

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1

ALL SUBJECTS

Series 1 of the Internal Pre-Mock Examinations for All Schools interested with the Soaring High Joint Evaluation Test. A Standard KCSE Model Set of Exam Designed by the Mwalimu Consultancy Examiners Panel.

All the Best to All our KCSE 2023 Candidates

SUBJECTS EXAMINED;

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

SERIES 1

For Marking Schemes

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MWALIMU CONSULTANCY

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHRISTIAN RELIGIOUS EDUCATION

313/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

313/1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Write the date of examination and sign in the spaces provided above.
3. This paper consists of **six** questions.
4. Answer any **five** questions in the answer booklet provided.

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	TOTAL SCORE
Candidates Score							

QUESTIONS

1. a) Identify the significance for studying Christian religious education in secondary schools in Kenya. (7mks)
b) State **seven** ways in which the study of C.R.E has promoted morality in the society. (7mks)
c) Give **six** reasons why Christians should forgive. (6mks)

2. a) **Identify seven** ways in which Abraham expressed his faith to God. (7mks)
b) **Describe** the background to the call of Abraham. (7mks)
c) **Give** the importance of faith in a Christian life today. (6mks)

3. a) State the role of judges in the history of the Israelites. (7mks)
b) **Identify seven** ways in which David promoted the worship of Yahweh in Israel. (7mks)
c) **Give six** qualities of a good leader that a Christian can emulate from King David. (6mks)

4. a) State **seven** characteristics of true prophet of Israel. (7mks)
b) Explain **four** social evils that existed in Israel during the times of Prophet Amos. (8mks)
c) Identify evils that prophet Amos would condemn in Kenya today. (5mks)

5. a) Outline the problems faced by prophet Nehemiah when rebuilding the walls of Jerusalem. (8mks)
b) State **seven** reforms carried out by Nehemiah in Israel after the Babylonian Exile. (7mks)
c) Identify **five** reasons why it is difficult to carry out political reforms in Kenya today. (5mks)

6. a) State **seven** practices in traditional African communities that show their belief in life after death. (7mks)
b) Give **seven** factors that promote harmony in traditional African Communities. (7mks)
c) **Identify** factors that have affected traditional African Education System. (6mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHRISTIAN RELIGIOUS EDUCATION

313/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- a) Write your name, school and index number in the spaces provided above.*
- b) Write the date of examination and sign in the spaces provided above.*
- c) This paper consists of **six** questions.*
- d) Answer any **five** questions in the answer booklet provided.*

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	TOTAL SCORE
Candidates Score							

QUESTIONS

1. a) State the activities that took place during the dedication of Jesus in the temple (Luke 2:21-40). (8mks)
b) Outline **six** reasons why Jesus was rejected at Nazareth, his home town Luke 4:16-30 (6mks)
c) **Identify six** reasons why preachers may be disliked by some people in the modern society. (6mks)

2. a) State **eight** teachings of Jesus on how human beings should relate to one another from the sermon on plain (Luke 6:27-38) (8mks)
b) Narrate the story of the healing of the Gerasene demoniac (Luke 8:26-39) (7mks)
c) **State FIVE** factors which hinder Christians from helping the needy in the society. (5mks)

3. a) Describe the incident when Jesus was questioned about marriage and **resurrection in Luke 20:27-38**) (7mks)
b) Outline the incident when Jesus went to pray with his disciples at Mt. Olives. (7mks)
c) State **six** ways in which Christians prepare for the coming of the kingdom of God. (6mks)

4. a) Identify **FOUR** ways in which the unity of believers is expressed in the concept of the body of Christ. (1 Cor 12:12-27) (8mks)
b) State ways in which the gifts of the Holy Spirit brought dis-unity in the church at Corinth (7mks)
c) Give reasons why Christians in Kenya should work in unity. (5mks)

5. a) Outline **six** sources from where Christians draw their ethical judgments. (6mks)
b) Identify the effects of irresponsible sexual behaviour. (7mks)
c) State **seven** ways in which Christians may fight the rising trend of rape in the society today. (7mks)

6. a) Identify the traditional African understanding of marriage. (7mks)
b) Outline the causes of domestic violence among Christian families. (8mks)
c) Give **five** life skills a Christian can employ to solve social problems in the society. (5mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM HISTORY AND GOVERNMENT

311/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- 1) This paper consists of **three** sections **A**, **B** and **C**.
- 2) Answer **ALL** the questions in section **A**, **THREE** questions from section **B** and **TWO** questions from Section **C**.
- 3) Answers to **all** the questions **must be** written in the answer booklet provided.
- 4) Candidates should answer the questions in English.

MARKS TABLE

SECTION A	17	18	19	20	21	22	TOTAL

SECTION A (25MKS)**Answer ALL the questions in this section.**

1. Identify one example of the Highland Bantu. (1mk)
2. State the main economic activity of the Cushites during the pre-colonial era. (1mk)
3. State **two** roles played by Seyyid Said in the spread of Christianity in Kenya (2mks)
4. Define the term citizen according to the Kenyan constitution 2010. (1mk)
5. Identify **one** political cause of conflict in Kenya (1mk)
6. State **two** factors that led to the decline of Kilwa as early urban centre (2mks)
7. Identify **one** factor that determines the form of a constitution a country may **adopt** (1mk)
8. Name **one** way in which direct democracy is exercised (1mk)
9. State **two** achievements of the Imperial British East Africa Company in colonial Kenya (2mks)
10. State **two** reasons why the British applied indirect rule in administering Kenya (2mks)
11. Identify **two** reasons why Africans were denied right to grow cash crops until 1937 (2mks)
12. State the main reason why the white settlers were disappointed with the Devonshire white paper of 1923 (1mk)
13. Identify the main reason for convening of the second Lancaster House conference of 196 (1mk)
14. State **two** characteristics of early political organizations (2mks)
15. Name the electoral body that is responsible for conducting elections in Kenya (1mk)
16. State **two** functions of the court of appeal in Kenya (2mks)
17. Identify the main function of the correctional services in Kenya (1mk)

SECTION B (45 MKS)**Answer THREE questions from this section**

18. a) State **three** social reasons for the migration of the plain Nilotes (3mks)
- b) Explain the political organization of the Nandi during the pre-colonial period (12mks)
19. a) State the reasons for the success of Portuguese conquest along the East Coast of Africa (5mks)
- b) Explain the effects of the long distance trade (10mks)
20. a) State **five** factors that led to the growth of Nairobi as a modern urban centre (5mks)
- b) Describe the features of the independence constitution (10mks)
21. a) Identify the reasons for the Maasai collaboration in the pre-colonial period (5mks)
- b) Explain **five** reasons why armed resistance failed in Kenya during the colonial period (10mks)

SECTION C (30MKS)**Answer TWO questions in this section**

22. a) State **three** circumstances that may lead to revocation of citizenship by registration (3mks)
b) Explain the importance of national integration (12mks)
23. a) Identify **three** advantages of democracy (3mks)
b) Explain **six** rights of an arrested person (12mks)
24. a) State the factors that undermine free and fair elections in Kenya (3mks)
b) Explain **six** functions of the National police service (12mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM HISTORY AND GOVERNMENT

311/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- a) This paper consists of **three** sections A, B and C.
- b) Answer **ALL** the questions in section A, **THREE** questions from section B and **TWO** questions from Section C.
- c) Answers to **all** the questions **must be** written in the answer booklet provided.
- d) Candidates should answer the questions in English.

MARKS TABLE

SECTION A	17	18	19	20	21	22	TOTAL

SECTION A (25MKS)**Answer All The Questions In This Section.**

1. List down **one** disadvantage of Electronic sources of information of History and Government (1mk)
2. Identify the main difference between humans and other primates (1mk)
3. Name the form of early picture writing invented in Egypt (1mk)
4. State **two** characteristics of Regional trade (2mks)
5. List down **two** negative impact of tele-communication (2mks)
6. State **two** factors that enhanced the spread of iron-working in Africa (2mks)
7. Identify **two** natural factors for the growth Meroe as an early urban **centre** (2mks)
8. List down **two** symbols of unity among the Asante kingdom (2mks)
9. Identify the main reason for the convening of Berlin conference 1884-1885 (1mk)
10. State **one** reason why British used Direct rule in Zimbabwe (1mk)
11. Name **one** method used by nationalists in South Africa during the struggle for independence (1mk)
12. Identify the immediate cause of the second world war (1mk)
13. State **two** reasons why united States of America delayed in joining the first world war (2mks)
14. Identify the main function of the international court of Justice (1mk)
15. Name the weapons of the cold war (2mks)
16. List **two** founders of pan Africanism (2mks)
17. State **one** failure of the organization of African unity (1mk)

SECTION B (45 MKS)**Answer any THREE questions in the section.**

- 18.a) State **three** characteristics of regional trade (3mks)
- b) Explain **six** reasons for the decline of Trans-Atlantic trade (12mks)
- 19.a) Identify **five** reasons why Lewanika collaborated with the British (5mks)
- b) Explain **five** reasons why the FRELIMO succeeded in the armed struggle against the Portuguese (10mks)

20. a) State **three** demands put across by Austrian authorities to the Serbian government in relation to the Sarajevo assassination (3mks)
- b) Explain **five** political effects of the Second World War (12mks)
21. a) State **five** challenges facing the common wealth (5mks)
- b) Explain **five** objectives of the East African community in the 1967 treaty (10mks)

SECTION C (30MKS)

Answer any TWO questions from this section

22. a) State **three** factors that contributed to the decline of the Buganda kingdom (3mks)
- b) Describe the social organization of the Asante during the 19th century (12mks)
23. a) State **five** factors for the growth of the Shona kingdom in the 19th century (5mks)
- b) Explain **five** reasons why the policy of assimilation failed in Senegal (10mks)
24. a) State **three** duties of Emirs in Northern Nigeria (5mks)
- b) Explain **five** reasons why Ghana got independence earlier than other African countries (10mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

GEOGRAPHY

312/1

PAPER 1

TIME: 2¾ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES

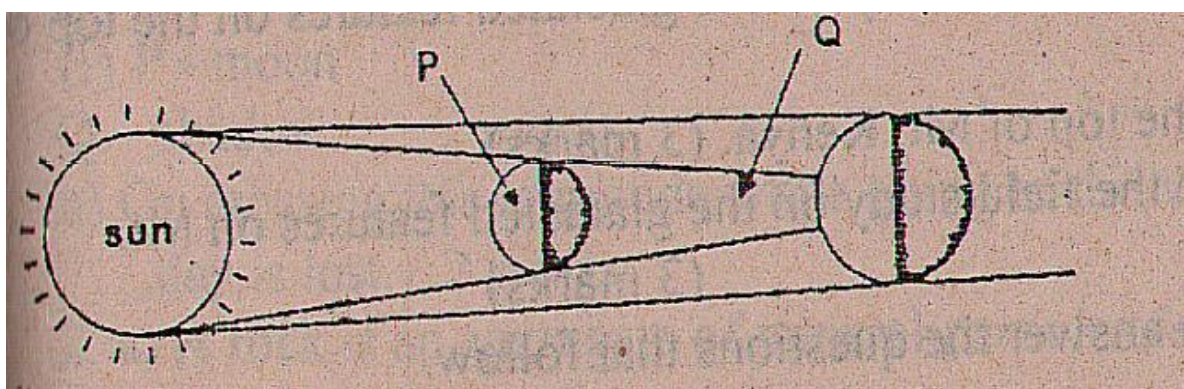
- a) This paper has two sections: A and B*
- b) Answer all the questions in section A*
- c) Answer question 6 and any other two questions from section B*
- d) This paper consists of 6 printed pages. Ensure ALL the 10 questions are printed.*

FOR EXAMINERS USE ONLY

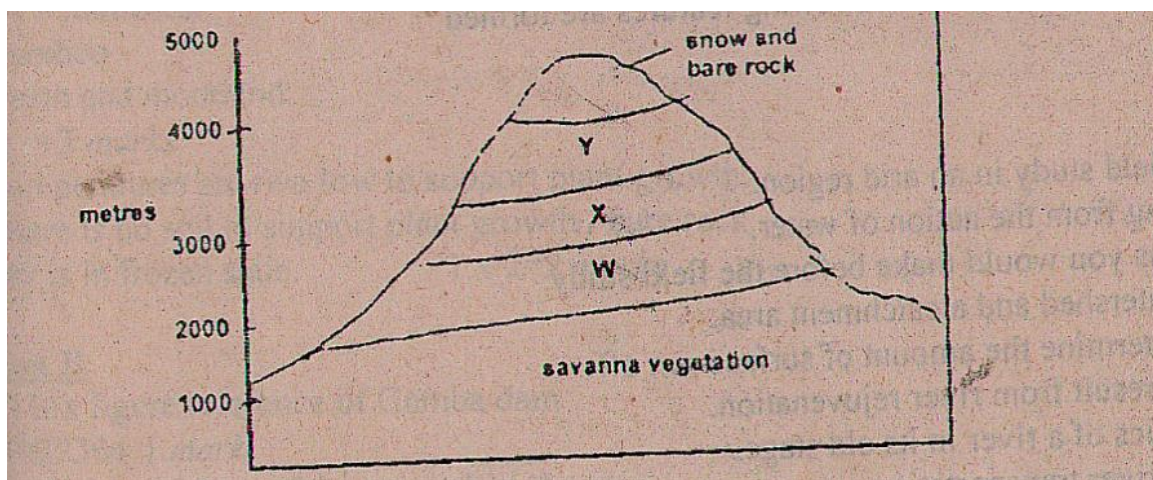
	SCORE
SECTION A	
QUESTION 6	
QUESTION 7	
QUESTION 8	
QUESTION 9	
QUESTION 10	
TOTAL MARKS	

SECTION A.

1. a) Define the following terms.
 - i) Geography (1mk)
 - ii) Habitat (1mk)
- b) Give **three** branches of geography. (3mks)
2. a) Name **two** elements of weather that can be recorded at a school station. (2mks)
- b) Give **three** reasons why the recording of data at a school station may be inaccurate. (3mks)
3. a) What is a hydrological cycle (2mks)
- b) State **three** factors that influence the amount of surface run-off. (3mks)
4. Use the diagram below to answer questions that follow.



- i) What type of eclipse is represented by the diagram? (1mk)
 - ii) Name the parts marked P and Q (2mks)
 - iii) what is the effect of the international date line on crossing the line? (2mks)
5. The diagram represents zones of natural vegetation on a mountain in Africa. Use it to answer Question (a)



- a) Name the vegetation zones marked W, X, & Y.
- b) Give **two** reasons why mountains tops have no vegetation

SECTION B**Answer Question Six And Any Other Two Questions .(75mks)**

6. **Study** the map of Kisumu East 1:50,000 (sheet 116/2) provided and answer the following questions.
- a) i) Give the **four** figure grid reference of Obwolo school. (1mk)
- ii) What is the approximate height of point 000960? (1mk)
- iii) Name **two** physical features found at grid square 0384. (2mks)
- iv) Name **two** types of natural vegetation in the area covered by the **map** (2mks)
- b) Calculate the area of the Kisumu municipality. Give your answer in square kilometers (km²) (2mks)
- c) **Measure** the length of the all-weather road(bound surface) from the junction at grid reference 974911 to the edge of the map, grid reference 950968 (2mks)
- d) Citing evidence, give three social functions of Kisumu town. (6mks)
- e) i) Using a scale of 1cm to represent 200 metres, draw a cross-section from grid reference 970980 to 030989. (4mks)
- ii) On it mark and name the following
- Steep slope (1mk)
 - Motor able road (1mk)
 - Nyangori river (1mk)
- iii) Calculate the vertical exaggeration. (2mks)
7. a) i) Define the term folding (2mk)
- ii) State **three** factors that influence folding. (3mks)
- b)i)Briefly describe the continental drift theory. (5mks)
- ii) State **2** evidences supporting the above theory of continental drift. (2mks)
- c)i) Using a well labelled diagram, explain how conventional currents theory may lead to formation of Fold Mountains. (6mks)
- ii) Highlight the significance of Fold Mountains to human activities. (5mks)
- iii) Give **two** theories that explain the formation of Fold Mountains apart from convectional currents theory. (2mks)

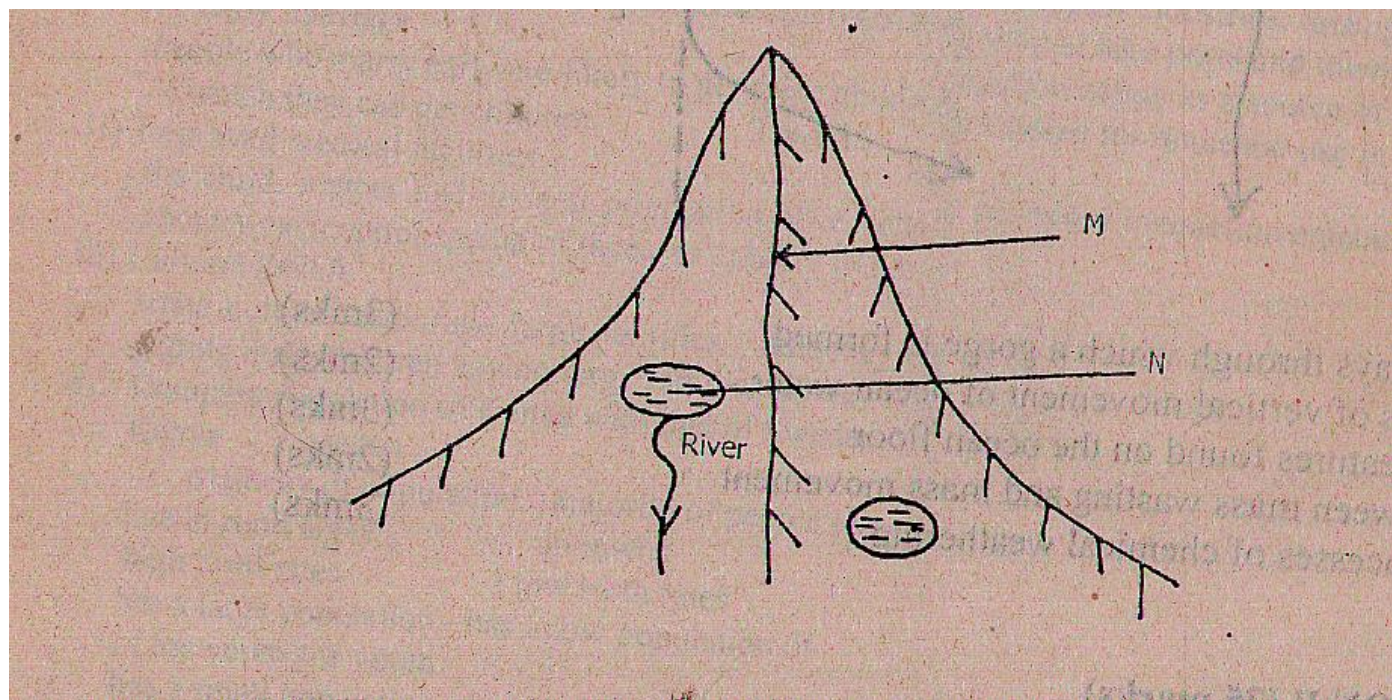
8. a) Define the following terms

i) Glaciation (1mk)

ii) Ice-berg (1mk)

b) Give two reasons why there are no ice sheets in Kenya (2mks)

c) The diagram below shows a glaciated landscape use it to answer questions that follow.



i) Identify the feature labelled M and N (2mks)

ii) Name two process through which N is formed. (2mks)

iii) Describe how feature marked N is formed. (5mks)

d) i) Name two types of moraines. (3mks)

ii) Explain two factors that determine the speed of ice movement. (4mks)

e) Students from a school near Mt. Kenya were planning to carry out afield study of the glaciated features on top of the mountain.

i) State two reasons why they needed a route map. (2mks)

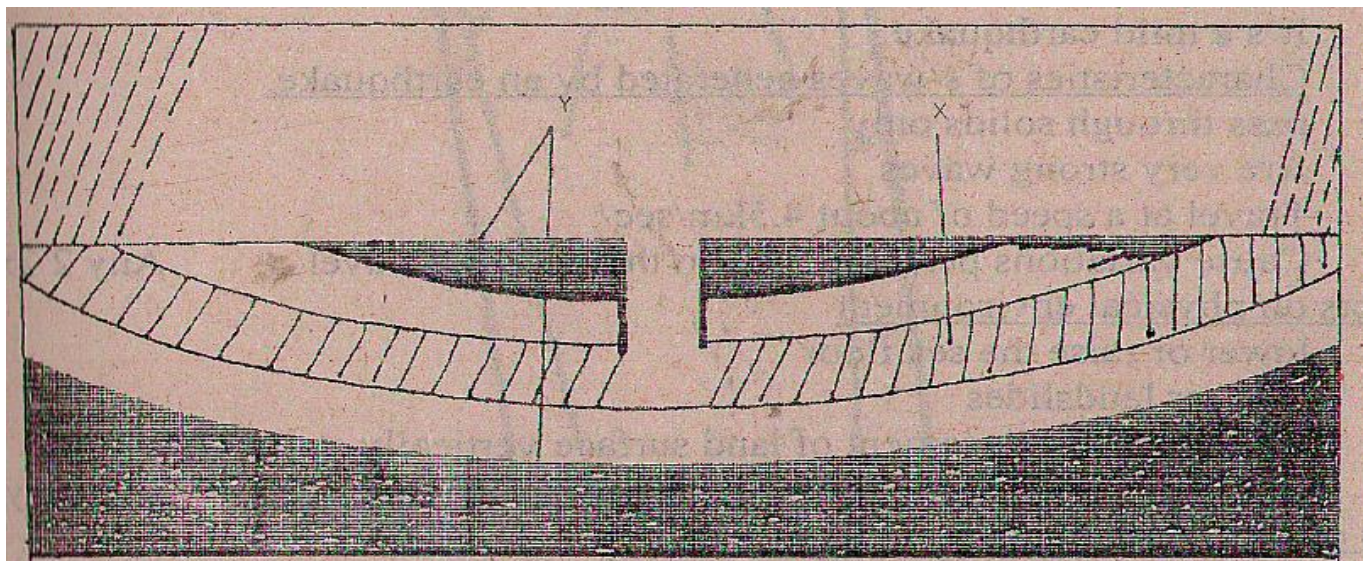
ii) Give three challenges they would likely face during their field study. (3mks)

9. a)i) Define the term underground water. (1mk)

ii) Give three sources of underground water. (3mks)

iii) Explain 3 factors that influence the occurrence of underground water. (6mks)

b) The diagram below shows an artesian well.



- i) Name the parts marked X and Y. (2mks)
- ii) State **four** conditions necessary for the formation of artesian wells. (4mks)
- iii) Explain **two** significance of underground water to human activities. (4mks)
- c) You intend to carry out a field study in a Karst landscape.
 - i) Give **two** reasons why it is necessary to carry out a pre-visit before the study. (2mks)
 - ii) Give **three** follow –up activities that you were engaged in after the actual study. (3mks)
10. a) i) Name **three** factors that influence the formation of soil. (3mks)
 - ii) Name three processes of soil formation. (3mks)
- b) Apart from texture, name other properties of soil. (3mks)
- c) i) What is soil degeneration? (2mks)
 - ii) Explain **three** ways in which farming practices may lead to loss of soil fertility. (6mks)
 - iii) State how soil acidity is reduced. (2mks)
- d) i) Draw a simple – labelled diagram of profile of a mature soil. (4mks)
 - ii) Distinguish between soil profile and soil catena. (2mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

GEOGRAPHY

312/2

PAPER 2

TIME: 2¾ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Instructions to candidates

- (a) Write your name, admission number and class in the spaces provided above.
- (b) This paper has **two** sections: **A** and **B**
- (c) Answer **all** the questions in section **A**
- (d) Answer **question 6** and any other **two** questions from section **B**
- (e) All answers must be written in the spaces provided after Question 10.

FOR EXAMINATION USE ONLY.

	Maximum Score	Candidate Score
Section A.	25	
Question 6	25	
Question 7	25	
Question 8	25	
Question 9	25	
Question 10	25	
TOTAL	100%	

SECTION A (25MKS)**Answer ALL the questions from this section**

1. i) Mention **two** irrigation schemes established in Kisumu County with the aim of land rehabilitation (2mks)
- ii) What is a polder? (1mk)
- iii) Name **three** crops grown in the polder (3mks)
2. i) Distinguish Horticulture and market gardening (2mks)
- ii) State **three** problem facing horticultural farming in Kenya (3mks)
3. i) Define the term mining? (2mks)
- ii) State any **three** negative effects of mining to the environment (3mks)
4. i) Give **two** indigenous soft wood trees grown in Kenya (2mks)
- ii) State **three** problems facing forestry in Canada (3mks)
5. a) Name **three** types of fish (2mks)
- b) State **three** problems facing fishing in JAPAN (2mks)

SECTION B**Answer question 6 and any other two questions**

6. a) Study the information provided. Later answer the questions that follows

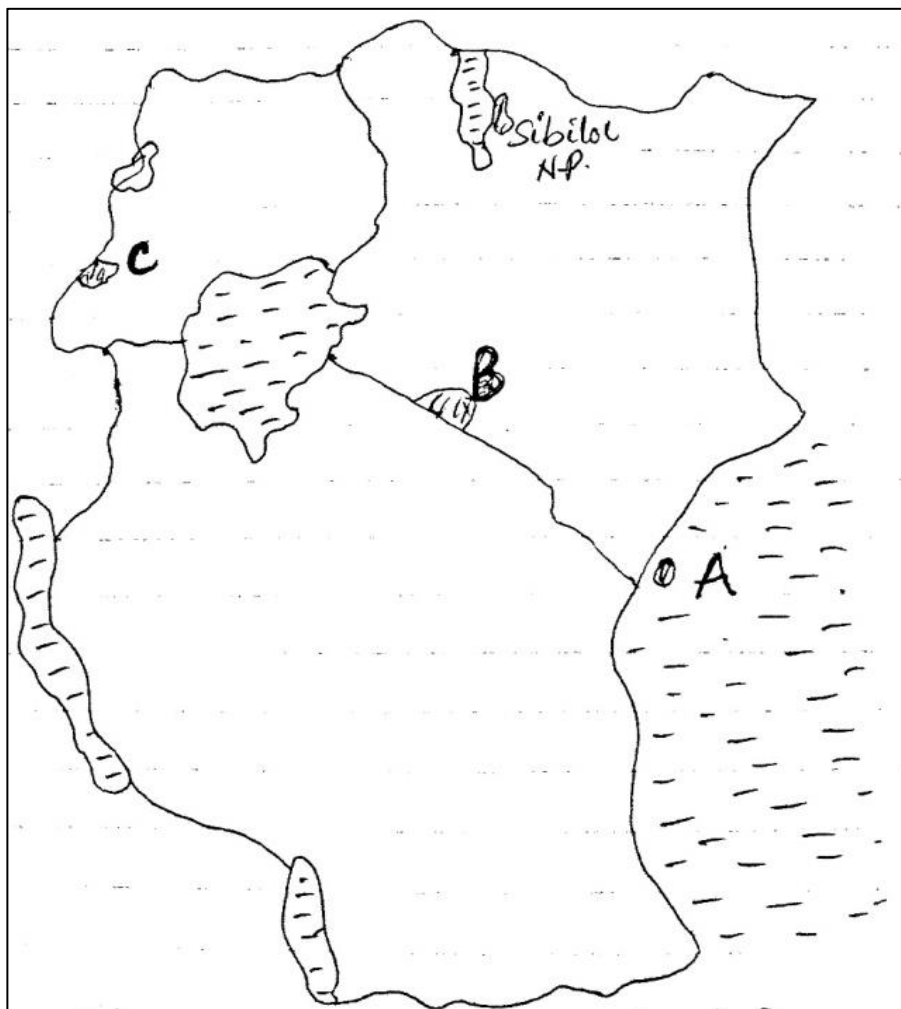
Crop production in Kenya between 1998 and 2002 in million bags.

Use a scale of 1cm represents 5 million bags

CROP/YEAR	1998	CT	1999	CT	2000	CT	2001	CT	2002	CT
Maize	27.30		25.00		25.00		30.00		26.00	
Beans	3.00		4.00		3.70		4.10		4.00	
Sorghum	0.90		1.20		0.90		1.20		0.80	
Millet	0.37		0.66		0.40		0.50		0.60	

- CT refers to the cumulative totals
- i. Using a suitable scale, draw a cumulative bar graph based on data provided above. (10mks)
- ii. Calculate the maize percentage decline in production between years 2001 and 2002. (2mks)
- iii. What general conclusion can be made based on crop production between years 2000 and 2001 (2mks)
- b) i) Apart from tsetse fly control mention five other methods used to reclaim land in Kenya (5mks)
- ii) Explain any three control measures applied to eliminate tsetse flies in Kenya. (6mks)

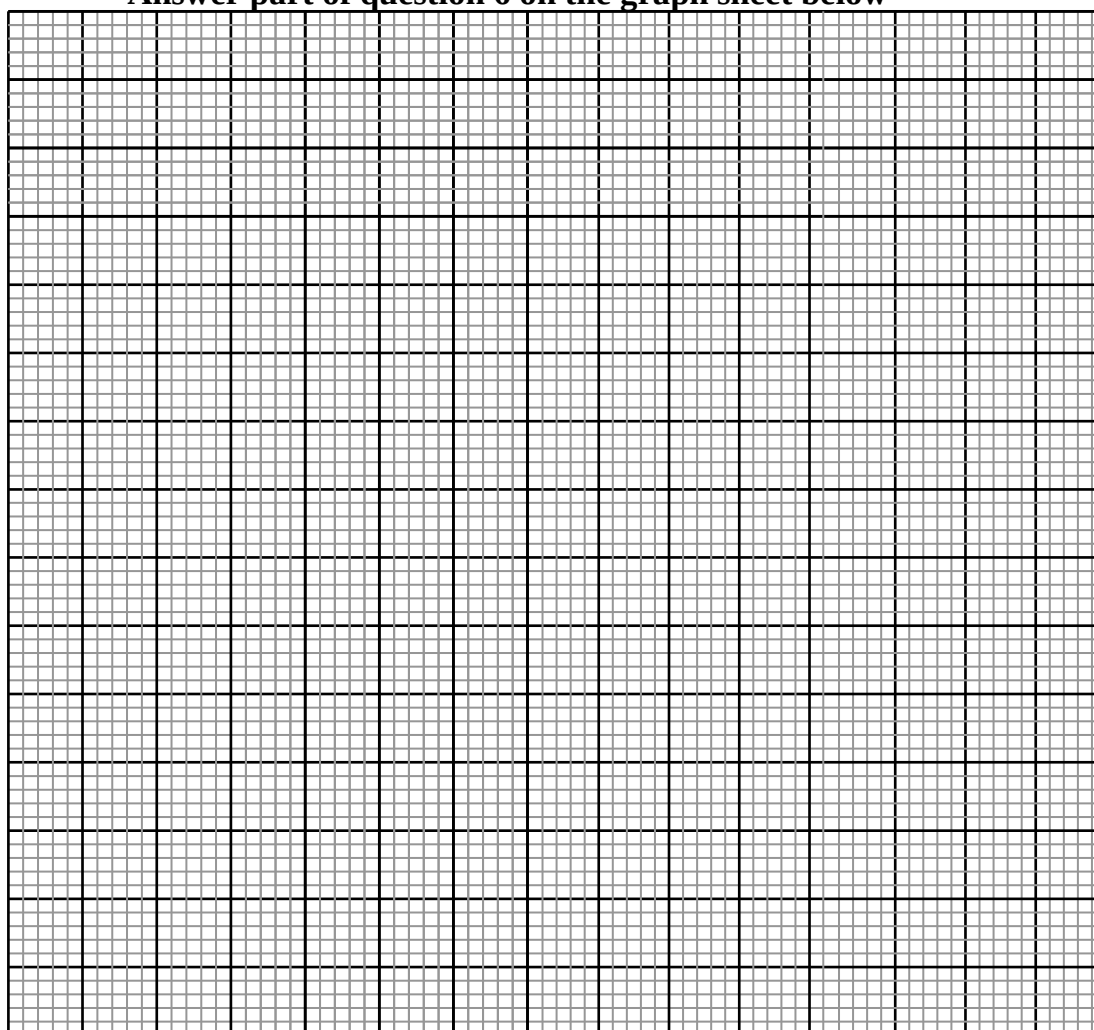
7. a) i) Define wildlife (2mks)
- ii) Distinguish between a game sanctuary and a game ranch (4mks)
- iii) Study the following map of East Africa and answer the questions below.



- Name National parks marked A, B & c (3mks)
- b) i) Explain four factors showing the future of tourism Industry in Kenya (8mks)
- ii) Explain how the following factors influence wildlife
- i. Vegetation (4mks)
 - ii. Altitude (4mks)
8. a) i) What is fishing (2mks)
- ii) Name the two major fishing ground in the Pacific Ocean (2mks)
- iii) Name four fresh water fisheries in Kenya (4mks)
- b) i) Explain four reasons why Fresh water fishing is more popular than marine fishing in East Africa. (8mks)
- ii) Describe trawling as a method of fishing (7mks)
- iii) Distinguish phytoplankton and zooplankton (2mks)

- 9.** a) i) Name two main types of coffee grown in Kenya (2mks)
 ii) Identify two counties in Kenya where coffee is grown in large scale (2mks)
 b) i) State four factors favoring growing of coffee in Kenya (4mks)
 ii) Describe the stages of coffee processing once it's delivered to the factory (9mks)
 c) i) Explain two benefits of coffee farming in Kenya (4mks)
 ii) State four problems facing coffee farmers in Brazil (4mks)
- 10.** a) i) Give three by-products of crude oil (3mks)
 ii) List four ways through which occurrence of minerals is influenced. (4mks)
 b) Explain four contribution of mining Industry to economy (8mks)
 c) **Name** the minerals found in the following areas in East Africa (4mks)
 i. Kariandusi
 ii. Kerio Valley
 iii. Kwale County
 iv. Lake Magadi
 d) i) State four factors influencing mineral exploitation (4mks)
 ii) Give two uses of Gold (2mks)

Answer part of question 6 on the graph sheet below



SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

AGRICULTURE

443/1

PAPER 1

TIME: 2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES

- a) This paper consists of three sections A, B and C
- b) Candidate to answer ALL questions in section A and B and answers any TWO questions only in section C

CANDIDATE SCORE

	QUESTIONS	MAXIMUM SCORE	CAND.SCORE
A	1-20	30	
B	21-25	20	
C	26	20	
	27	20	
	28	20	
	TOTAL	90	

SECTION A (30MKS)

Answer all questions in this section on spaces provided.

