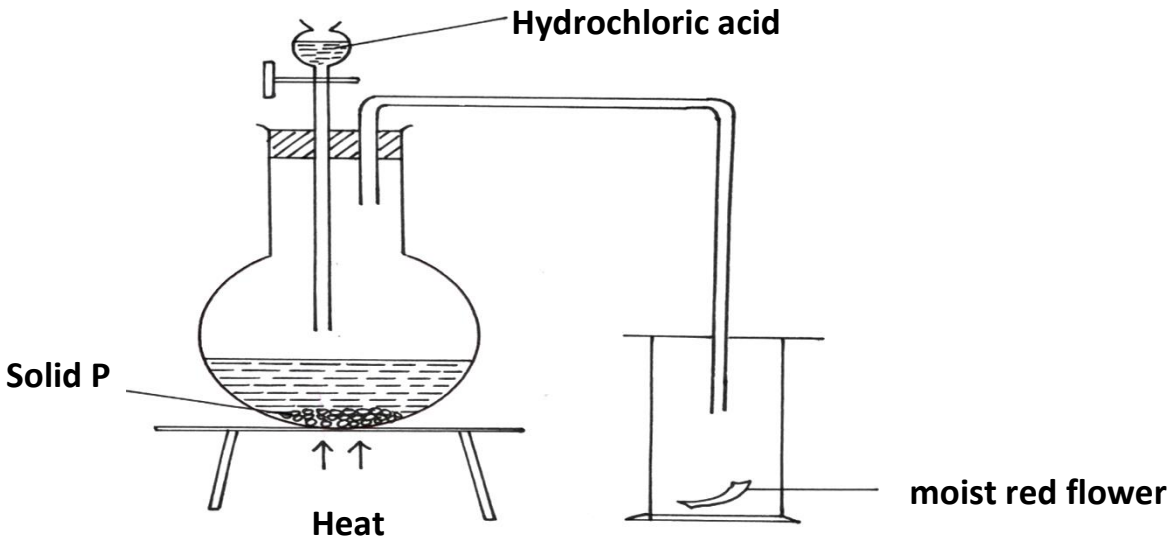
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7. The diagram below shows the set-up that was used to prepare and collect sulphur (iv) oxide gas.



(a) Identify solid P **(1 mark)**

……..

(b) (i) Why is it possible to collect sulphur (IV) Oxide as shown? **(1 mark)**

……

……

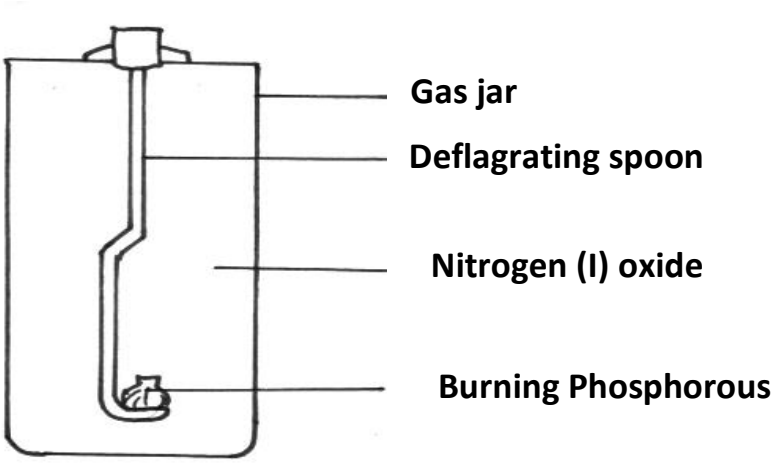
(ii) What happened to the red flower. **(1 mark)**

……

……

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8. The set-up show how small pieces of red phosphorous are heated in Nitrogen (I) Oxide.



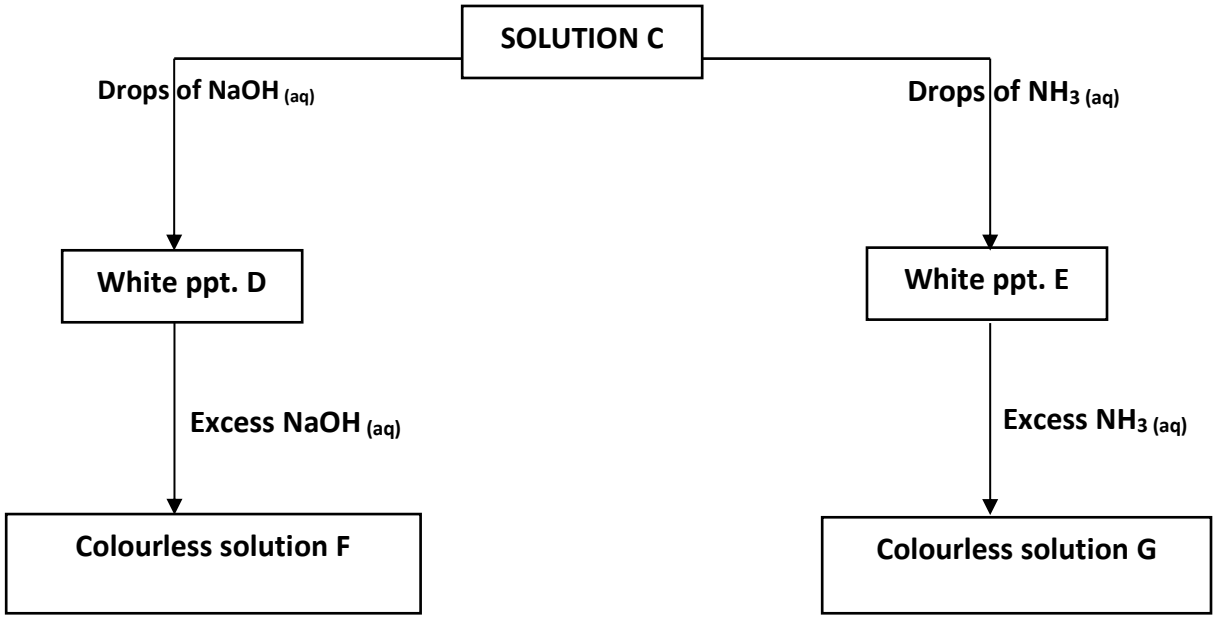
a) Write an equation for the reactions which occur in the gas jar. **(1 mark)**

……..

b) Give **one** use of Nitrogen (I) oxide. **(1 mark)**

……..

9. Study the following reactions scheme and answer the questions that follow.



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a) Identify

(i) The cations in solution C. **(1 mark)**

……

(ii) The white precipitate E. **(1 mark)**

……

b) Why does precipitate E dissolve in excess sodium hydroxide solution. **(1 mark)**

……

……

c) Write the formula of the complex ion formed. **(1 mark)**

……

……

10. Starting with copper metal, describe how a sample of crystals of copper (II) sulphate is prepared in Laboratory. **(3 marks)**

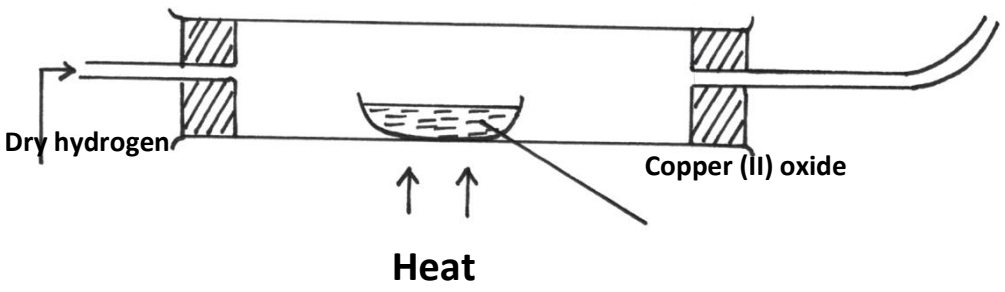
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11. The Set up below shows an experiment where hydrogen gas was passed over heated copper (II) Oxide.



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a) State and explain the observations made in the combustion tube during the experiment. **(3 marks)**

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……

b) Explain why heat is necessary in this experiment. **(1 mark)**

……

……

12. **a)** State Boyle's law **(1 mark)**

……

……

b) 3 litres of oxygen gas at one atmosphere pressure were compressed to two atmospheres at constant temperature. Calculate the volume occupied by the oxygen gas . **(2 marks)**

……

……

……

13. The table below gives some information about elements J,K,L,M which are in the same group of the periodic table. Use the formation to answer the question that follow.

Element	**1st Ionization energy kJmol-1**	**Atomic radius (nm)**
J	520	0.15
K	500	0.19
L	420	0.23
M	400	0.25

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a) What is meant by ionization energy. **(1 mark)**

……

……

b) State and explain the relationship between the variations in the first ionization energies and the atomic radii. **(2 marks)**

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14. When a hydrocarbon fuel burn, one of the main products is acidic gas R.

(a) Identify gas R. **(1 mark)**

……

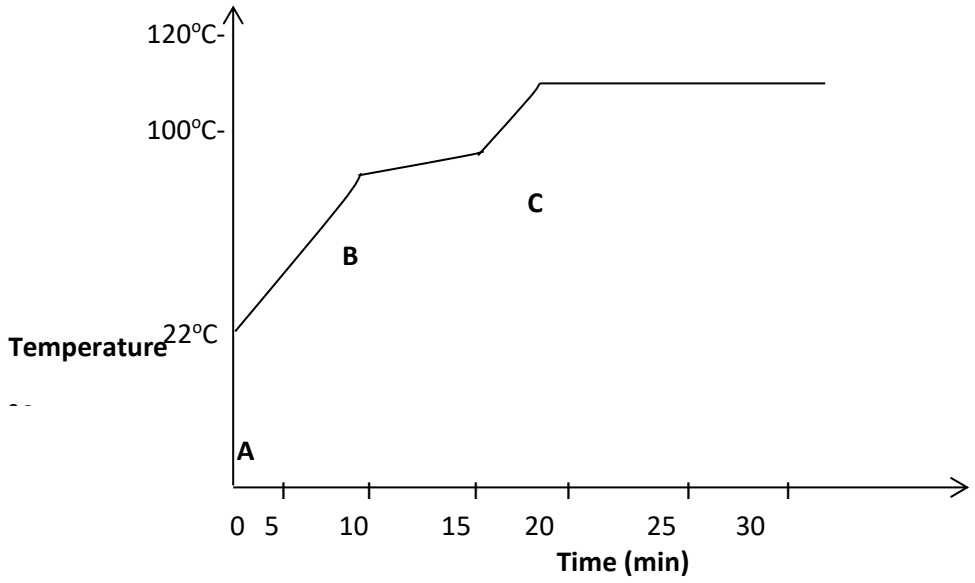
(b) What effect does gas R have when its concentration in the atmosphere exceeds its acceptable levels. **(1 mark)**

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15. The graph below shows a curve obtained when water at 22°C was heated for 10 minutes.

Sodium Chloride crystals were added and strongly heated for 15 minutes.



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a) What happened to water molecules between points A and B? **(1 marks)**

……

……

b) Explain why the temperature rise is not steady between points B and C. **(2 marks)**

……

……

……

16. Use the table below to answer the questions that follow.

Substance	A	B	C	D	E
Symbol	R-COO-Na^+	CH_2OH | CHOH | CH_2OH	$\left(-CH_2 - CH_2-\right)_n$	R-$COOCH_2$ | R- COOCH | R- $COOCH_2$	R-OSO_3-Na^+

a) Which substances is:

I) A soapless detergent. **(½ mark)**

……

II) An ester **(½ mark)**

……

b) Give name to substance B. **(1 mark)**

……

……

c) Write an equation for the reaction between the structure of substance D and Sodium hydroxide solution. **(2 marks)**

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17. When hydrated sample of iron (II) sulphate $FeSO_4.nH_2O$ was heated until there was no further change in mass, the following data was recorded

Mass of evaporating dish = 78.94 g

Mass of evaporating dish + hydrated salt = 84.14 g

Mass of evaporating dish + residue = 81.78 g

Determine the empirical formula of the hydrated salt. (Relative Formula Mass of $FeSO_4$ = 152, H_2O = 18) **(3 marks)**

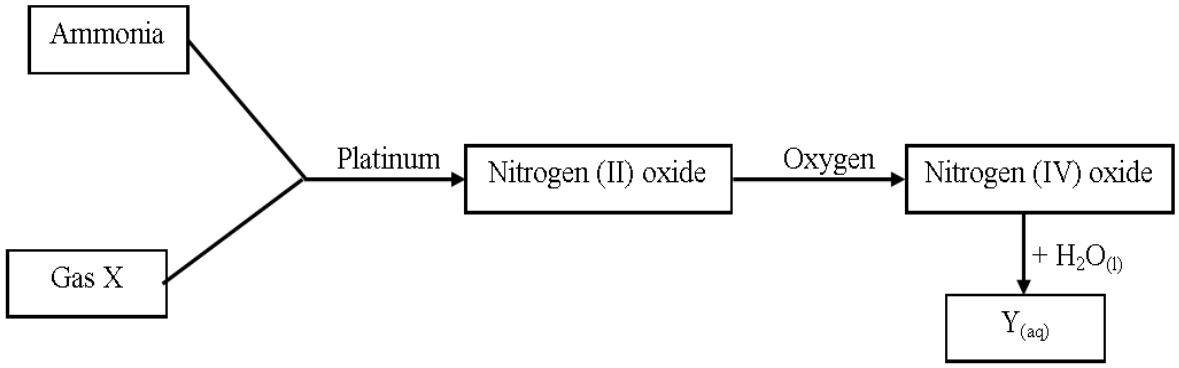
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18. Study the flow chart below and answer the questions that follow;



(a) Write an equation for the reaction between gas X and ammonia. **(1 mark)**

……

……

(b) Write the formulae of the substances present in the mixture $Y_{(aq)}$. **(1 mark)**

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19. When hydrogen sulphide gas was bubbled into an aqueous solution of iron (III) chloride, a yellow precipitate was deposited.

(a) State another observation that would be made. **(1 mark)**

……

……

……

(b) Write an equation of the reaction that took place. **(1 mark)**

……

……

20. The table below shows the atomic numbers of elements P, Q and R.

Element	P	Q	R
Atomic	13	7	12

(a) Explain why P and R would not be expected to form a compound. **(1 mark)**

……

……

……

(b) Write an equation to show the effect of heat on the carbonate of R. **(1 mark)**

……

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21. Element T consists of two isotopes ^{62}T and ^{64}T in the ratio 7 : 3 respectively. Calculate the relative atomic mass of element T. **(3 marks)**

……

……

……

……

22. Name the process which takes place when:

(a) Solid carbon (IV) oxide changes directly into gas. **(1 mark)**

……

……

(b) An alcohol reacts with alkanoic acid in the presence of sulphuric acid to form a sweet smelling compound. **(1 mark)**

……

23. Briefly explain how you would obtain pure sample of lead (II) chloride from a mixture of lead (II) chloride and silver chloride. **(2 marks)**

……

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24. Explain the following observations; very little carbon (IV) oxide is evolved when lead carbonate reacts with dilute hydrochloric acid. **(2 marks)**

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25. The table below gives some properties of compounds P, Q, R and S

Compound	B.P. (^oC)	M.P. (^oC)	Conductivity in water
P	77	-23	Does not conduct
Q	74	-19	Does not conduct
R	-161	-185	Conducts
S	2407	714	Conducts

(a) Which one of the compounds in the table is ionic? Explain. **(1 mark)**

……

……

(b) Give the compound that is liquid at room temperature. **(1 mark)**

……

……

26. When butan – 1 – ol is oxidized by acidified potassium dichromate, a weak organic acid is formed.

Draw and name the structural formula of the acid obtained from the above reaction.**(2 marks)**

……

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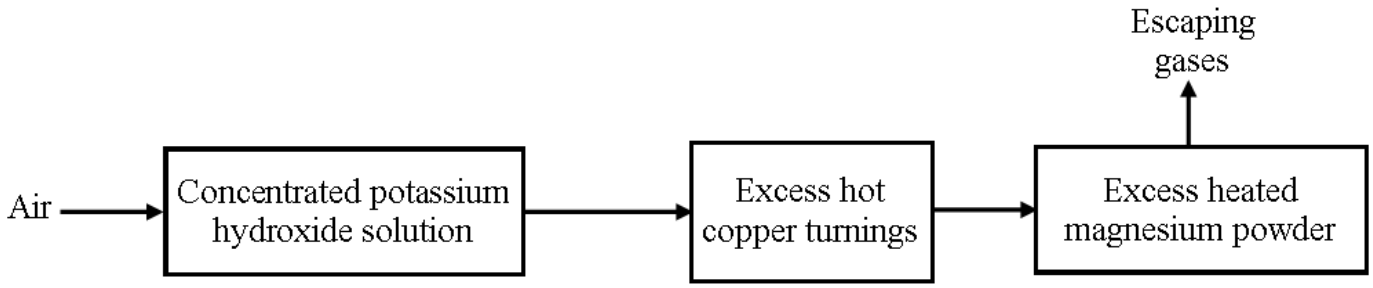
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27. Air was passed through several reagents as shown in the flow chart below.



(a) Write an equation for the reaction that took place in the chamber with the magnesium powder. **(1 mark)**

……

……

(b) Name one gas that escapes from the chamber containing magnesium powder. Give a reason for your answer. **(1 mark)**

……

……

28. A sisal farmer found that when pricked by a sisal thorn, application of a little solution of ash helped to relieve the pain from the affected area. Explain. **(2 marks)**

……

……

29. Explain why aluminium metal is not extracted from aluminium chloride. **(2 marks)**

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30. Distinguish between a strong acid and concentrated acid. **(2 marks)**

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31. In an experiment to determine the solubility of potassium nitrate at 30^{o}C, a saturated solution was heated in an evaporating dish until there was no further change in mass. The following data was obtained.

Mass of dish + solution = 128.9 g

Mass of dish + dry salt = 103.9 g

Mass of empty dish = 94.3 g

Determine the solubility of potassium nitrate at 30^{o} C. **(3 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN……..**

DATE……..

233/2

CHEMISTRY

THEORY

Paper 2

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign** and write the **date** of examination in the spaces provided.*
- *Answer **all** the questions in the spaces provided.*
- *All working **must** be clearly shown where necessary.*
- *Mathematical tables and electronic calculators may be used.*

For Examiner's Use Only:

Question	Maximum score	Candidate's score
1	12	
2	12	
3	11	
4	11	
5	13	
6	10	
7	11	
Total	80	

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1. The grid below shows part of the periodic table. Use it to answer the questions that follow. The letters do not represent actual symbols.

						S	**U**	**V**
P	**R**					**T**	**X**	**W**
Q								

(a) Which of the elements has the highest atomic radius? Explain. **(2 marks)**

……

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(b) Identify the most reactive Oxidizing agent. Explain. **(2 marks)**

……

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(c) Compare the atomic radius of P and R. Explain **(2 marks)**

……

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(d) Give the formula of one stable ion with an electron arrangement of 2.8 which is:

(i) A Negatively charged divalent ion. **(2 marks)**

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(ii) A Positively charged monovalent.

……

(e) Given that the mass number of W is 40. Write down the composition of its nucleus.

(2 marks)

……

……

……

(f) Write the formula of the compounds formed between.

(i) Element **R** and **X**. **(1 mark)**

……

(ii) Give **one** property of the structure formed when R and X bond. **(1 mark)**

……

……

2. a) Sodium hydroxide pellets were accidentally mixed with sodium chloride-18.2g of the mixture was dissolve in water to make one liter of solution. 100cm3 of the solution was neutralized by $50cm^3$ of 0.45M Sulphuric acid.

i) Write an equation for the reaction that took place. **(1mark)**

……

……

ii) Calculate the;

I. Number of moles of the substance that reacted with sulphuric acid. **(1 mark)**

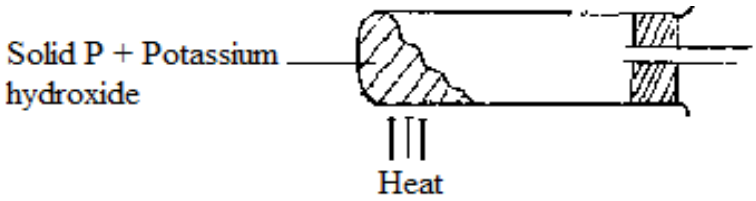
II. Number of moles of the substance that would react with sulphuric acid in the one litre of solution. **(1 mark)**

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III. Mass of the unreacted substance in the one litre of solution. **(2 marks)**

(H = 1.0, Na 23.0, Cl 35.5, 0 = 16.0)

b) The diagram below shows an incomplete set-up used to prepare and collect ammonia gas.



i) Name solid P. **(1mark)**

……

ii) Complete the diagram to show how a dry sample of ammonia gas can be collected.

(3 marks)

c) In an experiment, excess ammonia gas was passed over heated copper (II) oxide in a combustion tube.

i) State the observation that was made in the combustion tube at the end of the experiment.

(1 mark)

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ii) What property of ammonia is shown in the above reaction? **(1mark)**

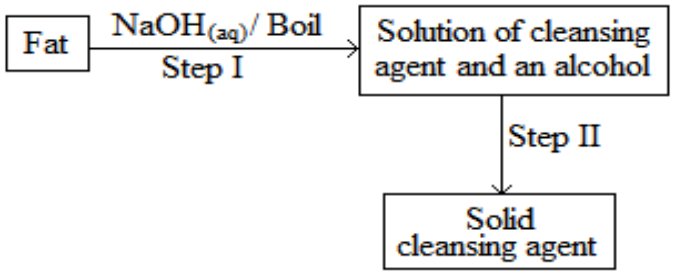
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iii) Give **one** use of ammonia. **(1mark)**

……

……

3. (a) The scheme below was used to prepare a cleansing agent. Study it and answer the questions that follow.



(i) What name is given to the type of cleansing agent prepared by the method above?

(½ mark)

……

(ii) Name one chemical substance added in step II. **(1 mark)**

……

(iii) What is the purpose of adding the chemical substance named in a (ii) above? **(1 mark)**

……

……

(iv) Name any other suitable substance that can be used in step I. **(1 mark)**

……

(v)Explain how an aqueous solution of the cleansing agent removes oil during washing.

(2 marks)

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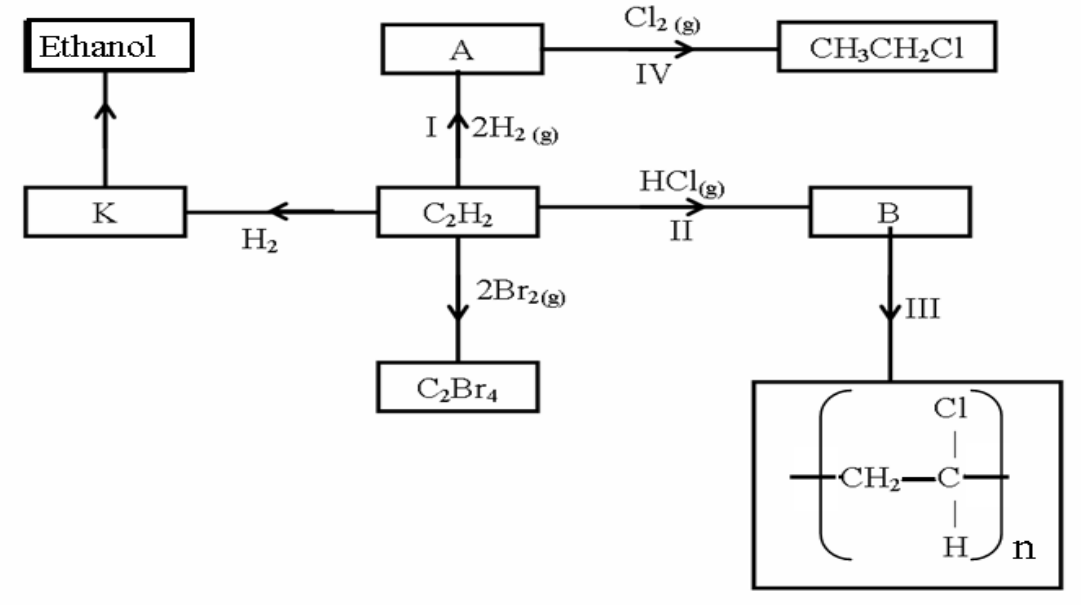
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(b) Study the scheme below and answer the questions that follow.



(i) Identify the catalyst used in step I **(½ mark)**

……

(ii) Name the compounds A and B **(1 mark)**

A……B……..……

(iii) Give **one** disadvantage of compound formed in step III **(1 mark)**

……

……

(iv) Name the reactions taking place at steps: **(1 mark)**

I……IV.....

(v) Describe how substance K is converted to ethanol **(2 marks)**

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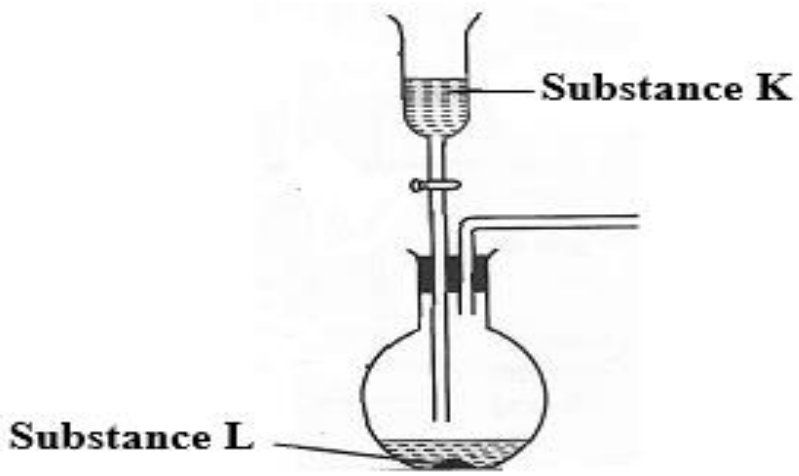
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4. The set-up below can be used to generate a gas.



(a) (i) Complete the table below giving the names of substance **K** and **L** if the gases generated are carbon (IV) oxide and carbon (II) oxide. **(2 marks)**

Substance	Carbon (IV) oxide	Carbon (II) oxide
K		
L		

(ii) Complete the diagram to show how a sample of carbon (II) oxide can be collected. **(2 marks)**

(iii) State **two** ways that can be used to distinguish carbon (IV) oxide from carbon (II) oxide? **(2 marks)**

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(b) (i) In an experiment, carbon (IV) oxide gas was passed over heated charcoal held in a combustion tube. Write a chemical equation for the reaction that took place in the combustion tube. **(1 mark)**

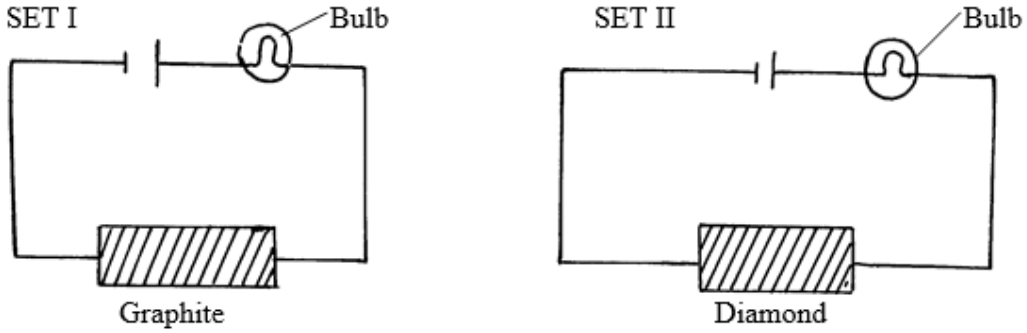
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(ii) State **one** use of carbon (II) oxide. **(1 mark)**

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(c) The following set ups were used by Form Two students. Study and use them to answer the questions that follow.



State and explain the difference in observation made in set up I and II above. **(3 marks)**

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

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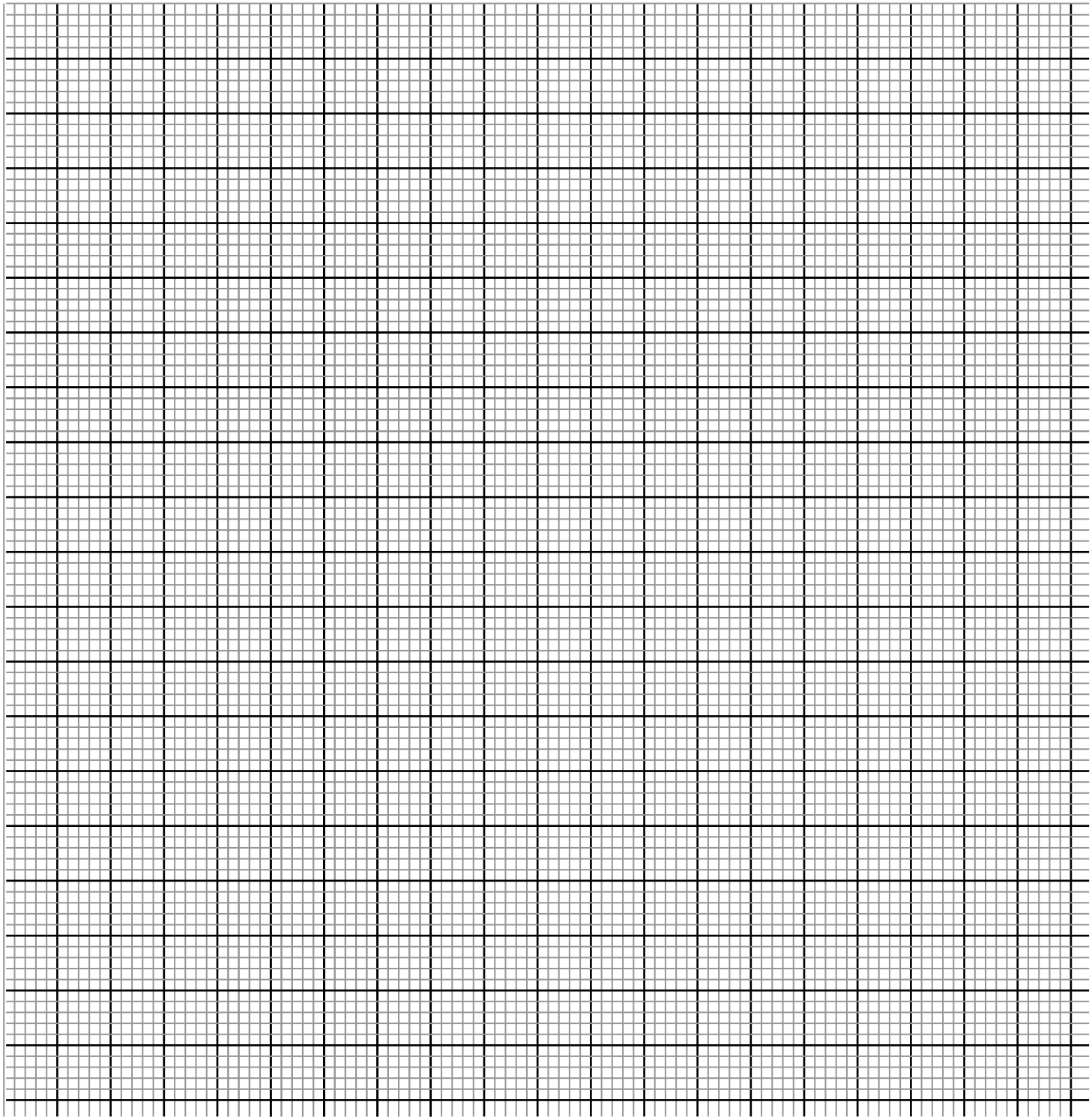
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(b) In an experiment to determine the solubilities of two salts X and Y at different temperatures, a candidate recorded her observations as shown below.

Temperature (^oC)	0	10	20	30	40	50	60	70	80	90
Solubility of X in g/100 g of H_2O	14.3	17.4	20.7	25.0	28.5	33.3	40.0	47.0	55.0	64.0
Solubility of Y in g/100 g of H_2O	25.0	27.5	30.0	32.5	35.0	37.6	40.1	42.4	45.0	48.0

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(a) On the same axes plot the solubility curves of X and Y. **(4 marks)**



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(b) From your graph to determine;

(i) The solubility of X and Y at 47 ^{o}C

Solubility of X **(1 mark)**

……..

Solubility of Y **(1 mark)**

……

(ii) The temperature at which the two salts are soluble in water. **(1 mark)**

……

(c) If 60g of X is dissolved in 100 g of water and heated to 90^{o}C, calculate the amount of salt that crystallized out if cooled to 20 ^{o}C. **(1 mark)**

……

……..

……

(d) State what would happen if a mixture salt X in 100 g of water and 30 g of Y in 100 g of water were cooled from 90 ^{o}C to 70 ^{o}C. **(3 marks)**

……

……

……

(e) State **one** application of solubility**.** **(1 mark)**

……

6. **(a)** An ore is suspected to contain Lead metal. Describe the process that can be used to confirm the presence of Lead in the ore. **(3 marks)**

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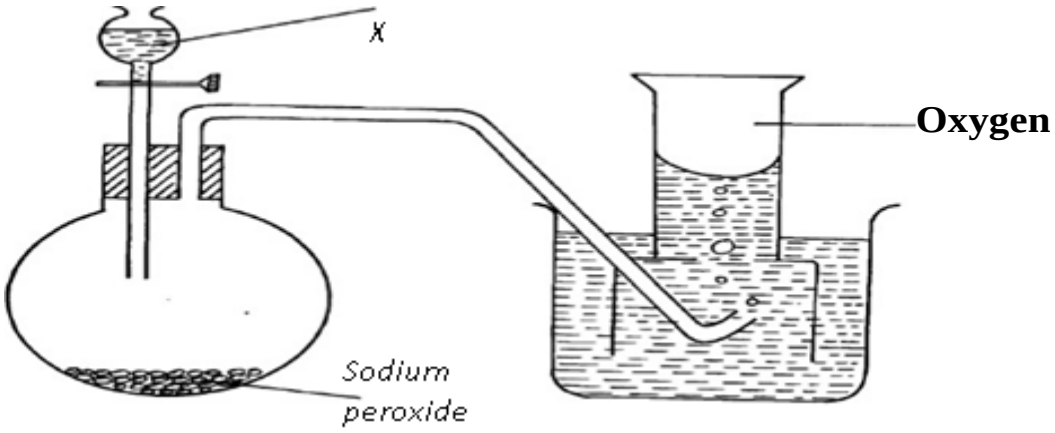
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(b) The diagram below shows students set-up for the preparation and collection oxygen Gas



(i) Name substance **X** used **(1mark)**

……

……

(ii) Write an equation to show the reaction of sodium peroxide with the substance named **(1mark)**

……

……

(iii) Name a two other reagents that can be used to prepare oxygen gas in the laboratory using the apparatus shown above. **(1 mark)**

……

……..

(iv) How would you confirm that the gas produced was oxygen. **(1 mark)**

……..

……

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(c) Apiece of cleaned magnesium ribbon was burnt in air to form a residue **P** which was then dissolved in water to form solution Q and a colourless gas R. A blue and red litmus paper was

(i) State the components of residue P. **(1 mark)**

……

……

(ii) Identify colourless gas R ……..... **(1 mark)**

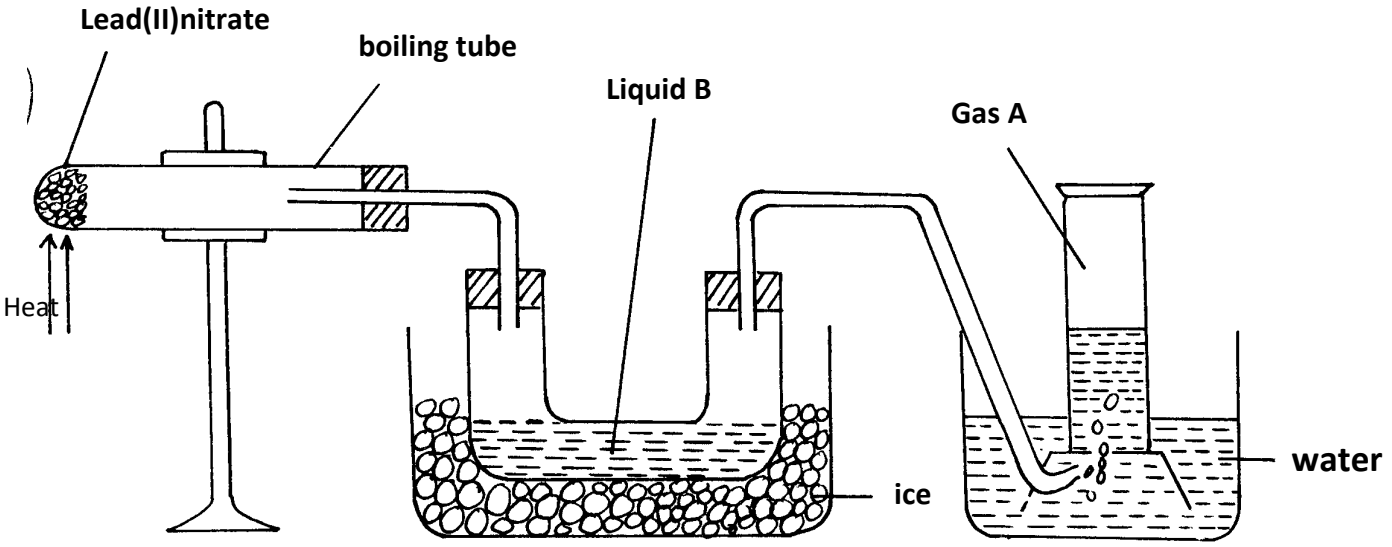
(iii) Write an equation for the formation of solution **Q** and gas **R**. **(1mark)**

……

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……

7. The diagram below shows a set-up of apparatus that can be used to prepare nitrogen (IV) oxide. Study it and use it to answer the questions that follow



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(a) **(i)** Write the equation for the reaction that takes place in the boiling tube. **(1 mark)**

……

(ii) State the observations made in the boiling tube. **(2 marks)**

……

……..

……..

……

(iii) Explain why lead (II) nitrate is preferred over other metal nitrates in this experiment. **(1 mark)**

……..……

……

……..……

(iv) Describe how gas A can be identified. **(1 mark)**

……

……

……..……

(b) **(i)** Name liquid B **(1 mark)**

……..

(ii) Write a chemical equation to show how liquid B is formed in this experiment.

(1mark)

……..……

……

……..……

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(c) (i) In another experiment, excess aqueous lead (II) nitrate solution was reacted with a solution which contained 2.34g of sodium chloride. Calculate the mass of precipitate formed in this reaction. (Pb = 207, Cl = 35.5, Na = 23) **(3 marks)**

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(ii) Write an ionic equation for the reaction that takes place when nitrogen (IV) oxide reacts with aqueous sodium hydroxide. **(1 mark)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

233/3 CONFIDENTIAL INFORMATION FOR THE CHEMISTRY

TEACHER ONLY

In addition to the fittings and apparatus found in chemistry laboratory, each student will require the following.

1. *200cm^3 of hydrochloric acid, solution **P**.*
2. *150cm^3 of sodium hydroxide, solution **Q**.*
3. *0.50g of solid **B** weighed accurately.*
4. *About 0.2g of solid **Y**.*
5. *About 0.5g of solid **M**.*
6. *About 0.5g of solid **W**.*
7. *Burette 0-50 cm^3.*
8. *Pipette 25 cm^3.*
9. *One pipette filler*
10. *Means of labeling (one label).*
11. *100 cm^3 measuring cylinder.*
12. *10ml measuring cylinder*
13. *250 cm^3 beaker.*
14. *Two conical flasks.*
15. *Six dry test-tubes.*
16. *About 1cm by 3cm aluminium foil*
17. *1 red and 1 blue litmus papers.*
18. *Universal indicator paper*
19. *About 2cm^3 ethanol placed in a test tube*
20. *2 boiling tubes.*
21. *Metallic spatula*
22. *Funnel.*
23. *A test-tube holder.*
24. *Stop clock (wall clock)*

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BENCH REAGENTS/ ACCESS REAGENTS

1. *Methyl orange indicator – supplied with dropper*
2. *Distilled water in a 500ml wash bottle*
3. *2M sodium hydroxide – supplied with dropper*
4. *2M aqueous ammonia – supplied with dropper*
5. *0.5M lead (II) nitrate solution – supplied with dropper*
6. *Source of heat*
7. *Universal indicator solution supplied with a dropper*
8. *pH chart*
9. *Acidified potassium manganate (VII) – supplied with a dropper*
10. *Bromine water – supplied with a dropper*

NOTES

1. *Solution **P** is prepared by adding 18.0cm^3 (density=1.18g/cm^3) of concentrated hydrochloric acid into 600cm^3 of distilled water contained in a one litre volumetric flask and diluting to one litre of solution.*
2. *Solution **Q** is prepared by dissolving 8.80g of sodium hydroxide in 600cm^3 of distilled water contained in a one litre volumetric flask and diluting to one litre of solution. (**0.22M**)*
3. *Acidified potassium manganate (VII) is prepared by dissolving 2.0g of potassium manganate (VII) provided in about 100cm^3 of 2M sulphuric (VI) acid, adding 800cm^3 of distilled water and diluting to one litre of solution. Label this as acidified potassium manganate (VII).*
4. *Bromine water is prepared by adding 2ml of liquid bromine to 100cm^3 of distilled water and the mixture stirred well in a fume cupboard.*
5. *Solids :*

B is **Na_2CO_3**

- **M** is **$Ba(NO_3)_2$**
- **W** is **Maleic acid**
- **Y** is **$NaHCO_3$**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

233/3

CHEMISTRY

Paper 3
PRACTICAL
Time: $2^{1}/_{4}$ hours

Instructions to Candidates

a) *Write your name and ADMISSION numbers in the spaces provided above.*
b) *Sign and write the date of examination in the spaces provided above.*
c) *Answer **ALL** the questions in the spaces provided in the question paper.*
d) *Mathematical tables and silent electronic calculators may be used.*
e) *All working **MUST** be clearly shown where necessary.*
f) *Candidates should check the question paper to ascertain that **all** pages are printed as indicated and that no questions are missing.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	10	
3	10	
TOTAL SCORE	40	

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1. (20 marks) You are provided with:

- Solution **P**, hydrochloric acid
- Solution **Q,** containing 8.8g per litre of sodium hydroxide.
- 0.6g of an impure carbonate, solid **B**

You are required to determine the:

a) Concentration of solution **P** in moles per litre.

b) Percentage purity of the carbonate, solid **B**.

Procedure I

Fill the burette with sodium hydroxide, solution **Q**. Pipette 25.0cm^3 of hydrochloric acid, solution **P** into a conical flask. Add 2 – 3 drops of methyl orange indicator and titrate. (The colour of the indicator changes from pink to yellow). Record your results in table 1 below. Repeat the titration two more times and complete the table.

Table I

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

(4 marks)

a) What is the average volume of solution **Q** used? **(1 mark)**

b) Determine the:

(i) Concentration of solution **Q** in moles per litre. (Na = 23.0; O = 16.0, H = 1.0)

(1 mark)

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(ii) Concentration of solution **P** in mole per litre **(2 marks)**

Procedure II

Using a 100ml measuring cylinder, measure out 100cm^3 of solution **P** into a 250cm^3 beaker. Add all of solid **B** into the beaker containing solution **P**. Swirl the mixture and allow the reaction to proceed for about 4 minutes.

Label the solution obtained here as solution **K**.

Fill the burette with sodium hydroxide, solution **Q**. Pipette 25.0cm^3 of solution **K** into a conical flask. Add 2- 3 drops of methyl orange indicator and titrate. Record your results in table II below. Repeat the titration two more times and complete the table.

Table II

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

(4 marks)

c) What is the average volume of solution **Q** used? **(1 mark)**

d) Calculate the :

i. Moles of hydrochloric acid in 25.0cm^3 of solution **K**. **(1 mark)**

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ii. Moles of hydrochloric acid in $100cm^3$ of solution **K**. **(1 mark)**

iii. Moles of hydrochloric acid in $100cm^3$ of the original hydrochloric acid solution **P**.

(1 mark)

iv. Moles of hydrochloric acid that were used up in the reaction with solid **B**. **(1 mark)**

v. Moles of the carbonate that reacted with hydrochloric acid. **(1 mark)**

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e) Given that the relative formula mass of the carbonate is 72, calculate the:

i. Mass of the carbonate that reacted. **(1 mark)**

ii. Percentage purity of the carbonate, solid **B**. **(1 mark)**

2. (10marks) You are provided with solid **M**. Carry out the tests below and record your observations and inferences in the spaces provided.

a) Place **all** of solid **M** in a boiling tube and add about $10cm^3$ distilled water and shake.

Observations	**Inferences**

(½mark) **(½ mark)**

b) Divide the solution into five portions of about $2cm^3$ each.

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i. To the first portion, add aqueous sodium hydroxide dropwise until in excess.

Observations	Inferences

(1mark) **(1mark)**

ii. To the second portion, add aqueous ammonia dropwise until in excess.

Observations	Inferences

(1mark) **(1mark)**

iii. Dip a glass rod in the third portion and heat it on a burnsen burner flame, identify the colour of the flame produced.

Observations	Inferences

(½mark) **(½mark)**

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iv. To the fouth portion,add about $1cm^3$ of lead (II) nitrate solution.

Observations	Inferences

(1mark) **(1mark)**

v. To the fifth portion, add about $1cm^3$ of dilute sodium hydroxide followed by a small piece of aluminium foil. Warm the mixture gently and carefully. Test any gas produced using blue and red litmus papers.

Observations	Inferences

(1mark) **(1mark)**

3. (10marks) You are provided with solid **W**. Carry out the tests below and record your observations and inferences in the spaces provided.

a) Place about one third of solid **W** on a **metallic** spatula and burn it using a Bunsen burner.

Observations	Inferences

(1mark) **(1mark)**

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b) Place the remaining solid **W** into a boiling tube. Add $10cm^3$ of distilled water and shake well. Use $2cm^3$ portions of the mixture for each of the following reactions.

(i) To the first portion, add 2 drops of acidified potassium manganate (VII) and shake well.

Observations	**Inferences**

(1mark) **(1mark)**

(ii) To the second portion, add three drops of bromine water

Observations	**Inferences**

(1mark) **(1mark)**

(iii) To the third portion put universal indicator paper.

