KCSE PREDICTION 6
ALL SUBJECTS

Class of KCSE March 2022 candidates are encouraged to take this exam serious.

All the best!

For Marking Schemes Contact Mr Machuki 0795491185

Kenya Educators Contacts:
+254795491185
kenyaeducators@gmail.com

For More e-learning resources contact us via the above contacts

PREDICTION 6

NAME:…… INDEX NO.……..……..…

SIGNATURE: ……..... ……. DATE: .....

121/1
MATHEMATICS
PAPER 1
TIME: 2 ½ HOURS

KCSE PREDICTION 6
Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

- Write your name and Admission number in the spaces provided at the top of this page.
- This paper consists of two sections: Section I and Section II.
- Answer ALL questions in section 1 and ONLY FIVE questions from section II
- All answers and workings must be written on the question paper in the spaces provided below each question.
- Show all the steps in your calculation, giving your answer at each stage in the spaces below each question.
- Non – Programmable silent electronic calculators and KNEC mathematical tables may be used, except where stated otherwise.

FOR EXAMINERS USE ONLY

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

SECTION II **GRAND TOTAL**

17	18	19	20	21	22	23	24	TOTAL

This paper consists of 15 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

SECTION I (50 marks)

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

1. Without using mathematical tables or calculators, ***evaluate*** $\sqrt{\frac{1408 \times 0.594 \times 0.012}{6.05 \times 125}}$ leaving your answer as a simplified fraction (3mks)

2. Two similar solids have surface areas $48cm^2$ and $108cm^2$respectively. Find the volume of the smaller solid if the bigger one has a volume of $162cm^3$. (3mks)

3. A triangle flower garden has an area of $28m^2$. Two of its edges are 14 metres and 8 metres. Find the angle between the two edges. (2mks)

4. A watch which looses a half a minute every hour.It was set read the correct time at 0445hr on Monday. Determine in twelve hour system the time the watch will show on Friday at 1845hr the same week. (3mks)

5. Find the least whole number by which $2^5 \times 5^4 \times 7^3$ must be multiplied with to get a perfect cube. What is the cube root of the resulting number? (3mks)

6. A woman went on a journey by walking, bus and matatu. She went by bus $\frac{4}{5}$of the distance, then by matatu for $\frac{2}{3}$ of the rest of the distance. The distance by bus was 55km more than the distance walked. Find the total distance. (3mks).

7. Simplify the expression: $\frac{9t^2 - 25a^2}{6t^2 + 19at + 15a^2}$ (3mks).

8. Solve the simultaneous equations

X y = 4 and x + y = 5 (4mks)

9. The size of an interior angle of regular polygon is $3x^o$. While its exterior angle is $(x - 20)^o$. Find the number of sides of the polygon. (3mks)

10. A Kenya company received US Dollars M. The money was converted into Kenya Shillings in a bank which buys and sells foreign currencies.

	Buying (in Ksh)	Selling (in (Ksh)
1 Sterling Pound	125.78	126.64
1 Us Dollar	75.66	75.86

(a) If the company received Ksh.15, 132,000, calculate the amount, M received in US Dollar.

(2mks)

(b) The company exchanged the above Kenya shillings into Sterling pounds to buy a car in Britain. Calculate the cost of the car to the nearest Sterling pound. (2mks)

11. A plot in a shape of rectangle measurers 608m by 264m. Equidistance fencing posts are Placed along its length and breadth as far apart as possible. Determine

a) The maximum distance between the posts. (1mk)

b) The number of posts used. (2mks)

12. Given that $\sin (x - 30)^0 - \text{Cos } (4x)^0$. Find the $\tan (2x+30)^0$ (3mks)

13. A trader sold a dress for Ksh 7200 allowing a discount of 10% on the marked price. If the discount had not been allowed the trader would have made a profit of 25% on the sale of the suit. Calculate the price at which the trader bought the dress. (3mks)

14. In august, Joyce donated $\frac{1}{6}th$ of her salary to a children's home while Chui donated $\frac{1}{5}th$ of his salary to the same children's home. Their total donation for August was Kshs 14820. In September, Joyce donated $\frac{1}{8}th$ of her salary to the children's home while Chui donated $\frac{1}{12}th$ of his salary to the children's home. The total donation for September was Kshs 8675. Calculate Chui's monthly salary. (4mks)

15.Simplify completely $\frac{3^{n+3}-3^{n+1}}{4\times 3^{n+2}}$ (3mks)

16.In what ratio should grade **A** tea costing Sh. 180 per kg be mixed with grade **B** tea costing Sh. 300 per kg to produce Nganomu Tea which when sold at Kshs 270 a profit of 20% is realized? (3mks)

SECTION II (50 MARKS)

Answer any five questions from this section in the spaces provided

. 17. Atambo poured spirit into a test tube which has hemispherical bottom of inner radius 1.5cm. He noted that the spirit is 8cm high.

(a) What is the area of surface in contact with spirit? (4mks)

(b) Calculate volume of spirit in the test tube. (4mks)

(c) If Atembo obtained the mass of the spirit as 10g. Calculate the density of the spirit. (2mks).

18.A bus left Nairobi at 7.00 am and traveled towards Eldoret at an average speed of 80Km/hr. At 7.45am a car left Eldoret towards Nairobi at an average speed of 120Km/hr. The distance between Nairobi and Eldoret is 300 km. Calculate:

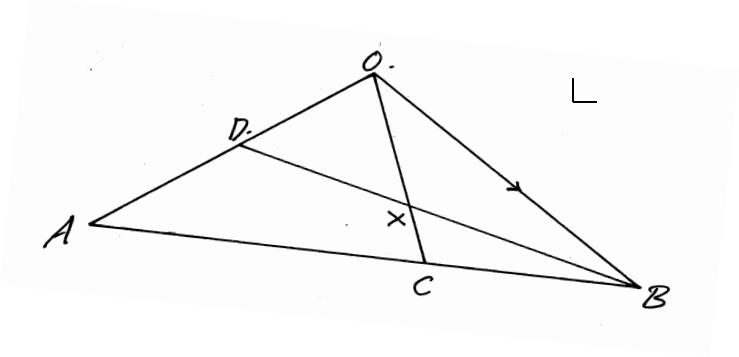
(a) The time the bus arrived at Eldoret. (2mks)

(b) The time of the day the two met. (4mks)

(c) The distance of the bus from Eldoret when the car arrived in Nairobi. (2mks)

(d) The distance from Nairobi when the two met. (2mks)

19. The figure below C is a point on AB such that AC**:** CB=3:1 and D is the mid –point of OA. OC and BD intersect at X.



Given that **OA** = **a** and **OB** = **b**

(a) Write the vectors below in terms of **a** and**b**.

(i) **AB** (1mk)

(ii) **OC** (2mks)

(iii) **BD** (1mk)

(b) If **BX** = h **BD**, express **OX** in terms of **a**, **b**, and h. (1mk)

(c) If **OX** = K**OL**, find h and k. (4mks)

(d) Hence express **OX** in terms of **a** and**b** only. (1mk).

20. (a) Using a ruler and a pair of compasses only, draw a triangle ABC such that AB = 5cm,BC = 8cm and <ABC = 60^o. Measure AC and <CAB. (4mks)

(b) Find a point O in Δ ABC such that OA = OB = OC. (2mks).

(c) Construct a perpendicular from A to BC to meet BC at D. Measure AD. Hence calculate the area of the Δ ABC (4mks)

21. A boy started walking due East from a dormitory 100m South of a bore-hole. He walked to the school library from which the bearing of the bore-hole is 315^{o}. He then walked on a bearing of 030^{o} to the water tank. From the water tank he went west to the bore-hole.

(a) Using a scale of 1cm to represent 20m, construct a diagram to show the positions of the tank, borehole, dormitory and library. (5mks).

(b) Find the distance and bearing of the bore-hole from the water tank. (3mks)

(c) Calculate the total distance covered by the boy. (2mks).

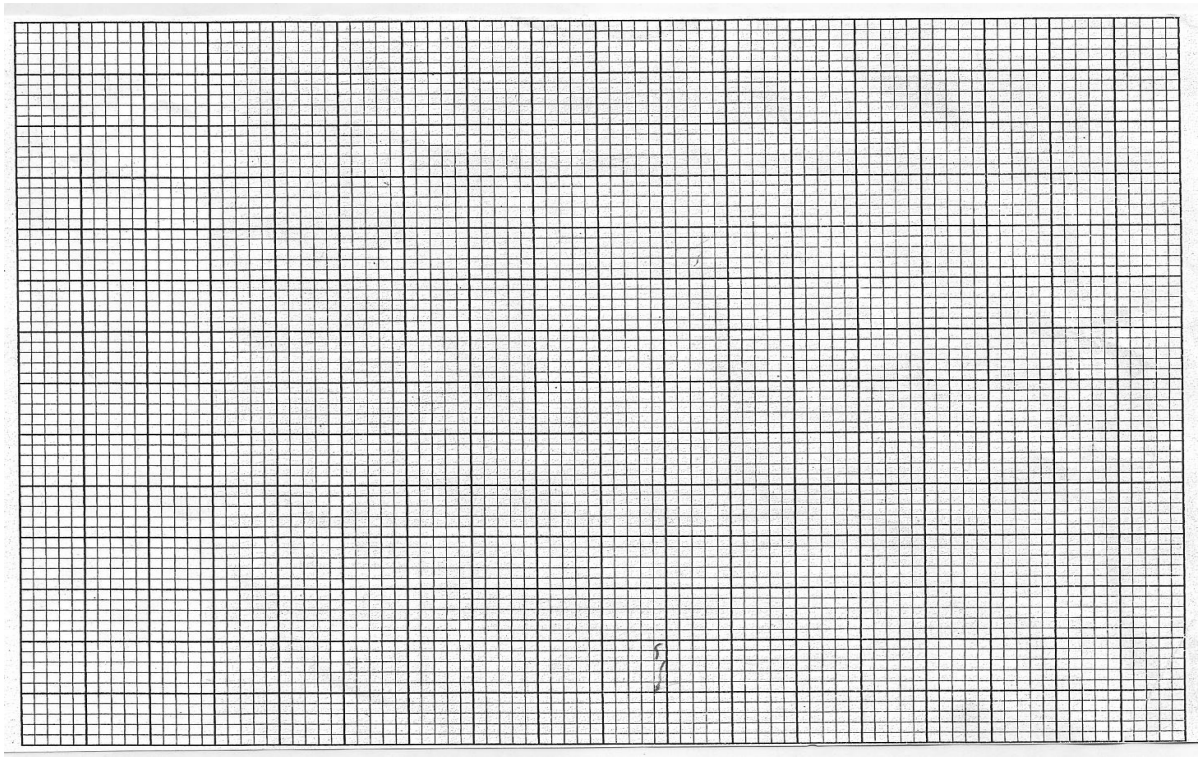
22. The table below shows the amount in shillings of pocket money given to students in a particular school.

Pocket Money (Ksh)	210 – 219	220- 229	230- 239	240- 249	250- 259	260- 269	270- 279	280- 289	290- 299
No. of Students	5	13	23	32	26	20	15	12	4

(a) State the modal class. (1mk)

(b) Calculate the mean amount of pocket money given to these students to the nearest shilling. (4mks).

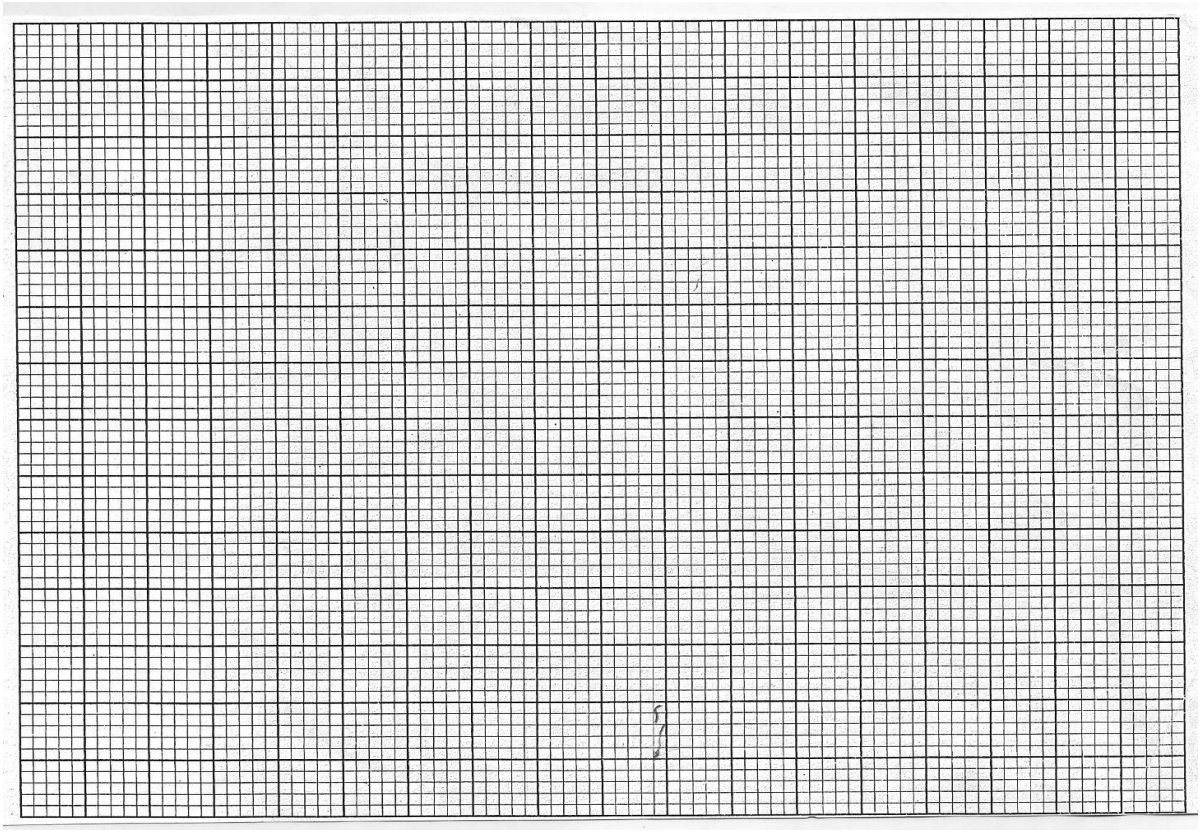
(c) Use the same axes to draw a histogram and a frequency polygon on the grid provided (5mks)



23. (a)Given that $y = 7 + 3\chi - \chi^2$, complete the table **below**. (2mks)

χ	-3	-2	-1	0	1	2	3	4	5	6
y	-11			7						-11

(b)On the grid provided and using a suitable scale draw the graph of $y = 7 + 3\chi - \chi^2$.(3mks)



(b)On the same grid draw the straight line and use your graph to solve the equation

$\chi^2 - 4\chi - 3 = 0$. (3mks)

(c)Determine the coordinates of the turning point of the curve. (2mks)

24. A straight line L_1 has a gradient $^{-}½$ and passes through point P (-1, 3). Another line L_2 passes through the points Q (1, -3) and R (4, 5). Find.

(a) The equation of L_1. (2mks)

(b) The gradient of L_2. (1mk)

(c) The equation of L_2. (2mks)

(d) The equation of a line passing through a point S (0, 5) and is perpendicular to L_2. (3mks)

(e) The equation of a line through R parallel to L_1. (2mks)

PREDICTION 6

NAME:…… INDEX NO. ……..……

SIGNATURE: ……... ……. DATE: .....

121/2
MATHEMATICS
PAPER 2
TIME: 2 ½ HOURS

KCSE PREDICTION 6

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

INSTRUCTIONS TO CANDIDATES

- Write your name and Admission number in the spaces provided at the top of this page.
- This paper consists of two sections: Section I and Section II.
- Answer ALL questions in section 1 and ONLY FIVE questions from section II
- All answers and workings must be written on the question paper in the spaces provided below each question.
- Show all the steps in your calculation, giving your answer at each stage in the spaces below each question.
- Non – Programmable silent electronic calculators and KNEC mathematical tables may be used, except where stated otherwise.

FOR EXAMINERS USE ONLY

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

SECTION II

17	18	19	20	21	22	23	24	TOTAL

GRAND TOTAL

This paper consists of 15 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

SECTION A: (50MARKS)

Answer all questions in this section in the spaces provided.

1. Use logarithms tables to evaluate. (4mks)

$$\sqrt[3]{\frac{36.72\times(0.46)^2}{185.4}}$$

2. If A = 2.3, B = 8.7 and C = 2.0. Find the percentage error in calculating $\frac{A+B}{C}$ (3mks)

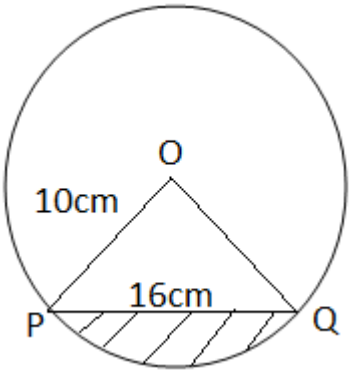
3. Given that $M=i-3j+4k$, $W=6i+3j-5k$ and Q = 2M + 5N, find the magnitude of Q to 3 significant figures. (3mks)

4. Solve the following equation $2^{2x+3} - 2^{x+4} = 17(2^x) - 4$ (4mks)

5. If $\frac{1}{3-\sqrt{5}} - \frac{2+2\sqrt{5}}{3+\sqrt{5}} = a + b\sqrt{c}$, find the value of a, b and c (3mks)

6. Pipe A can fill an empty water tank in 3hrs while Pipe B can fill the same tank in 6hrs. When the tank is full it can be emptied by Pipe C in 8hrs. Pipe A and B are opened at the same time when the tank is empty. If one hour later Pipe C is also opened, find the total time taken to fill the tank. (3mks)

7. The figure below shows a circle center O, radius 10 cm. The chord PQ = 16cm. Calculate the area of the unshaded region. (4mks)



8. The mean weight of 36 students is 45kg; two of the students leave and the mean weight increases by 0.5kg. If one of the students who left weighed 43kg, find the weight of the other one. (3mks)

9. Use the trapezium rule to estimate the area bounded by the curve $y + x^2 = 4$ and the lines $y = 0$, $x = -2$ and $x = 2$ using four strips. (3mks)

10. $4x^2 - 10x + 4y^2 + 12y - 1 = 0$ represents a circle centre C (a, b) and of radius K. Find the values of a, b and K. (3mks)

11. Make x the subject of the equation (3mks)

$$\frac{t}{s} = \frac{b}{\sqrt{x-4}}$$

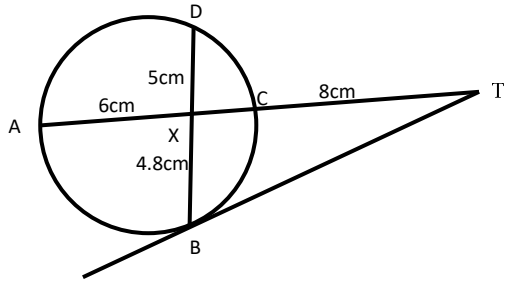
12. Use reciprocal, square and cube root tables to evaluate to 4 significant figures, the expression. (3mks)

$$\sqrt[3]{\frac{9}{0.03746} + 0.6042^2}$$

13. (a)Expand the expression $(1 + ½x)^5$ in ascending powers of x, leaving the coefficients as fractions in their simplest form. (2mks)

(b) Use the first three terms of the expansion in (a) above to estimate the value of $(1^1/_{20})^5$. (2mks)

14. In the diagram below, BT is a tangent to the circle at B. AXCT and BXD are straight lines. AX = 6cm, CT = 8cm, BX = 4.8cm and XD = 5cm.



Find the length of BT. (2mks)

15. Find x if Cos x = $\frac{\sqrt{3}}{2}$ for $-180^0 \leq x \leq 180^0$. (2mks)

16. The following were recorded on a field note book by a surveyor. Taking the base line as 550m. Find the area in m^2. (3mks)

		B			
		550	120	TO	A
C	150	450			
		250	90	T O	D
E	60	40			
		F			

SECTION II (50mrks)

Attempt any FIVE questions from this section

17. Mr. Kobe is a civil servant who earns a monthly salary of Ksh. 21200. He has a house allowance of Ksh. 12000 per month, other taxable allowances are commuter Ksh. 1100, medical allowance Ksh. 2000. He is entitled to a personal relief of Ksh. 1240 per month.
Using the income rates below, solve the questions that follow.

Income in Ksh. per month	Rates in Ksh per sh 20
1 – 8,400	2
8401 – 18,000	3
18001 – 30,000	4
30001 – 36,000	5
36001 – 48,000	6
Above 48,000	7

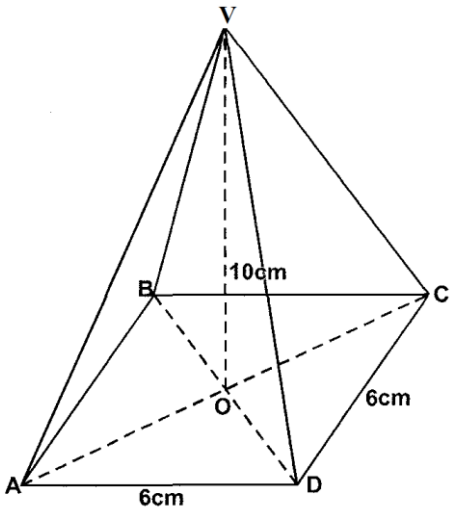
Determine;

a) i) His monthly taxable income. (2mks)

ii) Net tax (PAYE) (5mks)

b) In addition to the PAYE, the following deductions were made. Ksh. 250 for NHIF, Ksh. 120 service charges, he repays a loan at sh. 4500 and contributes towards savings at sh. 1800 every month. Calculate his net salary per month. (3mks)

18. The figure below is a square based pyramid ABCDV with AD=DC = 6cm and height V = 10cm



a) State the projection of VA on the base ABCD. (1mk)

b) Find:

i) The length of VA (3mks)

ii) The angle between VA and ABCD (2mks)

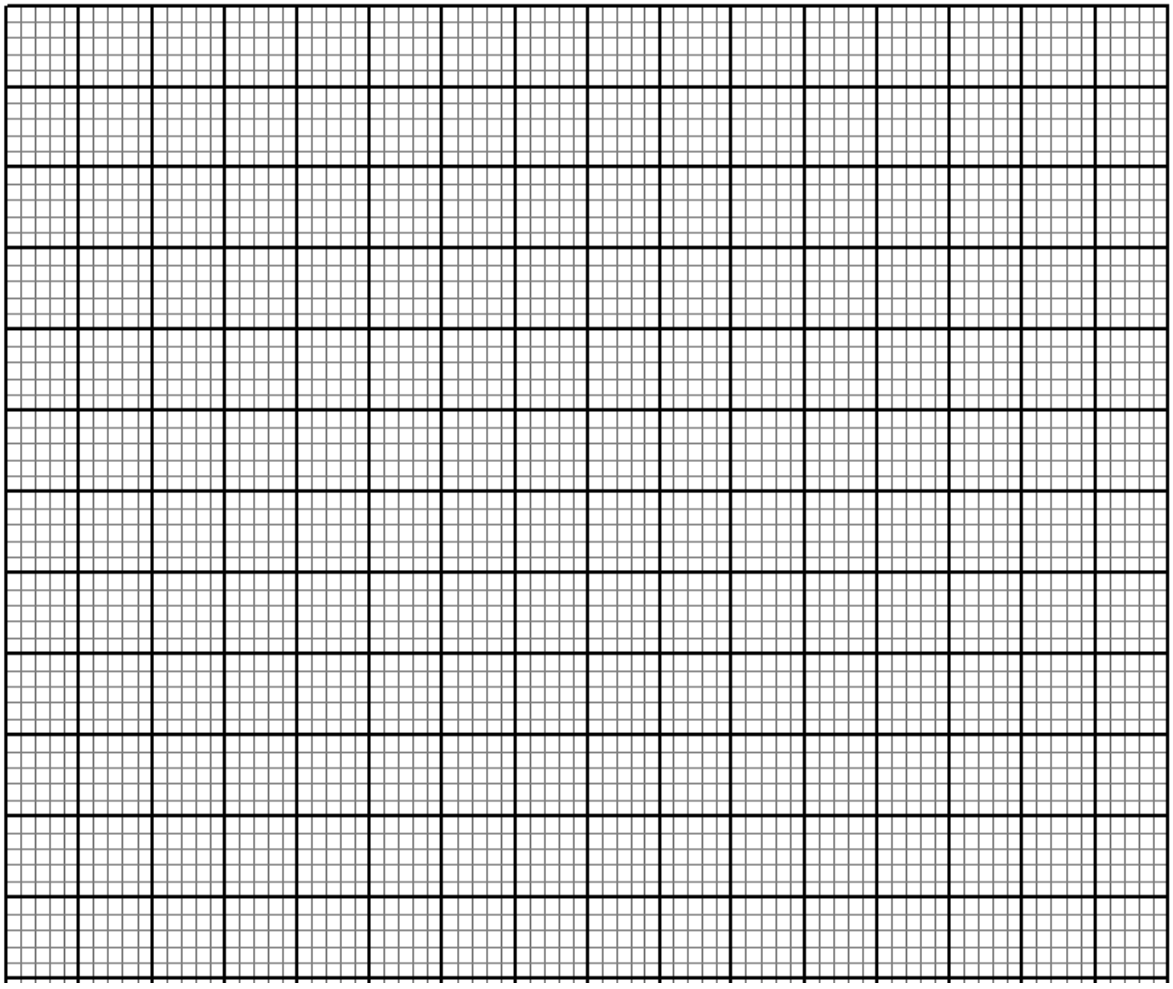
iii) The angle between the planes VDC and ABCD (2mks)

iv) Volume of the pyramid (2mks)

19. a) Complete the table below for y=sin 2x and y=sin (2x + 30) giving values to 2d.p.(2mks)

X	0	15	30	45	60	75	90	105	120	135	150	165	180
Sin 2x	0				0.87				-0.87				0
Sin (2x +30)	0.5				0.5				-1				0.5

b) Draw the graphs of y=sin 2x and y = sin (2x + 30) on the axis. (4mks)

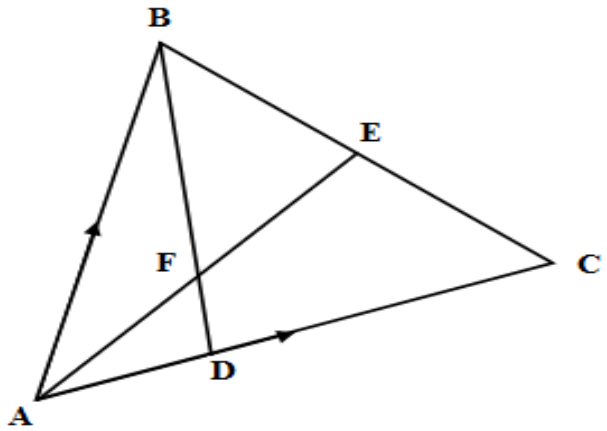


c) Use the graph to solve $sin\ (\ 2x\ +\ 30) - sin\ 2x\ =\ 0$ (1mk)

d) Determine the transformation which maps $sin\ 2x\ onto\ sin\ (2x\ +\ 30)$ (1mk)

e) State the period and amplitude of $y\ =\ sin\ (\ 2x\ +\ 30)$ (2mks)

20. In the figure below E is the midpoint of BC. AD: DC 3:2 and F is the meeting point of BD and AE.



a) If AB = **b** and AC = **c,** find:

i) BD (2mks)

ii) AE (2mks)

b) If BF = *t* BD and AF = *n* AE. Find the value of t and n. (5mks)

c) State the ratio of BD to BF. (1mk)

21. The position of two towns **X** and **Y** are given to the nearest degree as **X** (45^0 N, 110^0 W) and **Y** (45^0 N, 70^0 E)**.** Take $\pi = 3.142$, **R** = 6370km.Find:

(a) The distance between the two towns along the parallel of latitude in km. (3mks)

(b) The distance between the towns along a parallel of latitude in nautical miles. (3mks)

(c) A plane flew from **X** to **Y** taking the shortest distance possible. It took the plane 15hrs to move from **X** and **Y**. Calculate its speed in Knots. (4mks)

d) If the plane left town **X** on Monday 12:45PM. Find the local time it arrived at town **Y**. (3mks)

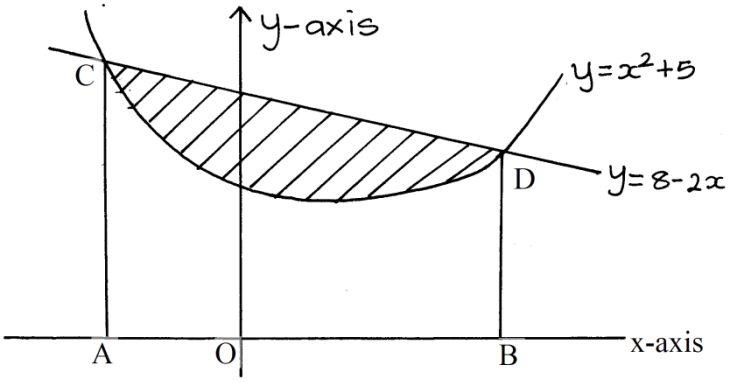
22. The 2^{nd} and 5^{th} terms of an arithmetic progression are 8 and 17 respectively. The 2^{nd}, 10^{th} and 42^{nd} terms of the A.P. form the first three terms of a geometric progression. Find

(a) The 1^{st} term and the common difference. (3mks)

(b) The first three terms of the G.P and the 10^{th} term of the G.P. (4mks)

(c) The sum of the first 10 terms of the G.P. (3mks)

23. The diagram below, not drawn to scale shows part of the curve $y = x^2 + 5$ and the line y = 8-2x. The line intersects the curve at points C and D. Lines AC and BD are parallel to the y-axis.