1. Name two field management that are carried out to obtain optimum plant population in a crop field (1mk)

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2. Give two factors which characterize small scale farming (1mk)

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3. Give one examples of each of the following categories of water pipes

- a) Metal pipes (½mk)

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- b) Horse pipes (½mk)

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4. Name three forms of horticulture practiced in Kenya (1½mk)

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5. State four disadvantages of growing one type of crop on piece of land continuously (2mks)

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6. Outline four qualities of a mother plant from which vegetative propagation material should be obtained (2mks)

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7. State two ways in which crop rotation controls weeds (1mk)

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8. Give two reasons for imposing quarantine on imported planting materials (1mk)

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9. State two mechanical methods of separating soil particles according to sizes during soil analysis (1mk)

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10. Name four settlement schemes that the Kenyan government started as a result of the success of the million Acre scheme (2mks)

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11. State three practices which encourage soil erosion (1½mks)

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12. State four characteristics of a good vegetable seedling **(2mks)**

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13. List four post-harvest practices that are carried out in maize production **(2mks)**

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14. List four environmental factors that affect crop production in Kenya **(2mks)**

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15. Give four reasons for seed selection in crop production **(2mks)**

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16. Give two benefits of top-dressing in management of grass pasture **(1mk)**

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17. State four disadvantages of communal land tenure system **(2mks)**

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18. State any two benefits a farmer would get by having correct plant population in the production of annual crops (1mk)

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19. Define the term opportunity cost as used in economic (1mk)

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20. State four pieces of information contained on a land title deed. (2mks)

SECTION B (20MKS)

Answer all questions in this section

21. The table below shows PH value of different soil samples. Study it and answer the questions that follow.

Soil sample	PH value
S ₁	3
S ₂	4
S ₃	5
S ₄	6
S ₅	7
S ₆	8
S ₇	9
S ₈	10

a) Which soil sample has the highest acidity

(1mk)

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b) Which soil sample has the lowest alkalinity

(1mk)

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c) State two ways in which the PHvalue of sample 3 can be raised

(2mks)

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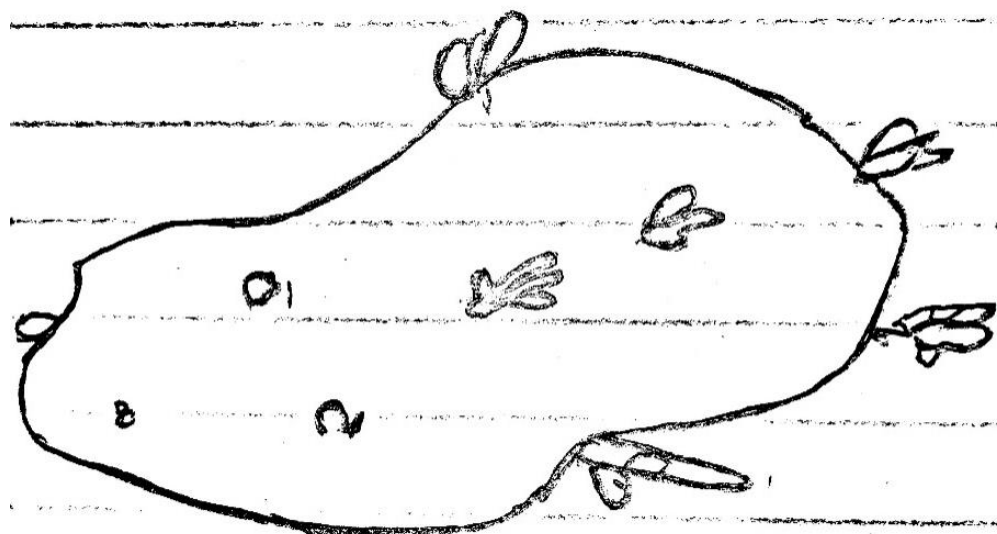
d) Which of the above soil sample is suitable for growing maize

(1mk)

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22. The diagram below illustrates a seed potato prepared for planting. Study it carefully and answer the questions that follow.



a) Name the practice used in preparing the seed potato above for **planting**

(1mk)

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b) Describe the procedure followed in preparing seed potatoes for planting. (8mks)

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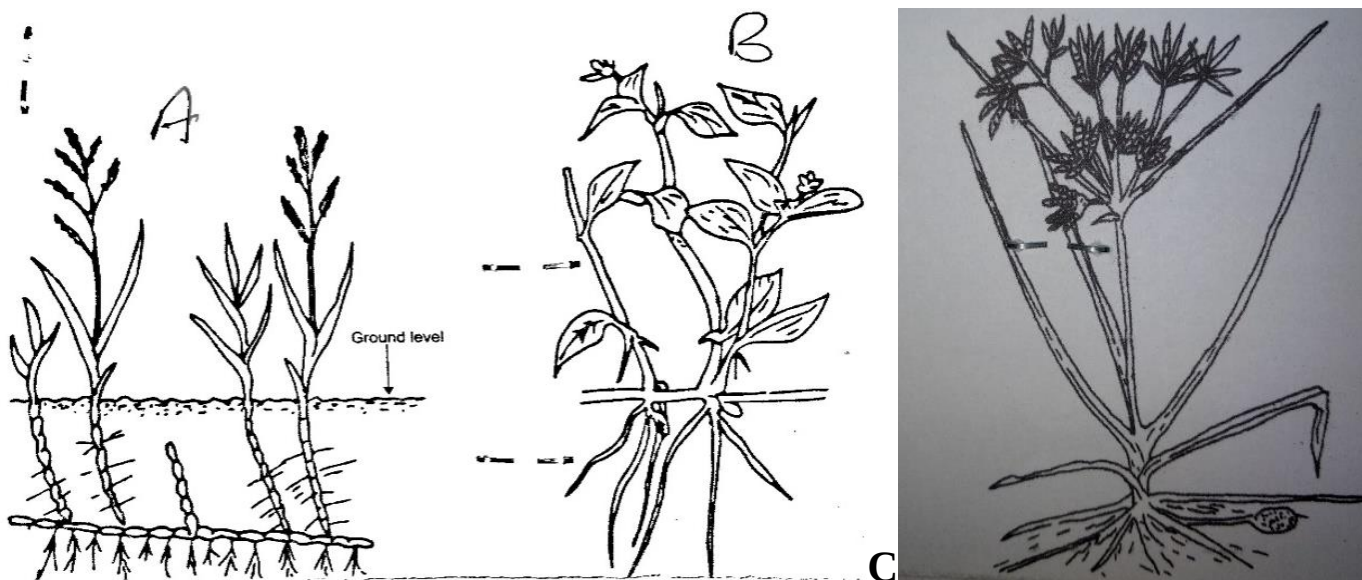
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23. Below are diagrams of common weeds found in a crop field, study them carefully and answer questions that follow.



a) Identify the weeds (3mks)

Weed A

Weed B

Weed C

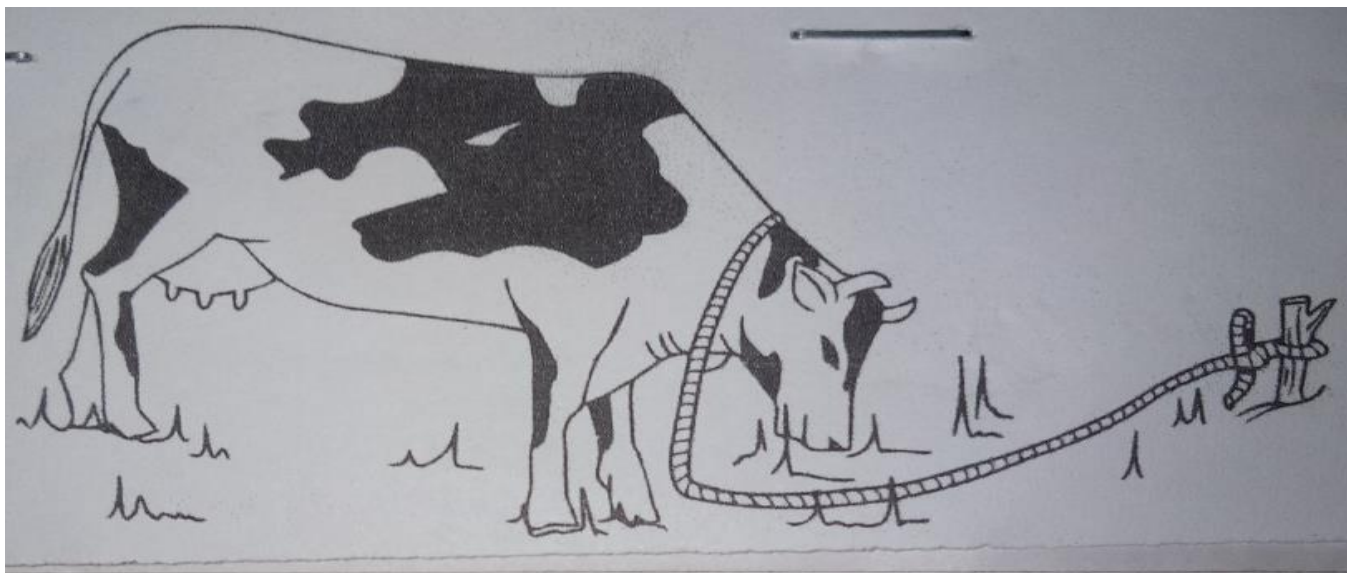
b) State one reason why weed A is difficult to control (1mk)

.....

c) State one economic use of weed B (1mk)

.....

24. Below is a method used in pasture management. Study it carefully and answer questions that follow.



a) Identify the type of grazing shown above

(1mk)

.....

b) State two limiting of the practice above

(2mks)

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.....

25. Below is a diagram of common pest found in the field. Study it carefully and answer questions that follows



- a) Identify the pest (1mk)
.....
- b) State the stage at which the pest attack maize (1mk)
.....
- c) State one effect of the pest on crop production (1mk)
.....
.....

SECTION C (40MKS)

Answer any two questions only from this section

26. a) Explain five ways in which biotic factors influence crop production in **Agriculture** (10mks)
b) Explain four ways in which Government policy improves agricultural **production** (4mks)
c) Describes the properties of Nitrogenous fertilizer (6mks)
27. a) Describe the effects of pests on Beans in the field (4mks)
b) Describe the production of cabbage under the following seed headings.
i. Seed bed preparation (3mks)
ii. Transplanting of seedlings (4mks)
c) Describe various nursery management practices carried out on cabbage seeding in the nursery (5mks)
d) Describe how water is treated to remove solid impurities (4mks)
28. a) Describe five ways in which a grass cover help to conserve soil (5mks)
b) Describe maize production under following sub-headings.
i. Land preparation (3mks)
ii. Planting (6mks)
iii. Field management practices (6mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

AGRICULTURE

443/2

PAPER 2**TIME: 2 HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS

- ✓ *This paper consist of three sections A, B and C*
- ✓ *Candidate to answer **all** questions in section A and B*
- ✓ *Answer any two questions only in section C on the booklet provided.*

CANDIDATE SCORE

	QUESTIONS	MAXIMUM SCORE	CAND.SCORE
A	1-14	30	
B	15-18	20	
C	19	20	
	20	20	
	21	20	
	TOTAL	90	

SECTION A (30MKS)

Answer all questions in this section on spaces provided.

1. State four non-chemical method used to control ticks (2mks)

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2. Highlight two management practices carried out on a broody hen (2mks)

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.....

3. Give four characteristics of a good fish pond (2mks)

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4. Mention four physical characteristics of exotic beef cattle breeds (2mks)

.....

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5. Give four features of calf pen that help to control calf diseases (2mks)

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6. a) What is dry cow therapy (1mk)

.....

.....

b) At what stage of gestation is dry cow therapy practiced (1mk)

.....

7. Name four farm structures used for handling livestock (2mks)

.....

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.....

8. Give four symptoms of respiratory disorder in a sick cow (2mks)

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9. Mention two characteristics of abdomen of a poor layers (2mks)

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10. Distinguish between mothering ability and prolificacy (2mks)

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.....

11. List two factors that can lead to conception failure after female cow has been served (2mks)

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12. Give four factors that may lead to a farmer culling dairy cattle **(2mks)**

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13. State four reasons for doing Agriculture as a discipline **(2mks)**

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14. Name four tools that are used when laying concrete blocks during construction of a wall **(2mks)**

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15. State four features on the animal which may pre-dispose it to livestock diseases **(2mks)**

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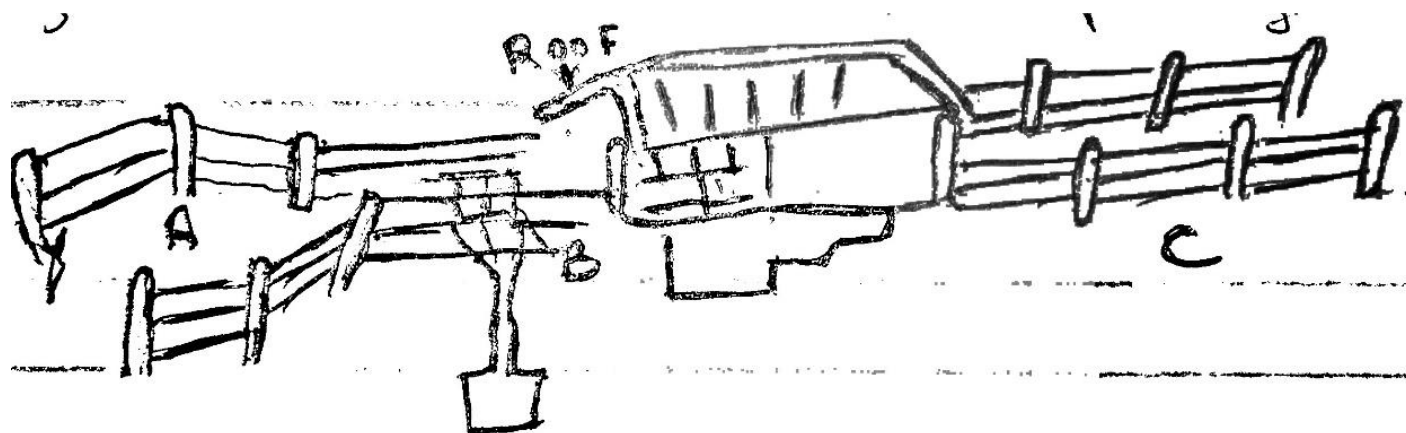
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SECTION B (20MKS)**Answer all the questions from this section.**

16. Diagram below show a plunge dip.



a) Using a arrow on the diagram show the movement of cattle (½mk)

b) State one use of parts A, B and C (3mks)

A

B

C

c) State two precautions a farmer should take on dip to ensure effective **dipping** (2mks)

.....

.....

d) State two uses of the roof of the dip (2mks)

.....

.....

b) Apart from use of acaricides explain other methods used to control ticks (3mks)

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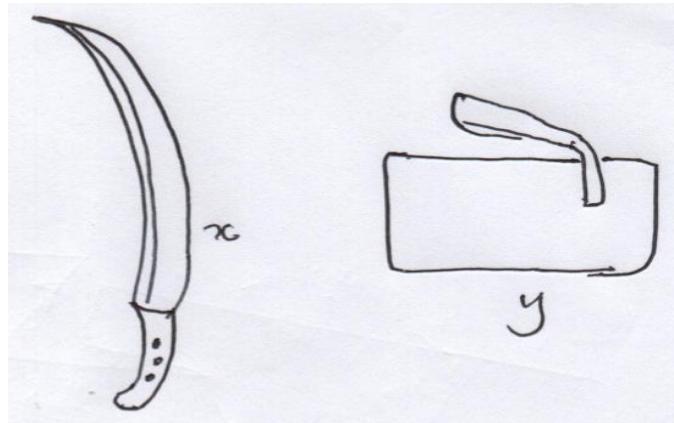
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17.a) i) Identify the tools below

(1mk)



X

Y

ii) State the use of tools x and y

(2mks)

X.....

Y

iii) Explain two maintenance practices carried on tool X

(2mks)

.....

b) Name the tools used in conjunction of following tools

(2mks)

i. Troca

.....

ii. Hand drill

.....

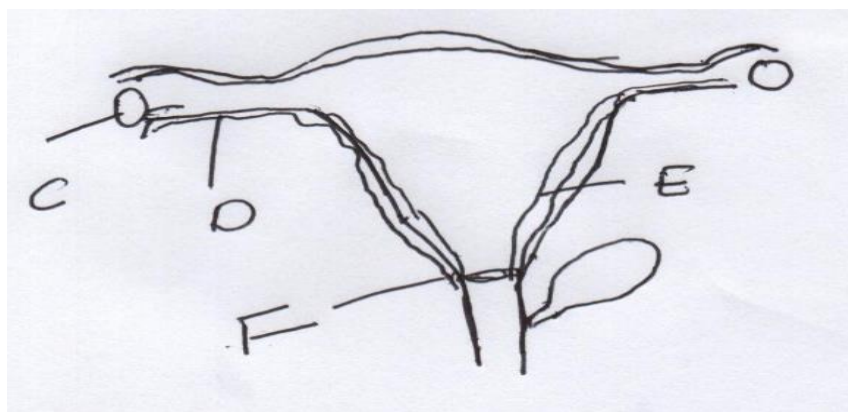
iii. Leading stick

.....

iv. Mallet

.....

18.a) Diagram below show reproductive system of a female cow



- i. Name the part marked (1mk)
- D**
- F**
- ii. State the function of parts marked (1mk)
- C**
- E**
- b) At what stage should a gilt be mated? (½mk)
-

SECTION C (40MKS)

Answer ONLY TWO questions on answer booklets provided.

- 19.a) Explain features of ideal calf pen (6mks)
- b) Outline various feeding practices a farmer undertake on calves up to weaning (8mks)
- c) Describe uses of water in the animals body (6mks)
- 20.a) Describe mastitis disease under the following sub-headings
- i. Causal organism (1mk)
- ii. Disease pre-disposing factors (4mks)
- iii. Symptoms (3mks)
- iv. Control measures (6mks)
- b) Describe factors to consider when culling a female (Cow) breeding stock (6mks)
- 21.a) Describe the artificial rearing of layers chick from one day up to the end of brooding (10mks)
- b) Name three types of fences (3mks)
- c) Explain the procedure of establishing wire fence (7mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BUSINESS STUDIES

565/1

PAPER 1

TIME: 2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS OF CANDIDATES

- Write your name, school and index number in the spaces provided above.
- Write the date of examination and sign in the spaces provided above.
- Answer **ALL** the questions.
- ALL** answers must be written in the spaces provided in this booklet.
- Do not remove any pages from this booklet.

FOR OFFICIAL USE ONLY

QUESTIONS	1	2	3	4	5	6	7	8	9	10	11	12	13
MARKS													

QUESTIONS	14	15	16	17	18	19	20	21	22	23	24	25
MARKS												

GRAND TOTAL	
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QUESTIONS

1. State **four** external factors that may positively influence the operations of a business (4mks)

.....

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.....

2. Outline **four** circumstances under which producers may prefer to sell goods directly to the consumers. (4mks)

.....

.....

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.....

3. Name four ways through which consumers can be cheated in their dealings with traders (4mks)

.....

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.....

4. The following information relates to Tamu Traders for the year ended 31st Dec. 2011

Sh

Fixed Assets	5,000,000
Current Assets	650,000
Net profit	300,000
Current liabilities	650,000
Sales	2,000,000
Closing stock	100,000
Opening stock	200,000
Gross profit margin	20%

Calculate;

(4mks)

a) Current ratio

b) Gross profit mark up

c) Rate of stock turn over

d) Capital employed.

5. Outline **four** circumstances under which a credit note may be issued.

(4mks)

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.....

6. The equation given below relate to quantity demanded and the quantity supplied at equilibrium price.

$$Q_{de} = 4P + 50$$

$$Q_{se} = 8P + 30$$

Determine the equilibrium price and quantity

(4mks)

7. Kendi started a shop dealing in ladies clothing but failed after two years. Outline four factors that many have caused this failure (4mks)

.....

.....

.....

.....

8. Name the type of warehouse described below

Statement	Type of warehouse
a) Goods can be stored before payment of custom duties	
b) Individuals can hire storage facilities	
c) Goods are stored from several manufacturers	
d) Specialised goods are stored	

9. State **four** ways in which the nature of goods would influence the choice of transport (4mks)

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10. Outline any **four** circumstances under which human wants may be fully satisfied (4mks)

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11. Highlight **four** ways in which business studies is useful to a community (4mks)

.....

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.....

12. State the books of original entry in which the following documents are used. (4mks)

a) Incoming invoice

.....

b) Incoming receipt

.....

c) Outgoing credit note

.....

d) Outgoing invoice

.....

13. State the type of ledger into which the following accounts would be found. (4mks)

Account

Relevant ledger

a) Capital

.....

b) Mueni (debtor)

.....

c) Kariuki (supplier)

.....

d) Bank

.....

14. Outline any **four** advantages of operating in an open office layout. (4mks)

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15. George operates a petrol station in Nakuru. He insured his stock worth Ksh 2.4 million for ksh 2 million. Later in the year stock worth ksh 600,000 was destroyed by fire. Calculate the amount he was compensated and give a reason. (4mks)

16. State **four** characteristics of money (4mks)

.....

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.....

17. Name the rewards for the following factors of production (4mks)

Factor of production	Reward
a) Employee	
b) Machine	
c) Minerals	
d) Farmer	

18. Outline **four** challenges that may be experienced by a country whose population is made up of a large proportion of young people (4mks)

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19. Highlight any **four** characteristics of perfect competition type of market structure (4mks)

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20. State the line of communication involved in each of the following. (4mks)

a) The manager of ABC company Ltd talking to the manager of XYZ company Ltd

.....

b) A secretary asking for time off from her boss

.....

c) The production manager giving instructions to the secretary of the sales manager

.....

d) The store keeper giving explanations to the chief accountant

.....

21. State the effect of each of the following transactions on the balance sheet totals by writing increase or decrease or no effect in each case. (4mks)

Transaction	Effect
a) Bought machinery on credit	
b) Withdrew cash from the bus for personal use	
c) Purchased stock in cash	
d) Paid outstanding loan by cheque	

22. Outline the assumptions that the circular flow of income in a closed economy work under (4mks)

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23. The following balances were extracted from the books of Wanji traders for the year ended 30th June 2005. (4mks)

Sh

Debtor	120,000
Creditor	60,000
Machinery	450,000
Cash in hand	70,000
Cash at bank	180,000
5 years bank loan	270,000
Stock	60,000

Prepare a balance sheet of Wanji traders as at 30th June 2005.

24. Outline **four** reasons for maintaining a cash book in a business enterprise. (4mks)

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25. Highlight **four** factors that should be considered when choosing a method of promoting a product. (4mks)

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SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BUSINESS STUDIES

565/2

PAPER 2**TIME: 2½ HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

565/2

BUSINESS STUDIES

PAPER 2**TIME: 2½ HOURS**

INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Write the date of examination and sign in the spaces provided above.
3. This paper consists of 6 questions.
4. Answer **any five** questions.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
	Total score	

QUESTIONS

1. a) Outline any five differences between private limited liability company and public limited liability company. (10mks)
- b) Describe five accounting documents used in home trade. (10mks)

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

Price(sh)	Quantity demanded (‘000’ tonnes)	Quantity supplied (‘000’ tonnes)
35	5	80
30	10	65
25	20	55
20	25	40
15	30	35
10	40	20
5	55	5

Use the information in the table above, draw the demand and supply curve showing the market equilibrium for the produce. (10mk)

- b) Explain five benefits that a firm may enjoy by preparing a business plan. (10mks)

3. a) Traders are required to observe ethical practices when carrying out product promotion. Explain five reasons for observing such ethical practices (10mks)

- b) Explain five benefits that may be realized by a country as a result of government policy to relocate Industries to rural areas. (10mks)

4. a) Outline any five factors to consider while locating a ware house. (10mks)

- b) On 1st September 2015, Miriam had sh 55,000 in hand and sh. 250,000 in bank. During the month the following transactions took place.

Sep 2: Cash sales banked sh 35,260

Sep 3: Bought ribbons in cash sh 4,500

Sep 8: Paid Wangila, a creditor sh 94,000 by cheque in full settlement of his account after deduction 6% cash discount.

Sep 12: Received a cheque for sh 58,800 from Wetu after allowing her cash discount of sh 1,200

Sep 15: Paid salaries of sh 34,000 in cash

Sep 25: Withdrew sh 50,000 from bank for office use.

Sep 28: Anyango a debtor paid her account of sh 75,000 by cheque less 10% cash discount.

Sept 30: Deposited all the cash into the bank except sh 13,700

Prepare a three column cash book and balance it off.

(10mks)

5. a) Explain any five uses of National Income Statistics

(10mks)

b) The following trial balance related to Tai Traders as at 31st December 2022

TAI TRADERS

TRIAL BALANCE

AS AT 31ST DECEMBER 2022

Details	Dr (Ksh)	Cr(Ksh)
Stock	10,000	
Bank	3,500	
Purchases	15,000	
Sales		28,000
Returns	800	1,100
Rent		580
Insurance	950	
Creditor		450
Carriage in	1,200	
Discounts	300	1,620
	31,750	31,750

Additional information

- Closing stock was valued at Ksh 2,500

- Carriage out was Ksh 1,200

Required: Prepare trading profit and loss account.

(10mks)

6. a) Explain any five reasons why one would prefer to transport goods on road than rail. (10mks)

b) On 1st January 2022 Makena started a business with sh 120,000 cash and sh 300,000 in the bank.

The following transactions were done in the month of January 2022.

January 3: Bought goods worth sh 60,000 by cheque

January 10: Sold goods worth sh 35,000 cash

January 14: Bought goods worth sh 90,000 cash from Odera

January 18: Paid wages sh 18,000 by cash

January 20: Withdrew sh 40,000 from bank for office use.

Required;

Record the above transactions in the relevant ledger account, balance them off and extract a trial balance.

(10mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

ENGLISH

101/1

PAPER 1

TIME: 2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education

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	10	
3	30	
TOTAL	60	

1. Students in your school have raised concerns about poor hygiene in the school. In a bid to address these concerns, the principal appoints a four member committee to investigate the health situation and give recommendations. You are the secretary of the committee, write down the report you will present to your principal. **(20mks)**

This image shows a full page of a document template designed for handwritten notes or essays. It features approximately 28 evenly spaced horizontal grey lines across the entire page. The margins are consistent on all sides, providing a clear area for writing. There are no pre-printed questions, headings, or other markings on the page.

2. CLOZE TEST (10MKS)

Fill in the blank spaces with the most appropriate words.

A new research title “Underage drinking in Kenya”, has1.....that nearly one third of form four students aged below 18 years take alcohol2..... As our society ponders this sad3....., the urgent message to children who are taking alcohol4..... do not drink another sip. Advice to those children is to strongly say “no”.5.....irresponsible behaviour, to alcoholism, there are many.....6.....effects of alcohol. It is wrong and illegal for children to drink alcohol. This report also states that 46 percent of the children received7.....first pint from friends and8..... Do you offer alcohol to a child? As a parent or guardian, do you nurture9.....? How much time do you spend with them? Notably,10.....of guidance and supervision are stimuli to underage drinking.

3. ORAL SKILLS (30MKS)

Read the poem below and answer the questions that follow

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

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

I could not rest if I heard the tread
Of a coffin going to the shambles led,
And the mother’s shriek of wild despair
Rise like a curse on the trembling air
(by Frances Ellen Watkins Harper)

QUESTIONS

a) Describe the rhyme scheme of the poem above. (2mks)

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b) Apart from rhyme, mention two other ways they have achieved rhythm? (4mks)

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c) Mention two ways in which you would know that your audience is fully participating during the recitation of the poem above. (2mks)

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d) How would you say the last line of the poem? (2mks)

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.....

e) Indicate whether the following items have a falling or a rising intonation. (4mks)

i) Get out now!

ii) The man was accused of theft.

iii) How did you find the English exam?

iv) Could he have left?

f) Underline the silent letters in the following words. (4mks)

- i) Corps
- ii) Parliament
- iii) Leopard
- iv) Fracas

g) Provide a homophone for each of the following words. (4mks)

- i) Bury
- ii) Claws
- iii) Guest
- iv) Male

h) The underlining indicates the stressed word in the sentences below. Briefly explain what each sentence mean (3mks)

- i) The lady in a red dress lost her purse

.....
.....

- ii) The lady in a red dress lost her purses

.....
.....

- iii) The lady in a red dress lost her purse.

.....
.....

i) Identify the odd word out according to the pronunciation of the underlined sound. (2mks)

- i) Said Head Gate Led

.....

- ii) Face Phrase Shepherd Phase

.....

j) **Below is a dialogue between Muthomi and James who are candidates. Read it and answer the questions that follow.**

Muthomi: James, I'm worried about my performance in English. It's not encouraging.

James: Ah! I'm happy with mine in Biology. I got an A in the last exam.

Muthomi: I really don't know what to do about English, maybe...

James: I don't like History and P.E teacher. He thinks he is the only one who can a pick-up truck. My mum told me she would be buying one soon.

Muthomi: (Trying to bring him back to the topic) Tell me James, how do you revise English?

James: Oh! Is that Betty? She promised to bring me a movie. (Calling out) Betty! Betty!
(The runs after her)

a) Identify the shortcomings in the dialogue above (3mks)

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SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

ENGLISH

101/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- a) Write your details in the spaces provided above.
- b) Answer all the questions in this paper.
- c) 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	

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 may 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 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 needs.

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 by Mwalimu Consultancy 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)

.....

.....

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

.....

.....

ii. Shunned

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.....

iii. Jump on board

.....

.....

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 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.

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 put 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 then.

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, Mrs. Helmer. 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

.....

ii. Blackguard

.....

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

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 Hyena brought 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.

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

.....

.....

ii. Hyena

.....

.....

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)

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.....

- 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’)
-
- 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)
-

b) **Supply the correct preposition to complete the sentences given.** (3mks)

- i. Property worth millions of shillings went upflames.
- ii. The three boys shared the breadthemselves.
- iii. We should strive to liveour means.

c) Use the correct form of the word in brackets to fill in the blank spaces in the sentences below. (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 lawof 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/prophesy) 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).

.....
.....

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

ENGLISH

101/3

PAPER 3

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

ENGLISH

Paper 3

(Imaginative Compositions and Essays Based on Set Texts)

INSTRUCTIONS TO CANDIDATES

- (a) Write your name and index number in the spaces provided above.
(b) Sign and write the date of the examination in the spaces provided above.
(c) Answer **three** questions in this question paper.
(d) In question 1, choose either **a** or **b**.
(e) Question 2 and 3 **are compulsory**

FOR EXAMINER'S USE ONLY

Questions	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	
	TOTAL	

1. IMAGINATIVE COMPOSITION**(20MKS)**

a) Write a composition ending with the following statement.

.....a final look at her made me realize that choices have consequences.

OR

b) Write a composition to illustrate the proverb, “once beaten twice shy”.

2. COMPULSORY TEXT *Blossoms Of The Savannah H.R Ole Kulet* (20MKS)

Parenting should build an environment of trust and peace in a family. Write an essay that explores how this statement applies to the Ole Kaelo family in *Blossoms of the Savannah*

3. OPTIONAL SET BOOKS**(20 marks)**

a) **Drama: David Mulwa: The Inheritance**

Inheriting a top seat without merit only invites ridicule from subjects. Write an essay showing how satire has been used in *The Inheritance* by *David Mulwa*.

b) **Short stories: A Silent Songs and Other Stories.**

Wrongful conviction and imprisonment is a notable thematic concern in, ‘**God Sees the Truth but waits**’ story by **Leo Tolstoy**. Support this statement with illustrations from the ‘A Silent Song’s and other stories’.

c) **Kazuo Ishiguro. An Artist of the floating World.**

Discuss the use of Noriko’s marriage negotiation as a means to drive this novel’s plot forward while revealing Ono’s past in the text *An Artist of The floating world* by **Kazuo Ishiguro** .

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

KISWAHILI

102/1

KARATASI YA 1

MUDA: SAA 1¾

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Cheti cha Kuhitimu Elimu ya Sekondari Tathmini ya Pili

MAAGIZO:

- Andika insha mbili.
- Insha ya kwanza ni ya lazima.
- Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.
- Kila insha isipungue maneno 400.

SWALI	TUZO
1	
2	
3	
4	
JUMLA	

MASWALI

1. Ndugu yako ameamua kuasi ukapera. Andika ratiba itakayotumiwa siku ya arusi yake.
2. Eleza mikakati ambayo serikali ya Kenya imeweka kukabiliana na mashambulizi ya mara kwa mara ya Kigaidi nchini.
3. Andika insha kuonyesha busara iliyomo katika methali “Mchelea mwana kulia hulia mwenyewe”.
4. Andika insha itakayomalizika kwa maneno haya:
.....Nilikumbuka ushauri niliopewa na mama mazazi mara kwa mara. Uchungu usiomithilika ulinichoma moyoni, laiti ningalijua.

SOARING HIGH PREMOCK**KCSE 2023 SERIES 1 EXAM****KISWAHILI**

102/2

KARATASI YA 2**MUDA: SAA 2½**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

*Cheti cha Kuhitimu Elimu ya Sekondari Tathmini ya Pili***MAAGIZO**

- ✓ Karatasi hii ina sehemu nne. Ufahamu, Ufupisho, matumizi ya lugha na Isimu jamii.
- ✓ Jibu maswali yote katika nafasi uliziachiwa.

KWA MATUMIZI YA MUTAHINI PEKEE

SWALI	UPEO	ALAMA
UFAHAMU	15	
UFUPISHO	15	
MATUMIZI YA LUGHA	40	
ISIMU JAMII	10	
JUMLA	80	

1. UFAHAMU (ALAMA 15)**Soma kifunqu kifuatacho kasha ujibu maswali yanavyofuata**

Wakati wananchi katika kila pembe ya dunia waliadhimisha siku ya wapendanao maarufu kama “Valentine Day,” kwa mitindo mbali mbali, hali hiyo ilikuwa tofauti kwa baadhi ya wanaume nchini Kenya, baada ya kulalamika kuhusu kunyanyaswa na wake zao.

Kulingana na mwenyekiti wachama cha kutetea haki za wanaume nchini, idadi ya wanaume wanaopigwa na wake zao imeongezeka mno. Alisema juzi kuwautafiti wa chama chake umeonyesha kuwa harakati za kumpa mwanamke uwezo zimeathiri maadili na kusababisha kuwadharau wanaume. Mwanaharakati huyo alidai kuwa tatizo hilo limechochewazaidinahaliyakuwawanawakewengisasawanakipatokikubwakulikowaumezao.

Mwisho niwa mwezi polisi walimtia mbaroni mwanamke mmoja mjini Nyeri, baadaya kumshambulia mumewe na kumjeruhi kwa panga. Mwanamme huyo bado anapata matibabu hospitalini. Yeye alirudi nyumbani kama amevaa miwani ndipo akakatwa katwa usoni na uchunguzi kuhusu tukio hilo bado unaendelea.

Inadaiwa kuwa Zaidi ya wanaume 460,000 walinyanyaswa na wake zao mwaka jana na kwamba utafiti wa shirika la kuwatetea wanaume umeonyesha kuwa kesi nyingi za wanaume kuteswa na wake zao zina ripotiwa katika kati mwanchi.

Hata hivyo, baadhi ya wanaume katika eneo hilo wameunga mkono hatua ya wanawake kuwashambulia waume zao. Wanasema kuwa wanapigwa kwa sababu wamekosa kuwajibika kwa familia zao. Wanadai kuwa wanaume wengi hawajulikani nyumbani kwao. Wake zao wanawajua makasisi ambao hujakuwa ombea kuhusu matatizo ya nyumbani huku mabwanazao wakizama katika ulevi. Wanawake na waume wa Nyeri wametaka serikali kukomesha uuzaji na unywaji wa pombe haramu ambayo imechangia sana katika ugomvi wanyumbani.

MASWALI

a) Yape Makala haya anwani inayofaa (alama 1)

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b) Eleza sababu za wanaume kupigwa na wanawake katika ndoa (alama 4)

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c) Mwandishi anamaanisha nini anaposema kuwa wanaume wengine hawajulikani nyumbani kwao?

(alama 2)

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.....

d) Fafanua majukumu ya makasisi katika jamii kwa mujibu wa kifungu hiki

(alama 2)

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.....
.....

e) Ni mabadiliko yepi yametokea katika asasi ya ndoa kwa mujibu wa kifungu?

(alama 3)

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.....
.....
.....

f) Eleza maana ya msamiati kamaulivyotumikakifunguni

(alama 3)

i) Mwanaharakati

.....

ii) Amevaa miwani

.....

iii) Waliadhimisha

.....

2. UFUPISHO (ALAMA 15)

Ujambazi wa kimataifa ni tatizo linalo wasumbua walimwengu kwa muda mrefu sana. Serikali nyingi zimetumia mapesa mengi kwa miaka mingi sana zikijitahidi kupambana na janga hili. Hata hivyo, fanaka haijapatikana, wala haielekei kuwa itapatika na leo au karne baadaye.

Yamkini tatizo kubwa lililopo ni kuhusu jelezi la dhanaya ”Ujambazi” tena “wakimataifa”. Hili ni tatizo moja wapo nayapo mengi sana. Tatizo la pili ni kibusi. Kuna wale wafu binafsi na hasa viongozi wanchi kubwa kubwa na serikali zaozilizo jiamini shakuwa ujambazi nibalaa kweli, tena belua, lakini huoni wahuko, wala hauwezi kuwagu sa licha ya kuwashtua wao.

Kulingana na maoni ya watakaburi hao, ujambazi ni wa watu washenzi wasio starabika, wapatikanao katika nchi zisizoendelea bado. Ujambazi wapekee wanaouona unafaa kukabiliwa ni dhidi ya mbubujiko wadawa za kulevya iliosababishwa navinyangarika kutoka nchi hizo maaluniza “ulimwengu watatu”. Kulingana na wastaarabu wa nchi zilizoendelea, vinyangarika hivi ndivyo hasa adui mkubwa waustaarabu ulimwengu na ni sharti vifagiliwe mbali bila huruma. Baada ya kusagwa sagwa, ulimwenguni mstaarabu utazidi kutononoka na ahadi ya mbingu hapa ardhi ni itakamilika.

Imani ya watu hawa ya kuwa ujambazi, hata hivyo upo, hauwezi kuwashtua wala kuwatingisha wao ilikuwa kamili na timamu. Ilikuwa kamili na timamu hadi hapo mwezi Septemba terehe kumi na moja, mwaka wa 2001, ndege tatu za abiria zilizo elekea katika majumba mawili ya fahari, yenye urefu wazaidi yaghorofa mia moja na kuya twangi lia mbali. Mstuko na kimako! Kimako kwa kuwa kabla ya siku hiyo, wa marekani hangeweza kudhani kwamba ingeweze kamataifa lolote au mtu yeyote kuthubutu kuishambulia nchi yao, taifa wasifa lililolijami barabara dhidi ya aina yoyote ile ya uchokozi kutoka pembe yoyote ya dunia.