Observations	**Inferences**

(1mark) **(1mark)**

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(iv) To the fourth portion add a little solid **Y**, sodium hydrogen carbonate.

Observations	Inferences

(½mark) **(½mark)**

(v) To the fifth portion add about $2cm^3$ of ethanol and warm the mixture.

Observations	Inferences

(½mark) **(½mark)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

232/1

PHYSICS

PAPER 1

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your **Name,Signature** and **Index Number** in the spaces provided above.*
- *This paper consists of **two** sections: **A** and **B***
- *Answer all the questions in the spaces provided*
- *All working must be clearly shown.*
- *Mathematical tables and electronic calculators may be used* ***Take g=10ms^{-2}***
- ***Density of mercury = 13600 kg/m^{3}***

For Examiner's Use

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-13	25	
B	14	11	
	15	11	
	16	09	
	17	12	
	18	12	
TOTAL		80	

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Section A (25 marks)

Answer all the questions in the spaces provided

1. A partially inflated balloon at sea level becomes fully inflated at higher altitudes. Explain this observation **(2 marks)**

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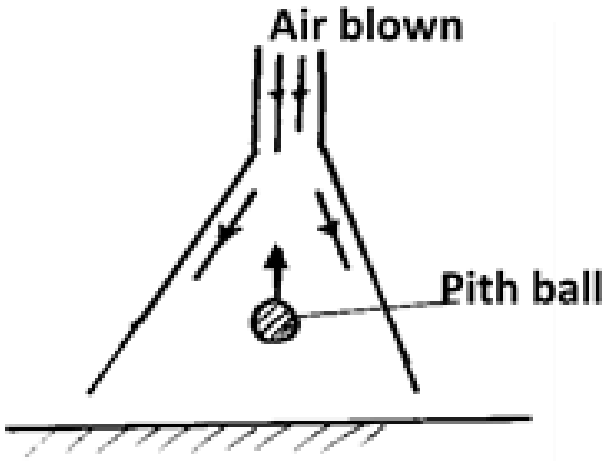
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2. The figure below shows a pith ball being lifted into the funnel by blowing air into the funnel Explain this observation **(2 marks)**



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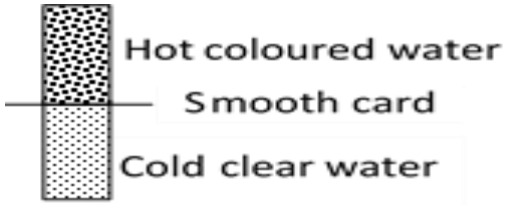
3. State **two** reasons why gases diffuses at a higher rate than liquids. **(2 marks)**

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4. A student set up an experiment as shown below using two gas jars, one with hot coloured water, the other with cold clear water separated by a smooth card. The upper jar is upside down. Explain the observation made when the card is removed. **(2 marks)**



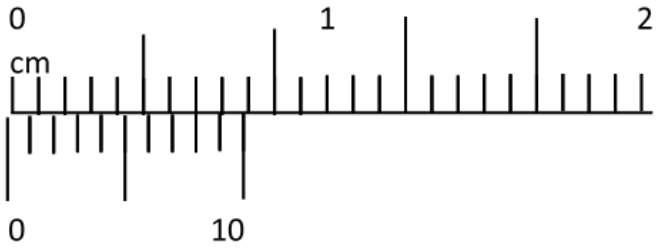
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5. The figure below shows the scale of a Vernier calipers which is closed fully. State the Zero error of the instrument **(1 mark)**



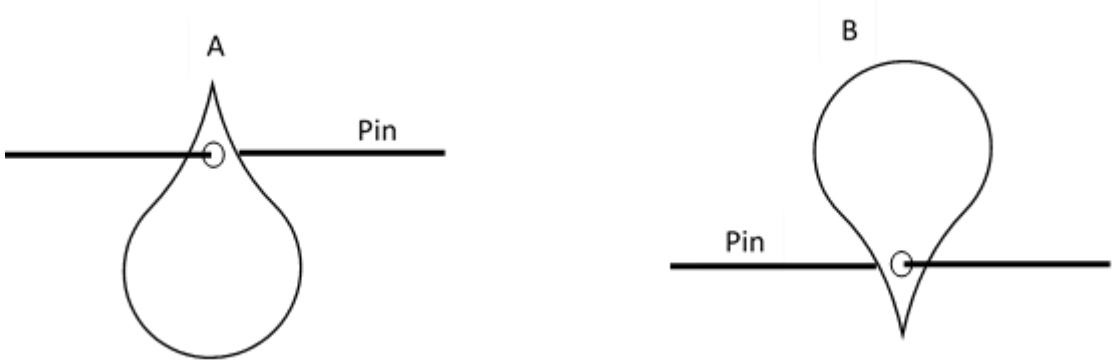
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6. The figure below shows a uniform body suspended freely through a hole on an optical pin. State with reason the case where the body is more stable (2 marks)



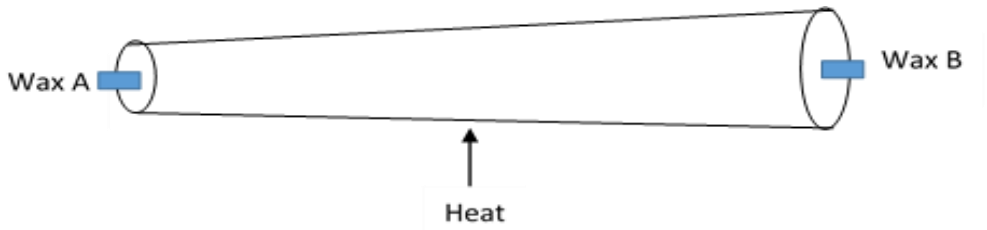
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7. The figure below shows a metal being heater at the middle. Giving the reason state the wax that will fall off first **(2 marks)**



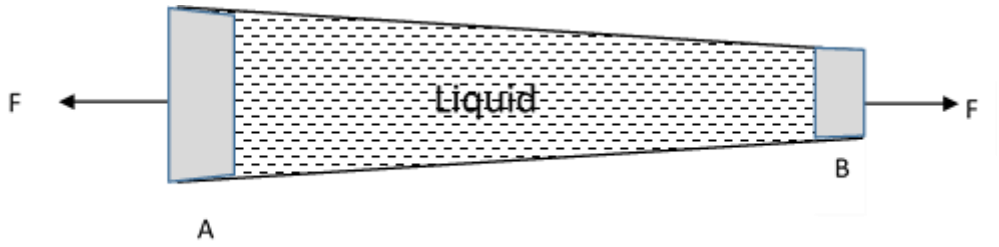
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8. The figure below shows a system with a liquid enclosed by two pistons. Equal force F is applied on the system as shown. Giving reason show with an arrow the direction of movement of the liquid **(2 marks)**



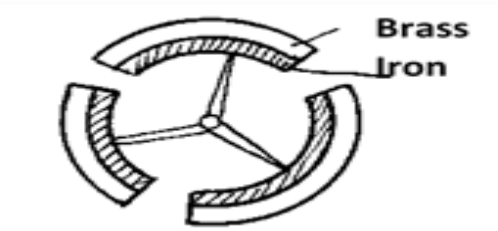
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9. The figure below shows a bimetallic wheel whose diameter is not affected by changes in temperature. Briefly explain how the diameter of the wheel remain unchanged as the temperature increases. **(2 marks)**



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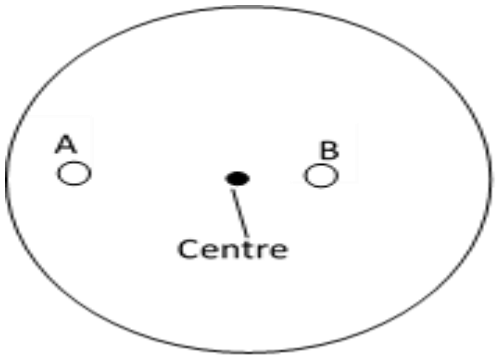
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10. Two identical springs have a combined spring constant of 3.5N/cm when in series Determine combined spring constant when the springs are in parallel. **(2 marks)**

11. Two coins A and B of the same mass and material are placed on a turntable as show below. The turntable is then rotated at a high speed. With reason name the coin that skids first

(2 marks)



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12. A substance of volume Xcm^3 and density 800kgm^{-3} is mixed with 100cm^3 of water of density 1000kgm^{-3}. The density of the mixture is 960kgm^{-3}. Determine the value of X. (2 marks

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13. A bullet of mass 10g travelling at a speed of $400ms^{-1}$ hits a tree trunk. It penetrates the tree trunk and stops inside the trunk after 4 cm. Calculate the average resistance force offered by the trunk to the bullet. **(2 marks)**

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Section B (55 marks)

Answer all the questions in the spaces provided

14. (a) A body accelerates from rest. Its velocity after 5 seconds is 26m/s and after 9 seconds its velocity is 42m/s. calculate

i) Distance moved during the motion **(3 marks)**

ii) Average speed of the journey **(2 marks)**

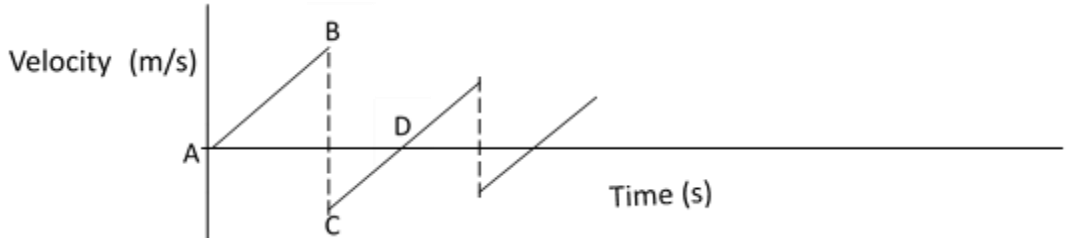
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(b) A car can be brought to rest from a speed of 20m/s in a time of 2s when brakes are applies.

i. Find the average deceleration **(1 mark)**

ii. The car is stopped by a policeman when moving at a speed of 20m/s. If the driver's reaction time is 0.2s determine the shortest stopping distance. **(2 marks)**

(c) The figure below shows the graph of a tennis ball bouncing severally on a table



Describe the motion between

i. AB **(1 mark)**

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ii. BC **(1 mark)**

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iii. CD **(1 mark)**

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15. (a) State the Pascal principle **(1 mark)**

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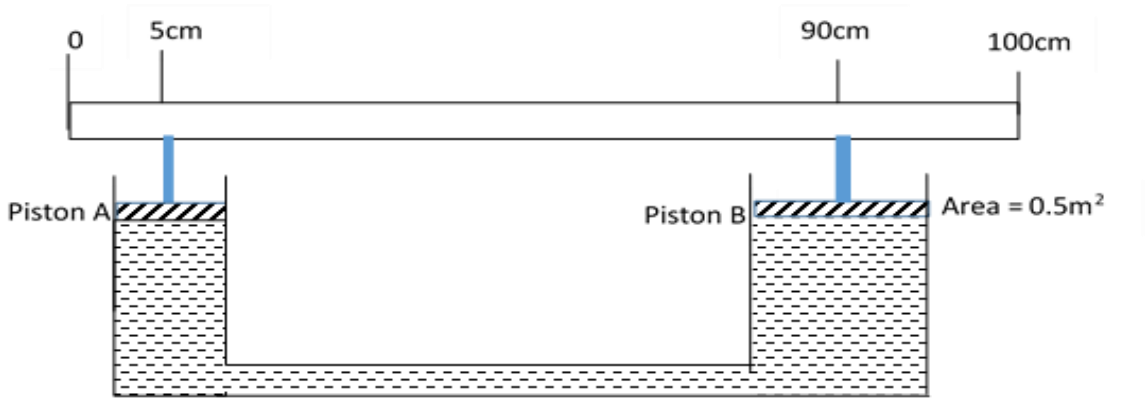
(b) State the principal of moments **(1 mark)**

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(c) The figure below shows a 100cm uniform bar of weight 50N balanced horizontally on two pistons.



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Correct to 2 decimal places determine

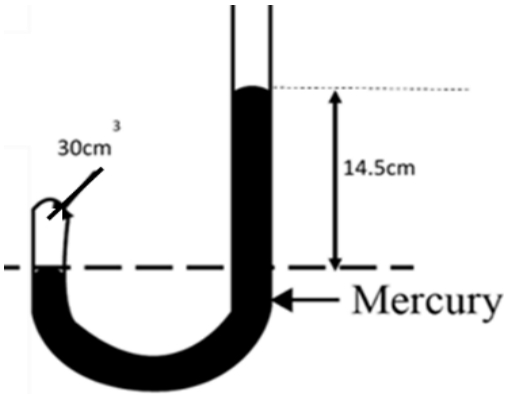
i. Force exerted on piston A **(3 marks)**

ii. Force exerted on Piston B **(3 marks)**

iii. Cross section area of piston A **(3 marks)**

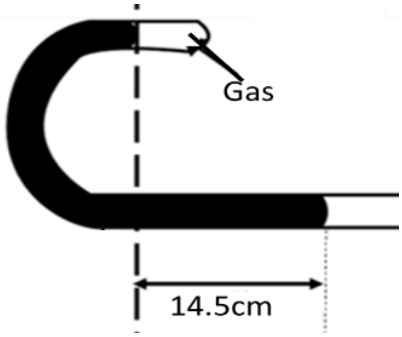
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16.a. The figure below shows $30cm^3$ of gas trapped in a tube containing mercury to a height of 14.5cm. The prevailing atmospheric pressure is 760mmHg. Determine the pressure acting on the gas in Pascals **(3 marks)**

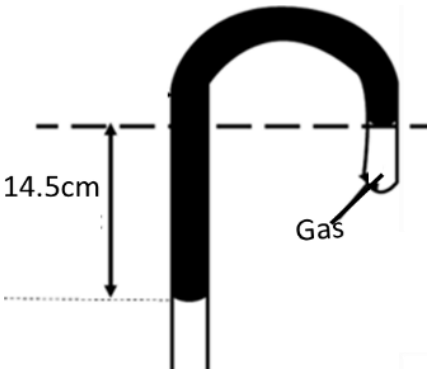


b. Determine the volume of the gas when the tube is held as shown below

i. **(3 marks)**



ii. **(3 marks)**



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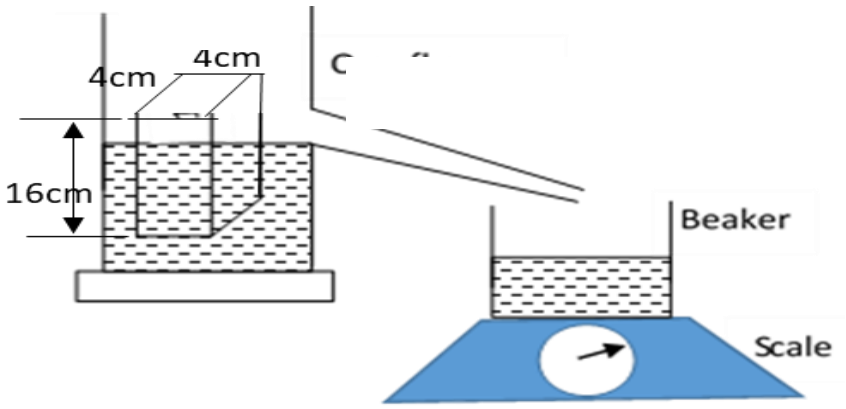
17.a) State the law of floatation. **(1 mark)**

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b) The figure below shows a block cuboid of dimensions 4cm by 4cm by 16cm floating in a liquid in an overflow can with $\frac{3}{4}$ of its height submerged.



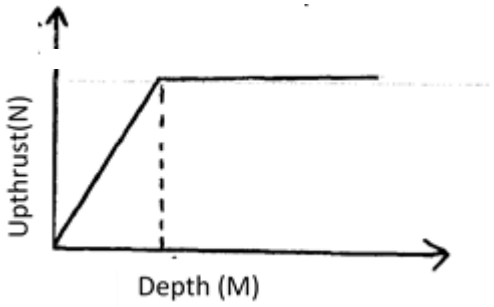
Given that the mass of the beaker when empty is 85g and the reading on the scale in the set up above is 245g, calculate:

(i) The density of the block. **(3 marks)**

(ii) The density of the liquid. **(2 marks)**

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(c) A metal block is suspended from a spring balance and held inside a beaker without touching the beaker. Water is added gradually into the beaker. The graph below shows the variation of up thrust on the block with depth of water.



Explain the shape of the graph. **(2 marks)**

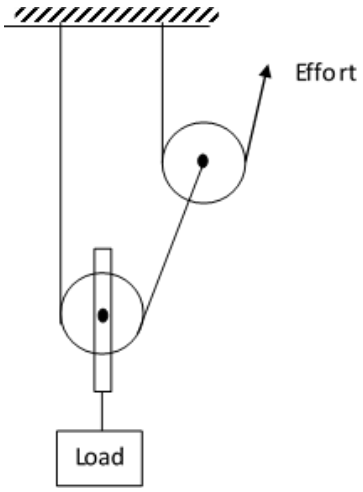
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(d) The figure below shows a pulley system being used to raise a load.



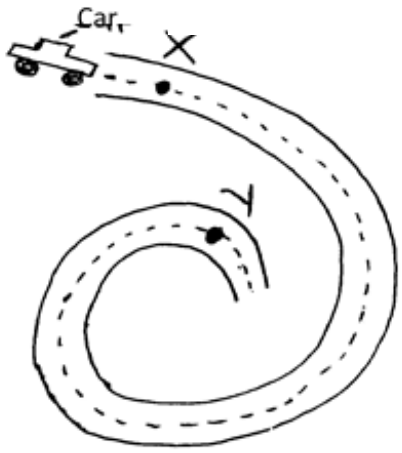
(i) Indicate the direction of the strings **(1 mark)**

(ii) If an effort of 35N raises a load of 105N, determine the efficiency of the system.

(3 marks)

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18. (a) The figure below shows a car of mass (m) moving along a curved part of the road with a constant speed.



(i) Explain why the car is more likely to skid at Y than at X. **(2 marks)**

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(ii) If the radius of the road at V is 250m and the car has a mass of 600kg, determine the maximum speed at which the car can be driven while at V without skidding. Force of friction between the road and the tyres is 18000N. **(3 marks)**

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(b) A string of length 70cm is used to whirl a stone in a circle in a vertical plane at 5 rev/s.

Determine:

(i) The period **(1 mark)**

(ii) The angular velocity. **(2 marks)**

(iii) The speed of the stone **(2 marks)**

(c) A body moving in a circle with constant speed is said to have an acceleration. Explain.

(1 mark)

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

232/2

PHYSICS

Paper 2

Time: 2 Hours

INSTRUCTION TO CANDIDATES

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

(b) *This paper consists of* ***TWO*** *sections:* ***A*** *and* ***B.***

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

(d) *ALL workings* ***MUST*** *be clearly shown.*

(e) *Mathematical tables and electronic calculators may be used.*

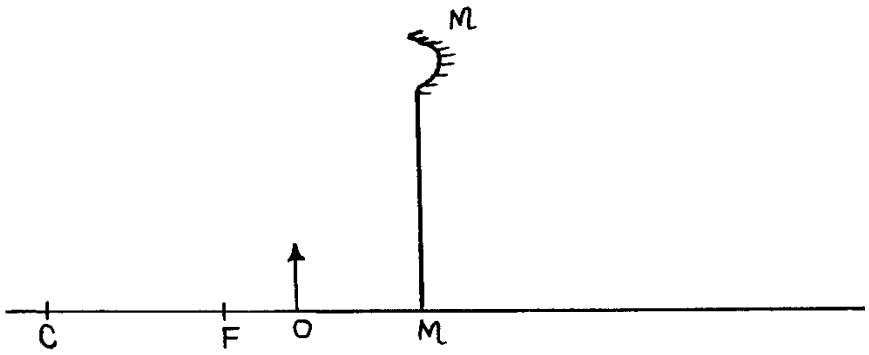
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Section	Question	Maximum score	Candidate's score
A	1 – 12	25	
B	13	16	
	14	14	
	15	14	
	16	11	
	Total	**80**	

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1. The figure below shows an object O in front of a curved mirror M.

a) On the figure, locate the image formed. **(3 marks)**



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

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3. State **one** disadvantage of using a convex mirror as a driving mirror. **(1 mark)**

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4. State **two** factors that affect the resistivity of an electrical conductor. **(2 marks)**

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5. A coin is placed at the bottom of a beaker containing a transparent liquid. When viewed from the top, the coin appears nearer the surface than it actually is. Explain the observation. **(2 marks)**

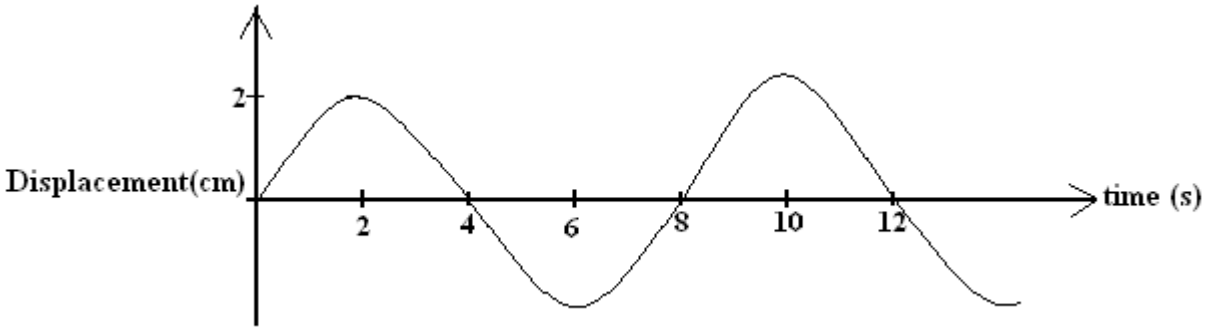
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6. The figure below shows a wave in progress.



Determine the

a) Amplitude **(1 mark)**

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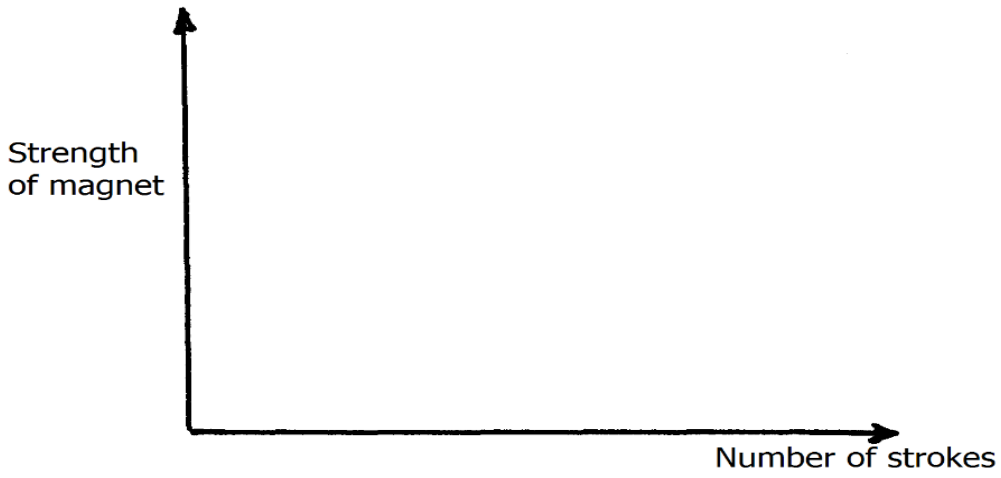
b) Frequency **(2 marks)**

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c) On the figure above, draw how the wave would appear if the period and amplitude is halved. **(1 mark)**

8. A ferromagnetic material is being magnetized by single stroking method. On the axes provided, sketch a graph to show how the strength of the magnet being created varies with the number of strokes **(1 mark)**



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9. **Figure 4** shows a conductor carrying current placed in the magnetic field and moves in the direction shown

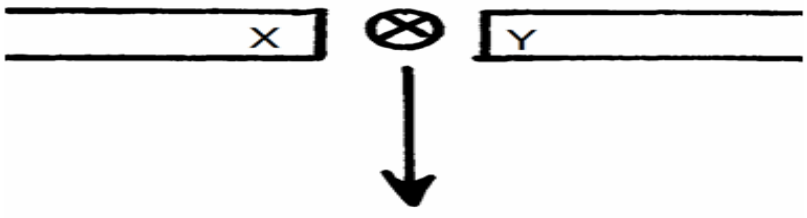


Figure 4

Identify the polarities of **X** and **Y.** **(2 marks)**

X……

Y……

10. A boy standing in front of a cliff blows a while and hears echo after 0.5s. He then makes 17metres further away from the cliff and blows the whistle again. He now hears the echo after 6.0 s. determined the speed of the sound. **(3 marks)**

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11. **(a)** What is meant by the term electric current? **(1 mark)**

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(b) 0.25A of current passes through a point in a conductor in 3.5 minutes. Calculate the amount of charge passing through the point in this time. **(2 marks)**

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12. An unmagnetized steel rod is clamped facing North-South direction and then hammered repeatedly for some time. When tested, it is found to be magnetized. Explain this observation **(2 marks)**

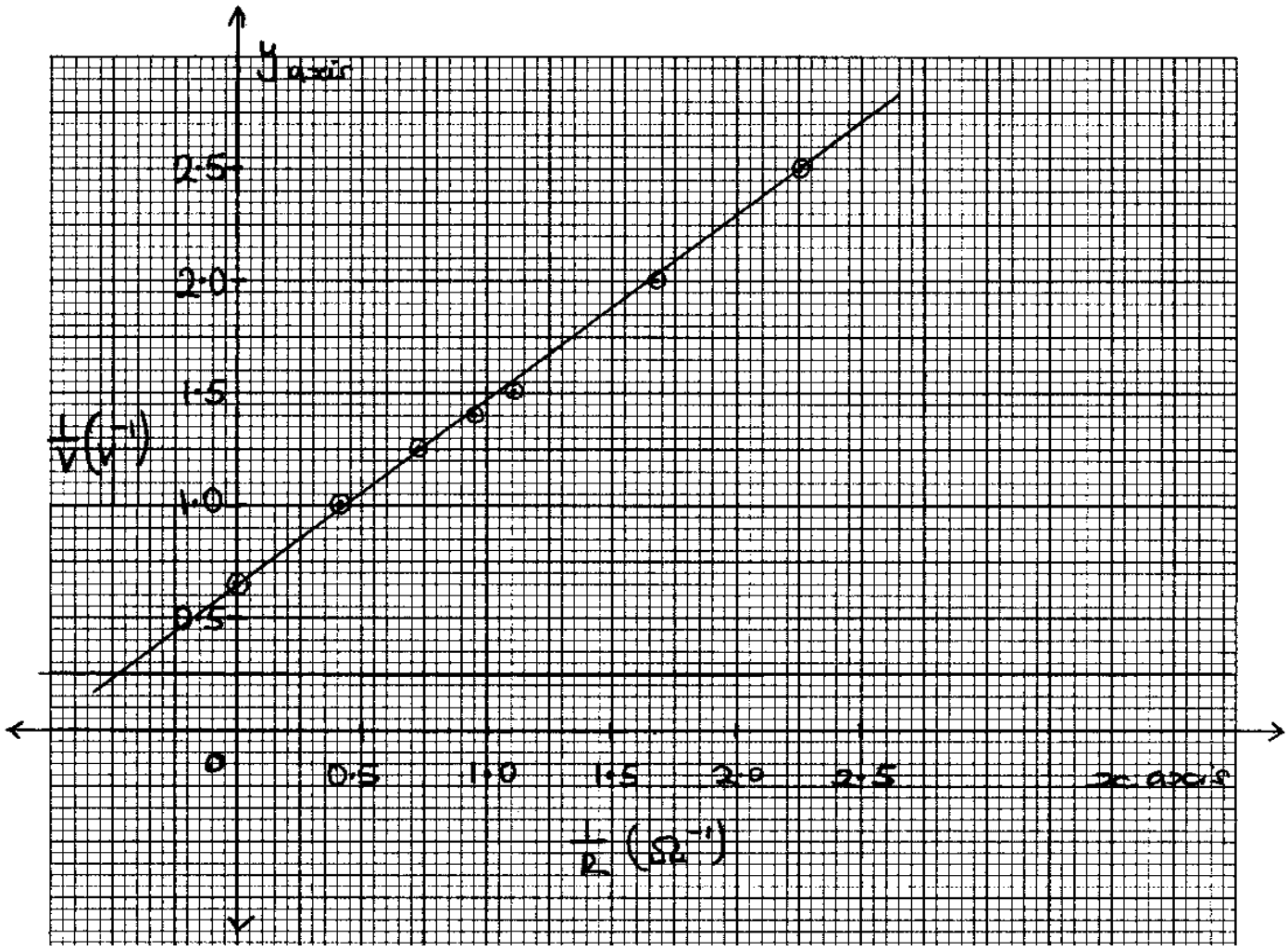
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SECTION II (55 MARKS)

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

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b). The graph below shows results obtained in an experiment to determine the e.m.f.(E) and the internal resistance, r, of a cell.



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Given that the equation of the graph is $\frac{E}{V} = \frac{r}{R} + 1$

Use the graph to determine the values of:-

(i) E **(2 marks)**

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(ii) r **(3 marks)**

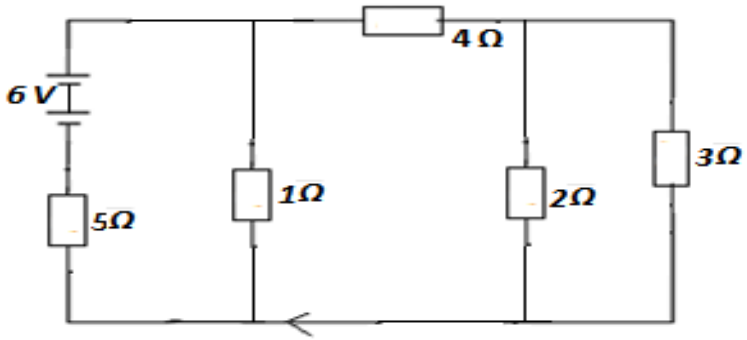
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c) The figure below shows five resistors and a source of voltage of 6V.



i) Find the effective resistance of the circuit. **(2 marks)**

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ii) Calculate the current through 5Ω. **(3 marks)**

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(iii) What is the p.d across 2Ω. **(3 marks)**

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iv) Calculate the current through 1Ω. **(2 marks)**

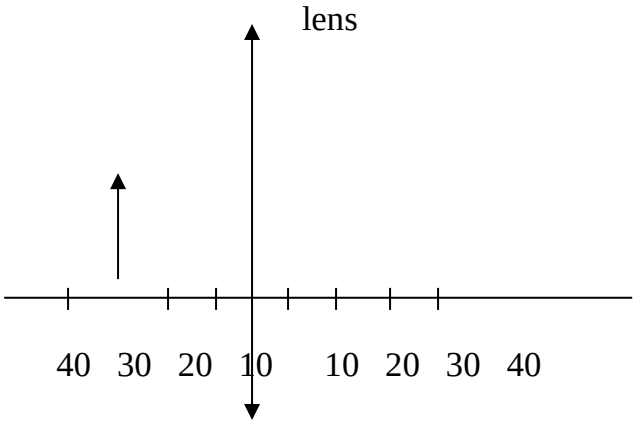
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14. (a) An object is placed 30cm in front of a thin converging lens of focal length 20cm. The set up is represented in the figure.



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(i) On the same figure construct a ray diagram to locate the position of the image.

(3 marks)

(ii) Determine the magnification produced. **(2 marks)**

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(b) An object 6cm tall is placed 40cm from a convex lens of focal length 50cm. Find the position of the image. **(3 marks)**

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(c) State **two** differences between the human eye and the camera. **(2 marks)**

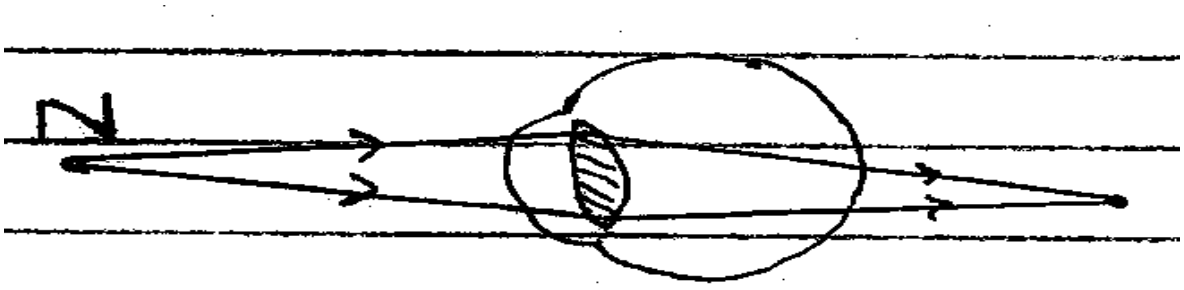
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(d) The figure below shows an eye defect.



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(i) Identify the defect. **(1 mark)**

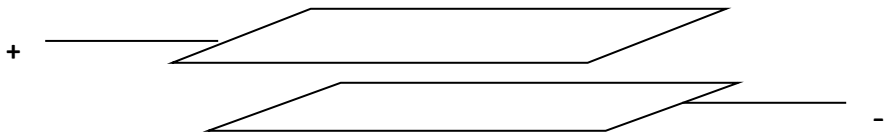
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(ii) State the cause of the defect. **(1 mark)**

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(iii) Using a well labeled diagram, illustrate how the defect is corrected**.** **(2 marks)**

15. (a) The figure below shows a pair of parallel plates of a capacitor connected to a Battery the upper plates is displaced slightly to the left.



State with reason the effect of this movement of the capacitance **(2 marks)**

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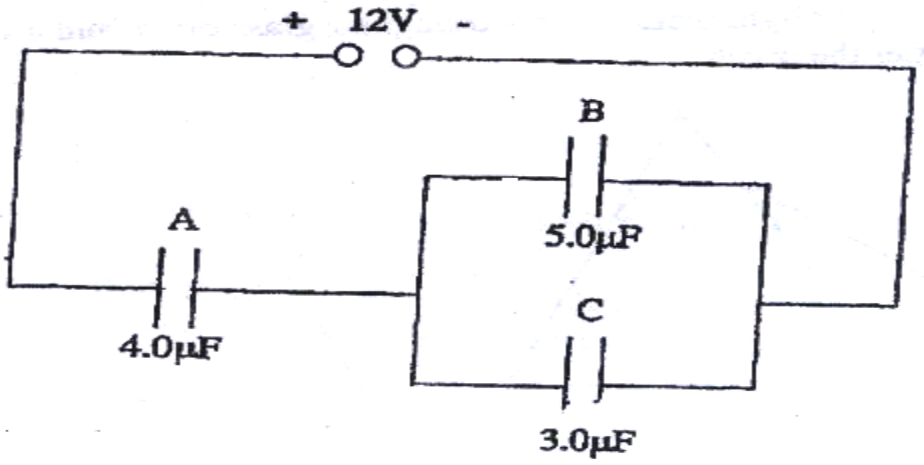
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(b) The figure below shows an electrical circuit with three capacitors A, B and C of Capacitance 4.0 μF, 5.0 μF and 3.0 μF respectively connected to a 12V battery



Determine:

(i) The combined capacitance of the three capacitors **(3 marks)**

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(ii) The charge of the capacitor A **(2 marks)**

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(iii) The potential difference across the capacitor B **(2 marks)**

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c) A positively charged sphere is suspended by an insulating thread. A negatively charged conductor is suspended near it. The conductor is first attracted, after touching the sphere it is repelled. Explain this observation. **(2 marks)**

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d) A 2μF capacitor is charged to a potential of 200V, the supply is disconnected. The capacitor is then connected to another uncharged capacitor. The p.d across the parallel arrangement is 80V. Find the capacitance of the second capacitor**.** **(3 marks)**

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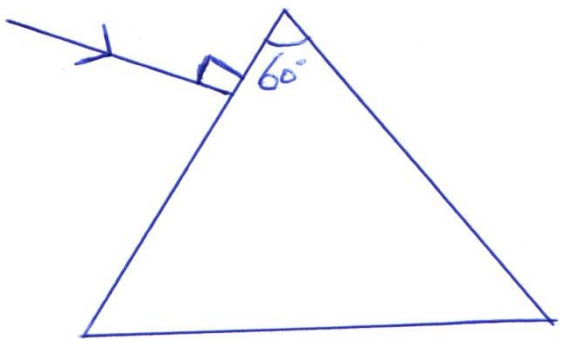
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16. (a) A single ray of light in incident on an equilateral glass position as shown in the figure below. Complete the diagram to show the path of light through and out of the position.(critical angle of glass = 42^0) **(3 marks)**



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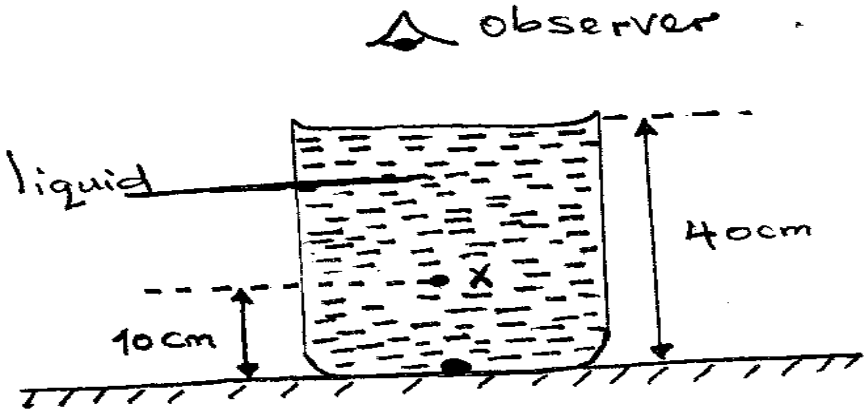
(b) State **two** (2) conditions necessary for total internal reflection **(2 marks)**

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(c) (i) Figure below shows an object O at the bottom of a beaker full of a liquid. An observer above the beaker sees its image at point X inside a liquid.



Determine the refractive index of the liquid. **(3 marks)**

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(ii) Define the term critical angle(c) of a medium. **(1 mark)**

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(d) State **two** uses of optical fibre. **(2 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

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DATE……..

CONFIDENTIAL

PHYSICS PAPER 3 (232/3) (PRACTICAL)

INSTRUCTIONS TO SCHOOLS:

1. *The information contained in this paper is to enable the head of school and the teacher in charge of Physics to make adequate preparation for this Physics practical examination.* ***NO ONE ELSE*** *should have access to this paper or acquire knowledge of its contents. Great care* ***MUST*** *be taken to ensure that the information herein does not reach the candidates either directly or indirectly.*

2. *The apparatus required by each candidate for the Physics Practical examination are set out on below. It is expected that the ordinary apparatus of a Physics laboratory will be available.*

3. *The* ***Physics teacher*** *should note that it is his/her responsibility to ensure that each apparatus acquired for this examination agrees with the specifications as indicated on the list of apparatus below.*

4. *The question paper will not* ***be*** *opened in advance.*

5. *The Physics teacher is* ***not*** *expected to perform the experiments.*

NB: Any use of apparatus other than the ones specified may lead to candidates being penalized.

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QUESTION ONE

Every student should be provided with the following:

- *Two new dry cell size D*
- *Cell holder for 2 cell*
- *A piece of resistance wire(Nichrome wire **SWG 30)** 20cm long labeled **W***
- *Voltmeter (**0 - 3V** or **0 - 5V**)*
- *Ammeter (**0 - 1A**)*
- *A nichrome wire(**SWG 30)** mounted on a millimeter scale labelled **PQ***
- *Seven connecting wires in which four are with crocodile clips on both ends and three are with crocodile clips on one end*
- *Jockey attached to a connecting wire*
- *Micrometer screw gauge (can be shared)*

QUESTION TWO

- *A meter rule*
- *A concave lens focal length **10cm***
- *A lens holder*
- *A candle stick*
- *A white screen*
- *A stop watch*
- *A marble*
- *A watch glass of diameter **10cm***
- *Some Plasticine*

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

232/3

PHYSICS

Paper 3

Time $2^1/_2$ HOURS

INSTRUCTIONS TO CANDIDATES

*1. Write your **name, index number, class, date** and **signature** in the spaces provided above.*
*2. This paper consists of two questions **1** and **2.***
3. Answer all questions in the spaces provided.
4. Non-programmable calculators and mathematical tables may be used.
5. Show all your workings.

QUESTION 1	a(ii)	a(iii)	a(iv)	a(v)	a(vi)	b(vii)	TOTAL
Maximum score	6	5	3	1	2	3	
Candidates score							

QUESTION 2	a(i)	a(ii)	a(iii)	b(vii)	b(viii)	b(ix)	b(xi)	b(xii)	b(xii)I	b(xii)II	b(xiii)
Maximum score	1	1	1	6	2	1	1	1	1	2	3
Candidates score											

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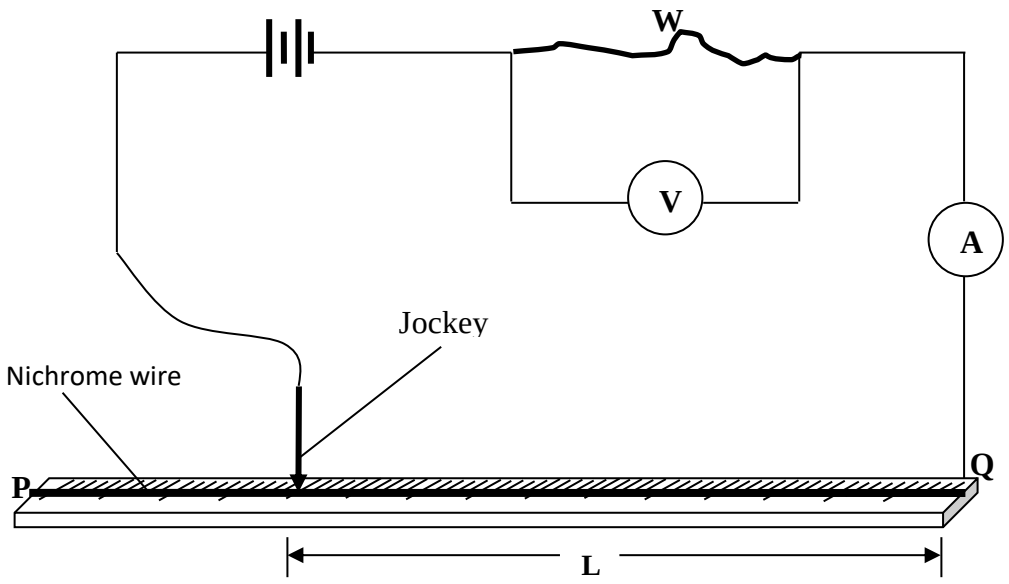
Question 1

You are provided with the following:

-Two dry cell
- Cell holder
-A piece of resistance wire labeled **W**
-Voltmeter (**0 - 3V** or **0 - 5V**)
-Ammeter (**0 - 1A**)
-A nichrome wire mounted on a millimeter scale labelled **PQ**
-Seven connecting wires in which four are with crocodile clips on both ends and three are with crocodile clips on one end
- Jockey attached to a connecting wire
- Micrometer screw gauge (can be shared)

Proceed as follows:

a) i). Set up the circuit as shown in the figure below.



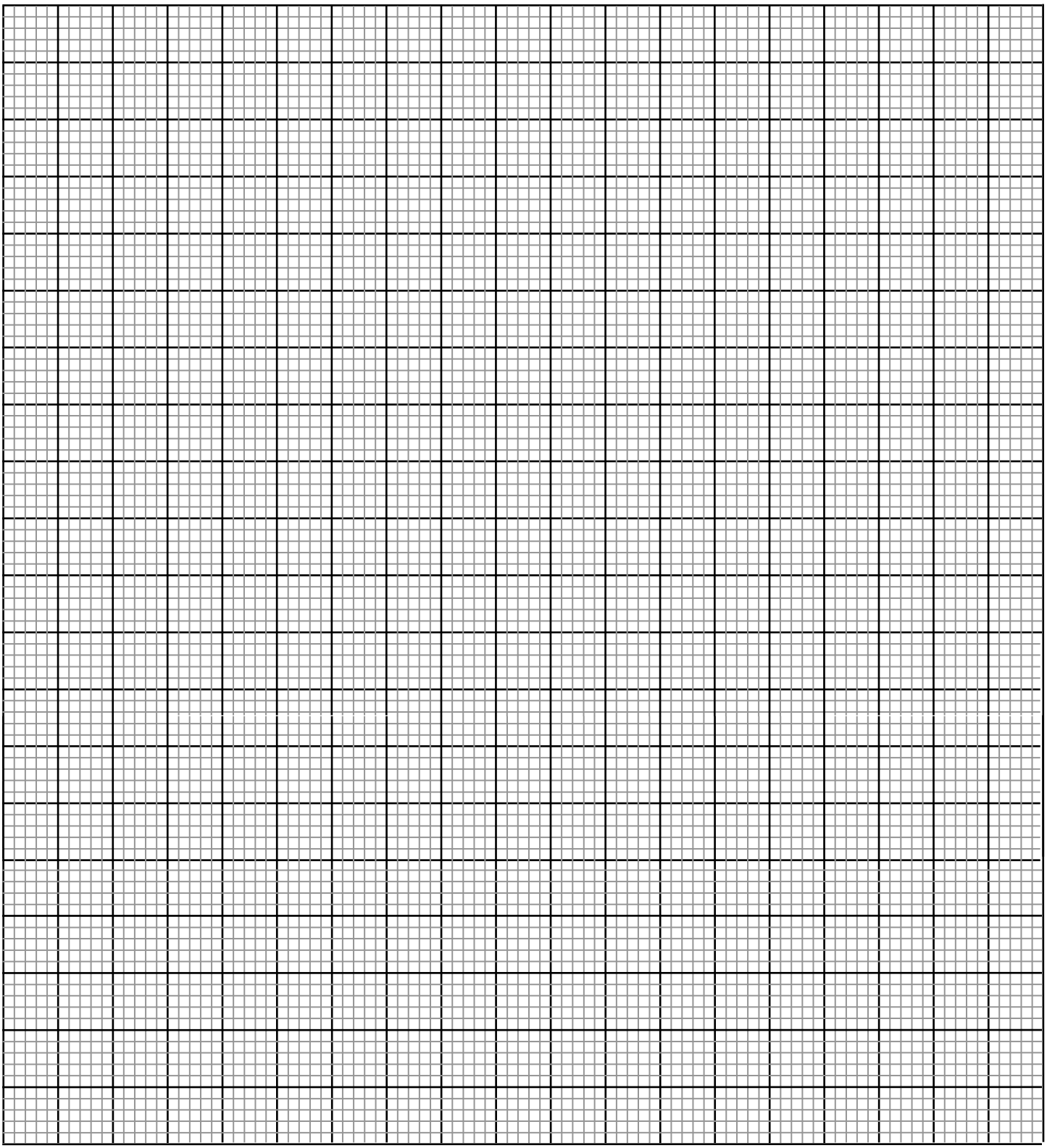
ii) With the Jockey at **Q** i.e. **L= 0.0 cm**, take the voltmeter reading and ammeter reading. Record **V** and **I.** Repeat to get the readings for **L=20.0cm**, **40.0cm**, **60.0cm**, **60.0cm, 80.0cm** and **100.0cm** respectively and complete the table below.