(a) Determine the coordinates of C and D. (4mks)

(b) Use integration to calculate the area bounded by the curve and the x-axis between the points C and D. (3mks)

(c) Calculate the area enclosed by the lines CD, CA, BD and the x-axis. (3mks)

(d) Hence determine the area of the shaded region. (1mk)

24. Using a ruler and pair of compasses only.
    a) Construct triangle ABC in which AB = 9cm, AC = 8cm and angle BAC = 60^0. Measure BC (2mks)
    b) On the same side of AB as C, draw the locus of a point such that angle APB = 60^0 (3mks)
    c) A region T is within the triangle ABC such that AT > 4cm and angle ACT ≥ angle BCT. Show the region T by shading it. (5mks)

PREDICTION 6

NAME…… **INDEX NO.……..……**

DATE……..…… **CANDIDATE'S SIGNATURE……..**

CLASS: ……

101/1
ENGLISH
PAPER 1
FUNCTIONAL SKILLS, CLOZE TEST AND ORAL SKILLS
TIME: 2 HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES.

1) Write your name and index number in the spaces provided.
2) Answer all questions in this question paper.
3) All your answers should be written in the spaces provided in this question paper.
4) Contains four printed pages.
5)

FOR EXAMINER'S USE ONLY.

Question	Maximum Score	Candidate's Score
1	20	
2	10	
3	30	
Total	60	

This paper consists of 7 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. ***FUNCTIONAL WRITING*** ***(20 marks)***

Imagine you are the principal at Kilimambogo Teachers Training College. Lydia Moraa, a former employee at the college, has been invited to attend an interview at Rift Valley Institute of Technology. The principal has written to you requesting that you provide information about Moraa's; professionalism, inter-personal relationship, reliability, mastery and content delivery and her general conduct. Send this information to the principal via an email. Copy in, the chairperson of the board without the Principal knowing that the chair has the same information.

……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……

2. ***Read the passage below and fill in the blanks with the most appropriate word. (10marks)***

The world is fast hurtling 1_____ self-imposed isolation, with Denmark 2_____ Italy as the other European Nation 3_____ quarantine. Indications show that 4_____ more countries will go down that 5 _____ as the corona virus that caused Covid-19 spreads 6 _____ the world.

The World Health Organization (WHO) declared the Corona virus a global 7_____ on Wednesday evening. WHO Director-General Tendros Adhanom Ghebreyesus said 8_____ a terse statement that this is the first time the world is battling a pandemic 9_____ as corona virus 10_____.

(Adopted from the Daily Nation Friday, March 13, 2020 by Elizabeth Merab and Nasibo Kabale)

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

a. Read the narrative below and answer the questions that follow.

THE BEAST WHO BOASTED

Once upon a time, an elephant, a lion, a fox and a peacock met at a pond in the forest. The Elephant began flapping his huge ears, looked down at the others from his great height and blew his trumpet.

"You have agreed that I am the strongest of all the Beasts". With my tusks, I can tear through the thickest forest. Trees are like twigs to me" he trumpeted.

"You may be strong," roared the lion, "but nothing compares to my bravery. It is because I am brave that I am the king of the forest."

"Not at all. Brains are more important than bravery and more strength," said the fox. "I live extremely well just by my wits."

"To be able to crash through woods, or leap into thin air, or sneak into the chicken yard is worthless compared to beauty," said the peacock. He demonstrated this by preening his colorful feathers in a dance. All this while, an ugly toad, whom no man had ever hunted, had been listening to the beasts bragging. "Men kill the elephant to make boxes and jewellary from the ivory of his tusks," he said. "They hunt the lion and decorate their walls with his skin because his courage leads him to prey on their heard. Because he can find his way into the farmyard the fox's far is used on the collar of a robe. The peacocks' glorious blue gold feathers are used to make a fan for a lady. It is what you boast of that is indeed your downfall."

(Adopted from Oral literature of Asians in East Africa by Mubina Hassanali. Kirmani and Sanaullah Kirmani. Nairobi, East Africa Education Publisher 2002)

i. Identify any three examples of onomatopoeia in this narrative. (3 marks)

……
……
……
……
……
……

ii. Which words would you particularly emphasize in the elephant's speech?(2 mks)

……
……
……
……
……
……

How would you deliver the speech by the ugly toad? Explain. (3 mks)

……
……
……
……
……
……

b. for each of the following words indicate the stressed syllable using a stress marker, so that it gives the meaning of the definition given after it. ***(4 marks)***

i. Re.fuse -(rubbish/waste)
ii. Re.bel -(a person who fights against an established government)
iii. De.sert -(To abandon)
iv. Pro.gress -(To advance or develop)

c. Imagine you meet a stranger who is asking for direction to a neighboring school. Write the dialogue that took place between you and the stranger. You may use some or all of the following landmarks in your dialogue: a shopping center, a primary school, a church, an unfinished house, a water tank and a maize plantation. (6 marks)

……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……

d. In the following sets of words identify the underlined speech sound that is odd. (4 marks)

i. **G**ene, **J**udge, **J**une, **G**ore.
ii. **E**xhort, **E**xist, **E**xile, Exhibit.
iii. **J**oy, **J**ust, **G**aoler, **G**ate.
iv. **A**mbush, **A**mass, **A**moeba, **A**maze.

e. You have been appointed to a committee to interview candidates who have applied for the post of your school patron.

i. What two things would you do before the date of the interview to ensure that you are well prepared? (2mks)

……
……
……
……
……
……

Apart from the interviewee's oral presentations, what other two communicative competencies would you lookout for during the interview? (2mks)

……
……
……
……
……
……

f. Read the following telephone conversation between Mato and the secretary and then answer the questions that come after it.

Mato: I am Mato and want to speak with the manager.

Secretary: Why? What do you want with him?

Mato : That is none of your business. I want to speak with the manager now.

Secretary: He is not in. Say what you wanted and I will tell him.

Mato: Why are you wasting my time? Tell him to call me.

Secretary: How will he reach you? What is your telephone...

(Phone is disconnected)

1. Identify any four instance of lack of telephone conversations etiquette in the above conversation. (4marks)

……
……
……
……
……

PREDICTION 6

101/2

ENGLISH PAPER 2

1. Read the following passage and answer the questions that follow: (20 Marks)

When in early 1970s ultrasound confronted me with the sight of the embryo in a womb, I simply lost my faith in abortion on demand. I did not hold onto my old convictions. The change was in its way a clean and surgical conversion. I am by nature one that works out the conflicting data, weighs the opposing argument with great care, decides and then acts upon it with no lingering backward glances.

By 1984 however, I had begun to ask myself more questions about abortion: What actually goes on in an abortion? I had done many but abortion is a blind procedure. The doctor does not see what he is doing. He puts an instrument into a uterus and he turns on a mortar and a suction machine goes on and something is vacuumed out; it ends up as little pile of meat in a gauze bag. I wanted to know what happened, so in 1984 I said to a friend of mine who was doing fifteen or maybe twenty abortions a day:‘ Look ,do me a favour,Jay .Next Saturday when you are doing all these abortions put an ultra sound on the mother and tape it on me.”

He did, and when he looked at the tapes with me in the editing studio, he was so affected that he never did another abortion. Although I had not performed an abortion in five years, I was shaken to the very roots of my soul by what I saw. The tapes were shockingly amazing. Some of the tapes weren’t of very good quality but I selected one that was of better quality than the others and began to show it at pro- life gatherings around the country.(I had my first contact with pro-life movement in 1981 when the then president of the National Right to Life Committee, Carolyn Gerster, had gotten in touch with me).

At the time, I was speaking at a pro-life meetings around the country in weekends, and the response to the tape was so intense and dramatic that finally I was approached by a man named Don Smith, who wanted to make my tape into a film. I agreed that it would be good idea. That is how The Silent Scream, which was to generate so many furore, came to be made. We showed it for the first time in Fort Lauderdale, Florida, on January3, 1985. The reaction was instantaneous. Everybody was up in arms because The Silent Scream represented an enormous threat to the abortion forces, and because it escalated the war (it is not really a debate- we don’t debate with each, we scream at one another). For the first time, we had the technology, and they had nothing.

The Silent Scream depicted a twelve- week- foetus being torn to pieces in the uterus by the combination of suction and crushing instrumentation by the abortionist. It was so powerful that pro choicers trotted out their heaviest hitters to denounce the tape. They very cleverly deflected the impact of the film into an academic cul- de- suc: a dispute regarding whether the foetus feels pain during an abortion. The impetus for the debate came from an on – the- record musing by the then President, Ronald Reagan, as to how much pain the foetus feels during an abortion.

(Source: The hand of God: A journey from death to life by the Abortion doctor who changed his mind- Bernard N. Nathanson, MD)

a) Based on your understanding of the entire passage, comment on the nature of the writer's 'old convictions'. (2 marks)

b) Explain why it was easy for doctors such as the writer to carry out abortions prior to introduction of ultrasound technology? (2 marks)

c) What are the names that are commonly used to refer to the two opposing groups mentioned in the passage(2 marks)

d) Briefly describe, in your own words, how those who supported abortion tried to undermine the impact of ' The Silent Scream'. (2 marks)

e) " I was shaken to the very roots of my soul by what I saw''. Rewrite this sentence beginning: (What…)(1 mark)

f) Make notes on the way abortion is carried out according to this passage(4 marks)

g) Identify and illustrate the use of parenthesis in the passage, give two examples. (2 marks)

h) Provide one example from the passage to illustrate the need for leaders to weigh their words carefully. (2 marks)

i) Explain the meaning of the following words as used in the passage.(3 marks)

i)convictions

ii)escalate

iii)impetus

The Play, Henrik Ibsen, A Doll's House.

2. Read the excerpt below and then answer the questions that follow. (25 marks)

Mrs. Linde: Listen to me Nora you are still very like a child in many things, and I am older than you in many ways and have a little more experience. Let me tell you this-you ought to make an end of it with Doctor Rank.

Nora : What ought I to make an end to?

Mrs. Linde: Of two things I think. Yesterday you talked some nonsense about a rich admirer who was to leave you money-

Nora : An admirer who doesn't exist, unfortunately! But what then?

Mrs. Linde: Is Doctor Rank a man of means?

Mrs. Linde: And comes here every day?

Nora : Yes, I told you so.

Mrs. Linde: But how can this well-bred man be so tactless?

Nora : I don't understand you at all.

Mrs. Linde:Don't prevaricate, Nora.do you suppose I don't guess who lent you the two hundred and fifty pounds?

Nora :Are you out of your senses? How can you think of such a thing? A friend of ours, who comes hereevery day! Do you realize what a horribly painful position that would be?

Mrs. Linde: Then it really isn't he?

Nora : No, certainly not. It would never have entered into my head for a moment. Besides, he had no money to lend then; he came into his money afterwards.Mrs. Linde: Well I think that was lucky for you, my dear Nora.

Nora :No, it would never have come into my head to ask Doctor Rank. Although I am quite sure if I had asked him-

Mrs. Linde: But of course you won't.

Nora : Of course not. I have no reason to think it could possibly be necessary. But I am quite sure that if I told Doctor Rank-

Mrs. Linde: Behind your husband's back?

Nora : I must make an end of it with the other one, and that will be behind his back too, I must make an end of it with him.

Mrs. Linde: Yes, that is what I told you yesterday, but-

Nora : (walking up and down) a man can put a thing like that straight much easier than a woman.

Mrs. Linde: One's husband , yes.

Nora : Nonsense!(standing still) When you pay off a debt you get your bond back, don't you?

Mrs. Linde:Yes, as a matter of course.

Nora : And can tear it into a hundred thousand pieces and burn it up- the nasty dirty paper.

Mrs. Linde:(looks hard at her, lays down her sewing and gets up slowly.) Nora you are concealing something from me.

Nora : Do I look as if I were?

Mrs. Linde: Something has happened to you since yesterday morning. Nora, what is it?

(a) Briefly explain what happens before the events in this extract. (4marks)

(b) Explain why Mrs. Linde says "…I am older than you in many ways and have a little more experience? (3 marks)

(c) From the dialogue, what do we learn about Nora's character? (4 marks)

(d) What is Mrs. Lindes' view about Doctor Rank and Nora's relationship? (2 marks)

(e) Identify and explain the use of hyperbole in this excerpt. (2 marks)

g) What does Mrs. Linde thinks Nora is concealing from her? Is Mrs. Lindes right? (3 marks)

(f) Explain the meaning of the following words as used in the extract. (3 marks)

i)A man of means

ii)Prevaricate

iii)nasty

(h) Describe what happens immediately after the events presented in this extract (4 marks

3. Read the narrative below and answer the questions that follow. (20 marks)

Long ago, there was famine in Gikuyu land. This famine had made the cows and goats to die. Only human beings were left and even them, it could be seen that they were not going to live much longer. Now the people asked themselves, "What shall we do?" It was decided that the most beautiful girl, one called Wanjiru should be sacrificed to god so that the rain could fall. She was brought to a place where there was a big river. She started to sing:

Rain fall and make this ridge green

Make this ridge green

My father said I should be lost. I should be lost

My mother said I should be lost. I should be lost

Rain fall and make this ridge green

Make this ridge green

She went down on her knee, she sang:

Rain fall and make this ridge green

Make this ridge green

My father said I should be lost, I should be lost

Rain fall and make this ridge green

Make this ridge green

The water reached the waist, she sang

Rain fall and make this ridge green

Make this ridge green

My father said I should be lost, I should be lost

My mother said I should be lost, I should be lost
Rain fall and make this ridge green
Make this ridge green

The water reached the neck, she sang
Rain fall and make this ridge green
Make this ridge green
My father said I should be lost, I should be lost
My mother said I should be lost, I should be lost
Rain fall and make this ridge green
Make this ridge green
The head went in

Very heavy rains fell on this land. The grass grew, a lot of food and the people began to feel better. Now where Wanjiru went she found her people who had died before her. These people had a lot of cows and goats. Now they asked her what she would like. She said she wanted cows and goats. She was given many goats and cows and then she was told to lie down in a place. When she woke up she found that she had returned back to her people. She woke up at a place where there was a river and she had her cows and goats. Now when the people saw her they rejoiced greatly.

The story ends there.

Adapted from: The Oral Literature of the Gikuyu by WanjikuKabira and KaregaMutahi.

(a) Why do you think this community makes the choice of a beautiful girl such as Wanjiru to sacrifice to god so as to get rain? (1 mark)

(b) Which functions does this song serve in this narrative? (2mark)

(c) Describe one character trait of the villagers in this narrative.(2 marks)

(d) In point form, list how events follow each other in this story. (3 marks)

(e) Identify and explain two features of oral narration employed in this narrative. (4 marks)

(f) Identify two elements of fantasy in this story. (2 marks)

(g) Describe Wanjiru's tone in the song. (3marks)

(h) Which social/cultural practices of the Gikuyu are brought out in this narrative?(2 marks)

(i)What does this phrase mean? “My father said I should be lost.” (1 mark)

4(a) Rewrite the following sentences according to the instructions. Do not alter the meaning.(3 marks)

(i) Muli could have passed the examination. Muli was regularly absent from school. (Join into one sentence beginning: Were it not.....)

(iii)The nurses agreed to work after signing an agreement with the government. (Begin: Only…)

……

(ii) This is the boy. His father is a generous man. (Join into one sentence using a relative pronoun).

……

(b)Replace the phrasal verbs underlined in the sentences below with one word that means the same. (3marks)

i)It is wrong to look down on students from other schools.

……

(ii)Teachers should not give into their students’ unreasonable demands.

……

(iii)The delegates came up with ten rules to guide our response to globalization.

……

(c)Complete the following passage with the most appropriate forms of the words in brackets. (3marks)

The Tsunami ……(cruel) destroyed lots of lives and property. For days, the survivors …….. (agony) searched for their missing relatives. The whole experience was ……. (horrible) traumatizing.

(d)Fill in the blanks with the appropriate prepositions. (2 marks)

(i) He was charged …….forging property inheritance document.

(ii) Kamau deals…….groceries

(e)Fill the blank spaces with the correct article(2 marks)

i) The students said they wanted……union.

ii) What is ……. Ewe?

(f)Explain the meaning of the following sentences (2marks)

i. Lydia found the empty room.

ii. Lydia found the room empty.

PREDICTION 6

101/3

ENGLISH PAPER 3

l. Imaginative Composition (Compulsory)

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

Or

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

2. The Compulsory Set Text

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

3. The Optional Set Texts

a) "The pearl is the source of evil to Kino's family." Discuss this statement with reference to John Steinbeck's novel, The Pearl.

Or

b) Almost Home is a story about the dangers of illegal immigration. With reference to the story in the anthology Memories We Lost and Other Stories, discuss the validity of this statement.

Or

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

PREDICTION 6

JINA.....NAMBARI YA USAJILI.....DARASA.....

102/1
KISWAHILI INSHA
KARATASI YA KWANZA
MUDA: SAA 1 ¾

Hati ya Kuhitimu Kisomo cha Sekondari (K.C.S.E)

102/1
Kiswahili Insha
Karatasi ya 1
SAA 1 ¾

MAAGIZO KWA MTAHINIWA:

1) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya majibu.
2) Karatasi hii ina maswali manne.
3) Jibu maswali mawili pekee. Kila swali lina alama ishirini.
4) Swali la kwanza ni la lazima.
5) Chagua swali jingine lolote kutoka kwa matatu yaliyosalia.
6) Majibu yote yaandikwe katika karatasi ya majibu uliyopewa.
7) Majibu yote yaandikwe katika lugha ya Kiswahili.

Sehemu hii imehifadhiwa kwa matumizi ya mtahini pekee.

SWALI	**1**	**2**	**3**	**4**
UPEO	**20**	**20**	**20**	**20**
ALAMA				

JUMLA

UPEO	**40**
ALAMA ZA MTAHINIWA	

1. Wewe ni mwanahabari wa runinga tajika nchini. Matatizo ya kilimo katika Nchi yako yameshamiri kwa kiwango cha juu mno. Andika mahojiano baina Yako na afisa wakilimo nchini, mkiangazia njia mwafaka za kutahia Vizingiti hivyo.

2. Vijana ndio viongozi wa kesho kama wakinasihiwa kwa njia mwafaka; kwa muda wa miaka kumi vijana wamekumbwa na matatizo chungu nzima. Onyesha matatizo haya na jinsi yananvyoweza kutatuliwa.

3. Thibitisha ukweli wa methali‘ Mchumia juani hulia kivulini.’ Kwa kusimulia kisa cha kusisimua.

4. Tunga kisa cha kusisimua na kimalizike kwa … nahapo ndipo nilipong’amua kuwa maisha yangu yalikuwa hatarini.

PREDICTION 6

JINA…….. NAMBARI YAMTAHINIWA……

SHULE…….…… SAHIHI…….....

TAREHE…….....

102/2
KISWAHILI
MUDA SAA 2 ½

CHETI CHA KUHITIMU ELIMU YA SEKONDARI (K.C.S.E)

MAAGIZO:

Jibu maswali yote kwenye karatasi hii

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1.	15	
2.	15	
3.	40	
4.	10	
Jumla		

Karatasi hii ina kurasa 10 zilizopigwa chapa.
watahiniwa ni lazima wahakikishe kwamba kurasa zote zimepigwa chapa sawasawa.
na kuwa maswali yote yamo.

1. UFAHAMU[ALAMA 15]

Soma habari ifuatayo kisha ujibu maswali yanayofuata.

Uchumi wa mapato na matumizi ya watu katika nchi Fulani.uchumi huu huhusisaha sekta mbali mbali kama vile utalii,kilimo,sanaa,miongoni mwa sekta nyingine muhiumu.ukuaji wa kiuchumi hutegemea mambo kadhaa ili kuzaa matunda.katika nchi zote ulimwenguni,sera za kisisasa huamua jinsi uchumi utakavyokuwa na kunawiri.kama siasa hazitilii maanani sera za ukuaji wa kiuchumi,basi mapato ya nchi hiyo hugubikwa katika wingu kubwaa la uchochole.

Nchini Kenya,kwa mfano,kuna ulinganifu mkubwa katika siasa na ukuaji wa kiuchumi.ukuaji wa kiuchumi hutegemea uteuzi wa maafisa wanaosimamia asasi muhimu sana katika usimamizi wa uchumi.asasi hizi ni kama vile wizara ya mipango ya kitaifa na ruwaza ya 2030,mamlaka ya ukusanyaji wa ushuru(KRA),benki kuu ya Kenya (CBK),na tume ya kupambana na ufisadi (KACC).usimamizi wa asasi hizi huwa mhimu sana katika kuamua hatima ya uchumi na nchi hii.

Katika mwezi wa juni kila mwaka,waziri wa fedha husoma bajeti kwa wabunge.katika maelezo yake dhana iitwayo nakisi ya bajeti hujitokeza.kabla ya bajeti kuandaliwa,wizara ya mipango huandaa hati iitwayo usoroveya wa kiuchumi.baada ya usomwa bajeti,ni jukumu la wabunge kupitisha mswada wa kifedha unaohusisha wizara zote au kuutupilia mbali.jukumu hili linafaa kutekelezwa kufikia tarehe 31 oktoba ya kila mwka kulingana na sheria.

Wakati huo afisa anayejulikana kama mhasibu mkuu wa serikalli na jukumu la kuchunguza na kutathimini matumizi ya fedha ya wizara mbalimbali na kutoa ripoti yake kwa kamati ya uhasibu wa umma bungeni(PAC).kamati hii hutoa mapendekezo yake kwa mkuu wa sheria na pia kwa tume ya kupambanma naufisadi ili haki iweze kutekelezwa mahakamani iwapo dosari za kifedha zimefanyika.

Benki kuu ya Kenya kupitia kwa gavana wake huwa na jukumu la kutoa ushauri kwa serikali kuhusu usimamizi wa kifedha,kuchunguza nguvu za shilingi ya Kenya dhidi ya sarafu za kigeni,kutoa sarafu za Kenya kwa umma na usimamizi wa benki zote nchini miongoni mwa majukumu mengine.

Kwa upande mwingine,mamlaka ya ukusanyaji ushuru nchini huwa na jukumu la kuhakikisha kuwa malengo ya ushuru yamefikiwa na pia kuhakikisha kuwa hakuna mtu binafsi au kampuni yoyote inayokwepa kulipa ushuru.iwapo kuna udanganyifu wowote,basi swala hili linafaa kuangaliwa na mahakama zetu na haki kutekelezwa.

Ka jumla,sisi kama wananchi tunafaa kusaidia asasi hizi zote kufikia malengo yake ili tupate ukuaji wa kiuchumi utakaofaidi watu wote.jambo hili litahakikisha kuwa pengo lililo kati ya walalahai na walalahoi limezibwa.sisis kama wananchi,tunafaa kuonyesha uzalendo wetu kwa nchi yetu kwa kulipa ushuru inavyotakina,tukifuata mwito kuwa KULIPA USHURU NI KUJITEGEMEA.mwisho tusiadie viongozi wetu katika kuendeleza sera mwafakla za kiuchumi ili nchi yetu ipige hatua kubwa katika ukuaji wa kiuchumi.iwapo afisa yeyote atatuhumiwa kushiriki katika kashfa yoyote ya kuhujumu nidhamu ya kifedha,basi anafaa kukabiliwa vilivyo kisheria bila kujali hadhi yake ya kijamii au kisiasa.

Maswali

a) Ipe habari hii kichwa mwafaka (alm1)

---

b) Uchumi ni nini) (alama 1)

---

c) Benki kuu ya Kenya ina majukumu yapi? (alama2)

---

d) Mhasibu mkuu ana dhima gani serikalini? (alama1)

---

e) Pendekeza hatua mbili za kufufua uchumi (alama 2)

---

f) Ufisadi umehujumu vipi ukuaji wa kiuchumi? (alama 3

---

g) Eleza maneno yafuatayo kama kama yalivyotumika katika ufahamu

I. Nakisi ya bajeti (alama 1)

II. Usoroveya wa kiuchumi (alama1)

III. Bajeti (alama 1)

IV. Hatima (alama 1)

V. Walalahai na walalahoi (alama 1)

2. UFUPISHO[ALAMA 15]

Soma makala yafuatayo kisha ujibu maswali

HAKI ZA MKENYA KIKATIBA

Kumnyima mtu nafasi na kufanya mikutano popote ni kinyume cha sheria za Kenya hasa zinavyopatoikana katika katiba.kila mwnanch ana haki ya kutangamana na uhuru kuhudhuria mikutano yoyote.

Ningetaka kurejelea baadhi ya haki hizi ili ziweze kueleweka na wakenya wengi.itauwa kwamba sheria ya haki za binadamu inamhakikishia mtu haki na uhuru bila khusisha kabila,makazi maoni ya kisiasa,imani ya sisa,rangi au jinsia yake(mke au mume).haki zinazolinda katiba ya Kenya ni nyingi.

Katuiba ya Kenya inasema kuwa kila mtu ana haki kuwa hai na hakuna mtu anaeza kupoteza uhai wake makusudi,isipokuwa katika utekelezaji wa hukumu ya kifo iliyopitishwa na mahakma.

Hata hivyo,kuuwa kwa mtu yeyote hakuchukuliwi kuwa uvunjaji wa haki za kimsingi ni:katika kujitetea au katika kutetea mali,au:wakati wa kutiwa nguvuni kisheria,kuzuiwa aliyezuiliwa kisheria kutoroka au katika kukomesha ghasia,maasai au mgomo,au:ili kuzuia mtu ana uhalifu,au:katika tukio la vitu vilivyotangzwa kisheria,hata mwizi sugu sugu analindwa na katiba na haki zake zote.