Hakuna ulimwengu mzima, aliyeamini kuwa marekani ingewezakushambuliwa. Kwa ajili hiyo, mshtuko ulitingisha ardhi yote na huzuni kutanda kote, kama kwamba sayari nzima imeshambuliwa, walasiomarekanipekee.

Mintarafu hiyo ,marekani ilipo lipiza kisasi kwa kuwa unguza

Walio kuwemo na wasiokuwemo kwa mabomu hatari huko Afghanistan, idadi kubwa ya watu duniani ilishangilia na kusheherekea. Kwa bahati mbaya, tafsiri ya shambulizi la minara-pachaya New York naileya Pentagon, utiwa uwezo wa Marekani ilizorota. Kuna wengi waliodhani huoni mwanzo wa vita vya Waislamu dhidi ya Wakristo na kwa muda, Waislamu wote wakashukiwa kimakosa kuwa nima jambazi wa kimataifa.

MASWALI.

a) Bila kubadilisha maana, fupisha aya za kwanza.(maneno 65-70)

(alama 6)

Matayarisho

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Jibu

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- b)** uKizingatia aya tatu za mwisho, fafania fikira za watu na mambo yote yaliyo tendeka baadaya Septemba 11,2001.(maneno65-70) (alama 7)

Matayarisho

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Jibu

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3. MATUMIZI YA LUGHA**(alama 40)****a)** Eleza sifa mbili bainifu za sauti /a/**(alama 2)**

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b) i) Mofimu ni nini?**(alama 2)**

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.....

ii) Ainisha mofimu katika kitenzi;**(alama 2)**

Alimwona

c) Andika kitenzi chenye muundo ufuatao;**(alama 2)**

Kiambishi ngeli, wakati uliopita, mzizi, kauli tendwa na kiishio.

.....

.....

d) Tunga sentensi mbili tofauti kudhihirisha matumizi ya kiimbo.**(alama 2)**

.....

.....

e) Ziandike upya sentensi kulingana na maagizo yaliyo banwa. (alama 4)

i) Kijitabu kile kulirushwana kiranja. (Tumia kivumishi kisisitizi cha karibu)

.....
.....

ii) Barabara nyingi zimesakafiwa. (Tumia wakati ujao hali ya mazoea)

.....
.....

f) Andika sentensi ifuatayo katika usemi halisi (alama 4)

Cherotich aliwahakikishia wazazi wake kwamba angetia bidii katika masomo yake iliapite mthani wake

.....
.....
.....

g) Unganisha sentensi zifuatazo kwa kutumia rejeshi-amba (alama 2)

i) Mshukiwa alipelekwa mahakamani

.....
.....

ii) Mshukiwa alichukuliwa hatua

.....

h) Changanua sentensi ifuatayo kwa mtindo wa jedwali (alama 4)

Mto uliofurika mwaka jana uliwaua mamba wengi

i) Tambua shamirisho, chagizo nakihusishi katika sentensi

(alama 3)

Mgonjwa alitibiwa na daktari jana jioni.

j) Taja ngeli za nomino zifuatazo

(alama 2)

i) Sandarusi

ii) Saa.....

k) Yakinisha sentensi ifuatayo

(alama 2)

Mamlaka makubwa ya Rais haya kwa zijuhudiza upinzani

l) Unda nomino mbili kutokana na kitenzi kifuatacho

(alama 2)

La

.....
.....

m) Tunga sentensi kudhihirisha maana za vitate vifuatavyo

(alama2)

i) Bure

.....
.....

ii) Pure

.....
.....

n) Andika katika hali ya ukubwa wingi

(alama 2)

Msichana mrembo ameolewa na mwanamume hodari.

.....
.....
.....

o) Kamilisha tanakali za sauti zifuatazo (alama 2)

i) Maji yalijaa.....

ii) Barabara imenyooka

.....

p) Eleza maana ya mzizi wa kitenzi (alama 1)

.....

.....

4. ISUMU JAMII (ALAMA 10)

a) Lugha rasmi ni nini? (alama 2)

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b) Eleza sababu zozote tatu ambazo huenda zikamfanya mzungumzaji afanye makosa ya kisarufi na kimatamshi (alama 3)

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c) Huku ukitoa mifano mwafaka fafania sifa tano za sajili ya bungeni. (alama 5)

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SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

KISWAHILI

102/3

KARATASI YA 3

MUDA: SAA 2½

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Hati ya Kuhitimu Kisomo cha Sekondari

KISWAHILI

Karatasi ya 3

FASIHI

Muda: Saa 2½

MAAGIZO

- a) Jibu maswali manne pekee.
- b) Swali la kwanza ni la lazima.
- c) Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki; yaani: Hadithi fupi, Ushairi, Tamthilia na Fasihi Simulizi.
- d) Usijibu maswali mawili kutoka sehemu moja.
- e) Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.
- f) Majibu yaandikwe kwa lugha ya Kiswahili

SEHEMUYA A**1. SWALI LA LAZIMA**

a) i) Semi nini? (alama 1)

ii) Fafanua sifa nne za misimu (alama4)

b) Soma wimbo ufuatao kasha ujibu maswali

Ewe kilizi

Ulozo wea kujificha

Nyumaya mama kujikinga, dhidiyamilio

Yanadiilo juu mbinguni

Jua kesho ni siku ya siku

Siku ya kujua mbivu na mbichi

Kutofautisha jogoo na vipora

Naribatakapo shika, chake kisu

Ndipo utakapo jua bayana

Ukoo wetu si wakunguru

Ikiwa hutayari

Kisukuki dhihaki

sithubutu kamwe, wanja ni kuingia

sijekuniaibisha miye, amiyo naakrabanizima!

MASWALI

i) Huu wimbo huitwaje? (alama1)

ii) Eleza majukumu yoyote manne yanayotekelezwa na wimbo huu katika jamii (alama4)

c) i) Mivigha ni nini? (alama2)

ii) Eleza sifa tatu za mivigha (alama 3)

d) Fafanua matatizo matano ambayo yanaikumbwa fasihi simulizi duniani (alama5)

SEHEMU YA B**RIWAYA: CHOZI LA HERI: ASUMPTA MATEI**

2. "...haifai kucheza na uwezo wa vijana, waoni kama nanga. Huwezi kuzamisha nakuiongea merikebu."

a) Eleza muktadha wa dondoo hili (alama4)

b) Bainisha tamathali mbili za usemi zilizo tumika katika dondoo (alama 4)

c) Kwa kurejelea riwaya hii, onyesha jinsi vijana wamezamisha merikebu yawa hafidhina (alama12)

3. Baada ya dhiki faraja. Onyesha vile ukweli wa methali hii unavyo dhihirika kwenye riwaya (alama20)

SEHEMU YA C**TAMTHILIA: BEMBEA YA MAISHA – TIMOTHY AREGE****4. “Mgaala muuwe na haki umpe”**

- a) Eleza muktadha wa dondoo (alama4)
- b) Tambua kipengele cha kimtindo katika dondoo hili (alama1)
- c) Eleza umuhimu wa mbinu ya kimtindo uliyotaja (alama2)
- d) Dhibitisha ukweli wa msemaji kwa mujibu wa dondoo hili (alama3)
- e) Onyesha namna mbinu hiyo ya kimtindo ilivyotumika katika tamthilia ya Bembea ya Maisha (alama10)

5. Eleza umuhimu wa wahusika wafuatao katika kujenga tamthia ya Bembea ya Maisha**(alama20)**

- a) Yona
- b) Dina

SEHEMU YA D : HADITHI FUPI**MAPAMBAZUKO YA MACHWEO NA HADITHI NYINGINE****6. Wanaume katika mataifa mengi barani afrika wametawaliwa na ubabedume. Jadili kauli hii ukirejelea hadithi ya “Fadhila za Punda”****(alama 20)****7. Huku ukitolea mifano mwafaka ,eleza jinsi ambavyo haki za watoto/vijana zimekiukwa katika hadithi ya Mapambazuko ya Machweo****(alama 20)****8. SEHEMU YA E: USHAIRI****Soma shairi lifuatalo kasha ujibu maswali**

Barabara bado ni ndefu

Nami tayari nimecho katiki

Natamani kuketi

Ni’nyooshe misuli

Nitulize akili

Lakini

Azmayani sukuma

Mbele ikinihimiza kuendelea

Baada ya miinu konakuruba

Sasa naona unyoofu wake

Unyoofu ambao unatisha zaidi

Punde na tumbukia katika shimo
Nahitaji siha zaidi ilikupanda tena
Ghaflanakumbukailivyosema
Ile sauti zamani kidogo
“Kuwatayari kupanda na kushuka”.

Ingawa nimechoka
Jambo moja dhahiri
Lazima hufuate barabara
Ingawa machweo yaingia
Nizame na kuibuka
Nipande na kushuka

Jambo moja nakumbuka; Mungu
Je nimwombe tena?Hadilini?
Labda amechoshwa na omba omba zangu
Nashangaa tena!
Kitu kimoja nakiamini
Lazima niendeleo kujitahidi kwa kila hatua mpya
Nijikokote kuiandama hii barabara yenye ukungu
Nikinaswa nakujinasua
Yumkini nitafika mwisho wake
Ikiwa wangu mwisho haitauwahi kabla.

Maswali

- a) Taja naueleze aina ya shairi hili (alama 2)
b) Eleza toni ya shairi hili (alama 2)
c) Huku ukitoa mifano mwafaka eleza tamathali tatu za usemi ambazo zinajitokeza katika shairi (alama 3)
d) Mshairi ametumia uhuru wake wautunzi. Eleza mifano mitatu huku ukitolea mifano. (alama 3)
e) Fafanua dhamira ya mtunzi wa shairi hili (alama 2)
f) Andika kifungu cha mwisho katika lugha ya nathari. (alama 4)
g) Eleza maana ya msamiati ufuatao kama ulivyotumika katika shairi (alama 4)
i) Kuruba
ii) Siha
iii) Machweo
iv) Kujinasua

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BIOLOGY

231/1

PAPER 1

TIME:2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

231/1

BIOLOGY

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- 1) Write your **name** and **index number** and **school** in the spaces provided above.
- 2) Sign and write **date** of the examination in the spaces provided above
- 3) Answer **all** the questions in section A and B

FOR EXAMINER'S USE ONLY:

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1-29	80	

SECTION A

1. A young scientist observed a bird laying her eggs in a nest and later the eggs hatched into chicks.

Name three characteristics shown by the chicks that show a chick is a living thing but an egg is not

(3mks)

.....

.....

.....

.....

2. Which organelles should be abundant in;

i) Skeletal muscle

(1mk)

.....

ii) Palisade tissue

(1mk)

.....

3. A form 1 student was preparing temporary slides in the laboratory, in the course of preparation he carried out the following processes;

i) Sectioning

ii) Fixation

iii) Staining

State the importance of the above processes

(3mks)

.....

.....

.....

.....

4. Why are lysosomes many in phagocytic cells

(2mks)

.....

.....

.....

5. Differentiate between guttation and transpiration (2mks)

.....

.....

.....

6. a) Give a reason why xylem vessel should be dead (1mk)

.....

.....

b) What is the role of lignin in the wall of the xylem vessel (1mk)

.....

7. Name the disease of the blood characterized by,

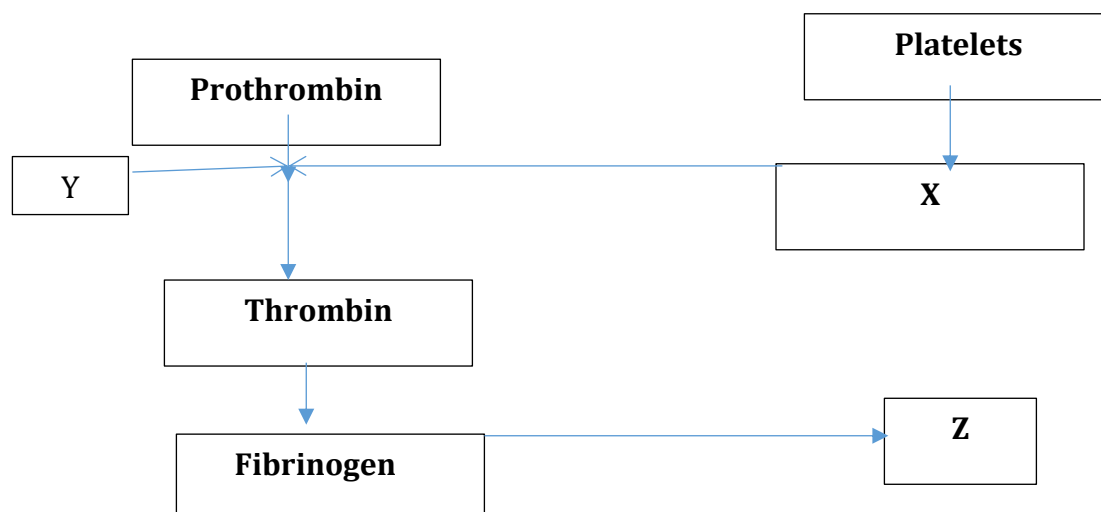
a) Abnormally large number of white blood cells (1mk)

.....

b) Crescent –shaped haemoglobin (1mk)

.....

8. The chart below is a summary of blood clotting mechanism in a man.



Name;

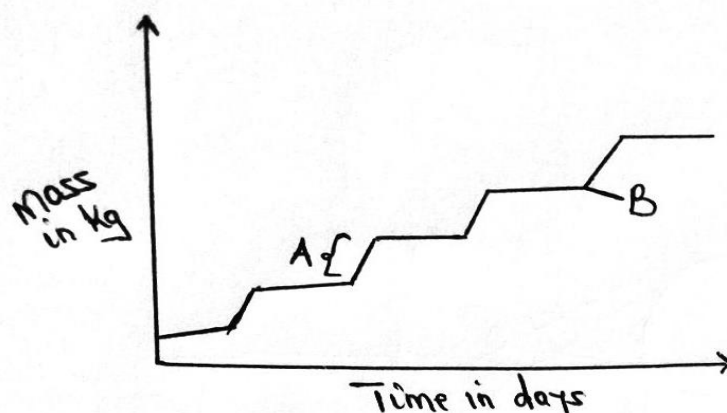
i) The metal ion represented by Y (1mk)

.....

ii) The end product of the mechanism represented by Z (1mk)

.....

9. The graph below represents the growth of animals in a certain phylum. Study it and answer the questions that follow.



a) Name the type of growth pattern shown on the graph (1mk)

.....

b) Identify the process represented by letter B (1mk)

.....

c) Name the hormone responsible for the process in (b) above (1mk)

.....

10. Explain why a mule is infertile (1mk)

.....

.....

11. Phylum Arthropoda is the most successful of invertebrates. Explain two characteristics that make them most successful (2mks)

.....

.....

.....

12. Name phylum whose members possess a notochord

(1mk)

.....

13. a) Define evolution and homologous structures

(2mks)

.....

.....

.....

b) State three limitations of using fossil records as an evidence that supports organic evolution

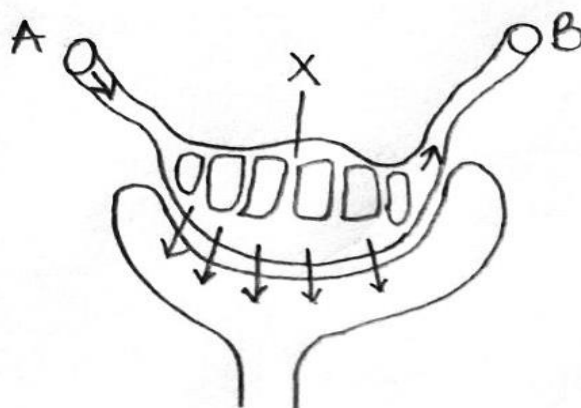
(3mks)

.....

.....

.....

14. The following is part of a kidney nephron



a) i) Name the process represented by the arrows

(1mk)

.....

ii) Name the conditions necessary for the process named in (a) (i) above to take place

(1mk)

.....

.....

b) Identify with a reason vessel A

(1mk)

.....

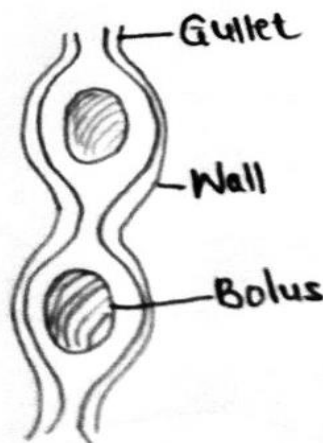
c) Name any two blood components that are present in vessel (A) but are absent in vessel B

(2mks)

.....

.....

15. The diagrammatic representation below illustrates one of the process that occurs in mammals during feeding. Carefully study it and answer the following questions



i) Identify the process (1mk)

.....

ii) State two structural adaptations of gullet to its functions (2mks)

.....

.....

.....

iii) Name one enzyme already present in the food bolus within the gullet in man (1mk)

.....

b) State two functions of mucus secreted by the intestines (2mks)

.....

.....

16. Explain each of the following;

a) Variegated plants accumulates less food than non-variegated plants under similar conditions.

(2mks)

.....

.....

.....

b) Most leaves are thin with broad leaf surface

(2mks)

.....

.....

.....

17. State the economic importance of the following plant excretory products

(3mks)

a) Papain

.....

b) Caffein

.....

c) Colchicine

.....

18.a) State two processes which occurs during anaphase of mitosis

(2mks)

.....

.....

b)What is the significance of first meiotic division

(1mk)

.....

.....

c)State two ways in which HIV/AIDS is transmitted from mother to child

(2mks)

.....

.....

19. State the function of the following during pregnancy

(3mks)

a) Amnion

.....

b) Amniotic fluid

.....

c) Umbilical cord

.....

20. Name the process by which;

i) Producers convert sunlight energy into chemical energy (1mk)

.....

ii) Chemical energy is converted into heat energy by consumers (1mk)

.....

21. Students from Mpesa foundation academy wanted to investigate the population of crabs in their school pond. They caught 50 crabs, marked them with white paint on the cephalothorax and then released them back into the pond. After three days, they came back and caught 50 crabs of which 3 had the white mark.

a) Using the data above, calculate the population of crabs in the pond (2mks)

b) Suggest three assumptions the students made during this study (3mks)

.....

.....

.....

22. State any two methods that can be used at home to properly manage domestic effluents (2mks)

.....

.....

23. a) Explain how the following factors increase the rate of diffusion (3mks)

i) Temperature

.....

.....

ii) Diffusion gradient

.....

.....

iii) Size of diffusing particles

.....

.....

b) Diffusion is a passive process while active transport is an active **process**. **Explain** (2mks)

.....

.....

.....

24. a) Waterlogging in terrestrial plants inhibit uptake of certain mineral ions from the soil by the plants.

Explain (3mks)

.....

.....

.....

.....

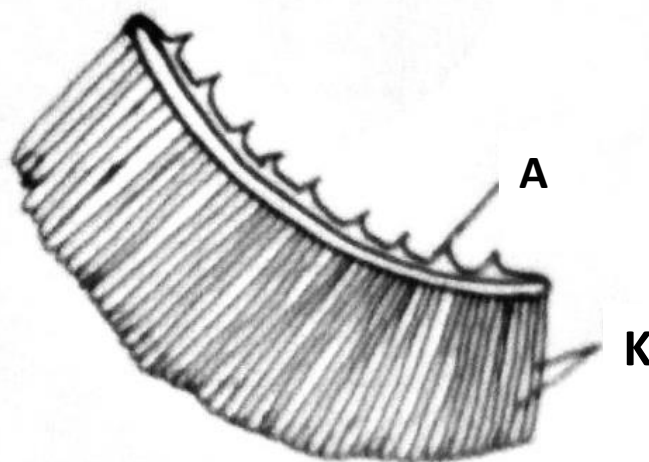
b) State two illustrations of Osmosis in plants (2mks)

.....

.....

.....

25. The diagram below represents a gill of a fish



i) State two ways in which a large surface area is created in structures labelled K (2mks)

.....

.....

.....

ii) Name the type of flow system that occurs between water and blood in the capillaries present on structures K (1mk)

.....

iii) Name an organ in human beings that also display the flow system named in (ii) above (1mk)

.....

26. Identical twins were separated after birth and were then raised in different environments. One in Kenya and the other in U.S.A. They rejoined after 18 years and they looked slightly different.

i) Name the type of variation the twins exhibited (1mk)

.....

ii) Give two observable differences likely to be noted between the twins (2mks)

.....

.....

.....

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BIOLOGY

231/2

PAPER 2

TIME: 2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

*Kenya Certificate of Secondary Education***INSTRUCTIONS TO CANDIDATES:**

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

FOR EXAMINER'S USE ONLY:

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

SECTION A (40MKS)**Answer all the questions in these section**

1. Haemophilia is a sex linked characteristic caused by a recessive gene located on one of the sex chromosomes.

a) Name the chromosome onto which the gene for haemophilia is linked to (1mk)

.....

b) A normal man for the condition marries a normal woman for the condition but sadly one of their sons develop this condition from birth.

i) What are the likely genotypes of this couple? (2mks)

Man

.....

Woman

.....

ii) Using a punnet square, carry out a cross to show why the couple gave birth to haemophiliac son (4mks)

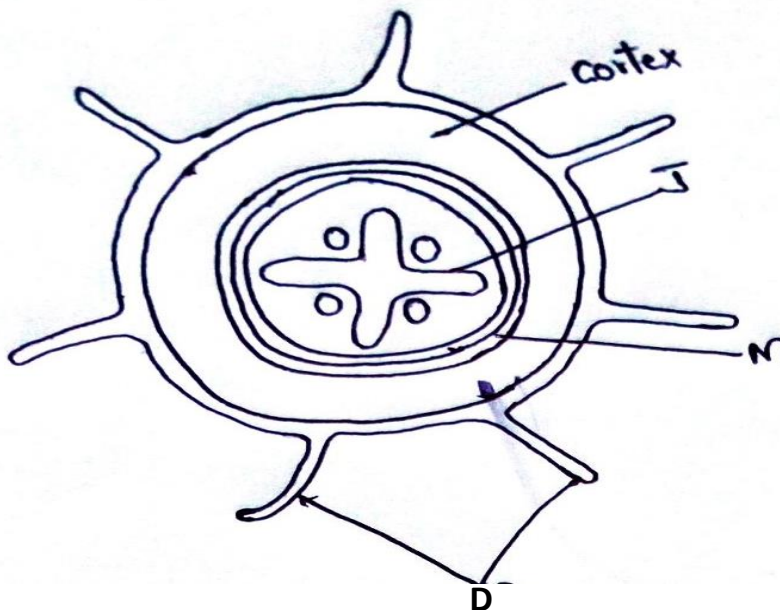
Use (H),to represent the gene for normal condition and (h) to represent the gene for haemophilia

iii) Why is this haemophiliac condition very common in males than in **female** (1mk)

.....

.....

2. The figure below represents an organ obtained from a section of a plant. Use it to answer questions that follow.



- a) i) Name the organ from which the above section was obtained. Give a reason for your answer (2mks)

.....
.....

- ii) Structure labelled J is described as a mechanical tissue. Explain (1mk)

.....
.....

- b) i) Name the process by which water passes across structure M (1mk)

.....

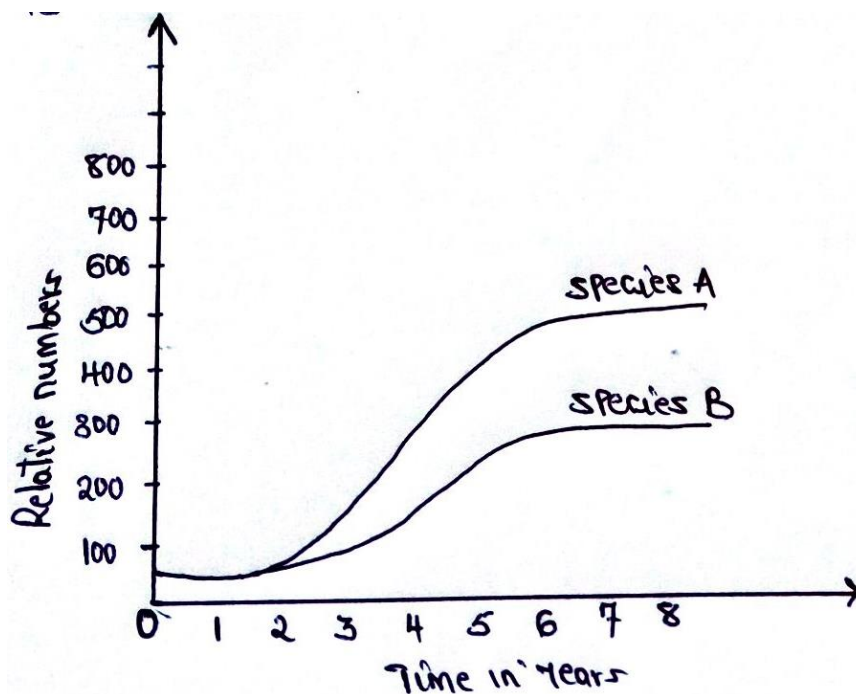
- ii) Explain two ways by which cells with structures D are adapted to their functions (2mks)

.....
.....
.....

- c) Name two strengthening materials that strengthen the collenchyma tissue (2mks)

.....
.....

3. The herbivorous mammalian species were introduced into an ecosystem at the same time and in equal numbers. The graph below represents their populations during the first seven years. Study the graph and answer the questions that follow.



- a) i) Which species has a better competitive ability (1mk)

.....

- ii) Give reason for your answer (1mk)

.....

.....

- b) Account for the shape of the curve of species A between

- i) One year and three years (2mks)

.....

.....

.....

- ii) Three years and seven years (2mks)

.....

.....

.....

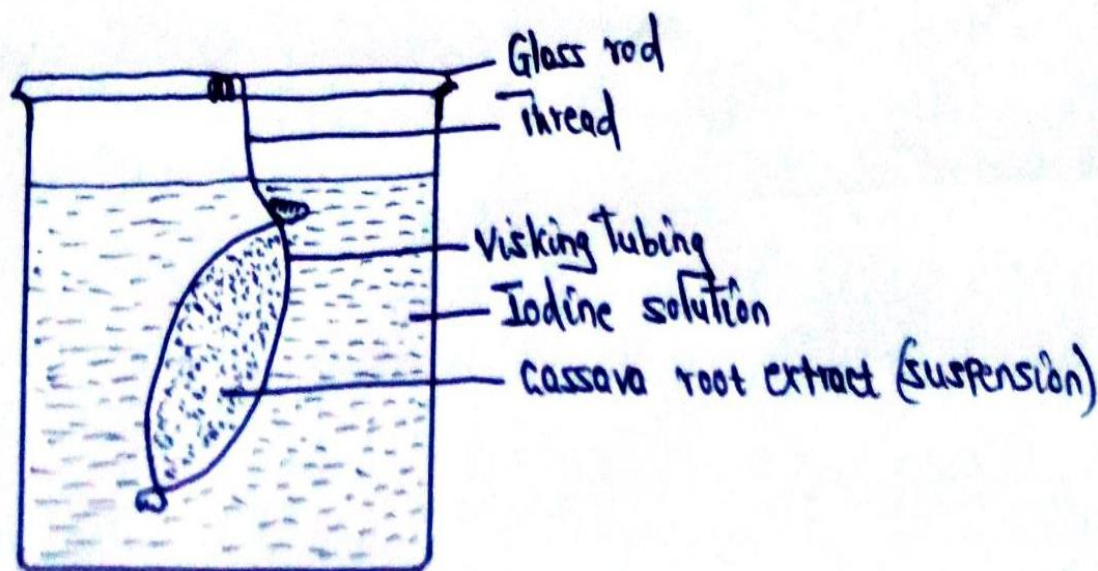
- c) A natural predator for species A was introduced into the ecosystem. With a reason state how the population of each species would be affected (2mks)

.....

.....

.....

4. A student from Abogeta secondary set up an experiment as illustrated below.



The visking tubing was left in iodine solution for 4 hours.

- a) State the physiological process being investigated (1mk)

.....

- b) i) What were the expected results in the visking tubing and in the beaker (2mks)

.....

.....

.....

- ii) Account for your expected result in visking tubing (2mks)

.....

.....

.....

c) Mention three factors that influences the rate of active transport (3mks)

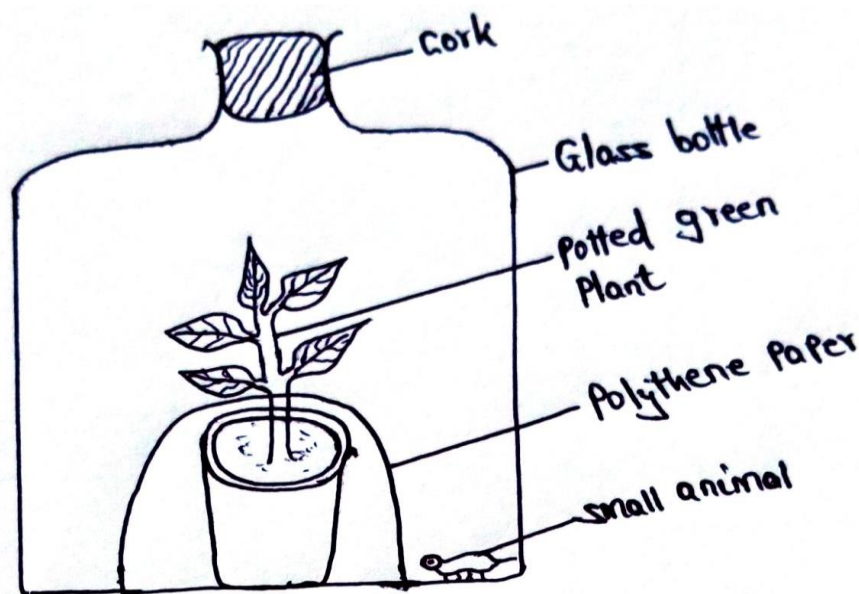
.....

.....

.....

.....

5. An experiment was set up to investigate a factor in autotrophism in green plants.



Vaseline was applied at joint between the cork and the mouth of glass bottle and set up was left under sunlight for 6 hours.

a) Why was it necessary;

i) To apply Vaseline (1mk)

.....

.....

ii) To cover the pot with polythene paper (1mk)

.....

.....

iii) What was the purpose of including the small animals? Give two reasons. (2mks)

.....

.....

.....

b) i) What would happen to the small animal if the set up was left over night in darkness (1mk)

.....

ii) Account for the answer in b (i) above (1mk)

.....

.....

c) State the respiratory surface of the following organism (2mks)

i) Amoeba

.....

ii) Fish

.....

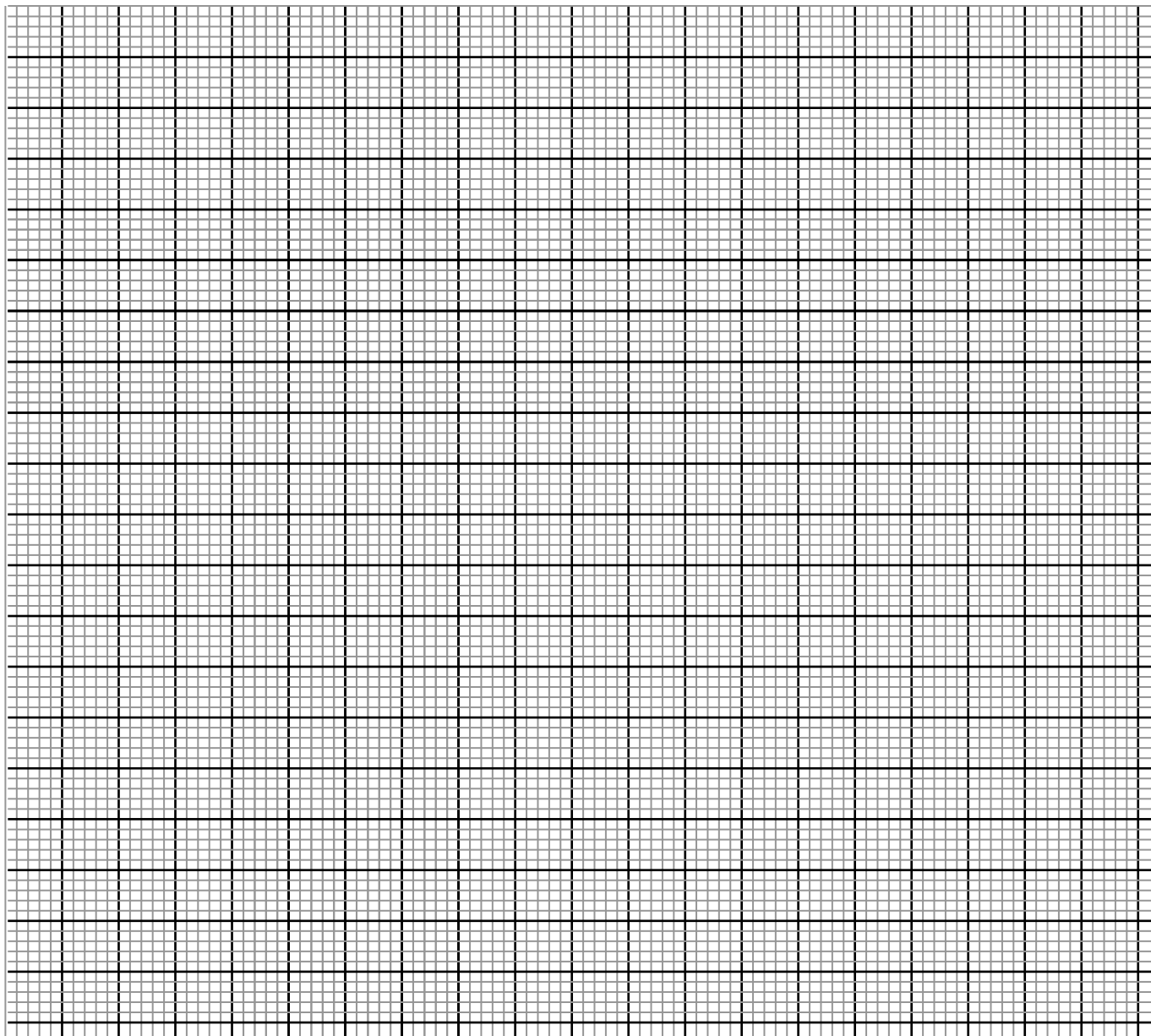
SECTION B (40MKS)

Answer question 6 (Compulsory) and choose either question 7 or 8

6. A hungry person had a meal, after which the concentration of glucose and amino acids in the blood were determined. This was measured hourly as the blood passed through the hepatic portal vein and the iliac vein in the leg. The results were as shown in the table below.

Time (Hrs)	Concentration of contents in Hepatic portal vein (Mg/100ml)		Concentration of contents in the ilia vein of the leg (Mg/100ml)	
	Glucose	Amino acids	Glucose	Amino acids
0	85	1.0	85	1.0
1	85	1.0	85	1.0
2	140	1.0	125	1.0
3	130	1.5	110	1.5
4	110	1.5	90	3.0
5	90	3.0	90	2.0
6	90	2.0	90	1.0
7	90	1.0	90	1.0

- a) Using the same axes draw graphs of concentration of glucose in the hepatic portal vein and the iliac vein in the leg against time (7mks)



- b) Account for the concentration of glucose in the hepatic portal vein from;

- i) 0-1 hour (2mks)

.....
.....
.....

- ii) 1-2 hours (3mks)

.....
.....
.....

iii) 2-4 hours

(3mks)

.....

.....

.....

.....

iv) 5-7 hours

(2mks)

.....

.....

.....

c) Account for the difference in the concentration of glucose in hepatic portal vein and the iliac vein between 2 and 4 hours

(2mks)

.....

.....

.....

d) Using the data provided in the table explain why the concentration of amino acids in the hepatic portal vein took longer to increase

(1mk)

.....

.....

7. a) Describe the opening and closing of the stomata using the photosynthetic theory

(10mks)

b) Describe blood sugar regulations in mammals

(10mks)

8. a) Describe the adaptation of the following plants to their habitat;

i) Xerophytes

(15mks)

ii) Hydrophytes

(5mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BIOLOGY

231/3

PAPER 3

TIME: 1¾ HOURS

SCHOOL..... SIGN.....