Length L (cm)	**0.0**	**20.0**	**40.0**	**60.0**	**80.0**	**100.0**
Voltage V (v)						
Current I (A)						

(6marks)

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iii).Plot a graph of voltmeter readings (y-axis) against ammeter readings**.** **(5marks)**



iv) Determine the slope of the graph (3marks)

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v) What physical quantity is represented by the slope of the graph at any given point **(1mark)**

vi) Using a micrometer screw gauge, measure the diameter, **d** of the wire **W**.

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

= ..... **m** (1mark)

vii) Calculate the quantity $\boldsymbol{P = \frac{s\, d^2 \pi}{0.8}}$ and give its units. (3marks)

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Question 2

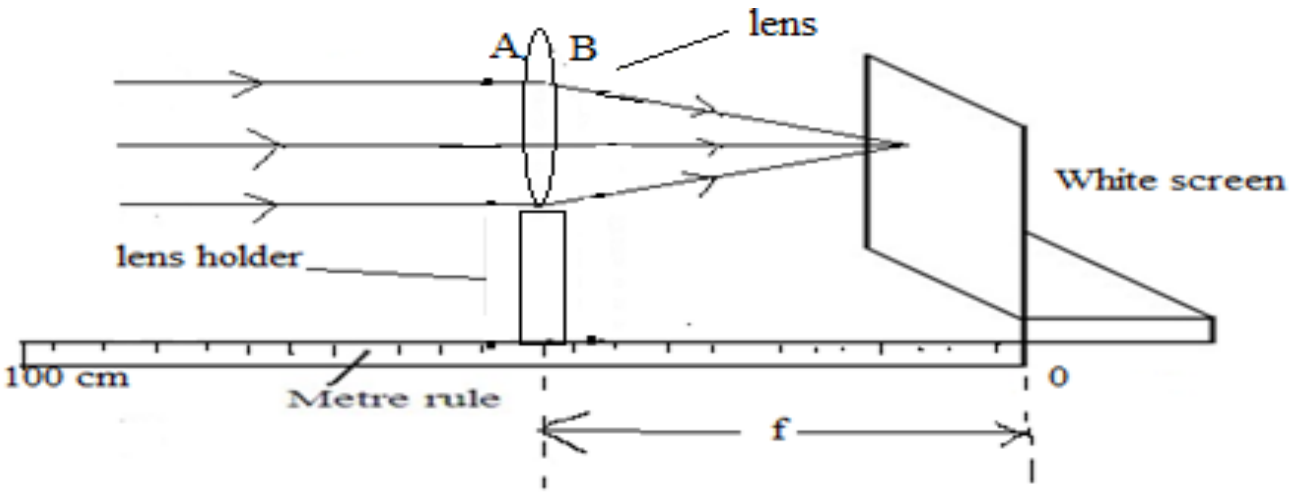
PART A

You are **provided with the following apparatus**

- *A meter rule*
- *A concave lens with holder*
- *A candle stick*
- *A white screen*
- *A stop watch*
- *Marble*
- *Watch glass*
- *Plasticine*
- *Micrometer screw gauge*

Proceed as follows:

(a) Find the approximate focal length by focusing a sharp image of a distant object onto a screen. The object (preferably window frame) must be **at least 4m** away. Turn lens such that side A faces the screen



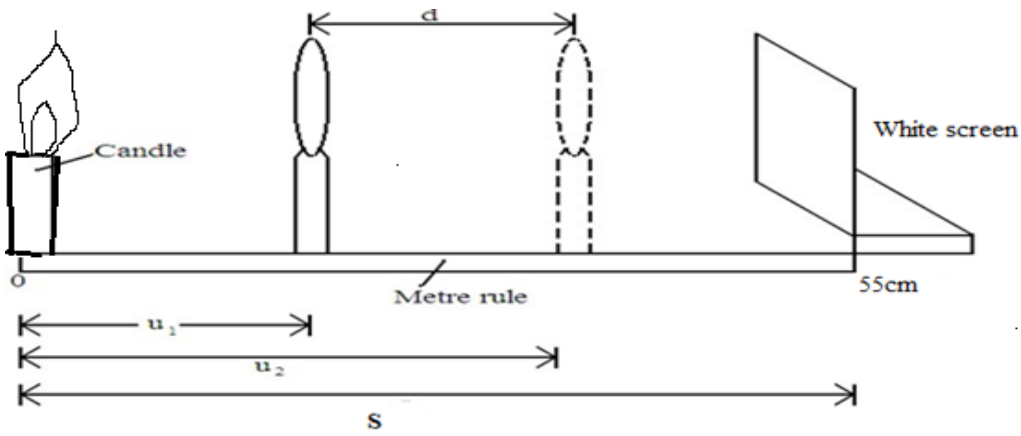
i) f_1=…… **(1mark)**

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(ii) f_2=…….. **(1mark)**

iii) Find the Average of f_1 and f_2 **(1mark)**

b)(i)Now Set up the apparatus as shown in figure below such that S=55cm.Adjust the position of the lens to obtain a sharp enlarged image of the candle flame. (**Ensure that the candle flame, the lens and white screen same horizontal level)**



ii) Measure the distance $\mathbf{u_1}$ between the candle and the lens

iii)Without changing the position of the candle and the screen, move the lens to obtain a sharp diminished image of the candle flame

iv) Measure the distance u_2 between the candle and the lens

v) Record the values of $\mathbf{u_1}$ and $\mathbf{u_2}$ in the table below.

vi) Repeat the procedure in (i) above for S=45cm.

(vii)Complete the table (6marks)

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S(cm)	U_1(cm)	U_2(cm)	d=U_1-U_2	$K = \frac{S^2 - d^2}{4S}$
55				
45				

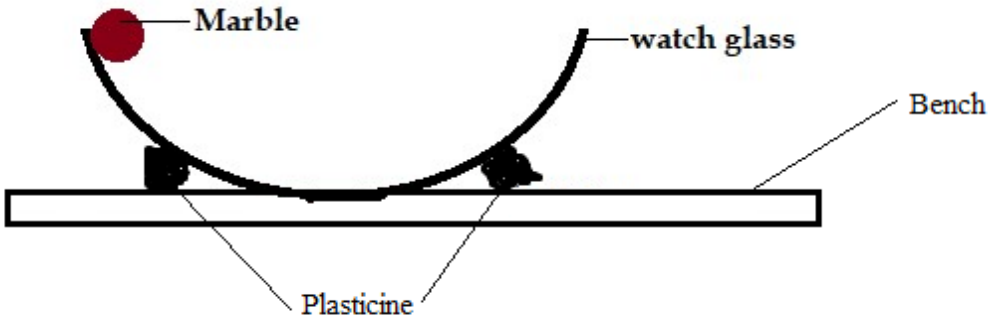
viii) Determine the average value of K **(2marks)**

ix) What does physical quantity K represent **(1mark)**

PART B

Procedure:

x. Arrange the apparatus as shown in the figure below:



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xi.Release the marble from the edge of the watch glass to freely oscillate. Measure the time taken, t, for **5 oscillations.**

t = …… (1 mark)

xii. Calculate the periodic time, T

T = …… (1 mark)

(I) Measure the diameter, D of the marble using the micrometer screw-gauge.

D = ……m (1 mark)

(II) Determine the volume, V of the marble. (2 marks)

xiii) The period, T, of oscillation of the marble and radius, r of the marble are related by the equation:

$$T = 2\pi\sqrt{\frac{7(b-r)}{5g}}$$

Where g = 10 m/s^2 and b is a constant of the watch glass. Determine the value of b

(3 marks)

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

INSTRUCTION TO CANDIDATES

(a) *Write your* ***name*** *and* ***index*** *number and school, Sign and write the date in the spaces provided above.*

(b) *This paper consists of* ***THREE*** *sections;* ***A, B*** *and* ***C.***

(c) *Answer* ***All*** *the questions in section* ***A*** *and* ***B*** *in the spaces provided and any* ***TWO*** *questions from section* ***C*** *in the answer sheet provided*

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 - 17	30	
B	18 - 22	20	
C		20	
		20	
TOTAL SCORE		**90**	

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SECTION A (30 MARKS)

Answer all the question in this section in the spaces provided.

1. Name the routine field practice done by:

(a) Removal of extra suckers in banana stool. **(½mrk)**

……

……

(b) Removal of old stems down to level of top foliage in pyrethrum. **(½mrk)**

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(c) Removal of suckers from coffee bushes. **(½mrk)**

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2. State three characteristics of phosphate fertilizers. **(1½mks)**

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3. State two physical properties of soil that influence crop production. **(1mk)**

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4. Outline four ways by which crop pests are classified. **(2mks)**

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5. State three uses of labour records in Agriculture. **(1½mks)**

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6. Give four advantages of overhead irrigation in crop production. **(2mrks)**

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7. List three basic concepts in agricultural economics. **(1½mrks)**

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8. Give four varieties of tomatoes grown for processing. **(2mks)**

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9. State four pasture management practices done to enhance yields per unit area. **(2mrks)**

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10. Name two macro-nutrients which classified as:

(a) Fertilizer elements. **(1mrk)**

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(b) Liming elements. **(1mrk)**

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11. Give three ways by which pruning helps to control disease in crops. **(1½mrks)**

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12. State four ways in which weeds are excellently adapted to the environment. **(2mrks)**

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13. State four factors that determine the time at which a crop is planted. **(2mks)**

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14. Give four factors that affected the effectiveness of a pesticide. **(2mrks)**

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15. State four reasons for staking tomatoes in crop production. **(2mrks)**

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16 State three cultural methods of soil and water conservation. **(1½mrks)**

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17. State four benefits of having a land title deed to a farmer. **`(2mrks)**

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SECTION B. (20 MARKS)

Answer ALL questions in this section in the spaces provided

18. Study the diagram below and answer the questions that follow. The illustrations represent a method of crop propagation.



A B

(a) Name the crops propagated by illustrations: **(2mrks)**

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A.....

B.....

(b) Give three factors that promote the rooting of illustration A. **(3mrks)**

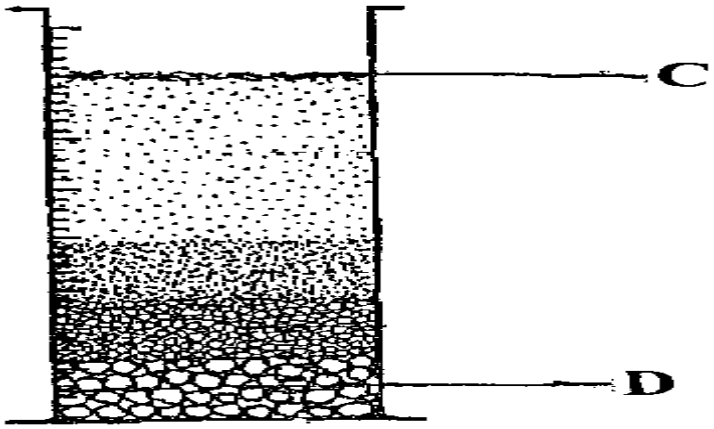
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19 The diagram below illustrates an experiment using garden soil. Study it carefully and answer the questions that follow.



(a) What was the aim of the experiment? **(1mrk)**

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(b) Name the parts labeled C and D. **(2mrks)**

C.....

D.....

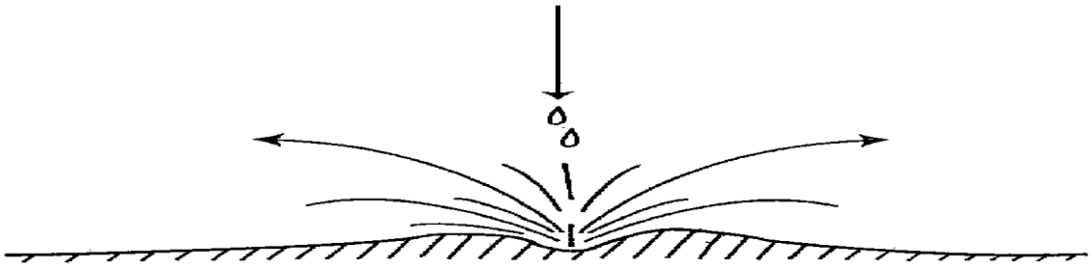
(c) Name the property of soil being investigated. **(1mrk)**

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20. The illustration below shows a type of soil erosion. Study it carefully and answer the questions that follow.



(a) Identify the type of erosion illustrated above. **(1mrk)**

……

(b) Give two soil factors that influence the rate of soil erosion. **(2mrks)**

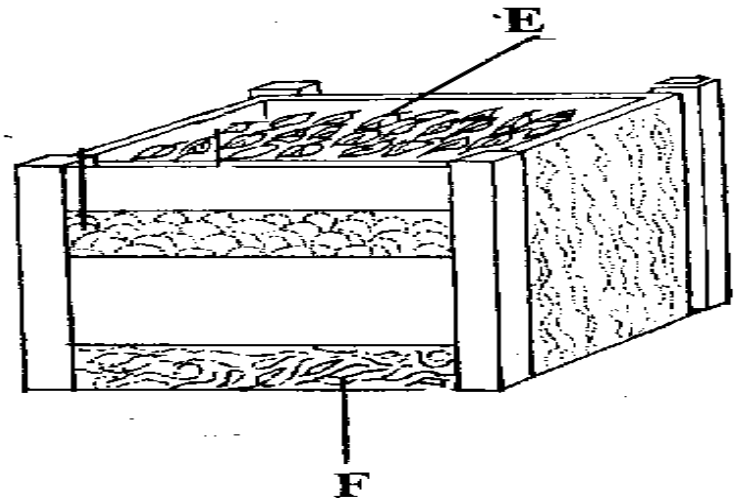
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(c) Name one agent of soil erosion. **(1mrk)**

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21. The diagram below represents a method of manure preparation. Study it carefully and answer the questions that follow.



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(a) Identify the type of manure being prepared. **(1mrk)**

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(b) Name the parts labeled E and F. **(2mrks)**

E.....

F.....

(c) Give four disadvantages of manures. **(4mrks)**

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SECTION C (40MARKS)

Answer any two questions from this section in the answer sheet provided

22. (a) Describe land preparation for planting of grass seeds. **(4mrks)**

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(b) Explain the precautions that should be observed during the harvesting of pyrethrum **(4mks)**

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(c) Explain six benefits of land consolidation in Agricultural production. **(12mrks)**

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23. (a) Describe the field management practices that should be carried out on dry bean production. **(10mrks)**

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(b) Explain five factors that should be considered when deciding on the depth of planting a seed. **(5mrks)**

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(c) Describe the characteristics of a crop suitable for green manure. **(5mrks)**

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24. (a) Describe the procedure followed when collecting a soil sample from the field for testing in the laboratory **(5mks)**

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(b) Describe the benefits of using certified seeds in crop production. **(5mrks)**

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(c) Describe the safety precautions a farmer should take when using herbicides. **(10mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

INSTRUCTION TO CANDIDATES

(d) *Write your **name** and **index** number and school, Sign and write the date in the spaces provided above.*

(e) *This paper consists of **THREE** sections; **A, B** and **C.***

(f) *Answer **All** the questions in section **A** and **B** in the spaces provided and any **TWO** questions from section **C** in the answer sheet provided*

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 - 20	30	
B	21 - 24	20	
C	25-27	40	
TOTAL SCORE		**90**	

SECTION A (30 MARKS)

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Answer all the question in this section in the spaces provided.

1. Explain the meaning of the following terms.

a. Raddling. **(½mk)**

……

……

b. Farrowing**.** **(½mk)**

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c. Caponisation **(½mk)**

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d. Gutting. **(½mk)**

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2. What do the figures 3.3.3 in pig production stand for? **(1mk)**

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3. Name any **two** tools in the farm that can be used to sharpen a blunt panga **(1mk)**

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4. Name **two** livestock diseases prevented by use of the vaccine blanthrax. **(1mk)**

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5. State any **four** mechanical methods of controlling ticks. **(2mks)**

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6. List any **four** farm structures a dairy cattle farmer may have in the farm. **(2mks)**

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7. State **two** disadvantages of using a barbed wire fence in sheep rearing. **(1mk)**

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8. State **four** characteristics of an effective acaricide. **(2mks)**

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9. State any **four** factors that affect the digestibility of feeds in an animal**.** **(2mks)**

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10. Distinguish between mothering ability and prolificacy. **(1mk)**

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11. State **four** characteristics of succulent roughage feedstuffs. **(2mks)**

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12. State **four** advantages of inbreeding. **(2mks)**

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13. Identify the breed of pig that has the following features.

-Broad and slightly dished snout.

- Has a white skin.

- Has upright ears.

Identity **(1mk)**

……

14. Name **two** methods used in castration of farm animals. **(1mk)**

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15. State **four** causes of stress in poultry. **(2mks)**

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16. List any **two** construction materials required in the construction of a green house. **(1mk)**

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17. Name any **two** sheep breeds kept for production of meat. **(1mk)**

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18. State how the following conditions are achieved in a calf pen.

a) Draught free. **(½mk)**

……

b) Proper lighting **(½mk)**

……

19. State the functions of the following parts of a plunge dip

a) Drying yard. **(1mk)**

……

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b) Foot bath. **(1mk)**

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20. State **four** uses of a crush**.** **(2mks)**

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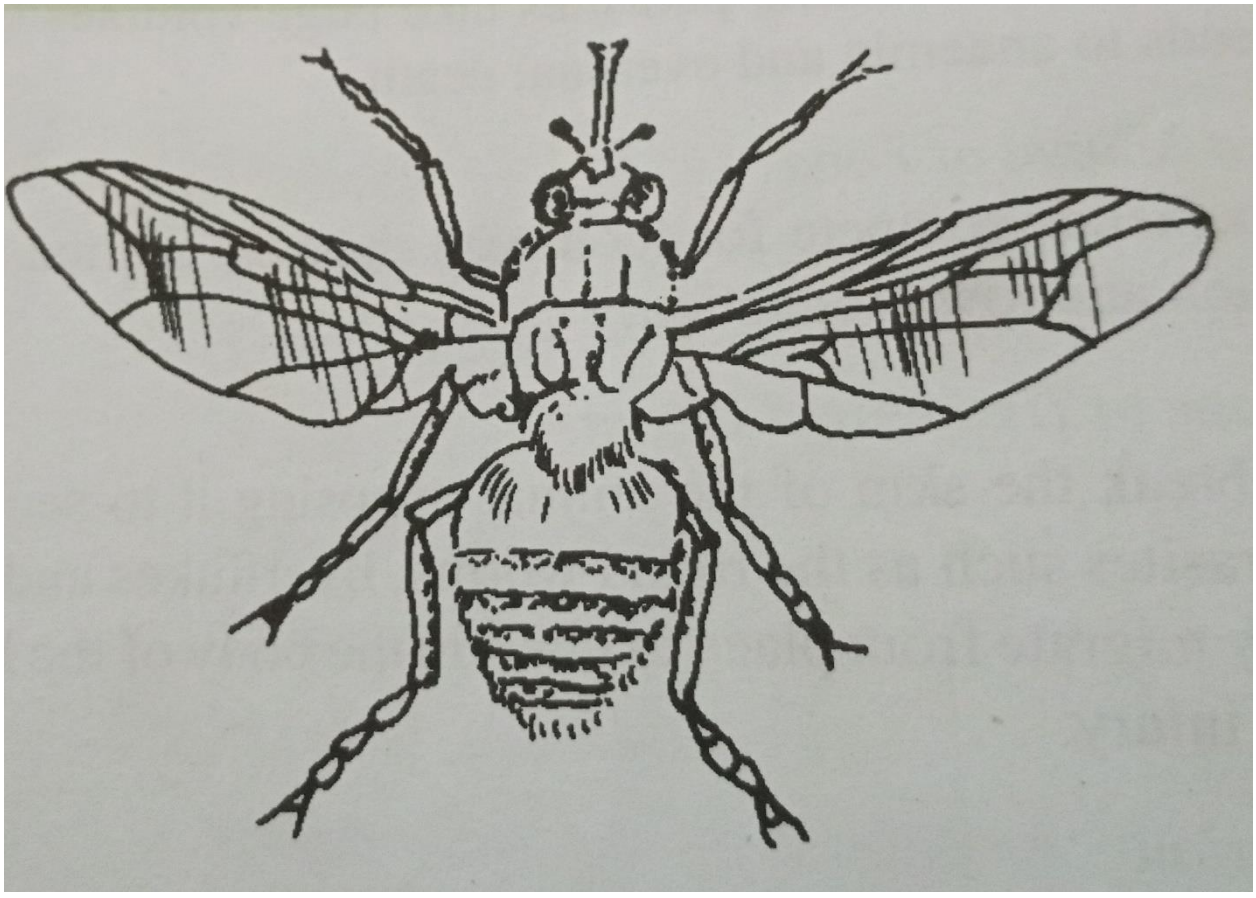
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SECTION B 20 MARKS

Answer all questions in this section in the spaces provided.

21. The diagram below represents an external parasite. Study carefully and use it to answer the questions that follow.



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

……

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b) State any **two** harmful effects of the parasite above. **(2mks)**

……

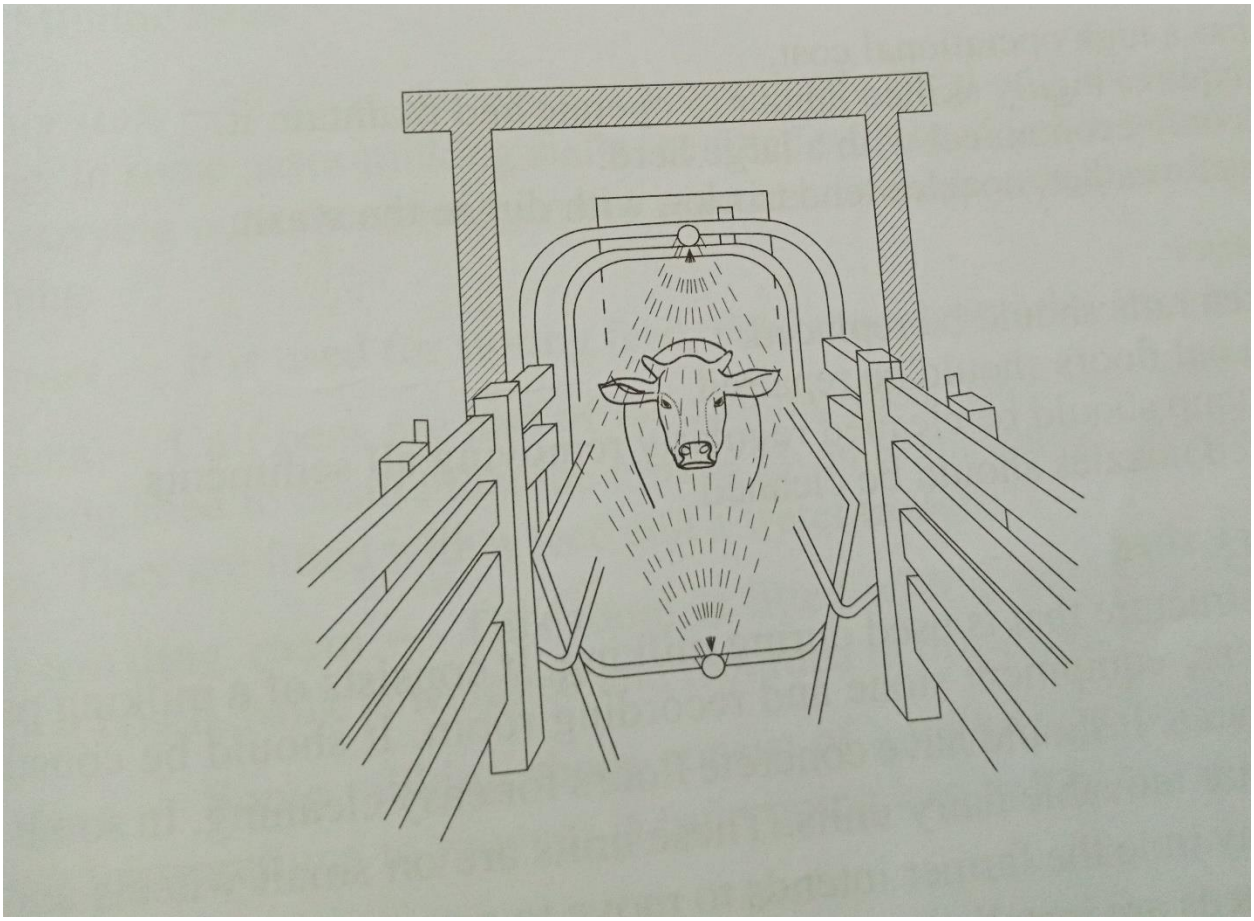
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c) State any **two** control measures for the parasite above. **(2mks)**

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22. The diagram below shows a routine practice being carried out on an animal. Study it and answer the question that follows.



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

……

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b) Name the structure in which the practice is being carried out**.** **(1mk)**

……

c) State three advantages of using the above structure instead of a plunge dip**.** **(3mks)**

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23. Below is a diagram of a cow suffering from a deficiency disease. Study it and answer the questions that follow.



a) Identify the disease the animal is suffering from. **(1mk)**

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b) State the cause of the disease. **(1mk)**

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c) List any **three** symptoms of the above disease**.** **(3mks)**

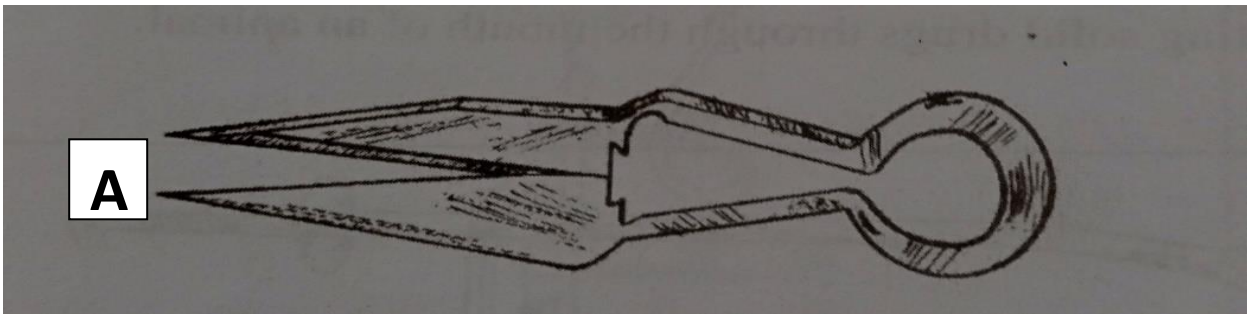
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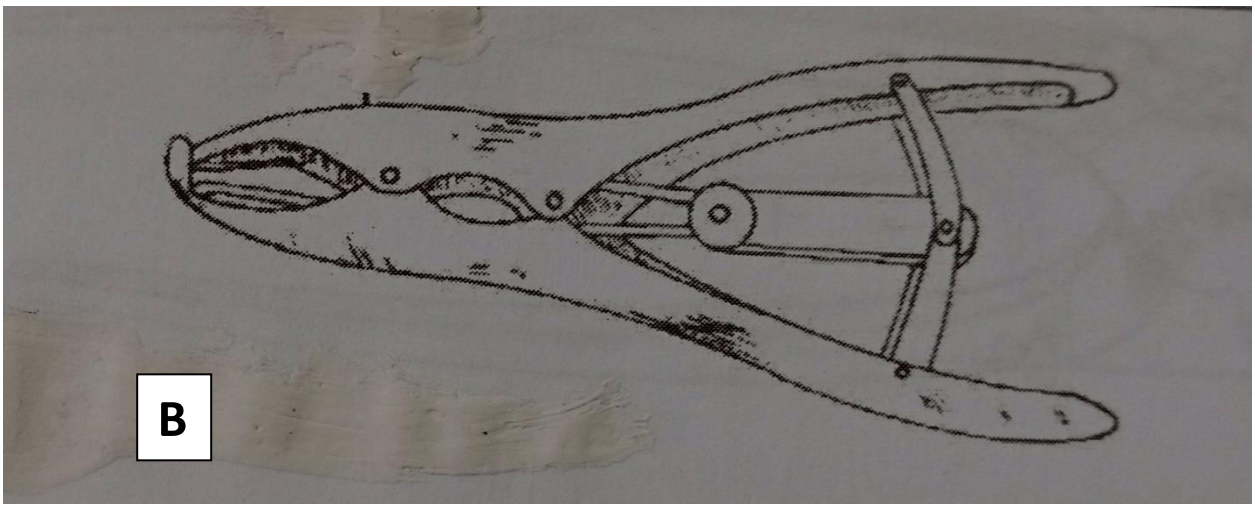
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4. The diagram below represents farm tools and equipment. Study and answer the questions that follow.





a) Identify the tools labeled A, and B**.** **(2mks)**

A:……

B……

b) State one use of each of the tools labeled A and B**.** **(2mks)**

A:……

B:……

c) State one maintenance practice for the tool labeled A. **(1mk)**

……

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SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided

25.a) Discuss New castle disease under the following sub headings.

(i) Causal organism. **(1mk)**

(**ii)** Animals attacked. **(1mk)**

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

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

b) Outline the characteristics of indigenous cattle breeds. **(5mks)**

c) Describe **five** microbial activities that take place in the rumen of ruminant animals. **(5mks)**

26.a) State and explain any **five** predisposing factors of livestock diseases. **(10mks)**

b) Describe the **procedure** of constructing a barbed wire fence. **(5mks)**

c) Outline any **five** general functions of vitamins in livestock. **(5mks)**

27.a) Discuss any **five** essentials of clean milk production. **(10mks)**

b) Describe the process of egg formation in the reproductive system of a hen. **(10mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS

- *Write your **NAME, SCHOOL** and **INDEX NUMBER** in the spaces provided.*
- *Answer **ALL** questions provided in the spaces provided.*
- *This paper consists of **10 printed pages** and **25 questions.***

FOR EXAMINERS USE ONLY

Question	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
MARKS															

17	18	19	20	21	22	23	24	25	TOTAL

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1. Outline **three** reasons why cash payment would be preferred to cheque payment. **(3 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

2. State **four** reasons why a farmer would prefer to transport a herd of cattle by rail rather than by road. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

3. State **four** advantages of using internet as a means of communication. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

4. State **four** measures which the Kenyan government can take to solve the unemployment problem. **(4 marks)**

(a) .....

(b) .....

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(c) .....

(d) .....

5. Highlight **four** roles played by an entrepreneur in the production process. **(4 marks)**

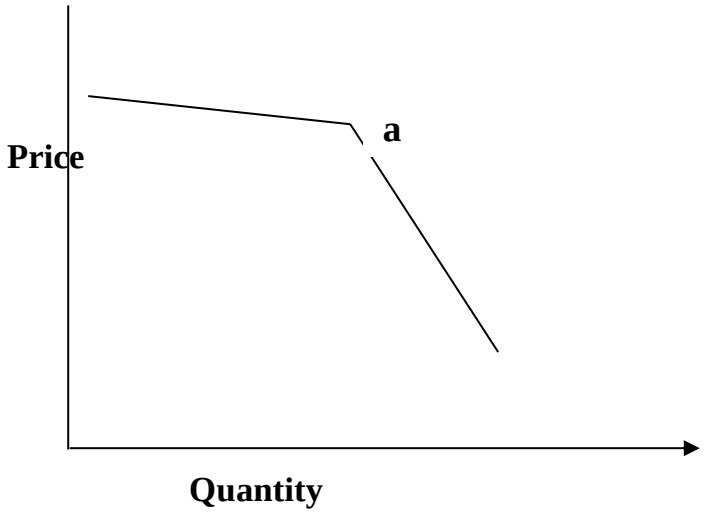
(a) .....

(b) .....

(c) .....

(d) .....

6. The diagram below shows a demand curve for a firm operating in a given type of market structure. **(4 marks)**



a) State the name which is given to such a demand curve. **(1 marks)**

.....

b) Indicate on the diagram the possible price and quantity. **(2 marks)**

.....

c) State the significant of the point labelled **a.** **(1 mark)**

.....

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7. State **four** advantages of using intermediaries in the distribution of goods. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

8. Give **four** reasons facing cooperative societies. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

9. State **four** advantages of franking machine**.** **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

10. The following information was extracted from the books of Venus traders.

Rate of turnover.	3 times
Mark-up.	20%
Opening stock.	Sh 160,000
Closing stock.	Sh 200,000

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Required

i) Gross profit**.** **(2 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

ii) Sales**.** **(2 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

11. Outline **four** factors that may hinder occupational mobility of labour. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

12. The following relate to Furaha Traders for the year 2020

i) Closing capital (31.12.2020) sh 300,000

ii) The owner converted his personal computer valued at sh 35,000 into business use.

iii) The owner had withdrawn goods worth sh 40,000 for personal use.

iv) Incurred losses amounting to sh 65,000

Determine Furaha Traders intial capital on(1.01.2006). **(4 marks)**

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13. For each of the following books of original entry, indicate the source document:

(4 marks)

Journal	**Source document**
Purchase journal	
Sales day book	
Petty cash book	
General journal	

14. Highlight **four** measures that a government may take to reduce the mortality rate in a country**.** **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

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15. The following balances were extracted from the books of Mavuno Traders for the year ended 31st march 2021.

Gross profit.	186,200
Discount allowed.	7,400
Carriage outwards.	13,500
Rent received.	34,300
Office expenses.	19,600
Salaries.	57,000

Prepare a profit and loss for the ended 31st march 2021. **(5 marks)**

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16. State four factors that determine the amount of money held for transaction motive. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

17. State **four** objectives of product promotion**.** **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

18. Highlight **four** difficulties faced in satisfaction of human wants. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

19. Highlight **four** factors under economic environment that positively affects the business.**(4marks)**

(a) .....

(b) .....

(c) .....

(d) .....

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20. Outline **any four** measures that a firm should take to improve the performance of its labour force. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

21. List **four** reasons why distributors of goods would prefer to locate warehouse near it customers**.** **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

22. Highlight **four** benefits of globalisation to business enterprise. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

23. Kazi moto insured a motor vehicle against fire with MotoMoto company by paying Kshs.300.000. later the car was destroyed at a garage and a compensation of Kshs. 4,000 were paid. Using insurance terms, state what each of the following stand for**;** **(4 marks)**

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a) Kazi Moto

.....

b) Fire

.....

c) Kshs 300,000

.....

d) Moto Moto Company

.....

24. State **four** responsibilities of a business to its customers. **(4 marks)**

(a) .....

(b) .....

(c) .....

(d) .....

25. Show the effect of each of the following transaction to capital, assets and liabilities indicating if its increasing(+), decreasing(-) or nil (0**). (4 marks)**

Transaction	**Capital**	**Asset**	**Liability**
a) Converted private house into business premises			
b) Paid creditors in cash			
c) Sold a business car valued at sh 400,000 for sh 300,000 on credit			
d) Sold goods on credit			

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

565/2

BUSINESS STUDIES

PAPER 2

TIME: 2 ½ HOURS

INSTRUCTIONS

1. *Write your **NAME, SCHOOL** and **INDEX NUMBER** in the spaces provided.*
2. *Answer **ANY FIVE** questions provided in the spaces provided.*
3. *This paper consists of **6 questions***

FOR EXAMINERS USE ONLY

Questions	1	2	3	4	5	6
Mark						

TOTAL

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1. **(a)** Explain **five** factors that may lead to the success of a business enterprise.**(10 marks)**

(b) Spain and France are developed countries in Europe. Discuss **five** problems of using national income statistics to compare the living standards of their citizens.**(10 marks)**

2. **(a)** Explain **five** principles that would lead to effective operation of Jubilee insurance company. **(10 marks)**

(b) Explain **five** attributes of a good money material. **(10 marks)**

3. **(a)** Explain **five** differences of a public Limited company and a partnership.**(10 marks)**

(b) Explain **five** characteristics of economic resources. **(10 marks)**

4. **(a)** Describe **five** documents required to register a public limited company.**(10 marks)**

(b) On 1st June 2018, the following balances were in the books of Semenya Traders.

Cash sh 15,000 Bank CR 40,000

The following transactions occurred during the month.

Date 4 Omenga a debtor settled his account of sh 10,000 by a cheque of sh 8,000.

7 Deposited sh 4,000 into the business Bank account from the cash till

8 Paid rent by cash sh 4,000

14 Cash sales sh 14,000

17 Purchased furniture worth sh 3,000 paying by cheque

18 Settled Maina's account of sh 10,000 after being allowed a discount of 5% by cash

20 Received sh 6,000 cash from Nyori a debtor.

22 Kemboi a debtor settled his account of sh 4,000 by cheque having been allowed **a** discount of 2%.

25 Deposited sh 17,000 into the bank from private sources.

30 Banked all the cash.

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Required

Prepare a three column cash book duly balanced.

5. **(a)** Kenya Power is a monopoly in Power distribution in Kenya. Explain five sources from which it could have received its power. **(10 marks)**

(b) Explain **five** features of a good filing system. **(10 marks)**

6. **(a)** Advertising in the Newspapers is one way of promoting sales of goods. Highlight five limitations of advertising goods in Newspapers. **(10 marks)**

(b) The following trial balance relates to Kangogo traders as at 30th June 2018

Particular	Dr	Cr
Stock 1st July 2017	450,000	
Purchases	800,000	
Sales		1,200,000
Carriage Outwards	10,000	
Carriage Inwards	5,000	
Returns	30,000	20,000
Sundry Expenses	100,000	
Transport	20,000	
Stock 30th June 2018	550,000	
Capital		745,000
	1,965,000	**1,965,00**

Required:

Calculate;

(i) Rate of stock turnover **(3 marks)**

(ii) Rate of return on capital **(2 marks)**

(iii) Markup **(2 marks)**

(iv) Turnover **(1 mark)**

(v) Margin **(2 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN……..**

DATE……..

313/1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2 ½ HOURS

Instructions to candidates

(a) *Write your* ***name, index number*** *and the* ***name*** *of your school in the spaces provided above.*

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

(c) *This paper consists of* ***SIX*** *questions*

(d) *Answer any* ***FIVE*** *questions in this paper*

Question	1	2	3	4	5	6
Marks						

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QUESTIONS

Answer any FIVE questions in this paper

1. **(a)** Describe 7 teachings about human beings from the biblical creation accounts. **(7 marks)**

(b) Give f**ive** causes of the original sin from the book of Genesis. **(5 marks)**

(c) What are the consequences of breaking taboos in the traditional African society? **(8 marks)**

2. **(a)** Describe **four** ways in which the ordination of church leaders in Kenya is a covenant. **(8 marks)**

(b) Outline **six** moral teachings from the 10 commandments. **(6 marks)**

(c) Identify **seven** challenges Christians face while practicing their faith in Kenya today. **(7 marks)**

3. **(a)** Explain the significance of David as an ancestor of Jesus to Christians today. **(8marks)**

(b) Outline the roles of judges in Israel. **(6 marks)**

(c) State lessons Christians learn from the leadership of King Saul. **(6 marks)**

4. **(a)** Describe how the prophetic messages were written down. **(6 marks)**

(b) State the differences between Old Testaments prophets and traditional African prophets. **(8 marks)**

(c) Outline **five** methods religious leaders use today to spread the gospel. **(5 marks)**

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5. **(a)** Give **six** reasons why Jeremiah was not willing to accept the call of God to become a prophet. **(6 marks)**

(b) Explain four reasons why Nehemiah introduced the policy of separation of Jews from foreigners. **(8 marks)**

(c) Why do political leaders in Kenya today fail to perform their duties efficiently? **(6 marks)**

6. **(a)** What changes have taken place in the rite of initiation in Kenya today**?** **(8 marks)**

(b) Identify moral values taught to the youths during initiation to adulthood in traditional African communities. **(6 marks)**

(c) Give reasons why female circumcision is being discouraged in Kenya today **(6 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2 ½ HOURS

Instructions to candidates

(a) *Write your* ***name, index number*** *and the* ***name*** *of your school in the spaces provided above.*

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

(c) *This paper consists of* ***SIX*** *questions*

(d) *Answer any* ***FIVE*** *questions in this paper*

Question	1	2	3	4	5	6
Marks						

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QUESTIONS

*Answer any **FIVE** questions in this paper*

1. **(a)** With reference to the stories of the birth and infancy of Jesus, describe the occasions when the angel of the Lord appeared. **(8 marks)**

(b) Describe the visit of the angel of the Lord to the shepherds on the night Jesus was born **(7 marks)**

(c) State **five** ways in which Christians celebrate Christmas today. **(5 marks)**

2. **(a)** Describe **four** teachings of John the Baptist. **(8 marks)**

(b) Identify **five** teachings of Jesus about John the Baptist. **(5 marks)**

(c) Identify ways in which the church wins people for the kingdom. **(7 marks)**

3. **(a)** Describe the incident in which Jesus forgave the sinful woman in Luke 7:36-50. **(8 marks)**

(b) Give **six** reasons why Jesus chose the twelve Disciples. **(6 marks)**

(c) State ways in which Christians show their belief in God? **(6 marks)**

4. **(a)** Explain the unity of believers as expressed by the image of the bride. **(7 marks)**

(b) How was the life of Peter transformed on the day of Pentecost? **(6 marks)**

(c) What are the qualities of an evangelist in Kenya today? **(7 marks)**

5. **(a)** Discuss the Christian teachings on marriage. **(6 marks)**

(b) Explain the circumstances under which divorce may be allowed in Traditional

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African society. **(7 marks)**

(c) Identify **seven** ways through which Christians minimize conflict between parents and children today. **(7 marks)**

6 . **(a)** Discuss the importance of leisure in life of a Christian. **(7 marks)**

(b) Outline Christian criteria for evaluating the use of leisure. **(7 marks)**

(c) Give reasons why people abuse alcohol and other drugs. **(6 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

311/1

HISTORY AND GOVERNMENT

PAPER 1

TIME: 2 ½ HOURS

Instructions to candidates

(a) *Write your **name, index number** and the **name** of your school in the spaces provided above.*

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

(c) *This paper consists of THREE sections A, B and C*

(d) *Answer ALL questions in section A (25 marks)*

(e) *Answer any THREE questions in section B (45 marks)*

(f) *Answer any TWO questions in section C (30 marks)*

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SECTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	25	
B	45	
C	30	
TOTAL SCORE	100	

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SECTION A (25 MARKS)

Answer all the questions

1. Distinguish the term pre-history from history**.** **(2mks)**

2. Give two characteristics of historical event. **(2mks)**

3. Which is the main method historian use to obtain historical information about Kenyan communities.

(1mark)

4. In what two ways has the HIV/AIDS pandemic contributed to food shortages in Kenya.**(2mks)**

5. What was the main reason for the migration of the Eastern Bantu from Shugwaya during

Pre-colonial period**.** **(1mar**

6. Name the community classified as southern cushite in Kenya. **(1mk)**

7. Give the evidence that proofed that the Greeks were amongst the early visitors to the east African coast upto 1500. **(1mk)**

8. Give **two** reasons why Kenyan Communities fought against each other during the pre-colonial period. **(2 marks)**

9. Identify the **two** main items of trade from the interior of Kenya during the long distance Trade.

(2 marks)

10. Name one treaty that led to the abolition of slave trade in East Africa. **(1mark)**

11. Give the meaning of the term Human rights. **(1mark)**

12. Give one negative methods of conflict resolution. **(1mk)**

13. What constitutional amendment made Kenya return to a multi-party state? **(1 mark)**

14. Identify **two** economic benefits of the Kenya-Uganda railway during the colonial period. **(2 marks)**

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15. Stated two powers granted to the Imperial British East Africa Company through the royal charter of 1888. **(2mks)**

16. Give **two** ways through which the colonial government acquired land in Kenya during the Colonial period. **(2 marks)**

17. State **one** change introduced by the Lyttleton constitution of 1954 that benefitted the Africans in the struggle for independence. **(1 mark)**

SECTION B 45 Marks

Answer any three questions

18. a) Outline five features of the earliest people who occupied Kenya. **(5Marks)**

b) Describe the economic organization of the Akamba during the pre-colonial period. **(10mks)**

19. a) State five factors that facilitated the spread of Christianity in East Africa. **(5marks)**

b) Discuss five positive effects of slave trade on people of East Africa. **(10mks)**

20. a) Outline three social factors that contributed to the scramble and partition of East Africa**.** **(3mks)**

b) Discuss six factors that facilitated the establishment of the British control over Kenya during the 19th century**.** **(12mks)**

21. a) Give three reasons why the Bukusu resisted the British rule**.** **(3mks)**

b) Describe the structure of the colonial administration in Kenya. **(12mks)**

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SECTION C 30 Marks

Answer any two questions.