Kitu cha kusikitisha ni kwamba wananchi wengi hawana imani na Mahakam zetu,na kwamba hujichukulia sheria mikononi pindi wanapokumbana na wezi.hapo ndipo hutokea kitendo cha hawa wananchi wenye hamasa na wezi huopigwa na kuuawa popo hapo.

Uwezekano wa kumuuumiza mtu asiyekuwa na hatia ni wa kweli.aghalabu,raia wapiti njia huchukuliwa kama wezi n ahuweza kuumia bure bilashi.

Haki nyingine inayolindwa na katiba ni haki ya uhuru wa mtu binafsi.hii ina maaana ya uhuru wa mtu kutofungwa jela au kutiwa kizuizini bila sababau yoyote.mtu anapokamatwa au kuzuiwa mujibu wa sheria,hapo mtu huyo ananyang'anywa haki hii.

Kwa mujibu wa sheria,mtu hatatiwa nguvuni au kuzuiliwa isipokuwa:kupitia utekelezaji hu au amri ya utekelezaji wa hukumu au amri iliyotolewa kwake kwa mujibu wa amri ya mahakama kwa madhumuni ya kupelekwa jela ya mahakama au kisheria,au:kukiwa na tuhuma ya kutosha kwa ametenda au alikuwa karibu kutenda kosa la uhalifu.

Kadhalika,mtu hukamatwa au kuzuiliwa akiwa mwenye umri wa miaka chini ya 18 kwa madhumuni kumpeleka shuleni,au:kwa madhumuni ya kuzuia usambazaji wa ugonjwa wa kuambukiza au kuml na kumtibu mtu ambaye ana sababu ya kutosha la uhalifu.

Atashikwa pia akiwa ni mraibu wa dawa za kulevya au pombe,au mzururaji asiyekuwa mahali maaalumu pa kuishi au katika kumzuia kuingia Kenya kinyume cha sheria au katika kutekeleza amri ya kumfukuza,kumrudisha kwao ili afikishwe mahakamani au kumwondoa nchini Kenya.

Mtu aliyetiwa nguvuni au kuzuiliwa lazima ajulishwe upesi iwezekanavyo sababu ya hatua hiyo.katiba inatoa uhakika wa kesi kuendeshwa haraka,haki ya kuwasiliana na mahakimu na haki ya dhamana.

Kwa bahati mbay,tunajua hii huvunjwa panapotumika sheria zinazokandamiza.mara kwa mara tumesikia wananchi wengi hutiwa nguvuni na kuzuiliwa kwa muda mrefu bila kufikiswa mahakamani.

Mbinu mojawapo itumikayo ni kuwahamisha washukiwa kutoka kitua kimoja ch apolisi hadi kingine.kitendo hiki ni kinyume kabisa na katiba.

Isitoshe,tunajua polisi wameweza kuwafungia watu na kuwatesa kwa muda mrefu.mtu aliyeshikwa ili aletwe mahakamani au kwa sababu kuna tuhuma tosha ya kuwa ametenda au alikuwa karibu utenda kosa la uhalifu ni lazima afikishwe mahakamani upesi iwezekanavyo katika muda wa saa 24 tangu anaswe au katika muda wa siku 14 tangu atiwe nguvuni,endapo amekamatwa kutokana na tuhuma tosha ya kuwa ametenda au alikuwa karibu kutenda kosa la uharifu,uuuaji au wizi wa kutumia nguvu.

Maswali.

a) Eleza haki zinazorejelewa katika taarifa hii (maneno 25-35)
(Alama 6+1mtiririko)

Matayarisho

Jibu

---

b.Eleza sababu zinazofanya haki ya mtu kukiukwa(maneno 50-55)

(alama 7+1mtiririko)

Matayarisho

Jibu

3.MATUMIZI YA LUGHA [ALAMA 40]

a. Bainisha mofimu katika neno lifuatalo (alama 2)
Zisizosukika

---

b. Tambua aina za vitenzi katika sentensi hii kwa kuvipigia mstari (alama 2)
Sisi tulikwisha kutambua alikuwa na nia mbaya yeye ndiye mwizi.

---

c.,Andika vinyume vya maneno yaliypigiwa mstari(alam 2)

i) <u>Alipofika nilimlaki</u>

---

ii) <u>Aliponiona alitabasamu</u>
---

d.Bainisha vishazi huru na vishazi vitegemezi katika sentensi ifuatayo.[alama 2]
Hurafa ni hadithi zenye wahusika wanyama na visasili huhusu chanzo cha jambo Fulani.

---

e.Bainisha virai katika sentensi (alama 1)
Metobo alimtaka kulipa deni lote.
---

f. Andika katika usemi wa taarifa.(alama 3)
"Vileo havipaswi kupewa matangazo ya kuvutia,"akasema hatibu

---

g.unda nomino kutokana na vitenzi vifuatavyo(alama 1)
a)punga
---
b)tunza

h.Changanua sentensi ifuatayo kwa kielezo cha visanduku.[alama 3]
Mwalimu aliyepanda mbegu amevuna mazao mengi.

---

i.Tunga sentensi sahihi katika kauli ya kufanyia (al 2)
i)-fa-

---

ii)-cha-

---

j.Andika kwa umoja.[alama2]
Uovu waliotuonyesha hautasahaulika

---

k. Kanusha sentensi ifuatayo.[alama 2]
Kuchora kwake kulitunufaisha

---

l. Geuza sentensi ifuatayo ukitumia 'O' rejeshi katika hali ya mazoea.[alama2]
Jino ambalo lilingolewa liliota tena.

---

m.Andika wingi wa sentensi hii katika hali ya ukubwa.[alama 2]
Kigoma chake kilipigwa hadi kikapasuka.

---

o.Eleza matumizi ya kiungo –ki-katika sentensi ifuatayo(al 1)
Lydia amekuwa akisoma vitabu hivi tangu asubuhi.

---

p.Andika kisawe kimoja kwa neno ulilopewa(al 1)
i)nikahi

---

q.Tunga methali moja kutokana na taarifa ifiuatayo:-[alama 2]
Mtoto akidekezwa sana tabia yake itakua mbaya akiwa mtu mzima.

---

r.Eleza maana mbili katika neno lifuatalo(al 1)
Furuka

---

s.Unda majina mawili kutokana na vivumishi ulivyopewa(al 2)
i)jahili

---

ii)cheshi

---

t.Akifisha kifungu hiki;-(ala 4)
Mungu wangu ona umelitia doa shati langu jeupe metobo alifoka.

---

u.Tofautisha katika ya sentensi hizi.[alama 3]
i)yambwa tendewa

---

ii)yambwa tendwa

ISIMU JAMII(ALAMA 10)

a. Eleza maana ya usanifishaji wa lugha ya kiswahili(alama 2)

---

b. Taja na ueleze matatizo yanayoikumba lugha ya Kiswahili(al 4)

---

c. Tofautisha kati ya lugha ya kimataifa na lugha ya taifa. (alama 4)

PREDICTION 6

102/3
KISWAHILI FASIHI
KARATASI YA TATU
MUDA: SAA 2 ½

Hati ya Kuhitimu Kisomo cha Sekondari Kenya (K.C.S.E)

102/3
Fasihi ya Kiswahili
Karatasiya 3
MUDA: SAA 2 ½

MAAGIZO KWA MTAHINIWA:

1) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya majibu.
2) Karatasi hii ina sehemu tano: A, B, C, D na E.
3) Jibu maswali ***manne pekee***. Kila swali lina alama ishirini.
4) Swali la ***kwanza*** ni la ***lazima***.
5) Chagua maswali mengine ***yoyote matatu*** kutoka sehemu zilizosalia; B, C, D ama E.
6) Usijibu maswali ***mawili*** kutoka ***sehemu moja***.
7) Majibu yote yaandikwe kwa ***Kiswahili*** katika ***karatasi ya majibu*** uliyopewa.

Sehemu hii imehifadhiwa kwa matumizi ya mtahini pekee

SWALI	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
UPEO	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
ALAMA								

JUMLA

UPEO	**80**
ALAMA ZA MTAHINIWA	

Karatasi hii ina kurasa 6 zilizopigwa chapa.
Watahiniwa ni lazima wahakikishe kwamba kurasa zote zimepigwa chapa sawasawa.
na kuwa maswali yote yamo.

SEHUMU YA A

TAMTHILIA: KIGOGO

(Pauline Kea)

1. "Ni laghai siwaamini. Wanasema wanakwenda huku na mara…"
    a) Eleza muktadha wa dondoo hili. (Alama 4)
    b) Eleza mbinu ya lugha iliyotumiwa katika dondoo hili. (Alama 2)
    c) Eleza sifa na umuhimu wa mzungumzaji. (Alama 6)
    d) Fafanua jinsi wanaorejelewa na mzungumzaji walivyo laghai. (Alama 10)

SEHEMU YA B

RIWAYA: CHOZI LA HERI

(Assumpta K. Matei)

Jibu swali la ***Pili*** au la ***Tatu***

2. "Watu husema kuwa binadamu hawawi sawa ila kifoni…"

    a) Eleza muktadha wa maneno haya. (alalama 4)

    b) Tambua mbinu moja ya lugha iliyotumiwa katika dondoo hili. (alama 2)

    c) Eleza sifa na umuhimu wa mzungumzaji wa maneno haya. (alama 6)

    d) Thibitisha kuwa hakuna usawa baina ya wanadamu. (alama 8)

Au

3. Jadili nafasi ya sehemu zifuatazo katika riwaya ya Chozi la Hari:
    (a) Hotuba (alama 10)
    (b) Uozo katika jamii (alama 10)

SEHEMU YA C

HADITHI FUPI: TUMBO LISILOSHIBA NA HADITHI NYINGINE

(Alifa Chokocho na Dumu Kayanda- Wahariri)

Jibu swali la ***Nne*** ama la ***Tano***

NDOTO YA MASHAKA

4. "Sasa nimechoka mja. Nimechoka hata naradua kufa kuliko kuishi."
   (a) Eleza muktadha wa dondoo hili. (alama 4)
   (b) Taja mbinu mbili za lugha katika dondoo hili. (alama 4)
   (c) Mzungumzaji alikuwa na haki ya kuradua kufa. Thibitisha. (alama 12)

Au

5. Ukirejelea hadithi zozote nne katika diwani ya Tumbo Lisiloshiba na Hadithi Nyingine, eleza jinsi maudhui ya Mapenzi na ndoa yanavyojitokeza (alama 20)

SEHEMU YA D
USHAIRI

Jibu swali la sita ama la saba

6. Soma shairi lifuatalo kasha ujibu masuali

Naogopa, kukupa wangu mtima, sitaki mie nilie
Naogopa, kutoa yangu kalima, eti wewe utulie
Naogopa, ninashindwa kusimama, wewe pete unitie
Naogopa, wanaume wanauma, ja panya wapulizie.

Naogopa, kwita wako mama mama, nami anikaripie
Naogopa, sipendi nyingi dhuluma, za wanaume nilie
Naogopa, kushinda nimeinama, goti mume nipigie
Naogopa, za mkemwenza hujuma, matusi anipatie.

Naogopa, uchungu ukiniuma, mwana nikakuzalie
Naogopa, kupigwa kama ngoma, ndiposa nikatulie
Naogopa, kila kitu kunisoma, ndo hela unipatie
Naogopa, kuitwa mwizi wa sima, ila nikuandalie.

Naogopa, dadazo kuwaandama, udaku wakanitie
Naogopa, kuuleta uhasama, mimi mnipiganie
Naogopa, koritini kusimama, mali tukashindanie
Naogopa, kumwaga wenu mtama, kuku niwamiminie,

Naogopa, naogopa ninasema, yabidi uvumilie
Naogopa, nawe babu kusimama, eti ndoa niingie
Naogopa, ndoto zangu kuzizima, hili doa nijitie
Naogopa, taa yangu kuizima, mwingine jitafutie.

(Meja S. Bukachi- Uketo wa Ushairi uk 24)

MASWALI

a) Lipe shairi hili anwani mwafaka. (Alama 1)
b) Eleza dhamira ya mtunzi wa shairi hili. (Alama 1)
c) Nani nafsi nenewa katika shairi hili? (Alama 1)
d) Taja tamathali za lugha zilizotumika katika shairi hili. (Alama 2)
e) Fafanua uhuru wa ushairi alioutumia malenga. (Alama 2)
f) Weka shairi hili katika bahari mbalimbali. (Alama 3)
g) Andika ubeti wa tatu kwa lugha nathari. (Alama 4)
h) Kwa nini nafsi neni anasita kuchukua hatua? (alama 4)
i) Vifungu vifuatavyo vina maana gani katika shairi? (alama 2)
    i. Taa yangu kuizima
    ii. Dhuluma

Au

7. Soma shairi lifuatalo kisha ujibu maswali

Ee mpwa wangu,
Kwetu hakuna muoga,
Uoga ukikufikia, huenda ni wa akina mamayo,
Fahali tulichinja ili uwe mwanamume,
Eewe mpwa wangu, kisu kikali ajabu!
Iwapo utatingisha kichwa,
Uhamie kwa wasiotahiri.

Wanaume wa mbari yetu,
Si waoga wa kisu,
Wao hukatwa kuanzia macheo hadi machweo,
Wewe ndiye wa kwanza,
Iwapo utashindwa,
Wasichana wote,
Watakucheka,
Ubaki msununu,
Simama jiwe liwe juu,
Ndege zote ziangamie.

Simu nimeipokea,
Ngariba alilala jikoni,
Visu ametia makali,

Wewe ndiye wangojewa,
Hadharani utasimama,
Macho yote yawe kwako,
Iwapo haustahimili kisu,
Jiuzulu sasa mpwa wangu,
Hakika sasa mpwa wangu,
Hakika tutakusamehe, mwaka kesho unakuja.

Asubuhi ndio hii,
Mama mtoto aamushwe,
Upweke ni uvundo,
Iwapo utatikisa kichwa,
Iwapo wewe ni mume,
Kabiliana na kisu kikali,
Hakika ni kikali!

Kweli ni kikali!
Wengi wasema ni kikali!
Fika huko uone ukali!
Mbuzi utapata,
Na hata shamba la mahindi,
Simama imara,
Usiende kwa wasiotahiri

Maswali

(a) Hili ni shairi la aina gani? Thibitisha. (alama 2)

(b) Ni nani anayeimba shairi hili na analiimba kwa nani ? (alama 2)

(c) Toa ithibati kwenye shairi hili kuthibitisha kuwa msimulizi ana taasubi ya kiume (alama 2)

(d) Taja kwa kutolea mifano mbinu zozote nne za uandishi katika shairi hili (alama 4)

(e) Taja shughuli zozote **mbili** za kiuchumi za jamii inayorejelewa katika shairi hili (alama 2)

(f) Eleza kwa mifano, uhuru wa kishairi katika shairi hili (alama 4)

(g) Msamiati ufuatao umetumika kwa maana gani katika shairi hili? (alama 4)

(i) Mbari
(ii) Msununu

(iii) Ngariba
(iv) Uvundo

SEHEMU YA E

FASIHI SIMULIZI

Soma utungo ufatao kisha ujibu maswali

Ikiwa kweli wewe ni mkazamwanangu,
Nami ndiye niliompa uhai mwana unoringia,
Anokufanya upite ukinitemea mate,
Chakula kuninyima, wajukuu kunikataza ushirika,
Miungu na waone chozi langu, wasikie kilio changu,
Mizimu na waone uchungu wangu,
Radhi zao wasiwahi kukupa,
Laana wakumiminie,
Uje kulizwa mara mia na wanao,
Usiwahi kufurahia hata siku moja pato lao,
Watalokupa likuletee simanzi badala ya furaha,
Wakazawanao wasikuuguze katika utu uzima wako!

(Kutoka: Assumpta K. Matei- Fani ya Fasihi Simulizi, uk 145)

Maswali

(a) Tambua kipera hiki cha fasihi simulizi (alama 2)
(b) Jinsia ya nafsi neni ni gani? (alama 2)
(c) Eleza sifa zozote sita za kipera hiki cha fasihi simulizi. (alama 6)
(d) Fafanua umuhimu wa kipera ulichokitaja hapo juu katika jamii. (alama 4)
(e) Fafanua njia sita jinsi jamii ya kisasa inavyojaribu kuendeleza fasihi simulizi. (alama 6)

PREDICTION 6

NAME:…… INDEX NO. ……..…

SIGNATURE: ……..... DATE: .....

231/1
BIOLOGY
Theory
Paper 1
Time: 2 Hours

KCSE PREDICTION 6
Kenya Certificate of Secondary Education (K.C.S.E)
231/1
Biology
Paper 1

Instructions to Candidates

- ***Write your name, admission number, class and signature in the spaces provided at the top of the page.***
- ***Answer all the questions in the spaces provided in this paper.***

FOR EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1-29	80	

This paper consists of 8 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. Which organelle would be numerous in the following cells? (2 mks)

(a) Liver cells

……

(b) Palisade cells

……...

2. State the functions of the following cell structures during cell division. (2 mks)

(i) Centriole –

……

(ii) Centromere –

……

3. In an investigation, the pancreatic duct of a mammal was blocked. It was found that the blood sugar regulation remained normal while, food digestion was impaired. Explain these observations. (2 mks)

……

……..……

……

4. State two structural differences between ribonucleic acid 9RNA) and deoxyribonucleic acid (DNA). (3 mks)

……

……..…

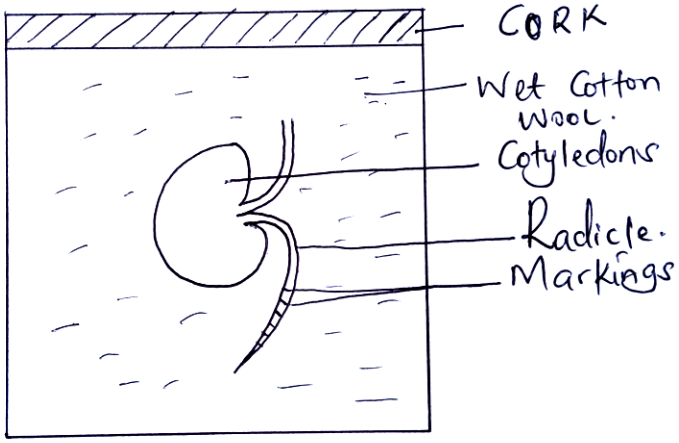
5. Explain why glucose does not appear in urine of a healthy person even though it is filtered in the Bowman's capsule of a mammal. (2 mks)

……

……..……

……

6. A student set up an experiment as shown in the diagram below .



(a) (i) What was being investigated in the experiment? (1 mk)

……

(ii) Why was it necessary to have wet cotton wool in the container? (1 mk)

……

(b) What is the role of the following in germinating seed? (2 mks)

(i) Oxygen –

……

(ii) Cotyledon –

……

7. Give a reason why it is only mutation in genes of gametes that influence evolution. (1 mk)

……

……

8. A person was able to read a book clearly at arm's length, but not at normal distance.

(a) State the eye defect the person suffered from. (1 mk)

……

(b) Why was he unable to read the book clearly at normal distance? (1 mk)

……

(c) How can the defect be corrected? (1 mk)

……

……

9. Some form three students took a germinating maize grain and placed it in a starch paste in a petri dish and put the petri dish in a water bath maintained at $30^{o}C$. After 48 hours, the starch paste was irrigated with iodine solution. The area around the maize grain changed to the colour of iodine solution while the rest turned blue-black.

(a) Account for the observation. (2 mks)

……

……

(b) Why was the petri dish put in a water bath maintained at $30^{o}C$? (1 mk)

……

10. State two functions of muscles found in the alimentary canal of a mammal? (2 mks)

……

……

11. State the stage in a cell division in which the following events occur:

(i) Replication of the genetic material. (1 mk)

……

(ii) Exchange of genetic material. (1 mk)

……

12. Explain what happens when a marine amoeba is transferred to fresh water environment.

……

……

……

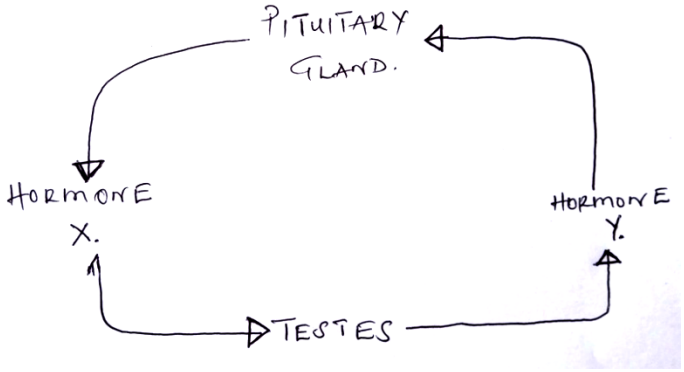
……

13. In blood test, a few drops of anti-B serum were added to two samples of blood. It was noted that agglutination occurred. What were the possible blood groups of the two blood samples? (2 mks)

……

……

14. The diagram below represents a simple endocrine feedback mechanism in a human male.



(a) Name the hormone labeled X. (1 mk)

……

(b) State two differences that may be observed between a normal male and one who is incapable of producing hormone labeled Y. (2 mks)

……

……

15. A small amount of chemical M was put on one side of maize coleoptiles. After some days, it was noted that the coleoptiles curved away from the side to which the chemical was applied .

(a) Suggest the possible identity of chemical substance M. (1 mk)

……

(b) Explain how this chemical might have caused the coleoptiles to curve. (2 mks)

……

……

16. In which part of the spinal cord is the cell body of the motor neurone found? (1 mk)

……

……

(b) Below are two features which make aneurone a specialized cell. State their role.

(i) Axion –

……

(ii) Dendrites –

……

17. (a) What is a natural selection? (1 mk)

……

……

(b) Distinguish between convergent and divergent evolution. (2 mks)

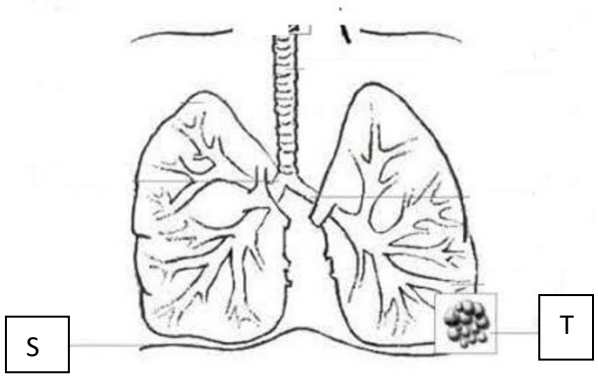
……

……

……

……

18. The diagram below shows part of a mammalian respiratory system.



(a) Explain two ways in which the part labeled T is adapted to its functions. (2 mks)

……

……

……

(b) How does the part labeled S facilitates inhalation ? (1 mk)

19. (a) Explain why the body temperature of a healthy human being must rise up to 39^{o}C on humid day. (2 mks)

……

……

……

(b) In an experiment, a piece of brain was removed from a rat. It was found that the rat had large fluctuation of body temperature. Suggest the part of the brain that had been removed. (1 mk)

……

20. Name the distinguishing features of class mammalian. (3 mks)

……

……

……

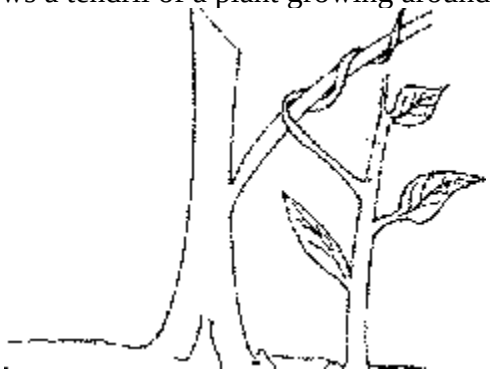
21. State three types of asexual reproduction and give its examples. (3 mks)

……

……

……

22. The figure below shows a tendril of a plant growing around a trunk.



(a) Identify the types of response which causes the twisting growth. (1 mk)

……

……

(b) Explain how the twisting process is accomplished. (3 mks)

……

……

……

24. Active yeast cells were added to a dilute sugar solution in a container. The mixture was kept in warm room. After a few hours bubbles of gas were observed escaping from the mixture.

(a) Write an equation to represent the chemical reaction above. (1 mk)

……

……

(b) What is the economic importance of this type of chemical reaction above? (1 mk)

……

……

(c) Why is that the total energy being released at the end of respiration (oxidation) being released in a small quantity. (1 mk)

……

……

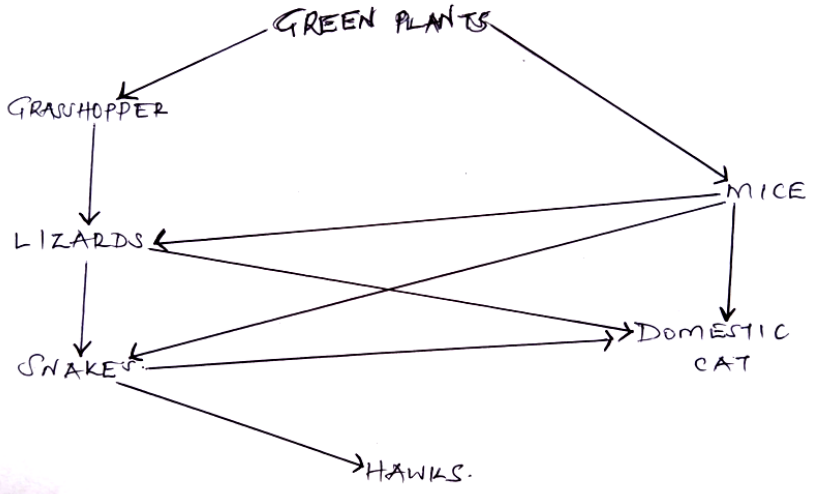
25. Describe three roles or active transport in living organisms. (3 mks)

……

……

……

26. The diagram below shows a feeding relationship in a certain ecosystem.



(a) Construct two food chains ending with a tertiary consumer in each case. (2 mks)

(b) Suggest three ways in which the ecosystem would be affected if there was prolonged drought. (3 mks)

……

……

……

27. Explain how the following parts of a mammalian reproductive system are adapted to their functions:

(i) Testis (1 mk)

……

(ii) Uterus (1 mk)

……

(b) Explain why removal of the ovary after four months of pregnancy does not terminate pregnancy. (1 mk)

……

……

……

28. (a) What is meant by double fertilization in flowering plants. (2 mks)

……

……

(b) State two advantages of cross pollination in a flowering plant. (2mks)

……

……

29. Name the division in kingdom plantae with the following spore producing bodies

(i) Capsule

……

PREDICTION 6

NAME……...……...… ADM NO…….……CLASS……

231/2

BIOLOGY

PAPER 2

(THEORY)

TIME: 2 HOURS

KCSE PREDICTION 6

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

INSTRUCTIONS TO CANDIDATES

- Write your name and Index Number in the spaces provided above.
- This paper consists of **two** sections. Section **A** and section **B.**
- Answer **ALL** questions in section **A** in the spaces provided. In section **B** answer question **6** (compulsory) and either question **7** or **8** in the spaces provided after question 8
- This paper consists of 8 Printed pages. Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing.

For Examiners use only.

Section	Question	Maximum score	Candidates score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	Total score	80	

This paper consists of 8 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

SECTION A

1. In a certain plant species which is normally green, a recessive gene for colour (n) causes the plant to be white when present in a homozygous state. Such plants die at early age. In heterozygous state, the plants are pale green in colour but grow to maturity.

(a) Suggest a reason for the early death of plants with homozygous recessive gene. **(2 marks)**

……

……

……..

(b) If a normal green plant was crossed with a pale green plant, what would be the genotype of the F1 generation? (Show your working) **(3 marks)**

……

……

……

……

……

……

……

…….