CONFIDENTIAL

Each candidate shall require the following

- i) 10ml hydrogen peroxide solution*
- ii) Specimen K (Irish potato)*
- iii) Mortar and a pestle*
- iv) Four test tubes*
- v) Distilled water in a wash bottle*
- vi) A scalpel*
- vii) Means of heating (source of heat)*
- viii) Test tube holder*

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

BIOLOGY

231/3

PAPER 3**TIME: 1¾ HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

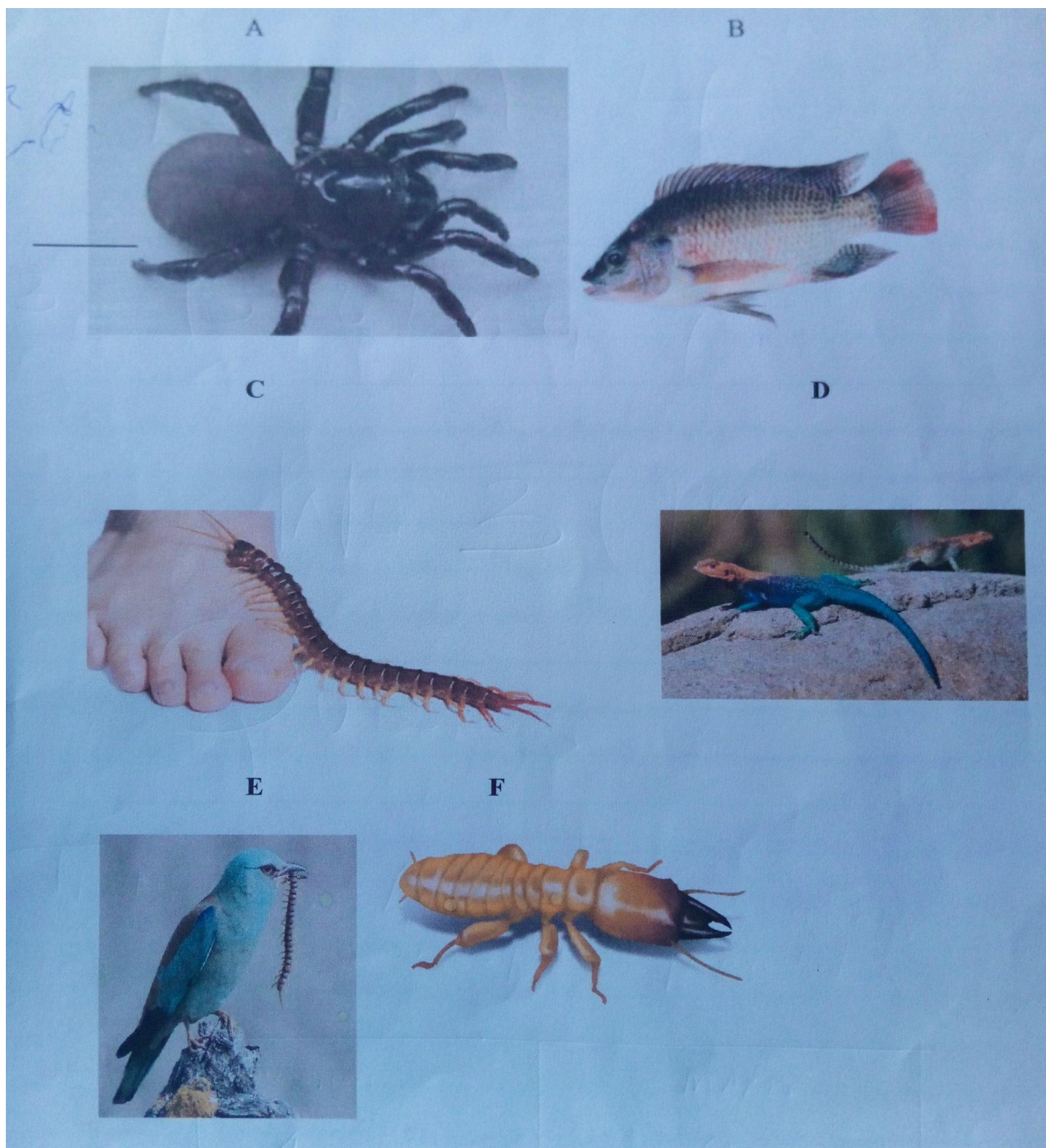
*Kenya Certificate of Secondary Education***INSTRUCTIONS**

Answer all questions in spaces provided

EXAMINER'S USE

QUESTIONS	MAX.MARKS	CAND.SCORE
1	9	
2	13	
3	18	
TOTAL	40	

1. Study the organisms below



a) Complete and use the key below to identify the organisms (2mks)

- 1.a) Organism with endoskeletongo to 2
1. b)go to 4
2. a) Has scales on the bodygo to 4

- 2 b) Has no scales on the body.....mammalian
- 3a) Has cephalothoraxArachnida
- 3b) Has no cephalothoraxgo to 5
- 4a).....Pisces
- 4b) Has no finsgo to 7
- 5a) Has three pairs of legsInsect
- 5b) Has more than three pairs of legsgo to 6
- 6a) Two pairs of legs per segmentDiplopoda
- 6b) One pair of legs per segmentChilopoda
- 7a) Has feathers Aves
- 7b) Has no feathersgo to 8
- 8a) Has a tailReptilia
- 8b) Has no tailAmphibia

b) Identify the organisms above using the completed key above (6mks)

Specimen	Steps followed	Identity
A	_____	_____
B	_____	_____
C	_____	_____
D	_____	_____
E	_____	_____
F	_____	_____

c) Name the phylum in which specimens C, E and F belong to. (1mk)

.....

d) Give three reasons for your answer in (c) above (3mks)

.....

.....

.....

e) Name one feature that is common in organisms B, E and D (1mk)

.....

2. You are provided with the following;

- i) Hydrogen peroxide
- ii) Specimen K
- iii) Pestle and mortar
- iv) 4 test tubes
- v) A scalpel
- vi) Source of heat
- vii) Test tube holder

Using a scalpel, obtain three peeled cubed from specimen K measuring about 1cm x 1cm x 1cm. For the first cube, you are required to boil it in water for five minutes. For the second cube, you are required to crush it into a paste. For the last cube, you are required to use it as it is.

Label three test tubes A, B and C and put 2ml of hydrogen peroxide in each test tube. To test tube A, add the boiled cube and record your observation.

To test tube B, add the crushed paste and record your observation.

To test tube C, add the unboiled cube remaining and record your observation.

a) Complete the table below (3mks)

Test tube	Observation
A	
B	
C	

b) Explain your observation in test tube A (1mk)

.....
.....

c) Between test tubes B and C, in which test tube was the volume of foam produced the highest? Explain (3mks)

.....
.....
.....
.....

- d) Apart from temperature, state two other factors that affect the rate of enzyme controlled reactions (2mks)

.....
.....

3. The photographs below shows specimen of different types of fruits. Examine them and answer the questions that follow.



a) State four differences between specimen P and R (4mks)

.....

.....

.....

.....

.....

b) State the types of gynoecium and placentation of specimen P, S and V (4mks)

i) Specimen P GynoeciumPlacentation

ii) Specimen S GynoeciumPlacentation.....

iii) Specimen V GynoeciumPlacentation

c) In the table below name the mode of dispersal for each specimen and the features that adapt the specimen to its mode of dispersal. (6mks)

Specimen	Mode of dispersal	Adaptive features
P		
Q		
R		
S		
T		
V		

d) Draw and label a plan diagram of specimen V (4mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHEMISTRY

233/1

PAPER 1**TIME: 2 HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

*Kenya Certificate of Secondary Education***INSTRUCTIONS TO CANDIDATES**

- (a) Write your name and index number in the spaces provided here
(b) Sign and write the date of examination in the spaces provided above
(c) Answer ALL questions in the spaces provided in the question paper
(d) KNEC Mathematical tables and silent non – programmable electronic calculators may be used.
(e) All working MUST be clearly shown where necessary.

FOR EXAMINERS' USE ONLY.

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1 - 29	80	

Answer ALL questions

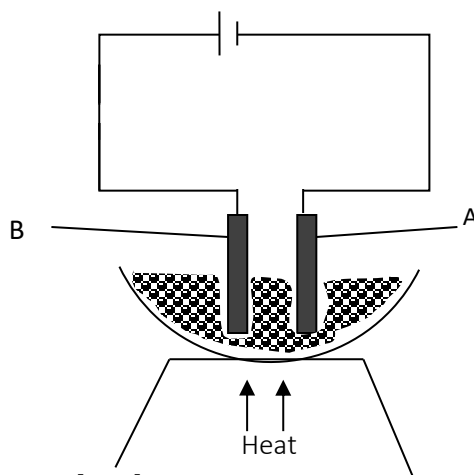
1. A luminous flame produces more light than a non-luminous flame. Explain. (2 marks)

.....

.....

.....

2. The diagram below was used to electrolyze molten copper (II) chloride using graphite electrodes at s.t.p.



- (a) Explain the role of heat on the above set up. (1 mark)

.....

.....

- (b) Write equations at electrode A and B. (2mark)

A

B

3. Dry ammonia was passed over heated copper (II) oxide in a combustion tube.

- (a) State and explain the observation that was made. (2 marks)

.....

.....

.....

- (b) Write a balanced chemical equation for the reaction above. (1 mark)

.....

.....

4. (a) Use dots (•) or crosses (x) to show bonding in the silicon chloride (1mark)

b) Ethanol and dimethylether have both molecular formulae C_2H_6O . Explain why ethanol C_2H_5OH boils at 78.2°C and dimethyl ether CH_3OCH_3 has a boiling point -24°C . (2 marks)

5. When 17.2 g of hydrated calcium sulphate was heated to a constant mass, 13.6g of the residue was obtained. Find the value of n in $CaSO_4 \cdot nH_2O$. (3 marks)

(Ca = 40, S = 32, O = 16, H = 1)

6. In an experiment, ammonium chloride was heated in a boiling tube with a moist red and blue litmus paper at the mouth of test tube. State and explain the observation made. (3 marks)

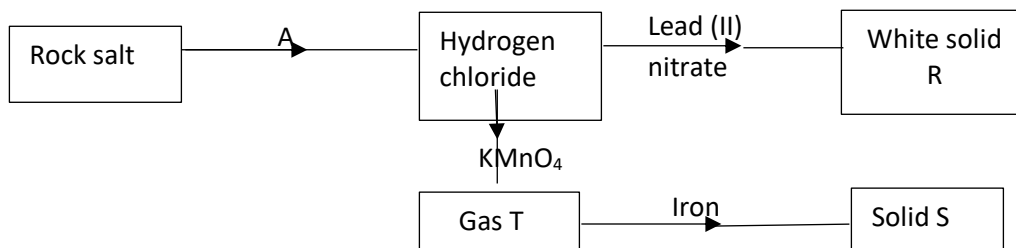
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7. Study the chart below and answer the questions that follow.

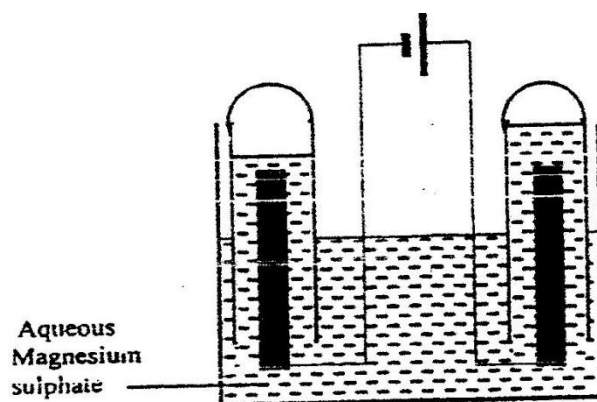


(a) Name reagent used in step A. (1 mark)

(b) Write the ionic equation for formation of white solid R. (1 mark)

(c) Write an equation for formation of solid S. (1 mark)

8. The set-up below was used during the electrolysis of aqueous magnesium sulphate using inert electrodes.



i) On the diagram label the cathode. (½mark)

ii) Write an equation for the reaction that took place at the cathode. (1 mark)

.....

iii) Explain the change that occurred to the concentration of magnesium sulphate solution during the experiment. (1½ marks)

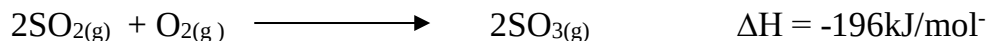
.....

.....

.....

.....

9. The equation below shows the oxidation of Sulphur (IV) oxide to Sulphur (VI) oxide in the contact process.



State and explain the effect on the yield of Sulphur (IV) oxide when:

- a) the temperature increased. (1½ marks)

.....
.....
.....

- b) the amount of oxygen is increased. (1½marks)

.....
.....
.....

10. Dry carbon (II) oxide is passed over heated iron (III) oxide.

- a) Name the type of reaction between carbon (II) oxide and iron (III) oxide. (1mark)

.....

- b) Write an equation for the reaction between carbon (II) oxide and iron (III) oxide (1mark)

.....
.....

- c) Name a suitable drying agent for carbon (II) oxide (1mark)

.....

11. Thermochemical equation for combustion of ethanol is shown below;



- (a) Determine the heating value for ethanol? (2 mark)

(C = 12, H = 1, O = 16)

(c) Draw the structural formula for 2-methylprop-1-ene {1 mark}

12. a) Define oxidation in terms of electrons (1mark)

b) Determine the oxidation state of (1mark)

i) Sulphur in SO_3^{2-} ion

ii) Phosphorous in PO_4^{3-} ion (1mark)

13. Labels on acid solutions indicated the following:-

Acid 1 :0.1M, 6.5% ionized

Acid 2 :0.2M, 1.3% ionized

(a) Identify the strong acid (1 mark)

(b) If 25cm^3 of distilled water are added to 50cm^3 of acid 2, what is its new concentration? (2 mark)

14. When 0.05 mole of magnesium were added to 100cm³ of dilute hydrochloric acid at 25°C, 25kJ of heat energy were released. The acid was in excess.

(a) Calculate the highest temperature of the reaction mixture. (2mark)

(specific heat capacity for water is 4.2J/g/ °C, density of the solution is 1g/cm³)

(b) Calculate the molar heat of reaction for the reaction below (1 mark)

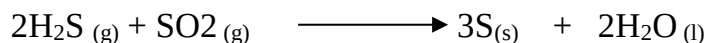


15. Hydrogen sulphide is a highly toxic and flammable gas and is usually prepared in the fume chamber.

a) Name any two reagents that can be used to prepare hydrogen sulphide in the laboratory. (1mk)

.....
.....

b) **Hydrogen** sulphide could be used to produce sulphur as shown in the equation below:



In the equation above, identify the reducing agent and give a reason for your answer. (1mk)

.....
.....
.....

c) Other than Vulcanization of rubber, identify any other uses of Sulphur. (1mk)

.....

16. The following table shows the P^H values of solutions A ,B and C

Solution	A	B	C
pH	2	7	11

(a) Which solution is likely to be magnesium chloride? Give a reason. (1mk)

(b) Identify the solution in which a sample of aluminium chloride is likely to be when dissolved in water. Explain (2mks)

17. Study the information in the table below and answer the questions that follow (The letters do not represent the actual symbols of the elements)

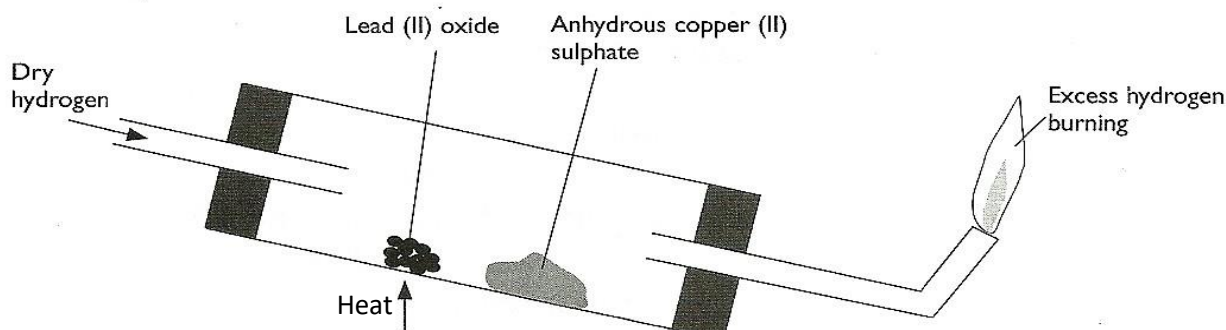
		Ionization Energy_kJ/Mole ⁻¹	
Element	Electronic configuration	1 st ionization energy	2 nd ionization energy
A	2.2	900	1800
B	2.8.2	736	1450
C	2.8.8.2	590	1150

a) What is ionization energy (1mk)

b) Explain why the 2nd ionization energy is higher than the 1st ionization energy. (1mk)

18. An element K has relative atomic mass of 40.2. It has two isotopes of masses 39 and 42. Calculate the relative abundance of each isotope. (3mks)

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



- a) After the experiment has been running for some time, record two major observations made in the tube. (2mks)

.....

.....

- b) Write an equation for the reaction that takes place in the dish containing lead (II) oxide. (1mk)

.....

20. a) Name two ores of iron. (1mks)

.....

.....

- b) Give the name of the suitable method used in extracting iron from the ore. (1mk)

21. Name one impurity present in pig iron and state one effect of the impurity in the physical property of iron. (1mks)

22. The table below gives two samples of mixtures. Study the table and answer the questions that follow

Mixture 1 components	Mixture 2 components
Silver Chloride	Iron (III) Chloride
Lead Chloride	Iron (III) Oxide
water	-

- a) State the main property that makes components of **Mixture 1** separable (1mk)
- b) Draw a well labeled diagram of a simple laboratory set up which can be used to separate the components of **Mixture 2** (2mks)

23.a) What name is given to group one elements ? (1mk)

.....

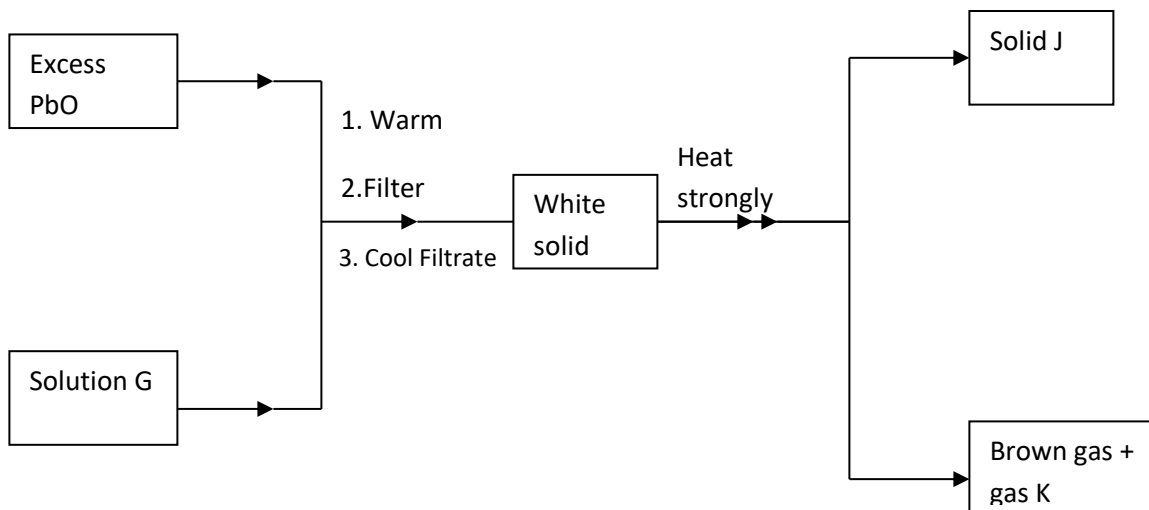
b) Explain why there is a general increase in the atomic radii of the elements down a group of the periodic table. (2 mks)

.....

.....

.....

24. Study the flow chart below and answer the question that follows.



Identify:

(3mks)

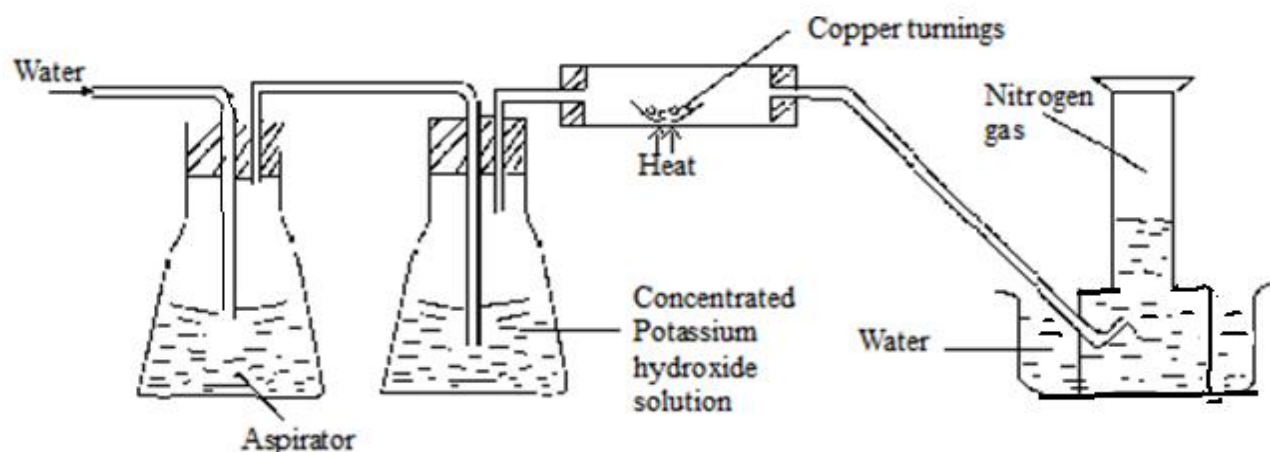
- a) Solution G
- b) Solid J
- c) Gas K

25. Draw and name structural formulae of two isomers whose molecular formula is C_4H_{10} . (3mks)

26. The concentration of a solution of aluminium sulphate is 0.02M. How many sulphate ions are contained in 150 cm^3 of the solution? (Avogadro's constant = 6.0×10^{23}) (3 mks)

27. Explain why a solution of hydrogen chloride gas in methylbenzene does not conduct electricity but solution of the gas in water conduct electricity. (2mks)

28. Nitrogen gas can be obtained from air as shown below.



a) What is the purpose of concentrated potassium hydroxide solution? (1mk)

.....
.....

b) write the equation for the reaction that takes place in the chamber containing copper turnings (1 mk)

.....
.....

c) The nitrogen gas obtained above is not pure. Identify one gaseous impurity in the gas. (1mk)

.....
.....

29. Radioactive, polonium, $^{216}_{84}\text{Po}$, decays as shown below:-



Determine the values of M and N.

(2 marks)

.....
.....
.....
.....

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHEMISTRY

233/2

PAPER 2

TIME: 2 HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES

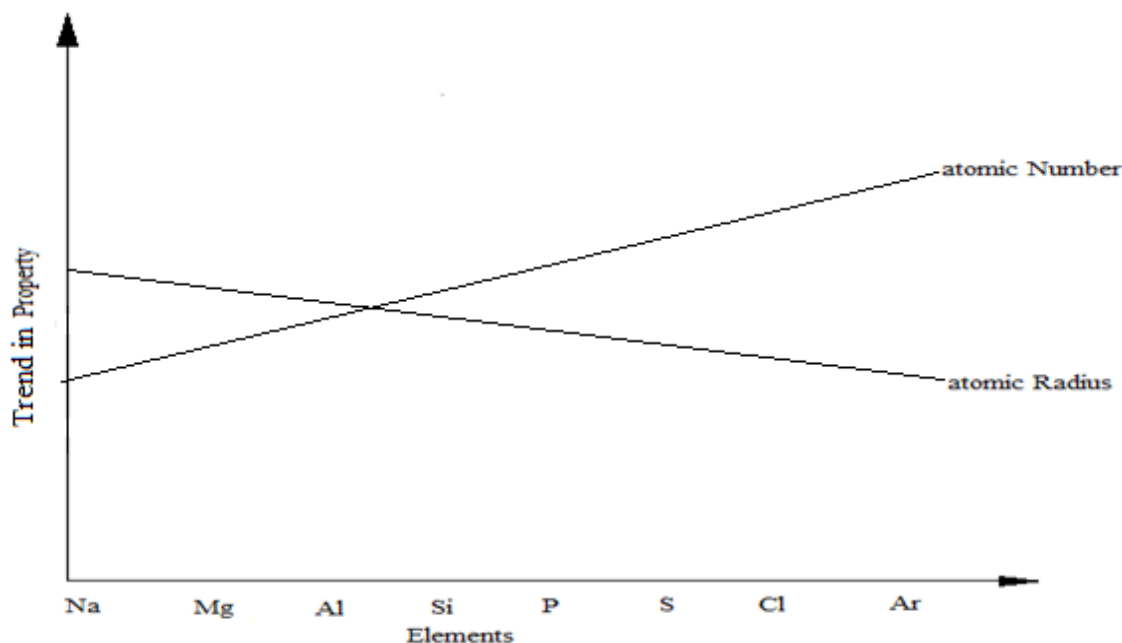
1. Write your name, class and admission number in the spaces provided above.
2. Answer all the questions in the spaces provided in the questions paper.
3. Mathematical tables and silent electronic calculators may be used.
4. All working must be shown where necessary.

For Examiners Use Only

Question	Maximum score	Candidates score
1	10	
2	11	
3	14	
4	10	
5	12	
6	11	
7	12	
TOTAL	80	

QUESTIONS

1. The figure below represents trends of some properties of period three elements. Study it answer the questions that follow.



- a). Explain the trends shown by the atomic numbers and the atomic radii

i). Atomic number (1 mark)

.....
.....

ii). Atomic radii (2 marks)

.....
.....
.....

b). On the same axes, sketch the trend of reactivity across the period (1mark)

c). Write down the electronic configuration of phosphorous and sulphur in the following compounds

i). H_3PO_4 (P=15) (1 mark)

.....
.....

ii). $\text{Na}_2\text{S}_2\text{O}_3$ (S=16) (1 mark)

.....
.....

d). i). One of the elements given in the figure above is stored under water.

Identify the element and give a reason as to why it is stored under water

(1 mark)

.....
.....

ii). State one use of aluminium that can be associated with its malleability.

(1mark)

.....

e). Explain the observation that would be made if the chloride of Phosphorous is exposed to moist air.

(2 marks)

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.....
.....

2.a). Sulphur is extracted from sulphur beds below the earth's surface. Super-heated water is pumped down a pipe into the sulphur beds.

i. What is super-heated water and how is it obtained?

(2marks)

.....
.....
.....

ii. Why does the water used here have to be superheated, and not use boiling water?

(1mark)

.....
.....

iii. When molten sulphur is pumped to the surface, it solidifies. Which allotrope of sulphur forms first?

(1mark)

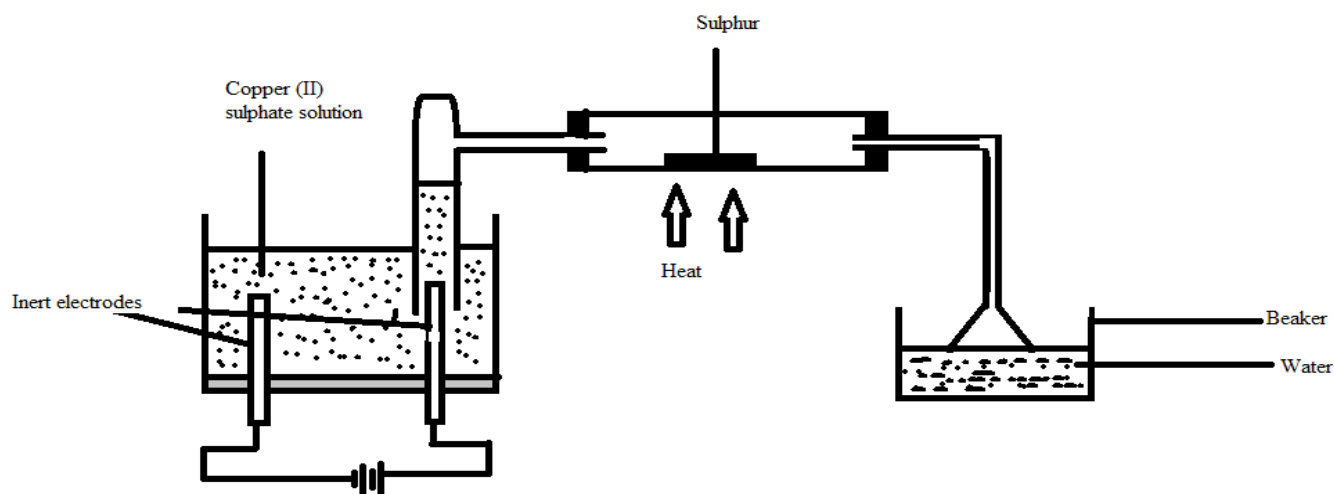
.....

iv. Name the form of sulphur obtained when liquid sulphur is poured into a beaker of cold water

(1mark)

.....

- b) The diagram below represents a set up that can be used for electrolysis of aqueous copper (II) sulphate. Use it to answer the questions that follow.



- i. What do you understand by the term inert electrode? (1mark)

.....
.....

- ii. What is the purpose of the filter funnel? (1mark)

.....
.....

- iii. Explain what happens to the pH of the:

- I. Water in the beaker. (1mark)

.....
.....

- II. Copper (II) sulphate **solution** (1mark)

.....
.....

- iv. Write ionic equation for the:

- I. Oxidation **reaction** (1mark)

.....
.....

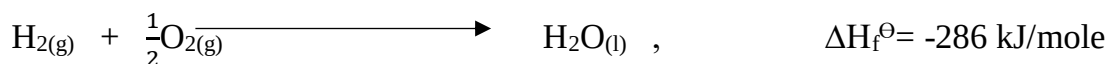
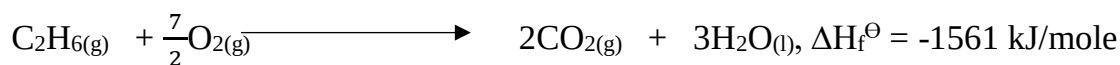
- II. Reduction reaction, in above set up. (1mark)

.....
.....

3. a). (i) Define the term ‘molar enthalpy of formation of a compound; (1mark)

.....

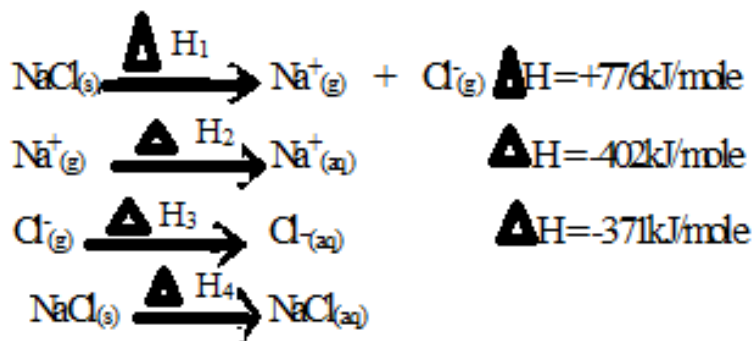
(ii) Calculate the molar enthalpy of formation of ethane using the following information:



.....

(3marks)

b) Study the reactions below and answer the questions that follow:



I. State the name given to :

a) ΔH_1 (1mark)

b) ΔH_2 (1mark)

II. Draw an energy cycle diagram illustrating the reactions above.

(2marks)

III. Determine the value of H_4

(2marks)

.....

.....

.....

IV. Joy placed 100cm^3 of $0.1\text{M CuSO}_{4(\text{aq})}$ in a plastic beaker, covered it with some cotton wool and recorded its initial temperature. She then added excess zinc powder to the solution and stirred it using a stirrer. She noted down the following data:

Initial temperature 20.5°C

Final temperature 30.0°C

Density of solution 1.0g/cm^3

Specific heat capacity of water 4200J/kg/K

i. Apart from the temperature rise, state one other observation made while she was stirring. (1mk)

.....

ii. Calculate the heat change for the reaction above

(1mark)

.....

.....

.....

iii. Determine the number of moles of ions of copper reacting

(1mark)

.....

.....

.....

iv. Hence, determine the molar enthalpy of the reaction.

(1mark)

.....

.....

.....

4. a) An experiment was set up to investigate the effect of temperature on the rate of reaction between 1.0g calcium carbonate and excess hydrochloric acid. The temperature was varied from 15°C , 20°C and 25°C ; and data obtained for the 3 sets of reagents.
- i) Sketch a graph of volume of carbon (IV) oxide gas produced against time for each temperature on the axes below. Label each graph with corresponding temperature. Consider all gas volumes measured at same temperature and pressure. (2 marks)

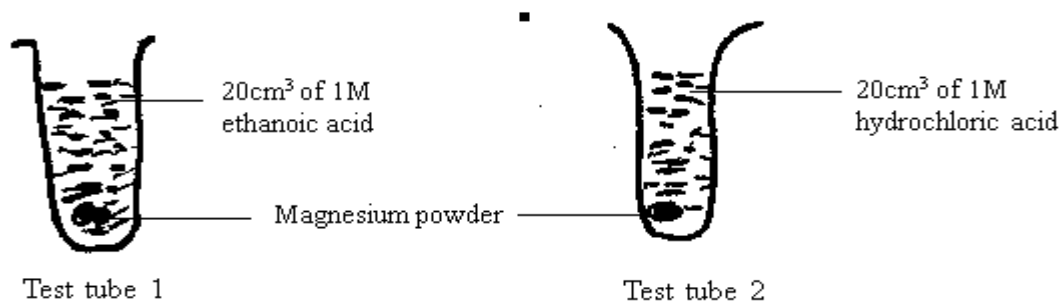
- ii) Explain the shape of graphs you've drawn in (a) above. (2marks)

.....

.....

.....

- b) In an experiment, equal amounts of magnesium powder were placed into test tube 1 and 2 as shown below.



- i) Explain why the magnesium powder in test tube 2 gets used up faster than that in test tube 1. (3 mks)

.....

.....

.....

.....

- ii) Other than concentration, state one factor that affects the rate of a reaction. (1 mark)

.....
.....

- c) Consider the equilibrium of the reaction below



In which direction will the equilibrium position shift as a result of each of the following changes?
Explain.

- i) Raising the temperature (1 mark)

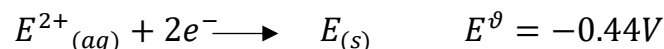
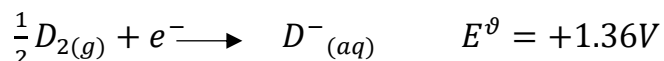
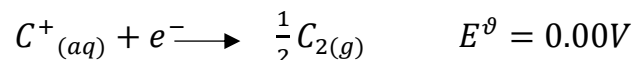
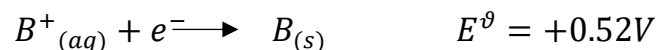
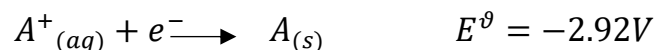
.....
.....

- ii) Reducing the volume of the container. (1 mark)

.....
.....

- 5.(a) Work out the oxidation number of nitrogen in NO_3^- ? (1 mark)

- (b) Study the standard electrode potentials below and answer the questions that follow. (The letters do not represent the actual symbols of the elements.



- (i) With reasons, identify the;

- I Strongest reducing agent. (1 mark)

.....
.....

II the reference electrode.

(1 mark)

.....

.....

.....

(ii) Write the overall equation for the reaction that will be obtained when half cells of B and E are connected.

(1 mark)

.....

.....

(iv) Explain whether the reaction represented below can take place.

(2 marks)



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.....

(v) Draw the cell diagram obtained when the half cells in (ii) are combined.

(2 marks)

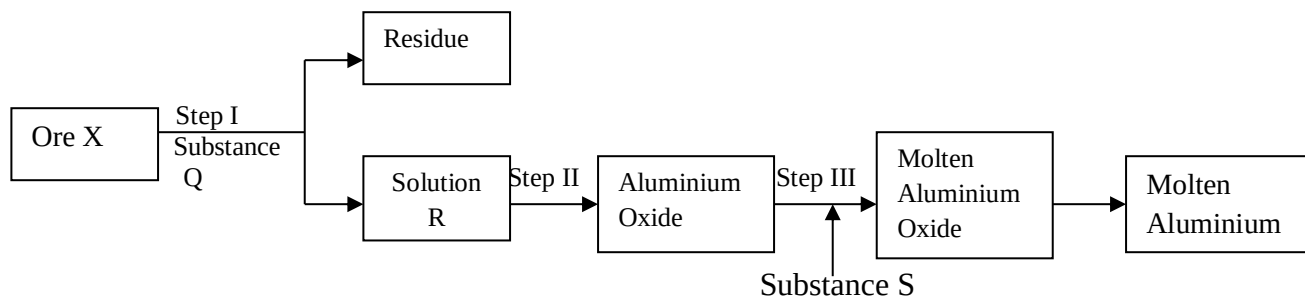
(c) In an experiment to electroplate a copper spoon with silver, a current of 0.5A was passed for 18 minutes.

(i) Sketch a diagram to show how the experiment was carried out.