22. a) Outline five Key changes in the New Kenya Constitution 2010. **(5 mks)**

b) Describe five constitutional reforms agreed by Inter Party Parliamentary Group (IPPG to level the ground before the 1997 general elections. **(10mks)**

23. a) Outline three consumer rights that are entitled to citizens**.** **(3mks)**

b) Explain six factors that undermine national unity in Kenya. **(12mks)**

24. a) What are the qualifications of a voter in an electoral process in Kenya. **(5mks)**

b) Describe the role of the speaker of the national assembly. **(10mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

311/2

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

- *This paper consists of **three sections A, B,** and **C.***
- *Answer **all** questions in **section A**, **three** in **section B** and **two** in **section C**.*
- *All answers must be written in the answer booklet provided*
-

FOR EXAMINERS' USE ONLY

SECTION	SECTION A	SECTION B				SECTION C			TOTAL
QUESTIONS	1-17	18	19	20	21	22	23	24	
SCORE									

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SECTION A (25 MARKS)

Answer ALL questions in this section

1. Identify **two** chemical methods of dating fossils **(2 marks)**

2. State **two** features of a government. **(2 marks)**

3. Name **one** source of information on the creation theory. **(1 mark)**

4. Give **two** symbols of authority in pre-colonial Buganda Kingdom. **(2 marks)**

5. Name **two** participants of the Trans-Saharan trade apart from the Tuaregs. **(2 marks)**

6. Apart from scrolls, give one other material on which messages were written in ancient times. **(1 mark)**

7. Give **two** political effects of the Industrial Revolution in Europe. **(2 marks)**

8. Give **one** importance of the Odwira Festival in the ancient Kingdom of Asante. **(1 mark)**

9. Give **two** factors that determine the form of a constitution. **(2 marks)**

10. Mention **one** social factor that led to the African resistance during the colonial period. **(1 mark)**

11. State **one** undiplomatic method used by the Europeans to acquire colonies in Africa. **(1 mar**

12. Name the underground movement established by African National Congress to fight against apartheid system in South Africa. **(1 mark)**

13. State **two** functions of emirs in Northern Nigeria. **(2 marks)**

14. State the main reason why U.S.A. took a neutral stand at first during the First World War. **(1 mark)**

15. State the immediate incident that sparked off the Second World War **(1 mark)**

16. What is Veto power as adopted by United Nations Security Council? **(1 mark)**

17. Name **one** two political parties that fought for independence in Ghana **(1 mark)**

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SECTION B (45 MARKS)

Answer ANY THREE questions in this section

18. **(a)** Identify **five** factors that facilitated early agriculture in Mesopotamia. **(5 marks)**

(b) Explain **five** causes of food shortage in Africa today . **(10 marks)**

19 . **(a)** State **three** disadvantages of using coal as a source of energy. **(3 marks)**

(b) Explain **six** effects of scientific inventions on industry. **(12 marks)**

20. **(a)** State **three** factors that enabled Europeans to colonize Africa in the 19th Century. **(3 marks)**

(b) Explain ***six political effects*** of partitioning Africa. **(12 marks)**

21. **(a)** State ***five conditions*** that one had to fulfill in order to be fully assimilated in Senegal. **(5 marks)**

(b) Explain ***the effects*** of British Direct rule in Zimbabwe. **(10 marks)**

SECTION C (30 MARKS)

Answer ANY TWO questions in this section

22. **(a)** Give ***three parts*** into which the Asante kingdom was divided into **(3 marks)**

(b) Explain ***six aspects*** of the political organization of Shona kingdom during the pre-colonial period. **(12 marks)**

23. **(a)** Name any ***three treaties*** that formed the Treaty of Versailles. **(3 marks)**

b) Explain ***six reasons*** why the League of Nations failed to preserve world Peace and security **(12 marks)**

24 **(a)** Identify any ***three Pan- Africanists*** from Africa. **(3 marks)**

(b) Explain ***six achievements*** of Pan-Africanism. **(12 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

312/1

GEOGRAPHY

PAPER 1

TIME: 2 HRS 45MIN

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

1. *This paper **has two sections**.*
2. *Answer **all** the **questions** in **Section A**.*
3. *Answer **Question 6** and any other **Two** questions from **section B***
4. *All answers must be written in the answer booklet provided*

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QUESTIONS

1. **(a)** Define the term meteorite **(2 marks)**

(b) Give **three** reasons why in 360° Atlas, Pluto as a planet has been disqualified by the International Astronomical Union **(3 marks)**

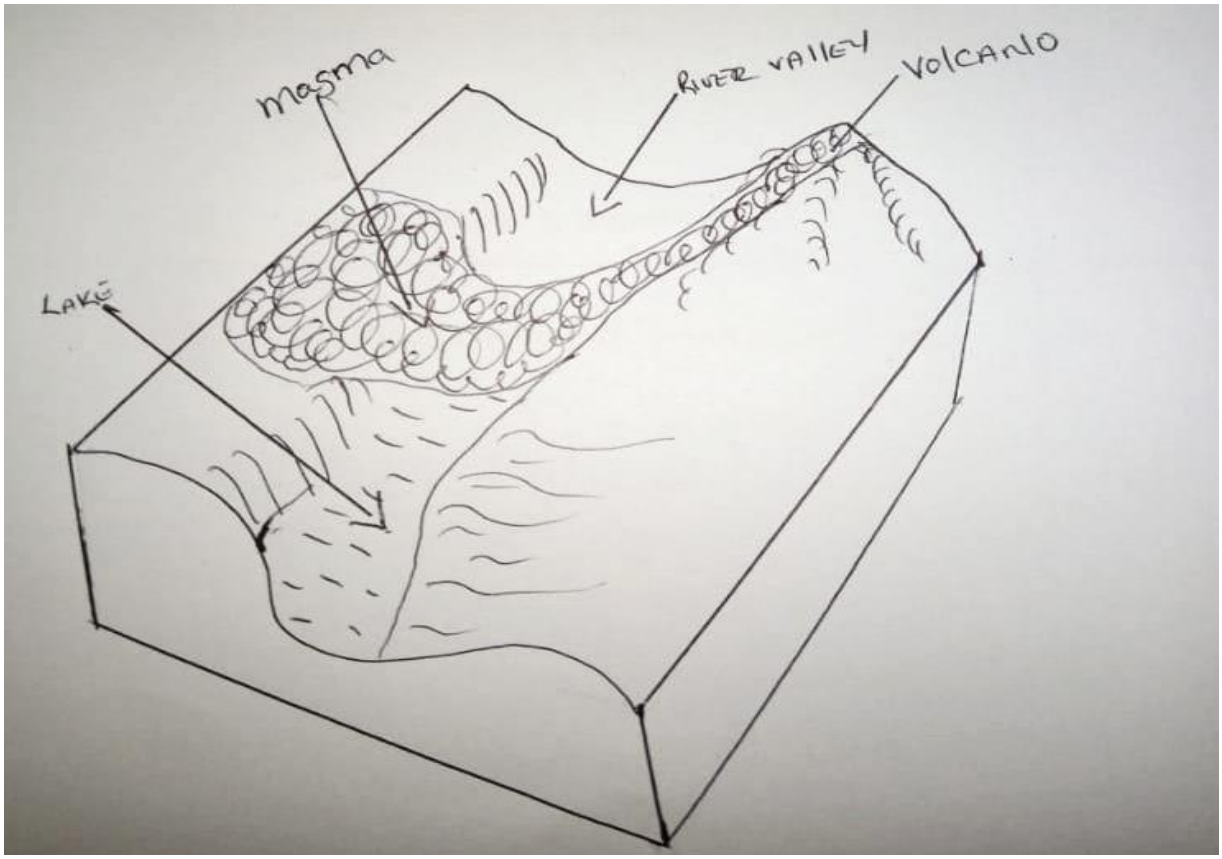
2. (a) Differentiate between cleavage and lustre in minerals **(2 marks)**

(b) Identify **three** types of iron ore **(3 marks)**

3. (a) Define the term Tsunami **(2 marks)**

(b) Name **three** types of earthquakes depending on the depth of focus **(3 marks**

4. The diagram below shows the formation of a lake.



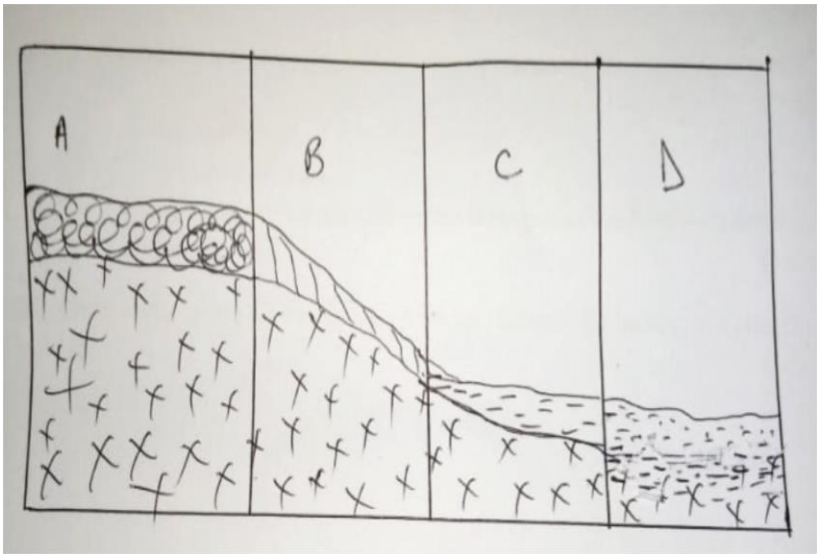
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(a) Identify the type of lake **(1mark)**

(b) State **two** characteristics of such a lake and give one example. **(3 marks)**

5. (a) Identify **two** soil forming processes. **(2 marks)**

(b) The diagram below shows soil arrangement.



(i) Identify the soil arrangement. **(1 mark)**

(ii) Describe the nature of the soil found in parts

B- **(1 mark)**

C- **(1 mark)**

D- **(1 mark)**

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6. Study the map of Kijabe 1:50,000 sheet 134/3

(a) (i) Give the vertical interval of the area covered by the map **(1 mark)**

(ii) Give the approximate height of the murrum pit at grid square 3297 **(1 mark)**

(iii) Identify **two** manmade features found at grid square 3495 **(2 marks)**

(b) (i) Using the Map scale, draw a rectangle to represent the area enclosed by easting 31 and 34, and Northing 91 and 98. **(1 mark)**

On the rectangle, mark and name the following:

(a) Forest **(1 mark)**

(b) Bridge **(1 mark)**

(c) Escarpment **(1 mark)**

(d) All weather bound surface road **(1 mark)**

(ii) What evidence in the Kijabe map shows that the area receives high amount of rainfall **(4 marks)**

(c) (i) Identify the activirties that take place as represented by the following features **(2 marks)**

(a) Murrum pit-

(b) Carbacid plant-

(ii) Citing evidence from the map explain **three** factors that favor dairy farming of kijabe area **(6 marks)**

(d) Citing evidence, explain **two** factors that have favored the location of a plantation in Kijabe **(4 marks)**

7. **(a)** (i) Define the term folding **(2 marks)**

(ii) What is an orogeny **(2 marks)**

(iii) Name two types of orogenies **(2 marks)**

(b) Describe how the plate tectonics theory contributes to the formation of Fold Mountains. **(4 marks)**

(c) (i) Identify **two** factors which influence folding of crustal rocks **(2 marks)**

(ii) Apart from fold mountains, name three other features formed by folding process **(3 marks)**

(iii) Using a well-labeled diagrams, describe the formation of fold mountains by the continental drift theory **(6 marks)**

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(d) **(i)** Your class carried out a field study on a fold mountain region.

(ii) Give **two** alternative hypotheses that you could have formulated for the study **(2 marks)**

(iii) Give **two** reasons the student must have put into consideration before rejecting observation as a method of data collection **(2 marks)**

8. **(a)** **(i)** Define the term karst scenery **(2 marks)**

(ii) Give **three** conditions that influence the development of a karst landscape **(3 marks)**

(b) Describe the formation of a limestone cave **(5 marks)**

(c) **(i)** give **four r**easons why there are few settlement in karst region **(4 marks)**

(d) **(i)** Explain **three** factors that favor existence of underground water **(6 marks)**

(ii) Give the significance of ground water **(5 marks)**

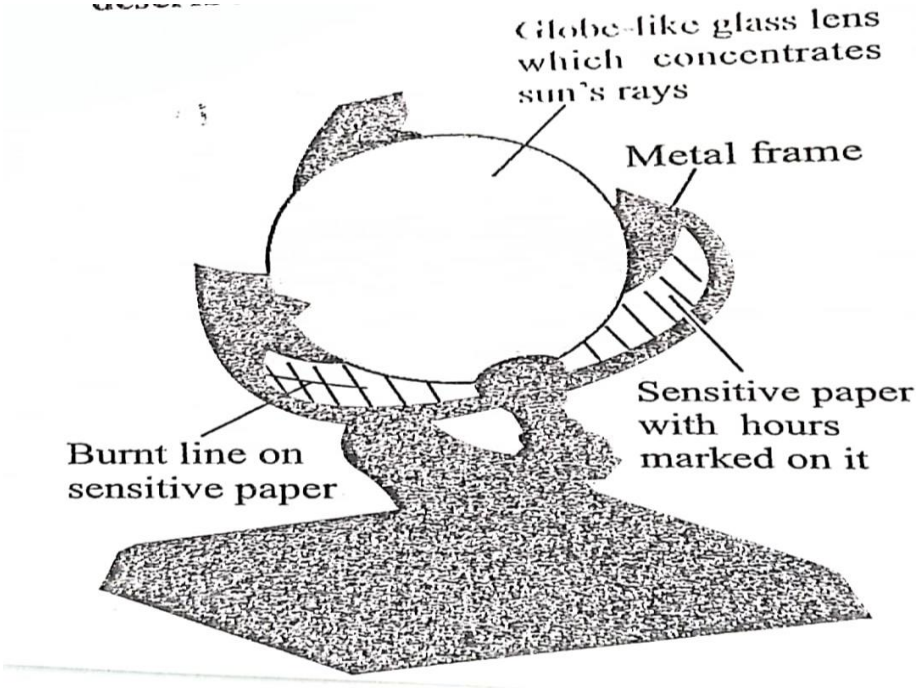
9. **(a)** **(i)** Define weather **(2 marks)**

(ii) Give three reasons why weather forecasting is important **(3 marks)**

(b) **(i)** Using a well-labeled diagram, describe the formation of convectional rainfall **(5 marks)**

(ii) Name the instrument shown below and describe how it is used **(5 marks)**

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(c) **(i)** Differentiate between mist and fog **(2 marks)**

(ii) Give **four** causes of temperature inversion **(2 marks)**

(iii) Your geography class carried out a field study on weather in a school weather station. Give **four** reasons why it would be difficult to obtain accurate data from school weather station. **(4 marks)**

10. **(a)** **(i)** Define the term glaciation. **(2 marks)**

(ii) Give **two** processes of glaciation movement **(2 marks)**

(b) Explain three factors that influence glacial erosion **(6 marks)**

(c) Describe the formation of cirque lake **(6 marks)**

d. **(i)** Apart from rock pedestal name two other erosion feature formed by wind in desert. **(2 marks)**

(ii) With well labeled diagrams describe the formation of a rock pedestal**. (7 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

312/2

GEOGRAPHY

PAPER 2

TIME: 2 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

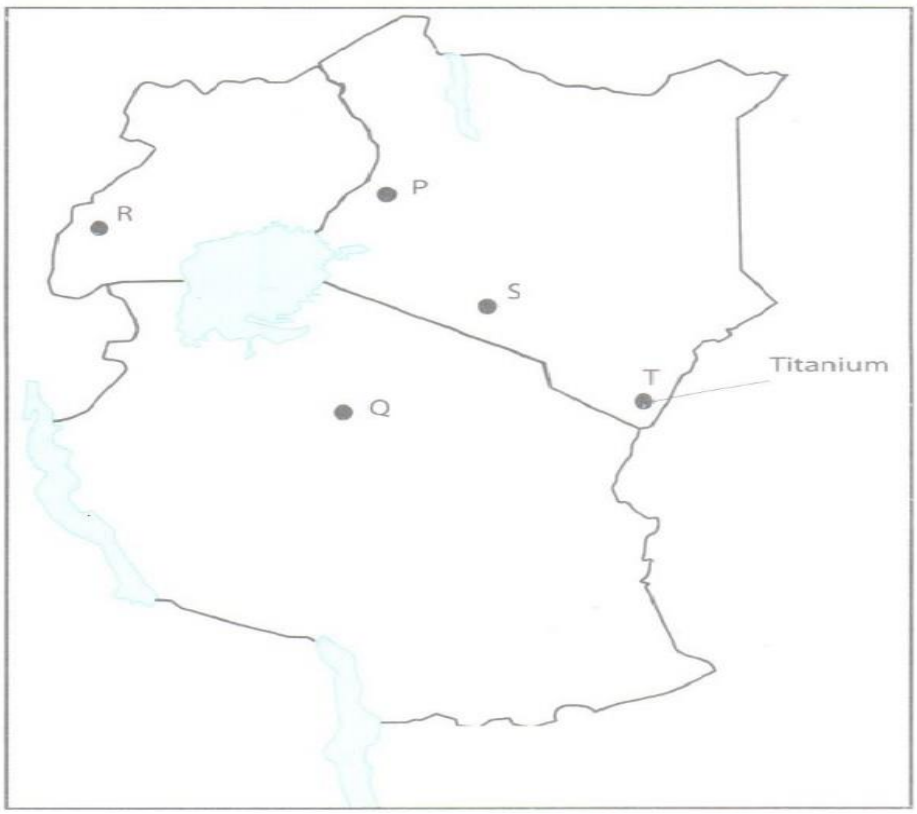
1. *This contains* ***two sections A and B.***
2. *Answer* ***ALL*** *questions in* ***section A.*** *In* ***section B*** *answer* ***question 6*** *and* ***two other questions.***
3. ***All answers must be written in the booklet provided.***

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SECTION A

Answer ALL Questions in This Section

Q1. Use the map of East Africa below to answer question 1.



(a) Name the minerals found in the areas labelled **P,Q,R,S** and **T.** **(5mks).**

Q

R

S

T

(b) Identify the method of mining for the minerals labelled **S** and **T** **(2mks)**

S

T

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2. (a) Define the term 'Forest management'. **(2 marks)**

(b) Explain **three** measures taken by the Kenya government to conserve forest. **(6 marks)**

3. Name **three** areas in Kenya where sugar cane is grown. **(3 marks)**

4. (a) Define the term fisheries. **(2 marks)**

(b) State **three** ways in which marine fisheries in Kenya can be conserved. **(3 marks)**

5 . Name **two** methods used in deep sea fishing. **(2 marks)**

SECTION B

6. Study the photograph below and use it to answer question (a) and (b).



(a) Identify the type of photograph above. **(1 marks)**

(b) (i) Identify the type of farming shown in the photograph . **(1 mark)**

(ii) Name **two** main areas in Kenya where the type of farming identified in (i) above is practiced. **(2 marks)**

(c) Explain **three** human factors that influence the type of farming in the photograph in the Kenya highlands. **(6 marks)**

(d) Explain **five** factors that favour horticulture in Kenya. **(10 marks)**

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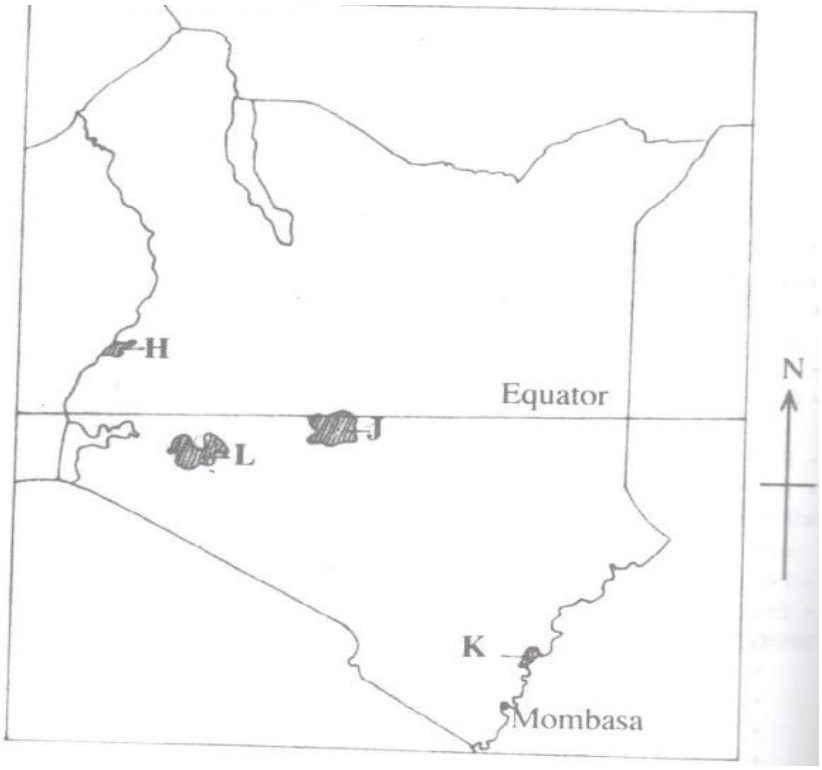
(e) (i) Name **two** areas where horticulture is practiced in The Netherlands. **(2 marks)**

(ii) Give **three** difference between horticulture in Kenya and the Netherlands. **(3 marks)**

7. (a) (i) What is agroforestry? **(2 marks)**

(ii) Give **four** reasons why agroforestry is encouraged in Kenya. **(4 marks)**

(b) Use the map of Kenya to answer questions (b) (i) and (ii).



(i) Name the forest reserves marked **H, J and K**. **(3 marks)**

H

J

K

(ii) Explain **four** factors that favour the growth of natural forests in the area marked L. **(8 marks)**

(c) Explain **four** problems facing forestry in Kenya. **(8 marks)**

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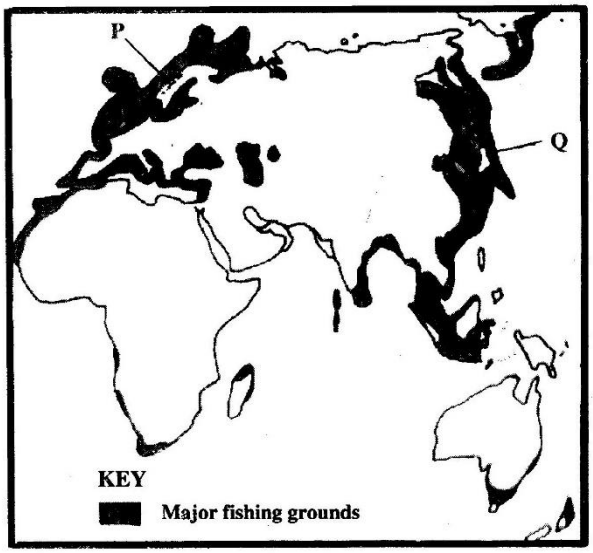
8. (a) Describe the stages in the reclamation of land from the sea in the Netherlands. **(6 marks)**

(b) Explain **four** benefits of land reclamation in Netherlands. **(8 marks)**

(c) (i) Explain **three** conditions that face irrigation farming in Kenya. **(6 marks)**

(ii) State **five** problems experienced in irrigation farming in Kenya. **(5 marks)**

9. The map below shows some major fishing grounds in the world. Use it to answer question (a).



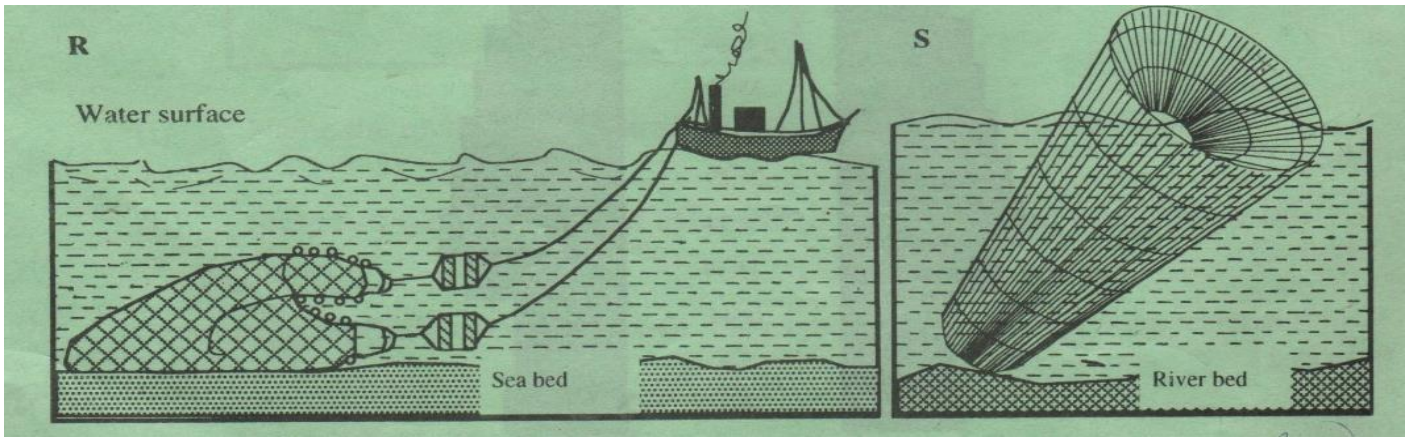
(a) (i) Name the countries marked **P** and **Q**. **(2 marks)**

P

Q

(ii) Explain **four** conditions that favour fishing in the shaded coastal waters. **(8 marks)**

(b) The diagram below represents some fishing methods.



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(i) Name methods **R** and **S**. **(2 marks)**

R

S

(ii) Describe how each of the two methods are used in fishing. **(7 marks)**

(c) Explain **three** measures used to conserve fish in Kenya. **(6 marks)**

10. (a) (i) Distinguish between a game sanctuary and a national park. **(2 marks)**

(ii) Draw a map of Kenya and on it mark and name Sibiloi National park, Maasai Game Reserve and Tsavo National park. **(4 marks)**

(b) (i) Give **three** factors that favour the establishment of the national Parks in the semi-arid areas of East Africa. **(3 marks)**

(ii) Explain **two** effects of drought on wildlife in Kenya. **(4 marks)**

(c) Explain **four** measures that the government of Kenya has taken to conserve wildlife other than establishing national parks and game reserves. **(8 marks)**

(d) State **four** ways in which wild animals are of significance to the economy of Kenya**.(4 mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

101/1

ENGLISH

PAPER 1

FUNCTIONAL SKILLS

TIME: 2 HOURS

Instructions to candidates

a) Write your name and index number in the spaces provided.
b) Sign and write the date of the examination.
c) Answer all the questions in this question paper
d) All your answers must be written in the spaces provided.
e) Candidates should answer all the questions in English.

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

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1. **FUNCTIONAL SKILLS (20MKS)**

This year your country experienced a severe famine caused by drought. A commission was set up to investigate ways of preventing a similar calamity in future. As secretary to the commission write the report.

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2. CLOZE TEST (10MKS)

Imagine that while walking along a road, you saw a large shiny bag sitting …….. (1) , unattended. You look around and there is no one else……..(2) would you do? Would you walk…….(3) from the bag as most cautious people would? Maybe your curiosity would get the ……(4) of your caution and the urge to know what the …….of the bag are might overwhelm you. If you looked into the bag and found it full of crisp new ……..(6) , would you make attempts to find…….(7) owner of the bag? Might you be tempted to keep the money …….(8)yourself? After all, there is always so much in our lives that we can buy or pay for. ……..(9) you choose to keep the bag, would you do so with a ……..(10) conscience, or would you forever be plagued by the idea that you kept money, which was not yours?

3. ORAL SKILLS: (30 MARKS)

a) Read the oral poem below and then answer the questions that follow: **(5 marks)**

He couldn't wait, eh!
For the child of my mother
To finish school

He begged, eh!
That man begged
He begged and begged

He couldn't wait, eh!
For the child of my mother
To dress up

Questions.

i) What makes this oral poem rhythmic? **(2mks)**

……

……

ii) Which word are you likely to stress in the second line of the first and last stanzas and why? **(2mks)**

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……

……

iii) How would you say the last line of the poem? **(1mk)**

……

……

b) Identify the word with the odd underlined sound from the following sets of words. **(5 marks)**

(i) P<u>oo</u>h	p<u>oo</u>p	p<u>oo</u>l	p<u>oo</u>r	……
(ii) Tort<u>oi</u>se	b<u>oy</u>	j<u>oi</u>n	pl<u>oy</u>	……
(iii) <u>Sc</u>uttle	<u>sc</u>ythe	<u>sc</u>ullery	<u>sc</u>ulpture	……
(iv) <u>G</u>ingivitis	gi<u>g</u>olo	<u>g</u>ist	<u>g</u>ender	……
(v) <u>Ca</u>nnibal	<u>ca</u>esura	<u>ca</u>lcium	<u>ca</u>chet	

c) Provide another word that is pronounced the same as the following words **(3 marks)**

(i) Not ……

(ii) Pain ……

(iii) key ……

d) Study the genre below and answer the questions that follow. **(6 marks)**

The short child shot a shot of his short white wash.

(i) Classify the genre. **(2 marks)**

……

……

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

……

……

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

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e) (i) You are invited as a motivational speaker to give a talk to a group of people. State three factors about the audience that you must consider before giving the speech. **(3 marks)**

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……

(ii) State three factors the listener ought to observe in order to gain from the speech **(3 marks)**

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iii) Two friends, Wepukhulu and Khaseve have a debate. Wepukhulu strongly feels that a man should marry more than one wife. Khaseve on the other hand argues that a man should only marry one wife. Advise them on five things they should do in order to disagree in an agreeable manner so that their conversation does not degenerate into a quarrel. **(5 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

101/2

ENGLISH

PAPER ONE

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

1. *Write your details in the spaces provided above.*
2. *Answer all the questions in this paper.*
3. *Answer the questions in English*

EXAMINER'S USE ONLY

QUESTION	MARKS	CANDIDATE'S SCORE
1	20	
2	25	
3	20	
4	20	
5	15	
TOTAL	**100**	

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1. COMPREHENSION

Read the passage below and answer the questions that follow

The process of developing social skills among children at an early age is important. Researchers have cited rejection by peers as the greatest challenge children face in their quest to build meaningful social skills. It has been reported that children who get bullied and snubbed by peers are more likely to have problems in relating with others. In recent times, researchers have found at least three factors in a child's behaviour that can lead to social rejection. The factors involve a child's inability to pick up on and respond to nonverbal cues from their pals. In the United states 10 to 13 percent of school-going children experience some form of rejection by their peers. In addition to causing mental health problems, bullying and social isolation can increase the likelihood of a child getting poor grades, dropping out of school,, or developing substance abuse problems.

It is reported that the social skills that children gain on the playground or elsewhere could show up later in life, according to Richard Lavoie, an expert in child social behaviour. He says that children experiment with the relationship styles they will have as adults during unstructured playtime-when children interact without the guidance of an **authority figure.** Researchers say that the number-one need of any human is to be liked by other humans. However, researchers have expressed concern that our children are like strangers in their own land. They don't understand the basic rules of social behaviour and their mistakes are usually unintentional.

Children who face rejection may have problems in at least one of three different areas of nonverbal communication, which is the reason they are rejected. These are reading nonverbal cues; understanding their social meaning; and coming up with options for resolving a social conflict. A child, for example, simply my not notice a person's scowl of impatience or understand what a tapped foot means. In another situation, a child may have trouble reconciling the desires of a friend with her own. Anyone trying to help children on their social skills should try to pinpoint the weaknesses a child has and then build those up.

When children have prolonged struggles with socializing, "a vicious cycle begins," children who are **shunned** by others have few opportunities to practice social skills whereas popular children have more

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than enough opportunities to perfect theirs. However, having just one or two friends can be enough to give a child the social practice he or she need.

Parents, teachers and other adults in a child's life can help, too. Instead of reacting with anger or embarrassment to a child who, say, asks Aunt Vera if her new hairdo was a mistake, parents should teach social skills with the same tone they use for teaching numeracy skills or proper hygiene.If presented as a learning opportunity, rather than a punishment, children usually appreciate the lesson. It is important to note that most children are so desperate to have friends that they **just jump on board.**

To teach social skills, Lavoie advises a five-step approach in his book. The process works for children with or without learning disabilities and is best conducted immediately after a wrongdoing has been made. First, ask the child what happened and listen without judgment. Second, ask the child to identify their mistake. Often children only know that someone got upset, but don't understand their own role in the outcome. Third, help the child identify the cue they missed or mistake they made, by asking something like: "How would you feel if Emma was hogging the tyre swing?" Instead of lecturing with the word "should," offer options the child "could" have taken in the moment, such as "You could have asked Emma to join you or told her you would give her the swing after your turn. "Fourth, you can create an imaginary but similar scenario where the child can make the right choice. For example, you could say, "If you were playing with a shovel in the sand box and Aiden wanted to use it, what would you do?" Lastly, give the child" social homework" by asking him to practice this new skill, saying: "Now that you know the importance of sharing, I want to hear about something you share tomorrow."

(Adapted from livescience.com-Tue Feb 2, 2010)

Questions

a) In one sentence, explain what this passage is talking about? **(2mks)**

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b) What is the number one need of any human being? **(1mk)**

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c) What are cited as the causes for social rejection according to the passage **(2mks)**

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d) What is social rejection likely to lead to **(2mks)**

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e) What vicious cycle is referred to in this passage **(2mks)**

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f) How can a parent make children appreciate the lesson on social skills? **(2mks)**

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g) "How would you feel if Emma was hogging the tyre swing?" Re-write in reported speech.

(1mk)

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h) Make notes on the five-step approach to teach children social skills **(5mks)**

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i) Explain the meanings of the following words and phrases as used in the passage (3mks)

i. Authority figure

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ii. Shunned

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……

iii. Jump on board

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2. ***Read the excerpt below and answer the questions that follow*** **(25mks)**

A Doll's House:

Krogstad: (Controlling himself) Listen to me, Mrs. Helmer. If necessary, I am prepared to fight for my small post in the Bank as if I were fighting for my life.

Nora: So it seems

Krogstad: It is not only for the sake of the money; indeed, that weighs least with me in the matter. There is another reason-well, I may we well tell you. My position is this. I daresay you know, like everybody else, that once, many years ago, I was guilty of an indiscretion.

Nora: I think I have heard something of the kind.

Krogstad: The matter never came into court; but every way seemed to be closed to me after that. So I took to the business that you know of. I had to do something; and, honestly, I don't think I've been one of the worst. But now I must cut myself free from all that. My sons are growing up; for their sake I must try and win back as much respect as I can in the town. This post in the Bank was like the first step up for me – and now your husband is going to kick me downstairs again into the mud.

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Nora: But you must believe me, Mr. Krogstad; it is not in my power to help you at all.

Krogstad: Then it is because you haven't the will; but I have means to compel you.

Nora: You don't mean that you will tell my husband that I owe you money?

Krogstad: Hm! – suppose I were to tell him?

Nora: I would be perfectly infamous of you. *(Sobbing)* To think of his learning my secret, which has been my joy and pride, in such an ugly, clumsy way – that he should learn it from you! And it would out me in a horribly disagreeable position-

Krogstad: Only disagreeable?

Nora: *(Impetuously)* well, do it, then! – and it will be the worse for you. My husband will see for himself what a blackguard you are, and you certainly won't keep your post them.

Krogstad: I asked you if it was only a disagreeable scene at home that you were afraid of?

Nora: If my husband does get to know of it, of course he will at once pay you what is still owing, and we shall have nothing more to do with you.

Krogstad: *(Coming a step nearer)*Listen to me, MrsHelmwe. Either you have a very bad memory or you know very little of business. I shall be obliged to remind you of a few details.

Questions

a) What happens just before this excerpt? **(2mks)**

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b) Identify and illustrate any two themes evident in the excerpt. **(4mks)**

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c) Using about fifty words, summarise why Krogstad is prepared to fight for the small post in the bank **(5mks)**

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d) Identify and illustrate any two character traits of; **(4mks)**

i. Krogstad

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ii. Nora

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e) Identify and illustrate any two stylistic devices used in the excerpt. **(4mks)**

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f) Explain the meaning of the following words as used in the extract **(2mks)**

i. Compel

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ii. Blackguard

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……..

g) "I shall be obliged to remind you of a few details". Which are those details? **(4mks)**

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3. ***Read the following narrative then answer the questions that follow*** **(20mks)**

Once upon a time Hare and Hyena were very good friends. They visited each other every day and herded their cows together.

There came a time when the cows started dying one after the other. The two friends wanted to find out why the cows were dying. Hare said, 'Let us go and kill our mothers and take out their livers. We shall then cook and taste these livers. The bitter liver will show whose mother was making the cows die. At once Hyena went and killed his mother. He took out the liver and cooked it. Hare went and hid his mother in the garden in bushy banana plants. He then went and killed an antelope, took out its liver and cooked it.

The two friends met to eat their livers. "My liver is very bitter", said the Hyena. "Mine is very sweet," said Hare, "So it was your mother who was making the cows die." Hyena kept quiet and went home feeling sad. He moved from the old house to a smaller one because now he had no mother. Hare did the same

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After a short time, there was great famine in the land. The two friends decided that each of them was to look for food on alternate days sharing, on an equal basis what was available. When it was Hyena's turn, he went and found only honeycombs without any honey. When Hyenabrought these, Hare refused this because he had secretly gone to his mother who had given him some bananas. This went on for many days, and Hyena grew thinner and thinner. Then he started wondering. "How does my friend remain fat and he doesn't eat anything. I will find out."

One day he followed Hare. Hare went to his mother as usual. 'Mother, mother, I have come' and the mother dropped some bananas which Hare ate quickly. He then looked for some honeycombs and took them to the friend. "This is all I could find my friend." The Hyena kept quiet. The next day he went to the banana plant and called. His voice however was very deep and no bananas were dropped for him.

There was an old hyenawho was staying at the end of the forest and used to give advice to people. So Hare's friend went to her and told her his problem. "Go and put your tongue on the path of black ants," He was told, "Let them bite your tongue until it hurts. That's how your voice will be soft."

Hyena went and did as he was told. When he went to Hare's mother his voice was as soft as Hare's. "Mother, mother I have come." And Hare's mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she screamed but there was nobody near to help. Hyena killed her immediately.

Hyena went and met Hare as usual saying nothing about Hare's mother. The following day it was Hare's. "Mother, mother I have come.' And Hare's mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she screamed but there was nobody near to help. Hyena killed her immediately.

Hyena went and met Hare as usual saying nothing about Hare's mother. The following day it was Hare's turn. He went to his usual place. "Mother" he called again. He climbed up. There was nobody. Having seen some blood on the ground, Hare knew what had happened to his mother.

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When Hare got back to Hyena's house, he said nothing. At night, Hare took all cows including Hyena's and went away to live in another part of the country. That ended the Hare and Hyena's friendship. And that is the end of my story to you.

Questions

a) With illustrations, classify the above narrative **(2mks)**

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b) Identify three features of narratives **(3mks)**

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c) Identify three features in this story that are characteristics of oral narratives **(3mks)**

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d) Briefly explain the character traits of the following **(4mks)**

i. Hare

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……

ii. Hyena

……

……

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e) What moral lesson do you learn from this story? **(2mks)**

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f) Identify two socio-economic activities from the community in which the narrative is taken from. **(2mks)**

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g) You have been selected for a fieldwork research to collect the above item.

i. Briefly explain two ways in which you would collect information on the item. **(2mks)**

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ii. Identify two challenges you might encounter during the field work and state how you would solve them. **(2mks)**

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h) Then he started wondering "How does my friend remain fat and he doesn't eat anything. I will find out". (Re-write into indirect speech) **(1mk)**

……

……

……

i) Describe the irony in the fifth paragraph **(2mks)**

……

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4. GRAMMAR (15MKS)

a) ***Rewrite the following sentences according to the instructions given*** **(3mks)**

i. He will not be given a driving license. He passes the road test (Rewrite as one using 'unless')

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……

……

ii. The woman left the child with a neighbor and went to the market. (Begin: leaving….)

……

……

……

iii. The boys went to play in the field (underline the adverbial)

……

……

……

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b) ***Supply the correct preposition to complete the sentences given.*** **(3mks)**

i. Property worth millions of shillings went up …….flames.

ii. The three boys shared the bread ……..themselves.

iii. We should strive to live ……our means.

c) ***Use the correct form of the word in brackets to fill in the blank spaces in the sentences*** **(3mks)**

i. The audience was offended by the ……..……..(sense) of the speaker.

ii. The ……..(acquire) of a university degree is a great milestone to a student.

iii. Everyone should obey the law ……of their position in the society.

d) Use the correct alternative to complete the sentences below **(4mks)**

i. Teaching ……(practice/practice) is not an easy job for teacher-trainees.

ii. The prophet's …….(prophesy/prophecy) was misleading to his audience.

iii. He …….((insured/ensured) his car with Madison.

iv. Mwita ……..(hanged/hung) the chart on the wall.

e) Write the following sentences in indirect speech **(1mk)**

"These are juicy mangoes," Ken said.

……

……

……

f) You do not require to cheat to pass **(1mk)**

(Supply a suitable question tag).

……

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

101/3

ENGLISH

Paper 3

(Creative compositions and essays based on set texts)

Time: 2 ½ Hours

Instructions to candidates

1. *Answer **three questions only** on the answer sheets provided*
2. *question **one** and **two** are compulsory*
3. *In question **three,** choose only **one** of the optional texts which you have prepared on.*
4. *Each of your essays **must not** exceed 450 words*
5. *Your answers must be written in English*
6. *Where the candidate presents work on more than one optional texts, only the first one to*

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QUESTIONS

1. IMAGINATIVE COMPOSITION (COMPULSORY) **(20 MARKS)**

a) Write a composition ending with the words:

From that day, I learnt never to trust anybody.

OR

b) Write a story to illustrate the saying

Pride comes before a fall.

1. COMPULSORY SET TEXT (*Blossoms of the Savannah*) (**20 MARKS)**.

Our greatest enemies are those close to us; support this statement with illustrations from the text.

2. OPTIONAL SET TEXTS (20 MARKS)

EITHER

a) **The short story:** *Memories we lost and other stories*

Using adequate illustrations from the story 'Almost Home' by Barvy Mc kinley, write an essay with the title 'The Challenges of illegal Immigration,'

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OR

b) **The Novel:** ***The Pearl*** **–** John Steinbeck

'Great expectations make frustrated men'. Using illustrations from the novel, write an essay supporting this statement.

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

102/1

KISWAHILI

INSHA.

MUDA: SAA 1¾

MAAGIZO

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

b) *Kisha chagua insha moja nyingine kutoka kwa hizo tatu zilizobakia.*

c) *Kila insha isipungue maneno 400.*

d) *Kila insha ina alama 20.*

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1.lazima

1. Siku za hivi karibuni umesoma riwaya mpya iliyoandikwa na Msanifu Kombo inayoitwa : Afrika imelaaniwa. Andika tahakiki ya riwaya hii.

2.Hatua ya serikali kuu kumpa kila mwanafunzi wa darasa la kwanza tarakilishi ni manufaa sana. Jadili

3.Andika kisa kitakachodihirisha ukweli wa methali ifuatayo:

Ukiona cha mwenzako kikinyolewa na chako tia maji

4.Andika insha itakayomalizikia kwa kauli hii: Ama kweli sikufikiria wala kutegemea kuwa aushi yangu ingebadilika jinsi hiyo.

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

102/2

KISWAHILI

Lugha

MUDA:SAA 2 ½

MAAGIZO:

a) *Jibu maswali yote.*

b) *Andika majibu yote katika nafasi zilizoachwa.*

c) *Karatasi hii ina alama 80.*

d) *Hakikisha kurasa zote zimepigwa chapa.*

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1.UFAHAMU (Alama 15)

Soma taarifa ifuatayo kisha ujibu maswali.

Mwanamke wa kisasa anazaliwa na kukulia katika mazingira yaliyobadilika mno. Matazamio yake maishani ni tofauti na yale ya wanawake walioishi mapote mawili yaliyopita; wanawake makamu ya nyanyake na mamake mkuu.

Yeye hutarajia kuzaliwa, kukua, kuolewa, kuwa mke wa bwana, kumzalia watoto na daima dawamu kuwa **'mwendani wa jikoni'** akawapikia watoto na bwanake chakula; na akitoka jikoni aelekee shambani kulima, kichakani kuchanja kuni, mtoni kufua nguo na kuteka maji ya kutumia nyumbani. Mwanamke wa kisasa huandamana na mwanamume. Akanyagapo **mume naye papo huutia wayo wake.**

Mwanamke wa kisasa huenda shule na kujifunza yote yafunzwayo huko. Hushindana na wanawake kwa wanaume na kuibuka mshindi si mara haba. Huibuka mshindi katika masomo ya lugha, Historia, Jiografia, Hesabu, Sayansi na mengineyo, sawa na mwanamume.

Mwanamke wa kisasa hutaka kufanya kazi za kibega, akazifanya. Akataka kuwa mwalimu, akawa.Akataka kuwa daktari, akafanikiwa.Almuradi, siku hizi mwanamke hufanya kazi yoyote ile afanyayo mwanamume. Kuna wanawake marubani wa ndege, masonara, waashi, wahandisi, madereva wa magari, mawakili mahakimu, mawaziri wakuu na hata marais wa nchi Hakuna kazi isiyofanywa na mwanamke siku hizi.

Mwanamke wa kisasa **hateswi akafyata ulimi.** Anapohiniwa yeye hupigania haki yake kwa dhati na hamasa. Katu hakubali 'mahali pake' katika jamii alipotengewa na wanaume wenye **mawazo ya kihafidhina** yaliyopitwa na wakati.

Siku hizi mwanamke huolewa tu wakati amepata kazi ya kumwezesha kujikimu maishani au pale anapokuwa na hakika kwamba biashara yake iwapo ni mfanyi biashara, imepiga hatua ya kutomrudisha **ukatani.**

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Mwanamke wa kisasa haamuliwi katika jambo, lolote, bali hufanya maamuzi yake mwenyewe. Kwa upande mwingine, mwanamume wa 'kisasa', ambaye bado amefungwa pingu na taasubi za kiume, hapendezwi na mwanamke huyu. Huuma kidole akatamani ya kale, lakini wapi! Analazimika kumkubali mwanamke huyu kama mshiriki sawa maishani, na kuishi naye, apende asipende. Shingo upande analazimika kukubali kwamba mabadiliko haya sio mithili ya kiwingu kipitacho, bali ni ya **aushi.**

Maswali

a) i) Msemo 'mwendani wa jikoni' unadhihirisha hali gani ya mwanamke katika jamii?**(al1)**

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ii) Thibitisha hali uliyotaja hapo juu kwa kutoa hoja nne. **(alama 2)**

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b) Mwandishi ana maana gani anaposema 'akanyagapo mume naye papo huutia wayo wake' **(alama 1)**

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c) Tofautisha mwanamke wa kiasili na wa kisasa ukizingatia maswala ya ndoa na elimu. **(alama 4)**

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d) Eleza hoja sita zinazoonyesha kuwa wanaume wana ‘mawazo ya kihafidhina’ dhidi ya mwanamke. **(alama3)**

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e) Fafanua athari zinazotokana na mabadiliko ya mwanamke wa kisasa katika jamii kulingana na mwandishi. **(alama2)**

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f) Eleza maana ya maneno yafuatayo kama yalivyotumika katika taarifa. **(alama 2)**

i. Ukatani

……..

ii. Aushi

……..