(c) If seeds from the heterozygous plants were planted and the resulting plants allowed to self pollinate. Workout the phenotypic ratio of the plants that would grow to maturity. **(2 marks)**

……

……

……

……

……

……

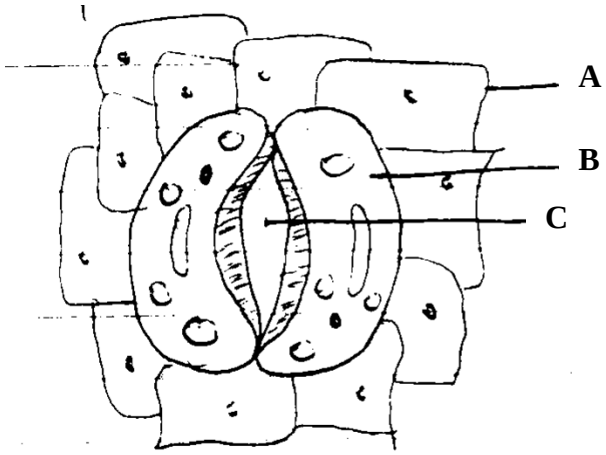
……..

(d) Give an explanation for occurrence of the pale green colour in heterozygous plants. **(1 mark)**

……

……

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



a) Name the tissue where the cells drawn above are found. **(1 mark)**

……

b) Identify cells A and B. **(2 marks)**

A……..

B……..

c) Give **two** structural differences between cell A and cell B. **(2 marks)**

……

……

……

……

d) Describe how structure C opens as explained by the photosynthetic theory. **(3 marks)**

……

……

……

……

……

……

……

……

3. Catalase is an enzyme present in all living tissues in both plants and animals. It breaks down toxic hydrogen peroxide produced during cellular metabolism into less toxic water and oxygen is evidenced by effervescence.

In an experiment 10 ml of hydrogen peroxide was put in different boiling tubes into which different specimens were put. The table below summarizes part of the results. Carefully analyze the table and answer the questions that follow.

	The specimen	**Observation**
A	Fresh liver	A lot of bubbling almost violent
B	Boiled liver	No bubbling
C	Fresh muscle tissue	Vigorous bubbling less than tube A
D	Dry bean seed	Very slow bubbling
E	Soaked bean seed	Vigorous bubbling done intensity of tube C
F	1 cm3 potato cube	Moderate bubbling
G	1 cm3 mashed potato	Vigorous bubbling since intensity as in tube E

(a) Compare & account for the rate of bubbling between

(i) Tube A and tube B. **(2 marks)**

……

……

……

(ii) Tube A and C **(2 marks)**

……

……

……

(iii) Tube D and tube E **(2 marks)**

……

……

……

(iv) Tube F and G **(1 mark)**

……

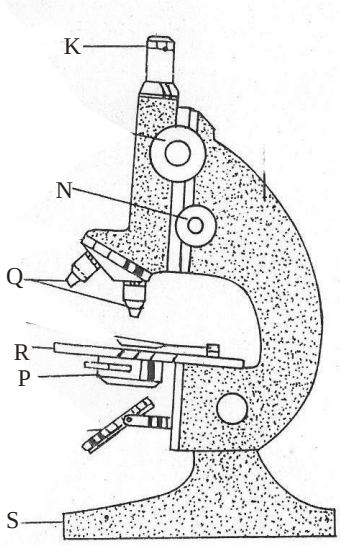
……

……

(b) Write the equation for the reaction that produces the bubbling. **(1 mark)**

……

4. The diagram below shows an instrument used in the laboratory.



(a) Name the apparatus shown above

…… **(1 mark)**

(b) Name the parts labeled Q , K and R **(3 marks)**

Q……

K……

R ……..

(c) What are the functions of parts **P, N** and **S.** **(3 marks)**

P……

N……..

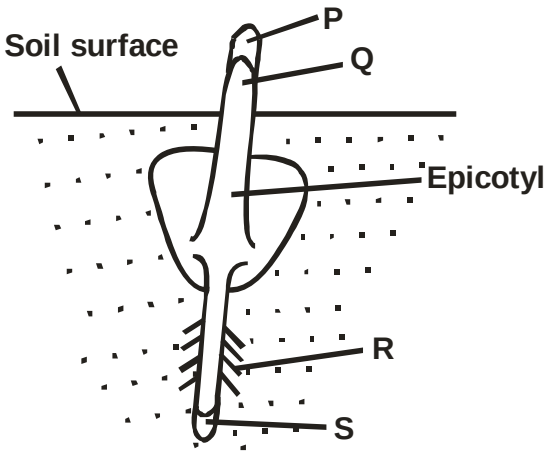
S…….

(d) What is the formula of calculating linear magnification **(1 mark)**

……

……

5. Diagram below represents a germinating seedling.



a) What is germination? **(1 mark)**

……

……..

b) Name the part labelled P, Q and R. **(3 marks)**

P…….

Q…….

R…….

c) Identify the type of germination shown in the diagram. **(1 mark)**

……...

d) What is the role of the following in germination of the above seedling?

1. Oxygen **(1 mark)**

……

2. Enzymes **(1 mark)**

……

3. Water **(1 mark)**

……

……..

SECTION B

Answer question 6 and either 7 or 8

6. Some students used a model to demonstrate the effect of sweating on human body temperature. Two boiling tubes A and B were filled with hot water. The surface of tube A was continually wiped with a piece of cotton wool soaked in methylated spirit. The temperature of water in the tubes was taken at the start of the experiment and then at 5 minutes interval. The results obtained are as shown in the table below.

Time (in minutes)	Temperature (°C) in tubes	
	A	B
0	80	80
5	54	67
10	40	59
15	29	52
20	21	47
25	18	46

(a) On the same axis plot graphs of temperature of water in the tubes against time. **(7 marks)**

(b) At what rate was the water cooling in tube A? **(2 marks)**

……

……

(c) Why was tube B included in the set up? **(1 mark)**

……

……

(d) Account for the rate of cooling in tube A **(3 marks)**

……

……

(e) State **two** processes of heat loss in tube B. **(2 marks)**

……

……

(f) What would be the expected results if tube B was insulated? **(1 mark)**

……..

(g) What would the insulation be compare to in

(i) Birds ? **(1 mark)**

……

(ii) Mammals? **(1 mark)**

……..

(h) Name the structures in the human body that detect

(i) External temperature changes **(1 mark)**

……..

(ii) Internal temperature changes **(1 mark)**

……..

7. (a) Differentiate between nervous system and endocrine system. **(5 marks)**

(b) Describe how hormones regulate the menstrual cycle in human being. **(15 marks)**

8. How is the mammalian intestine adapted to its functions? **(20 marks)**

PREDICTION 6

BIOLOGY

PRACTICAL

PAPER 3

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

The information contained in this paper is to enable the head of the school and the teacher in charge of biology to make adequate preparations for this year's Lanet Joint Examination in Biology practical Examination.

No one Else should have access to this paper or acquire knowledge of its contents. Great care **MUST** be taken to ensure that the information herein does not reach the candidates either directly or indirectly.

The teacher in charge of Biology should **NOT** perform any of the experiments in the same room as the candidates or give any other information related to the experiments to the candidates.

Each Candidate will require:

- a test tube
- Test tube rack
- Soaked pea seeds with only radicle visible, marked **N**.----6pcs per student
- 10ml measuring cylinder
- A small piece of tissue paper for closing the test tube mouth
- A Wooden splint
- Bromothymol blue 2ml per student, marked D

PREDICTION 6

NAME ……..…….. **DATE** ……

INDEX NO. …….…….……...…..… **SIGNATURE** ……..……..

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
TIME: 1¾ HOURS.

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
TIME: 1¾ HOURS.

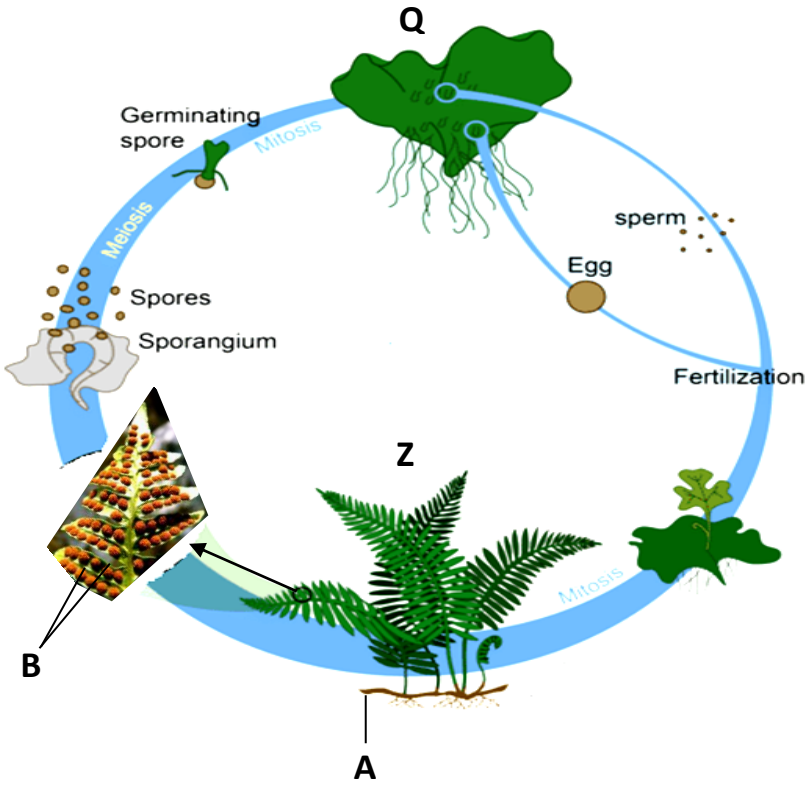
INSTRUCTIONS TO CANDIDATES

- Answer **all** the questions.
- You are required to spend the first 15 minutes of the 1¾ hours allowed for the paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.
- This paper consists of 5 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Questions	Maximum score	Candidate's score
Question 1	14	
Question 2	14	
Question 3	12	
Total score	**40**	

1. The diagram below illustrates the life cycle of a certain organism.



a) (i) Giving reasons, name the division to which the organism belongs.

Division……(1mark)

Reasons (2marks)

……

……

……

(ii) Which portion of the plant's life is independent? (1mark)

……

……

b) (i) Name the parts labeled A and B. (2marks)

A ……

B ……

(ii) State one function of the part labeled B. (1mark)

……

……

(iii) Define the term alternation of generation. (1mark)

……

……

……

(ii) Identify the generations labeled K and L. (2marks)

Q ……

Z ……

(iii) In what way is generation L advantageous to generation K? (2marks)

……

……

……

……

(iv) Give a reason why the plant shown in the diagram above is common in swampy areas (2marks)

……

……

2. You are provided with several specimens **N** and indicator **D**, which is Bromolthymol blue. Study them and answer the questions that follow:

(a) (i) Identify the part of plant represented by specimen **N**. (1mark)

……

……

(ii) Give a reason for your answer in a) i) above. (1mark)

.....

.....

(b) i) Name the physiological process which is taking place in specimen **N**. (1mark)

.....

.....

ii) Describe the **two** changes which occurred to specimen **N** during the process named in b) i) above. (2marks)

.....

.....

.....

.....

(c) i) State **two** internal factors which would promote the physiological process exhibited by specimen **N**, (2marks)

.....

.....

.....

ii) State **two** external conditions which would inhibit the process demonstrated by specimen **N**.(2marks)

.....

.....

.....

(d) Add 1ml of indicator marked **D** into a test tube, add 6 pieces of specimen **N** into the test tube. Close the mouth of the test tube tightly using a tissue paper. Leave the set up to stand on the tube rack for 30 minutes after which carefully remove specimen N without pouring the indicator marked D using a wooden splint.

(i) Record your observation after 30 minutes (1mark)

.....

.....

(ii) Account the observation in d) i) above (3marks)

.....

.....

.....

.....

(iii) Suggest a control for his experiment. (1mark)

.....

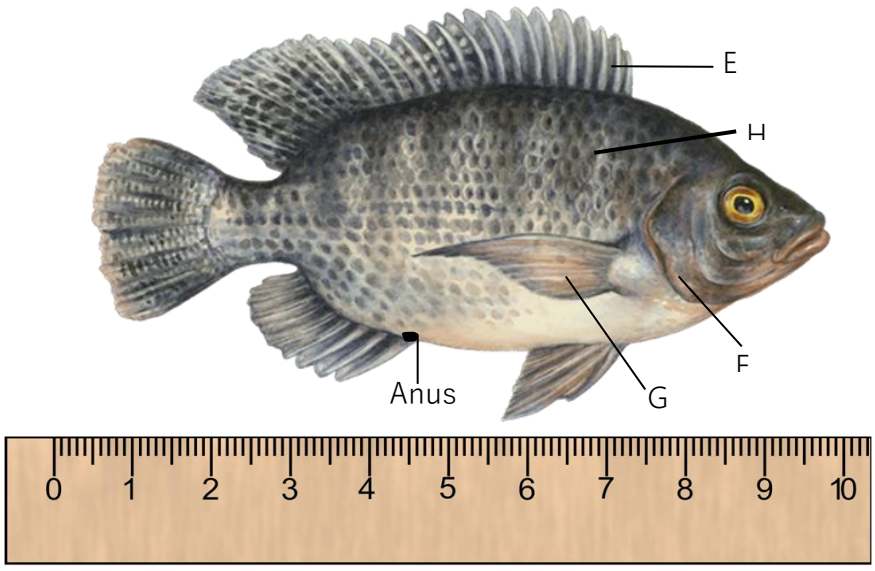
.....

3. You are provided with photograph L, K and J. Examine them.

PHOTOGRAPH L

PHOTOGRAPH K

PHOTOGRAPH J



a) Using observable features only, state class of animals shown in the photograph L and K. (4 marks)

L

Class ……

Reason……

K

Class ……

Reason……

b) (i) On the photograph J name the parts labeled E, F and G. (3 marks)

E.....……

F..……

G.....……

(ii) State the functions of the structures labeled H in photograph J. (2marks)

..……

……..……

……..……

c) (i) The actual length of animal J in cm is shown by a section of the ruler in the photograph.
Calculate the tail power (show your working) (2marks)

(ii) State the significance of tail power to the life of fish in water. (1mark)

……

……

PREDICTION 6

NAME: ……..……. INDEX NO: ……

233/1
CHEMISTRY
PAPER 1
TIME: 2 HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided.*
- *Answer **all** questions in the spaces provided*
- *KNEC mathematical tables and silent electronic calculators **may** be used for calculations.*
- *All workings **must** be clearly shown where necessary.*
- *Candidates should check the question paper to ascertain all the pages are printed as indicated and no questions are missing.*

For Examiners Use Only

Questions	Maximum Score	Students Score
1-32	80	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. State the observations made when a piece of sodium metal is dropped into a beaker containing water. (2mks)

2. During a class experiment, students passed gas X over heated copper metal, the metal changed its colour to black.

   (a) Identify gas X. (1mk)

   (b) Name the black substance formed. (1mk)

3. Aluminium is extracted from its ore by electrolysis.

   (a) Name the main ore of Aluminium . (1mk)

   (b) The Aluminium ore in (a) above has a very high melting point.(2015^0C),though it is electrolyzed at a lower temperature of about 900^0 C. Explain how the low temperature is achieved. (1mk)

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

4. A student added $50cm^3$ of 1.0M aqueous Sulphuric (VI) acid to $50cm^3$ of 2.0M Potassium Hydroxide and the temperature of the resulting solution rose by 4^0 C.

   (a) Define the term Molar heat of neutralization. (1mk)

   (b) Calculate the molar heat of neutralization
   (C=4.2KJKg^{-1} K^{-1} ,Density of solution=1g/cm^3) (2mks)

5. Use the table below to answer the question that follow:

Element	Atomic number

A	11
B	13
C	14
D	17
E	19

(a) Write an equation for the reaction between element A and water. (1mk)

(b) Explain the trend of atomic radii between elements A and D. (2mks)

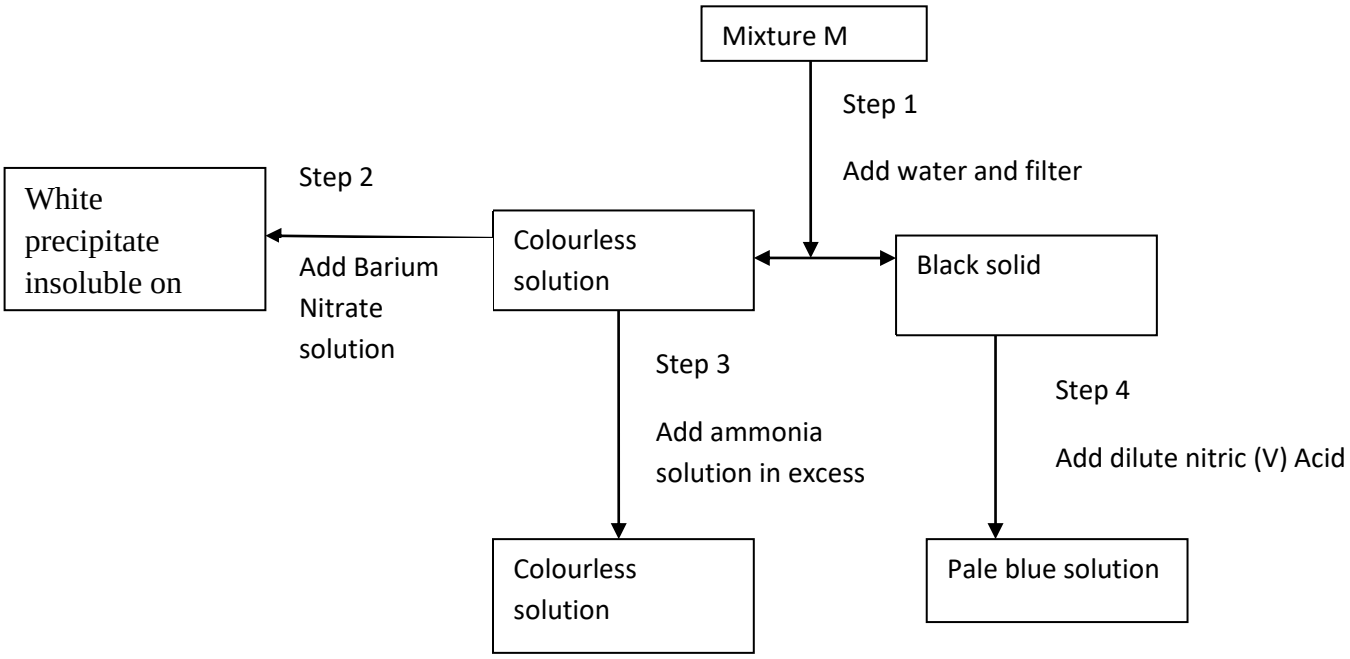
.

6. In terms of structure and bonding, explain why graphite is used as a lubricant. (2mks)

7. (a)State the Boyles Law. (1mk)

(b) A given mass of the gas occupies $20cm^3$ at 25^0 C and 670mmHg pressure. Find the volume it will occupy at 10^0 C and 335mmHg. (2mks)

8. Study the flow chart below and answer the questions that follow.



(a) Name

(i) Cations present in mixture M. (1mk)

(ii) Anion present in thecolourless solution. (1mk)

(b) Write an equation to show how the white precipitate in step 3 dissolves. (1mk)

(c) Name the process outlined in step 4 above. (1mk)

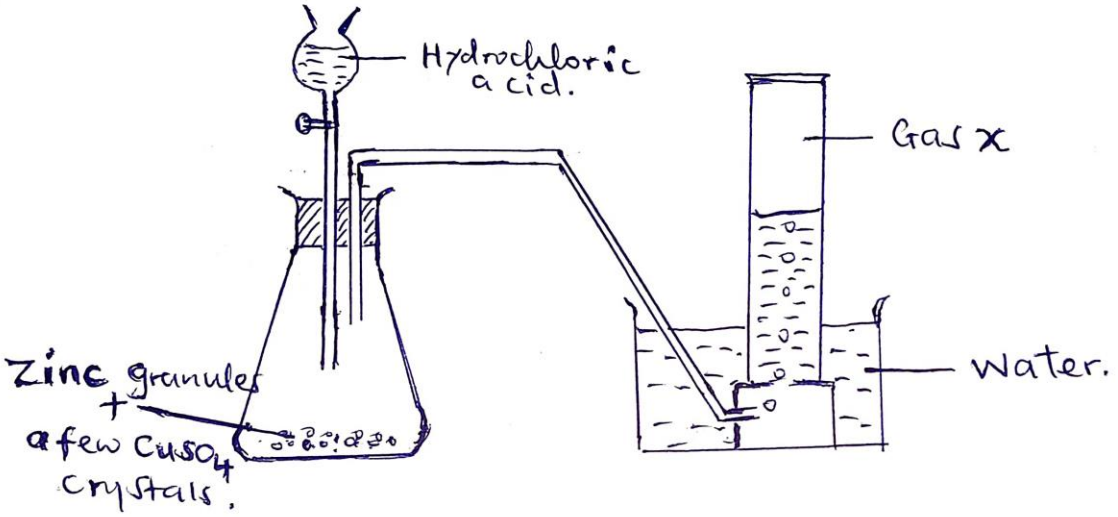
9.The solubility of potassium nitrate is 85g/100g of water at 50 ^{0} C and 32g/100g of water at 25 ^{0} C.

(a) Define the term solubility. (1mk)

(b) Calculate the mass of the crystals formed if a saturated solution of potassium nitrate in 50g of water at 50 ^{0} C is cooled to 25 ^{0} C. (2mks)

10. Magnesium Chloride dissolves in water to form a neutral solution while iron (III) chloride forms an acidic solution. Explain. (2mks)

11. The diagram below is a set up to prepare a certain gas X. Study it and use it to answer the questions that follow.



(a)Identify gas X. (1mk)

(b)Why is the gas collected over water? (1mk)

.

(c)Why are Copper (II) Sulphate crystals added to the flask where the reaction takes place?

12. (a)Give the systematic names of the following organic compounds. (2mks)

(i) $CH_3CH_2CH_2CH_2OH$

(ii) $CH_3CH_2COOCH_2CH_3$

(b)Explain why an organic compound with the formula C_4H_8burns with a more sooty flame than C_4H_{10}. (2mks)

.

13. When solid Zinc Carbonate was added to a solution of Hydrogen Chloride in methylbenzene there was no observable change. On addition of some water to the mixture there was effervescence. Explain the observation. (2mks)

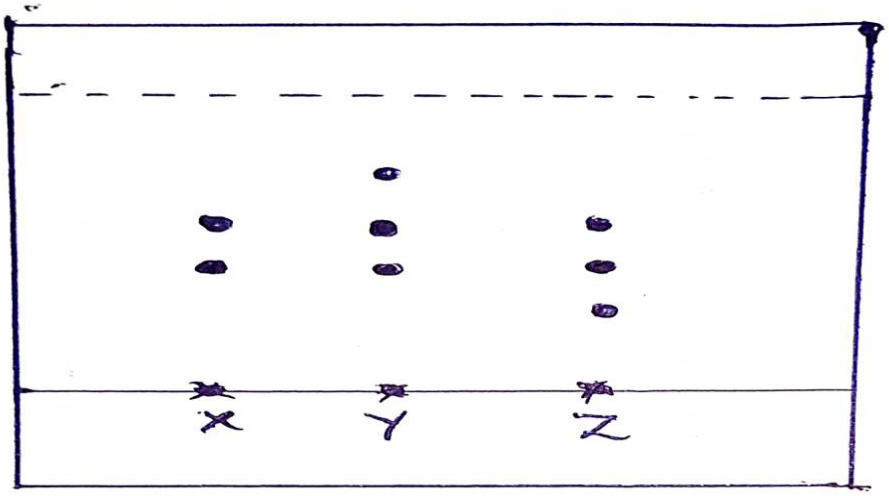
14. In titration experiment,25.0 cm^3 of sodium hydroxide containing 8.0 g per litre was required for complete neutralization of 0.245 g of a dibasic acid. Calculate the relative molecular mass of the acid. (3mks)

15. (a)100g of a radioactive isotope was reduced to 12.5g after 81 days. Calculate the half lifeof the radioisotope. (2mks)

` (b) $^{212}_{80}Y$ decays by beta emission. What is the mass number and the atomic number of the product after decay? (1 mk)

16.(a) Distinguish between ionization energy and electron affinity. ` (2mks)

17.The diagram below represents a paper chromatography for three brands of juice suspected to contain unwanted food additives.



From the results, it was found that unwanted additives are present in Y and Z only.

On the chromatogram;

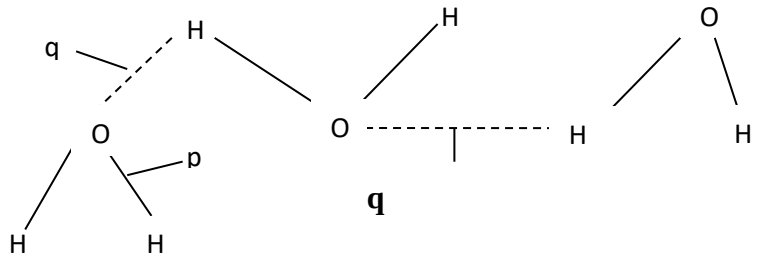
(a)Circle the spots which show unwanted food additives. (1mk)

(b)Name the solvent commonly used in paper chromatography. (1mk)

(c)State two applications of chromatography. (2mks)

18.(a)Show bonding in Aluminium Oxide. (1mk)

(b)Identify the type of bonds represented by p and q in the substances below.

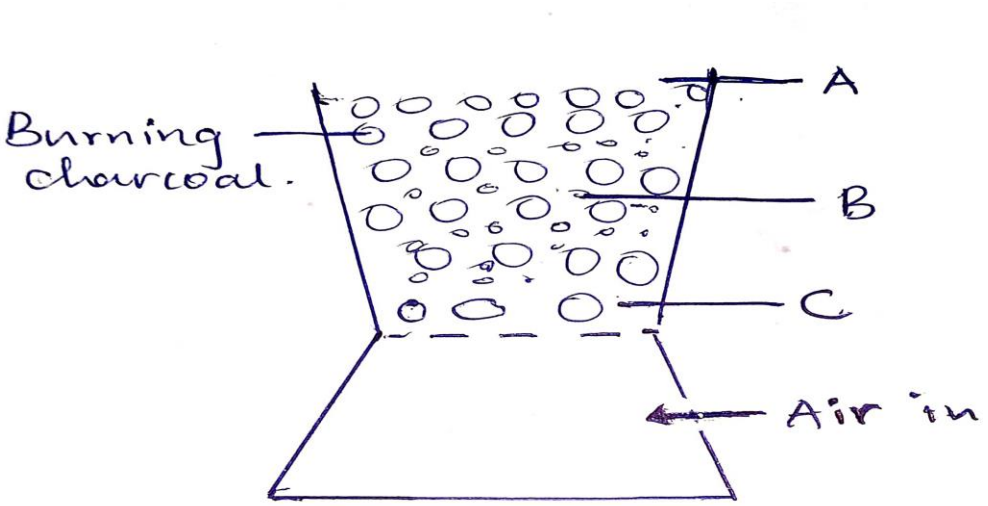


q

p- (½ mk)

q- (½ mk)

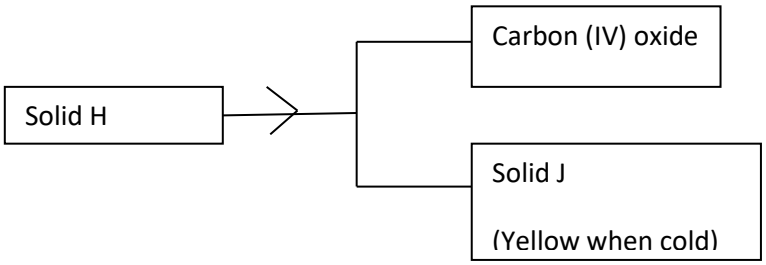
19.The following diagram represents a charcoal burner. Study it and answer the questions that follow:



Write the equations for the reactions at A,B and C regions. (3mks)

A -
B –
C -

20. Use the scheme below to answer the question that follow.



(a)Identify process N. (1mk)

(b)Identify the solids

H- (½ mk)

J- (½ mk)

21.Ammonia gas is prepared by Harber process according to the equation below:

$N_2(g)+3H_2(g) \longrightarrow 2NH_3(g)$ +Heat

State and explain the effect on equilibrium when the following conditions are applied.