(2 marks)

- (ii) Calculate the amount of silver deposited on the spoon. (IF = 96500C, Ag = 108) (2 marks)

6. The process of extraction of Aluminium is summarized as below:



(a) (i) Write the formula of the main Ore X which is used in extraction of Aluminium. (1 mark)

(ii) Name:

(a) The main residue formed after filtration in step I. (1 mark)

.....

(b) Substance Q. (1 mark)

.....

(iii) How is the sodium Aluminate in Solution R separated from the impurity silicon (iv) oxide. (2 marks)

.....
.....
.....

(iv) What is the purpose of addition of substance S in step III. Explain. (2 marks)

.....
.....
.....

- (b) (i) Explain why the Anode in extraction of Aluminium is replaced periodically. (2 marks)

.....

.....

.....

- (ii) Write an equation for the formation of Aluminium at the cathode. (1 mark)

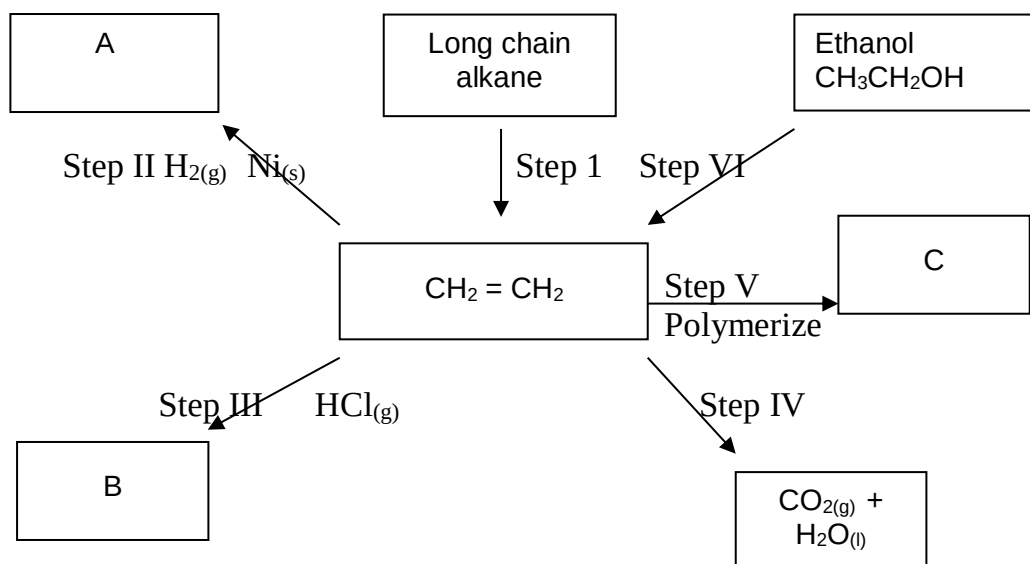
.....

- (c) Explain why Duralum an alloy of Aluminium is used in construction of aircraft parts and car window frames. (1 mark)

.....

.....

- 7.(a) Study the flow chart below and answer the questions that follow.



- (i) Name the process taking place in step (I). (1mark)

.....

- (ii) Describe a chemical test that can be carried out to show the identity of organic compound A. (2marks)

.....

.....

.....

(iii) Give the name of the following: (2marks)

I. A:.....

II. B:.....

(iv) Give the structural formulae of substance C. (1mark)

.....
.....

(v) Name the type of reaction that occurs in:

I. Step IV (2marks)

.....

II. Step VI:

.....

(vi) Give the reagent and the condition necessary for step VI. (2marks)

Reagent:

Condition:

(b) Give the systematic names of the following compounds:

I. $\text{CH}_2\text{CHCHCH}_2\text{CH}_3$ (1mark)

.....

II. CH C CH_3 (1mark)

.....

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SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHEMISTRY

233/3

PAPER 3

TIME: 2¼ HOURS

SCHOOL..... SIGN.....

INSTRUCTIONS TO SCHOOL

(CONFIDENTIAL)

In addition to the equipment and fittings found in a chemistry laboratory. Each candidate should be provided with;

- | | |
|--|---|
| 1. Solid A 5.0g measured accurately | ii) Sodium sulphate solution (NaSO_4) |
| 2. About 80cm^3 of solution B | iii) Ammonia solution 2m |
| 3. About 0.5g solid C | iv) 2m Sodium Hydroxide |
| 4. About 10cm^3 of liquid D | v) Lead Nitrate solution |
| 5. A thermometer (-10 - 110°C) | vi) Barium Nitrate solution |
| 6. A burette | vii) Acidified potassium manganate (VII) solution |
| 7. A complete retort stand | viii) Bromine water |
| 8. A pipette and a pipette filler | ix) Acidified potassium dichromate(VI) solution |
| 9. 2 conical flasks | |
| 10. A 250ml volumetric flask | |
| 11. One boiling tube | |
| 12. Five (5) test tubes | |
| 13. 0.5g sodium hydrogen carbonate | |
| 14. Two labels | |

NB: i) Solid A is 5.0g of oxalic acid (COOH_2
 $2\text{H}_2\text{O}$)

ACCESS TO:

- | | |
|---|--|
| i) Means of heating (Tripod stand and wire gauze) | ii) Solution B is KMnO_4 |
| | iii) Solid C is magnesium chloride MgCl_2 |
| | iv) Liquid D is absolute ethanol |

PREPARATIONS

- i) Solution B is made by dissolving 20g of solid KMnO_4 in 200cm^3 of $2.0\text{M H}_2\text{SO}_4$ and topping to 1000cm^3 by distilled water.
- ii) Sodium Hydroxide is prepared by dissolving 80g of NaOH pellets in 600cm^3 of distilled water and top to 1000cm^3 with distilled water.
- iii) Ammonia solution is prepared by dissolving 150ml of conc ammonia to 600cm^3 of distilled water then top to the mark.
- iv) Barium Nitrate is prepared by dissolving 26g of solid Barium Nitrate in 600cm^3 of water then topping to 1000cm^3 with distilled water.
- v) Lead nitrate is prepared by dissolving 30g of solid Lead Nitrate in 600cm^3 of water then topping to 1000cm^3 with distilled water.
- vi) Sodium Sulphate is prepared by dissolving 14.2g of solid sodium sulphate in 600cm^3 of distilled water then topping up to 1000cm^3 with distilled water.
- vii) Acidified KMnO_4 is prepared by dissolving 3.2g of solid KMnO_4 in 200cm^3 of $2.0\text{M H}_2\text{SO}_4$ acid then topping with distilled water to 1000cm^3 .
- viii) Acidified $\text{K}_2\text{Cr}_2\text{O}_7$ is prepared by dissolving 25g of solid $\text{K}_2\text{Cr}_2\text{O}_7$ in 200cm^3 of $2.0\text{M H}_2\text{SO}_4$ then topping to 1000cm^3 with distilled water.

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

CHEMISTRY

233/3

PAPER 3

TIME: 2¼ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS

- a) Write your name and index number in the spaces provided above.
- b) Sign and write the data of the examination.
- c) Answer all the questions in the spaces provided.
- d) You are not supposed to start working with the apparatus for the first 15 minutes of 2¼ hours allowed for this paper. This time is meant to read through the paper and ensure you have all the chemicals and apparatus require.
- e) All working must be clearly shown
- f) KNEC mathematical tables and silent electronic calculations may be used.
- g) All questions should be answered in English

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM	CANDIDATE'S SCORE
1	21	
2	11	
3	08	
TOTAL SCORE	40	

QUESTION 1

You are provided with:

- Solid A 5.0g $(\text{COOH})_2 \cdot x\text{H}_2\text{O}$
- Solution B 0.13M KMnO_4

Task

- You are supposed to determine the solubility of A at different temperatures.
- Determine the number of moles of water of crystallization in solid A.

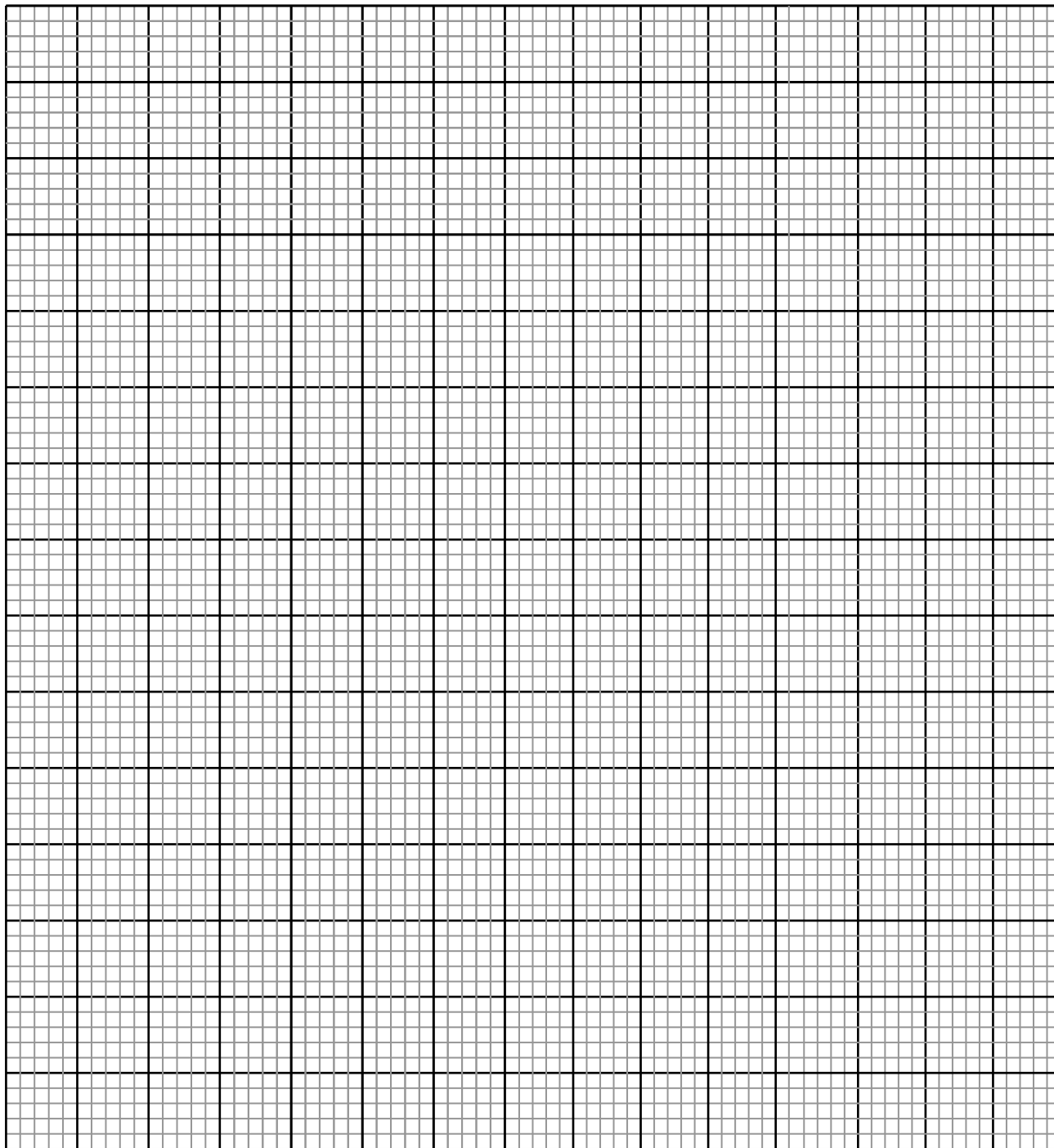
PROCEDURE 1

- Using a burette, add 4cm³ of distilled water to solid A in a boiling tube.
 - Heat the mixture while stirring with the thermometer to about 80°C.
 - When the whole solid dissolves, allow the solution to cool while stirring with the thermometer
 - Note the temperature at which crystals first appear and record this temperature in the table 1 below.
- Using a burette add 2cm³ more into the content of the boiling tube and warm until the solid dissolve.
 - Remove from the flame and allow the solution to cool in air while stirring.
 - Record the temperature at which crystal first appear in table 1.
 - Repeat procedure (b) 3 more times and complete table 1 below.
 - Retain the content of the boiling tube for procedure II

TABLE 1

Volume of water in the boiling tube (cm ³)	Temperature at which crystals of solid A appear (°C)	Solubility of solid A g/100g of water
4		
6		
8		
10		
12		

- I. a) Draw a graph of solubility of solid A (vertical axis) against temperature (3mks)



- b) From your graph determine the solubility of solid A at 60°C (1mk)

PROCEDURE II

- a)** – Transfer the contents of the boiling tube into a 250ml volumetric flask.
- Add distilled water up to the mark
 - Label this solution A
- b)** – Using a clean pipette and a pipette filler, transfer 25ml of solution A into a conical flask.
- Warm the mixture up to 60°C
 - Fill a burette with solution B
 - Titrate B against the hot solution A until a permanent pink colour persist
 - Read your results in Table 2 below
- c)** Repeat (b) 2 more times and record your results in the table 2 below.

TABLE 2

	I	II	III
FINAL BURETTE READING			
INITIAL BURETTE READING			
VOLUME OF SOLUTION B USED (CM ³)			

II) a) Calculate the average volume of solution B used (1mk)

b) Calculate the number of moles of B used (1mk)

c) Given 2 moles of KMnO_4 react with 5 moles of A, calculate the number of moles of A in 25cm³ (1mk)

d) Calculate the molarity of A (1mk)

e) Determine the molar mass of A

(1mk)

f) Determine the value of X (C=12, O=16 H=1)

(1mk)

QUESTION 2

You are provided with solid C. Use it to carry the test below.

Dissolve the whole of C into 10cm³ of water and divide it into five portions.

a) To the 1st portion add sodium sulphate solution.

Observations	Inferences
(1mk)	(1½mks)

b) To the 2nd portion add Ammonia solution dropwise until in Excess.

Observations	Inferences
1mk)	1mk

Observations	Inferences
(1mk)	(1mk)

Observations	Inferences
(½mk)	(2mks)

Observations	Inferences
1mk)	1mk)

QUESTION 3

You are provided with liquid D use it to carry the test below.

Divide liquid D into four equal portions

a) To the 1st portion add sodium hydrogen carbonate

Observations	Inferences
 (1mk)	 (1mk)

b) To the 2nd portion add acidified potassium manganate (VII) (KMnO_4)

Observations	Inferences
 (1mk)	 (1mk)

c) To the 3rd portion add Bromine water

Observations	Inferences
 (1mk)	 (1mk)

d) To the last portion add potassium dichromate(VI) and warm.

Observations	Inferences
(1mk)	(1mk)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

PHYSICS

232/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES:-

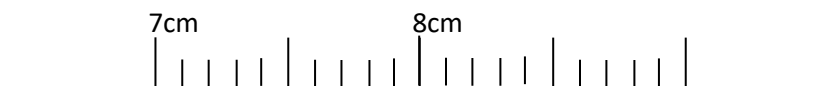
- Write your *Name*, *Index number*, *Admission number* and *school* in the spaces provided above.
- This paper consists of **two** sections; **A** and **B**
- Answer **all** the questions in section **A** and **B** in the spaces provided
- All working **must** be clearly shown.
- Mathematical tables and electronic calculators may be used
- Take the earth's gravitational field strength $g = 10 \text{ m/s}^2$.

FOR EXAMINER'S USE ONLY:

SECTION	QUESTION	TOTAL SCORE	CANDIDATES SCORE
A	1 – 11	25	
B	12	11	
	13	12	
	14	12	
	15	10	
	16	10	
TOTAL		80	

SECTION A (25 MARKS)**Answer all questions in this section in the spaces provided.**

1. The figure below shows part of scales of a vernier caliper with a negative error of 0.04cm. It was used to measure the length of a wooden block whose actual length is 7.57cm.

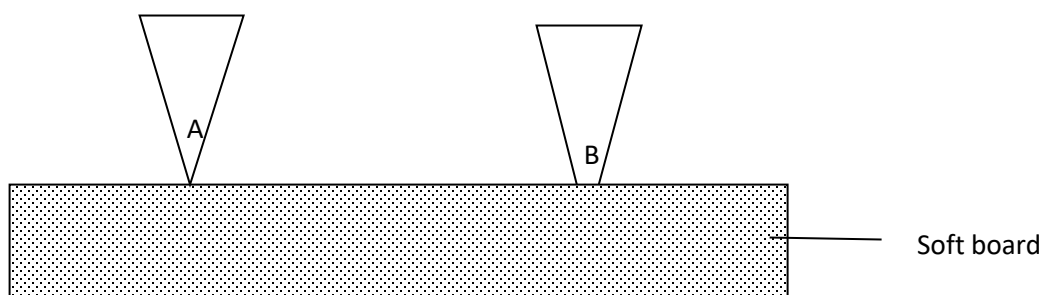


Insert the vernier scale to show how the reading was.

(3mks)

2.

- a) The figure below shows two pins of the same mass and both pressed into a soft board by equal amount of force.



State and explain which pin penetrates the least into the soft board.

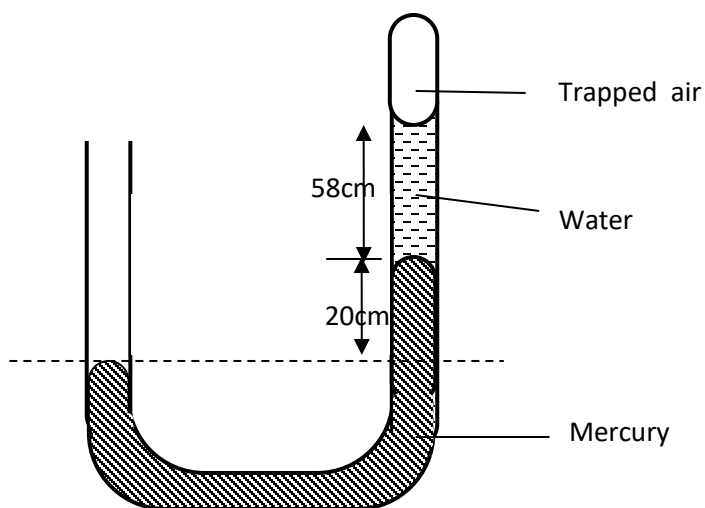
(2mks)

.....

.....

.....

- b) The figure below shows a uniform manometer that is closed at one end.



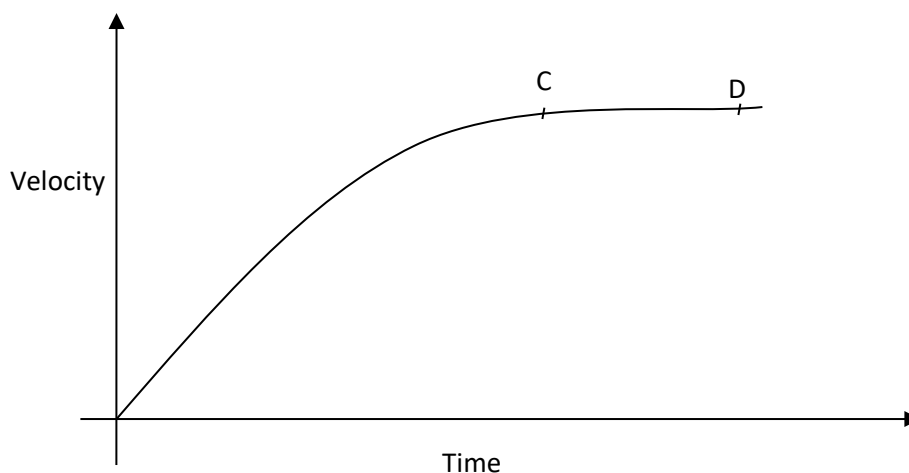
Determine the pressure of the trapped air. (Take atmospheric pressure as 75cmHg, density of mercury = 13600kg/m³ and density of water = 1000 kg/m³) (3mks)

3. The displacement S of a body at time t moving with acceleration a is given by $S = ut + \frac{1}{2}at^2$.

State the condition for this equation to apply. (2mks)

.....

4. The figure below shows a sketch of a velocity-time graph for a body falling through a liquid.



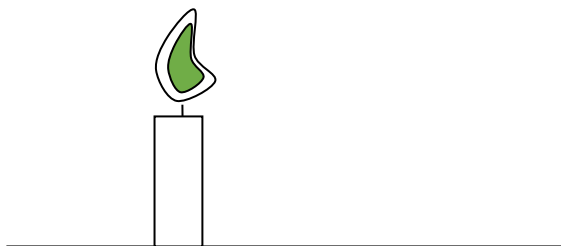
Explain the motion between C and D. (2mks)

.....

5. Using the kinetic theory of gases, explain how an increase in temperature causes increase in pressure of an enclosed gas. (2mks)

.....

6. A dripless candle is lit and placed on a level bench as shown.



State and explain the changes in stability of the candle as it continues to burn. (2mks)

.....

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.....

7. Give a reason why diffusion is an evidence that matter is made up of tiny particles. (1mk)

.....

.....

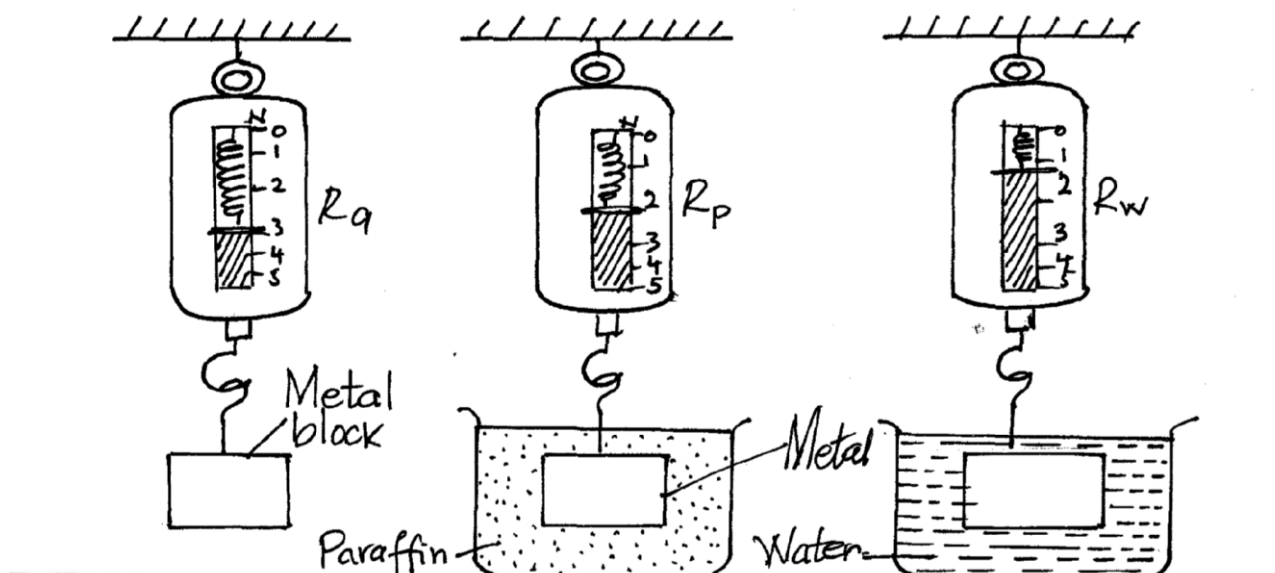
8. Explain the cause of surface tension on the surface of a liquid. (2mks)

.....

.....

.....

9. A metal block is weighed in air and then in paraffin and water as shown in the Figure below.



Calculate the density of paraffin given that the density of water is 1000kg/m^3 .

(Take $g = 10\text{ m/s}^2$)

(3mks)

10. The figure below shows two sheets of paper tolled into tubes. one has holes on it.



A stream of air is blown into each tube as shown. State with reason the tube that collapses. (2mks)

.....
.....
.....

11. Differentiate between conduction and convection modes of heat transfer in terms of molecules.

(1mk)

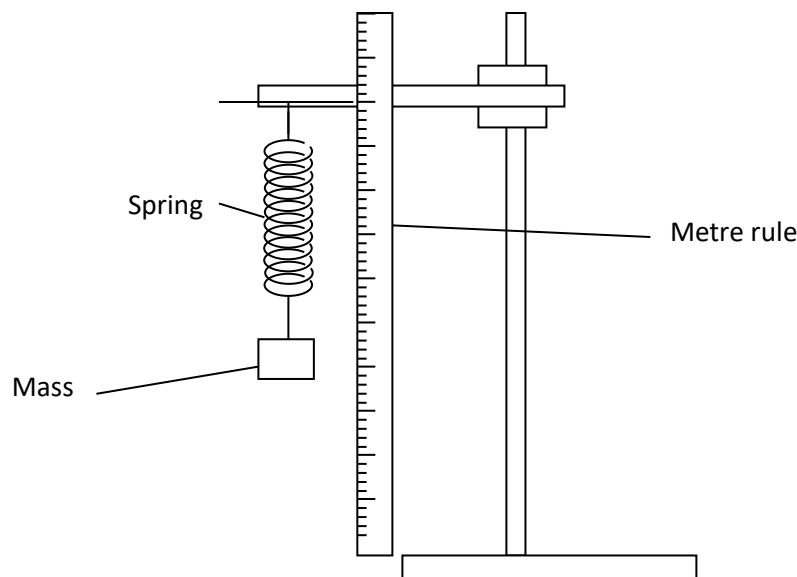
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SECTION B (55 MARKS)

Answer all questions in this section in the spaces provided.

12.

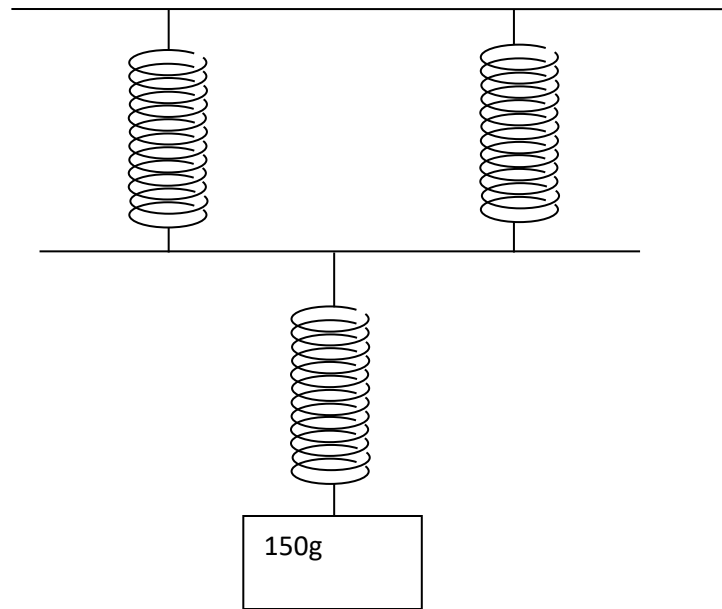
- a) A form Two student wanted to carry out an experiment to verify Hooke's law. the student assembled the apparatus as shown.



If the student had access to several other masses;

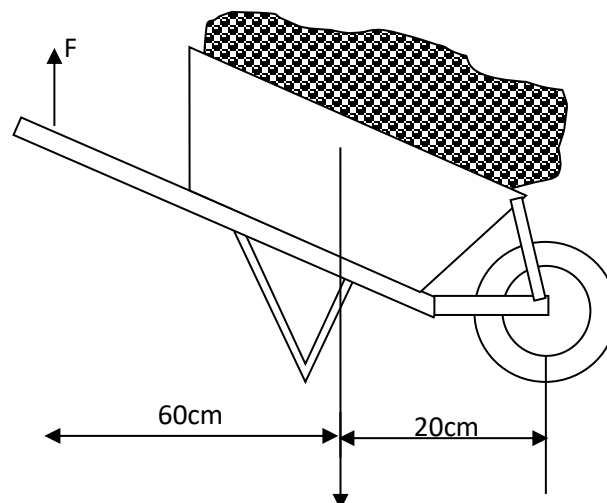
- i. State what was missing in the set up. (1mk)
-
- ii. Outline how the extension of the above spring is determined. (3mks)
-
-
-
-
- iii. Other than extension of the spring, state one other measurement that should be determined. (1mk)
-
- iv. Considering the measurements above, describe how the above set up can be used to verify Hooke's law. (3mks)
-
-
-
-

- b) Three identical springs are joined together as shown below to support a mass of 150g.



Assuming that the springs have negligible weight and if the total weight of the above set up is 3cm, Determine the spring constant of one spring used in the set up. (3mks)

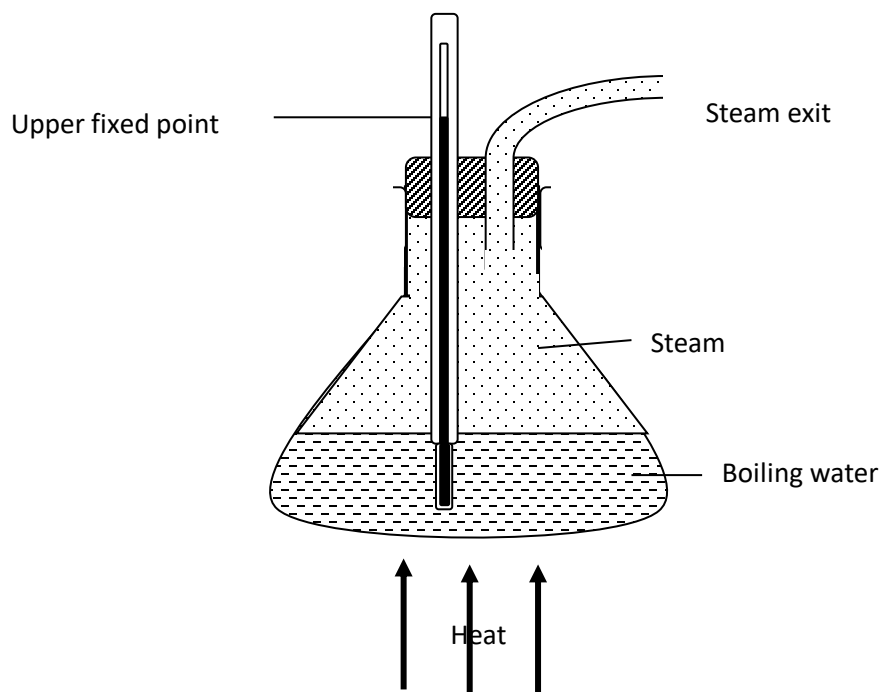
13. The diagram below shows a wheelbarrow used to raise a 90kg sack of potatoes. The wheelbarrow has a mass of 20kg.



- a) Using the principle of moments, determine the effort that need to be applied at F in order to lift the load. (3mks)
- b) What is the velocity ratio of the wheelbarrow? (3mks)
- c) Determine the mechanical advantage of this machine. (2mks)
- d) Determine the efficiency of the machine. (3mks)
- e) Why is the efficiency of this particular machine less than 100%? (1mk)

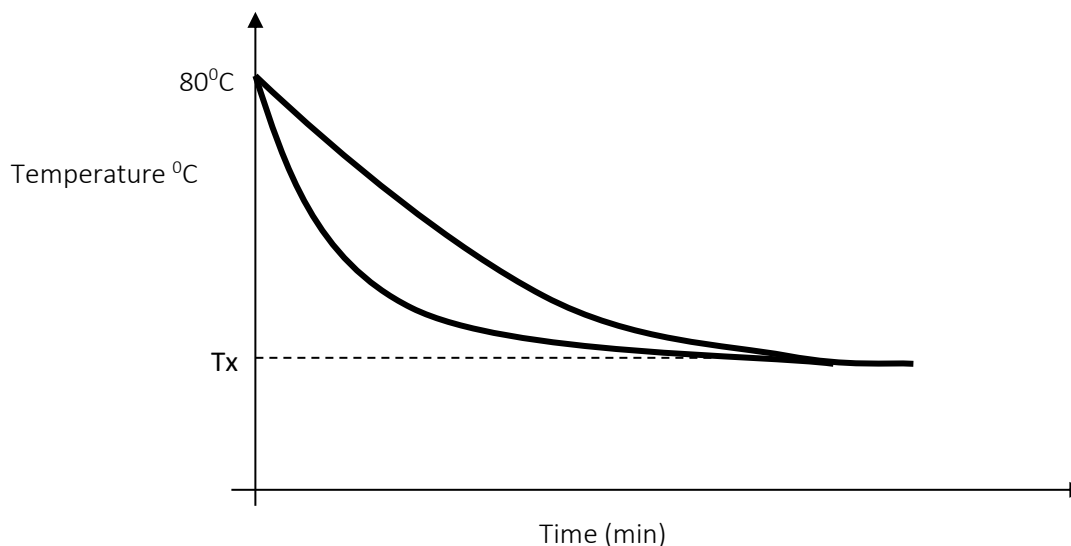
14.

- a) The diagram below shows a set up that is used in determining the upper fixed point of a thermometer.



- i. Identify the mistake in the set up. (1mk)
-
- ii. Explain how the mistake would affect the value obtained as the upper fixed point. (2mks)
-
-
-
- iii. What is the purpose of the steam exit. (1mk)
-
-
- b) When marking the fixed points of a thermometer, it is observed that at 0°C , the mercury thread is of length 3cm and 11cm at 100°C . What would be the length of the thread if the bulb of the thermometer is dipped in oil whose temperature is 80°C ? (2mks)

- c) The graphs below show the cooling curves obtained when water at 80°C was poured into two identical cans A and B painted silver and black on their outside respectively.



- i. On the graph, name the curve T_B for the can B. (1mk)
- ii. Identify the temperature T_x . (1mk)
-
- iii. Name the mode of heat Transfer tested above. (1mk)
-
- iv. Apart from length of the material and its cross section area, name two other factors on which conduction depends. (2mks)
-
-
- v. Why are gases generally poor conductors of heat? (1mk)
-
-
- 15.

- a) Define specific latent heat of fusion of ice. (1mk)

.....

.....

- b)** Ice cube of mass m at 0° float in water of mass 100 g at 0° contained in a copper calorimeter of mass 50 g . Steam of mass 60 g at 100° is passed through the mixture until a temperature 40° is attained. (Specific latent heat of vaporization of water is $2.26 \times 10^6\text{ J/kg}$, specific latent heat of fusion of ice is $3.34 \times 10^5\text{ J/kg}$, specific heat capacity of water is $4.2 \times 10^3\text{ J/kg/K}$ and specific heat capacity of copper is 400 J/kg/K).

Determine the;

- i.** Quantity of heat lost by steam to condense to water and cool to 40° . **(3 mks)**
- ii.** Quantity of heat absorbed by ice, water and calorimeter to raise its temperature to 40° . **(3 mks)**
- iii.** Mass m of ice that melted at 0° . **(3 mks)**

16.