2. UFUPISHO (ALAMA 15)

Soma kifungu kifauatacho kisha ujibu maswali.

Mifuko ni muhimu sana katika maisha ya binadamu ya kila siku. Baadhi ya mifuko huundwa kwa namna ambayo inadumu na inaweza kutumiwa mara kadha wa kadha. Hii huweza kuhifadhiwa na kutumiwa kwa kipindi kirefu. Asilimia kubwa ya mifuko ya aina hii hutengenezwa kutokana na nguo au ngozi. Hata hivyo, ipo mifuko mingine ambayo si ya uashi, haidumu. Hii ni mifuko myepesi, rahisi kubebeka na inayopatikana kwa wingi sana. Hii ni mifuko ya plastiki.

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Mifuko ya plastiki hupatikana katika maeneo mengi sana. Mifuko hii sio ghali inapolinganishwa na ile ya nguo au ya ngozi. Hii ni ya gharama ya chni na hupendwa kutokana na wepesi wake. Hata hivyo, mifuko hii inaweza kuwa chanzo cha matatizo mengi. Matatizo haya hutokana na linalopasa kufanywa kuhusu mifuko hii baada ya kutumiwa kwake. Mifuko ya nguo ambayo inatupwa kwenye jalala huishia kuoza na kuwa sehemu ya uchafu wa jalala hilo. Kwa upande wake, mifuko huo. Hata inapofukiwa arthini haiwezi kuoza hata kama kufukiwa huko ni kwa miaka mingi. Aidha hata pale inapochomwa, haiwezi kuteketea hadi kuwa jivu kama ilivyomifuko ya karatasi.

Upo umuhimu mkubwa wa kuwepo kwa sera madhaubuti za kupambana na tatizo la mifuko hii. lazima zitungwe sheria ambazo zinakabiliana na uchafuzi wa mazingira kwa njia hii. kwa njia hii hatari zianzowakabili watu na wanyama zitapunguzwa kwa kiasi kikubwa. Kwa hakika njia mojawapo ambayo ingeweza kutumiwa ni kuharamisha matumizi ya mifuko hii katika upakiaji. Sheria zinaweza kupitishwa ambazo zinahimiza matumizi ya mifuko mbadala kama ile ya karatasi kubebea vitu vidogo Fauka ya hayo, pana haja ya kuwazia kuwepo kwa njia nzuri kuteketezea mifuko hiyo. Inawezekana kuhimiza watumiaji kuirejesha mifuko hiyo mahali Fulani kwa ajili ya uteketezaji huo. Hata hivyo, hali hii huenda ikawa ngumu kwa kuwa inahitaji nidhamu ya hali ya juu sana kwa upand ewa watumiaji.

(a) Fupisha ujumbe wa aya tatu za mwanzo kwa maneno 105 – 110. **(alama 10, 1 utiririko)**

Matayarisho

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Nakala safi

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(b) Eleza mawazo makuu yanayojitokeza katika aya ya mwisho **(maneno 50 – 55) (alama 5, 1 utiririko)**

Matayarisho

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Nakala safi

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3. SARUFI NA MATUMIZI YA LUGHA **(Alama 40)**

a) Taja sauti mbili zinazotamkiwa kwenye kaakaa laini **(alama 1)**

……

b) Eleza tofauti za sentensi zifuatazo **(alama 2)**

i) Amerudi shuleni!

……

ii) Amerudi shuleni.

……

c) Tambua aina za maneno yaliyopigiwa mstari.

i) Afisa mkuu anafuata sharia <u>sembuse</u> wewe. **(alama 1)**

……

……

ii) Ameenda huko mbali <u>sokoni</u> **(alama 1)**

……

……

d) Tambua aina ya vihusishi katika sentensi zifuatazo

i) Jumba alifuatalo li mbele ya msikiti wa Musa (alama 1)

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ii) Kisiwa cha Ginigi kimekauka **(alama 1)**

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e) Tambua hali katika sentensi ifuatayo.

Vyungu vya aina hii vyafinyangwa na huyu. **(alama 1)**

……

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f) Toa maana mbili za neno lifuatalo **(alama 2)**

Somo

……

……

g) Kanusha

Mama alimwambia sipo alime haraka **(alama 1)**

……

Nyambua vitenzi vifuatavyo katika kauli zilizowekwa katika mabano

i) Lia (Kutendeshwa) **(alama 1)**

……

ii) -Ja (Kutendea) **(alama 1)**

……

h) Andika katika hali ya wastani umoja

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Kigombe kile kiliumia kikwato **(alama 2)**

……

……

i) Akifisha sentensi ifuatayo.

Je kuna manusura wowote yeye alitaka kujua. **(alama 2)**

……

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j)

i) Eleza maana ya kirai **(alama 1)**

……

……

ii) Onyesha aina ya virai katika sentensi ifuatayo.

Nilimpata akilalama ndani ya darasa **(alama 2)**

……

……

k) Andika sentensi ifuatayo katika usemi halisi.

Mwelekezi wake alimwambia kuwa angeweza kuwa mwindaji mashuhuri ikiwa angeyafuata mashauri yake. **(alama 2)**

……

……

l) Changanua sentensi ifuatayo kwa kutumia mishale.

Mtoto mmoja aliyekuwa mgonjwa sana alitibiwa jana. **(alama 4)**

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m) Andika sentensi hii upya bila kubadilisha maana ukitumia "o" rejeshi

Mwanafunzi alitumwa nyumbani juzi na hajapata karo hadi leo **(alama 1)**

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n) Ainisha shamirisho na chagizo katika sentensi ifuatayo

Wachimba migodi wanafanya kazi haraka ipasavyo. **(alama 2)**

……

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o) Tumia kivumishi kimilikishi nafsi ya pili wingi katika sentensi **(alama 2)**

……

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p) Onyesha viambishi katika fungutenzi hili **(alama 2)**

Sajilika

……

……

q) Eleza matumizi ya "na" katika sentensi ifuatayo. **(alama 2)**

Ndovu aliuawa <u>na</u> wawindaji haramu <u>na</u>mi nikawaripoti

……

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……

r) Unda nomino kutokana na vitenzi vifuatavyo (alama 2)

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i) Takrimu

……

……

ii) Sakini

……

……

s) Weka vitenzi hivi katika hali ya kuamrisha kulingana na maelezo katika mabano**(alama 2)**

i) -nywa (umoja)

……

……

ii) Tubu (wingi)

……

……

t) Weka neno lifuatalo katika ngeli mwafaka **(alama 1)**

Nyasi

…

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4. ISIMU JAMII (ALAMAMA 10)

Eleza sababu za vijana kutumia lugha ya sheng’ **(alama 10)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

102/3

KISWAHILI

KARATASI YA 3

FASIHI

MUDA: Saa 2 ½

MAAGIZO

a) *Jibu maswali manne pekee*

b) *Swali la kwanza ni la lazima*

c) *Maswali hayo mengine yachaguliwe kutoka sehemu zilizobaki; yaani B,C,D au E*

d) *Usijibu maswali mawili kutoka sehemu moja.*

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SEHEMU A

LAZIMA -RIWAYA

CHOZI LA HERI- A. MATEI

1. "Riwaya ya Chozi la Heri inaakisi uozo uliomo katika Jamii nyingi barani Afrika" Thibitisha kauli hii kwa kurenjerea Riwaya **(al 20)**

SEHEMU B

TAMTHILIA KIGOGO (P. KEA)

2. "Do ! Do ! Simameni ! Simameni! leo kutanyesha mawe ! "

i. Eleza muktadha wa dondoo hili **(al 4)**

ii. Fafanua mbinu za lugha zilizotumika katika dondoo hili **(al 4)**

iii. Huku ukitoa mifano jadili hoja sita zinazodhihirisha jinsi mwanamke alivyosawiriwa katika Tamthilia ya kigogo **(al 12)**

AU

3. Kwa kuirejerea Tamthilia ya Kigogo eleza jinsi mwandishi alivyotumia mbinu ya Majazi **(al 20)**

SEHEMU C

HADITHI FUPI

TUMBO LISILOSHIBA NA HADITHI NYINGINE

(A.Chokoko na D.Kayanda)

4. "Kwetu tunapigania mikono ielekee vinywani. Mzoea vya sahani, vya vigae haviwezii"

a) Eleza muktadha wa dondoo hili **(al 4)**

b) Tambua tamathali mbili za usemi zinazojitokeza katika dondoo hili **(al 2)**

c) Fafanua sifa nne za msemaji **(al 4)**

d) Jadili maudhui ya utabaka ukirejerea hadithi husika **(al 10)**

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AU

5. Jadili maudhui ya usaliti katika hadithi;

a) Mapenzi ya kifaraurongo **(al 10)**

b) Mame Bakari **(al 10)**

SEHEMU YA D

USHAIRI

6. ***Soma shairi lifuatalo kisha uyajibu maswali.***

Mungu naomba subira, subira nayo imani
Imani iliyo bora, bora hapa duniani
Duniani mwa kombora, kombora nayo hiani
Hiani pamwe ukora wenye kuhini.

Kuhini kwenye kiburi, kiburi na ufidhulu
Ufidhuli wa kudhuri, kudhuri wangu muwili
Muwili hata kidari, kidari kuwa thakili
Thakili kisinawiri, kisinawiri misuli.

Misuli kuwa hafifu, hafifu kama muwele
Muwele wa hitilafu, hitilafi ya nduwele
Nduwele kutakilifu, kutakilifu milele
Milele kutoniafu, kutoniafu na vishale.

Vishale vinitomele, vitomele vikwato
Vikwato pia maole, maole kufanya mito
Mito ya matozi tele, tele mithili kitoto
Kitoto kilo vipele, vipele vyenye fiakuto.

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Fukuto lanipa neno, neno hili kutamka
Kutamka wazi vino, vino subira kutaka
Kutaka imani mno, mno n'sipate wahaka
Wahaka wa matukano, matukano na mashaka.

Mashaka haya ya leo, leo yawe yarnepita
Yaniepita na vilio, vilia vipishe nyota
Nyota njema ingarao, ing'arao kunikita
Kunikita salamani, salamani nikadata.

a) Kwa nini nafsi neni inaomba subira na amani ? **(alama 2)**

b) Shairi hili ni la Bahari gani kwa kuzingatia : **(alama 4)**

i) Mpangilio wa maneno

ii) Mpangilio wa vina

c) Kwa kutokea mifano eleza mbinu mbili za lugha zilizotumika katika shairi. **(alama 4)**

d) Andika ubeti wa tatu kwa lugha nathari. **(alama 4)**

e) Kwa kutolea mifano, eleza jinzi uhuru wa kishairi ulivyotumiwa kutekeleza arudhi. **(alama 6)**

AU

7. **Soma shairi lifuatalo kisha ujibu maswali.** **(alama 20)**

Barabara.
Barabara bado ni ndefu
Nami tayari nimechoka tiki
Natamani kuketi
Ninyooshe misuli
Nitulize akili

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Lakini

Azma yanisukuma
Mbele ikinihimiza kuendelea
Baada ya miinuko na kuruba
Sasa naona unyoofu wake
Unyoofu ambao unatisha zaidi.

Punde natumbukia katika shimo
Nahitaji siha zaidi ili kupanda tena
Ghafla nakumbuka ilivyosema
Ile sauti zamani kidogo
Kuwa tayari kupanda na kushuka.‖

Ingawa nimechoka
Jambo moja li dhahiri
Lazima niifuate barabara
Ingawa machweo yaingia
Nizame na kuibuka
Nipande na kushuka.

Jambo moja nakumbuka: Mungu
Je, nimwombe tena? Hadi lini?
Labda amechoshwa na ombaomba zangu
Nashangaa tena!

Kitu kimoja nakiamini
Lazima niendelee kujitahidi kwa kila hatua mpya
Nijikokote kuiandama hii barabara yenye ukungu
Nikinaswa na kujinasua
Yumkini nitafika mwisho wake
Ikiwa wangu mwisho haitauwahi kabla.
(Timothy Arege)

Maswali.

(a) Taja na ueleze aina ya shairi hili. **(alama 2)**

(b) Eleza toni ya shairi hili. **(alama 2)**

(c) Fafanua dhamira ya shairi hili. **(alama 2)**

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(d) Bainisha vipengele vifuatavyo vya kimtindo katika shairi hili. **(alama 3)**

(i) Tanakali za sauti

(ii) Mbinu rejeshi

(iii) Taswira

(e) Eleza umhimu wa maswali balagha katika shairi. **(alama 2)**

(f) Andika ubeti wa mwisho kwa lugha nathari. **(alama 4)**

(g) Eleza matumizi ya mistari mishata katika shairi hili. **(alama 2)**

(h) Eleza maana ya misamiati ifuatayo kama ilivyotumika katika shairi. **(alama 3)**

(i) Kuruba

(ii) Siha

(iii) Machweo

SEHEMU E FASIHI SIMULIZI

8. Soma makala yafuatayo kisha ujibu maswali yaliyoulizwa.

Hapo zamani za kale, Mungu alituma wajumbe wawili waende duniani. Wajumbe hawa ni Kinyonga na Mjusi. Kwanza alimtuma Kinyonga na kumwagiza akaseme "wanadamu hamtakufa." Kinyonga alienda kwa mwendo wa kuduwaa, akasimama hapa na pale akila matunda ya miti. Kwa sababu ya hali hii alichelewa sana kufikisha ujumbe kwa binadamu.

Baada ya muda kupita, Mungu alimtuma Mjusi na ujumbe akaseme, "Mwanadamu sharti kufa." Mjusi aliunyanyua mkia akafyatuka pu! Mbio akawahi duniani kabla ya kinyonga kuwasili. Kwa haraka alitangaza agizo kuu, "Wanadamu sharti kufa!" Akarejelea haraka kwa Mungu. Baada ya muda kinyonga naye akafika duniana na kutangaza, "Wanadamu hamtakufa!" Wanadamu wakapinga mara na kusema, "La! Tumeshapata ujumbe wa Mjusi, wanadamu sharti kufa! Hatuwezi kupokea tena neno lako! Basi kulingana na neno la mjusi, wanadamu hufa.

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MASWALI

i. Tambua aina hii ya hadithi **(al 2)**

ii. Toa sababu za jibu lako katika (a) i. **(al 1)**

a) Eleza sifa tatu zinazohusishwa na ngano za fasihi simulizi katika hadithi hii. **(al 3)**

b) Fafanua hulka mbili za Kinyonga kwa mujibu wa makala haya **(al 2)**

c) Hadithi hii ina umuhimu gani? **(al 4)**

d) Taja njia zozote nne za kukusanya kazi za fasihi simulizi **(al 4)**

e) Fafanua jinsi jamii ya kisasa inavyojaribu kuendeleza fasihi simulizi **(al 4)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL……. **SIGN…….**

DATE……..

121/1

MATHEMATICS

PAPER 1

TIME: 2 HRS 30 MINS

INSTRUCTIONS TO CANDIDATES.

1) *Write your name and index number in the spaces provided above.*
2) *Sign and write the date of examination in the spaces provided above.*
3) *Answer **ALL** questions in section A and B.*
4) *All your workings must be clearly shown as must be awarded for correct working even if the answer is wrong.*
5) *Non programmable silent scientific calculators and KNEC mathematical tables may be used.*

FOR EXAMINERS'S USE ONLY

Section 1

Question	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	Total
Marks																	

Section 1I **GRAND TOTAL**

Question	17	18	19	20	21	22	13	24	**Total**
Marks									

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SECTION A (50 MARKS)

1. Evaluate $\dfrac{\frac{3}{4}+1\frac{5}{7}\div\frac{4}{7}of\,2\frac{1}{3}}{\left(1\frac{3}{7}-\frac{5}{8}\right)x\frac{2}{3}}$ **(3mks)**

2. A fruit juice dealer sell the juice in packet of 300ml, 500ml and 750ml. find the size of the smallest container that can fill each of the packets and leave a remainder of 200ml. **(3mks)**

3. Without using table or calculators, evaluate $\sqrt{\dfrac{0.0032+0.0608}{1.44x0.4}}$ **(3mks)**

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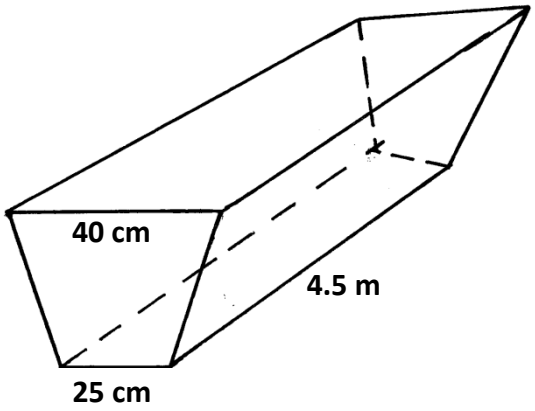
4. Simplify the following quadratic expression. $\dfrac{8b^2 - 50a}{(2b + 5a)^2}$ **(3mks)**

5. In a fundraising committee of 45 people, the ratio of men to women is 7:2. Find the number of women required to join the existing committee so that the ratio of men to women is changed
to 5: 4. **(3mks)**

6. A student expanded $(x + y)^2$ incorrectly as $x^2 + y^2$ calculate the percentage error in the answer if $x = 4$ and $y = 6$ **(3mks)**

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7. The figure below shows a trough which is 40 cm wide at the top and 25 cm wide at the bottom. The
trough is 20cm deep and 4.5 m long. Calculate the capacity of the trough in litres. **(3mks)**



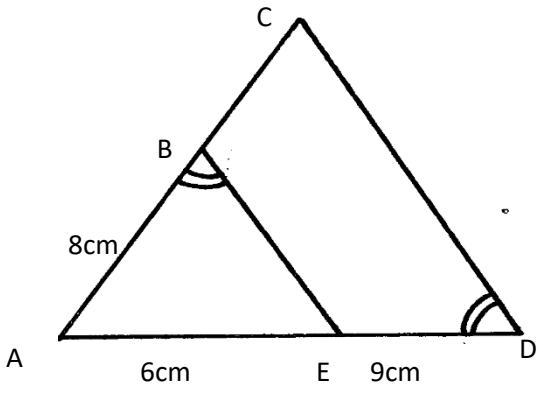
8. Jemima's team entered a contest where teams of students compete by answering questions that earn either 3 points of 5 points. Jemima's team scored 44 points after answering 12 questions correctly. How many five-points questions did the team answer correctly. **(3mks)**

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9. Using compass and ruler only construct a triangle ABC such that AB= 6cm ,BC = 5cm and angle ABC = 67.5^o measure the length of AC. **(3mks)**

10. Use table of reciprocals only to work out :$\frac{13}{0.156} - \frac{3}{0.6735}$ **(3mks)**

11. In the figure below, angle ABE is equal to angle ADC AE = 6cm, ED = 9cm and AB = 8cm, calculate the length of BC. **(3mks)**



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12. Simplify the expression below leaving your answer in rationalized surd form of $a + b\sqrt{c}$

$$\frac{1+\tan 120^o}{1+Cos\ 330^o}$$ **(4mks)**

\

13. The two sides of a triangle are given 6 cm and 5 cm. the angle between them is 130°. calculate the area of the triangle (giving your answer to 2 decimal places) **(3mks)**

14. Given that $k\underset{\sim}{m} + h\underset{\sim}{n} = \underset{\sim}{r}$ and that $\underset{\sim}{m} = \begin{pmatrix}-3\\-2\end{pmatrix}$ $\underset{\sim}{n} = \begin{pmatrix}0\\4\end{pmatrix}$ and $\underset{\sim}{r} = \begin{pmatrix}-6\\0\end{pmatrix}$. Find the scalars k and h **(3mks)**

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15. A Kenyan bank buys and sells foreign currencies as shown.

	Buying (Kshs.)	Selling (Kshs.)
1 Euro	84.15	84.26
100 Japanese Yen	65.37	65.45

A Japanese travelling from France to Kenya had 5000 Euros. He converted all the 5000 Euros to Kenya shillings at the bank. While in Kenya, he spent a total of Kshs. 289,850 and then converted the remaining Kenya shilling to Japanese Yen. Calculate the amount in Japanese Yen that he received. **(3mks)**

16. The length of a rectangular mat is 1.5 m longer that its width, Find the length of the mat if its area is 6.5 m^2(give your answer to 4 significant figures) **(3mks)**

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SECTION II

Answer only five questions from this section

17. Five towns V,W,X,Y and Z are situated such that W is 200km east of V. X is 300km from W on a bearing of 150°. Y is 350km on a bearing of 240° from X. Z is 150° from V but 200° from X.

Draw the diagram representing the position of the towns. (use a scale of 1cm to represent 50km)

(5mks)

(b) From the diagram determine

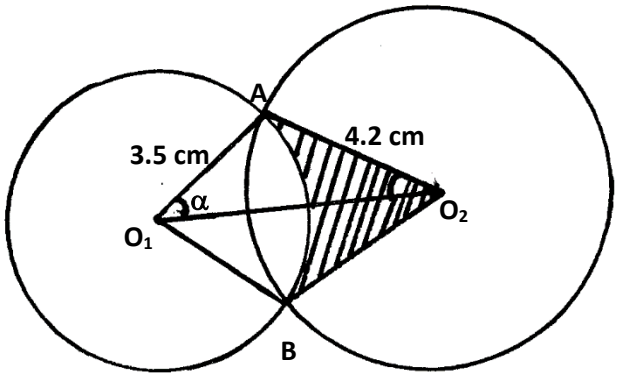
(i) the distance in km of V from Z **(1mk)**

(ii) The bearing of Y from W **(1mk)**

(c) A plane heading to town X takes off from town Y and flies upwards at a constant angle which is less than 90°. After flying a distance of 350km in the air it sees town X at an angle of depression of 50°. Calculate the distance of the plane from X at this point to the nearest km. **(3mks)**

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18. Two circles of radii 3.5 and 4.2 cm with centres O_1 and O_2 respectively intersect at points A and B as shown in the figure below. The distance between the two centres is 6 cm.



Calculate

(a) The size of $\angle AO_1B$ (to the nearest degree) **(3mks)**

(b) The size of $\angle$ A O_2 B (to the nearest degree) **(3mks)**

(c) The area of quadrilateral O_1AO_2B, correct to 2 decimal places. **(2mks)**

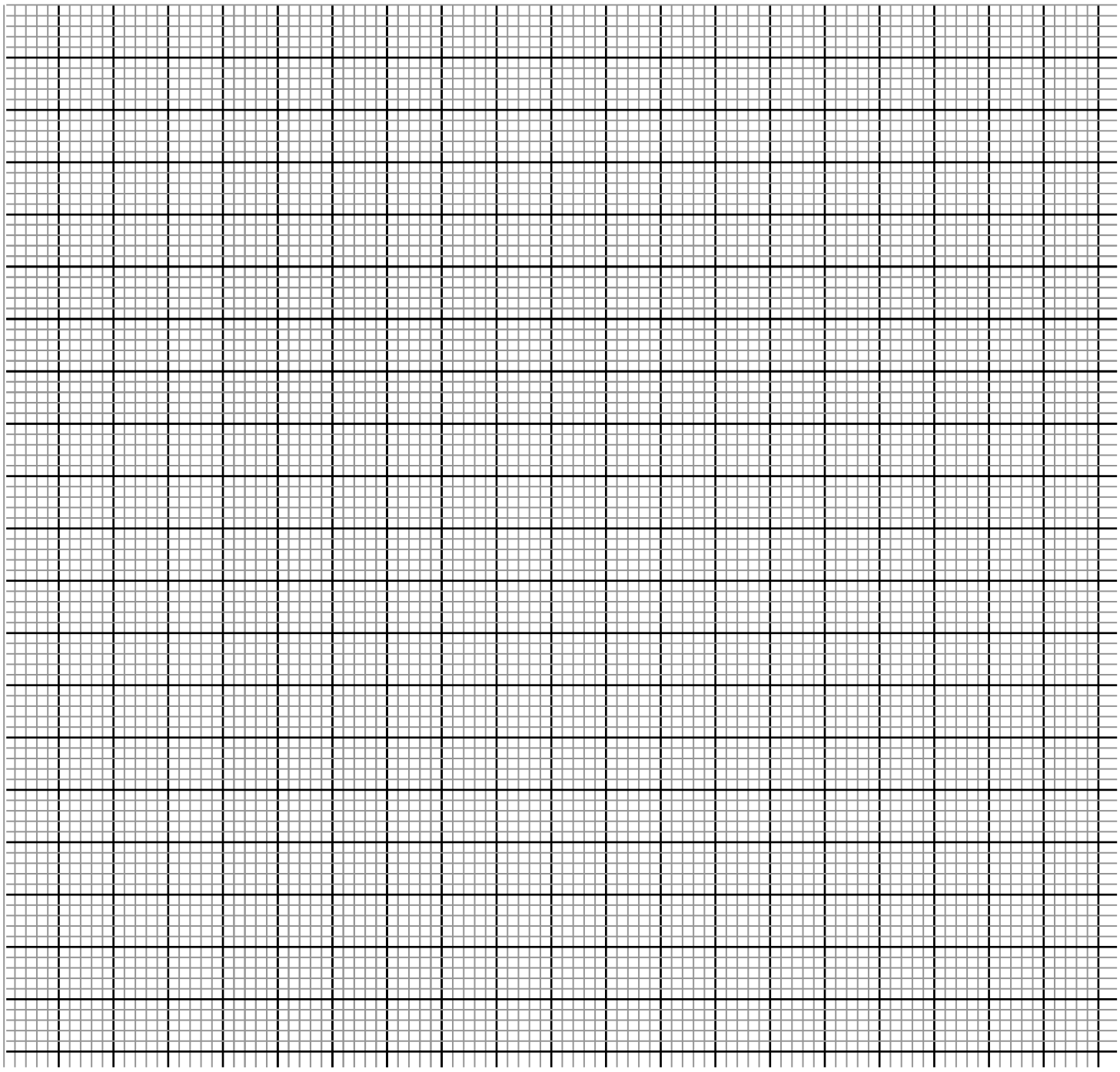
(d) The shaded area correct to 2 significant figures. (take $\pi\ ^{22}/_{7}$) **(2mks)**

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19 (a) Complete the table below for the function $y = 2x^2 + 4X - 3$

X	-4	-3	-2	-1	0	1	2
$2x^2$	32		8	2	0	2	
4x-3			-11		-3		
Y			-3			3	13

(b) Draw the graph of the function $y = 2x^2 + 4x - 3$ on the grid provided. **(3mks)**



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(c) Use your graph to estimate the roots of the equation $2x^2 + 4x - 3 = 0$ **(1mk)**

(d) Use your graph to obtain the roots of the equation $2x^2 + x - 5 = 0$ to 1 decimal place. **(3mks)**

(e) Draw the line of symmetry to pass through the turning point of this curve. **(1mk)**

20. The table below shows patients who attend a clinic in one week and were grouped by age as shown in the table below.

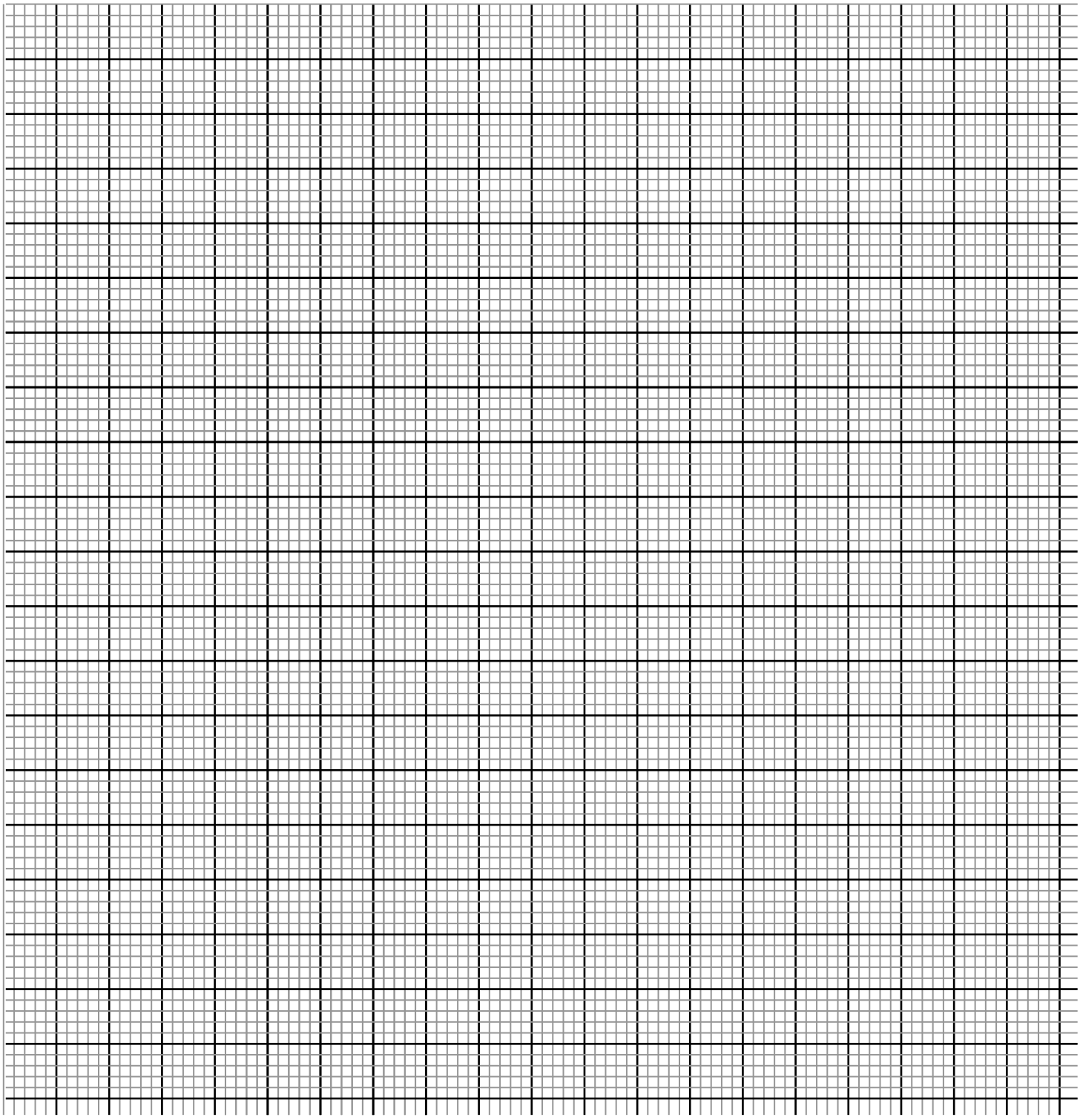
Age x years	$0 \leq x < 5$	$5 \leq x < 15$	$15 \leq x < 25$	$25 \leq x < 45$	$45 \leq x < 75$
Number of patients	14	41	59	70	15

(a) Estimate the mean age **(4mks)**

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(b) On the grid provided draw a histogram to represent the distribution. **(3mks)**

Use the scales: 1cm to represent 5 units on the horizontal axis 2 cm to represent 5 units on the vertical axis.



(c) (i) State the group in which the median mark lies **(1mk)**

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(ii) A vertical line drawn through the median mark divides the total area of the histogram into two equal. Using this information estimate the median mark. **(2mks)**

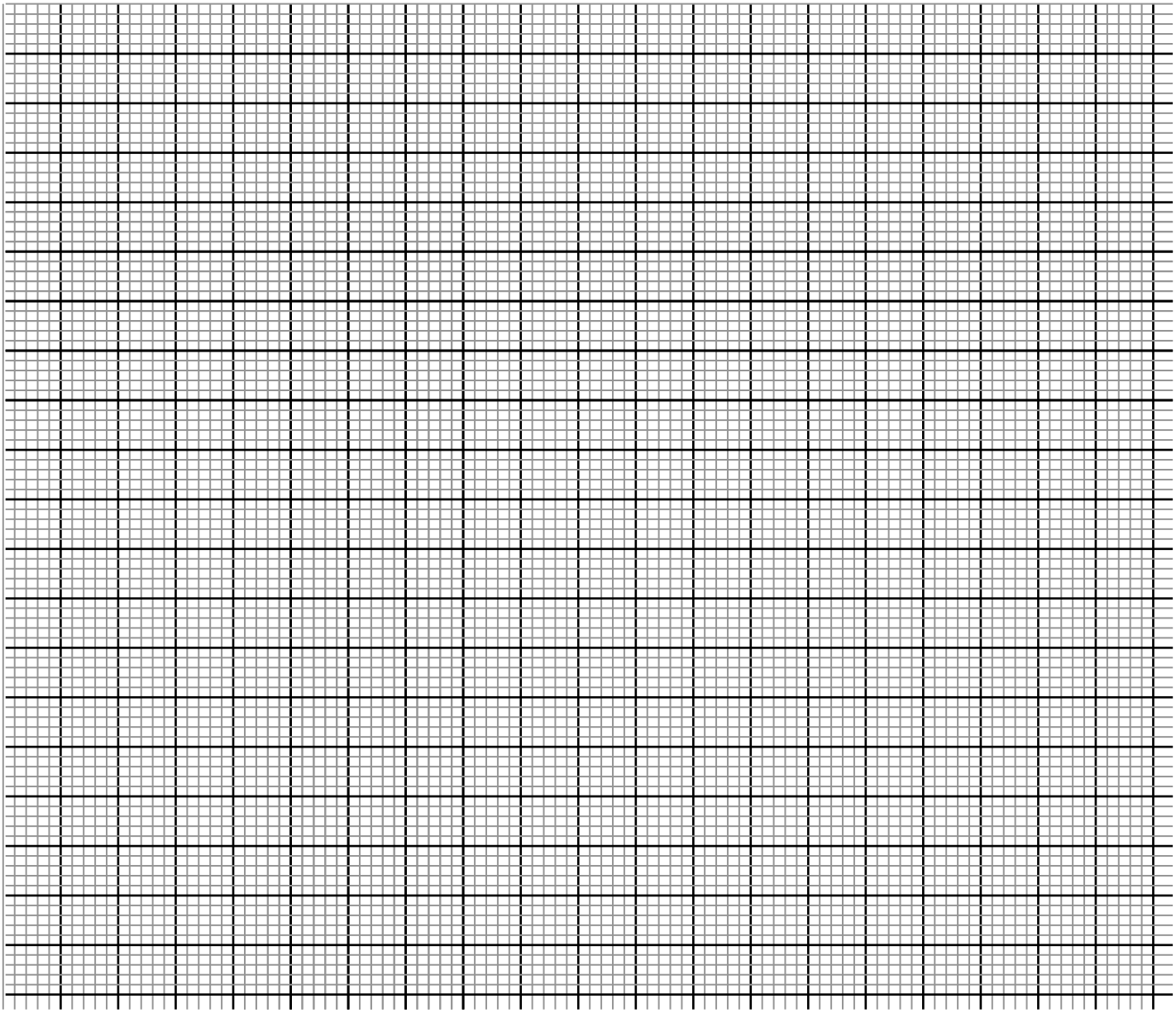
21. (a) Show by shading the unwanted region, the region which satisfies the following inequalities **(8mks)**

$y > -3$

$4y \leq 5x + 20$

$2y < -5x + 10$

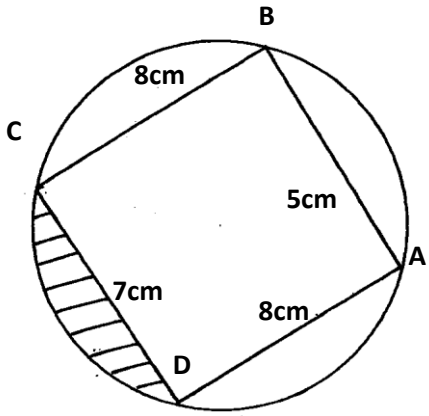
$4y \leq -3x - 12$



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(b) Calculate the area of this region in a square units **(2mks)**

22. The figure below (not drawn to scale) shows a quadrilateral **ABCD** inscribed in a circle. **AB** = 5cm, **BC** = 8cm,**CD** = 7cm and **AD** = 8cm. **AC** is one of the diagonals of length 10cm.



(a) Find the size of angle **ABC**. **(3mks)**

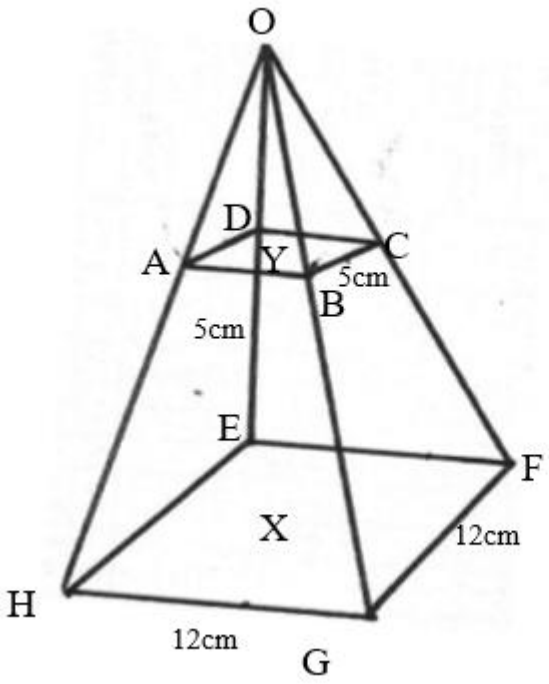
(b) Find the radius of the circle. **(2mks)**

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(c) Hence, calculate the area of the shaded region. **(5mks)**

23. The diagram shows a frustum ABCDEF GH formed from a smaller pyramid ABCDO. The base the top of the frustums are squares of sides 12cm and 5 cm respectively. If Ob = 6cm and each of the slant edges of the frustum is 15 cm long. Calculate to 1 decimal place:

(a) the height OY of the small pyramid **(3mks)**



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(b) the vertical height X Y of the frustum **(4mks)**

(c) the volume of the frustum **(3mks)**

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24. The table below shows the income tax rates

Total income per month In Kenya Pounds			**Rate in shillings per pound**
1	-	325	2
326	-	650	3
651	-	975	4
976	-	1300	5
1301 and above			7

Mr. Musango earned a basic salary of shs. *x* and a house allowance of shs. 3000 per month. He claimed a tax relief for a married person of shs. 455 month. He paid shs. 1794 income tax per month.

a) Calculate Mr. Musango's basic salary in shs. per month **(6mks)**

b) Apart from the income tax, the following monthly deductions are made. Service charge – shs. 100, health insurance fund – shs 280 and 2% of his basic salary as widow and children pension scheme.

Calculate:

i) The total monthly deductions **(2mks)**

ii) Mr. Musango's net income p.m **(2mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL……. **SIGN…….**

DATE……..

121/2

MATHEMATICS

PAPER 2

TIME: 2 HRS 30 MINS

INSTRUCTIONS TO CANDIDATES.

1) *Write your name and index number in the spaces provided above.*
2) *Sign and write the date of examination in the spaces provided above.*
3) *Answer **ALL** questions in section A and B.*
4) *All your workings must be clearly shown as must be awarded for correct working even if the answer is wrong.*
5) *Non programmable silent scientific calculators and KNEC mathematical tables may be used.*

FOR EXAMINERS'S USE ONLY

Section 1

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Marks																	

Section 1I **GRAND TOTAL**

Question	17	18	19	20	21	22	13	24	**Total**
Marks									

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SECTION I

1. Use logarithms tables to evaluate

$$\sqrt[3]{\frac{36.72\times(0.46)^2}{185.4}}$$ **(4mks)**

2. T is a transformation represented by the matrix $\begin{pmatrix} 5x & 2 \\ -3 & x \end{pmatrix}$ under T, a square of area 10cm^2 is mapped onto a square of area 110cm^2. Find the value of x **(3mks)**

3. Given that $2\cos(2x-30^0) = -\frac{6}{5}$ find x where $180^0 \le x \le 360^0$ **(3mks)**

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4. Make A the subject of the formula

$$T = \frac{2m}{n}\sqrt{\frac{L-A}{3K}}$$ **(3mks)**

5. A quantity P is partly constant and partly varies inversely as square of t. P = 6 when t = 6 and p = 18 when t = 3. Find t when p = 11 **(3mks)**

6. i) Expand $\left(5+\frac{x}{2}\right)^6$ up to the term in x^3. **(2mks)**

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ii) Use your expansion to estimate the value of $\left(\frac{11}{2}\right)^6$. Correct to one decimal place.

(2mks)

7. Solve for x in the equation. **(3 Mks)**

$\text{Log}_8 (x + 6) - \text{Log}_8 (x - 3) = \frac{2}{3}$

8. Solve for x and y in the simultaneous equation below. **(3 mks)**

$xy + 6 = 0$

$x - 2y = 7$

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9. The size of each interior angle of a regular polygon is five times the size of the exterior angle. Find the number of sides of the polygon. **(3mks)**

10. If $\frac{1}{3-\sqrt{5}} - \frac{2+2\sqrt{5}}{3+\sqrt{5}} = a + b\sqrt{c}$, find the value of a, b and c **(3 mks)**

11. The data below shows marks scored by 8 form four students in Molo district mathematics contest 44, 32, 67, 52, 28, 39, 46, 64.Calculate the mean absolute deviation**.** **(3 Mks)**

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12. Steve deposited ksh.50, 000 in a financial institution in which interest is compounded quarterly. If at the end of second year he received a total amount of ksh79, 692.40. Calculate the rate of interest p.a **(3 Mks)**

13. The points with coordinates (5,5) and (-3,-1) are the ends of a diameter of a circle Centre A

Determine:

(a) The coordinates of A **(1mk)**

(b) The equation of the circle, expressing it in form $x^2 + y^2 + ax + by + c = 0$ Where a, b, and c are constants **(2mks)**

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14. Pipe x can fill an empty tank in 3 hours while pipe y can fill the same tank in 6 hours. When the tank is full, it can be emptied by pipe z in 8 hours. pipe x and y are opened at the same time when the tank is empty. If one hour later pipe z is also opened, find the total time taken to fill the tank. **(3marks)**

15. Fatima bought maize and beans from Kami. She mixed the maize and beans in the ratio 3: 2 she bought the maize at sh.90 per kg and the beans at sh.150 per kg. If she was to make a profit of 30% what would be the selling price of 1kg of the mixture. **(3mks)**

16. Given $A=\begin{pmatrix}7 & 4\\ 5 & 3\end{pmatrix}$ and $B=\begin{pmatrix}2 & 11\\ 1 & 6\end{pmatrix}$ find $A^{-1}B^{-1}$ **(3mks)**

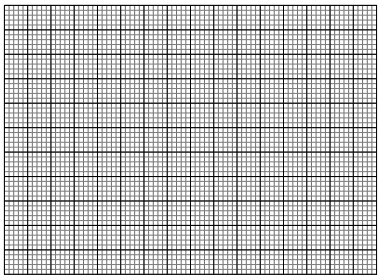
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SECTION II

17. a) A figure whose co-ordinates are A(-2, -2), B(-4, -1), C(-4, -3) and D (-2, -3) undergoes successive transformations ERS; where E, R and S are transformations represented by the matrices,

$$E=\begin{pmatrix}-2 & 0\\ 0 & -2\end{pmatrix}, S=\begin{pmatrix}0 & -1\\ -1 & 0\end{pmatrix} \text{ and } R=\begin{pmatrix}0 & 1\\ -1 & 0\end{pmatrix}$$

On the grid provided, show the figure ABCD and its image under the successive transformations ERS. **(6mks)**



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b) Find the matrix representing the single transformation mapping the image found in (a) above back the object figure ABCD. (2mks)

Marks	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	2	6	10	16	24	20	12	8	2

c)Triangle PQR has vertices at P(2, 2), Q(4, 1) and R(6, 4). On the same grid, show the image of triangle PQR under a shear with line y = 2 invariant and point R(6, 4) is mapped onto R^1(2, 4).