(a)Pressure increased. (1mk)

(b)Temperature increased. (1mk)

(c)State Le Chatelier's principle. (1mk)

22. You are given the following half equations.

$I_2(s) + 2e^- \rightleftharpoons 2I^-(aq)$ $E^{\Theta}=+0.54V$

$Br_2(l) + 2e^- \rightleftharpoons 2Br^-(aq)$ $E^{\Theta}=+1.09V$

(a)Write an overall equation for the cell reaction. (1mk)

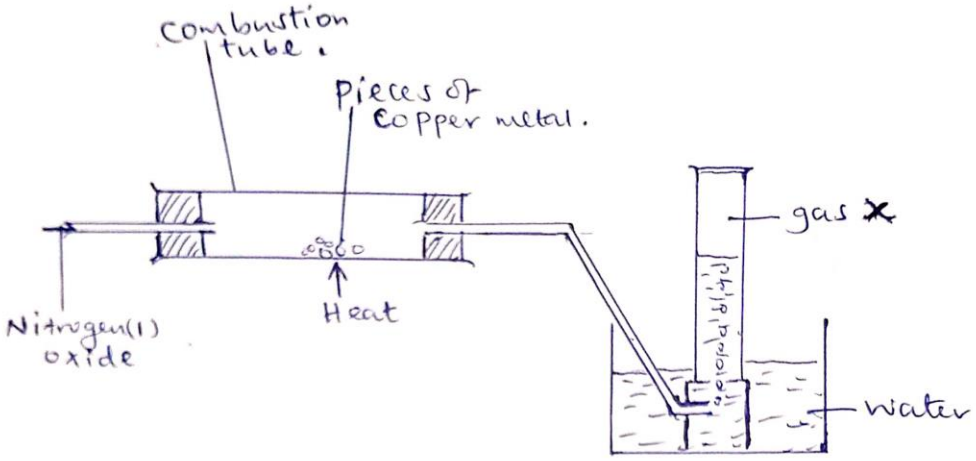
(b)Calculate the E^{Θ} value of the cell. (1mk)

(c)Name the oxidizing agent. (1mk)

23.When a current of 0.8Ampheres was passed for 44 minutes and 20 seconds through fused iodide of metal Z, 0.7167g of Z was deposited. Determine the charge of the ion of metal Z.

(1 Faraday=96500C,RAM of Z=65) (2mks)

24.The set up below shows how small pieces of copper are heated in nitrogen (I) Oxide.



(a)Write an equation for the reaction which occurs in the glass jar. (1mk)

(b)Give one use of the Nitrogen (I) Oxide. (1mk)

25.State what would be observed if concentrated Sulphuric (VI) Acid is added to:

(a)Sugar crystals. (1mk)

(b)Hydrated Copper (II) Sulphate crystals. (1mk)

(c)What type of reaction has taken place above. (1mk)

26.Explain why commercial indicators are preferred to flower extracts as acid base indicators. (2mks)

.

27.(a)Magnesium reacts with hydrochloric acid according to the following equation.

$Mg(s) + 2HCl(aq) \longrightarrow MgCl_2(aq) + H_2(g)$

Identify the reducing agent. Give a reason for your answer. (2mks)

(b)Iron sheets are dipped in molten Zinc to prevent rusting .Name this process. (1mk)

28.Explain why a balloon filled with helium gas deflates faster than a balloon of the same size filled with argon gas. (2mks)

29.Complete the table below. (2mks)

Solution	PH	Nature of Solution
H	1.0	
I		Neutral
J		Weak acid
K	13.0	

30.A farmer intended to plant cabbages in his farm. he first tested the PH of the soil and found it to be 3.0.If cabbages do well in alkaline soils, explain the advice that would be given to the farmer in order to realize a high yield. (2mks)

31.Name an appropriate apparatus:

(a)That is used to prepare standard solutions in the laboratory. (1mk)

(b) That is used in heating solid substances strongly. (1mk)

(c)That can be used to separate two immiscible liquids. (1mk)

32.Some plants have seeds that contain vegetable oil.

(a)State the reagent and apparatus used to extract the oil from the seeds. (1mk)

Reagent-

Apparatus-

(b)Explain how it could be confirmed that the liquid obtained from the seeds is oil? (1mk)

(c)State an application of the method of extracting oil above. (1mk)

PREDICTION 6

NAME: ……..……. INDEX NO: ……
233/2
CHEMISTRY
PAPER 2
TIME: 2 HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

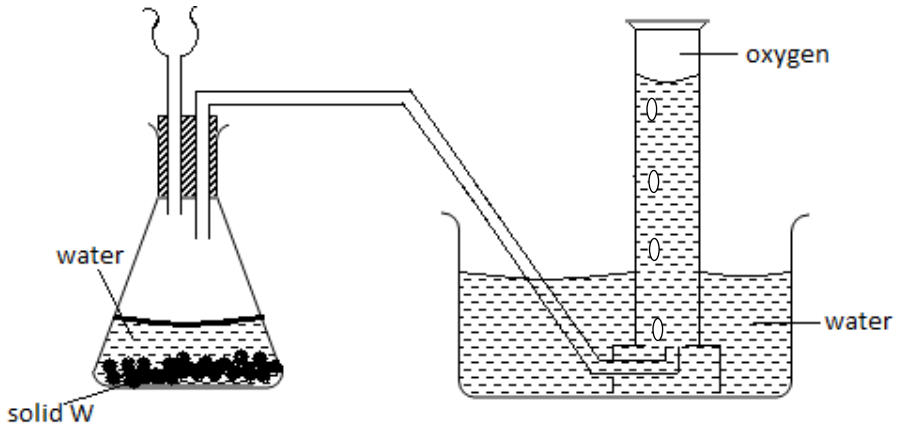
- *Write your name and index number in the spaces provided.*
- *Answer **all** questions in the spaces provided*
- *KNEC mathematical tables and silent electronic calculators **may** be used for calculations.*
- *All workings **must** be clearly shown where necessary.*
- *Candidates should check the question paper to ascertain all the pages are printed as indicated and no questions are missing.*

For Examiners Use Only

Questions	Maximum Score	Score
1		
2		
3		
4		
5		
6		
7		
8		
TOTAL	**80**	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. The diagram below shows a set up used by a student in an attempt to prepare collect oxygen gas



a) i) Identify and correct the mistakes in the set up to enable the preparation and collection of the gas. (2mks)

……

……

ii) Identify solid w. (1mk)

……

b) A piece of phosphorous was burnt in excess air. And the product dissolved in hot water to make a solution.

i) Write an equation for the burning of phosphorous in excess air. (1mk)

……

ii) The solution obtained in (b) above was found to have a pH of 2.0. Give reasons for this observation. (1mks)

……

……

c) Explain why cooking pots made of aluminium do not corrode easily when exposed to air. (1mk)

……

……

……

d) The reaction between sulphure (IV) Oxide and oxygen to form Sulphur (VI) Oxide is an exothermic reaction, which can be represented by the equation below;

$2SO_{2(g)} + O_{2(g)} \leftrightarrows 2SO_{3(g)}$ H = -ve $\triangle$

A factory manufacturing sulphuric (VI) acid by contact process produces 350kg of sulphur(VI)oxide per day (conditions for the reaction; catalyst, 2 atmospheres pressure and temperatures between 400 – 500 ^oC.)

i) What is meant by an exothermic reaction? (1mk)

……

……

ii) How would the yield per day of sulphur trioxide be affected if temperatures lower than 400^oC are used? Explain. (1mk)

……

……

iii) All the sulphur (VI) Oxide produced was absorbed in concentrated sulphuric acid to form oleum.

$SO_{3(g)} + H_2SO_{4(l)} \rightarrow H_2S_2O_{7(l)}$

Calculate the mass of oleum that was produced per day. (S = 32.0, O= 16: H = 1.0)(3mks)

2. Study the table below and answer the questions that follow:

Compounds	Melting point ^0C	Boiling points ^0C
$C_2H_4O_2$	16.6	118
C_3H_6	-185.0	-47.7
C_3H_8O	-127	97.2
C_5H_{12}	-130	36.3
C_6H_{14}	-95.3	68.7

(a) (i) Which of the compounds is a solid at 10^oC. Explain (1mk)

……

……

(ii) Choose two compounds which are members of the same homologous series and explain the difference in their melting points (3mks)

……

……

……

(iii) The compound $C_3H_8O$is an alcohol. How does its solubility in water differ from the solubility of C_5H_{12} in water? Explain (2mks)

……

……

……

(b) Complete combustion of one mole of a hydrocarbon produces four moles of carbon (IV) oxide and four moles of water.

(i) Write the formula of the hydrocarbon (1mk)

……

(ii) Write the equation for the complete combustion (1mk)

……

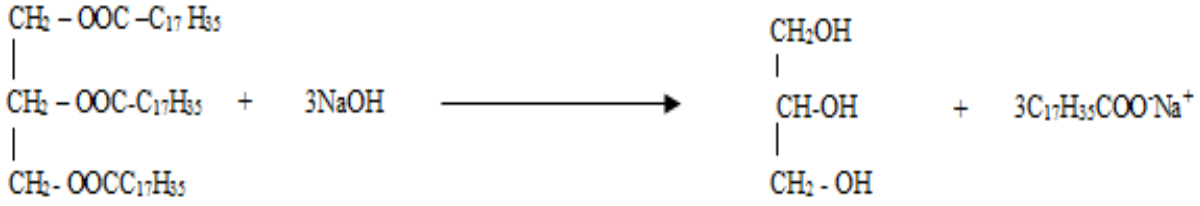
(c) (i) In a reaction, an alcohol "J" was converted to hex -1-ene. Give the structural formula of alcohol "J" (1mk)

……..

(ii) Name the reagent and conditions necessary for the reaction in C (ii) above (1mk)

……..

(d) Compound K reacts with sodium hydroxide as shown below



(i) What type of reaction is represented by the equation above (1mk)

……

(ii) To what class of compound does "K" belong? (1mk)

……

(e)The following equations represent two different types of reactions

(i) $nC_4H_{8(g)} \rightarrow [C_4H_8]_{n(g)}$

(ii) $C_2H_{6(g)} + Cl_{2(g)} \rightarrow C_2H_5Cl_{(g)} + HCl_{(g)}$

State the type of reaction represented by (i) and (ii) (1mk)

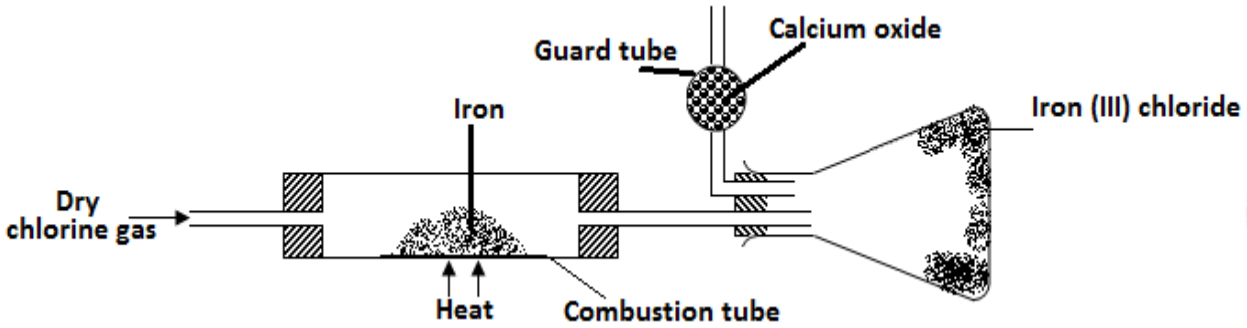
i) ……

ii) ……

3. (a) Give the name of one reagent which when reacted with concentrated hydrochloric acid produces chlorine gas (1mk)

……

(b) A student set out to prepare iron (lll) chloride using apparatus shown in the diagram below



(i) Explain why it is necessary to pass chlorine gas through the apparatus before heating begins? (1mk)

.....

……...

(ii) What property of iron (III) chloride makes it possible to be collected as shown in the diagram (1mk)

……

(iii) The total mass of iron (III) chloride formed was found to be 0.5g. Calculate the volume of chlorine gas that reacted with iron. (Fe = 56, Cl = 35.5 and molar gas volume at r.t.p is 24,000 cm^3) (3mks)

(c) When hydrogen sulphide gas passed through a solution of iron (III) chloride the following observation was made;
The colour of the solution changed from reddish brown to green and yellow solid was deposited.
Explain these observations (2mks)

……

……

(d) State and explain the observations that would be made if a moist blue-litmus paper was placed in a gas jar full of chlorine gas (2mks)

……

……

……..

(e) Study the information to answer the questions that follow. The letters do not represent the actual symbols of the elements.

Elements	Atomic number	Melting point (^0C)
L	11	97.8
M	13	660
N	14	1410
C	17	-101
R	19	63.7

a) i) Write the electron arrangement for the ions formed by elements " M" and "C" (1mk)

M ……..

C …….

ii) State the type of the bond that will be formed when M and C react. (1mk)

……

iii) In which group and period of the periodic table does element "R" belongs? (1mk)

……

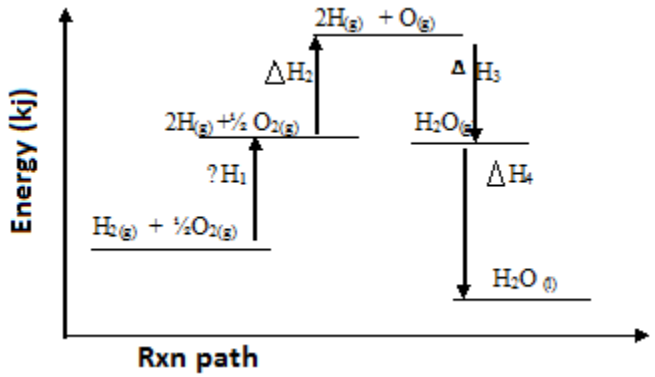
iv) Element R loses its outermost electrons more readily than "L". Explain (1mk)

……

……

v) Using dots and crosses to represent electrons, show bonding in the compound formed between N and C. (2mks)

4. Study the energy level diagram below and answer the questions that follow.



(a) (i) Which ΔH values have a positive sign. (1mk)

……

(ii) Which ΔH values have a negative sign (1mk)

……

(iii)What chemical changes is being represented by (2mks)

ΔH_1 ……

ΔH_4 ……

(b) The hydration energy of Al^{3+} and Cl^- are -4690 and -364kJmol^{-1} respectively. The heat of solution of alluminium chloride is -332kJ mol-^{1}.

(i) Calculate the lattice energy of alluminium chloride (2mks)

(ii) Draw an energy level diagram for dissolving of alluminium chloride (2mks)

(c) When one mole of butanol is burnt. 2676kJ are liberated

(i) Write a chemical reaction for combustion of butanol. (1mk)

……

(ii) Considering the following heats of combustion

- $\Delta H^{\theta}C$ (Graphite) = -393kJ mol^{-1}
- $\Delta H^{\theta}C$ $(H_2)_{(g)}$ = -286kJ mol^{-1}
- $\Delta H^{\theta}C$ (Butanol) = -2676kJ mol^{-1}

Draw an energy cycle for the above energy changes (2mks)

(iii) Calculate the heat of formation of butanol (2mks)

5. (a) The equations below shows the standard reduction potential for four half cell. Study it and answer the questions that follow. Letters are not actual symbols of the element.

				E^{θ} Volts
$F_{2(g)}$	+ 2e-	→	$2F^-_{(aq)}$	+ 0.54
$G^{2+}_{(aq)}$	+ 2e-	→	$G_{(s)}$	-0.44

$H^{+2}_{(aq)}$ + 2 e- → $H_{(s)}$ + 0.34

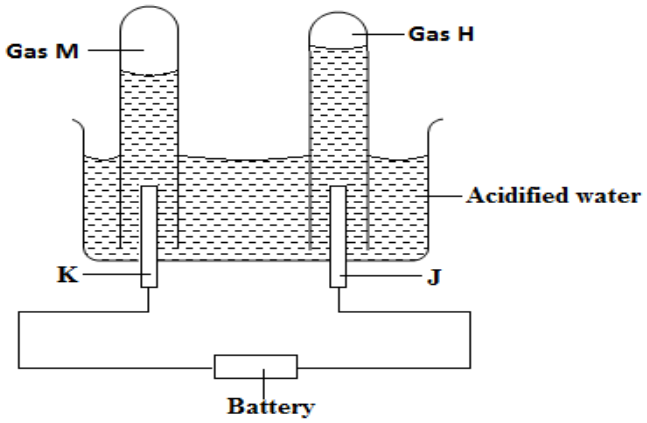
$2J^{+}_{(aq)}$ + 2e- → $J_{2(g)}$ 0.00

i. Write the equation for the reaction which takes place when solid "G" is added to a solution containing H^{2+} (ions) (1mk)

……

ii. Calculate the E^{θ} value for the reaction in (ii) above (1mk)

(b) The diagram below shows the apparatus used to electrolyze acidified water to obtain hydrogen and oxygen gases. Study it and answer the questions that follows?



i. Identify the electrodes marked K and J (1mk)

K ……

J ……

ii. Write the equation that led to the production of gas (1mk)

M ……

H ……

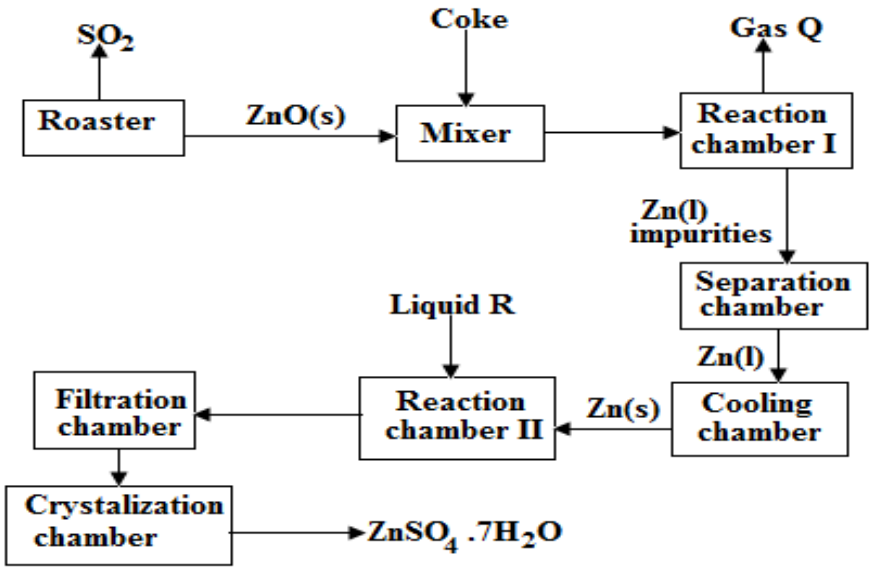
iii. Explain why hydrochloric acid is not used to acidify the water (1mk)

……

……

(c) During electrolysis of aqueous copper (II) sulphate 144750 columbus of electricity were used. Calculate the mass of copper metal that was obtained (Cu= 64, 1 Faraday = 96500 Columbus) (2mks)

6. The flow chart illustrates the extraction of zinc and preparation of Zinc (II) sulphate crystals. Study it and answer the questions that follow



(a)(i) Name

I. Gas Q ……. (1mk)

II. Liquid R …….. (1mk)

(ii) Write an equation for the reaction that takes place in

Chamber I …… (1mk)

The Roster ……(1mk)

Chamber II ……(1mk)

(iii) Given that the zinc sulphide ore contain 45% of Zinc sulphide by mass, calculate

I. The mass in grains of Zinc sulphide that would be obtained from 250 kg of the ore.(1mk)

II. The volume of sulphur (IV) oxide (So_2) that would be obtained from the above mass of zincsulphideat room temperature and pressure (S = 32.0, molar gas volume = 24 dm^3). (2mks)

III. The mass of zinc metalthat would be obtained in Iabove(Zn = 65.4) (1mk)

(b) In such an experiment sulphur (IV) Oxide may keep escaping to the atmosphere. Explain how this could affect the environment. (1mk)

……..

……..

(c) Suggest one other manufacturing plant that could be set up near Zinc extraction plant. (1mk)

…….

7. (a) State the difference between chemical and nuclear reactions (1mks)

…….

…….

(b) Below is a radioactive decay series starting from

$^{214}_{83}Bi$ and ending at $^{206}_{82}Pb$. Study it and answer the questionsthat follows

$$^{214}_{83}Bi \xrightarrow{\text{Step I}} {}^{219}_{84}Ti \xrightarrow{\text{Step II}} {}^{210}_{82}Pb \xrightarrow{\text{Step III}} {}^{210}_{83}Bi \xrightarrow{\text{Step IV}} {}^{210}_{84}Po \xrightarrow{\text{Step V}} {}^{206}_{82}Pb$$

(i) Identify the particle emitted in step I and III. (2mks)

I …….

II ……

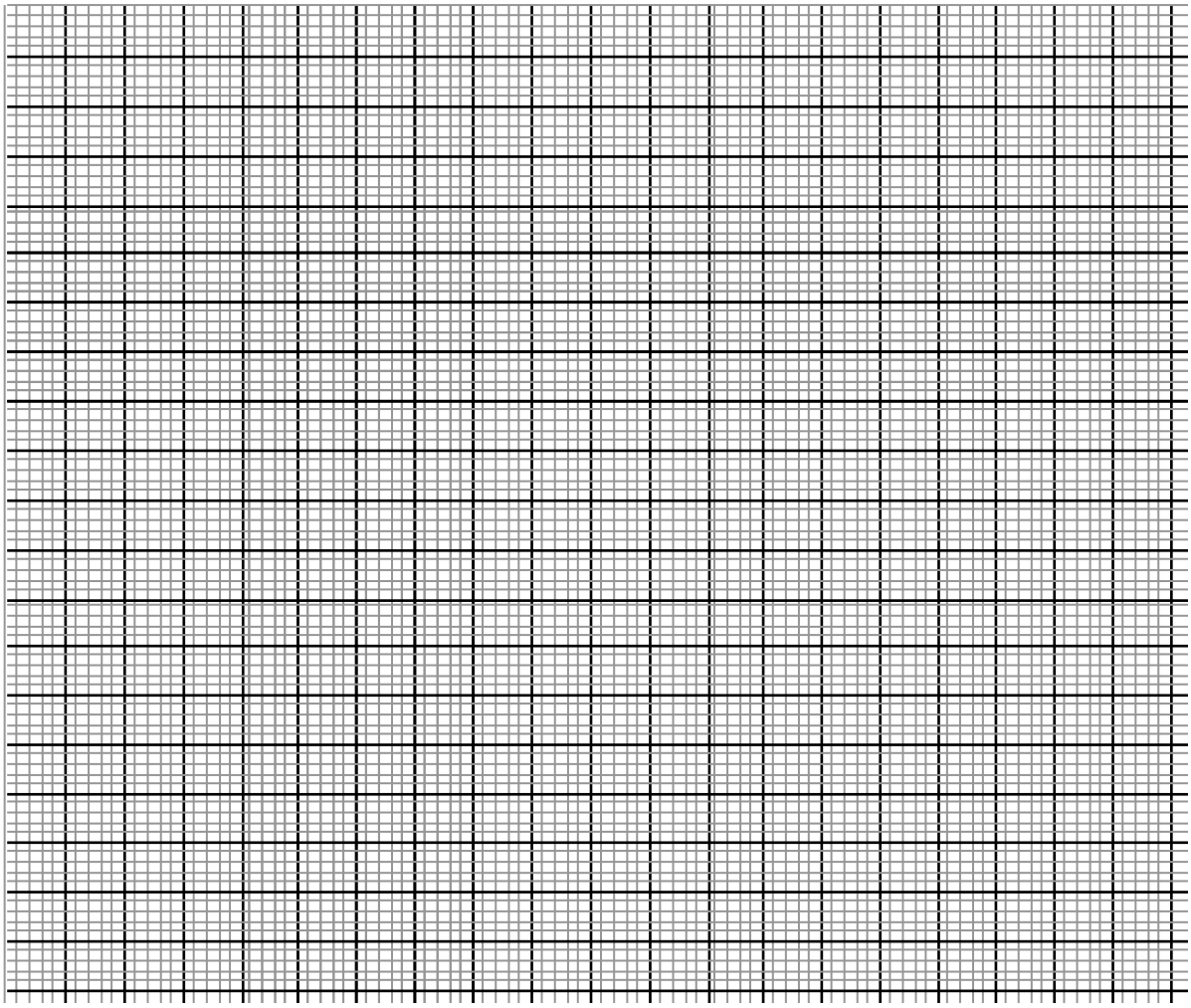
(ii) Write the nuclear equation for the reaction which takes place in step V (1mk)

……

(c) The table below gives the percentage of radioactive isotope of Bismuth that remains after decaying at different times.

Time (mm)	0	6	12	22	38	62	100
Percentage of Bismuth	100	81	65	46	29	12	3

(i) On the grid provided below, plot a graph of the percentage of bismuth remaining (vertical axis) against time (3mks)



(ii) Use the graph, determine the

I. Half life of the Bismuth (1mk)

……

II. Original mass of bismuth isotope given that the mass remained after 70 minutes was 0.16g (1mks)

……..

d. Give one use of radioactive isotope in medicine (1mk)

……...

PREDICTION 6

CHEMISTRY PP3
CONFIDENTIAL

In additional to the fittings and Chemical found in the lab each candidate will require the following.

1. Solid A. 17cm long magnesium ribbon
2. 80cm^3 of solution B
3. 120cm^3 of solution C
4. 1g of solid E in a container
5. 0.5g of solid F in a container
6. About 500cm^3 of distilled water.
7. One 25ml pipette
8. One 50ml burette
9. One 100ml plastic beaker
10. Thermometer (-10^{0}c to 110^{0}c)
11. Stop watch
12. Two 250ml conical flask
13. One 250ml volumetric flasks
14. 6 dry test tubes in rack
15. Two boiling tubes
16. One metallic spatualla
17. One piece each of red and blue litimus paper
18. Piece of universal indicator paper
19. Label
20. About one cm^2 Aluminum foil.

Access to

1. Phenolphthalein indicator supplied with a dropper.
2. Bunsen burner
3. Universal indicator and PH chart
4. 2M sodium hydroxide supplied with a dropper
5. Barium Nitrate supplied with a dropper
6. Acidified potassium magnate (vii) supplied with a dropper
7. Freshly prepared bromine water supplied with a dropper
8. 0. 5M sodium sulphate supplied with a dropper
9. 0.5M sodium Chloride supplied with a dropper.
10. 0.5M lead (ii) Nitrate

Preparations

1. Solid A is 0.4g of Mg exactly 17cm long. Mg ribbon
2. Hydrochloric acid solution B is prepared by adding 172cm^3 of concentrated hydrochloric acid of specific gravity 1.18gcm^{-0} to 500cm^3 of distilled water in one litter volumetric flask then adding distilled water to the mark. Label this as solution B.
3. Solution C made of adding 12g of NaOH pellet in 200cc of distilled water, stir then top it up in 1000ml volumetric flask.
4. Acidify potassium mangate (vii) prepared by dissolving 3.2g of potassium manganate vii in 200cm^3 of 2M sulphuric acid in 1L volumetric flask then adding water to the mark.
5. Barium Nitrate prepared by dissolving 26g of barium Nitrate in 800cm^3 of distilled water then topping up to 1L.
6. Solid E is about 1g of barium Nitrate.
7. Solid F is 0.5g Malleic acid.