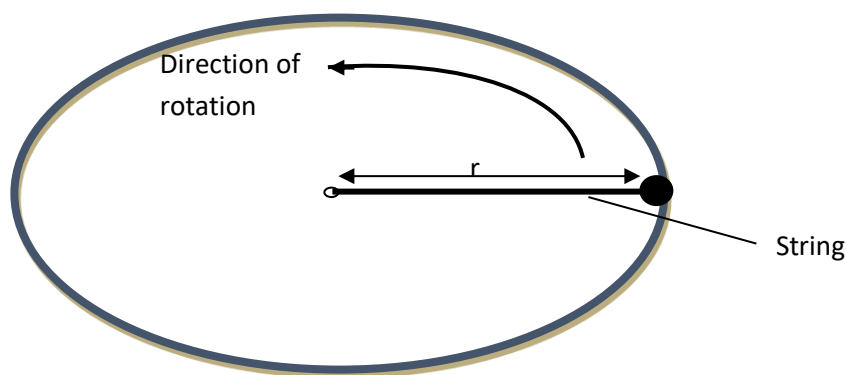
- a) The moon goes round the earth at constant speed. Explain why it is true to say that the moon is accelerating. (1mk)

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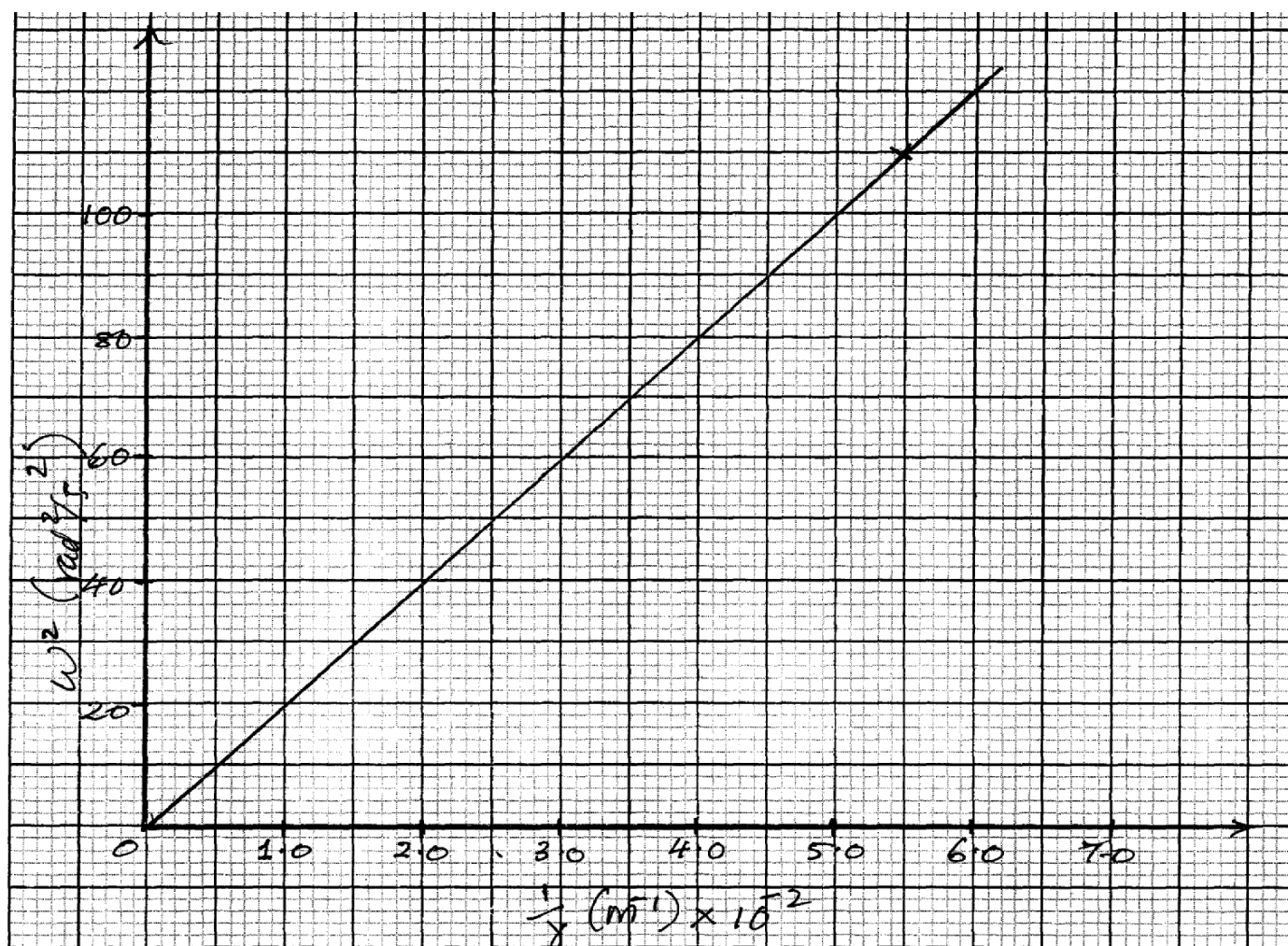
.....

- b) A string of negligible mass has a bucket tied at the end. The string is 60m long and the bucket has a mass of 45g. The bucket is swung horizontally making 6 revolutions per second. Calculate the centripetal acceleration of the bucket. (3mks)

- c) The figure below shows a body of mass $m = 200\text{g}$ attached to the centre of a rotating table with a string. The radius of the string was varied and different values of angular velocity recorded. the mass of the body remained constant throughout the experiment.



The results obtained for angular velocity and radius were used to plot the following graph.



From the above graph.

- i. Calculate the value of the slope. (2mks)

- ii. If ω^2 and $\frac{1}{r}$ are related by the equation $\omega^2 = \frac{P}{r} \times \frac{1}{m}$, find the value of P. (3mks)

- iii. State the significance of P. (1mk)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

PHYSICS

232/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES:-

- Write your *Name*, *Index number*, *Admission number* and *school* in the spaces provided above.
- This paper consists of **two** sections; **A** and **B**
- Answer **all** the questions in section **A** and **B** in the spaces provided
- All working **must** be clearly shown.
- Mathematical tables and electronic calculators may be used.
- Take the earth's gravitational field strength $g = 10 \text{ m/s}^2$.

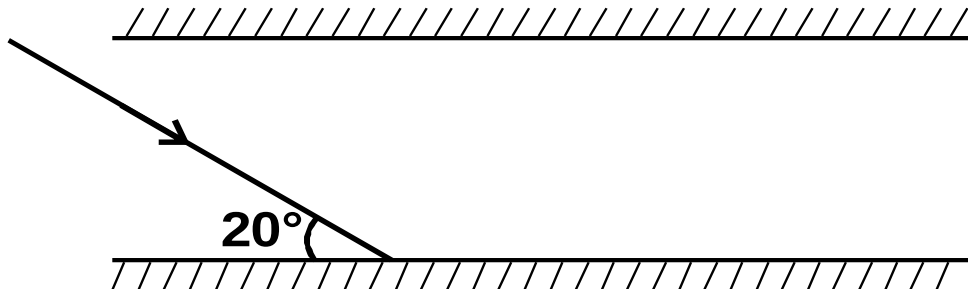
FOR EXAMINER'S USE ONLY:

SECTION	QUESTION	TOTAL SCORE	CANDIDATES SCORE
A	1 – 12	25	
B	13	10	
	14	9	
	15	8	
	16	9	
	17	9	
	18	10	
TOTAL		80	

SECTION A (25 MARKS)

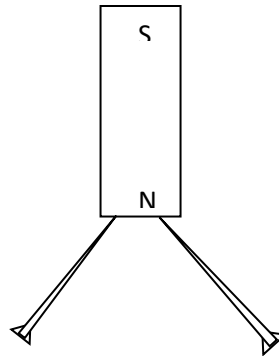
Answer all questions in this section in the spaces provided.

1. The diagram below shows two parallel mirrors M_1 and M_2 and a ray of light being incident on one of the mirrors as shown.



Trace the ray of light through the mirrors and indicate the angle of incidence on M_1 (2 mks)

2. Two pins are hanging from a magnet as shown in the diagram below.



Explain why the pins spread as shown in the diagram. (2mks)

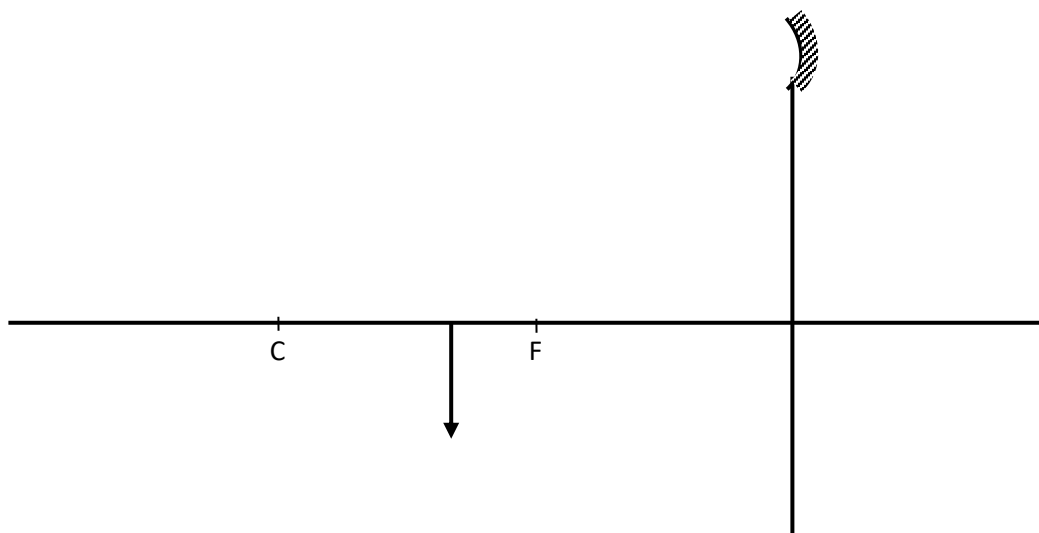
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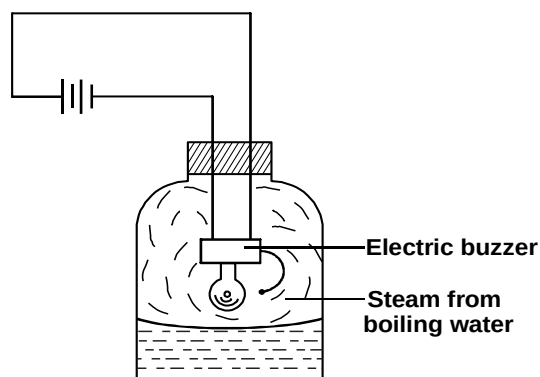
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3. An image I is formed in front of a concave mirror and on the principal axis as shown in the figure below.



Draw to locate the correct position of how the image is formed.

4. The figure below shows a set up by a student.



State and explain what happens to the sound from the buzzer as the bottle and its contents are cooled to 0°C . (2 mks)

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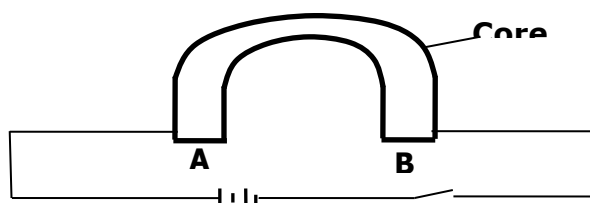
5. Arrange the following waves in order of decreasing wavelength. (1mk)

Infrared, X-rays, Microwaves, Radio waves, Red light.

.....

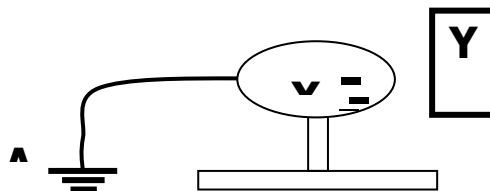
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6. Figure below shows an incomplete circuit of an electromagnet.



Complete the circuit by drawing the windings on the two arms of the core such that A and B are both North poles when the switch is closed. (1mk)

7. Figure represents a step in charging a material **B** negatively by induction.



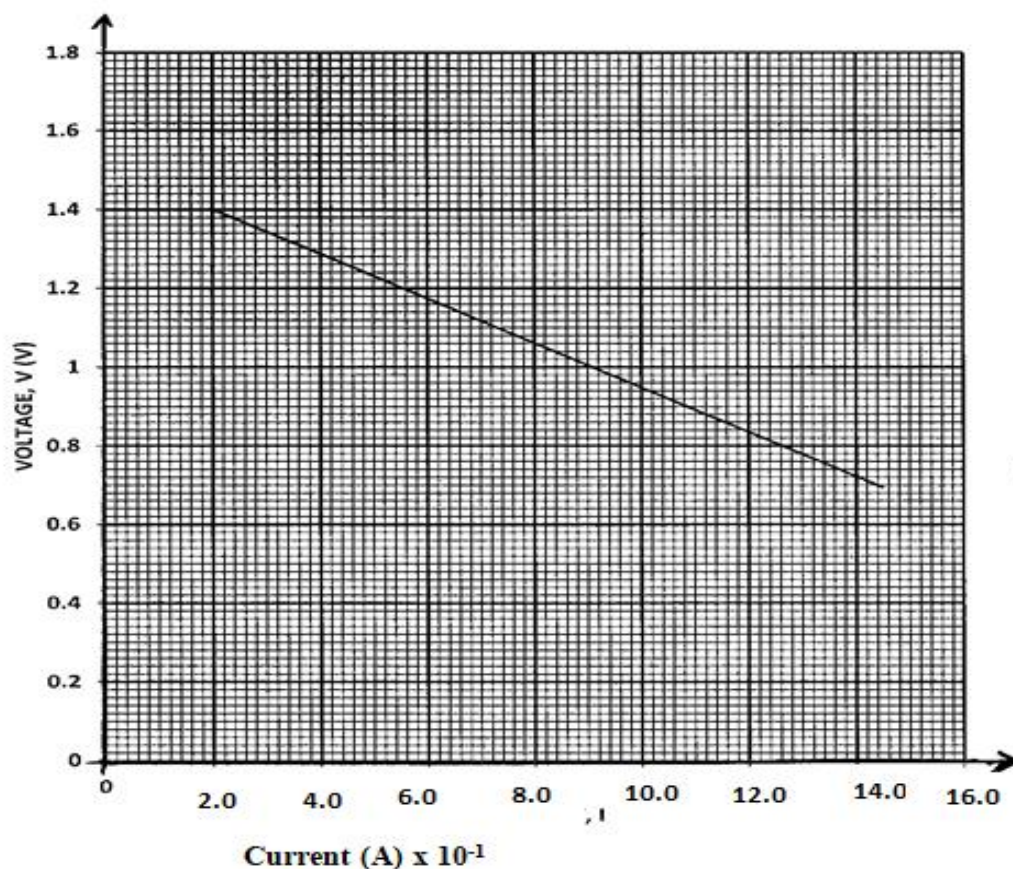
- (i) What is the charge on **Y**? (1mk)

.....

- (ii) Explain what happens at **A**. (1mk)

.....

8. The graph below shows the variation of p.d. (V) across the terminals of a cell and current drawn from the cell.

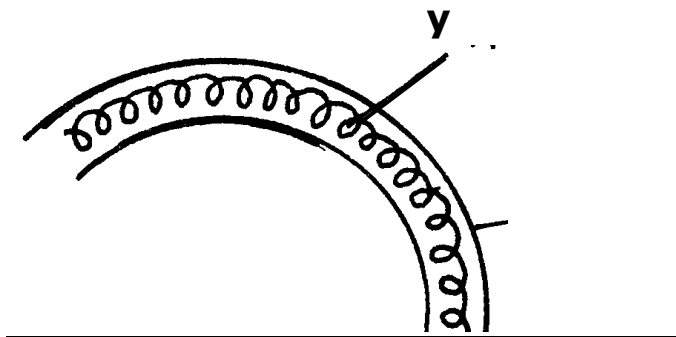


a) Use the graph to determine the electromotive force (emf) of the cell. (1mk)

b) Draw a circuit diagram that may be used to obtain the values plotted in the graph. (2mk)

9. A vibrator is sending out eight ripples per second across a water tank. The ripples are observed to be 4cm apart. Calculate the velocity of the ripples. (3mks)

10. The figure below shows part of electric cooker coil.



i. Why is the material labeled Y coiled? (1mk)

.....

ii. State the property of material Y that makes it suitable for its use. (1mk)

.....

.....

11. An immersion heater rated 1500W is used continuously for 30 minutes per hour per day.

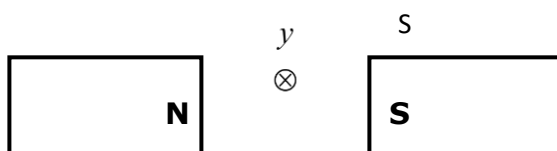
Calculate the cost of electricity per week if the rate is Ksh. 6.70 per unit. (2mks)

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12. Fig below shows a conductor y placed in a magnetic field. The conductor carries a current flowing into the paper.



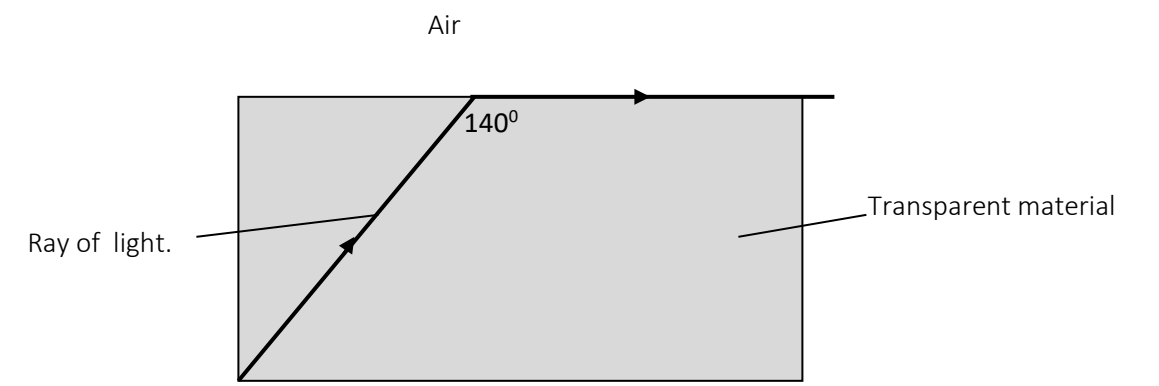
- (i) Sketch the resultant magnetic field between the poles of the bar-magnet. (1mk)
- (ii) Show on the diagram the direction of the force, F acting on the conductor (1mk)

SECTION B (55 MARKS)

Answer all questions in this section in the spaces provided.

13.

- a) Figure below shows the path of light through a transparent material placed in air.



- i. Give a reason why the above ray is not refracted at the interface of air and the transparent material as shown in the diagram. (1mk)

.....

- ii. Calculate the refractive index of the transparent material. (3mks)

- b) An image is formed 10cm in front of a concave lens of focal length 15cm. calculate the position of the object in respect to the lens. (3mks)

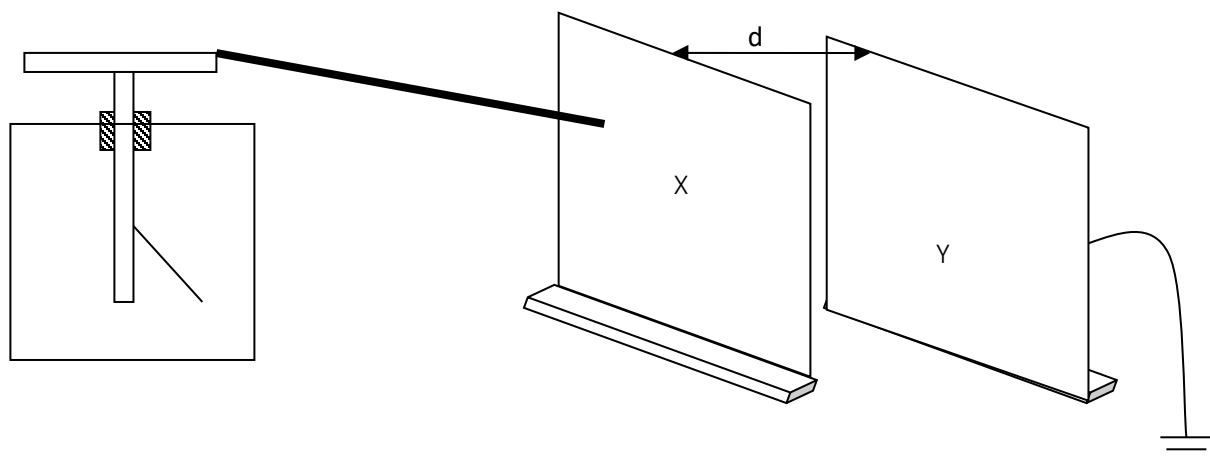
- c) You are provided with the following apparatus to determine the focal length of a lens.

- A lit candle.
- A white screen.
- A metre rule.

With a aid of a labelled diagram, describe the procedure you would follow to determine the focal length of the lens. (3mks)

14.

- a) The figure below shows metal plates X and Y each fixed to an insulated stand. X is charged and Y is earthed. X is connected to an uncharged electroscope with a conductor.



If plate Y is moved away from plate X,

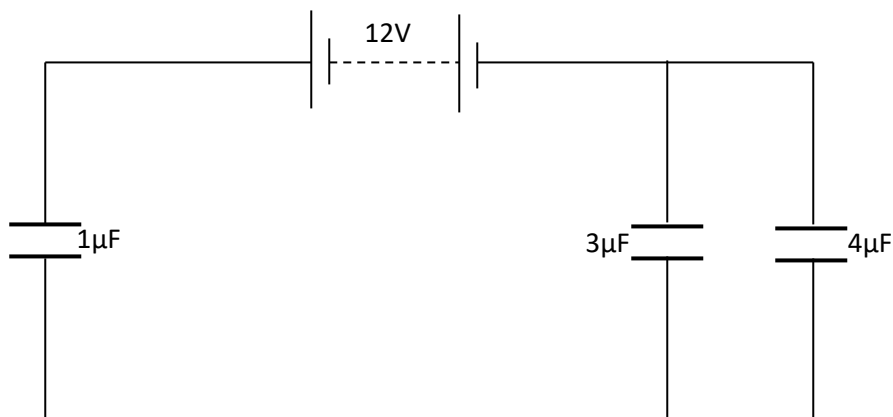
- i. State what happens to the amount of charge on the plates. (1mk)

.....
.....

- ii. State and explain the observation made. (3mks)

.....
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.....

- b) The figure below shows an arrangement of capacitors connected to a 12V dc supply.



Determine:

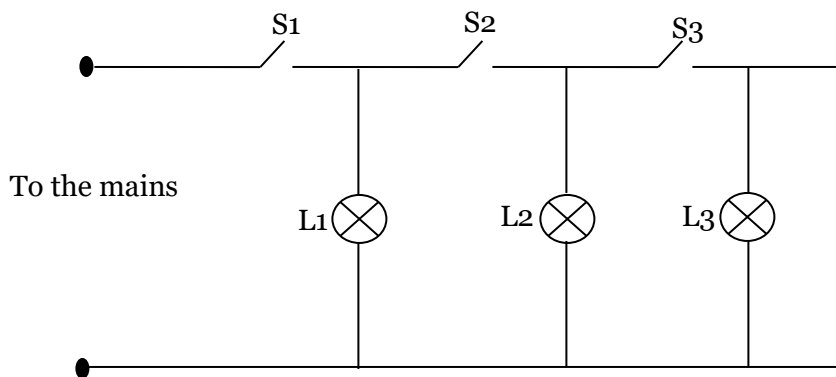
- i. The total capacitance of the arrangement. (2mks)

.....
.....
.....

- ii. The voltage across the $3\mu\text{F}$ capacitor. (3mks)

15.

- a) The figure below shows an attempt to supply each of the three lamps L1, L2 and L3 with a switch.



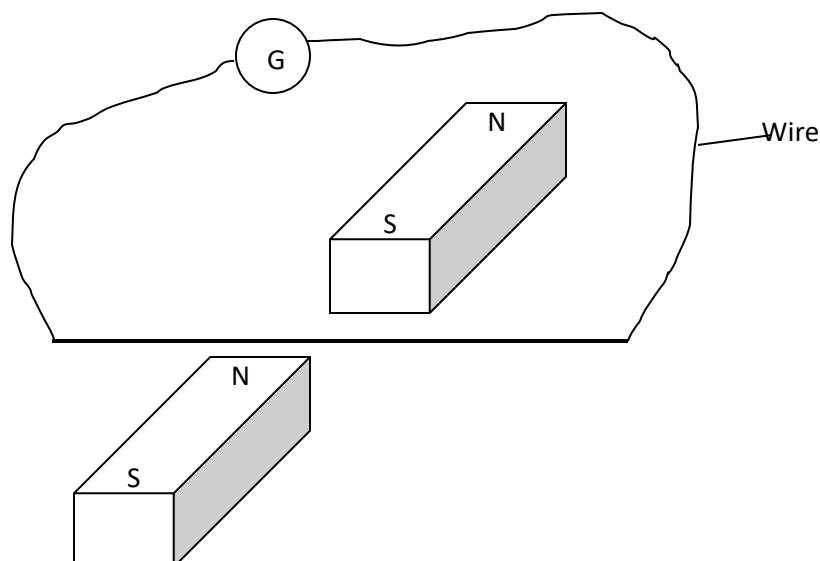
- i. Give a reason why this is a poor connection. (1mk)

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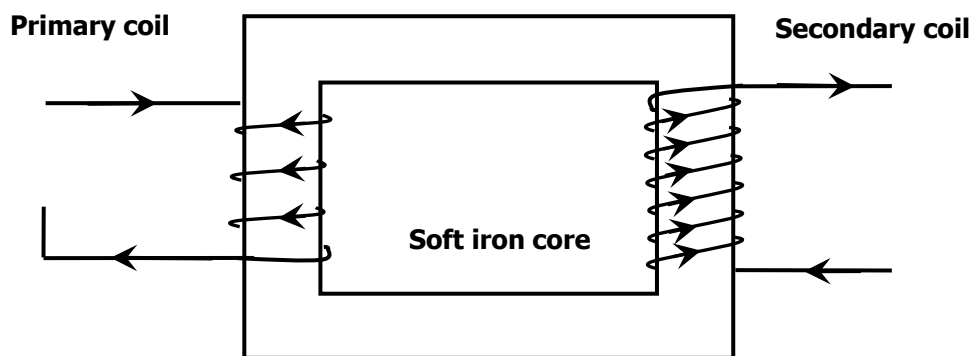
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- ii. Redraw the diagram to show the correct positioning of the switches. (1mk)

- b) A wire placed between the pole of two permanent magnets is connected to a galvanometer as shown below.



- i. State what is observed when the wire is moved up and down. (2mks)
-
-
-
- ii. Suggest two ways of increasing the magnitude of the effect you have stated in (i) above. (2mks)
-
-
-
- iii. The figure below shows a simple transformer. Study it and answer the questions that follow.



State and explain which coils are thicker. (2mks)

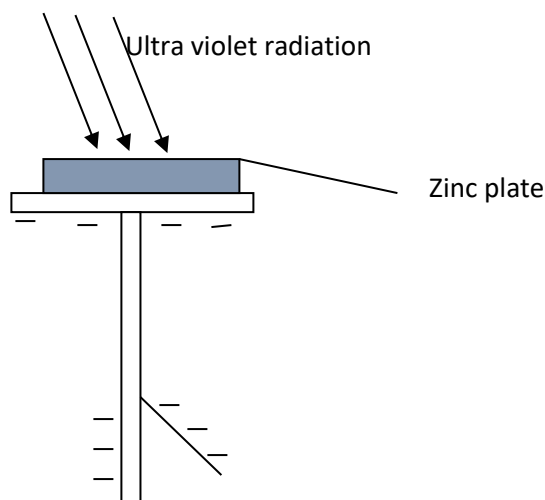
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16.

- a) The figure below shows Zinc plate placed on the cap of a negatively charged electroscope.



Ultraviolet radiation is made to fall on the plate as shown on the diagram.

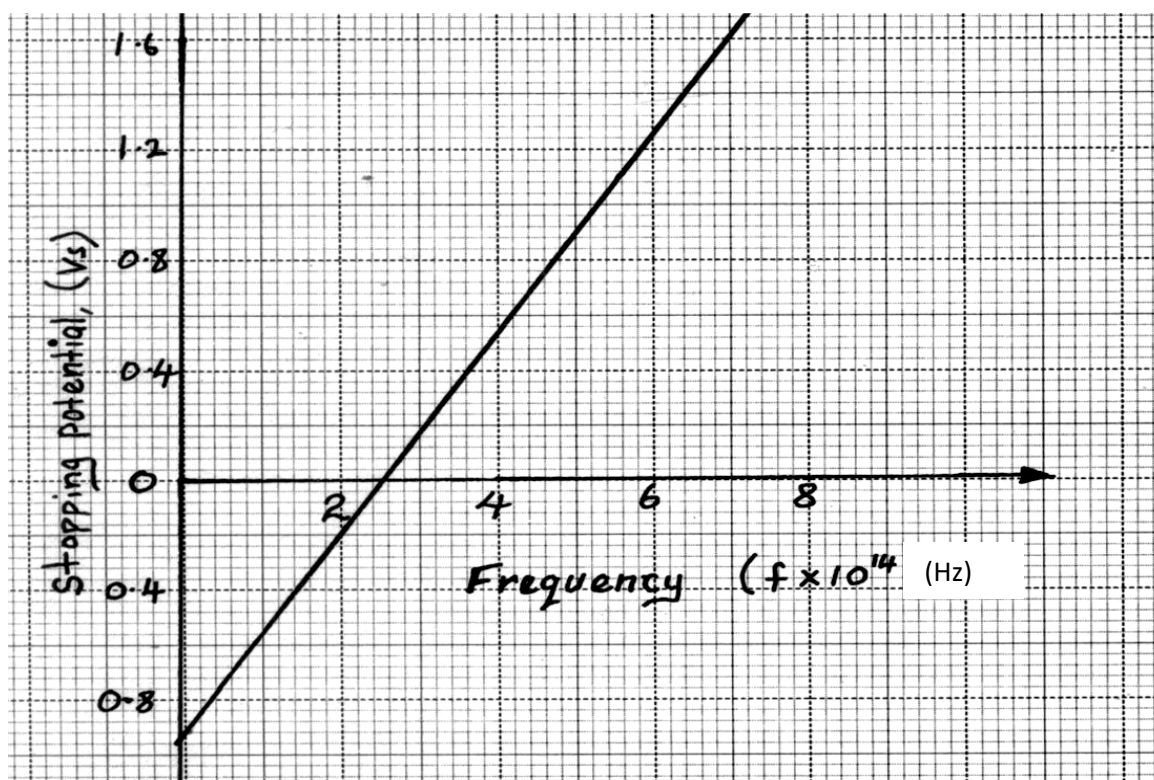
- i. What happens to the leaf of the electroscope? (1mk)

.....
.....

- ii. What would happen if radiation was red light? (1mk)

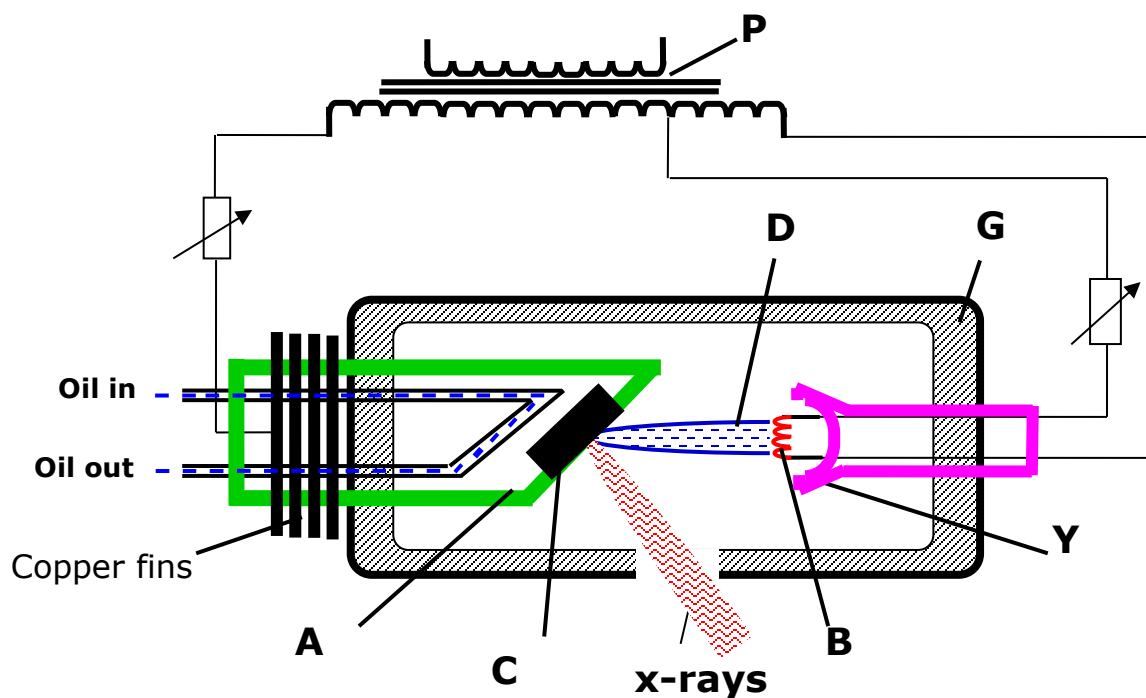
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- b) In an experiment to find the relationship between frequency of a radiation and kinetic energy of the photoelectrons in a photoelectric device, the following graph was obtained.



- Use the graph to determine the Planck's constant h . (3mks)

c) Figure below shows the features of an X-ray tube.



i. Explain the function of part labelled P.

(1mk)

.....

.....

ii. Explain why the part labelled C gets very hot during production of X-rays.

(2mks)

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iii. Explain what is done to produce X-rays of shorter wavelength using the above X-ray tube.

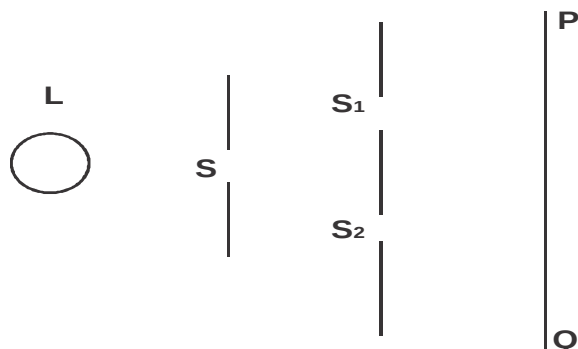
(1mk)

.....

.....

17.

- a) The figure below shows monochromatic source of light L behind a barrier with a single slit S placed behind another barrier with two identical slits S_1 and S_2 . A screen PQ is placed in position as shown.



- i) What is the significance of S_1 and S_2 ? (1 mk)

.....

.....

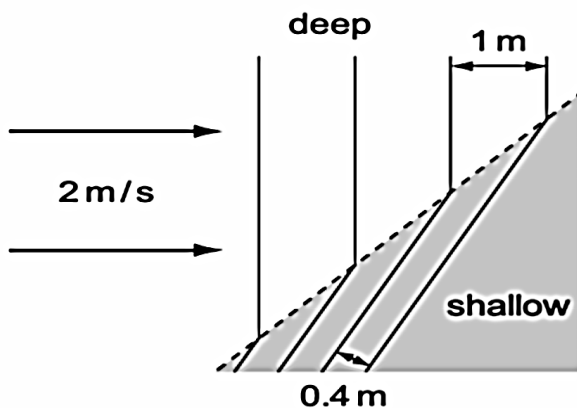
- ii) Explain what is observed on screen PQ . (2 mks)

.....

.....

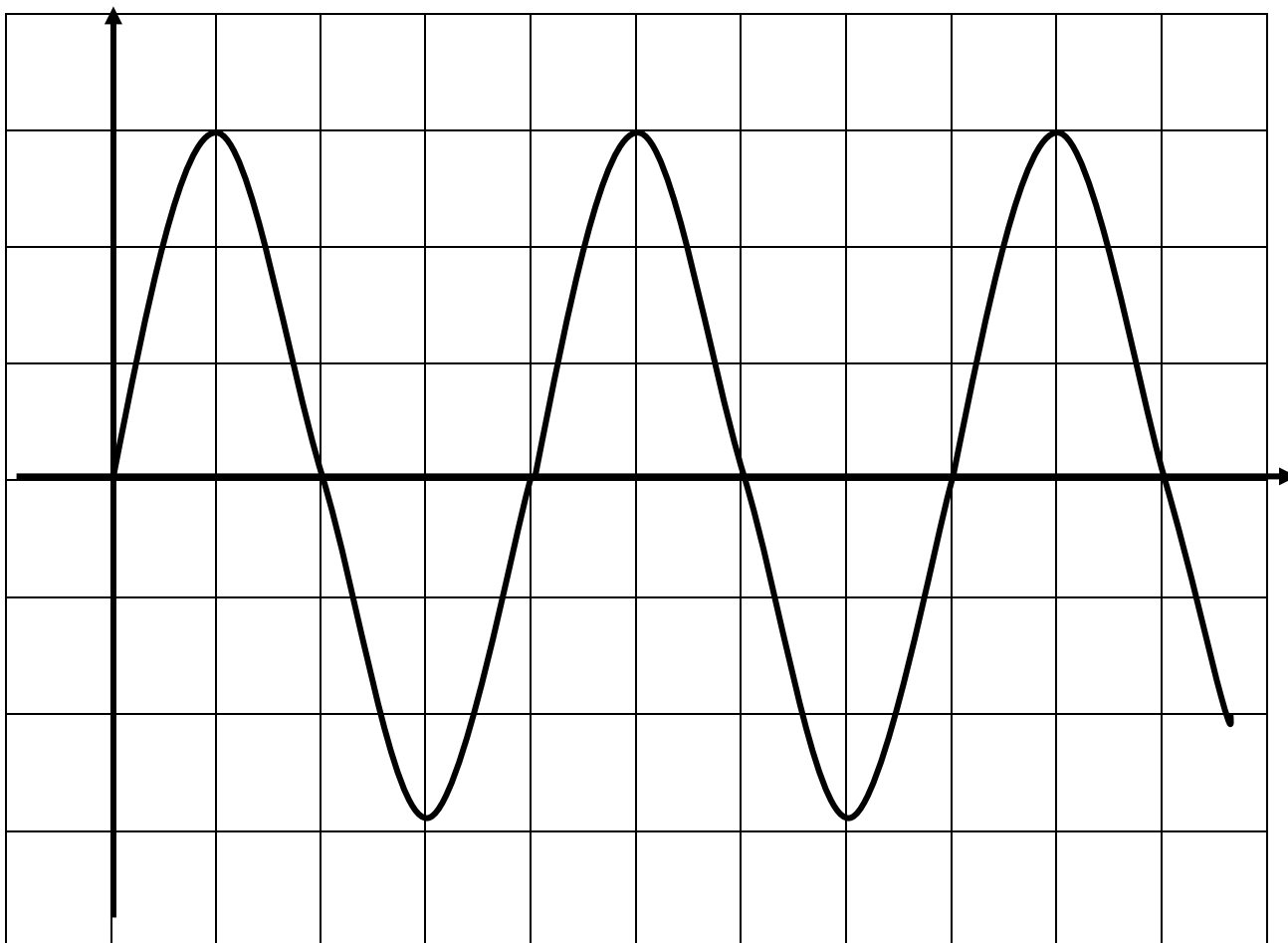
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- b) Waves pass from deep water to shallow water and refraction occurs.