(2mks)

18. The following are marks by form four students in a mathematics test.

Using an assumed mean of 54.5, calculate the

(a) Mean mark **(4mks)**

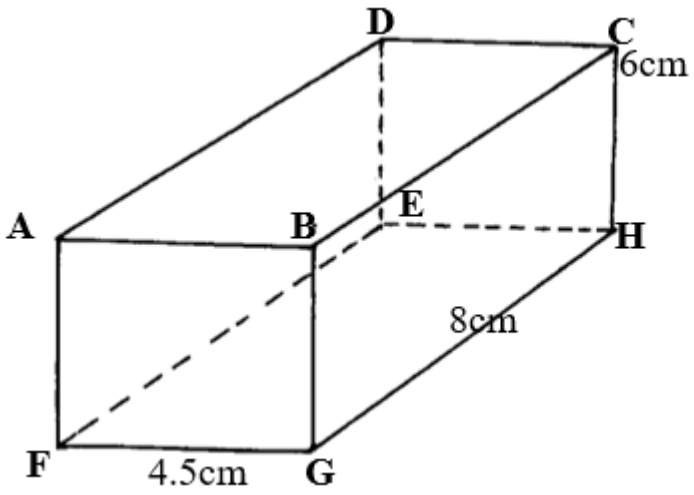
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(b) Variance **(4mks)**

(c) Standard deviation **(2mks)**

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19. The diagram below represents a Cuboid **ABCDEFGH** in which **FG** =4.5cm, **GH** =8cm **HC**=6m



(a) Calculate the length **FC** **(2mrks)**

(b) **(i)** The size of the angle between the lines **FC** and **FH** **(2mks)**

(ii) Size of the angle between the line **AB** and **FH.** **(2mks)**

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(c) The size of the angle between the planes **ABHE** and the plane **FGHE.(2mks)**

(d) The total surface area of the cuboid (closed) **(2mks)**

20. Complete the table below, giving all your values correct to 2 d. p. for the functions $y = cos\ x$ and $y = 2cos\ (x + 30)^0$

x^0	0^0	60^0	120^0	180^0	240^0	300^0	360^0	420^0	480^0	540^0
Cos x	1.00			-1.00		0.50				
2cos(x + 30)	1.73		-1.73		0.00					

(b) For the function $y = 2cos\ (x + 30)^0$

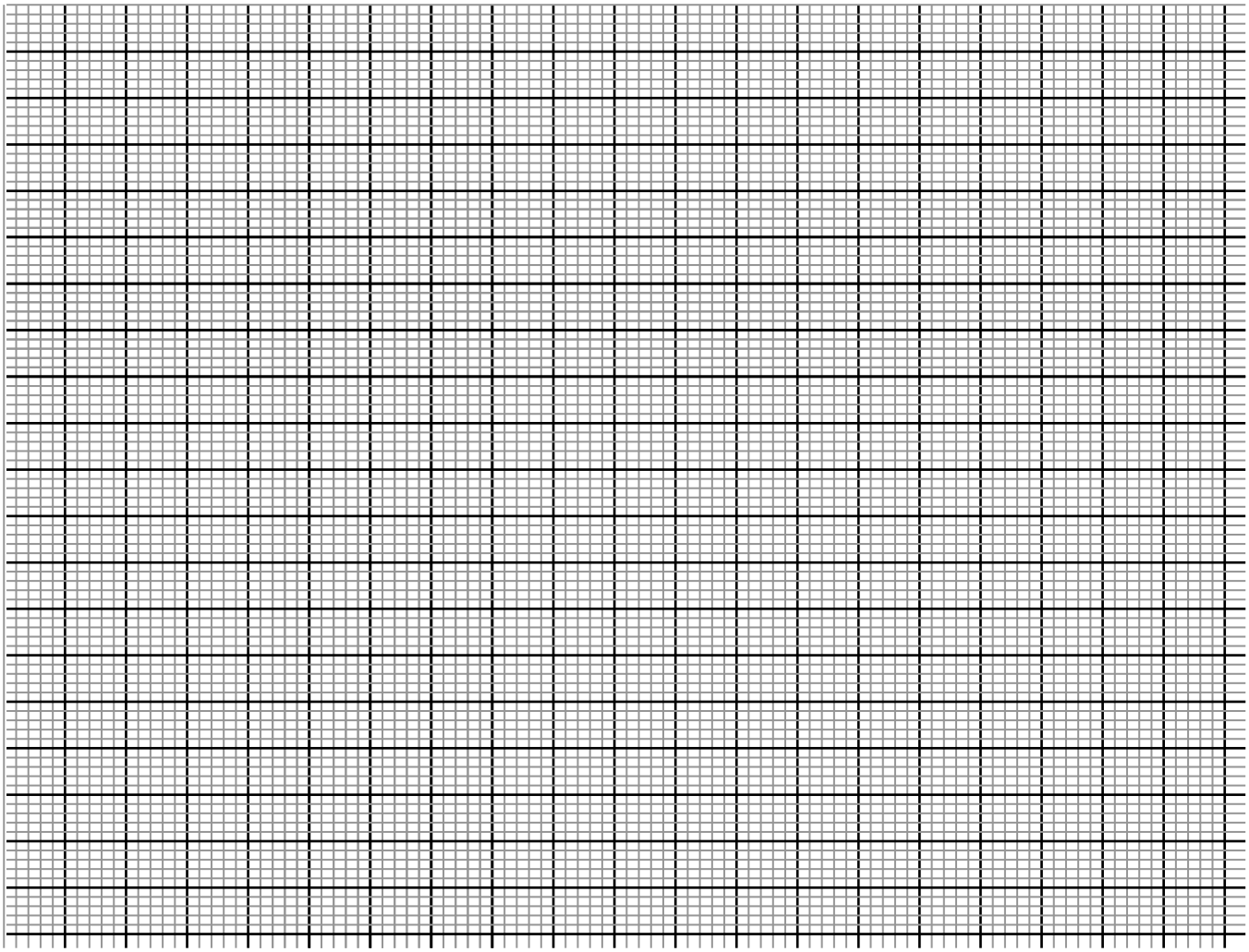
State:

(i)The period **(1mk)**

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(ii)Phase angle **(1mk)**

(c) On the same axes draw the waves of the functions$y = cos\ x$ and $y = 2cos\ (x + 30)^0$ for $0^0 \leq x \leq 540$.Use the scale 1cm rep 30^0 horizontally and 2cm rep 1 unit vertically. **(4mks)**



(d)Use your graph above to solve the inequality $2\cos(x + 30^o) \leq \cos$ **x** **(2mks)**

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21. A teacher had 5 red, 6 black and 9 blue pens in a box. The pens were all identical except for the colour.

(a) If one pen is picked from the box, what is the probability that it is

(i) Red. **(1mk)**

(ii) Not black. **(1mk)**

(a) The teacher asked a student to pick two pens from the box, one at a time, without replacement. Find the probability that

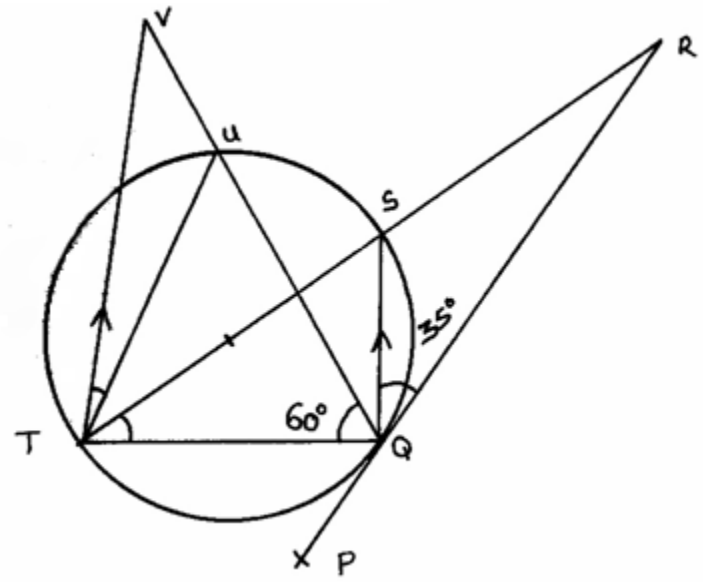
(i) Both pens are of the same colour. **(3mks)**

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(ii) They are of different colours. **(2mks)**

(b) If the first student was allowed to take away two blue pens and another student was asked to pick two pens without replacement. What is the probability that the second student picked pens of same colour? **(3mks)**

22. In the figure below, PQR is the tangent to the circle at Q. TS is a diameter and TSR and QUV are straight lines. QS is parallel to TV. Angle SQR = 35° and TQV = 60°.



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(a) Find the following angles, giving reasons for each answer.

(i) QTS. **(2mks)**

(ii) QRS. **(2mks)**

(iii) QVT. **(2mks)**

(iv) UTV. **(2mks)**

(v) QUT. **(2mks)**

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23. Use ruler and a pair of compasses only in this question

a) Construct triangle ABC such that AB = 6cm, AC=BC and angle ACB = 135° **4mks**

b) On one side only construct the locus of P such that:

i) < APB = 67.5° **1mk**

ii) area of triangle , APB = 9cm² **3mks**

c) i) Locate P1 and P2 the two possible positions of P which satisfy the two conditions above **1mk**

ii) Measure the distance between P1 and P2. **1mk**

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24. An arithmetic progression has the first term a and the common difference d.

(a) Write down the third, ninth and twenty – fifth terms of the progression. **(3 Mks)**

(b) The progression is increasing and the third, ninth and twenty-fifth terms form the first three

Consecutive terms of a geometric progression. If the sum of the seventh term and twice the sixth term of the arithmetic progression is 78.

Calculate

(i) The first term and the common difference **(5 Mks)**

(ii) The sum of the first nine terms of the arithmetic progression **(2 Mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

451/1

COMPUTER STUDIES

Paper 1

THEORY

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

- Write your **Name, Class, Admission Number** and **Index Number** in the spaces provided.
- Answer **ALL** the questions in **section A**
- Answer **question 16 (Compulsory)** and **any other three** questions from **section B.**

For Official Use Only

Question	Maximum score	Actual score
1-16		
17		
18		
19		
20		
TOTAL SCORE		

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SECTION A: (40 MARKS)

Answer ALL Questions in This Section

1. During a visit to the typing room, Jane a computer student observed a type of printer that uses a beam to create an image on a rotating drum. As the beam hits the drum, some regions attract ink toner particles. The toner is then fused onto a piece of paper.

I. State the name of this type of printer and indicate whether it is an impact or non-impact printer. **(1mark)**

_____

_____

II. List **two** advantages of using the printer mentioned in a. above. **(2marks)**

_____

_____

_____

2. Bunam Water Company sends out field officers to take consumer meter readings. The data collected by the officers is then keyed into the computer. The system then generates utility bills which are printed and sent to the consumers.

i. State **two** transcription errors that are likely to occur during meter reading or input. **(1 mark)**

_____

_____

ii. State **two** ways such errors can be avoided. **(1 mark)**

_____

_____

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3. Highlight the dangers associated with the following in a computer laboratory set up:

a. Purchasing software before assessing requirements. **(1 mark)**

_____

_____

b. Using foreign flash disks on the computer. **(1 mark)**

_____

_____

4. To process an instruction, the CPU goes through a cycle of three stages. Name each of the stages. **(3 marks)**

_____

_____

_____

_____

5. Explain the importance of the following spreadsheet operations. **(2 marks)**

(i) Freezing columns

_____

_____

(ii) Data validation

_____

_____

(b) Name **two** types of relationships that can be applied in database design. **(1 mark)**

_____

_____

_____

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6. Briefly explain any Four block operations that can be performed on data in word processing **(4 marks)**

_____

_____

_____

_____

7. **(a)** Mutiso wanted to upgrade the RAM of his computer. State two factors Mutiso should consider when purchasing a RAM module. **(1 mark)**

_____

_____

(b) Define the following terms: **(2 marks)**

(i) Computer Port

_____

_____

(ii) Power supply unit

_____

_____

8. Mkulima Bora is a society that embraced E-Commerce recently. The manager is convinced that there is illegal access to the company's system. State TWO ways in which the society can overcome this problem. **(2 marks)**

_____

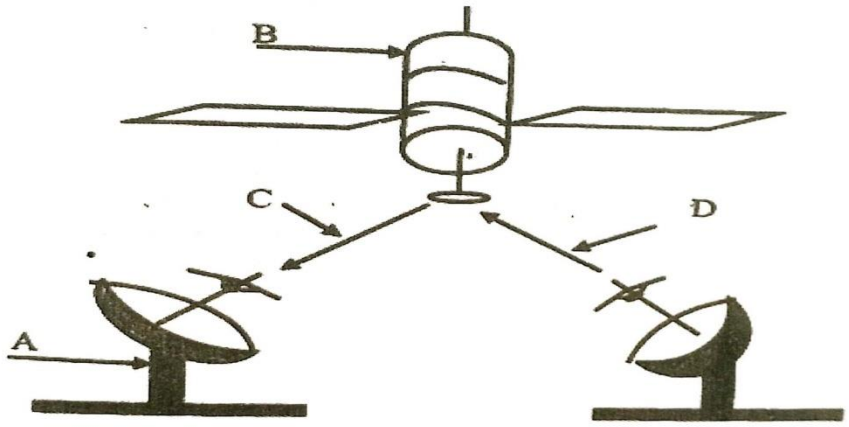
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9. (a) Study the diagram below and answer the questions that follow.



(i) Name the communication media depicted in the above diagram **(1 mark)**

_____

(ii) Name the parts labelled A, B, C, and D **(3 marks)**

A_____

B _____

C _____

D _____

10. In a desktop publishing document, an image embedded can be transformed in various ways.

Name any **three** ways one can use to make the image fit in a designated area. **(3 marks)**

_____

_____

_____

_____

11. Differentiate between source program and object program. **(2 marks)**

_____

_____

_____

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12. Differentiate between the following terms in Internet **(4 marks)**

(i) Drafts and outbox

_____

_____

(ii) cc and bcc

_____

_____

13. State **two** characteristics of a computer that is infected by computer viruses. **(2 marks)**

_____

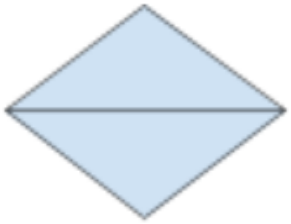
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14. Identify each of the following symbols as used in system flowchart. **(1 mark)**

(a)



_____

(b)



_____

15. Differentiate between bullets and numbering as used in DTP **(2 marks)**

_____

_____

_____

_____

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SECTION B (60 marks)

Answer question 16 and any other three questions from this section in the spaces provided.

16. a) State any **three** activities that occur in a program compilation process. **(3 marks)**

_____

_____

_____

_____

b) A program is needed for calculating the average age of students in a class. Write a pseudocode that will read the age of the students and calculate the average age. The program should terminate if the value of 999 is entered for age and output the number of times the statements within the loop were executed. **(10 marks)**

_____

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c) Give **two** types of errors that may be detected during program testing. **(2 marks)**

_____

_____

_____

_____

17. a) State **four** functions which are specific to Network Operating Systems. **(4 marks)**

_____

_____

_____

_____

b) State **two** advantage of using fibre optic cables over satellite in data communication. **(2 marks)**

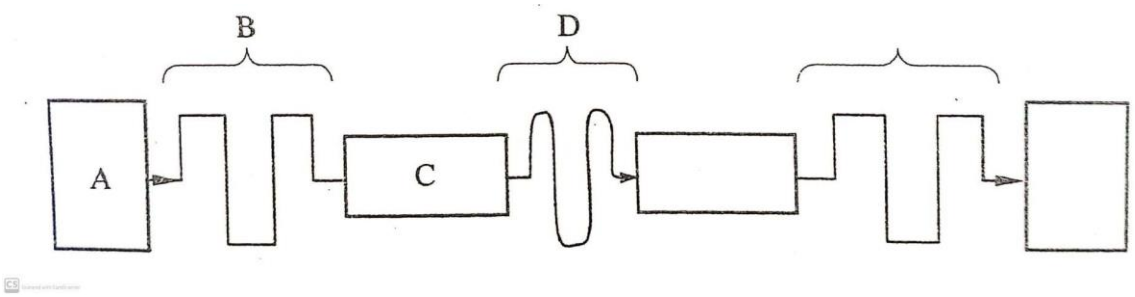
_____

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c) (i) The figure below shows how data is transmitted through a public telephone . **(4 marks)**



Name A, B, C, and D

_____

_____

_____

_____

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d) (i) List any **two** items that may be referred to as data terminal equipments in a network **(2 marks)**

_____

_____

_____

_____

(ii) Write the acronym MODEM in full **(1 mark)**

_____

_____

(iii) Explain the purpose of a modem when connecting to the internet. **(2 marks)**

_____

_____

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_____

18. (a) State **three** roles of a programmer in system development life cycle. **(3 marks)**

_____

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_____

(b) State **four** activities that may be carried out when disposing off an old system in an organization **(4 marks)**

_____

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(c) Distinguish parallel changes over from straight change over as used in system implementation. **(2 marks)**

_____

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_____

(d) Discuss **any two** fact finding methods. **(4 marks)**

_____

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_____

_____

(e) Differentiate between an open system and a closed system. **(2 marks)**

_____

_____

_____

19. a) State **three** standard coding scheme used computing and electronic systems. **(3 marks)**

_____

_____

_____

_____

b) Convert each of the following numbers

i) 1001.001_2 to octal. **(2 marks)**

_____

_____

ii) 125.5_{10} to hexadecimal. **(3 marks)**

_____

_____

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iii) Add 1100.011_2 to 11001.0101_2 and leave your answer in decimal **(3 marks)**

_____

_____

_____

_____

c) Using <u>two</u> compliment perform the following arithmetic leaving your answer in binary form. **(4 marks)**

$13_{10} - 15_{10}$

_____

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_____

20. (a) Distinguish between axis labels and data labels as used in spreadsheets. **(2 marks)**

_____

_____

_____

_____

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(b) Name an electronic spreadsheet feature that allows one to perform the following actions. **(4 marks)**

Action	Feature
Provide pictorial summary of data	
Make one cell out of many	
List items from Highest to lowest or vice versa	
Make many cells out of one	

(c) Explain the difference between the printing of multiple pages and multiple copies as used in word processing. **(2 marks)**

_____

_____

(d) Describe the following categories of software **(4 marks)**

i) Firmware

_____

_____

ii) Proprietary software

_____

_____

(e) Explain the meaning of solid state storage media giving **two** examples of it.

(3 marks)

_____

_____

_____

_____

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

451/2

COMPUTER STUDIES

Paper 2

(PRACTICAL)

Time: 2½ hours

Instructions to candidates

1. *Write your name and Index number at the right hand corner of each print out.*
2. *Write your name and Index number on the CD provided.*
3. *Write the name and version of the software used for each question attempted in the answer sheet*
4. *Answer **all** the questions*
5. *Passwords **should not be used** while saving in the CD provided.*
6. *All answers **must** be saved in your CD provided.*
7. *Arrange your printouts and staple them together*
8. *Hand in all the **printouts** and the CD used*

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QUESTION 1

a) Use DTP software to design the following business card using the following layout specifications:

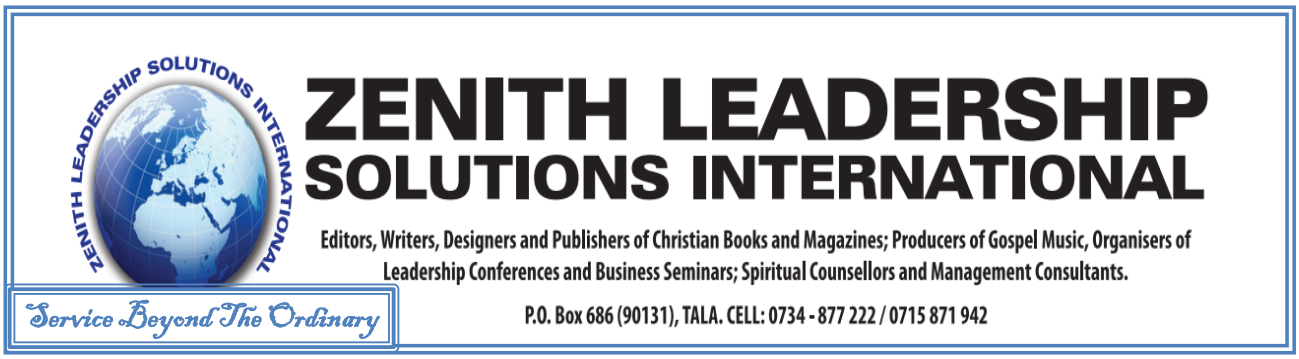
(i) Paper size A4 portrait. **(2 marks)**

(ii) Set the margins to 0.5 inches all round. **(2 marks)**

(iii) Divide the page into TWO columns **(2 marks)**

(iv) The border should occupy the first column **(2 marks)**

b) Prepare the publication as exactly as it appears and save it as Business card. **(10 marks)**



c) Insert your full name above the heading "ZENITH LEADERSHIP…" and centre it across **(5 marks)**

d) Create the logo to occupy between 0.8" to 1.80" left and 0.70" to 1.85" from top. **(5 marks)**

e) The title should occupy between 1.70" to 7.50" across and 0.75" to 1.45" from top. Font Arial black with italics and fill effect pattern of dark horizontal. **(5 marks)**

f) The words "ZENITH LEADERSHIP" should occupy 2.50" to 5.70" across and 1.50" to 2.00" from top. Font Book antique size 26, bold and centered. **(4 marks)**

g) The rest of the text is in font Bodoni MT size 12. **(2 marks)**

(i) Align all the text as shown. **(2 marks)**

(ii) Group the publication as one. **(2 marks)**

(iii) Fit FOUR copies of the design into a single page. **(2 marks)**

h) Include a page header with your index number. **(2 marks)**

i) Save as Updated Business card. **(1 mark)**

j) Print the publication **Business card** and **Updated Business Card**. **(2 marks)**

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Question 2

The table below shows records extracted from Motors Sales Company Database. Create a database and name it MOTOR SALES. **(1 mark)**

Customer Name	Customer Address	Customer Town	Car Reg No	Car Type	Car Make	Car price	Customer ID	Amount paid
Ogutu	254	Nakuru	KBJ 001T	Truck	Nissan	1,100,000	B001	800,000
John	678	Eldoret	KCM 002M	Bus	Mazda	2,400,000	B002	2,000,000
Uhuru	963	Nairobi	KBB 003V	Saloon	Toyota	800,000	B003	800,000
Ogutu	147	Nakuru	KCJ 004B	Pick up	Peugeot	1,000,000	B004	700,000
Chumba	456	Bungoma	KCH 678B	Lorry	Isuzu	3,000,000	B005	2,000,000
Kariuki	789	Webuye	KBB 006N	Pick up	Toyota	1,800,000	B006	1,600,000
John	678	Eldoret	KBJ 007D	Bus	Scania	7,500,000	B002	7,500,000
Uhuru	963	Nairobi	KCC 678G	Truck	Toyota	1,800,000	B003	1,800,000
Phillip	159	Kisumu	KCJ 009H	Saloon	Nissan	9,00,000	B007	900,000
Ogutu	254	Nakuru	KCH 010L	Pick up	Isuzu	1,500,000	B001	1,200,000
Uhuru	357	Kisumu	KCJ 011J	Saloon	Peugeot	600,000	B008	600,000
Kariuki	789	Webuye	KBG 012B	Bus	Isuzu	10,000,000	B006	9,500,000
Ogutu	147	Nakuru	KDA 013A	Truck	Nissan	2,700,000	B004	2,700,000

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a) Using the data above, create a table that will hold Car details and another table to hold Customer details. Name them **TABLECAR** and **TABLECUSTOMER** respectively and set appropriate ***primary keys.***

(4 marks)

b) Enforce referential integrity between two tables. **(2 marks)**

c) Create different input forms for each table. Name them **FORMCAR** and **FORMCUSTOMER**. Use them to enter data into the tables. **(12marks)**

d) Display a report only showing the details of the Customers who have cleared paying for the Car. Name the report **REPORTCLEARED.** Add "**CLEARED CUSTOMERS''** as the title of the report**.** **(7 marks)**

e) Using the two tables create an *outlined report* showing the *customer details, the total amount paid by each customer* and *the total amount received* by the company. Name the report **SUMMARY** and the title as "**OVERALL CUSTOMERS REPORT**.''

(8 marks)

f) Create a query to display the Car details with balances of less than 300,000. Name the query as **BALQUERY.** **(4marks)**

g) Create a report showing the *Car type, the total sales for each car type* and *the grand total*. Name the report as **REPORTGRAND.** **(6 marks)**

h) Using landscape orientation, print **REPORTCLEARED**, **SUMMARY** and **REPORTGRAND** with *footers bearing your lastname* and *index number* at the *center of the page*. **(6 marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

441/1

HOME SCIENCE

PAPER 1 (THEORY)

TIME: 2 ½ HRS

INSTRUCTIONS TO CANDIDATES

- This paper contains 3 sections: A, B and C
- Answer **ALL** questions in section A and B and **ANY TWO** section C
- Write your name and admission number in the spaces provided above.
- Sign and write your name in the spaces provided above.
- Answer **ALL** QUESTIONS
- All answers should be written in the spaces provided on the question paper.

For official Use Only

SECTIONS	QUESTION	MAX. SCORE	ACTUAL SCORE
A	1 – 40	40 MARKS	
B	41	20 MARKS	
C	42,43,44	40 MARKS	
		TOTAL	

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SECTION A (40 MARKS)

Answer all questions in the spaces provided

1. What is a dessert? Give one example **(1mk)**

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……

2. Identify **two** types of vacuum cleaners. **(1mk)**

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3. Mention **two** types of electronic money transfer used to pay for goods and services. **(1mk)**

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4. State **two** symptoms of a person suffering from scurvy **(2mks)**

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5. List **four** types of fabrics that are drip dried during laundry. **(2mks)**

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6. Suggest **two** points to bear in mind when attaching buttons. **(2mks)**

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7. State **two** advantages of owning a home. **(2mks)**

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8. Mention **two** importance of melanin in the body. **(2mks)**

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9. Give **two** reasons why lampshades are popular. **(2mks)**

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10. What is the meaning of haberdashery **(1mk)**

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11. Outline **four** ways of preventing cholera outbreak **(2mks)**

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12. Identify **two** practices necessary for successful steaming in cookery **(2mks)**

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13. What is the role of a 'U/S' bend in concealed drainage system **(1mk)**

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14. Highlight **two** dangers of excess weight gain during pregnancy **(2mks)**

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15. Identify **four** fabrics that should not be wrung. **(2mks**

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16. List **four** fastenings suitable for a toddlers garment. **(2mks**

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17. Highlight **two** benefits of studying home science to the community. **(2mks)**

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18. State **two** reasons for blanching vegetables. **(2mks)**

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19. Give **two** example of builders added to detergents during manufacture. **(1mk)**

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20. State **four** advantages of regular cleaning of household items. **(2mks)**

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21. Distinguish between raglan and kimono sleeve. **(1mk)**

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22. State **two** characteristics of incomplete or second class proteins. **(1mk)**

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23. Identify **two** immunizable diseases caused by viruses. (1mk)

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24. Identify **two** situations when a lactating mother produces little or no milk at all. **(1mk)**

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25. Name **two** areas in the house where light fixtures can be found. **(1mk)**

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26. Define the following in relation to weaning. **(1mk)**

(a) Basic mix

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(b) Multi mix

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SECTION B

COMPUSORY

27. Your sister has invited you to a stay with her over the holiday and she has an eight months old baby.

Write down the procedure of carrying out the following activities at her home.

a) Prepare a cot for her baby **(10mks)**

b) Clean her baby's plastic feeding bottle. **(5mks)**

c) Thoroughly clean her calabash that she uses to serve porridge. **(5mks)**

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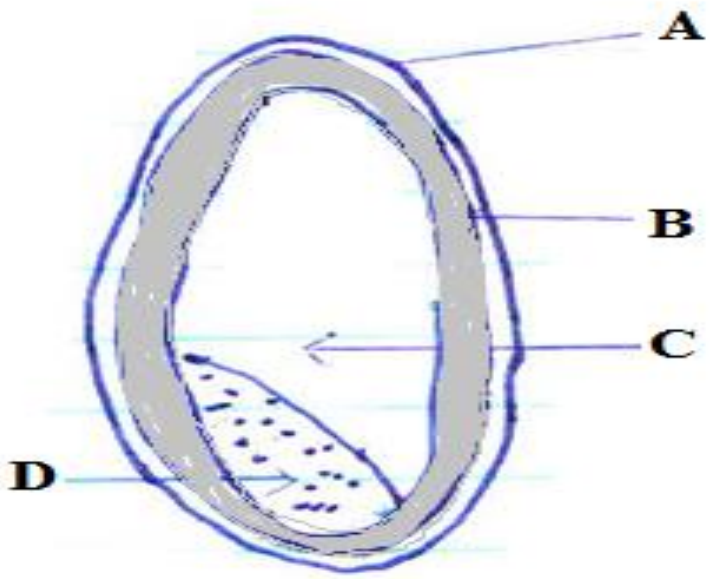
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SECTION C (40 MARKS)

Answer any two questions from this section in the spaces provided

28. a) Explain 6 dangers of land pollution to mankind ***(6 marks)***

b) The diagram below shows a longitudinal section of a wheat grain



i) Label parts A,B,C,D (4 marks)

ii) Name two nutrients found in part A and two found in part D **(4 marks)**

c) Outline 6 advantages of proper ventilation in a house **(6 marks)**

29. **(a)** Name 4 agencies that protect consumers and their functions **(4marks)**

(b) Outline 4 preparations that one needs to carry out on a sewing machine in readiness for stitching

(4marks)

(c) Explain 3 nutritional needs of the elderly **(6marks)**

(d) Describe 3 factors to consider when choosing a seam in garment construction **(6marks)**

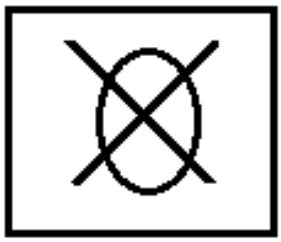
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30. (a) Explain three factors you would consider when choosing flowers for a flower arrangement **(6marks)**

(b) Outline four practices to safeguard against occurrence of food spoilage and poisoning in the home **(4marks)**

(c) Describe 4 qualities of well made gathers **(4marks)**

(d) (i) Interpret the following care label symbols **(3marks)**







(ii) Explain three things to show the importance of advertisements to consumers **(3marks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

441/2

HOME SCIENCE

(CLOTHING CONSTRUCTION)

PAPER 2

CONFIDENTIAL

1. *Plain light weight cotton fabric 50 cm by 90 cm wide.*
2. *Sewing thread to match the colour of the fabric.*
3. *One large A4 envelope*

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

441/2

HOME SCIENCE

CLOTHING CONSTRUCTION

Paper 2

Time: 2 ½ hours

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A pattern of a girl's blouse is provided. You are advised to study the sketch, the question and the layout before the test.

MATERIALS PROVIDED

1. Pattern pieces

   A - BLOUSE FRONT
   B - BLOUSE BACK
   C - FRONT YOKE
   D - FRONT FRILL
   E - BACK FRILL
   F - BACK NECK FACING

2. Plain light weight cotton fabric 50 cm by 90 cm wide.
3. Sewing thread to match the colour of the fabric.
4. One large envelope.

THE TEST

Using the materials provided, cut out and make up the **RIGHT HALF** of the child's blouse to show the following.

1. Cutting out. **(13 marks)**
2. The making of the double pointed dart. **(5 ½ marks)**
3. Making of the shoulder seam using double stitched seam. **(7 ½ marks)**
4. Joining the back facing to front facing and neatening the free edge. **(8 marks)**
5. Neatening the neckline using the joined facings. **(4 marks)**
6. Joining the front yoke to the blouse front using overlaid seam. **(11 marks)**
7. Working the side seam using an open seam. **(6 marks)**
8. Preparation of the frill to include:
   (a) Joining the back and front frill using a French seam. **(7 marks)**
   (b) Control of fullness. **(3 marks)**
   (c) Attachment of the frill to the lower part of the blouse using a plain seam.

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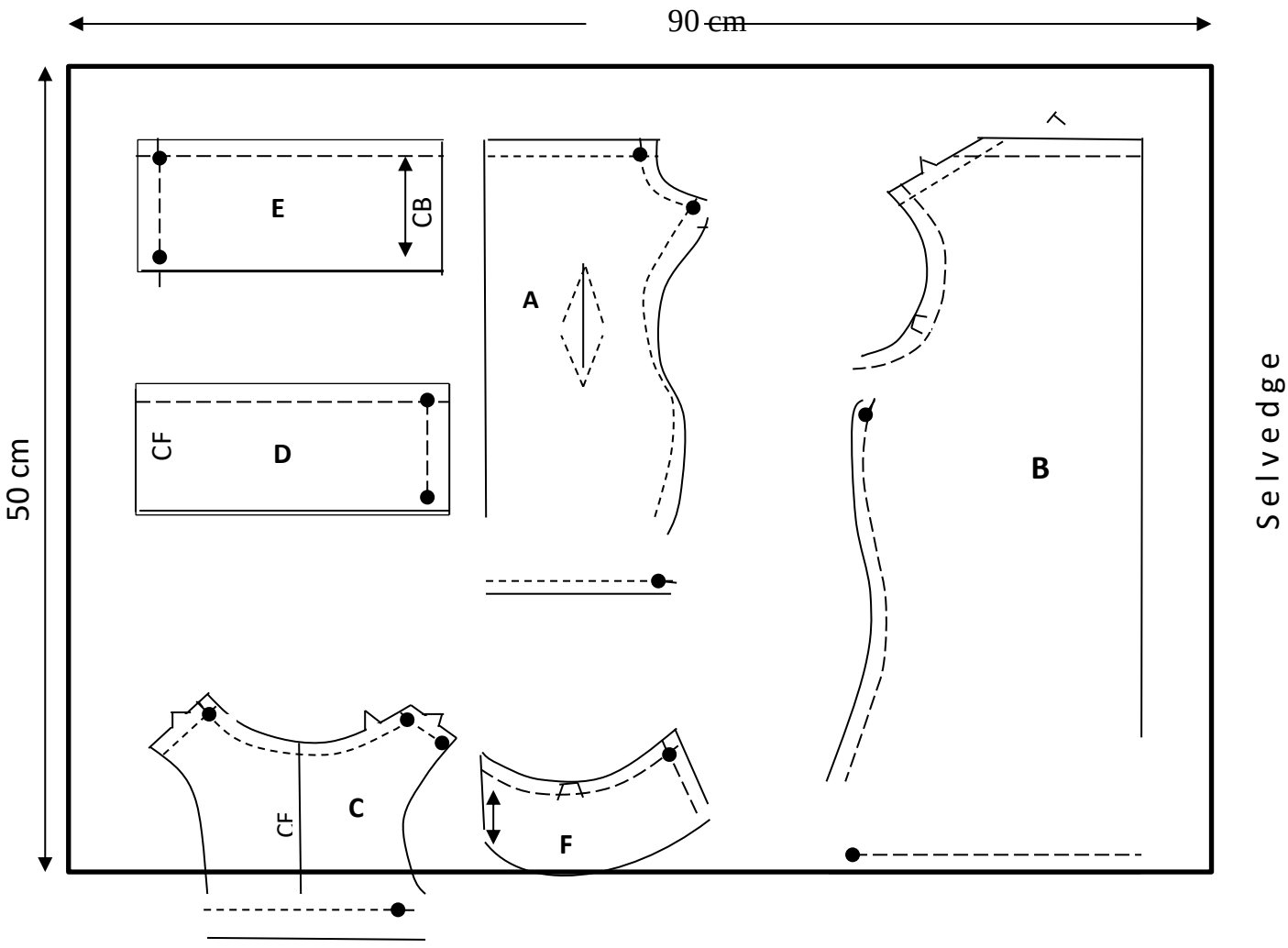
(Do not trim; Do not neaten) **(7 marks)**

9. Working of buttonhole using hand-worked stitches. **(6 marks)**
10. Management of the hem and holding it using long and short tacking. **(6 marks)**
11. Presentation. **(6 marks)**

NOTE:

At the end of the examination, firmly sew on a 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 provided. Do not put scraps of fabric with your work.

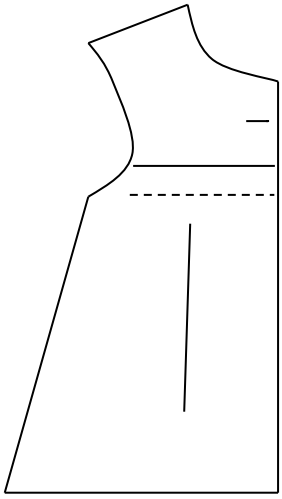
LAYOUT – NOT DRAWN TO SCALE

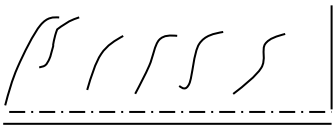


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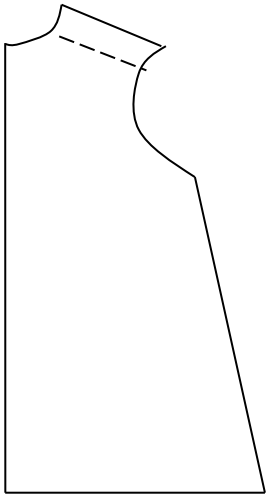
VIEW

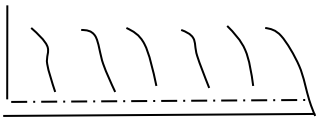
FRONT VIEW





BACK VIEW





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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

HOME SCIENCE

PAPER 3

FOODS AND NUTRITION

(PRACTICAL)

INSTRUCTION TO THE CANDIDATES

PLANNING SESSION: 30 MIN

PRACTICAL TEST SESSION: 1 ¼ HOURS

(a) Text books and recipe may be used during the planning session as reference materials.

(b) You will be expected to keep to your order of work during the practical session.

(c) You are only allowed to take away your reference materials at the end of the planning session.

(d) You are not allowed to bring additional notes to the practical session.

(e) Previously written plans are not allowed into the examination room.

(f) Candidates should answer the question in English.

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TEST

Using the ingredients listed below, prepare, cook and present a two course meal for you and your elder sister who is coming home from college over the weekend.

INGREDIENTS

- Fat/ oil
- minced meat/beef/chicken
- Salt
- Onion
- pineapple
- Wheat flour/ Irish potatoes/Rice
- Tomatoes
- Coriander
- lemon
- Spice of your choice
- Milk
- melon
- Capsicum
- Sugar
- Ripe bananas
- cabbage

PLANNING SESSION – 30 MINUTES

Use separate sheets of paper for each task below and carbon paper to produce duplicate copies. Then proceed as follows

1. Identify the dishes and write down their recipes.
2. Write down your order of work.
3. Make a list of the food stuffs and equipment you will require.

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

314/1

ISLAMIC RELIGIOUS EDUCATION

Paper 1

2 ½ hours

Instructions to candidates

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

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

c) *This paper consists of* ***SIX*** *questions*

d) *Answer any* ***FIVE*** *questions in the spaces provided at the end of question six*

e) *Candidates should check the question paper to ascertain that all the questions are available*

f) *Candidates should answer the questions in English*

For Examiner's Use Only

Question	1	2	3		4	5	6	Total score
Candidate's score								

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QUESTIONS

1. (a) State the teachings a Muslim can learn from surah Nasir (Q:110) **(5 mks)**

(b) Explain the circumstances that led to the revelation of Surah An Nur (Q.24). **(5 mks)**

(c) Give reasons why the nature of the Quran changed from short to long verses when it was revealed in Madina **(10 mks)**

2. (a) State the teachings of Ayatul Qursi on the attributes of Allah. **(5 mks)**

(b) Explain five problems in translating the Quran into other languages. **(5 mks)**

(c) Describe the language of Quran. **(10 mk**

3. (a) Name the main shia collections of Hadith. **(4 mks)**

(b) Explain the methods used by Imam Bukhari in collecting and compiling Hadith. **(6 mks)**

(c) Discuss the effect of anger. **(10 mks)**

4. (a) Outline four differences between Sharia and fiqh. **(4 mks)**

(b) Discuss the contribution made by Imam Abu Hanifah to Islam. **(8 mks)**

(c) Describe the benefit of Tawba. **(8 mks)**

5. (a) Describe the undesirable act s in prayers. **(5 mks)**

(b) State the difference between Zakatul Mal and Zakatul fitr. **(5 mks)**

(c) Discuss how Hajj helps a Muslim to advance spiritually. **(10 mks**

6. (a) Outline the qualities of an Imam according to the shia belief. **(5 mks)**

(b) Discuss the significance of believing in Qadar (predestination). **(7 mks)**

(c) State the characteristics of the revealed scriptures. **(8 mks)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

314/2

ISLAMIC RELIGIOUS EDUCATION

Paper 1 2

2 ½ hours

Instructions to candidates

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

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

c) *This paper consists of SIX questions*

d) *Answer any FIVE questions in the spaces provided at the end of question six*

e) *Candidates should check the question paper to ascertain that all the questions are available*

f) *Candidates should answer the questions in English*

For Examiner's Use Only

Question	1	2	3		4	5	6	Total score
Candidate's score								

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1. (a) Identify any five activities that would lead to Muunkarat. **(5 mks)**

(b) Explain the basic beliefs on which Islamic morality is based. (8 mks)

(c) State seven main objectives of practicing Husunul khulug. (7 mks)

2. (a) State five types of sexual perversion according to Islam. (5 mks)

(b) Identify the identities a muslim should retain in a changing society. (5 mks)

(c) Discuss the measures put forward by Islam to curb the spread of HIV/AIDs. (10 mks)

3. (a) Discuss reasons why the family is considered the bedrock of Islamic society. (8 mks)

(b) Outline six duties of a husband in a Muslim family. (6 mks)

(c) Highlight the position of a woman in Islam. (6 mks)

4. (a) Give eight factors that may invalidate an Islamic contract. (8 mks)

(b) Discuss ways of eliminating corruption in the society. (12 mks)

5. (a) State the significance of the two covenants of Al-Agaba entered between the prophet (P.B.U.H) and Madinans. (5 mks)

(b) Explain any five events that led to the formation of the khawarij movement. (10 mks)

(c) Describe the factors that influenced the spread of Islam in North Eastern Kenya. (5 mks)

6. (a) Discuss the contribution of Sheikh Abdallah Al-Farsy to education in East Africa. (10 mks)

(b) Discuss the views of Ibn Khaldun on eduction. (10 mks)

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

501/1

FRENCH

(Listening comprehension, Dictation & Composition)

HEURES: 2 H 15 MIN

EXAMINERS USE ONLY

SECTION	MAXIMUM SCORE	CANDIDATES SCORE
1	25	
2	05	
3	15	
TOTAL	45	

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SECTION 1

Listening Comprehension (25 marks)

Write answers to questions 1 – 6 in the spaces provided.

Passage 1

1. (a) D'après l'annonce, qu'elle est la première émission du soir qu'on peut voir ? **(½ mark)**

……..

(b) On parle de la France à cause **du** **(½ mark)**

……. …….. ……..

(c) La dernière émission sera à quelle heure? ……... **(½ mark)**

Passage 2

2. (a)De quoi est qu'on parle ? ……... **(½ mark)**

(b) Les gens ne peuvent pas rouler la Route Nationale 10 parce que **(1 mark)**

……..

Passage 3

Annonce A

3. (a) Quand est ce qu'on arrive ? **(½ marks)**

…….. …..

(b) Qu'est ce qu'on demande aux voyageurs de faire . **(1 mark)**

……

Annonce B

(c)Donnez deux details sur le petit garcon

i)…… (½ mark)

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ii)…… (½ mark)

(d) Qui doit se présenter et où

i)…… (½ mark)

ii)…… (½ mark)

Annonce C

(e) Il y aura un concours le …….. (i) au …… (ii) municipal.

Seulement les …….(iii)Peuvent prticiper.Un prix sera

offert au ……..(iv) (2 marks)

Passage 4

4. (a)D'après la conversation,qu'est qu'on peut chercher au magasin Jourdin ?

……..……(1 mark)

(b) Le magasin ouvre à quelle heure ?

……(½ mark)

(c) Combien est qu'il doit payer ?

…… (½ mark)

Passage 5

5. (a) Quel est le sport de choix de l'auditeur ? **(½ mark)**

……

(b) Quel est son difficulté de la santé **(½ mark)**

……..

(c) Selon le docteur ,quel sera le meilleur sport pour lui? **(1 mark)**

……

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Passage 6

(d)Selon le texte où est-ce qu'on peut passer l'hiver? **(½ mark)**

……

(e) identifier deux activités qu'on peut y faire. **(1 mark)**

…….……..……..……..……

Passage 7

a) Dans quelle parties du pays pleura- t-il ?

i)……..... **(½ mark)**

ii) Quand est ce qu'il fera chaud ? **(½ mark)**

…….

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SECTION 2

Dictation (5 marks)

W rite the dictation passage in the spaces provided.

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SECTION 3

Composition (15 marks)

Write your composition in the spaces provided.

1. In 150 – 180 words, write in French a composition ending as follows:

EITHER

a) ... .Malheureusement, Marc et ses copains se sont trouvés en prison à cause de cet incident. ***(15 pts)***

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OR

b) ….Depuis ce jour – là, je me suis promis de ne jamais aider quel que' un que je ne connais pas.

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BONNE CHANCE

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

501/2

FRENCH

Paper 2

Reading comprehension, Grammar & Composition writing

Time: 2 ¼ hours

Instructions to Candidates.

*This paper has **three** sections.*
*The **first part is the reading comprehension** the **second part is grammar** and the **third part** is **composition writing**. Part one and two is each **15marks** then part three has **10marks**.*
*Answer **all** the questions in the spaces provided in this question paper.*

For Examiner's Use Only

Section	*Maximum Score*	*Candidate's Score*
I	*15*	
II	*15*	
III	*10*	
TOTAL SCORE	*40*	

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SECTION 1 (15pts)

READING COMPREHENSION

Read the following passages and answer the questions that follow each passage.

PASSAGE 1

Les auteurs d'un hold-up commis à Bruxelles ont été trahis par une montre-bracelet que l'un d'eux avait perdue au moment de l'attaque. Les deux hommes avaient attaqué une camionnette des chèques postaux en plein centre de Bruxelles l'après-midi. Ils s'étaient empirés d'une mallette contenant 3187000FB (480000FF) et ils s'étaient enfuis. Mais l'un des agresseurs avait perdu sa montre en frappant le conducteur de la camionnette. L'objet avait été acheté chez un bijoutier de Bruxelles, qui y avait mis son signe distinctif. La police a pris contact avec le bijoutier et grâce au bon de garantie, ils ont pu retrouver le malfaiteur. La police, selon les sources informés, ont également arrêté les complices et retrouvé le butin.

Où se passe le hold ? **(½pt)**

……

Combien de voleurs y avait-il ? **(½pt)**

……

Qu'est-ce qui a aidé la police à retrouver le voleur ? **(1 pt)**

……

Est-ce qu'on a enfin trouvé l'argent? **(1pt)**

……

PASSAGE 2

Les autorités égyptiennes indiquent avoir gagné la lutte contre le haschich (résine de cannabis) dont la consommation était prévalent dans ce pays. Le ministre de l'Intérieur impose son contrôle sur le marché de la drogue afin d'achever une éradication complète du trafic de haschich.

Il est estimé que près de 10% de la population d'Egypte (80 millions d'habitant au total) consomme la drogue, surtout de la marijuana. Le haschich présent sur le marché égyptien est en grande partie importé illégalement du Maroc via la Libye. Avec la police et les officiers du gouvernement corrompus, l'import n'est pas difficile. Les consommateurs commencement déjà à sentir les effets de cette éradication :

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« Je préfère le haschich car la marijuana me fait fou, c'est trop fort. Mais il n'y a plus d' haschich ! Alors, je prends de la marijuana », révèle un utilisateur de drogues.