PREDICTION 6

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

School .....Candidate's signature .....

Date .....

233/3

CHEMISTRY
PAPER 3
PRACTICAL
TIME: 2¼ HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

CHEMISTRY

Paper - 233/3

Time: 2¼ hours

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided.
- Sign and write the date of examination in the spaces provided on the question paper.
- Answer ALL the questions in the spaces provided in the question paper.
- You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus you need.
- Mathematical tables and silent electronic calculators' may be used.
- All working must be clearly shown where necessary.

FOR EXAMINER'S USE ONLY

Question	Maximum marks	Candidate's score
1	20	
2	11	
3	9	
Total score	40	

This paper consists of 8 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. You are provided with;
    - Solid A magnesium ribbon
    - Solution B 2MHCL
    - Solution C, 0.3MNaOH
    - Distilled water

    You are required to determine the:

    i. Temperature change when magnesium reacts with excess hydrochloric acid
    ii. Number of moles of hydrochloric acid that remains unreacted
    iii. Number of moles of magnesium that reacted
    iv. Molar heat of reaction between magnesium and hydrochloric acid

    Procedure 1

    Using a burette, measure 50cm of solution B and place it in 100ml beaker. Measure the temperature of solution B in 100ml beaker after every 10 seconds. At 30^{th} seconds add magnesium ribbon to solution B and continue recording the temperature. Stir the mixture continuous with a thermometer making sure that the magnesium ribbon remains in the solution as it reacts. Measure the temperature after ever 10 seconds and record values at the table below. Continue stirring and measure the temperature to complete table 1 below.

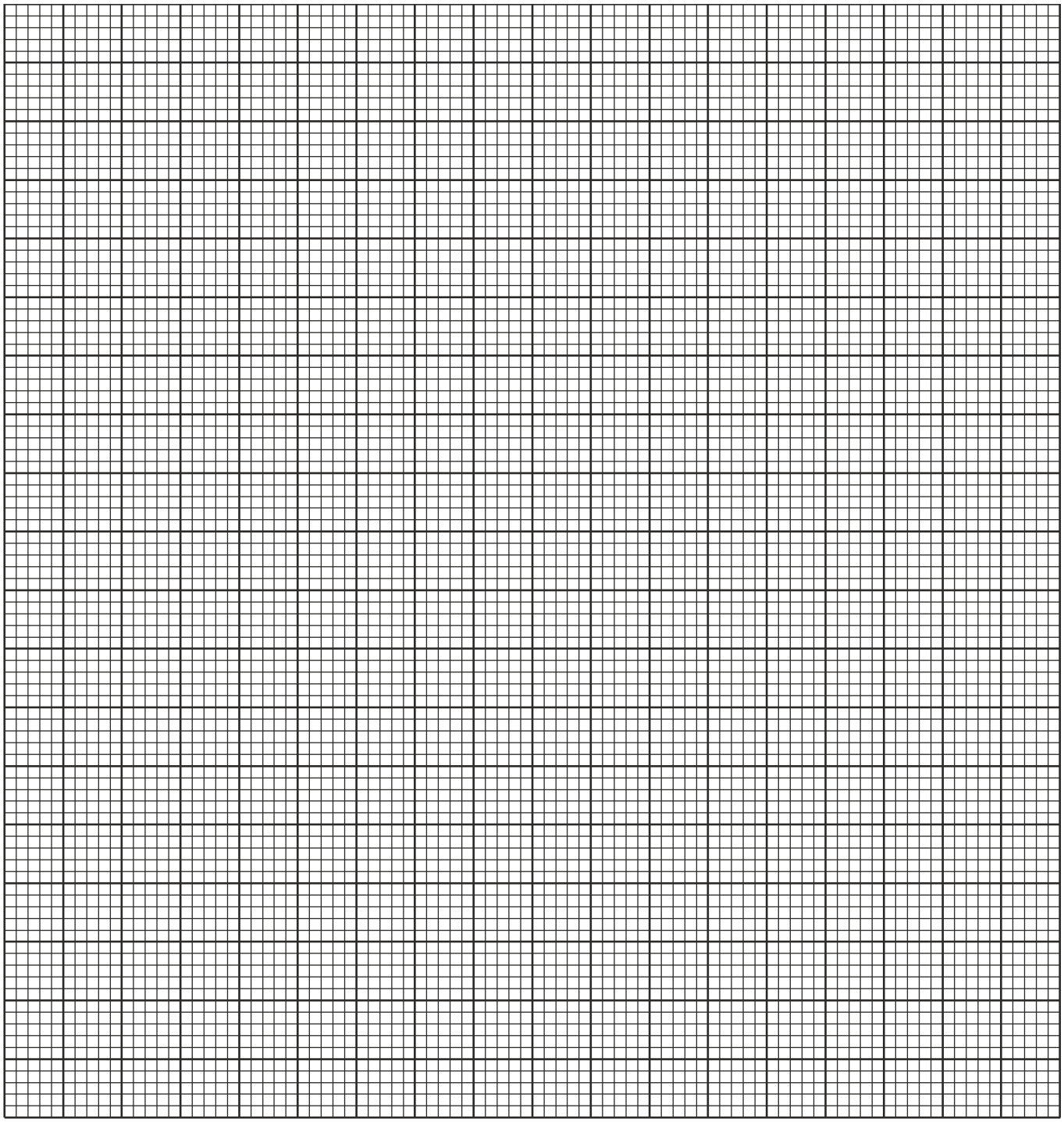
    Keep the resulting solution for use in procedure 2.

    Table 1

    a)

Time (sec)	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**
Temperature (^{0}C)				**X**										

i) Plot graph of temperature against time on the grid provided. (3mks)



ii) On the graph, show the maximum change in temperature ΔT and deter mine its value.

Procedure 2

Transfer all the solution obtained in procedure 1 into 250ml volumetric flask. Top up with distilled water to 250ml mark. Label it with solution D. Empty the burette and fill it with solution C. Pipette 25mlof solution D and place it in 250ml conical flask. Add drops of phenolphthelene indicator and titrate solution C against solution D. Record the results in table 2. Repeat the titration of solution C against solution D and complete table 2.

Table 2

b)

	I	II	III
Find burette reading			
Initial burette reading			
Volume of solution C (cm^3)			

(4mks)

i) Calculate average volume of solution C used. (1mk)

ii) Calculate the number of moles of:

I 0.3MNaOH (1mk)

II Hydrochloric acid in 25cm^3 of solution D. (1mk)

III Hydrochloric acid in 250cm^3 of solution D. (1mk)

IV Hydrochloric acid in 50cm^3 of solution B. (1mk)

V Hydrochloric acid that reacted with magnesium. (1mk)

VI Magnesium that reacted. (1mk)

c).Using your answer in iv above, determine molar heat of reaction between magnesium and hydrochloric acid. Assume the heat capacity of solution is $4.2Jg^{-1}k^{-1}$ and density of solution $1g/cm^{3.}$ (2mks)

2. You are provided with solid E. Carry out the experiments below. Write your observation and inferences in the space provided.

a) Place all solid E in a boiling tube. Add about $20cm^3$ distilled water and shake until all the solid dissolves label this solution E. use solution E for experiments (i) and (ii)

i) To $2cm^3$of solution E in a test tube in each of experiments I,II,III and IV add:

I Two drops of aqueous sodium sulphate;

Observations	Inferences
(1mk)	(1mk)

II Five drops of aqueous sodium chloride;

Observations	Inferences

(1mk)	(1mk)

III Two drops of barium Nitrate;

Observations	Inferences
(1mk)	(1mk)

IV Two drops of lead (ii) Nitrate

Observations	Inferences
(1mk)	(1mk)

ii) To $2cm^3$ of solution E in a test tube add 5 drops of aques sodium hydroxide. Add a piece of Aluminium foil provided to the mixture and shake. Warm the mixture and test any gas produced with the and read litmas papers.

Observations	Inferences
(2mk)	(1mk)

3. You are provided with solid F. Carry out the following tests and record the observations and inference in the space provided.

a) Place about one third of the solid F on a clean metallic spatula and burn it in a Bunsen burner flame.

Observations	Inferences
(1mk)	(1mk)

b) Place the remaining amount of solid F in a boiling tube. Add about $10cm^3$of distilled water and shake use the mixture for tests (i) to (ii)

Observations	Inferences
(½mk)	(½mk)

i) Using about $2cm^3$ of the mixture in a test tube determine the PH Using universal indicator paper and chart.

PH	Inferences
(1mk)	(1mk)

ii) To about 2cm3 of the mixture in a test tube add three drops of acidified potassium manganese vii.

Observations	Inferences
(1mk)	(1mk)

iii) To about $2cm^3$ of the mixture in a test tube add two or three drops of bromine water.

Observations	Inferences
(1mk)	(1mk)

PREDICTION 6

NAME……..…….. DATE ……

INDEX NO. …….……..……... SIGNATURE:……..……

232/1
PHYSICS
PAPER 1
TIME: 2 HOURS.

KCSE PREDICTION 6

Kenya Certificate of Secondary Education.

232/1
PHYSICS
PAPER 1
TIME: 2HOURS.

INSTRUCTIONS TO CANDIDATES

- Write your name and your index number in the spaces provided above.
- This paper consists of **two** sections **A** and **B**
- Answer **all** questions in section **A** and **B** in the space provided
- All working **must** be shown in the spaces provided in this booklet.
- Mathematical tables and silent electronic calculators may be used
- This paper consists of 10 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR OFFICIAL USE

SECTION	QUESTION	MAX. SCORE	CANDIDATE'S SCORE
A	1-12	25	
B	13	09	
	14	15	
	15	10	
	16	11	
	17	10	
TOTAL SCORE		**80**	

This paper consists of 10 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

SECTION A 25 MARKS
ANSWER ALL QUESTIONS IN THIS SECTION

1. A micrometer screw gauge is used to measure the thickness of a stuck of 10 microscope slide cover slips. The reading with the cover slips in position is as shown in figure 1.

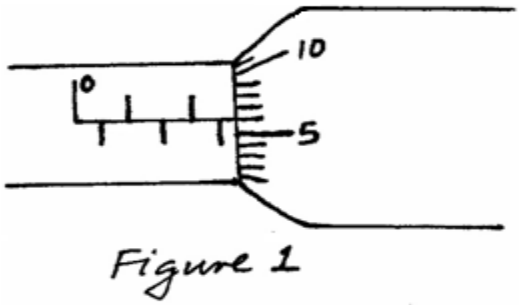


Figure 1

If the micrometer screw gauge has a negative zero error of 0.01mm, determine the thickness of each cover slip. (2mks)

2. Explain whyammonia gas released at the back of a laboratory spreads faster on a hot day than on a cold day. (1mk)

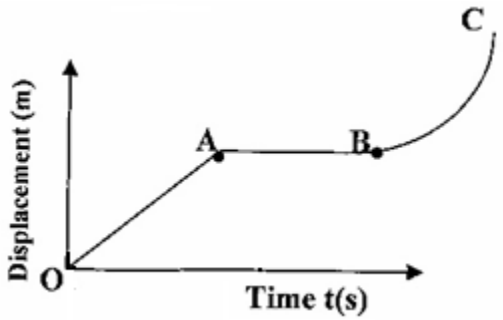
3. A piece of paper is held in front of the mouth and air blown horizontally over the paper, it is observed that the paper get lifted up. Give reason for the observation. (1mk)

4. (a) Estimate the size of an oil molecule if a drop of oil of volume 6.0×10^{-10} m^3 forms a patch of radius 32 cm on a water surface. (2mks)

(b) Other than oil patch being monolayer, state any **one** other assumption in the oil drop experiment. (1mk)

5. In the study of free fall, it is assumed that the force F acting on a given body of mass, m, is gravitational, given by F = mg. State two other forces that act on the same body.(2mks)

6. The figure below shows a displacement-time graph of the motion of a particle.



Describe the motion of the particle in the region. (3mks)

i. OA

ii. AB

iii. BC

7. A 60 litre giant density bottle weighs 100N when empty. What will be its mass when filled with liquid W whose density is 0.72g/cm^3? *(g=10N/kg)* (3mks)

8. Figure 3 shows a uniform wooden plank which weighs 10N. The plank is balanced at 0.8m from one end by a mass of 2.5Kg.

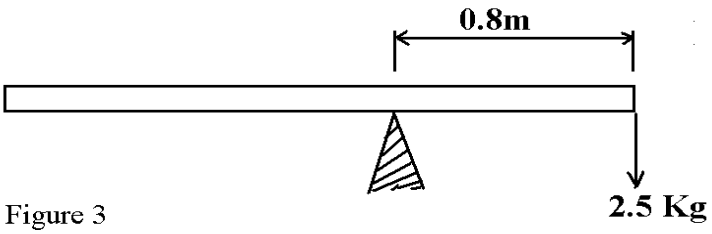
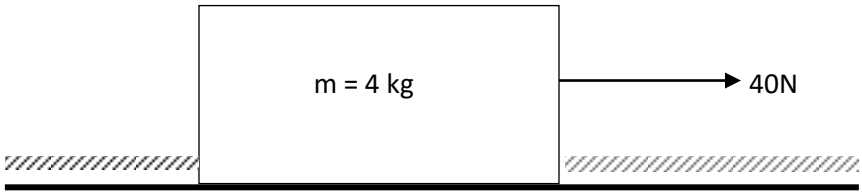


Figure 3

What is the length of the wooden plank in metres. (2mks)

9. The figure below shows a force of 40N acting on a body of mass 4kg. The coefficient of friction between the surfaces is 0.05.



Determine the acceleration of the body. (3mks)

10. State onefactor that affect the spring constant of a spring. (1mk)

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

12. A form one girl observed that when mercury is put into a glass it does not wet the glass. Explain the observations made by the girl. (1mk)

SECTION B (55MARKS)
ANSWER ALL QUESTIONS IN THIS SECTION

13. (i) Define Archimedes' Principle. (1mk)

(ii) An object weighs 1.04N in air, 0.64N when fully immersed in water and 0.72N when fully immersed in a liquid. If the density of water is 1000 kg m^{-3}, find:

a. The density of the liquid. (2mks)

b. Calculate the density of the metal block. (2mks)

(iii) Calculate the upthrust on the metal and the apparent weight of the metal when completely submerged in salt solution of density 1.2g/cm^3. (3mks)

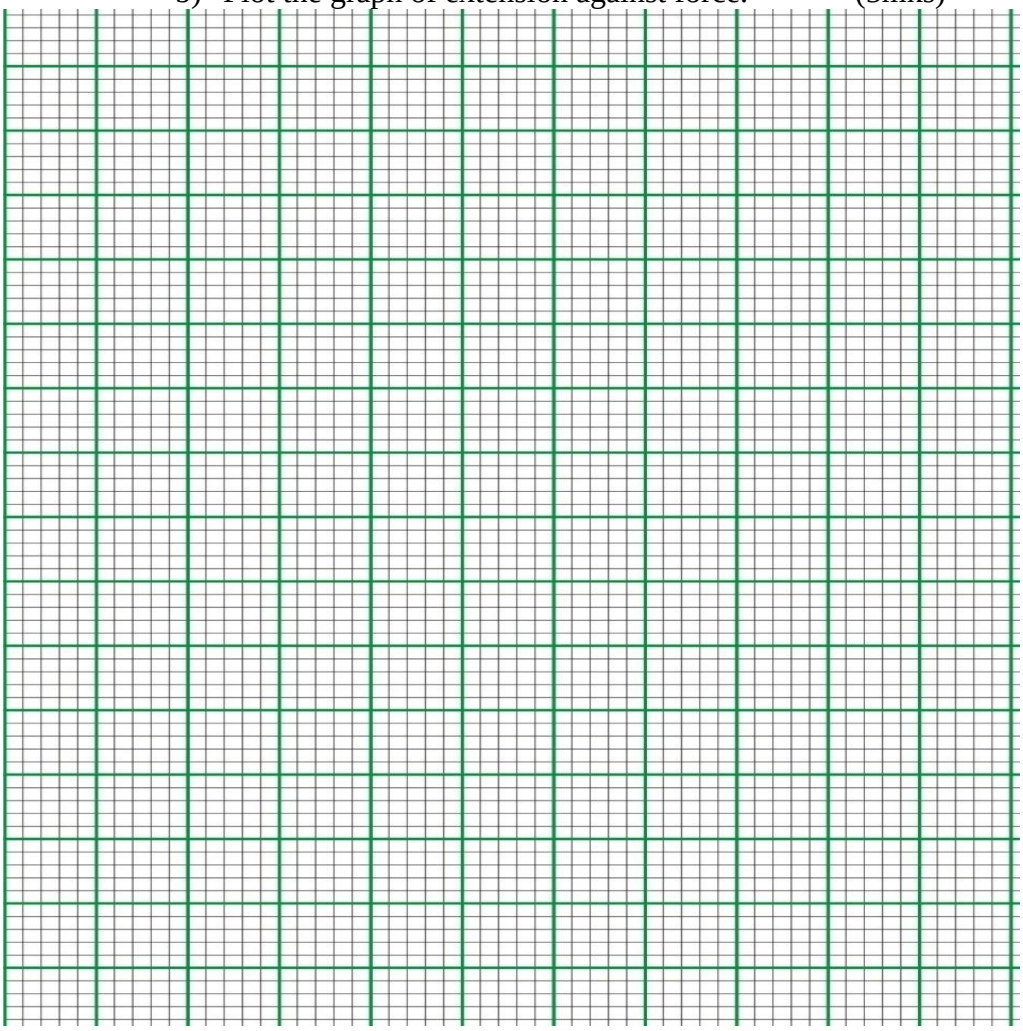
(iv) A blockof metal of volume 80cm^3 weighs 3.80N in air. Determine its weight when fully sub merged in a liquid of density 1200kgm^{-3}. (3mks)

14. The following readings were obtained in an experiment to verify Hooke's law using a spring.

Mass (g)	0	25	50	75	100	125
Reading (cm)	10.5	11.5	12.5	13.5	14.4	16.0
Force (N)						
Extension (mm)						

a) Complete the table (2mks)

b) Plot the graph of extension against force. (5mks)



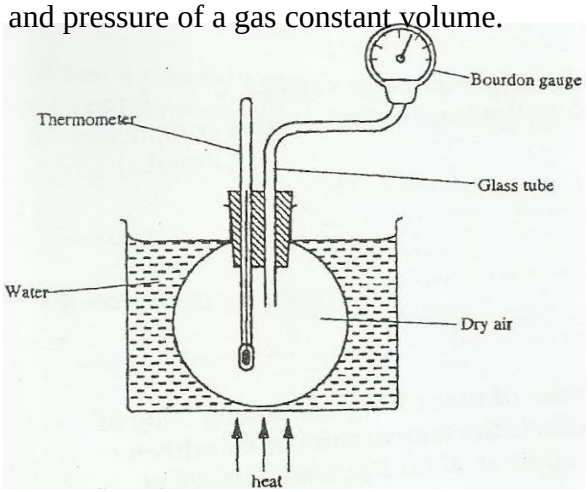
c) From the graph determine the:

(i) Elastic limit (1mk)

(ii) Spring constant. (2mks)

15. (a) State the pressure law for an ideal gas (1mk)

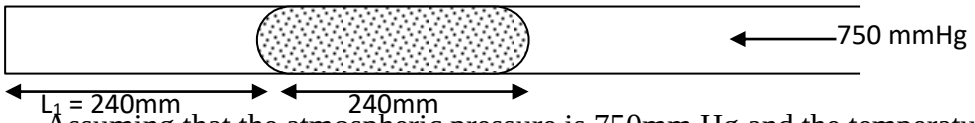
(b) The set up shows an arrangement to determine the relationship between temperature and pressure of a gas constant volume.



Explain how the result form the experiment can be used to determine the relationship between temperature and pressure. (2mks)

(c) A bicycle tyre is pumped to a pressure of 2.2×10^5pa at23^0C. After a race the pressure is found to be 2.6×10^0 pa. Assuming the volume of the tyre did not change, what is the temperature of the air in the tyre. (3mks)

(d) Air is trapped inside a glass tube by a thread of mercury 240 mm long. When the tube is held horizontally the length of the air column is 240mm.



Assuming that the atmospheric pressure is 750mm Hg and the temperature is constant; calculate the length of the air column when the tube is vertical with open end down. (3mks)

16. a) A body of mass 20Kg hangs 4m and swings through a vertical height of 0.9m as shown inthe figure 11.

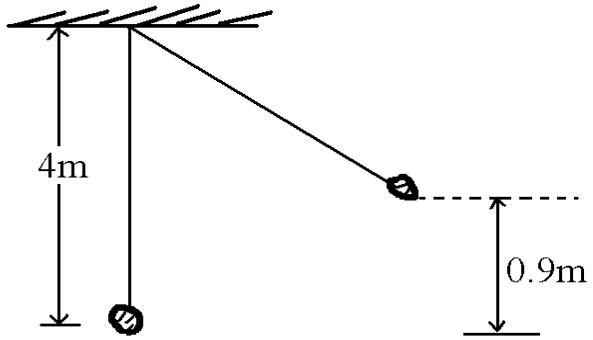


Figure 11

Determine;

i) The potential energy at its position. (2mks)

ii) The speed of the body when passing through the lowest point. (2mks)

b) A crane lifts a load of 2000Kg through a vertical distance of 3.0m in 6 seconds. Determine the;

i) Work done by the crane. (2mks)

ii) Power developed by the crane. (2mks)

iii) Efficiency of the crane given that it is operated by an electric motor rated 12.5kW. (2mks)

17. a) Define the term 'heat capacity'. (1mk)

b) A block of metal of mass 150g at a 100^0C is dropped into a well lagged calorimeter of mass 215g and specific heat capacity $400JKg^{-1}K^{-1}$ containing 100g of water at 25^0C. The temperature of the resulting mixture is 34^0C. (Specific heat capacity of water = $4200JKg^{-1}\ K^{-1}$). Determine;

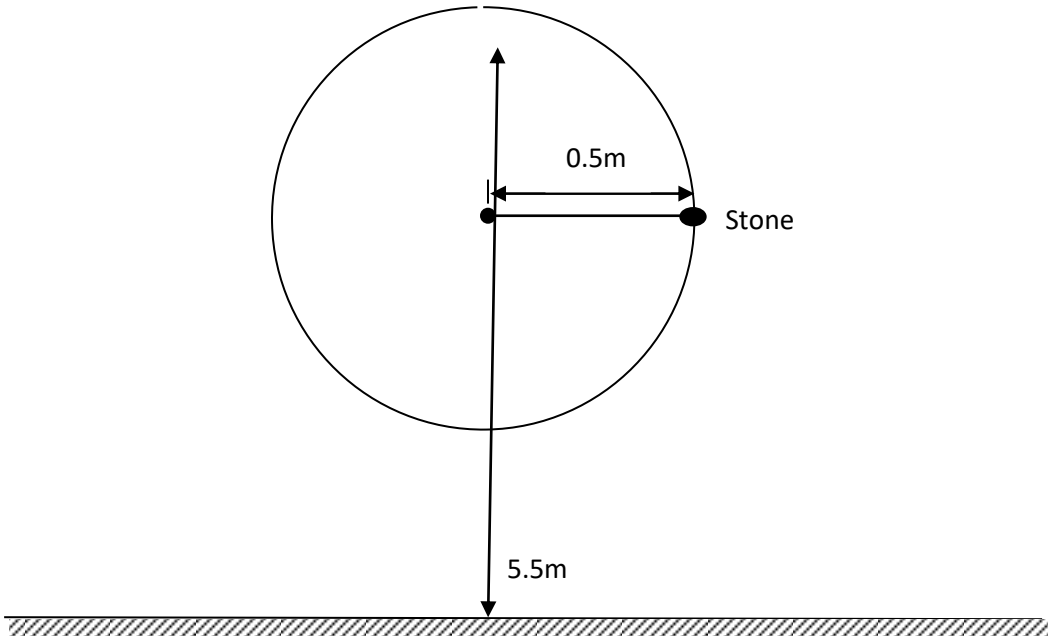
i) Heat gained by calorimeter. (2mks)

ii) Heat gained by water. (2mks)

iv) Specific heat capacity of the metal block. (3mks)

18. (a) State two factors affecting centripetal force (2mks)

(b) A stone of mass 0.5kg is attached to a string of length 0.5m which will break if the tension exceeds 20N. The stone is whirled in a vertical plane, the axis of rotation being above the ground, as shown in the Figure 10 below.



The angular velocity is gradually increased until the string breaks. At what angular velocity, ***w***, will the string break? (3mks)

PREDICTION 6

NAME……..……..…DATE……..……

INDEX NO. ……..……..SIGNATURE……

232/2
PHYSICS
PAPER 2
THEORY
TIME: 2HOURS

KCSE PREDICTION 6

KENYA CERTIFICATE OF SECONDARY EDUCATION

232/ 2
PHYSICS
PAPER 2
TIME: 2HOURS

INSTRUCTIONS TO CANDIDATES:

This paper consists of TWO sections. Sections A and B
Answer ALL the questions in section A and B
All working MUST be clearly shown.
Mathematical tables and Electronic calculators may be used.

Take acceleration due to gravity, g = 10ms^{-2}

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAX SCORE	CANDIDATES SCORE
A	1-13	25	
B	14	12	
	15	10	
	16	12	
	17	12	
	18	09	
TOTAL SCORE		80	

This paper consists of 10 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

SECTION A (25 MARKS)

Answer all questions in this section

1. State one reason why in the construction of car head lamps parabolic reflectors are preferred to spherical reflectors. (1mk)

2. It is common practice that once an accumulator is recharged the terminals are connected using a wire to assess its state of charge. How is this dangerous to the life of the accumulator? (1mk)

3. Two identical spheres A and B each standing on an insulating base are in contact. A negatively charged rod is brought near sphere A as shown in figure 1

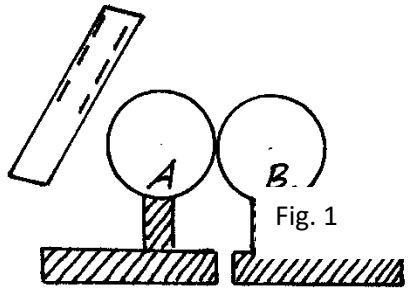


Fig. 1

In what way will A differ from B if separated while the rod is near? Explain. (2mks)

4. The ammeter in the circuit in figure 2 has negligible internal resistance. The cell has an internal resistance of 0.5Ω and an electromotive force of 3.0v.

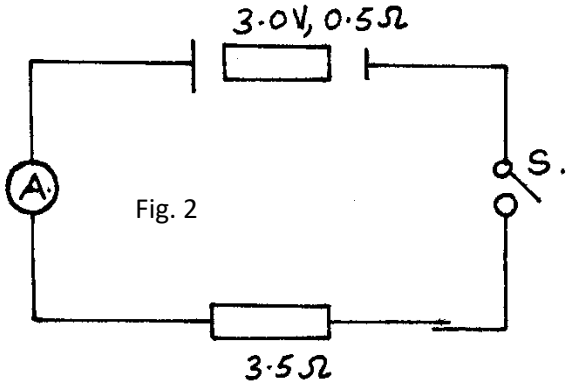


Fig. 2

Determine the value of current the ammeter registers when switch S is closed. (2mks)

5. Figure 3 represents a step down transformer of ratio 10:1. The turns are wound uniformly on the core and the primary coil is connected to a 250va.c supply. The lengths KL and MN are as indicated.