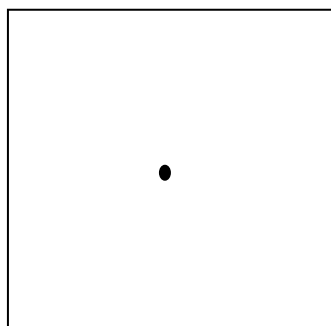
- Calculate the speed of the waves in the shallow water. (2 mks)

c) The figure below shows an a.c. signal on the screen of a Cathode Ray Oscilloscope.



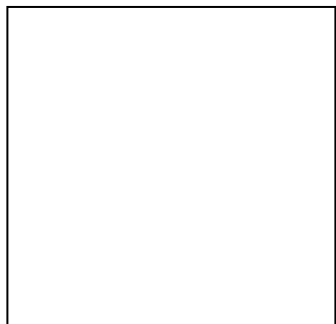
Determine the frequency of the signal given that the time base is set at 10ms/division. **(2mks)**

d) Diagram (a) below shows the position of the bright spot on the screen of a C.R.O. when there is no signal on both Y and X plates.

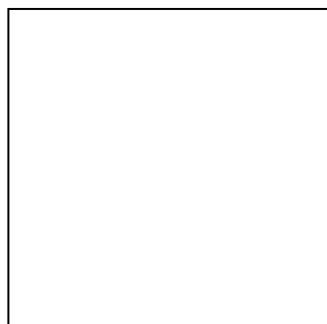


(a)

Indicate on the diagram (b) below what is observed on the display screen when the Y-plate is connected to a.c. signal and for (c) when X-plate is connected to a d.c. signal. (2mks)



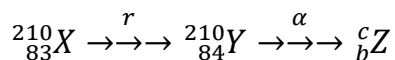
(b)



(c)

18.

a) The following reaction is part of a radioactive series.

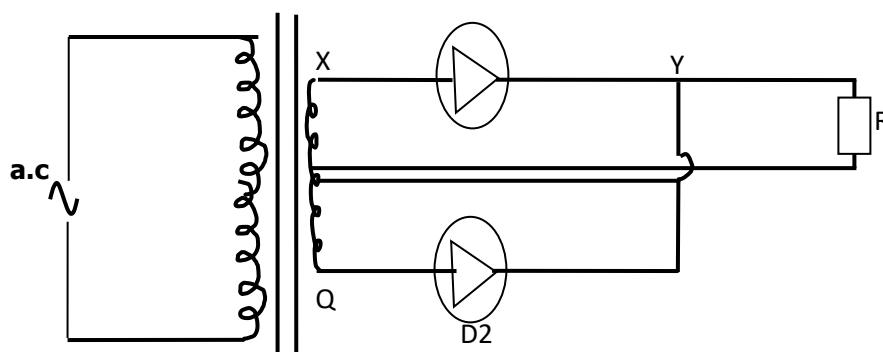


i. Identify the radiation r. (1mk)

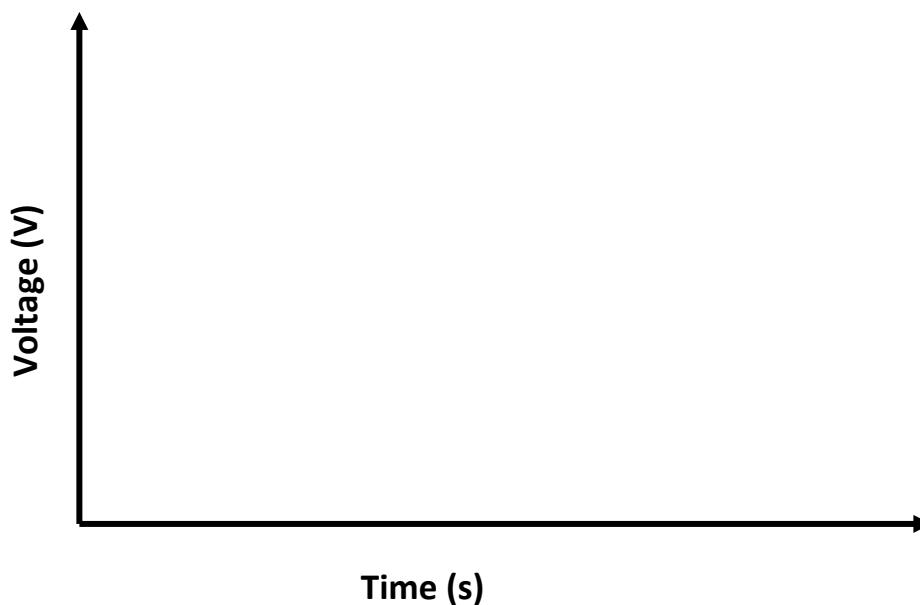
ii. Determine the value of c. (1mk)

b) At a certain instant the corrected count-rate registered on a detector placed close to an α -particle emitter is 200 per second and this falls to 50 per second in 12 minutes. Determine the half life of the source. (3mks)

c) Study the rectification circuit below and use it to answer questions that follow.



- i. Briefly explain how the circuit works to rectify the alternating current. (3mks)
-
-
-
-
- ii. Show on the diagram how a capacitor should be connected to smooth the output voltage. (1mk)
- iii. In the grid provided, sketch a curve of smoothed output voltage against time. (1mk)



SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

PHYSICS

232/3

PAPER 3

TIME: 2½ HOURS

SCHOOL..... SIGN.....

CONFIDENTIAL

Question 1

- A carbon resistor labelled X (10Ω)
- A carbon resistor labelled Z ($10k\Omega$)
- A voltmeter (0 – 5V)
- An ammeter (0 – 1A)
- 5 10Ω carbon resistors (unlabelled)
- Centre zero galvanometer.
- 2 new dry cells - size D
- Cell holder.
- 8 connecting wires at least 4 with crocodile clips at one end.
- Jockey
- A resistance wire labelled AB (A at 0) mounted on mm scale. (diameter 0.29mm)
- A switch.

Question 2

- Metre rule.
- Screen
- Glass beaker (250ml)
- Water
- Plasticine.
- A candle.
- Vernier calipers. (can be shared)
- Micrometer screw gauge (can be shared)
- Boiling tube.
- Test tube.
- Some water in a beaker
- Half metre rule.
- 2 ball bearings. (size $\frac{1}{4}$ '')
- Some sand.
- Spatula
- Complete retort stand.

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

PHYSICS

232/3

PAPER 3

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES:-

- Write your **name**, **index number** and **school** in the spaces provided above.
- Answer all the questions in the spaces provided above.
- You are supposed to spend the first 15 minutes of the 2 ½ hours allowed for this paper reading the whole paper carefully before commencing your work
- Marks are given for a clear record of the observations actually made their suitability, accuracy and the use made of them.
- Candidates are advised to record their observations as soon as they are made.
- Non- programmable silent calculators and KNEC Mathematical tables may be used.

QUESTION	PART	MAXIMUM SCORE	CANDIDATE'S SCORE
1	A	05	
	B	15	
2	A	10	
	B	10	
		40	

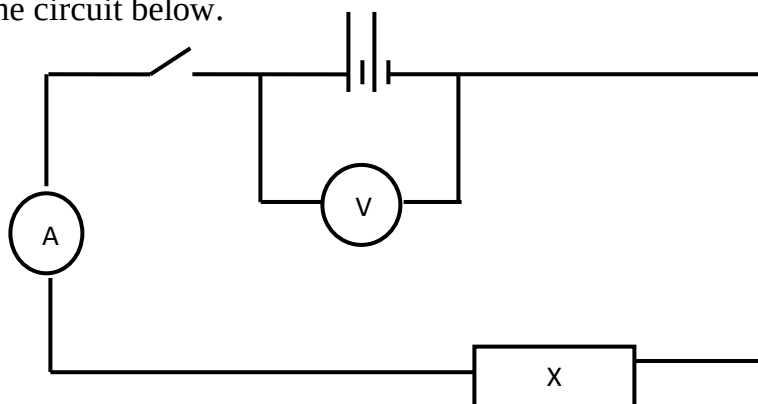
QUESTION 1

You are provided with the following apparatus;

- A carbon resistor labelled X .
- A carbon resistor labelled Z
- A voltmeter (0 – 5V)
- An ammeter (0 – 1A)
- 5 10Ω carbon resistors.
- Centre zero galvanometer.
- 2 new dry cells and cell holder.
- 8 connecting wires at least 4 with crocodile clips at one end.
- Jockey
- A resistance wire labelled AB mounted on mm scale.
- A switch.

PART A

a) Set up the circuit below.



b) Record the voltmeter reading E when the switch is open.

E =V (1mk)

c) Close the switch and record the voltmeter and Ammeter readings V and I respectively.

V =V (1mk)

I =A (1mk)

d) Account for the difference between E and V. (1mk)

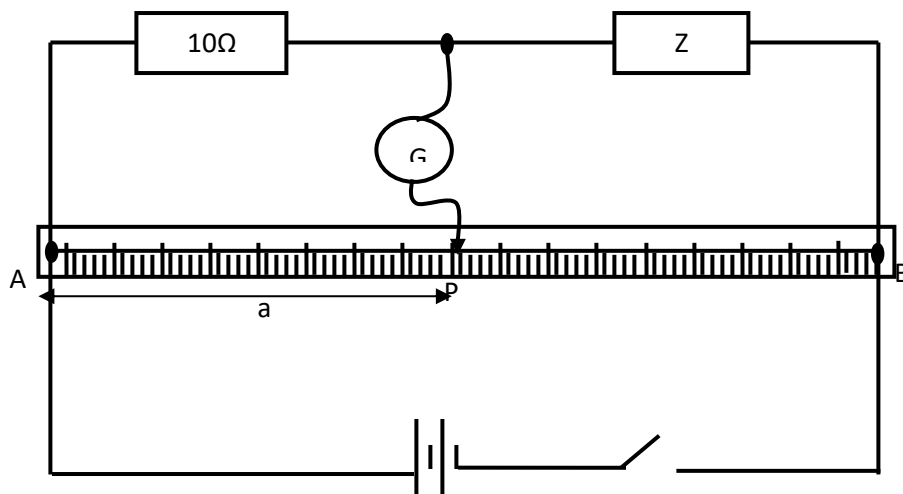
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e) Calculate the resistance R for resistor X. (1mk)

PART B

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

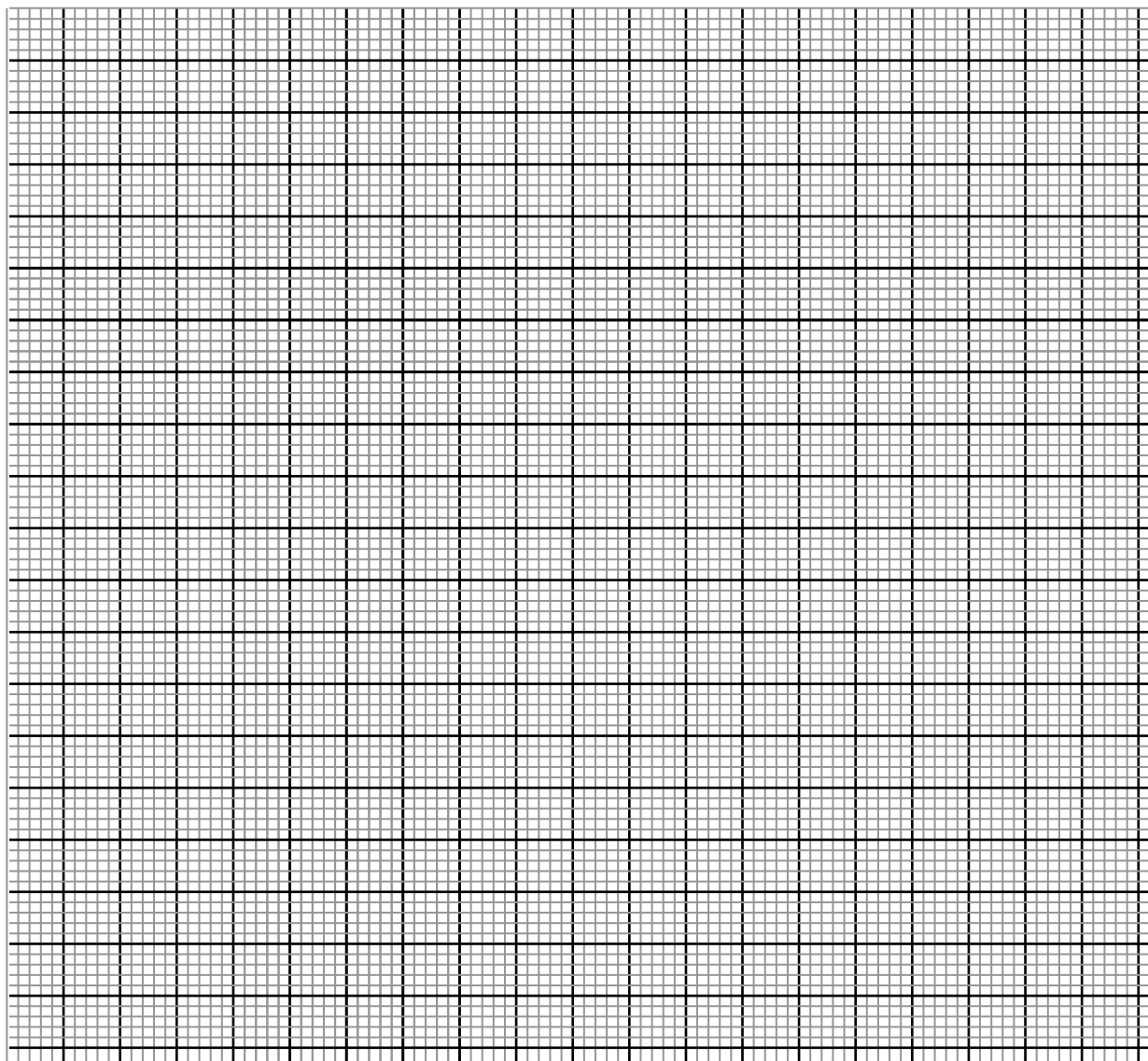


- b) Close the switch. Tap the jockey at various points on the wire AB and locate point P at which the galvanometer shows zero deflection. Measure and record in the table below the length a where $a = AP$.
- c) Repeat procedure b) using two 10Ω resistors in series, then three resistors in series, then four resistors in series and five resistors in series.
- d) Record your readings in the table below and complete the table where X is the effective resistance for the series combination. (5mks)

Number of 10Ω carbon resistors	One	Two	Three	Four	Five
X (Ω)					
a (cm)					
$1/X$ (Ω^{-1})					
$1/a$ (cm^{-1})					

e) Plot a graph of $1/a$ (cm^{-1}) against $1/x$ (Ω^{-1})

(5mks)



f) Determine the slope m of the graph.

(3mks)

g) Given that $\frac{1}{a} = \frac{R}{K} \cdot \frac{1}{x} + \frac{1}{K}$ where $K = 100\text{cm}$, use the graph to determine R .

(2mks)

QUESTION B**PART A**

You are provided with the following;

- Metre rule.
- Screen
- Glass beaker (250ml)
- Water plasticine.
- A candle.

Proceed as follows;

a) Add a volume $V = 200\text{ml}$ of water into the beaker.

b) Measure the value of h , the height of water in the beaker.

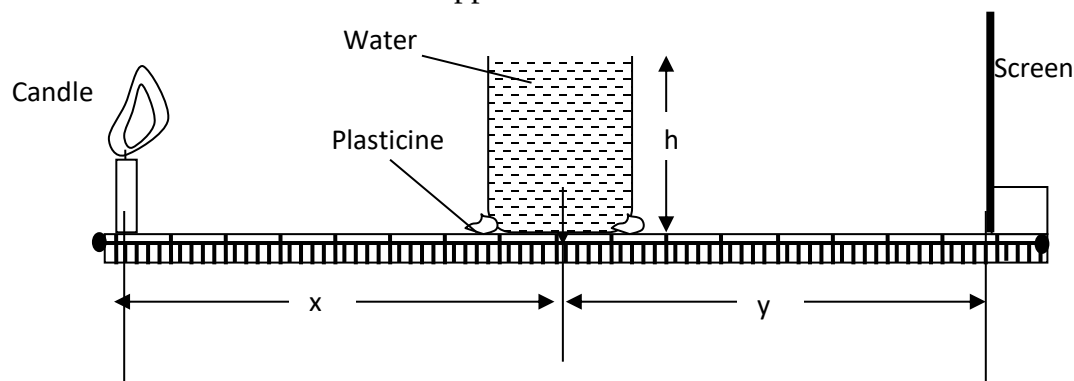
$h = \dots\dots\dots\text{cm}$ (1mk)

c) Calculate the value of internal radius R of the beaker using the formula $R = \sqrt{\frac{V}{\pi h}}$ where $\pi = \frac{22}{7}$

(2mks)

$R = \dots\dots\dots$

d) Fill the beaker with water and set the apparatus as shown below.



e) Position the candle which acts as an object above the metre rule and $10R$ from the centre of the water 'lens'.

f) Measure the object distance x . (1mk)

$x = \dots\dots\dots\text{cm}$

g) Move the screen towards or away from the water lens to obtain a sharp and focused bright image (line) on the screen.

h) Measure the value of image distance y . (1mk)

$y = \dots\dots\dots\text{cm}$

- i) Repeat the experiment for the other values of x in the table below and note and record the corresponding values of y. Complete the table.

Beaker position	10R	9R	8R
x			
y			
$S = \frac{xy}{x+y}$			

- I. Determine the average value of S. (2mks)

- II. What does S represent. (1mk)

PART B

You are provided with the following;

- Vernier calipers. (can be shared)
- Micrometer screw gauge (can be shared)
- Boiling tube.
- Test tube.
- Some water in a beaker
- Half metre rule.
- 2 ball bearings.
- Some sand.
- Spatula
- Complete retort stand.

- i. Measure and record the diameter of one ball bearing using the micrometer screw gauge.

d =mm (1/2mk)

- ii. Determine the volume V of the ball bearing. (1mk)

V =cm³

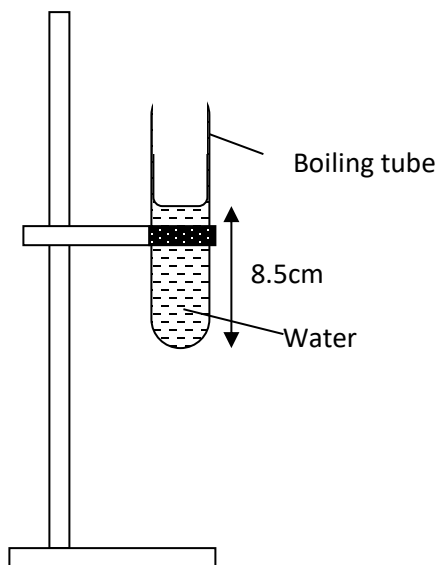
- iii. Measure and record the outer diameter D of the test tube using the vernier calipers.

$D = \dots\dots\dots$ (1/2mk)

- iv. Calculate the cross-sectional area A of the tube. (1mk)

$A \dots\dots\dots \text{cm}^2$

- v. Mount the boiling tube on the clamp as shown below and put some water to a height of about 8.5cm from bottom.



- vi. Gently lower the test tube into the water in the boiling tube.
vii. Add some sand into the test tube bit by bit until the test tube floats upright in the water.
viii. Note and record height h_0 of the water in the boiling tube from the bottom.

$h_0 = \dots\dots\dots \text{cm}$ (1mk)

- ix. Gently lower one ball bearing into the test tube and note and record the new level h in the table below.

- x. Add the other ball bearing and note and record the corresponding height h .

- xi. Compute the values of $h - h_0$ and complete the table. (2mks)

No. of ball bearings (N)	Height h (cm)	$h - h_0$ (cm)
1		
2		

xii. Calculate S the average value of X where $X = \frac{h - h_0}{N}$ (1mk)

xiii. Given that $S = \frac{V\ell_s}{A\ell_e}$

where ℓ_s is the density of steel and ℓ_e the density of water, determine the ratio of

$\frac{\ell_s}{\ell_e}$ (2mks)

xiv. What is the significance of the ratio $\frac{\ell_s}{\ell_e}$ (1mk)

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SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

MATHEMATICS

121/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

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.
- This paper consists of **two** sections, section **I** and section **II**.
- Answer **all** the questions in **section I** and only **five** questions from **section II**.
- All** answers and working **must** be written on the question paper in the spaces provided below each question.
- Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.
- Marks may be given for correct working even if the answer is wrong.
- Non- programmable silent calculators and KNEC mathematical tables may be used except where stated otherwise.
-

SECTION 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

SECTION 2

17	18	19	20	21	22	23	24		GRAND TOTAL

SECTION I (50Mrks)**Answer ALL the Questions in the section**

1. Evaluate:

3mks

$$\frac{2\frac{1}{2} \text{ of } 1\frac{3}{4} - 5\frac{1}{4}}{1\frac{2}{5} + 2(1\frac{1}{4} - 2\frac{3}{4})}$$

2. An electrician made a loss of 30% by selling a multi plug at Sh. 1400. What profit would he have made if he sold the multi plug at sh 2300.

3mks

3. Simplify $\sqrt{\frac{12x^4y^{-1}z^5}{3x^{-2}y^{-3}z^3}}$

2mks

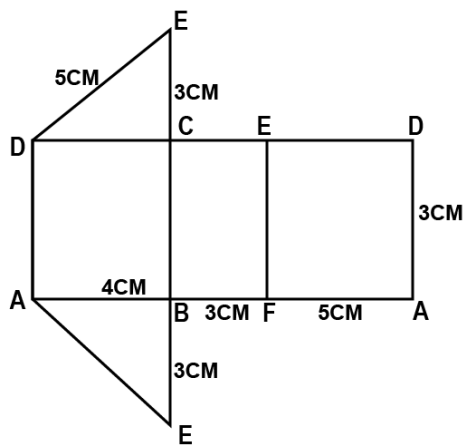
4. Solve the following inequalities and represent the solutions on a number line

$$X + 1 \leq 4x - 5 < 3x + 2$$

5. The figure below shows a net of a solid.

Sketch the solid of the net showing the hidden edges with broken lines.

2mks



- a. Find the surface area of the solid.

2mks

6. Determine the quartile deviation for the following distribution.

3,4,9,5,4,7,6,2,1,6,7,8,9

3mks

7. Given that $2^{3/2x} = 4096$, find the value of x

2mks

8. It would take 15men 8days to dig a trench of 240m long. Find how many days it would take 18men to dig a trench 360meters long working at the same rate. **3mks**

9. Use logarithms to evaluate. **4mks**

$$\sqrt[3]{\frac{0.921 \times 0.00739}{0.023}}$$

10. A regular polygon is such that its exterior angle is one eighth the size of interior angle. Find the number of sides of the polygon. **3mks**

11. A translation vector $\begin{pmatrix} x-1 \\ 2-y \end{pmatrix}$ maps a point A(4,6) onto A'(9,12). Find the value of x and y.

3mks

12. A Canadian tourist arrived in Nairobi with Canadian dollars 6200. She converted all his money into Kenya Shillings and then spent a total of Kshs. 100,000. She paid her Kenyan tour guide a commission equivalent to 20% of the remainder. Given that 1 canadian dollar = Ksh. 48.12. calculate

A. How much she got in kenya shillings after converting all her money.

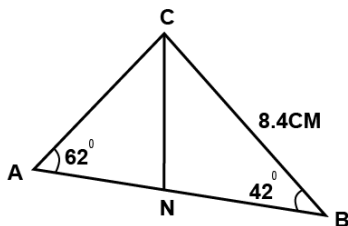
1mk

B. The amount of kenya shillings she was left with at the end.

2mks

13. In the figure below $\angle A = 62^\circ$, $\angle B = 42^\circ$, $BC = 8.4\text{cm}$ and CN is a bisector of angle ACB. Calculate to 1dp the length of CN.

3mks



14. A father is now four times as old as his son. Five years ago, he was exactly one year and half times as old as his son will be in ten years from now. Determine the sum of their present ages.
- 4mks**

15. An arc length of 11cm subtends an angle of 140° at the circle. Find the area of the enclosed sector.
- 4mks**

16. Factorize and simplify the expression.

3mks

$$\frac{x^2 + 6x + 9}{x^2 - 9}$$

SECTION II (50 marks)**Answer any FIVE questions from this section**

17. The triangle ABC with coordinates A(2,3), B(4,2) and C(1,1) is mapped onto triangle $A^1B^1C^1$ by a reflection in the line $y + x = 0$.

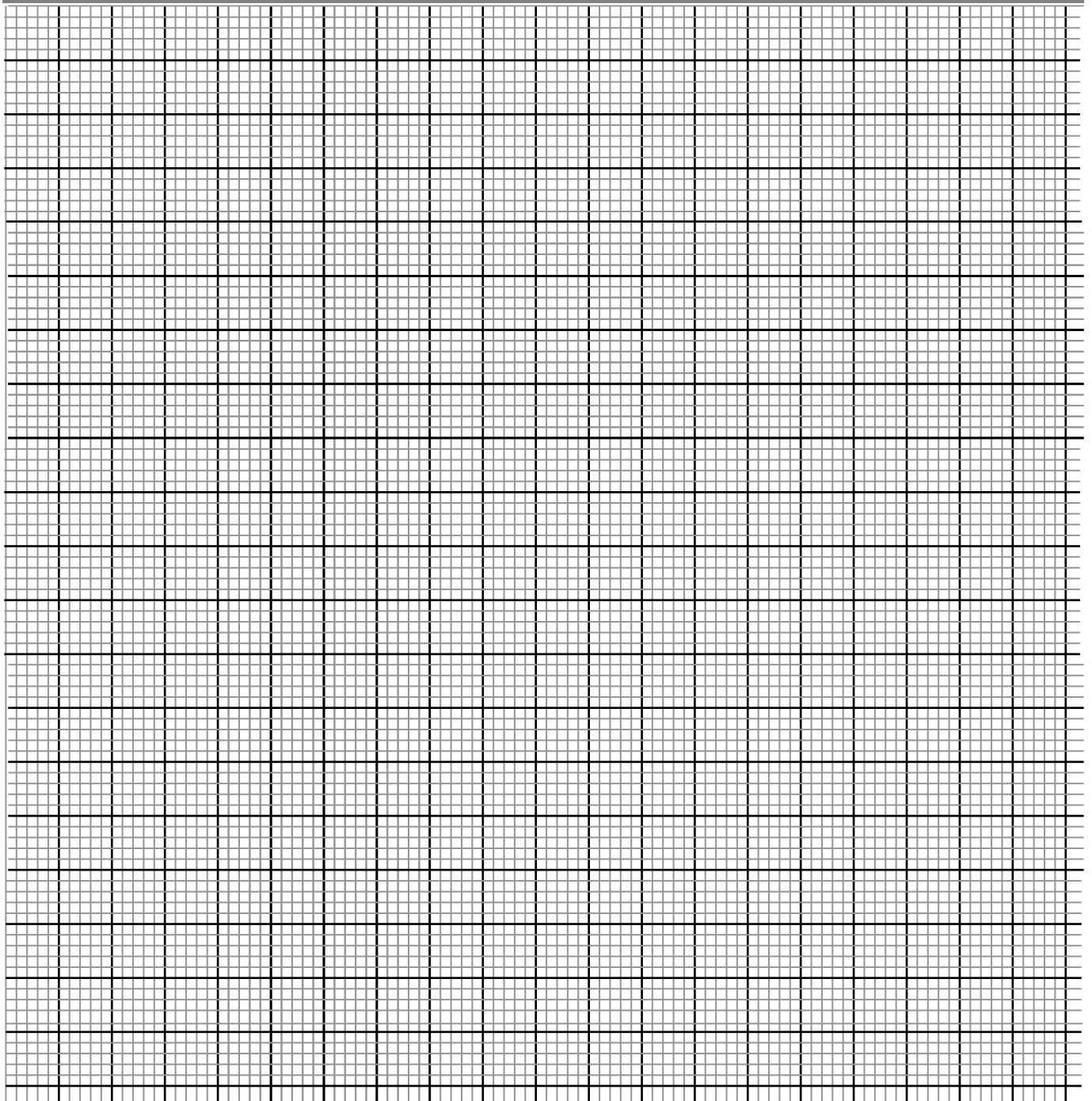
a. (i) Draw triangle ABC and its image $A^1B^1C^1$ on the same plane. **3mks**

(ii) Triangle $A^1B^1C^1$ is mapped onto $A^{11}B^{11}C^{11}$ by a transformation represented by the matrix.

$$\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$$

Draw triangle $A^{11}B^{11}C^{11}$ and describe fully a single transformation that maps triangle ABC onto triangle $A^{11}B^{11}C^{11}$ **4mks**

b. Triangle ABC is mapped onto xyz with A being mapped onto x, B onto Y and C onto Z. given that the coordinates of x is (-4,3), Y is (0,2) and Z is (-1,1), find the matrix representing the transformation. **3mks**



18. A lorry left town A for B at 6.50pm at an average speed of 60km/h. at 8.35pm, a car left town A for B at an average speed of 90km/h. if A is 317km from B. determine:

a. The distance of the lorry from town A when the car took off. **3mks**

b. The distance the car travelled to catch up with the lorry. **4mks**

c. What time of the day did the car catch up with the lorry? Give your answer in 24hrs system. **3mks**

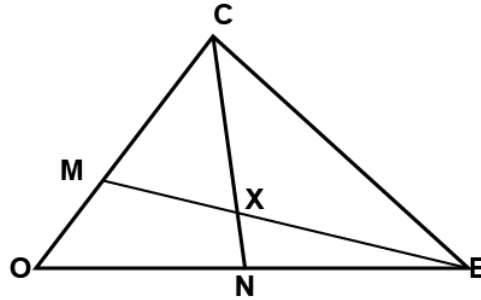
- 19.** Three ships X, Y and Z are approaching a harbour H. X is 150km from the harbour on a bearing of 090° . Y is 130km from the harbour on a bearing of 130°E and Z is 180km to the west of Y.
- a)** Taking a scale of 1cm to represent 20km, make a scale drawing of the routes of the three ships to the harbour. **2mks**

b) What is the distance between ships X and Z? **2mks**

c) Find the bearing of H from Z. **2mks**

d) If ship Y is travelling at a speed of 50km/h how long will it take to reach the harbor. **2mks**

20. The figure below shows a triangle OAB with O as the origin. $OA = \underline{a}$ $OB = \underline{b}$, $OM = \frac{2}{5}\underline{a}$ and $ON = \frac{2}{3}\underline{b}$.



- a) Express in terms of $\underline{a}$ and $\underline{b}$ the vectors

(i) $\underline{BM}$

1mk

(ii) $\underline{AN}$

1mk

- b) Vector $\underline{OX}$ can be expressed in two ways: $\underline{OB} + K\underline{BM}$ or $\underline{OA} + h\underline{AN}$, where K and h are constants.

Express $\underline{OX}$ in terms of:

i. $\underline{a}$, $\underline{b}$ and k .

2mks

ii. $\underline{a}$, $\underline{b}$ and h .

2mks

c) find the values of k and h .

4mks

21. in a certain meeting, there were 95 men in attendance. There were 50 more women than men and twice as many children as men.

a. Determine the number of people in attendance. **2mks**

b. Find the percentage of children in attendance, correct to 3 significant figures. **2mks**

c. A hall for the meeting was fitted with benches that could accommodate either 10 children or 7 adults per bench.

Find the number of benches

i. Used by the children **2mks**

ii. Completely filled by the adults. **2mks**

iii. Adults who would fill the unoccupied space. **2mks**

22. a) The point A(-2, 4) and B(3,-6) lies on a straight line AB, find

(i) the equation of the line perpendicular to AB and passing through A

3mks

(ii) The equation of the line parallel to AB and passing through the point. **(3,-1)**.

3mks

b) The points A and B are translated by a vector

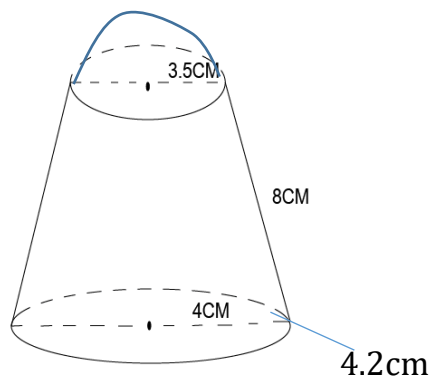
$M = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$. Find

(i) the images of A and B.

2mks

(ii) the equation of the line passing through A^1 and B^1 the images of A and B respectively. **2mks**

23. The figure below represents a solid made up of a conical frustum and a hemispherical top. The slant height of the frustum is 8cm and its base radius is 4.2cm.



If the radius of the hemispherical top is 3.5cm

a. Find the area of:

i. The circular base

2mks

ii. The curved surface area of frustum.

4mks

iii. The hemispherical surface

2mks

b. A similar solid has a total surface area of 81.5cm^2 . determine the radius of the base.

2mks

24. Using a ruler and a pair of compasses, construct parallelogram ABCD such that $AB = 8\text{cm}$, diagonal $AC = 12\text{cm}$ and angle $BAC = 22.5^\circ$ **4mks**

a) Measure (i) The diagonal BD **1mk**

(ii) The angle ABC **1mk**

b) Draw the circumference of triangle ABC **2mks**

c) Calculate the area of the circle drawn **2mks**

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

MATHEMATICS

121/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES

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-

SECTION 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

SECTION 2

17	18	19	20	21	22	23	24		GRAND TOTAL

SECTION I (50Mks)**Attempt ALL Questions from this section**

1. Make x the subject of the formula

3mks

$$P = \frac{x + 2w}{\sqrt{4x + 3R}}$$

2. P varies partly as the square of v and partly as the cube of v. when $V=2$, $P = -20$ and when $v = -3$, $P=135$. Find the relationship between P and v.

3mks

3. Expand $(1 + 2x)^7$ up to x^3 , hence use the expansion to estimate the value of $(1.02)^7$ correct to four decimal places.

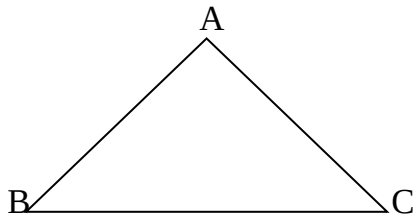
3mks

4. Simplify the following by rationalizing the denominator.

3mks

$$\frac{\sqrt{2}-1}{4\sqrt{2}-3}$$

5. The diagram below represents a field ABC.



- (a) Draw the locus of points equidistant from sides AB and AC

2mks

- (b) Draw the locus of points equidistant from points A and C.

2mks

- C) A coin is lost within a region which is nearer to point A than to point C and closer to side AC than to side AB. Shade the region where the coin can be located.

2mks

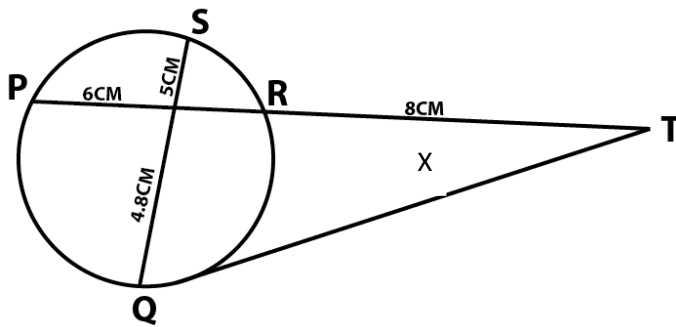
6. Given $x = 13.4\text{cm}$ and $y = 4.3\text{cm}$. calculate the percentage error in x/y correct to 4 d.p

3mks

7. If matrix $A = \begin{pmatrix} 1 & 2 \\ 4 & 3 \end{pmatrix}$ Find B given that $A^2 = (A + B)$.

3mks

8. In the figure below QT is a tangent to a circle at Q. PXRT and QXS are straight lines. PX = 6cm, RT = 8cm, QX = 4.8cm



Find the length of

- a. XR

2mks

- b. QT

2mks

9. A circle whose equation is $(x - 1)^2 + (y - k)^2 = 10$ passed through point (2,5). Find the coordinates of the two possible centres of the circle.