Au Kenya, l'abuse de drogues est répandue surtout à la côte. Selon une émission de télévision, il n'est pas difficile d'obtenir de la drogue en grandes villes kenyanes. Le futur du pays est en danger; ce sont les jeunes qui sont impliqués dans l'abuse des stupéfiants.

Que fait le gouvernement égyptien pour éradiquer le haschich ? (1pt)

……

Combien de personnes égyptiennes consomment la drogue ? (1pt)

……

D'où vient le haschich vendu en Egypte ? (½pt)

……

Pourquoi est-il difficile de contrôler l'import d' haschich en Egypte ? (1pt)

……

D'après le texte, pourquoi est-ce que le futur du Kenya est menacé ? (1pt)

……

Synonyme de **drogues** : …….. (½ pt)

PASSAGE 3

THEATRE DE L'ORME 24 RUE DES MIMOSAS

jeudi,vendredi,samedi à 20h 20.
Dimanche à 17h

De Patricia OUVRAD avec Sophie ETAIX et Michel DUBOIS

CHUUUT !

Les tribulations d'un couple curieux de la vie de ses voisins de palier.une comédie sur les petits détails de notre vie.

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Quel type de document est présenté ci-dessus ? (½ pt)

……

…….

Combien de jours passe cet activité ? (1 pt)

……

…….

Qui sont Sophie, Patricia et Michel ? (1 pt)

…….

PASSAGE 4

Les problèmes de cette mère de famille de 44 ans ont commencé le jour où son mari et elle-même ont décidé d'acheter un garage automobile à Oberwampach, où ils vivent. À peine acquis, le couple apprend qu'il ne peut faire un tel commerce au Grand-Duché car le mari ne dispose pas du diplôme de maître-artisan nécessaire.

Résultat, le garage reste fermé à double tour. Les dettes s'accumulent et la situation va de mal en pire. Jusqu'à ce jour fatal où cette belge d'origine congolaise a fait l'impensable. À sa sortie, elle menace de se tuer sur La Place des Martyrs.

Elle semble si déterminée et désespérée à la fois que le fonctionnaire décroche immédiatement son téléphone pour prévenir la police. Rapidement, les forces de l'ordre se mettent en alerte et un important nombre de policiers est déployé à la place des Martyrs. La femme qui s'est suicidée, Mme Delvaux-Mufu, avait expliqué toute sa situation dans une lettre qu'elle avait envoyée une semaine avant au journal «Le Jeudi».

De qui parle le texte ? (½pt)

……

…..

Comment est-elle morte ? (½pt

……

…

La dame vient de quel pays ? (½pt)

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……

….

Où habitait la dame ? (½pt)

……

…

Quel genre de commerce voulait-on commencer ? (½pt)

……

….

Pourquoi est-ce que son mari ne peut pas faire le commerce ? (1pt)

……

……

La dame comment avait-elle communiqué de son problème ? (1pt)

…….

SECTION II (15pts)

GRAMMAR

Beginning as indicated, complete the sentences below making all appropriate changes. Avoid repetition

Rewrite each of the following sentences beginning with the words given.

Example: Tu regardes la voiture?

Non, je ne la regarde pas.

C'est votre voiture?

Non, la…… est tombée en panne. (1pt)

Donnez moi un kilo de viande.

Je vous demande ..... un kilo.

(1pt)

Est-elle invitée au boum ?

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Non ,..... (1pt)

Il pleut , je ne me promène pas dans le parc.

Et demain ?

Demain encore, s'il..... (1 ½ pts)

Vous êtes déjà arrivé ?

Non, je..... (1pt)

Il a terminé son devoir puis il est sorti.

Ayant..... (1pt)

Regardes ces images

Regardez- ..... (½ pt)

Complete each blank space with one word only *(5points)*

Journaliste:Depuis …… (a) êtes-vous interprète?

Interprète: Depuis environ deux ans.

Journaliste: …….. (b) fait exactement un interprète?

Interprète: La plupart …….. (c) temps, je travaille …….. (d) côté d'une salle de conference, en cabine. J'écoute l'orateur et je traduis simultanément dans un micro.

Journaliste: Mais, je ne pense pas …….. (e) toutes les conférences du Centre nécessitent des interprètes, alors qu'est-ce que tu fais pendant votre temps libre?

Interprète: C'est vrai, lorsque je …….. (f) disponible, on me demande ……(g) faire des traductions ……. (h) de l'interprétariat pour des compagnies privées.

Journaliste: Qu'est-ce qui vous ……(i) dans ce métier?

Interprète: Je rencontre beaucoup de monde et c'est ……..(j) agréable!

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For each of the following situations, write in French the appropriate response *(3 points)*

Vous êtes perdu en ville. Demandez quelqu'un pour vous indiquer le chemin.

.....

Vous avez reçu un cadeau de votre ami.

.....

Vos amis font de bruit.

.....

SECTION III (10 marks)

COMPOSITION

Write your composition in the pages provided. Indicate clearly whether your choice is 1a or 1b

In about 120 -150 words, write in French On:

Either

Votre cousin(e) a beaucoup aimé ce que vous avez mangé le soir passé. Ecrivez lui/elle la recette que vous avez utilisé.

(10pts)

Or

Vous êtes chef de club de géographie dans votre école. Bientôt, vous allez pour une excursion de géographie d'une semaine. Ecrivez le programme proposé.

(10pts)

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

502/1

GERMAN

(Listening Comprehension and Essay Writing)

Paper 1

Time: 2 hours

Instructions to candidates

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

*This paper consists of **two** sections: **A** and **B**.*

*Answer **all** the questions in the spaces provided in this question paper.*

For Examiner's Use Only

SECTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	15	
B	20	
TOTAL SCORE		

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SECTION A

LISTENING COMPREHENSION (15 MARKS)

Passage 1

Listen to the conversation carefully and answer the following questions.

1. Wohin wollen die Leute gehen? **(1 mark)**

.....

.....

2. Gibt es **.....?** **(½ mark)**

3. Wie viele Personen sprechen **(½ mark)**

.....

Passage 2

Listen to the conversation carefully and answer the following questions.

4. Was traegt die Frau oft zu Hause? **(1 mark)**

.....

.....

5. Was mag sie nicht? **(1 mark)**

.....

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Passage 3

Listen to the converstion carefully and answer the following questions by indicating whether the statements are true (R) or false (F) **(6 marks)**

	R	F
1. Claudia ist in 1987 geboren.		
2. Im moment wohnt sie in Bremen.		
3. Sie wusste schon nach ihrem Abitur, was sie machen sollte.		
4. Sie ist in einem Jahr durch Russland gereist.		
5. Sie studierte in der Uni Hamburg.		
6. Sie arbeitet seit 2007 in Spiegel.		

Passage 4

Listen to the conversation carefully and answer the following questions.

7. Wie viele Sprachen kann Herr Kastner sprechen? Nenne sie. **(2 marks)**

i)

ii)

iii)

iv)

8. Welche Sport treibt er gern? **(1 mark)**

.....

.....

9. Er studierte in..... und ..... **(2 marks)**

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SECTION 2

SCHREIBEN (20 marks)

Write a letter or an essay of not more than **250 words** on any of the following topics in the pages provided.

1. Dein deutscher Brieffreund/ deine deutsche Brieffreundin möchte gerne über Reisen in deinem Heimatland wissen. Schreib ihm/ ihr einen Brief und informiere ihn/ sie über folgende:

- Welche Verkehrsmittel benutzt du und warum?
- Wann ist die beliebteste Reisezeit bei euch?
- Wohin reisen die meisten Leute und warum?
- Welche probleme triffst du beim Reisen.
- Frag ihn/sie über Reisen in Deutschland.

2. Schreib einen Brief an einen deutschen Freund/ an eine deutsche Freundin über die Jugend von heute. Behandle in den Brief folgende Punkte:

- Erkläre, wie die Jugendliche sich gerne bekleiden,
- Warum viele Eltern die Jugendliche kritisieren,
- Wie die Jugendiche ihre Freizeit am meisten verbringen,
- Was sagen die Jugendliche, wo sie am liebsten wohnen würden.
- Welche Kurse sind unter Jugendliche sehr beliebt? Erkläre.

3. Vor einem Monat ist deine Oma, die auf dem Land wohnt, krank geworden. Schreib einen Brief an deinen deutschen Freund Paul / an deine deutsche Freundin Paula und erzähle:

- An welche Krankheit deine Oma krank geworden ist,
- Wie es ihr jetzt geht und wie sie aussieht,
- Was muss sie tun, um gesund zu bleiben?
- Warum werden viele Leute heutzutage krank?
- Was soll gemacht werden, um solche Situationen zu lösen?

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4. ’’ Der Bus hielt sofort in der mitte der Hauptstraße an……..…”

Schreib die Geschichte zu Ende.

……

……

……

CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

502/2

GERMAN

(Grammar and Comprehension)

Paper 2

Time: 2 hours 30 minutes

Instructions to candidates

- *Write your name and admission/index number in the spaces provided above.*
- *Sign and write the date in the spaces provided above.*
- *Answer **all** the questions in the spaces provided in the question paper.*

For Examiner's Use Only

Section	Maximum Score	Candidate's Score
I	20	
II	20	
Total score	40	

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Section 1 Grammatik (20 marks)

A: Complete the following sentences in the present perfect tense using the verbs given in the brackets.

Beispiel: Es **ist** kalt **geworden**

1. Warum…….. ihr nichts darüber .....? (wissen)
2. Rema Roba.....ihre Freunde im Hotel ..... (treffen)
3. Gestern .....die Bahn gegen sieben Uhr .....(abfahren)
4. Herr Schmidt ....das Essen schnell.....(essen)
5. Wieviel .....du für dieses Handy.....? (bezahlen)

B: Complete the following phrases in the imperative mood.

Beispiel: Du sollst deine Arbeit schnell machen:
Mach deine Arbeit schnell!

1. Lucy, du musst die Hausaufgabe ergänzen:
   .....!
2. Es ist spät Markus und Bilha: Ihr soll schnell aufstehen.
   .....!
3. Papa, ich habe viel Angst, denn du das Auto nicht gut kontrollierst.
   .....!
4. Schüler, ihr habt den Text noch nicht vorgelesen:
   Bitte,.....!
5. Herr Otoyo soll einen Brief schreiben: .....!

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C. Complete the following sentences using the correct form of adjective in brackets.

Beispiel: Das **schnellste** Auto ist in Deutschland hergestellt.

1. Der „V8“ ist heute der .....Wagen in Kenia. (beliebt)
2. Diemal sind Juli und August die .....Monate in 2001 (kalt)
3. Bei dem .....Wetter fliehen viele Tiere nach dem Süden (schlecht)
4. Meine Mutter meint, dass Gold .....als Silber im Markt ist. (edel)
5. Unter alle Bergen, die ich kenne, der Kilimanjaro ist am..... (hoch)

D: Change the following sentences into the passive voice

Beispiel: Michael und Michaella fritieren Pommes heute Abend.
Pommes **werden** von Michael und Michaella heute Abend **fritiert.**

1. Der Koch schneidet Obst und Gemüse jeden Tag.
.....

2. Die Eltern kaufen Milch im Supermarkt ein.
.....

3. Der Direktor wartet auf dich in seinem Büro.
.....

4. Warum trinken die Kinder kaltes Wasser?
.....?

5. Repariert die Mechnikerin den Bus am Wochenende?
.....?

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E: Complete the space with suitable question words.

Beispiel: Wie ist Ihr Name?

1. .....träumst du jede Nacht ? „von meiner Freundin natürlich!''

2. Du, Peter,..... willst du in den Ferien besuchen? ,,meine Oma natürlich!

3. ..... Wörtebücher liegen auf dem Boden ? ,,von uns natürlich!

4. .....ist die Deutschdoppelstunde ? Am Freitag ab 11 Uhr.

5. .....brauchst du deinen Kopf? Zum Denken natürlich!

F: Supply a correct personal pronoun of the underlined noun

Beispiel: Der Apparat kostet hundert Schilling in einem Laden.

Er kostet hundert Schilling in einem Laden.

1. Die komische Lehrerin erzählt ihren neugieren Schülerinnen eine interessante Geschichte.
Die komische Lehrerin erzählt ..... eine interessante Geschichte.

2. Mein Vater hat meinen Freund Oliech gestern im Supermarkt gesehen.
Mein Vater hat ..... gestern im Supermarkt gesehen

3. Deiner Schwiegerin leihe ich den Schal jeden Abend.
..... leihe ich den Schal jeden Abend.

4. Am Wochenende kannst du zwei Bananen im Speisesaal mit deinen Mitschülern essen.

Am Wochenende kannst du .....im Speisesaal mit deinen Mitschülern essen.

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5. Das Mädchen wollte dem Kind ein Paar Socken kaufen.

Das Mädchen wollte ..... ein Paar Socken kaufen.

G. Arrange the words and phrases in italics in the correct order

Beispiel: Ich wollte fragen, *ob – dein Onkel – fliegen – nach Nairobi.*

Ich wollte fragen, ob dein Onkel nach Nairobi fliegt.

1. Der Lehrer hat gesagt, *dass – waschen – sollen – Timo – die Uniform.*

.....

2. Ich habe keine Ahnung, *wann – ich – die Dame – helfen.*

.....

3. Können Sie mir sagen, *ob – der Zug – ankommen - um 9 Uhr.*

.....

H. Write using infinitiv with zu or without zu

Beispiel: Er plant, die Fenster zuzumachen

1. Am Wochenende nimmt Peter ein Paar Bücher mit. Du auch? Leider nicht!

Der Bibliotheker hat mir verboten .....

2. Fahr heute Nachmittag mit dem Bus nach Kilifi.

Ich möchte .....

I: Join the follwoing sentences using the following connectors

damit, um.....zu, ohne.....zu or ohne dass

1. Der Mann möchte mehr arbeiten : seine Familie bekommt mehr von ihm.

.....

2. Daniel fliegt nächstes Jahr nach Rußland: Er möchte vieles kennen lernen.

.....

3. Meine Eltern geben mir viel Geld: Sie fragen mich nicht.

.....

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4. Der Bruder kauft ein Fahrrad. Die Schwester weiß nichts darüber.

.....

SECTION II: READING COMPREHENSION (20 marks)

Read the following text and answer the questions below

Die drei Federn.

Ein König hatte drei Söhne: zwei waren klug aber einer war dumm. Deshalb heißt er Dummling. Der König war schon sehr alt und krank und fragte sich, welcher Sohn nach ihm König wird. Er sagte zu seinen Söhnen, dass wer einen schönsten Teppich fand, wird König. Vor der Schloss pustete der König drei Federn in die Luft; eine fliegt rechts nach Osten, eine links nach Westen und eine geradeaus und fiel auf den Boden. Er sagte den Söhnen, die Feder zu folgen!. Der Dummling blieb bei der dritten Feder als seine Brüder über ihn lachten. Er setzte sich hin traurig. Plötzlich sah er neben der Feder eine Falltür im Boden. Er öffnete die Tür, ging die Treppe hinunter und fand eine andere Tür. Er klopfte an die Tür und eine Stimme fragte: Wer ist da? Die Tür ging auf und der Dummling sah eine große dicke Kröte und viele kleine Kröten herum sitzen. Was willst du? Fragte die Kröte. „Ich brauche den schönsten Teppich". Die dicke Kröte sagt zu einer kleinen Kröte: Bring mir die große Schachtel! Er machte die Schachtel auf und holte einen Teppich heraus. Der schöner als alle Teppiche auf der Welt war. Der Dummling bedankt sich bei der Kröte und ging zurück zum Schloss. Die Brüder vom Dummling dachten, „der Dummling ist dumm, kann nichts finden deshalb machen wir es uns leicht. Leider fanden sie alte Tücher auf dem Weg und brachten sie dem König. Der König war erstaunt und sagte der Dummling wird König. Aber die Brüder waren dagegen und baten den König um eine neue Aufgabe.

Also, wer den schönsten Ring sucht, wird König. Nochmal pustete er die drei Feder in die Luft, und die Söhnen gingen weiter zum Suchen. Der Kleine ging wieder zu der großen dicken Kröte und bat um den schönsten Ring. Er holte einen Ring heraus, der schöner als alle Ringe auf der Welt war und gab ihm. Der Ring hatte viele Edelsteine und glänzt. Seine Brüder fanden alte Ringe auf dem Weg

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und suchten nicht weiter. Deshalb sagte der König: „Er wird König" Aber die Brüder waren wieder dagegen und baten um eine neue Aufgabe.

Zum Drittenmal pustete der König drei Feder in die Luft und empfahl ihnen, die schönste Frau zu suchen. Der Sohn mit der schönsten Frau wird König. Der Dummling geht wieder zur Kröte, die sagte „es ist schwer aber du bekommst die schönste Frau. Sie gab ihm eine Rübe und vor die Rübe waren sechs Mäuse gespannt, so wie bei einer Kutsche. Der Dummling war traurig und fragte: Was soll ich damit? Die Kröte antwortete: Setze eine kleine Kröte in die Rübe. Plötzlich wurde die Rübe zu einer Kutsche, die sechs Mäuse zu Pferden und die kleine Kröte zu einer schönen Frau. Dann fuhr er mit der schönen Frau in der Kutsche zum Schloss. Aber die Brüder hatten dicke hässliche Frauen gefunden. Deswegen waren sie wieder dagegen und baten den König um eine letzte Aufgabe.

Der König ist einverstanden: Jetzt sollten die Frauen durch einen Reifen springen. Schafft es die Frau von einem Sohn? Dann wird dieser Sohn König. Die Brüder vom Dummling dachten ihre dicke Frauen sind stark und können durch den Reifen springen. Aber die Frau vom Dummling ist dünn und schwach und schafft diese Aufgabe nicht. Zuerst sprangen die Frauen von den zwei Brüdern durch den Reifen aber waren zu schwer und fallen hin. Die Frau vom Dummling sprang so leicht wie eine Feder und schaffte es. So wurde der Dummling der neue König

Now answer the following questions

1. Was für Kinder hatte der König? 1P

   .....

2. Welches Problem hatte der König? (1P)

   .....

   .....

3. Welche Rollen spielten die Feder? (2P)

   .....

   .....

   .....

4. Warum waren die zwei Brüder gegen Dummling? (1P)

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.....

.....

5. Wiemals mussten die Brüder auf dem Suchen gehen? (1P)

   .....

6. Beschreibe, wer dem Dummling half? (1P)

   .....

7. Nenne die vier Aufgaben, die sie machen mussten. (2P)

   i.....

   ii.....

   iii.....

   iv.....

8. Wie wurde der Dummling zum König? (1P)

   .....

   .....

Read the following text and answer the questions below

Es gibt bald neue Corona-Regeln in Deutschland. Die Chefinnen und Chefs von den Bundes-Ländern und Bundes-Kanzlerin Merkel haben entschieden: Die Schnell-Tests sollen nicht mehr kostenlos für alle Menschen sein. Aber es gibt Ausnahmen zum Beispiel für Kinder oder kranke Menschen. Die Regel gilt vom 11. Oktober. Die Politikerinnen und Politiker sagen: Fast jeder in Deutschland kann sich gegen Corona impfen lassen. Deswegen ist es nicht gerecht, dass der Staat weiter die Tests für Menschen bezahlt, die sich nicht impfen lassen wollen.

Ab dem 23. August gilt eine andere neue Regel für Innen-Räume. Die Regierung nennt sie die 3-G-Regel. Das bedeutet: Man muss geimpft, getestet oder wieder gesund sein nach einer Corona-Erkrankung. Dann darf man zum Beispiel in einem Restaurant drinnen essen oder ins Kino oder Sport in einer Halle machen. Wenn man nicht geimpft ist und nicht getestet, darf man viele Sachen nicht mehr machen. Deswegen gibt es Kritik. Manche sagen: Die Regelungen sind so ähnlich wie eine Pflicht zum Impfen. Sie finden: Eine Impfung soll freiwillig sein.

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Bund und Länder haben auch noch über die Flut-Katastophe im Westen von Deutschland gesprochen. Sie haben entschieden: Wir geben 30 Milliarden Euro. Mit dem Geld sollen die Schäden behoben werden.

Seit Januar 2020 gibt es ein neues Virus. Ein Virus kann krank machen. Das neue Virus heißt: Corona-Virus oder Sars-CoV-2. Das Wort Corona bedeutet Krone. Die Form von dem Virus sieht so ähnlich aus wie eine Krone. Das Virus ist zuerst in dem Land China gewesen. Viele Menschen auf der ganzen Welt haben sich angesteckt, auch in Deutschland. Wer das Virus hat, kann sich erkältet fühlen. Viele haben Husten und Fieber. Die meisten Menschen werden von selbst wieder gesund. Aber manche Menschen bekommen eine schwere Lungen-Krankheit. Diese Menschen können an dem Virus sterben. Inzwischen gibt es gegen das Virus auch mehrere Impf-Stoffe. In vielen Ländern von der Welt – auch in Deutschland – ist damit begonnen worden, die Menschen zu impfen.

Deutschland besteht aus 16 Bundes-Ländern. Sie heißen zum Beispiel Bayern, Sachsen oder Nordrhein-Westfalen. Jedes Bundes-Land hat eine Landes-Regierung. Der Chef von einer Landes-Regierung ist der Minister-Präsident oder die Minister-Präsidentin.

Die Bundes-Regierung ist die Regierung von Deutschland. Zur Bundes-Regierung gehören die Minister und Ministerinnen. Jeder Minister ist für bestimmte Themen zuständig: zum Beispiel für Umwelt, Wirtschaft oder Bildung. Die Bundes-Regierung wird von der Bundes-Kanzlerin oder vom Bundes-Kanzler geleitet.

Now answer the questions below.

1. Erkläre die neue Corona-Regeln (2P)

……

……

2. Warum wird die Regierung für die Tests nicht mehr bezahlen? (1P)

……

……..

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3. Was bedeutet 3-G-Regel? (1P)

……..

4. Welches Problem gibt es für jemanden, der 3-G-Regel nicht gehorcht? (1P)

…….

……..

5. a. Was bedeutet Corona? (½ P)

……..

b. In welchem Land startete Corona (½ P)

……..

6. Was sind die Symptome für Corona? (1P)

…….

…….

7. Was ist der passende Titel dieses Texts?

…….

8. Deiner Meinung nach, wie kann man sich gegen Corona schutzen? (2P)

……

…….

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME…… **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

442/1

ART AND DESIGN (THEORY)

PAPER 1

TIME: 1 ½ HOURS

INSTRUCTIONS TO CANDIDATES

Write your name and index in the spaces provided.

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

*Answer all the questions in sections **A** and **B** and **one** question in section **C**.*

For Examiner's Use Only

Section	Question	Candidates Score
A	1	
B	2	
	3	
	4	
	5	
	6	
C		
Total Score		

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SECTION A: (20 Marks)

Answer all questions in this section in the spaces provided below.

1. **(a).** What are the "elements" of Art and Design **(1 mark)**

……

……

b) How is colour used to model forms **(2 marks)**

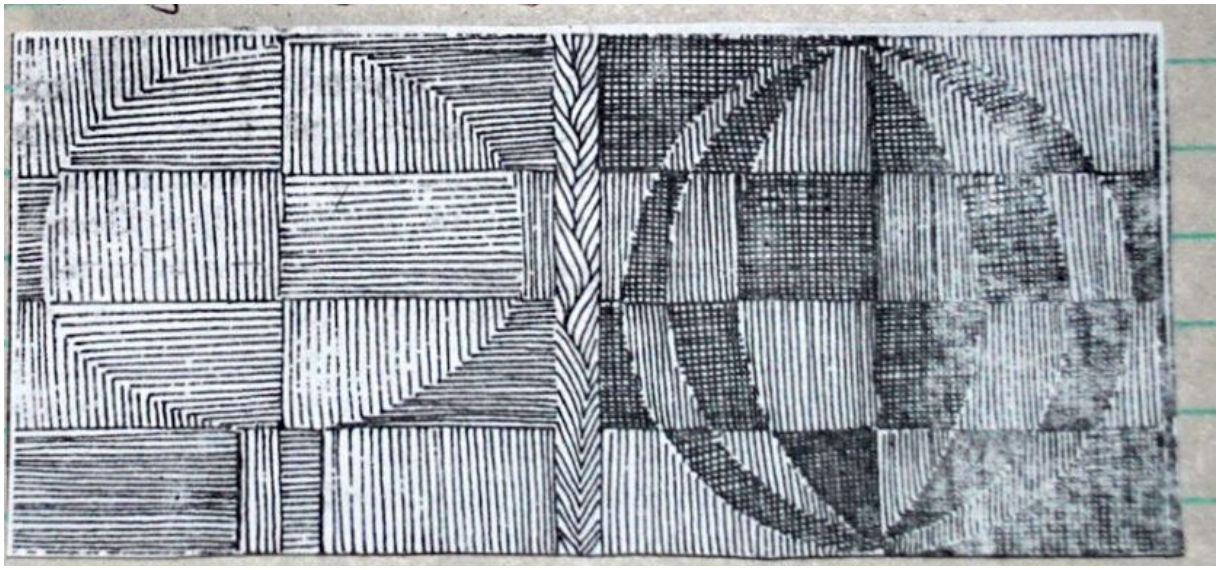
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c) Study the figures below



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Identify the use of lines in the figures above **(1 mark)**

……

d) Explain how tessera distinguishes mosaic from collage **(1 mark)**

……..

……

e) Which method of fabric decoration is common to tie and dye and Batik? Describe it.
(2 marks)

……

……

f) Give the other name used to refer to plain weave. **(1 mark)**

……

g) Define the term "slip" as used in pottery **(1 mark)**

……..

……

h) State ***two*** functions of slip in pottery work **(2 marks)**

……..

……

i). State and describe the quality of clay that makes it an ideal modeling material. **(2mks)**

……

……

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j) Using illustrations, describe the use of negative space in pattern making. **(2 marks)**

……

……

……

k). Explain any ***two*** methods of print making process. **(2 marks)**

……

……

l) Define "Illustrations" in graphic design. **(1 mark)**

……

……

m) What is an "armature" in sculpture making **(1 mark)**

……

……

n) Distinguish between caricature and cartoon **(1 mark)**

……..

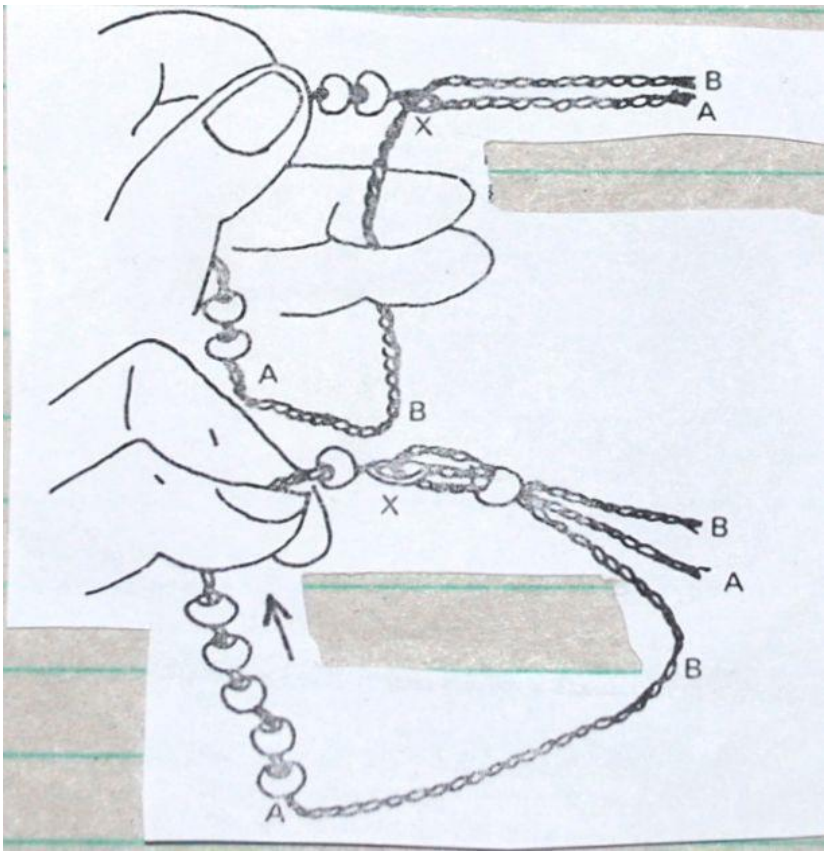
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SECTION B: (25 Marks)

Answer ALL questions in this section in the spaces provided below.

2. The illustrations below show beadwork technique in ornament making.



i) Identify the beadwork technique. **(1 mark)**

……

ii) By use of diagrams outline the ***two*** steps prior to the two shown by the illustration above.

(2 marks)

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(iii) Describe the steps shown by the illustrations above. **(2 marks)**

……

……

……

……

3. In the space below, draw a landscape and in it show atmospheric perspective. **(5 marks)**

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4. **(i)** What is a colour scheme? **(1 mark)**

……

……

(ii) Explain the following colour schemes **(4 marks)**

Monochromatic colour scheme

……

……

Analogous colour scheme

……

……

Complementary colour scheme

……

……

Triad colour scheme

……

……

5. **(i)** Identify and explain the ***two*** aspects of balance in sculpture **(4 marks)**

……

……

(ii) How is movement expressed in a sculpture? **(1 mark)**

……..

……

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6(i) Using illustrations depict the following shading techniques in drawing: **(3 marks)**

Hatching

Cross-hatching

Smudging

ii) List the ***four*** major categories of drawing. **(2 marks)**

……

……

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SECTION C: (15 Marks)

Answer any ONE question in this section. Write your answer in the space after Question 9

7. **(a)** Describe a "squeegee" **(1 mark)**

(b) What is the work of a squeeze in art and design activities? **(1 mark)**

(c) Outline the procedure of blocking out stencil using shellac or glue in developing a stenciled screen. **(12 marks)**

(d) State the main factor considered when choosing the medium of blocking the screen. **(1 mark)**

8(a) State the ***three*** purposes that the rigid heddle loom serve. **(3 marks)**

(b) Apart from rigid heddle loom, name two other types of loom **(2 marks)**

(c) Using diagrams, describe the process of weaving on the rigid heddle loom. **(10 marks)**

9. **a)** State and describe the stages of graphic design process. **(10 marks)**

b) Give ***two*** characteristics of Roman letters **(4 marks)**

c) What is layout in graphic design? **(1 mark)**

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

442/2

ART AND DESIGN (PRACTICAL)

Paper 2

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

- ***a)*** *This paper consists of two* ***alternatives; A*** *and* ***B.*** *Each* ***alternative*** *has two questions. Choose only one question from any one alternative.*
- ***b)*** *This question paper will be given to you* ***one hour before the start of the examination*** *to enable you to make your choice from the alternatives.*
- ***c)*** *During this* ***one hour****, you are allowed to make sketches on the blank* ***A4*** *paper provided to help you decide on your choice, in the examination room.*
- ***d)*** *You are reminded that emphasis should be laid on quality of imagination rather than literal interpretation of the question.*
- ***e)*** *The use of* ***geometrical instruments*** *and* ***tracing paper*** *is* ***forbidden*** *in alternative* ***A*** *and is* ***allowed*** *in alternative* ***B.***
- ***f)*** *The use of computers, coloured pencils, crayons, luminous pens or marker pens is not* ***allowed*** *in any alternative.*
- ***g)*** *Clearly write your* ***name, index number, the alternative, number of option*** *chosen, signature and* ***date in the spaces provided in the A4 and A2 sheets of paper.***
- ***h)*** *At the end of the examination for wet media, let your work completely dry then pass it to the supervisor* ***without folding or rolling it.***
- ***i)*** *This paper is marked out of 100 marks.*

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ALTERNATIVE A: DRAWING OR PAINTING

You are instructed that the use of geometrical instruments, tracing paper, coloured pencils, crayons, luminous pens or marker pens is forbidden in this alternative.

EITHER

DRAWING

1. A nine year old girl called chistine was sent by her mother to the nearby shop to buy a loaf of bread. Unfortunately she was shortchanged .In fury her mother strode to the shop and engaged in an animated argument with the furious shopkeeper who is denying. Draw a composition depicting the above scene within an area of 40cm by 50 cm.

OR

PAINTING

2. A volunteer group called "shape up" engages in street cleaning as a way of exercising to create awareness on keeping fit as the best way to lose weight .Paint an imaginative composition depicting this group cleaning the street in a jovial mood.

ALTERNATIVE B: GRAPHIC DESIGN

You are instructed that the use of geometrical instruments and tracing paper is allowed in this alternative .The use of coloured pencils ,crayons, luminous pens ,markers and computers is forbidden .The colour of the working surface (paper) will not be considered as one colours required

EITHER

3. An Art and Design class has been given a space at an International show. Using three colours and in an area of 30cm by 45 cm, create a design for the stand to include a logo and a motto for the group the motto should not exceed 4 words.

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4. A company that exports honey requires a sticker for their jars. The name of the company is "Tamtam Asali"

a) Design a sticker that include catchy words and an illustration in an area of 20cm by 10cm

b) And a business card for the executive officer dealing with bee keeping and sale of honey by the name Stephen Matamu.in an area 10cm by 5cm.

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

448/1

ELECTRICITY

(Theory)

Paper 1

Time: 2 ½ hours

INSTRUCTIONS TO CANDIDATES

- *This paper has 12 printed pages.*
- *Answer all questions in section **A** and **B**.*
- *Mathematical tables or non-programmable electronic calculators maybe used*

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SECTION A (48 marks)

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

1. (a) Outline the procedure of connecting an ammeter to take a measurement in a circuit.

(2 marks)

……

……

……

(b) **Figure 1** shows a resistor with color bands.

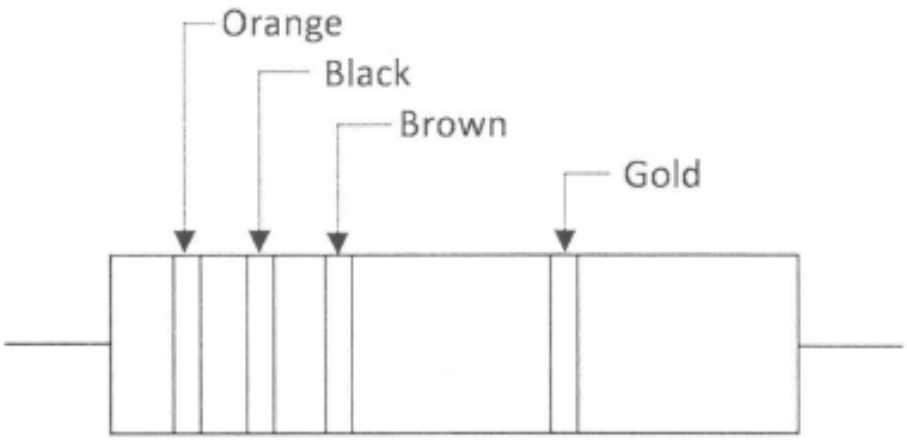


Figure 1

Determine its:

(i) Nominal resistance: **(1 mark)**

(ii) Maximum resistance. **(2 marks)**

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2. (a) State **two** reasons for using a circuit diagram when troubleshooting n electrical equipment. **(2 marks)**

……

……

……

(b) State **four** components of a bill of materials in project fabrication. **(2 marks)**

……

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……

…

3. (a) Explain the effect of each of the following in a p-n junction: (2 marks)

(i) Forward bias;

……

……

……

(ii) Reverse bias.

……

……

……

(b) State the meaning of each of the following ratings of a light emitting diode: (2 marks)

(i) $I_{F(max)}$;

……

……

……

(ii)$V_{F(typ)}$;

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……

……

……

4. **Figure 2** shows a transformer whose primary resistance is 1kΩ.

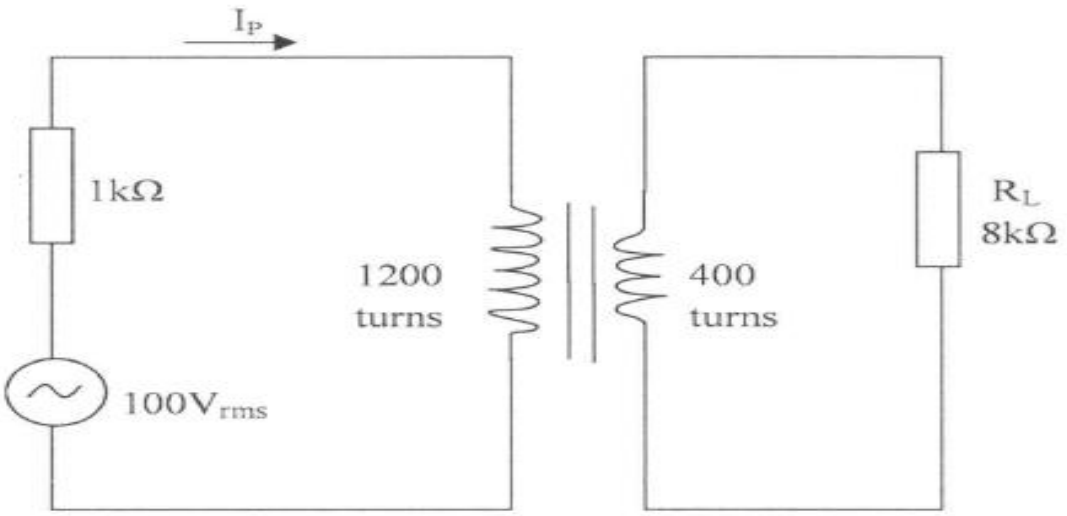


Figure 2

Determine the: **(5 marks)**

(a) Primary current I_P;

(b) Voltage across R_L.

5. With the aid of labeled diagrams, illustrate the arrangement of magnetic domains in:

(a) Unmagnetised material;

(b) Magnetized material. **(3 marks)**

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6. (a) **Figure 3** shows a voltage divider circuit.

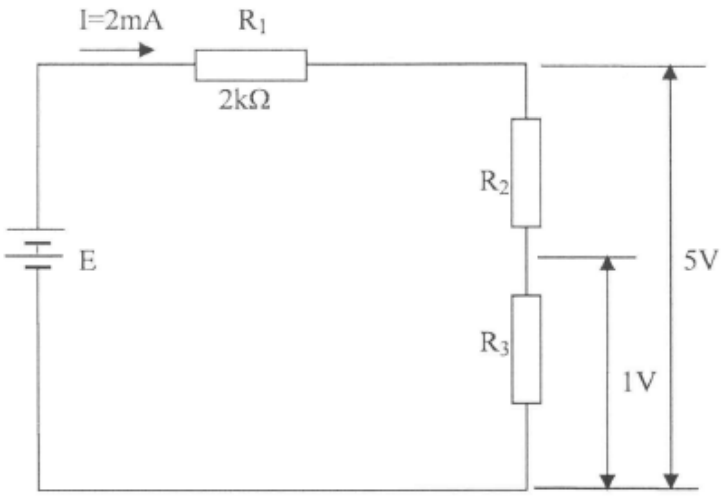


Figure 3

Determine the value of; **(4 marks)**

(i) E

(ii) R_2;

(iii) R_3.

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(b) A consumer has the following loads connected to the supply.

(i) Five 60W lights for 4 hours;

(ii) One 2kW kettle for ½ hour.

Calculate the total:

(i) Energy consumed;

(ii) Cost of energy used if the rate is 80 cents per unit. **(3 marks)**

7. (a) State **three** safety precautions to be observed by an operator using portable electric drill.

(3 marks)

……

……

……

……

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(b) Name **four** communication service provider companies currently operating in Kenya.

(2 marks)

……

……

……

……

8. (a) Name **four** types of insulating materials used in electrical circuits. **(2 marks)**

……

……

……

……

(b) State **three** advantages of PVC conduit wiring systems. **(3 marks)**

……

……

……

……..

9. (a) Calculate the inductance required to cause resonance at 150kH_Z when the capacitance is 1.0pF. **(2 marks)**

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(b) In a 240V circuit, the load current is 2.5A. If the power factor is 0.6, calculate**: (3 marks)**

(i) Apparent power;

(ii) True power.

10. Make a free hand isometric drawing of a conduit saddle in the space below**. (5 marks)**

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SECTION B (52 marks)

Answer any four questions from this section in the spaces provided.

11. **Figure 4,** in the next page, shows the front elevation, end elevation and an incomplete plan of an object.

(a) Complete the plan.

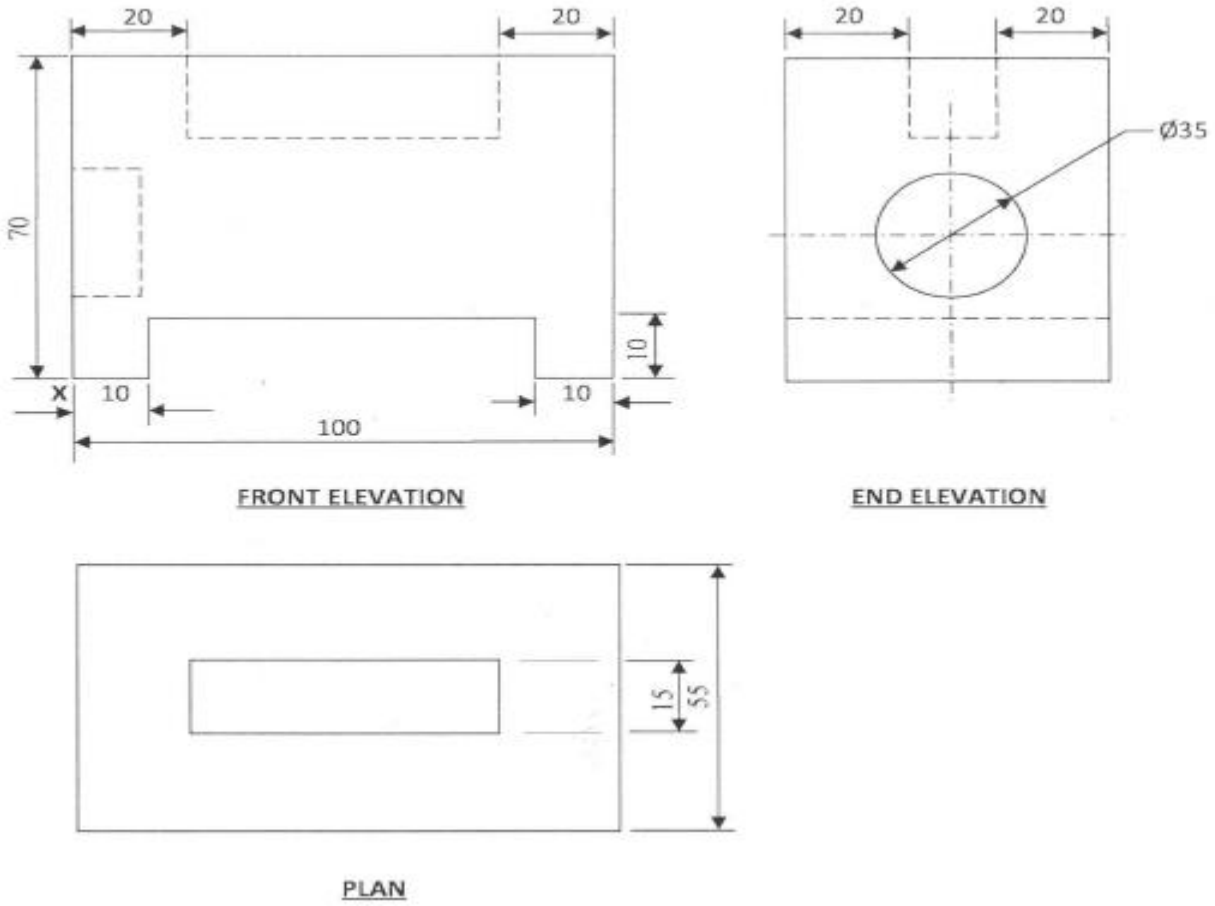
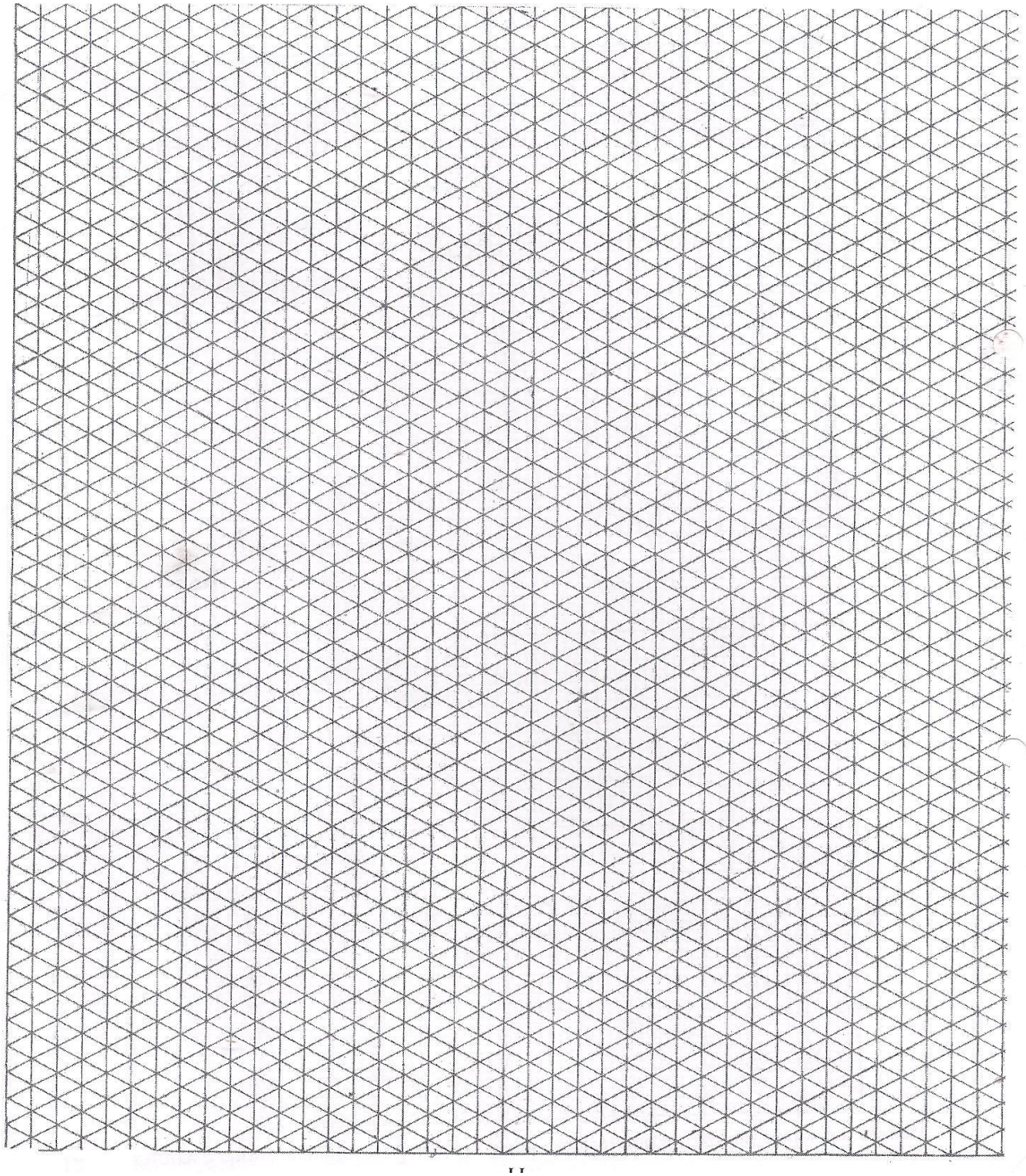


Figure 4

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(b) On the isometric grid provided, draw the isometric projection of the object making X as the lowest point. **(13 marks)**



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12. **Figure 5** shows waveforms A and B. their vertical and horizontal scales are given.