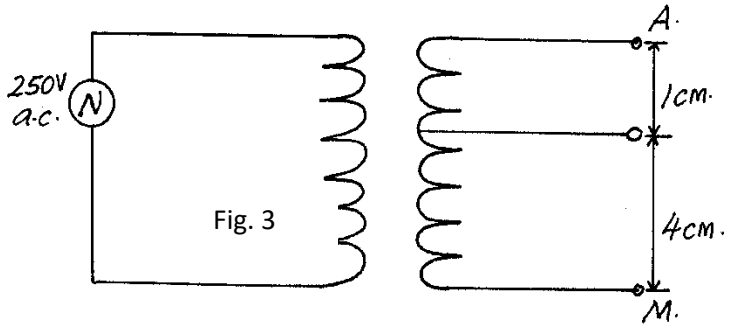


Fig. 3

Determine the p.d across LM. (4mks)

6. The diagram in figure 4 below shows a wire placed between the poles of two bar magnets.

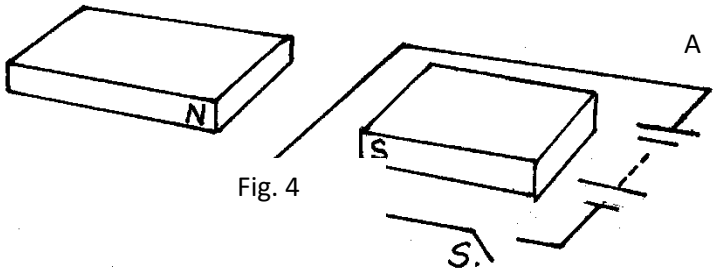


Fig. 4

Indicate with an arrow the force that acts on the section AB of the wire. (1mk)

7. An electric heater 480Ω is connected to a 240v main supply. Determine the energy dissipated in 4 minutes. (3mks)

8. A pin at the bottom of a beaker containing glycerine appears to be 6.8cm below the surface of glycerine. Determine the height of the column of glycerine in the beaker. (*take the refractive index of glycerine as 1.47*) (3mks)

9. A girl shouts and ears an echo after 0.6 seconds later from a cliff. If velocity of sound is 330m/s, calculate the distance between her and the cliff. (3mks)

10. What do you understand by 'doping' as applied with semiconductors? (1mk)

11. Arrange the following in order of decreasing wavelength Gamma radiation, Radio waves, Infrared and x-rays. (1mk)

12. Explain why soft iron keepers are suitable for storing magnets (2mks)

13. Figure 7shows a trace obtained on a cathode ray oscilloscope screen when an a.c is applied to the Y-plates and time base switched on.

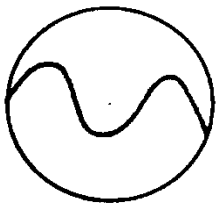


Fig. 7

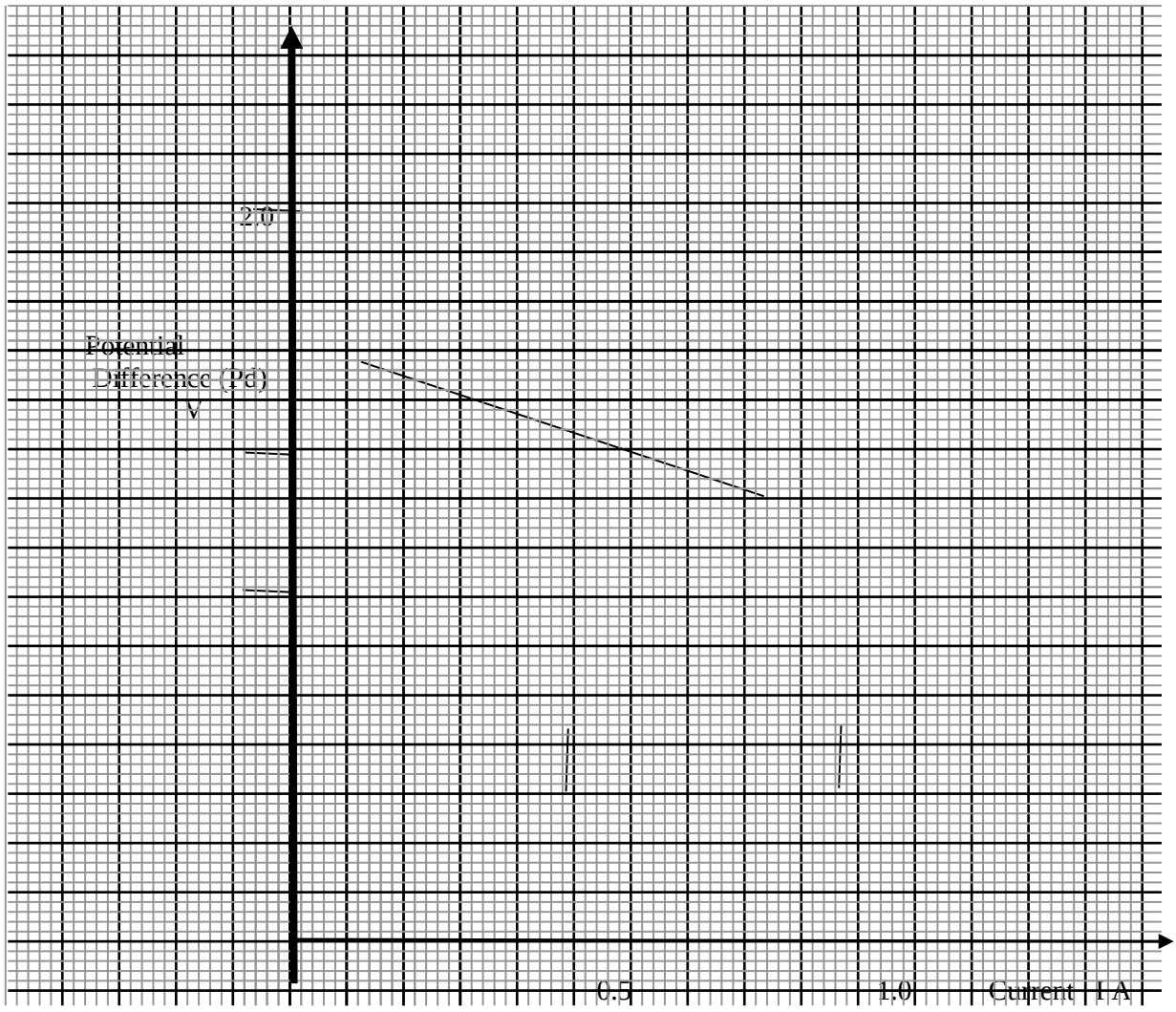
On the same figure draw a waveform showing what would be observed if the time base is doubled. (1mk)

SECTION B (55 MARKS)

Answer ALL the questions in this section in the spaces provided

14.(a) What is meant by an open circuit? (1mk)

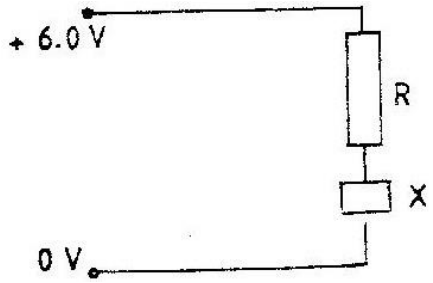
b) The graph in figure 5 shows the terminal voltage, V, of a certain battery varies with the current, I, being drawn from the battery.



(i) Write an expression relating the e.m.f. E, terminal voltage, V, current, I and the internal resistance, r, of the battery for the circuit drawn in (i) above. (1mk)

(ii) From the graph determine the; I internal resistance, r, of the battery. (2mks)

(b) When the device, X is connected in the circuit below, the voltage across it is 0.70 V.



Calculate the value of the resistance R. (3mks)

(c) The cell in figure 10 has an e.m.f of 2.1 V and negligible internal resistance.

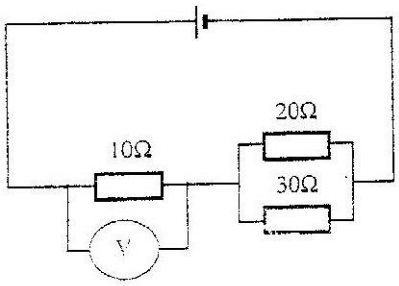


Figure 10

Determine the

(i) Total resistance in the circuit (2 marks)

(ii) Current in the circuit (1 mark)

(iii) Reading of the voltmeter (2 marks)

15. a) The figure 9 below shows magnetic relay circuit

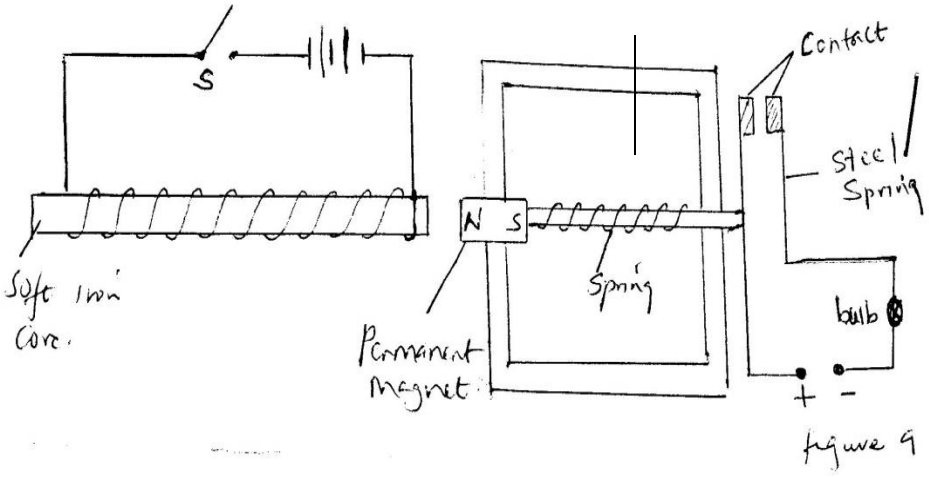
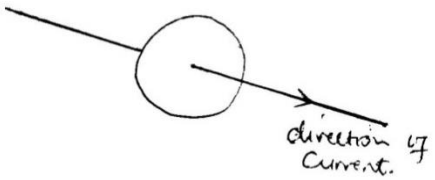


figure 9

Explain what will be observed when the switch is closed (4mks)

(b) The figure 10 below shows a current carrying conductor

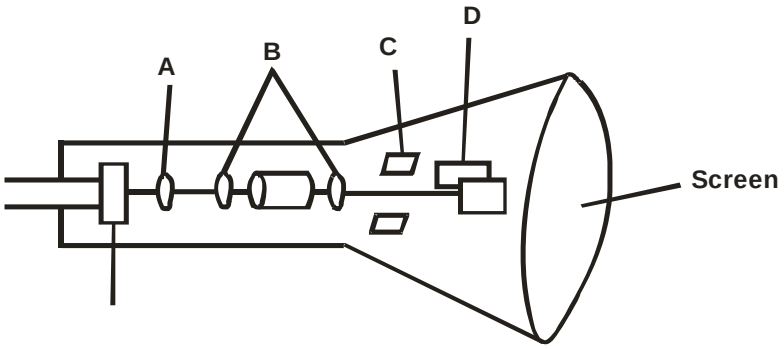


On the same diagram draw, the magnetic field pattern produced. (2mks)

(c) State two possible rules that can be used to predict the field direction produced in the above diagram. (2mks)

(d) List two applications of magnetic effect of electric current. (2mks)

16. a) The figure below represents a cathode ray oscilloscope (C.R.O)



b) Name the parts labelled A and B. (2mks)

A

B

c) What are the functions of parts labelled C and D? (2mks)

C

D

d) Explain how electrons are produced . (1mk)

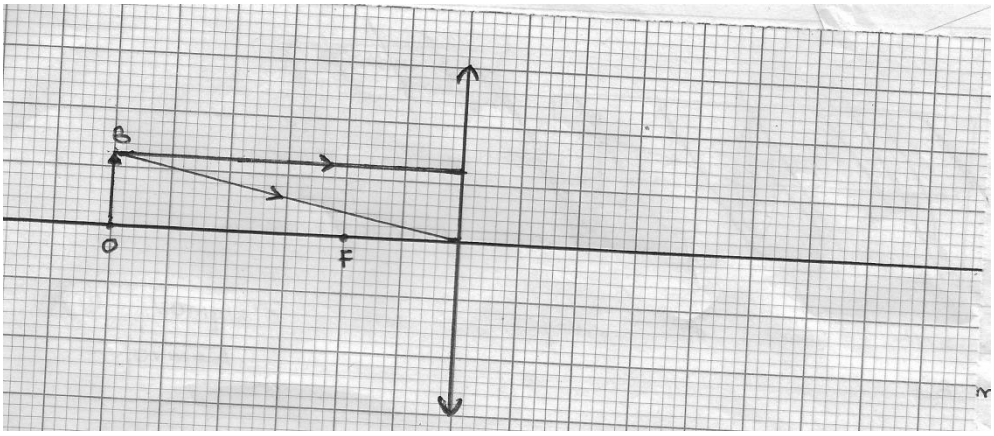
e) Give a reason why the tube is evacuated. (1mk)

f) The potential between the anode and the cathode of an X-ray tube is 80kv. Calculate;

i. The energy of an electron accelerated in the tube. (Electronic charge e = 1.6×10^{-19} C) (3mks)

ii. The velocity of electrons in the tube. (Mass of an electron = 9.11×10^{-31}kg) (3mks)

17 (a) The figure 12 below shows two rays starting from the top of an object OB incident on a converging lens of focal length 2cm.

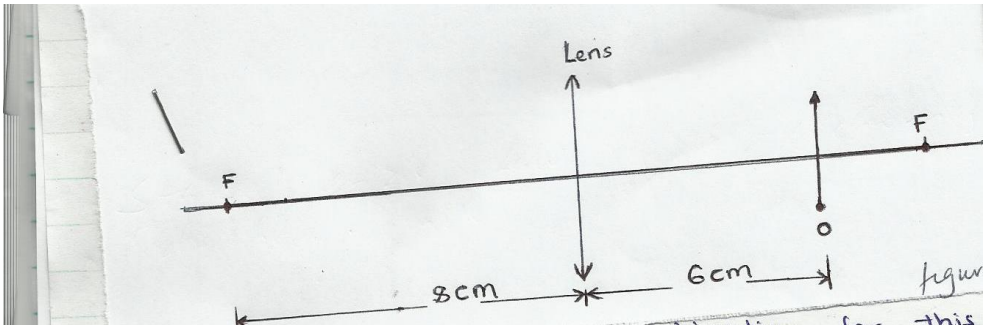


Complete the diagram to show the image formed (3mks)

(b) Add one or more incident ray from B and draw the corresponding refracted ray (1mk)

(c) Calculate the magnification produced by the lens (2mks)

(d) The figure 13 below shows an object placed at right angles to the principal axis of a thin converging lens.



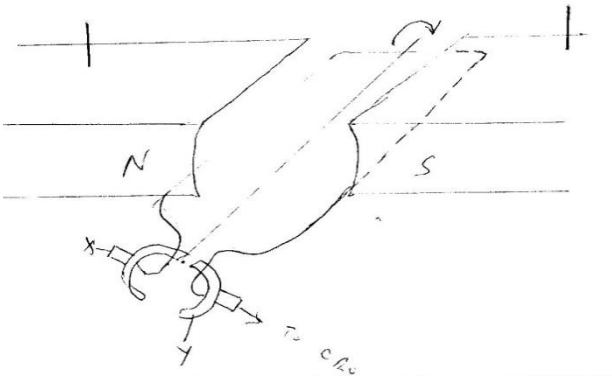
i. Calculate the position of image formed (3mks)

ii. Give an application for this arrangement of a lens. (1mk)

iii. Describe the nature of the image formed (2mks)

18 (a) State Lenz's law of electromagnetic induction (1mk)

(b) The figure 14 below shows a diagram of a simple electric generator



State three factors that would affect the value of the voltage output (3mks).

(c) A transformer supplies a current of 13.5A at a voltage of 48v to a device from an AC main supply 240V. Given that the transformer is 80% efficient, calculate;

i. Power supplied to the transformer (3mks)

ii. Current in the primary coil (2mks)

PREDICTION 6

PHYSICS PP3

CONFIDENTIAL

QUESTION 1 (PART A).

1. You are provided with the following:

- A watch glass.
- A small piece of plasticine.
- A marble.
- A stopwatch.
- Vernier calipers.
- An electronic balance (to be shared).

QUESTION 1 (PART B).

You are provided with the following:

✓Triangular prism of 60^0.

Four optical pins

✓A softboard
✓A plain paper

QUESTION 2.

1. You are provided with the following apparatus.
   - Two dry cells.
   - Nichrome wire 100cm on a mm scale.
   - An ammeter.
   - Cell holder.
   - Voltmeter.
   - Connecting wires with crocodile clips.
   - Switch.

PREDICTION 6

Name: …… Index No. ……

School: …… Candidate's Sign. ……

232/3

PHYSICS

PAPER 3

TIME: 2 ½ HOURS

KCSE PREDICTION 6
Kenya Certificate of Secondary Education.
232/3
PHYSICS
PAPER 3
TIME: 2½ HOURS.

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- *Sign and write the **date** of the examination 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 observation 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 electronic calculators **may be** used.*
- *Candidates should check the question paper to ascertain that all the pages are printed andthat no questions are missing.*

FOR EXAMINER'S USE ONLY.

Question	Maximum score	Candidate's score
1	20	
2	20	
TOTAL	40	

This paper consists of 8 printed pages candidates should check the questions to ascertain that all pages are printed as indicated and that no questions are missing

QUESTION 1 (PART A)

You are provided with the following:

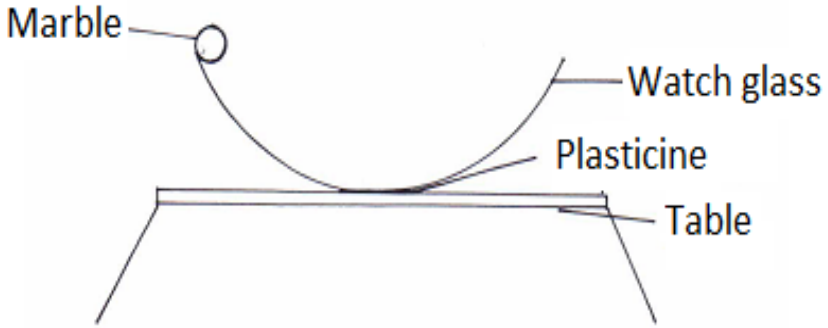
- A watch glass.
- A small piece of plasticine.
- A marble.
- A stopwatch.
- Vernier calipers.
- An electronic balance (to be shared).

(a) Measure the mass M of the marble.

M = ……g (½mk)

(b) Place the watch glass flat on the table with a small piece of plasticine to fix it firmly to the table at the place it touches.

(c) Release the marble from one end of the watch glass and time 10 complete oscillations with a stop watch. Repeat this three times.



(d) Record your values in table 1 below

Table 1

	Time for 10 oscillations	**Periodic time T(s)**
1		
2		
3		

(2mks)

Find the average periodic time T.

T = ……. S. (½mk)

(e) Measure the diameter of the marble with the verniercallipers and hence find its radius.

Diameter d = …….. m (½mk)

Radius r = …… m (½mk)

(f) Determine the volume (V) of the marble given that:

$V = \frac{4}{3}\pi r^3$ (1mk)

(g) Calculate the radius of curvature of the watch glass R from the formula.

$R - r = \frac{5gT^2}{7(2\pi)^2}$ (2mks)

Where g = 9.8m/s² and π = 3.142.

PART B

You are provided with the following

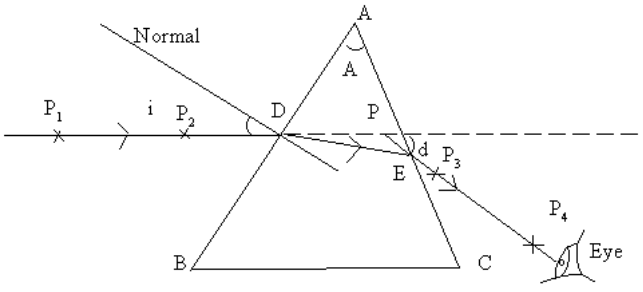
- ✓ A triangular prism of 60^0.
- ✓ Four optical pins
- ✓ A soft board
- ✓ A plain piece of paper

Proceed as follows

(a) Place the plain sheet of paper on the soft board

(b) Place the prism with one face on the plain paper and trace its outline.

(c) Remove the prism from the plain sheet of paper.



(d) Mark angle A and record its value.
A = ...(1mk)

(e) Draw a normal as shown and draw a ray of incident on the normal at an angle of incidence of 30^0.

(f) Replace the prism on the outline on the sheet.

(g) Stick two pins P_1 and P_2 along the path of the incident ray as shown in the diagram.

(h) View the images of P_1 and P_2 through the glass prism through face AC as shown on the diagram.

(i) Stick two pins P_3 and P_4 so that they appear to be in line with P_1 and P_2 as seen through the glass prism.

(j) Remove the pins and prism from the sheet. Trace the path of the ray until it emerges from the glasses shown in the diagram.

(k) Extend the incident ray and the emergent ray until they meet at P. Measure and record the angle of deviation d.

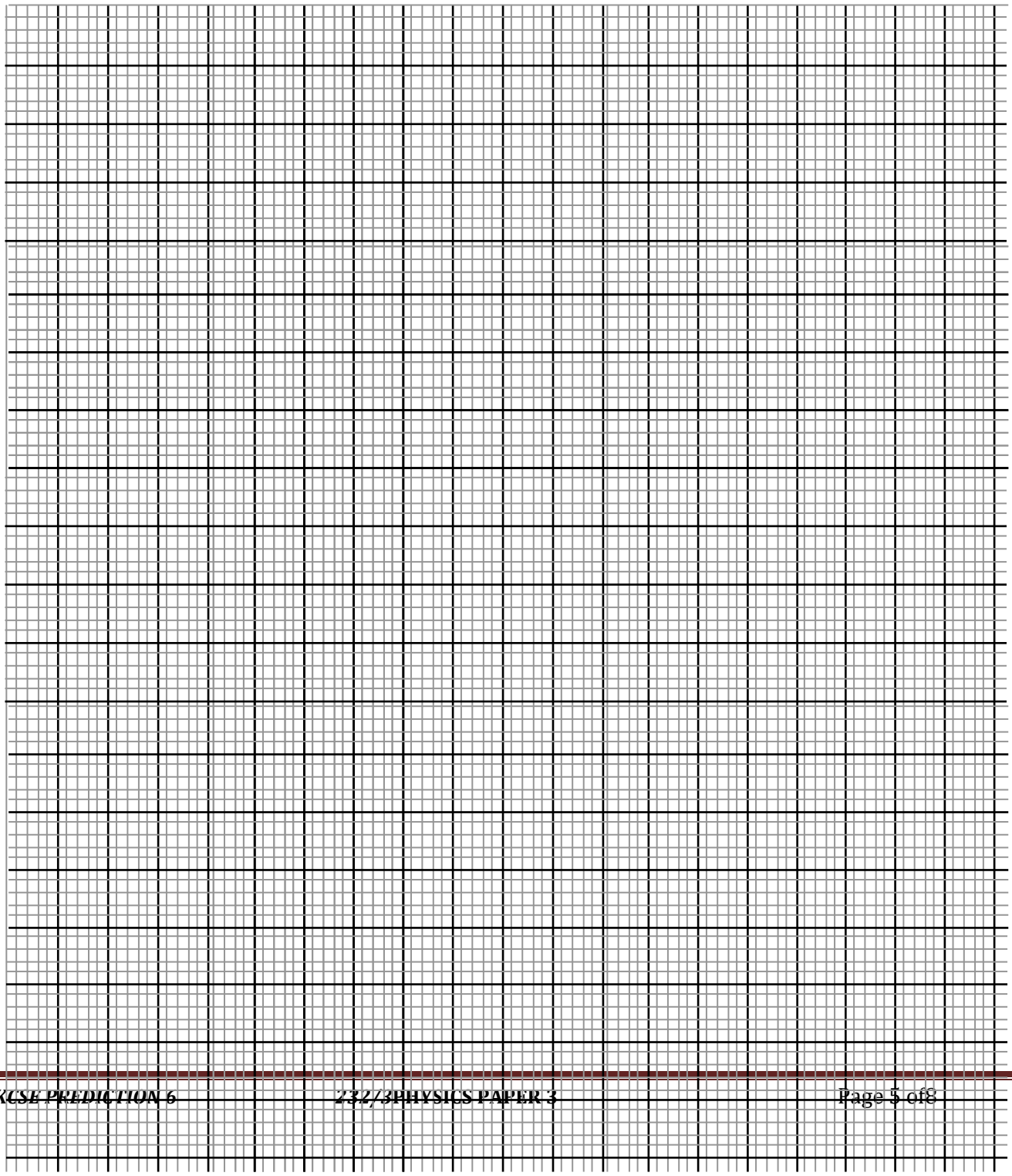
(l) Repeat the experiment for other angles of incidence shown in the table.

Angle of incidence $(i)^0$	30	35	40	45	50	55	60
Angle of deviation $(d)^0$							

(3 marks)

(m) Plot a graph of angle of deviation $(d)^0$ against angle of incidence $(i)^0$. (5 marks)

(l) Present your working.



(n) From the graph determine the minimum angle of deviation D. (1 marks)

(p) Find the refractive index of the prism material using (3 marks)

$$n = \frac{\text{Sin}\,\frac{(A+D)}{2}}{\text{Sin}\left(\frac{A}{2}\right)}$$

QUESTION 2

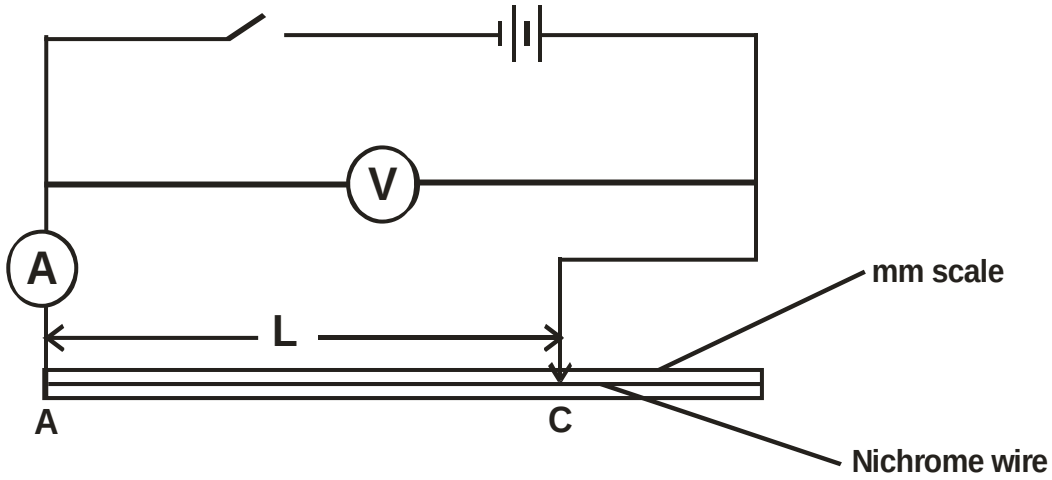
PART A

1. You are provided with the following apparatus.
   - Two dry cells.
   - Nichrome wire 100cm on a mm scale.
   - An ammeter.
   - Cell holder.

- Voltmeter.
- Connecting wires with crocodile clips.
- Switch.

Proceed as follows;

a) Connect the circuit as shown in the diagram.



b) Connect the ends A and C where AC is the length L of the Nichrome wire across the terminals as shown. Close the switch and measure both current I and potential difference (P.d) across the wire AC when L = 100cm.