3mks

10. A blender mixes two brands of juice A and B to obtain 70mls of the mixture worth Ksh. 165 per litre. If brand A is valued at Kshs. 168 per litre and brand B at Ksh. 153 per litre bottle, calculate the ration in which the brands A and B are mixed. **(2mks)**

11. Without using logarithm tables solve the equation $\log(5x - 4) = \log(x + 2) + \frac{1}{3} \log 27$.

3mks

12.a) Use reciprocal tables to find the value of $= \frac{1}{0.325}$

1mk

b) Hence, evaluate $\frac{\sqrt[3]{0.000125}}{0.325}$

1mk

13. The G.C.D of three numbers is 45 and the LCM is 18900. Two of the numbers are 675 and 540. Find the other possible numbers. **3mks**

14. solve for θ given that θ is acute and $\sin (3\theta - 50^\circ) - \cos (20 + 10^\circ) = 0$

3mks

15. A container of height 90cm has a capacity of 4.5L. What is the height of a similar container of volume 9cm³.

3mks

16. A point R divides a line PQ internally in the ratio 3:4. Another point S, divides the line PR externally in the ratio 5:2. Given that PQ = 8cm, calculate the length of RS, correct to 2 decimal places.

3mks

SECTION II (50mrks)**Attempt any FIVE questions from this section****17. Complete the table below for the function****(a)** $y = x^2 + \frac{12}{x} - 15$ for $0.5 \leq x \leq 4$

X	0.5	1	1.5	2	2.5	3	3.5	4
y	9.25			-5	-4			

(b) Draw the graph of $y = x^2 + \frac{12}{x} - 15$ for $0.5 \leq x \leq 4$. using a scale of 2cm rep 1 unit on the x – axis and 2cm for 5 units on the y – axis. **3mks**

(c) (i) from your graph, state the range of values of x for which $y = x^2 + \frac{12}{x} \leq 18$

3mks

(ii) By adding a suitable straight line to your graph, solve the equation $y = x^2 + \frac{12}{x} - 5x + 20$. **3mks**

18. The product of the first three terms of a geometric progression is 64. If the first term is a and the common ratio is r .

(a) Express r in terms of a

3mks

(b) Given that the sum of the three terms is 14,

(i) Calculate the values of a and r and hence write down two possible sequences each up to the 4th term.

5mks

(ii) Find the product of the 50th terms of the two sequences

2mks

19. The table below shows income tax rates for certain year.

Monthly income in Kenya Shillings (Kshs)	Tax rate in each shillings
0 – 10164	10%
10165 – 19740	15%
19740 – 29316	20%
29317 – 38892	25%
Over 38892	30%

A tax relief of Kshs. 1162 per month was allowed. In a certain month of the year, an employee's taxable income in the fifth band was Ksh. 2108.

(a) Calculate

i) Employees total income in that month

2mks

ii) The tax payable by the employee in that month.

5mks

(b) The employee's income includes a house allowance of Ksh. 15,000 per month. The employees contributed 5% basic salary to a cooperative. Calculate the employee net pay for that month. 3mks

20. The following table shows the distribution of marks obtained by 50 students in a test.

Marks	45-49	50-54	55-59	60-64	65-69	70-74	75-79
No. of Students	3	9	13	15	5	4	1

By using an assumed mean of 62, calculate

a) The mean

5mks

b) The variance

3mks

c) The standard deviation

2mks

21. A red and black dice are rolled and the events x , y and z are defined as follows.

X = the red die shows a 4

Y = the sum of the scores of the two dice is 6

Z = the black dice shows a 3

a. Find the probability of event x

2mks

b. The probability of events x and y

3mks

c. Which event is mutually exclusive to x

1mk

d. Which event is independent of x

2mks

e. The probability of event Y

2mks

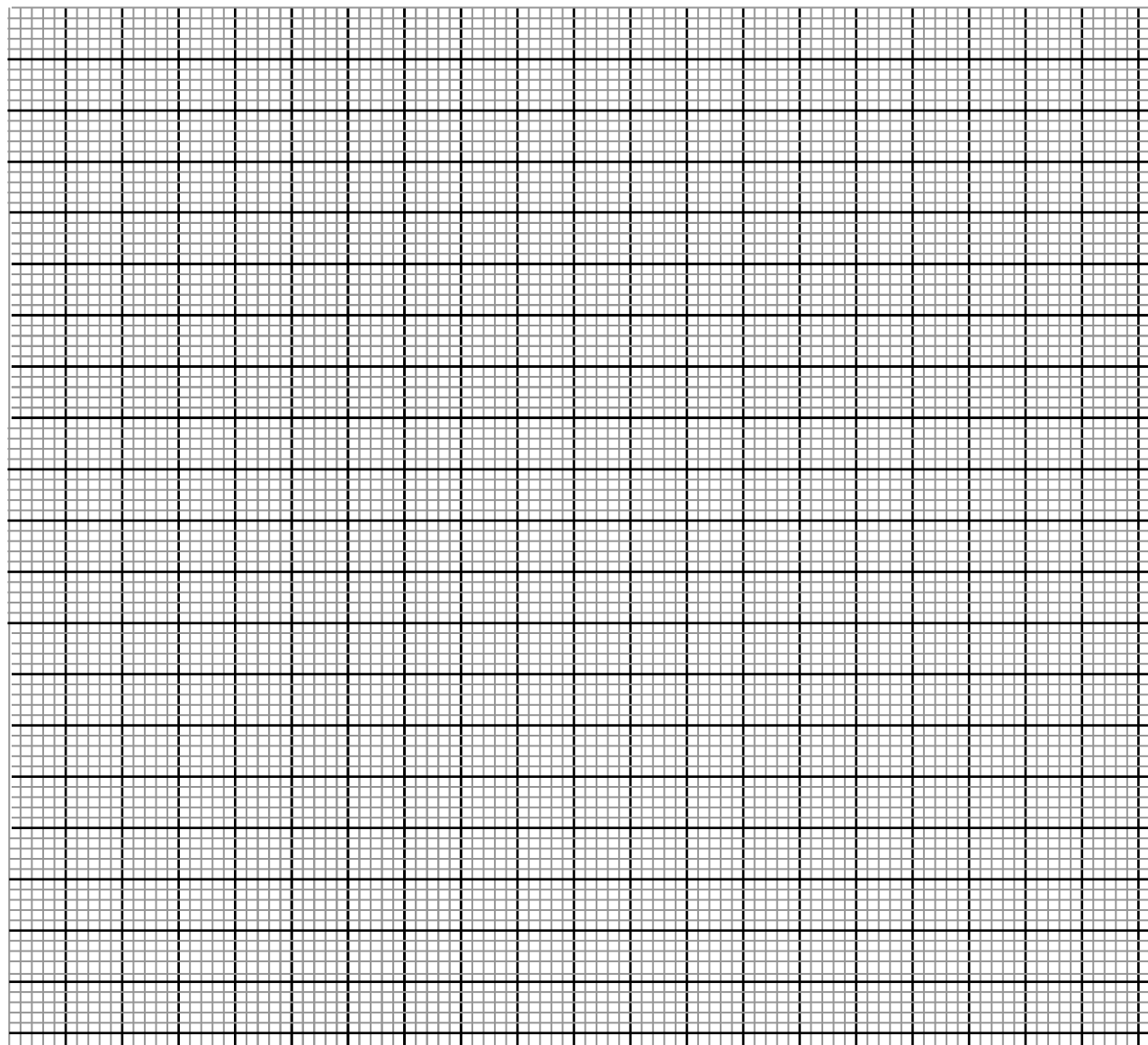
22. a) Complete the table below

2mks

X	0	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°	360°
- Cos x	-1		-0.5		0.5	0.87		0.87			-0.5	0.87	
Sin(x-30°)		0.0	0.5			0.87	0.5		-0.5			-0.87	-0.5

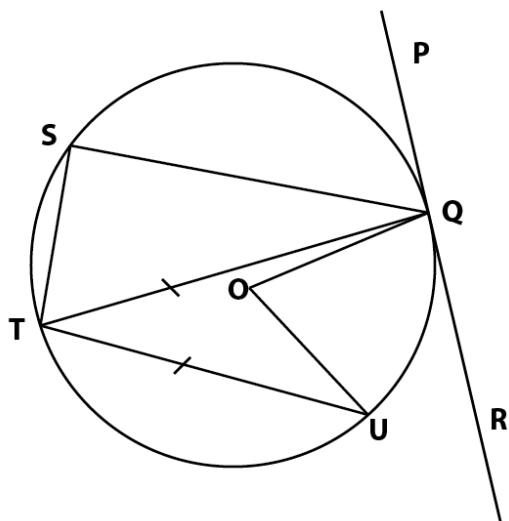
b) Draw the graphs of $y=\sin(x-30^\circ)$ and $y=-\cos x$ on the same axes, for $0^\circ \leq x \leq 360^\circ$

(5mks)

c) Use your graph to solve the equation $\sin(x - 30^\circ) + \cos x = 0$

(3mks)

23. In the figure below, O is the centre of the circle, PQR is the tangent to the circle at Q, Angle $PQS = 28^\circ$, angle $UTV = 54^\circ$ and $UT = TQ$



Giving reasons, determine the size of

a) Angle STR 2mks

b) Angle TQU 2mks

c) Reflex angle TQS 2mks

d) Reflex angle UOQ 2mks

e) Angle TQR 2mks

24. The cost c of producing n items varies directly as n and partly as the inverse of n to produce two items it costs Ksh. 135 and to produce three items it costs Ksh. 140. Calculate

a) The constant of proportionality and hence write the equation connecting c and n . **5mks**

b) The cost of producing 10 items **2mks**

c) The number of items produced at a cost of Ksh. 756. **3mks**

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM COMPUTER STUDIES

451/1

PAPER 1**TIME: 2½ HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

*Kenya Certificate of Secondary Education***INSTRUCTIONS TO CANDIDATES**

- a) This paper consists of two section **A** and **B**
- b) Answer all questions in section **A** (40 marks)
- c) Answer question 16 (**Compulsory**) and any other **THREE** questions in section **B**.

FOR EXAMINERS USE ONLY

SECTION	QUESTION	SCORE
A	1-15	
B	16	
	17	
	18	
	19	

SECTION A (40 MARKS)**Answer ALL the questions in this section**

1. Define the following terms (4mks)

i) Multiplexing

.....
.....

ii) Baseband signal

.....
.....

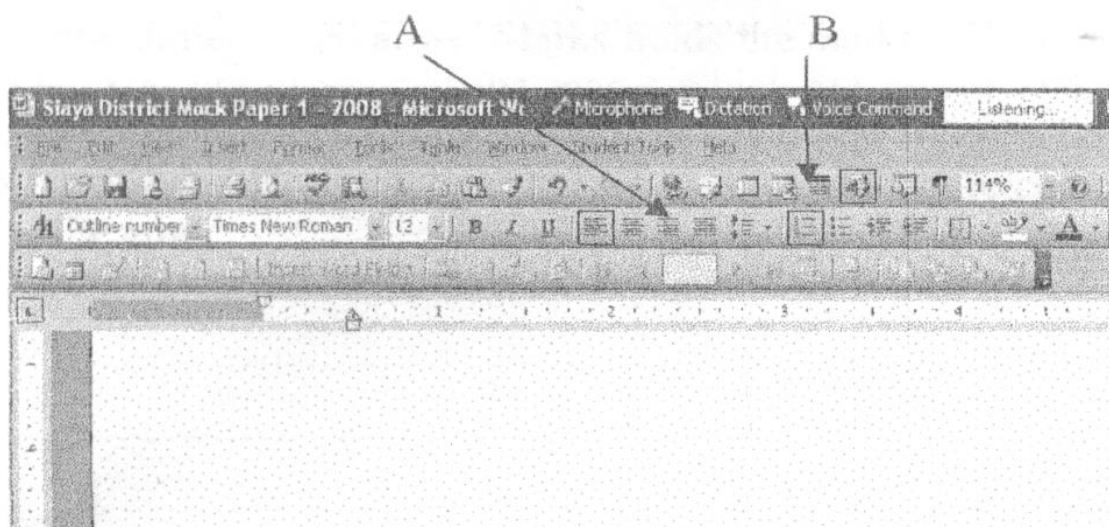
2. Explain the difference between digital signal and analog signal in data communication (2mks)

.....
.....
.....

3. List down two types of computer viruses (2mks)

.....
.....

4. Below is a graphical representation of a section of a Microsoft words application window.
Use it to answer the question that follow.



Give the uses of the icons labeled A and B (2mks)

A

B

5. Define the following terms as used in disk management

i) Partitioning (2mks)

.....
.....

ii) Defragmentation (2mks)

.....
.....

6. State three ways in which your school librarian can use a computer (3mks)

.....
.....
.....

7. i) Write the acronym UPS in full? (1mk)

.....
.....

ii) Explain the uses of UPS? (1mk)

.....
.....

8. a) Give two possible ways of fitting the document in one page (2mks)

.....
.....
.....

- b) The shopkeeper one day switched on the computer and experienced a number of problems with windows operating system that he had installed. The problems included failure to load the operating system during the booting. After several trials of switching on the computer booting. It hand so often alongside abnormal restarting. State any two possible causes for the computer's behavior.

(2mks)

.....

.....

.....

9. Differentiate between real time processing and batch processing giving examples where each could be used.

(4mks)

.....

.....

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10. In Kenya Tea Packers Company several people are employed as record clerks., typists and messenger. The company intends to introduce a computerized system in all the departments. Suggest three reasons that would make workers unhappy with the new system.

(3mks)

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11. Give two advantages of an electronic spreadsheet over traditional analysis ledger sheet

(2mks)

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12. Explain the following terms as used in information Technology with reference to software purchase:-

i) User friendliness

(1mk)

.....
.....

ii) Authenticity

(1mk)

.....
.....

13. While purchasing computers for his school the principal Isaboke high school decided to consult an expert. As a computer student advised him on four hard ware considerations (2mks)

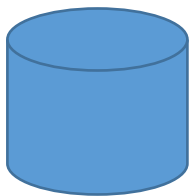
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14. Give the names of the following system flowchart symbols

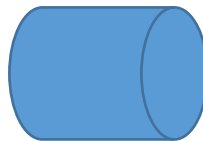
(2mks)



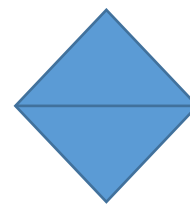
A



B



C



D

A

B

C

D

15. State any two features of a user friendly program

(2mks)

.....
.....

SECTION B (60 MARKS)

Answer question 16 and any other three questions from this section

16.a) State three qualities of a good pseudo code? (3mks)

.....

.....

.....

b) i) State the 3 translators used in programming (3mks)

.....

.....

.....

ii) List two examples of;

i. Third generation languages (1mk)

.....

.....

.....

ii. Object oriented languages (1mk)

.....

.....

.....

c) Draw a flowchart that was used to come up with the following pseud code (7mks)

Start

N=0

X=0

While n < 3

Repeat

X = X + 1

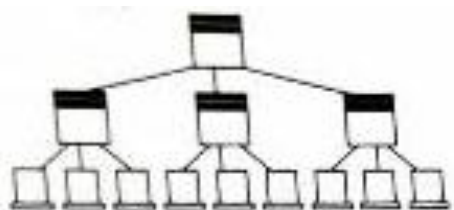
While x < 2

N = N +1

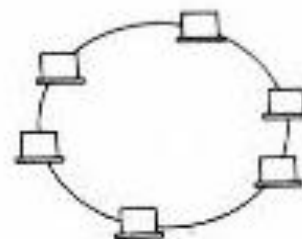
End while

Stop

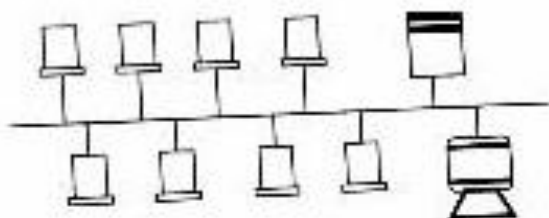
17.a) The diagram below shows four common network topologies A, B, C and D.



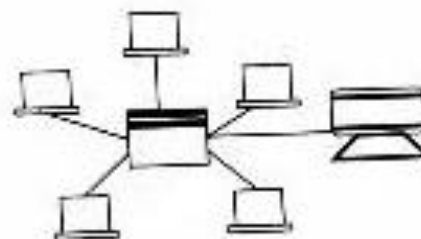
Topology A



Topology B



Topology C



Topology D



Server



Terminal



Printer

- i) Name the network topologies A, B, C and D (4mks)
- ii) Explain what happens if server X topology A fails (1mk)
- iii) List two problems associated with network topology B (2mks)
- iv) List two disadvantages associated with network topology D (2mks)
- b) Differentiate between Internet and World Wide Web. (2mks)
- c) Convert the following binary number, 11001011.001 into decimal form. (4mks)

18.a) Human activity systems are said to be soft systems. Give there reasons why they are said to be so (3mks)

b) What are hard information systems (2mks)

c) Discuss any five characteristics of a system (10mks)

19.a) One of the functions of an operating system is job scheduling. Explain what is meant by job scheduling. (2mks)

- b) List and explain three types of user interfaces. (6mks)
- c) Describe the following categories of software (4mks)
- i) Firmware
 - ii) Proprietary software
- d) A new company ABC intends to go into business of desktop publishing. Advise the company on three computer hardware specification features to consider as a measure of enhancing performance. (3mks)

20.a) Briefly explain the following terms as used in spreadsheet (4mks)

- i) Cell
 - ii) Range
 - iii) Value
 - iv) Function
- b) List three paragraph formatting features of word processors (3mks)
- c) Explain the difference between the printing of multiple pages and multiple copies (2mks)
- d) Distinguish between a worksheet and a work book (2mks)

e) The following is an excel worksheet showing the performance of students in Tana class.

A	B	C	D Cat	E Cat	F	G	H
	Adam	Student name	1/50	2/50	Total / 40	Exam / 60	Total
1	4321	DollineMbesa	30	28	(a)	45	(b)
2	4333	SelinaMbugua	20	29		55	
3	4330	Winnie Wanjema	25	26		50	
4	4322	MagaretWambari	27	24		43	
5	4324	FaniNjuguna	28	24		42	
6		Maximum	(c)				
7		Minimum	(d)				
8		Average	(e)				
9							

Using the above worksheet write the following formula to calculate the values in cells labeled

(4mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

COMPUTER STUDIES

451/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

451/1

COMPUTER STUDIES

PAPER 2

PRACTICAL

INSTRUCTIONS TO CANDIDATES

- d) Type your name and admission number at the top right hand corner of each printout.*
- e) Write the name and version of the software used for each question attempted in the answer sheet.*
- f) Passwords should not be used while saving in the diskettes.*
- g) Answer all questions*
- h) All questions carry equal marks*
- i) All answers must be saved in your diskette. Make printouts of the answers on the answer sheets provided.*
- j) Hand in all the printout and the diskette*
- k) Candidates may be penalized for not following instruction given in this pager*
- l) Arrange your printout and staple them together.*

QUESTION 1

1. Table 1, table 2 and table 3 are extracts of records, kept in a carpentry shop. Use the information to answer the questions that follow;

CAPENTER_ID	CAPENTER NAME
CAP_001	JAMES
CAP_002	JOHN
CAP_003	ALEX
CAP_004	ISAAC
CAP_005	MAURICE

CUSTOMER _ID	CUSTOMER NAME
CUST_01	MARY K.
CUST_02	DIANA K.
CUST_03	ALEX N.
CUST_04	MARTHA K.
CUST_05	SARAH W.
CUST_06	JOHNSON G.

Carpenter Table**Customer Table****Order Table**

CARPENTER _ID	CUSTOMER _ID	ORDER_NO	ITEM ORDERED	MONTH	AMOUNT
CAP_001	CUST_01	1721	Bench	January	18,000
CAP_002	CUST_02	1722	Coffee table	January	25,000
CAP_003	CUST_03	1723	Office table	January	10,000
CAP_004	CUST_04	1724	Single bed	January	18,000
CAP_005	CUST_05	1725	Arm chair	January	60,000
CAP_001	CUST_01	1726	Double bed	February	75,000
CAP_002	CUST_04	1727	Dining table	February	85,000
CAP_004	CUST_03	1728	Arm chair	February	60,000
CAP_001	CUST_02	1729	Double decker bed	February	72,000
CAP_002	CUST_06	1730	Kitchen table	February	82,000
CAP_004	CUST_02	1731	Bench	March	18,000
CAP_003	CUST_06	1732	bench	march	18,000

- a) i) Using database application package, create a database file named;

CARPENTER INFORMATION

(1mk)

ii) Create three tables named **Carpenter Table**, **Customer Table** and **Order Table** that will be used to store the above data. (10mks)

iii) Set the primary key for the tables (2mks)

iv) Create relationship among the tables (2mks)

b) i) Create a data entry form for each table (3mks)

ii) Enter the data in **Carpenter Table**, **Customer Table** and **Order Table** respectively (11mks)

c) i) Create a query named **individual income** to display the amount received from each customer every month. (4mks)

ii) Create a database object that computes Total income for each month. Save the query as **Totalincomenomnthly**. (6mks)

d) Create a query named **loyalty** to compute the total number of orders made by each customer over the three months. (3mks)

e) Create a report to display order details, save the report as Order report (4mks)

f) Print the three tables and the report (4mks)

QUESTION 2

Use a spreadsheet to manipulate data in the table below.

Adm N	Name	Stream	Comp	Art	Bus	Eng	Mat	Student mean	Rank
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		
C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								
	TOTAL	FOR H							
	TOTAL	FOR K							

- a) Enter the data in all bordered worksheet and auto fit all column. Save the workbook as **mark 1** (15mks)
- b) Find the total marks for each subject (3mks)
- c) Find total for each subject per stream using a function (5mks)
- d) Find mean mark for each student using a function (5mks)
- e) Rank mean student in descending order using the mean (5mks)
- f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as **mark 2.** (7mks)
- g) Using **mark1**, use subtotals to find the average mark for each subject per stream. Save the workbook as **mark 3** (7mks)
- h) Print **mark 1,mark 2** and the **chart**

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

HOME-SCIENCE

441/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

441/1

HOME-SCIENCE

PAPER 1

THEORY

INSTRUCTIONS TO CANDIDATES

- (a) Write your name, school and index number in the spaces provided above.
(b) Sign and write the date of the examination in the spaces provided above.
(c) This paper consists of **three** sections **A**, **B** and **C**.
(d) **All** the questions in Section **A** and **B** are compulsory.
(e) Answer any other **two** questions in section **C**.
(f) Answers to all the questions must be written in the spaces provided.

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 20	40	
B	21	20	
C		20	
		20	
TOTAL SCORE		100	

SECTION A (40 MKS)

1. State three functions of the skin (3mks)

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2. Mention three dangers that may arise due to misuse of cosmetics (3mks)

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3. List three ways of caring for galvanized iron buckets in the home (3mks)

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4. What is environmental hygiene? (1mk)

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.....

5. List three methods of repairing clothes and household articles (3mks)

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.....

6. Explain three methods of neatening edges of a constructed garment (3mks)

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.....

.....

7. State three qualities of a well-made seam (3mks)

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8. What is garnishing (1mk)

.....

.....

9. State two problems faced during pregnancy (2mks)

.....

.....

10.State two methods of controlling fullness (2mks)

.....

.....

11.State two principles of wise buying (2mks)

.....

.....

.....

12.State two ways of encouraging a child to play (2mks)

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.....

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13.What is a dough (1mk)

.....

.....

14.Name two raising agents in flour mixtures **(2mks)**

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.....

15.What is ventilation? **(1mk)**

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.....

16.State two dangers of poor ventilation in a room **(2mks)**

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.....

17.Name two common fuels used at home **(2mks)**

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.....

18.State two characteristics of a well lit room **(2mks)**

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.....

19.What is food preservation **(1mk)**

.....

.....

20.What is the importance of a colour wheel **(1mk)**

.....

.....

21.a) Explain six laundry processes

(12mks)

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the entire width of the page, providing a guide for handwriting or typing. There are no margins, text, or other markings on the page.

b) Explain four factors to consider when weaning the baby (8mks)

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SECTION C (40MKS)

Answer any two questions on the foolscap provided

22.a) State five points to consider when choosing furniture for your house (5mks)

b) State five properties of cotton fabric (5mks)

c) Explain how to work a single pointed dart (10mks)

23.a) You have been given a viscose clothes by your Aunt to launder. Explain how you would launder it to avoid damage. (10mks)

b) State five factors to consider when planning meals (5mks)

c) Highlight five reasons for cleaning a house (5mks)

24.a) Explain how to clean sleeping area (bed room) (10mks)

b) State five advantages of using paraffin for cooking (5mks)

c) Explain five communicable diseases caused by poor sanitation. (5mks)

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

HOME-SCIENCE

441/2

PAPER 2

TIME: 2½ HOURS

SCHOOL..... SIGN.....

CONFIDENTIAL

The school to provide the following:-

1. *White poplin material each student 90cm by 50cm.*
2. *Thread to match the fabric.*
3. *Pins*
4. *Sewing machines*

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

HOME-SCIENCE

441/2

PAPER 2

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

441/2

HOME SCIENCE

(CLOTHING CONSTRUCTION)

PAPER 2

PRACTICAL

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- a) This paper consists of **three** printed pages.*
- b) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
- c) Candidates are advised to ensure that the pattern pieces match with sketches shown on question paper.*

CLOTHING CONSTRUCTION

A pattern of girl's blouse is provided. You are advised to study the sketches, Instructions and layout carefully before you begin the test

Material provided

1. Pattern pieces for the blouse

A – Blouse front

B – Blouse back

C – Collar

D - Pocket

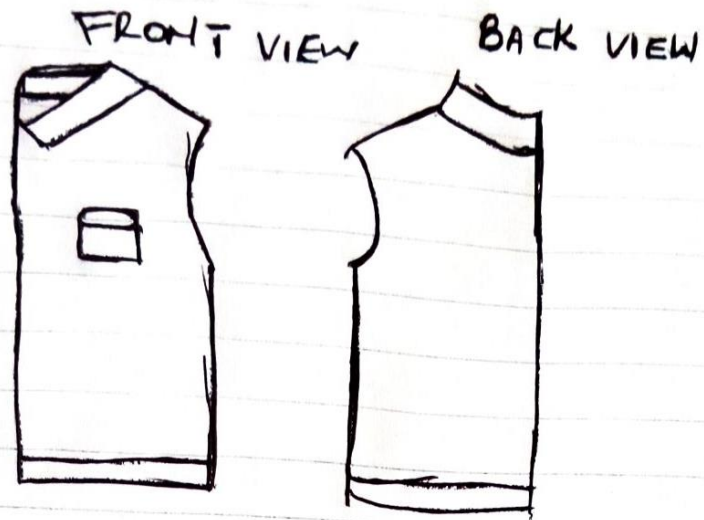
2. Light weight plain poplin fabric 50cm long by 90cm wide (to be provided by the school)

3. Sewing thread to match the fabric (To be provided by the school)

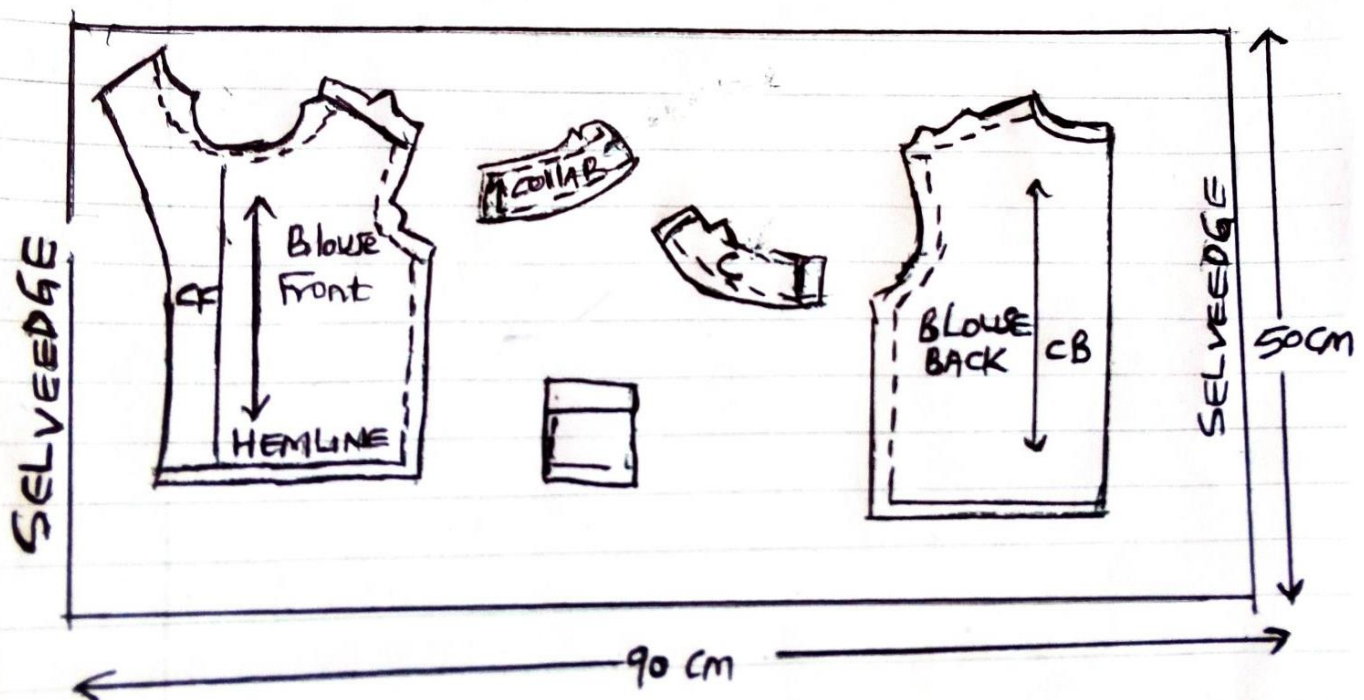
The test

Using materials provided, cut out and make the left Half of the blouse to show the following processes:-

- a) Making of an open seam at the shoulder
 - b) Making of the side seam using a French seam
 - c) Neatening of the blouse front facing
 - d) Preparation of the collar
 - e) Attachment of the collar using hemming stitches at the back.
 - f) Holding the facing on the blouse using diagonal tacks. Do not remove
 - g) Preparation and attachment of the patch pocket
 - h) Management of the blouse hem
 - i. Use even tacking to hold the hem. Do not remove.
 - ii. Use machine hemming
- At the end of the examination, remove all pins and finally sew onto your work, on a single fabric, a label bearing your name and index number
- Fold your work carefully.



LAY OUT NOT DRAWN TO SCALE



SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

HOME-SCIENCE

441/3

PAPER 3

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

PAPER 3

441/3

HOME SCIENCE

TIME: 1¾HRS

PLANNING SESSION 30 MINUTES

PRACTICAL TEST SESSION 1¼HRS

INSTRUCTIONS

- 1. Read the test carefully.*
- 2. Write your name on every sheet of paper used.*
- 3. Text books and recipes may be used during the planning session.*
- 4. You are allowed to take away your reference material; at the end of the planning sessions.*
- 5. You are **not allowed** to bring additional notes to the practical session*

You are taking care of your sister's children who are aged 5 and 7 years respectively. Using ingredients listed below, prepare, cook and present a suitable meal for dinner to include a desert.

Ingredients

- ✓ Eggs/liver
- ✓ Onions
- ✓ Carrots
- ✓ Tomatoes
- ✓ Milk
- ✓ Dhania
- ✓ Sugar
- ✓ Fat/oil
- ✓ Corn flour /custard powder
- ✓ Salt
- ✓ Fruits in season

Planning session: 30 minutes

- Each task should be done on a separate sheet of paper.
 - Carbon papers should be used to make duplicate copies.
-
1. Choose the appropriate dishes and write their recipes.
 2. Make an order of work.
 3. Make a list of foods; equipments and materials needed, indicating the quantities.

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

ISLAMIC RELIGIOUS EDUCATION

314/1

PAPER 1

TIME: 2½ HOURS

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES.

- 1) *This paper consists of six questions.*
- 2) *Answer any five questions on the foolscaps provided.*
- 3) *Each question carries 20 marks.*

QUESTION	CANDIDATE'S SCORE
1	
2	
3	
4	
5	
6	
TOTAL SCORE	

- 1a) How do Muslims ensure that the Quran remains in its original form? (9marks)
- b) Describe the divisions of the Holy Quran. (6marks)
- c) State five qualities of human beings who are not at a loss according to surah Al-Asr. (5marks)
- 2a) Outline eight characteristics of Madinan surahs. (8marks)
- b) Mention seven benefits of memorizing the Quran to Muslims. (7marks)
- c) State the supplication (dua) as stated in the last verse of surah Baqarah. (Quran 2:286). (5marks)
- 3a) Describe seven ways through which prophet Muhammad conveyed his Sunnah to the Muslims. (7mks)
- b) State seven characteristics of weak (dhaif) hadith. (7marks)
- c) The prophet said, **“If someone kills a sparrow for sport, the sparrow will cry out on the day judgement O Lord! That person killed me in vain, he did not kill me for any useful purpose.”** In reference to the above hadith, give six reasons why Muslims should care for animal. (6marks)
- 4a) Identify three Muslim festivals and for each give a reason why it is celebrated. (6marks)
- b) Outline seven acts that can invalidate saum. (7marks)
- c) **State** seven rights that a Muslim should accord other people. (7marks)
- 5a) Explain the conditions for the use of Ijmah as a source of Shariah. (6marks)
- b) **Difference** between zakatul-maal and zakatul-fitr. (8marks)
- c) **What are** the social benefits of Hajj to Muslims. (6marks)
- 6a) Describe the challenges faced by the prophets of Allah in their mission. (6marks)
- b) Discuss the relevance of the belief in Tawheed to Muslims. (8marks)
- c) Give the meaning of each of the following attributes of Allah. (6marks)
- | | |
|----------------|---------------|
| i. Ar Rahim | iv. Al-Hayyu |
| ii. Al-Ghaffar | v. Al-Qayyum |
| iii. Arrazaq | vi. As-swamad |

SOARING HIGH PREMOCK

KCSE 2023 SERIES 1 EXAM

ISLAMIC RELIGIOUS EDUCATION

314/2

PAPER 2**TIME: 2½ HOURS**

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES.

- 1) *This paper consists of six questions.*
- 2) *Answer any five questions on the foolscaps provided.*
- 3) *Each question carries 20 marks.*

QUESTION	CANDIDATE'S SCORE
1	
2	
3	
4	
5	
6	
TOTAL SCORE	

1. (a) Discuss the rationale behind the prohibition of slander in Islam. (6 marks)
(b) Elaborate the ways in which HIV/AIDS has affected the Muslim society today. (8 marks)
(c) Mention six Islamic manners of walking. (6 marks)
2. (a) State seven benefits of writing a will before a Muslim dies. (7 marks)
(b) Explain six reasons for Jihad in Islam (6 marks)
(c) Identify seven unlawful acts in business transactions. (7 marks)
3. (a) State seven rules to be observed by a Muslim shopkeeper when selling goods to customers. (7 marks)
(b) Give six ways through which Islam empowers women economically. (6 marks)
(c) State seven Islamic teachings on acquisition of wealth. (6 marks)
4. (a) Discuss ways in which Muslim city states on the East Coast of Africa facilitated the spread of Islam in the region between 1700 and 1900 AD. (7 marks)
(b) State six reasons that led to the fall of the Fattimid's empire. (6 marks)
(c) In what ways did Umar-al-Khattab contribute to the growth of Islam before he became a Khalifa? (7 marks)
5. (a) Give six reasons why Sayyidna Abubakar (R.A.) was elected Khalifa. (6 marks)
(b) Explain four factors that led to the battle of Badr. (8 marks)
(c) In which ways has Islam discouraged slavery? (6 marks)
6. (a) Discuss eight contributions made by Abbasids in the field of Education. (8 marks)
(b) State Imam Ghazali's view on children's education. (6 marks)
(c) Elaborate the six achievements of Khalifa Ali (R.A.). (6 marks)

THE END

FOR THE FOLLOWING;

- ✓ **ONLINE TUITION**
- ✓ **REVISION NOTES**
- ✓ **SCHEMES OF WORK**
- ✓ **SETBOOKS VIDEOS**
- ✓ **TERMLY EXAMS**
- ✓ **QUICK REVISION KITS**
- ✓ **KCSE TOPICALS**
- ✓ **KCSE PREMOCKS**
- ✓ **TOP SCHOOLS PREMOCKS**
- ✓ **JOINT PREMOCKS**
- ✓ **KCSE MOCKS**
- ✓ **TOP SCHOOLS MOCKS**
- ✓ **JOINT MOCKS**
- ✓ **KCSE POSTMOCKS**
- ✓ **TOP SCHOOLS PREDICTIONS**
- ✓ **KCSE PREDICTIONS**
- ✓ **KCSE REVEALED SETS**

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