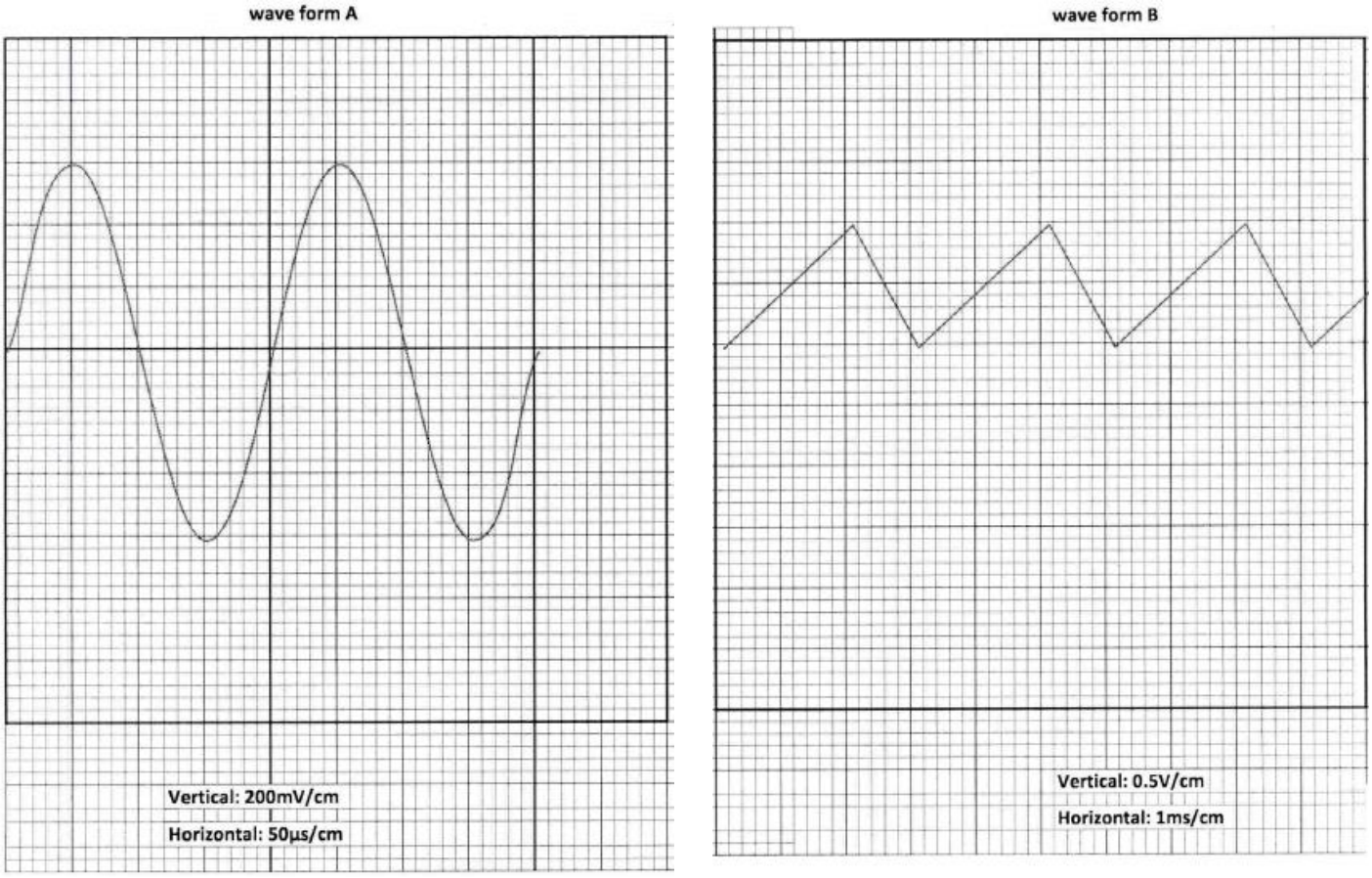


Figure 5

(a) Name each of the **two** waveforms. **(1 mark)**

……

……

……

(b) State the number of cycles displayed in each waveform. **(2 marks)**

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……

……

……

……

(c) Calculate; **(10 marks)**

(i) Frequency of waveform A;

(ii) Amplitude of each waveform;

(iii) RMS voltage of waveform A

13.(a) Draw a labeled diagram of a consumer unit with the following circuits. (11 marks)

(i) Lighting circuit

(ii) Water heater circuit;

(iii) Bell circuit

(iv) Cooker circuit;

(v) Ring circuit.

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(c) State the typical fuse ratings for any **four** of the final circuits in (a). **(2 marks)**

……

……

……

……..

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14. **Figure 6** shows an amplifier circuit whose current gain is 50.

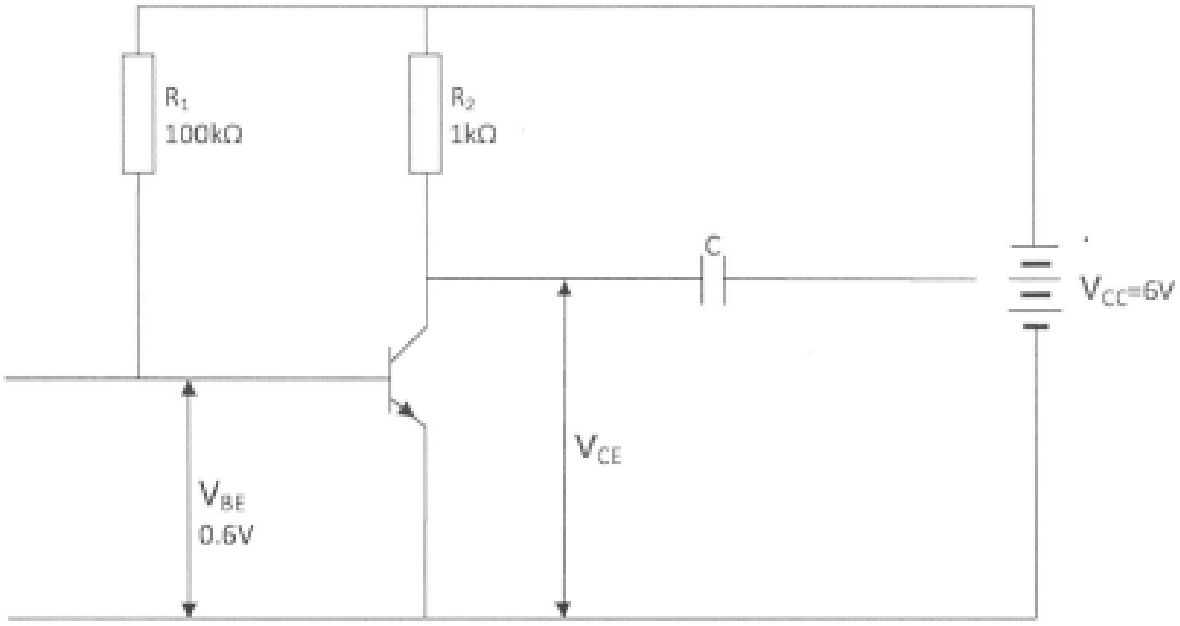


Figure 6

(a) (i) Name the type of transistor.

……

……

……..

(ii) State the function of the capacitor C.

……

……

……..

(iii) Name the type of biasing. **(3 marks)**

……

……

……

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(b) Calculate the values of; **(10 marks)**

(i) Voltage across R_1;

(ii) Base current I_B;

(iii) Collector current I_C;

(iv) Voltage V_{CE}.

15. **Figure 7** shows an R-L-C circuit.

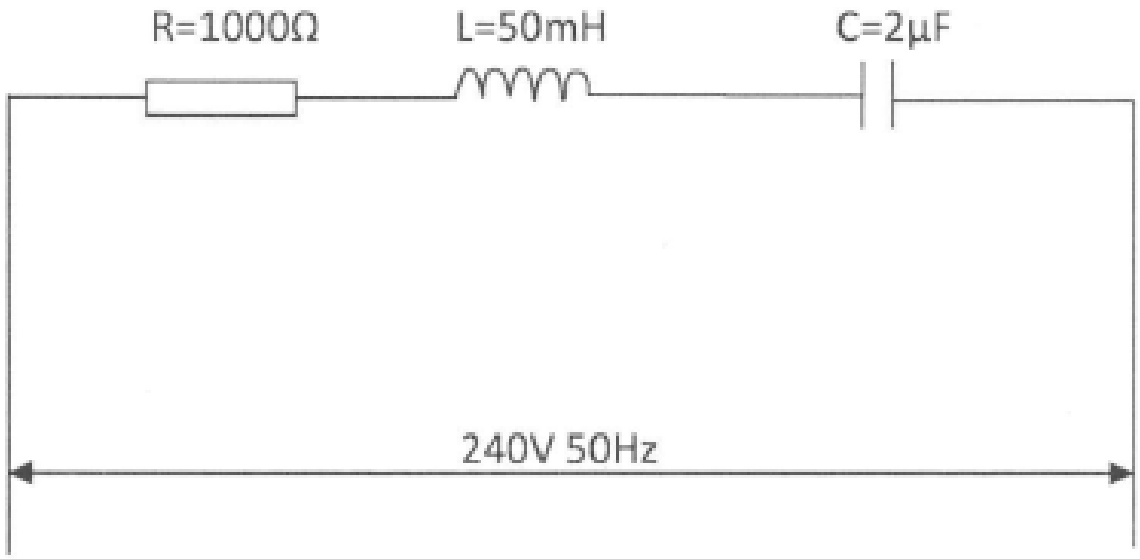


Figure 7

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(a) Calculate the:

(i) Impedance of the circuit; **(7 marks)**

(ii) Current. **(3 marks)**

(b) Draw the phasor diagram. **(3 marks)**

THIS IS THE LAST PRINTED PAGE

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

448/2

ELECTRICITY

(Practical)

Paper 2

Time: 2 ½ hours

INSTRUCTIONS TO CANDIDATES

- *This paper contains **four** exercises each **20 marks.***
- *Attempt all the exercises for 30 minutes each.*

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EXERCISE 1

Using materials, components and equipment provided, perform the following tasks.

(i) Correct the circuit shown in figure 1. **(3 marks)**

Let the examiner check your work.

Potentiometer

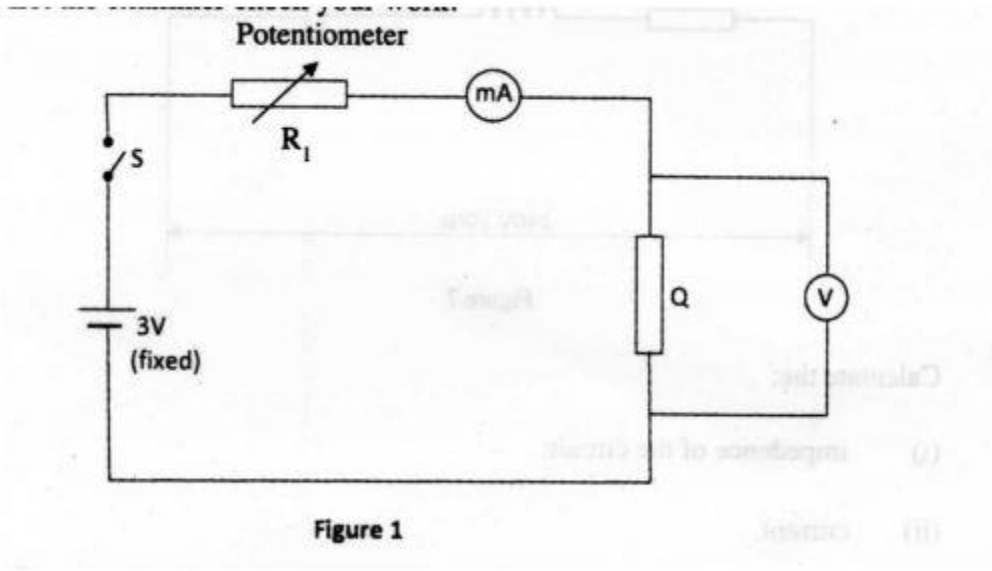


Figure 1

Figure 1

(ii) Close switch **S**.

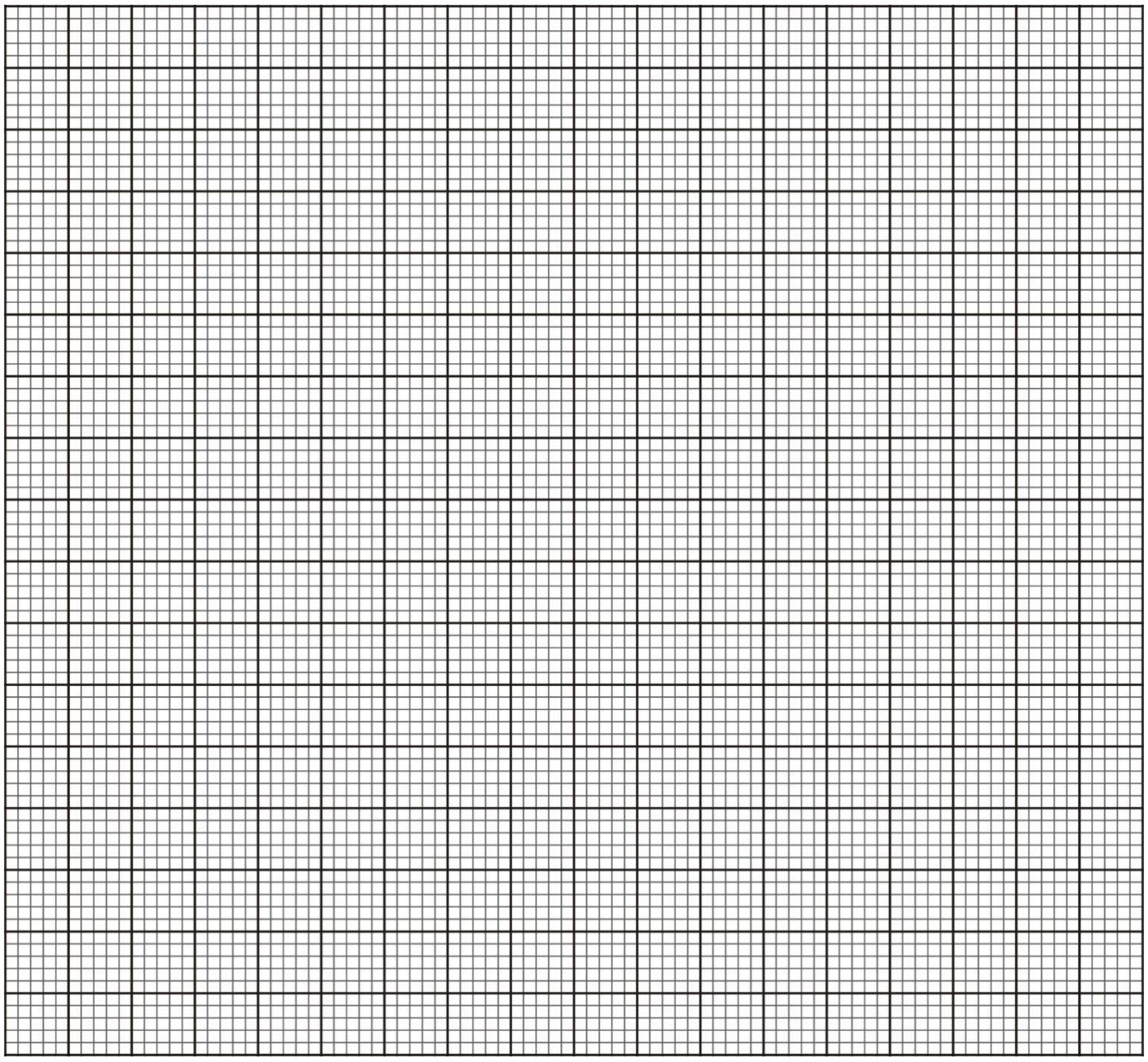
(iii) Adjust the potentiometer for the ammeter to obtain current values in table 1 and in each case record the corresponding voltage values. **(7 marks)**

Current $I_{(mA)}$	40	100	200	240	260
Voltage (V)					
$\frac{V}{I}$					

(iv) Calculate the values of and record them in the spaces provided in the table.

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(v) Use the values in the table to draw a graph of voltage against current.



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(vi) Determine the slope of the graph. **(2 marks)**

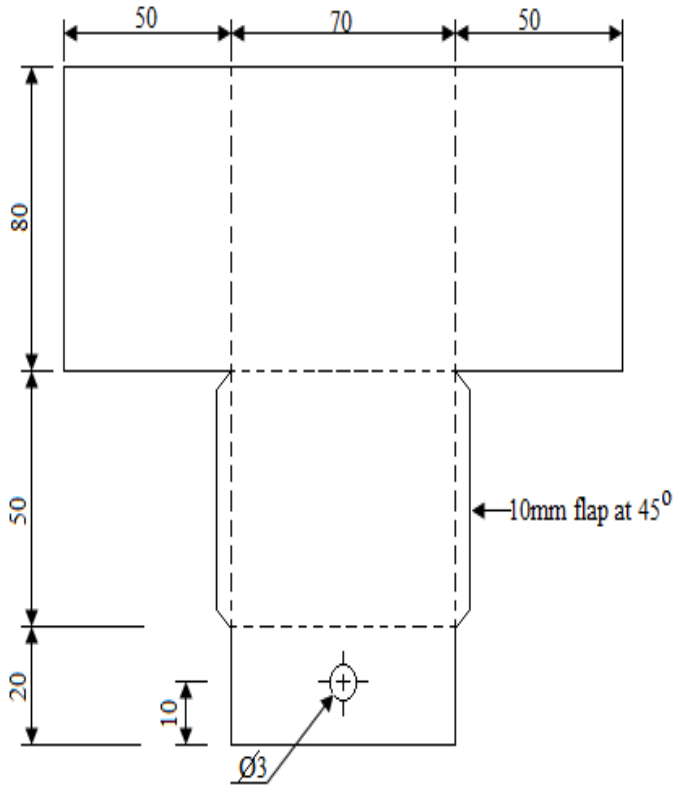
(vii) From the graph, determine the voltage, V when the current I = 160 mA.

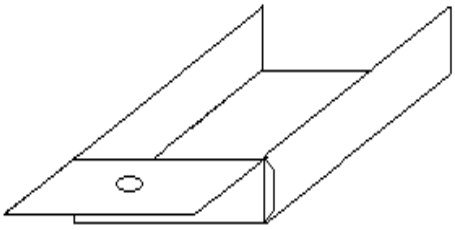
V = **..... .. (1 mark)**

(viii) State the purpose of the experiment. **(1 mark)**

EXERCISE 2

Use the tools, equipment and materials provided to make the bracket shown in figure





Assemby

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EXERCISE 3

3. Use the components and equipment to connect the circuit illustrated in **figure 4**. Let the examiner see your work. (2 marks)

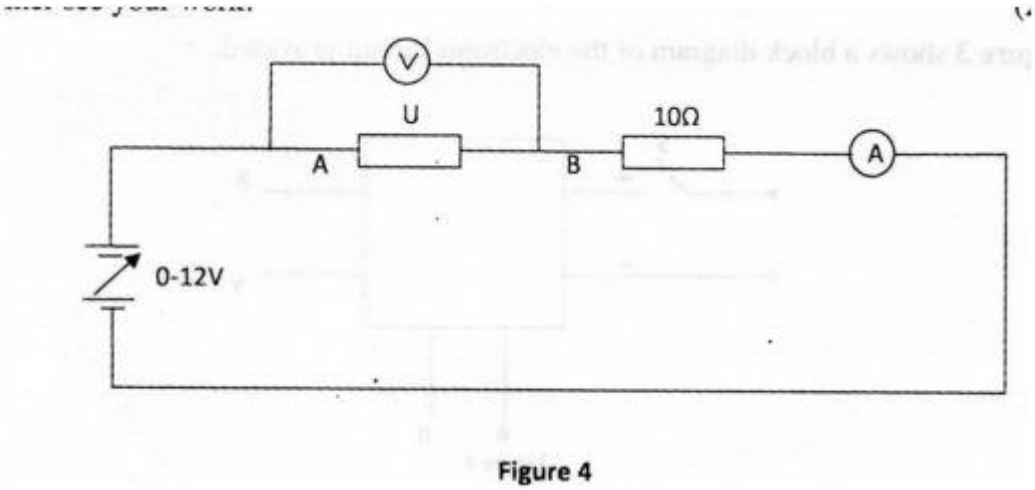


Figure 4

Perform the following tasks:

a) Switch on the power supply.

b) Adjust the power supply to obtain each of the voltage values across U as shown in table 3 and in each case, record the corresponding current: (5 marks)

Table 3

Table 3

V	0.4	0.5	0.6	0.7	0.8
I					

c) Switch off the power supply and reverse its connections.

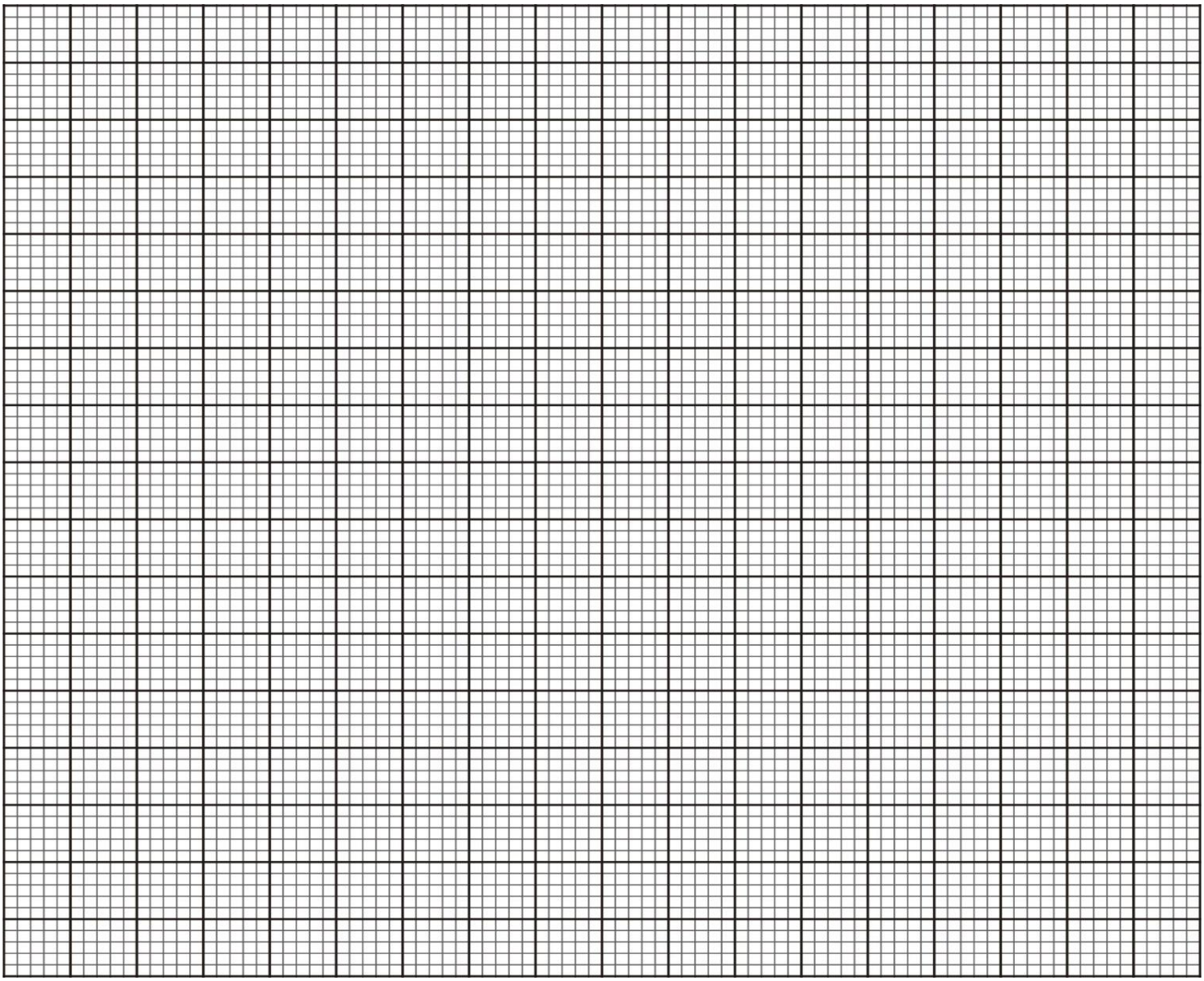
d) Adjust the power supply to obtain each of the voltage values across U as shown in table 4 and in each case, record the corresponding current. **(5 marks)**

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Table 4

V	-0.5	-1	-3	-4	-5
I					

e) Use the values of I and V from tables 3 and 4 to draw the graph of current (I) against voltage (V) on the same axes. **(7 marks)**



f) From the shape of the graph, identify component U. (4 marks)

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EXERCISE 4

Figure 5 shows the layout of a lighting installation. Using PVC sheathed cables, install the circuit such that the lamps are controlled at one point. (20 marks)

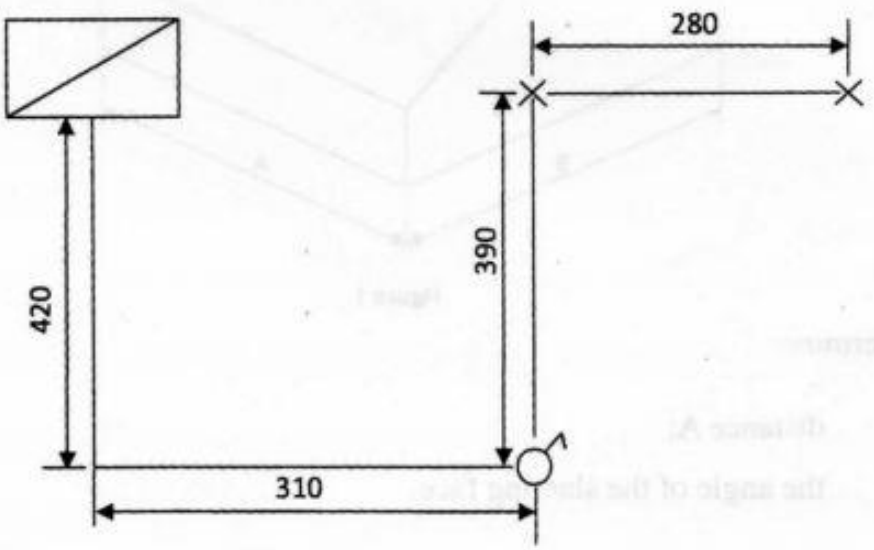


Figure 5

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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

445/1

METALWORK

PAPER 1

2 ½ Hours

INSTRUCTIONS TO CANDIDATES

1Write your name and index number in the spaces provided

*2 This paper consists of two sections**: A** and **B.** Answer all questions in section **A** and in Section **B,Answer qn 11 and any other three** in the spaces provided.*

4 All dimensions are in millimeters unless otherwise stated.

For examiner's use only

Section	Question	Maximum score	Candidates score
A	1-10	40	
B	11	15	
	12	15	
	13	15	
	14	15	
	15	15	
		Total score	

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1. a) Give **two** reasons why one should study metalwork in high school. **(2 marks)**

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b) Give **four** factors influencing the choice of career of an individual. **(2 marks)**

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2. a) Give the three aspects of **safety.** **(1 ½ marks)**

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b) State **one** use of each of the following safety devices**.** **(1 ½ marks)**

(i) Leather gloves

.....

(ii) Clear goggles

.....

(iii) Helmet

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3. Give **three** differences between **high carbon steels** and **high speed steels.** **(3 marks)**

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4. Define the following mechanical properties of metals and give one example of a metal having such property . **(6 marks)**

a) Hardness

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b) Malleability

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. .....

c) Toughness

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d) Plasticity

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5. a) Give **two** uses of screw threads**.** **(2 marks)**

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b) Give **four** points to observe in care for taps and dies**.** **(2 marks)**

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6. Give the steps followed when carrying out the following finishing processes. **(4 marks)**

a) Bluing

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b) Oil blacking

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7. a) Define the term soft soldering**.** **(1 mark)**

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b) Name the following in soft soldering and give the use of each in order to obtain a sound soldered joint. **(3 marks)**

(i) Filler metal

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(ii) Flux

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(iii) Heat source

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8. What causes the following defects during riveting**?** **(4 marks)**

a) Rivet bends

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b) Loose riveted joint

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c) Plate split

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d) Gap left between plates

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9. a) Give **two** uses of a pair of dividers as a metalworking tool. **(2 marks)**

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b) What type of hacksaw blade is recommended for a school workshop? Give a reason for your choice. **(2 marks)**

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10. a) State **two** uses of a cutting fluid in metal cutting. **(2 marks)**

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b) What is used for marking the following in sheet metalwork? **(2 marks)**

i) Folding lines

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ii) Cutting lines

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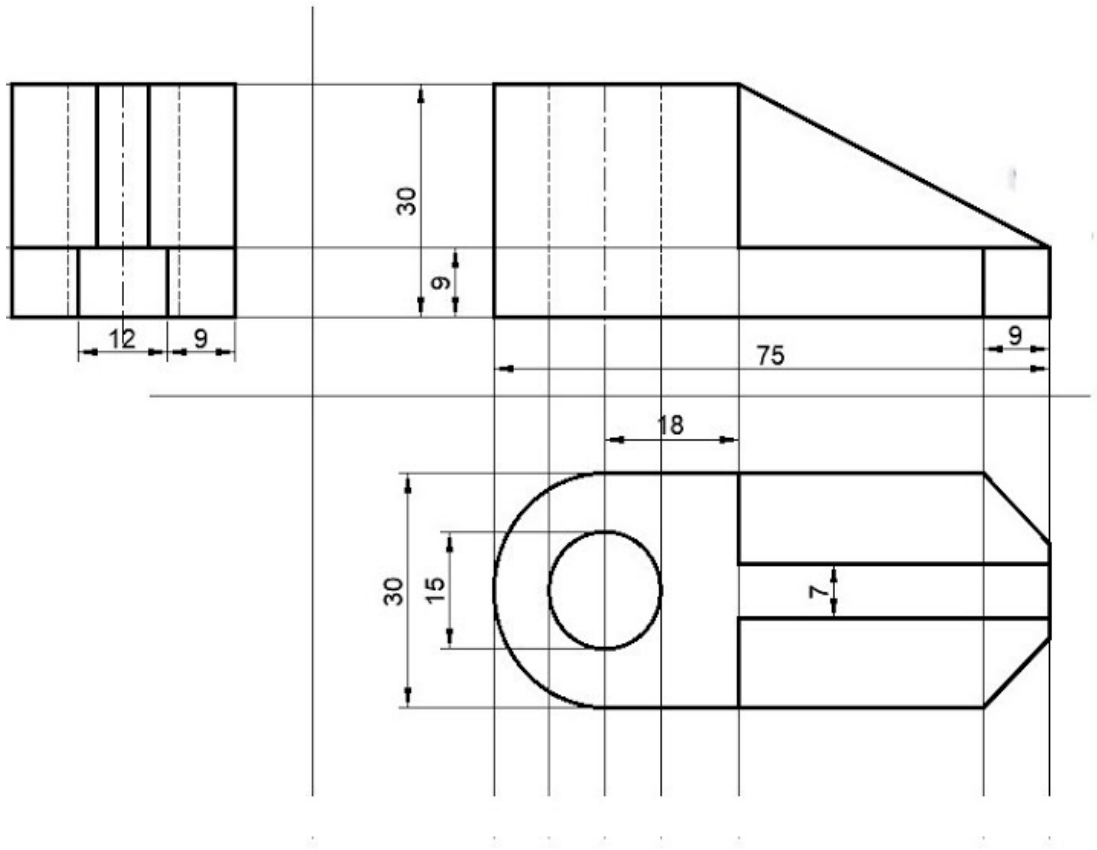
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SECTION B

This section consists of four questions, attempt question 11 and any other three questions

11. The fig below shows a machined block drawn in first angle orthographic projection, draw full size the block isometric **(15 marks)**



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12. a) Explain the following heat treatment processes **(6 marks)**

i. Hardening

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ii. Tempering

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iii. Annealing

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b) Use a graph to explain the behavior of steel when heated. **(6 marks)**

c) List **three** methods of checking furnace temperatures when carrying out heat treatment **(3 marks)**

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13. a) Outline the procedure of lighting a blow pipe. **(5 marks)**

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b) Give **four** functions of flux in brazing **(4 marks)**

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c) Use labelled sketches to show the difference between rightward and leftward welding technique.

(4 marks)

d) List **four** factors that affects the quality of a brazed joint **(2 marks)**

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14. a) State and explain **four** parts of a combination set **(4 marks)**

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b) Use sketches to show **four** uses of a combination set. **(6 marks)**

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c) Below is a diagram of a tool used in measuring, give the reading shown in the instrument.

(2marks)



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d) State three care for each of the following **(3 marks)**

i. Micrometer screw gauge

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ii. Vernier caliper

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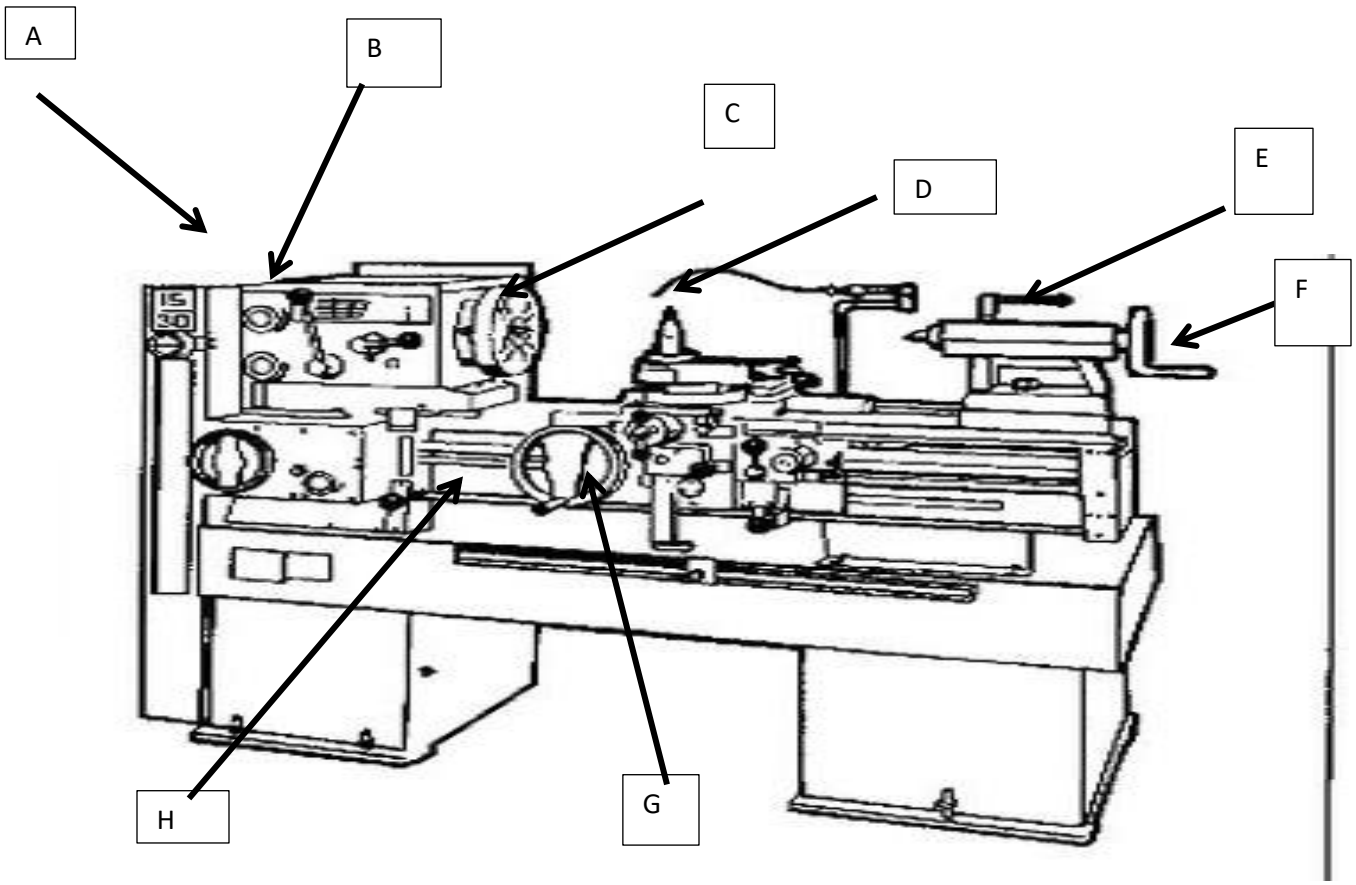
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15. a) **Figure 4** shows a diagram of a lathe machine



a) Name the parts labelled **A, B, C, D, E, F, G** and **H**. **(3 marks)**

A……

B……

C……

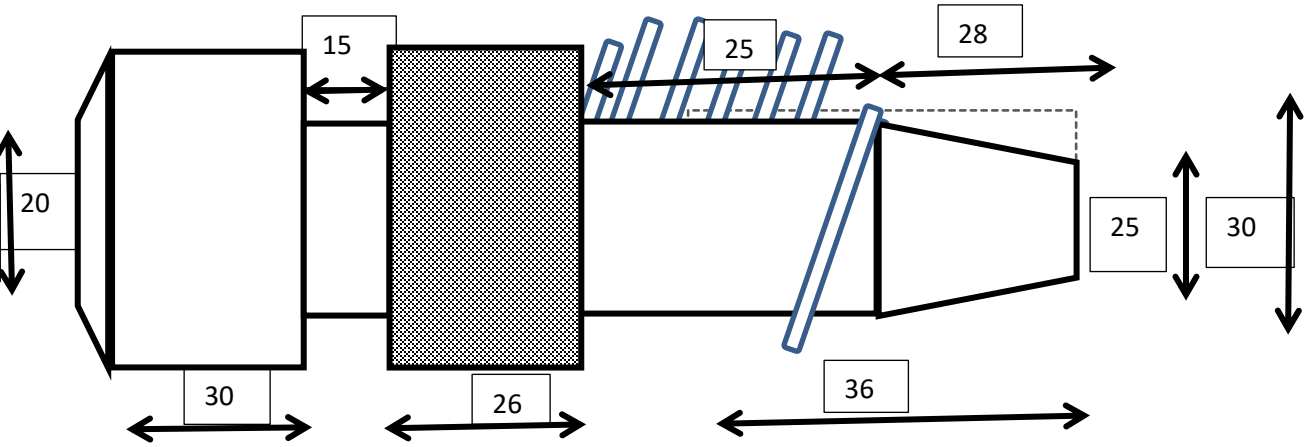
D……

E……

F……

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b) Explain the procedure of making the component shown **(12 marks)**



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CROSSCOUNTRY PREDICTION

KCSE 2022 SERIES 1

NAME……. **INDEX NO……..**

SCHOOL…… **SIGN…….**

DATE……..

446/1

BUILDING CONSTRUCTION

PAPER 1

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

(a) Write your and index number in the spaces provided above.
(b) Sign and write the date of examination in the spaces provided above.
©Candidates should have the following for this exam:.
- *Drawing paper size A3*
- *Drawing instruments*
-*Scientific calculator*

(d) This paper consists of two sections; A and B.
(e) Answer all questions in section A in the spaces provided.
(f) From section B, answer question 11 on A3 paper and any other three questions in the spaces provided.
(g) All dimensions are in millimeters unless otherwise stated.
(h) This paper consists of 11 printed pages.
(i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
(j) Candidates should answer the questions in English.

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Section	Question	Maximum Score	Candidate's Score
A	**1-10**	**40**	
B	**11**	**15**	
	12	**15**	
	13	**15**	
	14	**15**	
	15	**15**	

Total Score

SECTION A (40 MARKS)

Answer ALL the questions in this section

1. (a) Explain the term 'peat ground'. **(1 mark)**

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(b) List **four** regulations that are considered in the site selection**.** **(2 marks)**

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2. (a) Name **four** factors that may influence the type of building to be constructed in region.

(2 marks)

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(b) Describe the following members of a scaffold: **(2 marks)**

(i) Standard:-

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(ii)Guardrail:

3. (a) Name **two** qualities of cow dung as a walking material. **(1 mark)**

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(b) List **four** causes of collapse (failure) of timbering to trenches**.** **(2 marks)**

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4. (a) List **four** factors to consider before a system of painting is selected**.** **(2 marks)**

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(b) Give **two** reasons why foundations are built below ground level. **(2 marks)**

5. Sketch a Flemish bond **(4 marks)**

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6. (a) Explain the term 'site clearing'

(b) Give **two** reasons for site investigations. **(2 marks)**

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7. (a) List **four** types of floor finishes. **(2 marks)**

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(b) A kitchen floor is to receive a terrazzo finish. Describe the procedure of laying the floor finish.

(4 marks)

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8. (a) Give any four duties of a quantity survey **(2 marks)**

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(b) Briefly explain **four** sources of capital for starting a small scale building business **(2 marks)**

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9. a) Give the reasons why compaction is necessary in fresh concrete. **(2 marks)**

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(b) Give **two** reasons why drawing is so much effective as a means of communication**.** **(2 marks)**

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10. (a) List **four** factors to consider when selecting type of a roof structure. **(2 marks)**

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(b)) State any **four** barriers to the trenches. (2 marks)

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Answer question 11 and any other three questions from this section.

Candidates are advised not to spend more than 25minutes on question 11.

11. **Figure 3** shows a pictorial view of a block

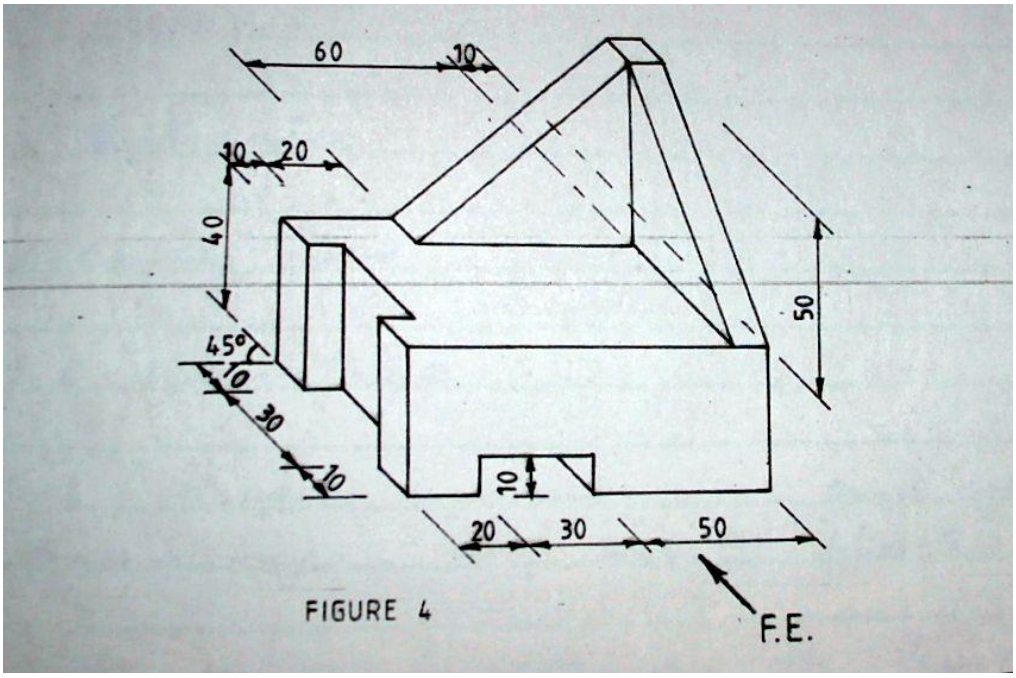


Figure 3.

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Draw full size the ***three*** views of the block in 1st angle projection. Insert **two** major dimensions each view. **(15 marks)**

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12. (a) Using a labeled vertical cross sectional sketch, show the damp proof details provided on a parapet wall and roof covered with iron sheets. **(8 marks)**

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(b) A fountain wall is 150mm thick. With the aid of a labeled sketch, determine the: **(7 marks)**

(i) Depth of foundation concrete

(ii) Projection of the foundation concrete

(iii) Foundation width

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13. (a) Give **two** reasons for using each of the following types of oil based paint **:** **(4 marks)**

(i) Primary paint:-

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(ii) Undercoating paint: -

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(b)) State **five** different types of wall finishes. (5 marks)

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(c) Give **three** advantages and three disadvantages of terrazzo. **(6 marks)**

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14. (a) State **five** performance requirements of doors. **(5 marks)**

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(b) Sketch a dependent scaffold and label it fully. **(10 marks)**

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15. (a) State **four** requirements when transporting concrete on wheel barrows. **(5 marks)**

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(b) Sketch and label a longitudinal sectional view through a concrete flat roof showing the details at the eaves and the parapet wall **(10 marks)**

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