Current I = …… (1 mark)

P.d, V = …… (1 mark)

c) Measure the E.m.f of the cells, E.

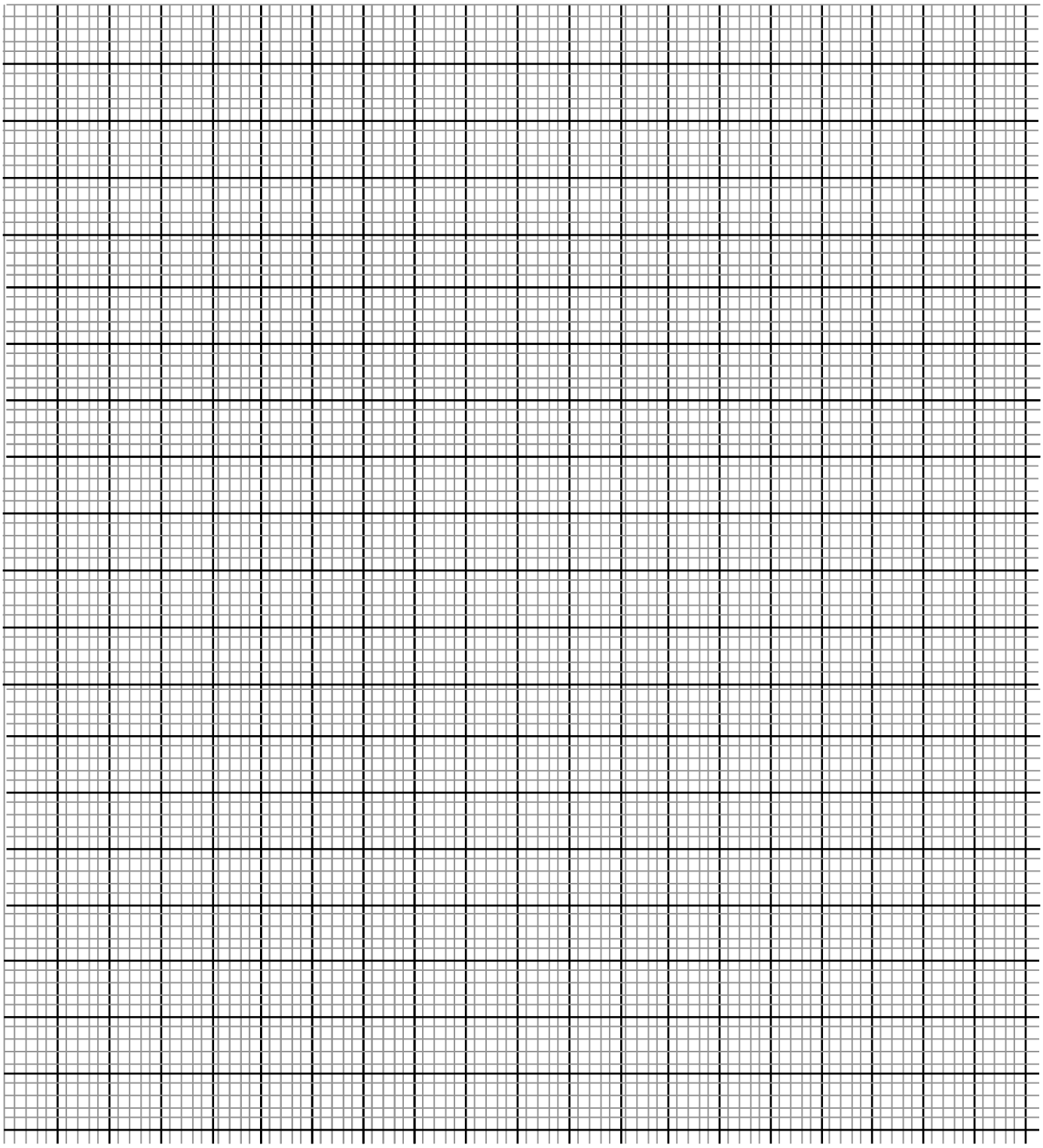
E = …… (1 mark)

d) Reduce the length L (AC) to the lengths shown in the table below. In each case record the current, I, and the corresponding P.d.

Length L (cm)	100	70	60	50	40	20
I (A)						
P.d (V)						
E – V (v)						

(6 marks)

e) Plot a graph of E – V against I(A) on x-axis in the grid provided. (5 marks)



f) Given that E = V + Ir, determine the internal resistance, r, of each cell. (3 marks)

PREDICTION 6

312/1
GEOGRAPHY Paper 1

KCSE PREDICTION 6

Kenya Certificate of Secondary Education

312/1

GEOGRAPHY Paper 1

Confidential

Provide a topographical map of Yimbo (1:50.000 sheet 115/1) to each student

PREDICTION 6

NAME…… **INDEX NO. ……..……**

DATE…….…… **CANDIDATE'S SIGNATURE……..**

CLASS: ……

312/2
GEOGRAPHY
PAPER2
TIME: 2¾ HOURS

KCSE PREDICTION 6
Kenya Certificate of Secondary Education
312/2
Paper 2
GEOGRAPHY

TIME: 2 ¾ HOURS

INSTRUCTIONS

This paper has two sections: A &B.

- ***Answer all questions in section A.***
- ***In section B, answer question 6 and any other two questions.***
- ***Candidates should answer the questions in English.***
- ***All answers to be written in foolscaps provided.***

This paper consists of 6 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

SECTION A

Answer all the questions in this section

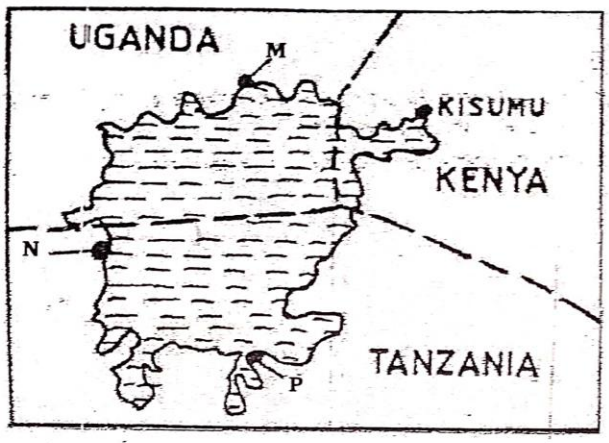
1. (a) Give two uses of soda ash. (2mks)
(b) State three ways in which mining derelicts can be rehabilitated. (3mks)

2. (a) Name two exotic breeds of dairy cattle reared in Kenya. (2mks)
(b) State three physical factors that favour dairy farming in Denmark. (3mks)

3. (a) State two forms of Domestic trade. (2mks)
(b) State reasons countries institute measures to limit imports. (3mks)

4. (a) What is population structure. (2mks)
(b) Give the information that can be obtained from a population pyramid. (3mks)

5. Study the sketch map of Lake Victoria and use it to answer the question.



(a) Name the Lake Ports M,N and P.
(b) State three major sea routes in Africa. (3mks)

SECTION B

Answer question 6 and any other TWO questions from this section.

6. The table below shows Kenya's export crops in the year 1998-2002 in '000' tonnes. Study it and answer the questions that follows.

CROP	1998	1999	2000	2001	2002
TEA	420	510	580	420	490
HORTICULTURAL CROPS	300	410	520	600	580
COFFEE	270	360	480	500	420
TOTALS	990	1280	1580	1520	1490

(a) (i) Use a suitable vertical and horizontal scale draw a compound bar graph to present this data. (9mks)

(ii) Give four physical conditions that favour coffee growing in Kenya. (4mks)

(b) Explain three problems facing coffee in Kenya. (6mks)

(c) Compare coffee growing in Kenya and Brazil under the following sub headings

(i) Coffee growing areas. (2mks)

(ii) Soils. (2mks)

(iii) Labour. (2mks)

7. (a) (i) What is agro forestry. (2mks)

(ii) Differentiate between indigenous and exotic forests . (2mks)

(iii) Name two indigenous soft wood tree species. (2mks)

(b) (i) Explain three factors that favour the growth of natural forest on the slopes of Mt.Kenya. (6mks)

(ii)State four factors that have led to the reduction of the area under forest on the slope of Mt. Kenya. (4mks)

(d) Give the difference in the exploitation of softwood forest in Kenya and Canada under the following headings.

(i)Tree species. (2mks)

(ii)Problems facing forestry. (2mks)

(e) Form Four students in your school carried out a field study on the forestry within their county.

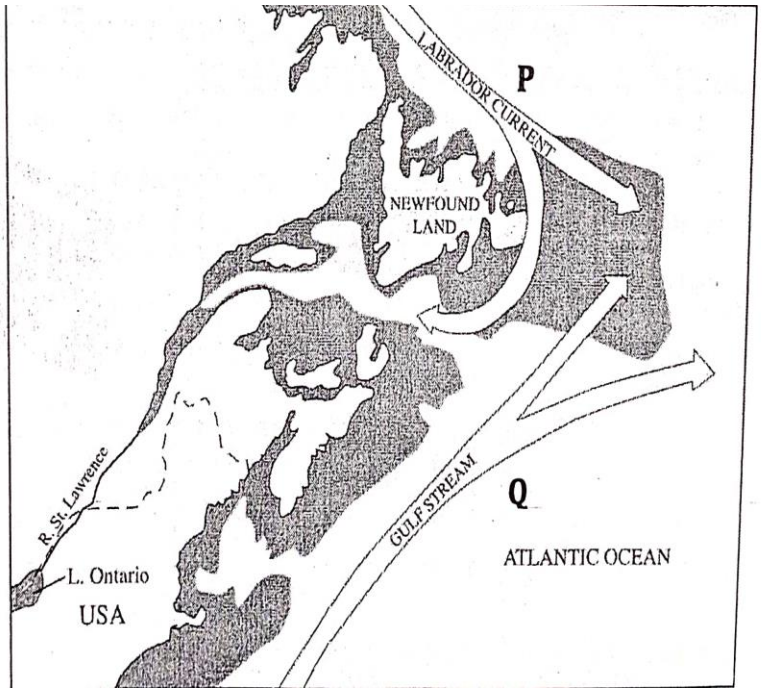
(i) Give three reasons why reconnaissance was necessary for a field study. (3mks)

(ii) State two advantages of content analysis in the study of a forests. (2mks)

8. (a)Differentiate between fishing and fisheries. (2mks)

(b)Name two types of marine fish caught along the east Africa coast. (2mks)

(c)Use the map of North-West Atlantic fishing ground to answer question



(i) Name the Ocean current marked P and Q. (2mks)

(ii) Explain three ways in which the convergence of ocean currents marked P and Q influence fishing. (6mks)

(d) (i) Describe how drifting method is used in Fishing . (5mks)

(ii) State three factors which are considered when choosing a fishing method. (3mks)

(iii) State three problems which face fishing in Lake Turkana. (3mks)

(e) State two reasons why fish farming should be encouraged in Kenya . (2mks)

9. (a) (i) Give two non-renewable source of energy. (2mks)

(ii) State two advantages of using Uranium as a source of energy. (2mks)

(b) (i) Apart from generating H.E.P, give three other benefits that have resulted from the construction of Masinga dam. (3mks)

(ii) Explain four physical factors that influence the location of a hydro-electric power station. (8mks)

(c) (i) What is Energy crisis. (2mks)

(ii) Explain four effects that the increase in oil prices has had on the economy of Kenya. (8mks)

10. (a) (i) What is Environmental Hazards. (2mks)

(ii) Identify three types of environmental hazards. (3mks)

(b) (i) State three cause of floods. (3mks)

(ii)Explain four ways of combating floods in Kenya. (8mks)

(c)Students from your school carried out a field study on a flood prone area in your country.

(i) State five reasons why the working schedule as very important in their study. (5mks)

(iii) What are the problems likely to be encountered during the field study. (4mks)

PREDICTION 6

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

School .....Candidate's signature.....

Date: ……

311/1
HISTORY AND GOVERNMENT
PAPER 1
TIME: 2½ hours

KCSE PREDICTION 6
Kenya Certificate of Secondary Education
HISTORY AND GOVERNMENT
Paper 1
TIME: 2½ HOURS

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.

This paper consists of 3 printed pages.
Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

SECTION A:(25 MARKS)

Answer all questions in this section

1. What type of government is practiced in Kenya? Give a reason. (2 marks)
2. Name **two** communities that belong to the highland nilotes. (2 marks)
3. Which was the **main** item of trade from East Africa during the Indian Ocean Trade? (1 mark)
4. Give **one** way in which one can loose Kenyan citizenship by registration. (1 mark)
5. List **two** ways in which Kenyan communities interacted in the Pre- Colonial era. (2 marks)
6. Identify **one** symbol of national unity in Kenya. (1 mark)
7. Name **two** features of the independence constitution. (2 marks)
8. Name the body that is mandated to conduct elections in Kenya. (1 mark)
9. List **two** methods used by the British to establish their rule in Kenya. (2 marks)
10. Give **one** reason why Africans participated in the provision of education in the Colonial Kenya. (1 mark)
11. Why did the loyalist Kikuyu chiefs mainly form the Kikuyu Association in 1920? (1 mark)
12. State **two** contributions of Daniel ArapMoi in Kenya's history. (2 marks)
13. Name **two** national days in Kenya. (2 marks)
14. Give **two** pillars of African socialism. (2 marks)
15. Which is the **main** challenge facing the Industrial Sector in Kenya since Independence ?(1 mark)
16. State the **main** function of the County Assembly in Kenya. (1 mark)
17. What is the **main** source of revenue for the Kenyan Government? (1 mark)

SECTION B (45 MARKS)

Answer any three questions from this section

18. a) State **three** functions of the Council of Elders among the Agikuyu. (3 marks)
b) Describe the Social Organization of the Ameru during the Pre- Colonial Period. (12 marks)

19. a) Name **three** functions of Nairobi. (3 marks)
b) Discuss the solutions to the many problems affecting Nairobi. (12 marks)

20. a) List **three** objectives of Missionary Education during the colonial period. (3 marks)
b) Explain **six** negative effects of Urbanization during the Colonial period. (12 marks)

21. a) Identify **three** settlement Schemes established in Kenya after Independence. (3 marks)
b) Discuss the Challenges facing the Health sector in Kenya since 1963. (12 marks)

SECTION C:(30 MARKS)

Answer any two questions from this section.

22. a) State**three** Requirements that one should meet for him or her to be registered as a Kenyan. (3 marks)

b) Explain the Powers and functions of the president of Kenya as derived from the constitution of Kenya. (12 marks)

23. a) Give five circumstances under which a judge may be dismissed from office. (5 marks)

b) Explain five ways in which parliamentary supremacy is upheld in Kenya.(10marks)

24 a) List five circumstances under which a sitting governor may be removed from office. (5 marks)

b) Discuss the functions of the Commission of Revenue Allocation. (10 marks)

PREDICTION 6

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

School .....Candidate's signature .....

Date: ……

311/2
HISTORY AND GOVERNMENT
PAPER 2
TIME: 2½ HOURS

KCSE PREDICTION 6
Kenya Certificate of Secondary Education
HISTORY AND GOVERNMENT
Paper 2
TIME: 2½ HOURS

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.

This paper consists of 3 printed pages.
Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

SECTION A (25mks)

Answer all the questions in this section.

1. Mention **one** disadvantages of electronic records as a source of history. (1mk)

2. Give the **main** reason why early agriculture developed in Egypt. (1mk)

3. State **two** problems faced by traders using barter system. (2mks)

4. Identify the **main** role of the Berbers during the Trans-Saharan trade. (1mk)

5 Name **one** metal that was used as currency in pre-colonial Africa.(1 mark)

6 Give **one** advantage of using pipeline over vehicles in transporting oil. (1mks)

7. Identify **two** negative effects of television. (2mks)

8. State the **main** contribution of Dr. Christian Bernard in the field of medicine. (1mk)

9. Identify **two** official appointed by the Kabaka to assist him in administration of Buganda in the 19th C. (2mks)

10. Give **two** economic reasons which made European countries to scramble for colonies in Africa. (2mks)

11. Identify **two** limitations of indirect rule in Africa. (2 marks)

12. State **two** functions of Emirs in Northern Nigeria during colonial era.(2mks)

13. Identify **two** weapons used during cold war. (2mks)

14. Name **one** leader who was the founder of the Non-Aligned movements. (1 mark)

15. Name the head of the government in Aristocratic government. (1 mark)

16. Which body is in charge of elections in USA? (1 mark)

17. Name **two** permanent members of the United Nations (UN) Security Council

(2mks)

SECTION B (45MKS)

Answer any three questions from this section.

18.(a) Give **three** ways in which Homo Erectus attempted to improve his way of life. (3mks)

(b) Discuss **six** benefits of discovery of fire to early man . (12mks)

19.(a) State **five** disadvantages of using fire and smoke signals in communication. (5mks)

(b) Explain the impacts of modern means of communications. (10mks)

20.(a) State **three** factors influencing the growth of London. (3mks)

(b) Explain **six** problems facing Johannesburg as an urban center . (12mks)

21. (a) List down **three** ways used by Nationalists in Ghana to fight for independence. (3 marks)

(b) **Discuss six** factors that led to development of African Nationalism in Ghana. (12 marks)

SECTION C (30MKS)

Answer any two questions in this section

22.(a) Identify three roles played by United States of America in ending the Second World War.(3mks)

(b) Explain six causes of the Cold War after 1945. (12 marks)

23a) Give three functions of the East African Legislative Assembly. (3 marks)

(b) Discuss six achievements of ECOWAS. (12 marks)

24. (a) State three functions of the House of Lords. (3 marks)

(b) Explain six factors that limit parliamentary supremacy in Britain. (12 marks)

PREDICTION 6

NAME……ADM N0……

CLASS……CANDIDATES SIGNATURE……

313/1
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1
Time: 2 ½ Hours

KCSE PREDICTION 6
Kenya Certificate of Secondary Education
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

1. **Write your name and admission number in spaces provided.**
2. **Sign and write the date.**
3. **Attempt any five questions.**
4. **Each question carries 20marks.**

FOR EXAMINERS USE ONLY

1	2	3	4	5	6	TOTAL

This paper consists of 2 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1a) Identify seven reasons why the Bible is referred to as a library. (7mks)

b) State the effects of the translation of the Bible into African languages. (8mks)

c) State five different occasions when Christians use the Bible. (5mks)

2a) Describe the covenant ceremony between God and Abraham in Genesis 15: 1 - 19. (7mks)

b) Identify seven ways in which the promises of Abraham were later fulfilled. (7mks)

c) Explain what Abraham learnt about God from his experience on mount Moriah. (6mks)

3a) Identify seven failures of King Solomon. (7mks)

b) Explain how Jeroboam contributed to the spread of idolatry in Israel. (6mks)

c) Give reasons why Christians build churches. (7mks)

4a) Outline seven similarities between the Old Testament and the Traditional African Prophets. (7mks)

b) Outline the teaching of Prophet Amos on the Day of the Lord. (7mks)

c) Mention six ways in which Christians can avoid God's punishment today. (6mks)

5a) Explain seven occasions in which Nehemiah prayed. (7mks)

b) What promises did the Israelites make during the renewal of the covenant under Nehemiah? (7mks)

c) State six importances of prayer in Christian life. (6mks)

6a) Explain the importance of children in Traditional African Society. (7mks)

b) Identify six ways of choosing a marriage partner in Traditional African Society. (6mks)

c) Outline seven reasons why the church is opposed to female genital mutilation. (F.G.M) (7mks)

PREDICTION 6

NAME……ADM N0……

CLASS……CANDIDATES SIGNATURE……

313/2
CHRISTIAN RELIGIOUS EDUCATION
PAPER 2
Time: 2 ½ Hours

KCSE PREDICTION 6
Kenya Certificate of Secondary Education
CHRISTIAN RELIGIOUS EDUCATION
PAPER 2
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

1. **Write your name and admission number in spaces provided.**
2. **Sign and write the date.**
3. **Attempt any five questions.**
4. **Each question carries 20marks.**

FOR EXAMINERS USE ONLY

1	2	3	4	5	6	TOTAL

This paper consists of 2 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1) (a) Outline Nathans prophecies about the messiah (2samue 17:3-17)(6mks)
   b) Explain simeon's prophetic message about Jesus during his dedication.(7mks)
   c) From Mary's song, the magnificent gives seven ways in which the church can help to uplift the lives of less fortunate. (7mks)

2) (a) Describe the cure of a man who had leprosy(Luke 5:12-14)(6mks)
   b) State seven lessons Christians learn from the healing of the woman with the flow of blood (7mks)
   c) In what ways can Christians in Kenya assist the physically challenged members of society) (7mks)

3) (a) Explain seven reasons why Jesus used parables in his teachings(7mks)
   b) narrate the parable of the widow and the unjust judge (Luke 18:1-8)6mks)
   c) Give seven lessons learnt from the actions of the pilate during the trial of Jesus(7mks)

4) (a) Give seven instructions Paul gave to the church in Corinth on how to use the spiritual gifts(7mks)
   b) Explain how the unity of believers is expressed in the image of the bride(rev 21:1-12,2cor 11:2)
   c) Outline the importance of the holy spirit to Christians today (7mks)

5) (a) Identify eight Christians teachings on work(8mks)
   b) State the role of professional ethics.(8mks)
   c) Explain six ways in which the church is helping to reduce the rate of unemployment(6mks)

6) (a) What was the impact of money economy on traditional African community (6mks)
   b) Outline seven obstacles to effective maintenance of law ,order and justice in Kenya today.(7mks)
   c) List down seven effects of scientific discoveries that remain a challenge to many governments today (7mks)

PREDICTION 6

NAME……ADM NO: …….....

SCHOOL…… INDEX NUMBER……...

565/1
BUSINESS STUDIES
PAPER 1
TIME: 2 HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education
565/1
BUSINESS STUDIES PAPER 1

INSTRUCTIONS TO STUDENTS

a) Write your name admission number in the spaces provided above
b) This paper contains 25 questions. Check the question paper to ascertain all pages and questions are there. Write your answers in the spaces provided
c) Answer all questions in English

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

13	14	15	16	17	18	19	20	20	22	23	24	25

This paper consists of 8 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

1. Amina complains to her friend that these days she is finding it increasingly hard to satisfy her needs. Give four reasons why she may be facing such a situation.
   a) ……
   b) ……
   c) ……
   d) ……
2. A resource is something that is used by a business to achieve an objective. Identify **four** resources available in a business**.** (4mks)

   a)……..

   b)…….

   c)……..

   d)…….

3. State **four** factors that an entrepreneur would consider before investing in a business opportunity

   a)……

   b)……

   c)……

   d) ……..……

4. The quantity demanded and supplied of a certain commodity can be expressed as Q_d=50+20p and Q_S= 20+16p respectively.

   Find

   i) Equilibrium price (2marks)

.

   ii) Equilibrium quantity (2 marks)

5. The table below shows the growth rate of Gross Domestic product (GDP) of a certain Country for two years

Year	G.D.P
2003	4.0%
2005	6.5%

Highlight **four** circumstances under which the standards of living of the citizens of the country referred to above may not necessarily have been higher in 2005 than 2003. (4mks)

a) ……..

b) ……..

c) ……..

d) …….

6. Outline **four** sources of monopoly power. (4 marks)

(a) ……

(b) ……

(c) ……

(d) …….

7. State any four money transfer facilities offered by commercial banks (4mrks

(a) ……

(b) ……

(c) ……

(d) …….

8. State four benefits of warehousing to consumers (4mrk)

(a) ……

(b) ……

(c) ……

(d) …….

9. Indicate the source document and the book of original entry in which each of the following transaction should be recorded (4 mrks)

No.	transaction	source	Book of original entry
a	Purchase of goods on credit		
b	Payment of cash to a creditor		
c	Sale of goods on credit		
d	Sale of fixed asset on credit		

10. The cost of consumer goods and services for a representative basket of an average family is given below.

Year	**2012**	**2013**
Prices	Kshs. 1200	Kshs .1600

Determine the increase in consumer price index using 2012 as the base year

11. Write down four differences between ordinary shares and preferential shares (4mrks)

12. Mango Traders had the following ledger account balances as at 31st December 2019.

	Ksh.
Sales	100,000
Purchases	170,000
Returns inwards	10,000
Returns outwards	20,000
Salaries	30,000
Capital	40,000
Bank loan	50,000

Prepare the business trial balance as at 31 December 2019. {4marks}

13. Outline four positive implications of a youthful population to an economy. {4 marks}

a) ……

(b) ……

(c) ……

(d) …….

14. Outline four barriers to verbal communication 4 marks}

a) ……

b) ……

c) ……

d) …….

15. Highlight four positive impacts of physical environment on operations of a business

a) ……

(b) ……

(c) ……

(d) …….

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

	shs
Furniture	350,000
Debtors	45,000
Cash	7,000
Creditors	48,000

For the year ended 31stDecember 2004,

i) Additional capital was shs 24,000
ii) Drawings were shs 20,000
iii) Net profit was shs34,000

Determine capital at 31st December, 2004

17. Give four basic characteristic features of a business idea (4 mrks)

a) ……

(b) ……

(c) ……

(d) …….

18. State four reasons why a producer may involve wholesaler in distributing products (4 mrks)

a) ……

(b) ……

(c) ……

(d) …….

19. State four factors that determine the premiums charged by insurance companies for life policies(4 mks)

(a) ……

(b) ……

(c) ……

(d) …….

20. State four methods used in trade restrictions. (4 mrks)

(a) ……

(b) ……

(c) ……

(d) …….

21. Highlight four ways in which emergence of COVID- 19 infections negatively affected business operations in Kenya (4 mrks)

(a) ……

(b) ……

(c) ……

(d) …….

22. Write the account to debit and credit in the following transactions (4 mrks)

	transaction	a/c to debit	a/c to credit
a	Returned damaged goods to supplier		
b	Received rent by cheque		
c	Took cash for personal use		
d	Customer returned ordered goods		

23. Highlight four characteristics of lab our as a factor of production (4 mrks)

(a) ……

(b) ……

(c) ……

(d) …….

24. Mention four adverse effects of inflation (4 mrks)

(a) ……

(b) ……

(c) ……

(d) …….

25. The following information relates to Kamautraders for the month of December 2019

Dec 1: sold goods for shs. 45,000 less 10% cash discount

Dec 5: bought goods worth shs 40,000 in cash and was allowed a discount of 5%

Dec 7: a debtor paid shs 20,000 in settlement of a debt of shs. 23,000by cheque

Dec 15: sold goods shs. 20,000 on credit to Jambo traders

Dec 26: paid rent shs. 16,000 by cheque

Post the above transactions in relevant journals

PREDICTION 6

NAME…….……ADM NO: …….....

SCHOOL…….…… INDEX NUMBER……...

565/2
BUSINESS STUDIES
PAPER 2
TIME: 2 HOURS

KCSE PREDICTION 6

Kenya Certificate of Secondary Education
565/2
BUSINESS STUDIES PAPER 2

INSTRUCTIONS TO STUDENTS

a) Write your name admission number in the spaces provided above
b) This paper contains 6 questions. Check the question paper to ascertain all pages and questions are there. Write your answers in the spaces provided
c) Answer all questions in English

QUESTION	1	2	3	4	5	6
MARKS						

TOTAL

This paper consists of 3 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing.

Answer any Five Questions

1. a) Discuss any five economic importance of the recently discovered oil to the Kenya Economy. (10marks)
   b) Describe five monetary tools used by the government to control inflation. (10marks)

2 a) Explain **four** reasons why Boda Boda transport has become a popular means of transport in Kenya. (8 marks)

b) The following trial balance relates to HM Traders Ltd as at 31st December 2011.

HM Traders Ltd
Trial Balance
As 31st December 2011

Particulars	Dr shs	Cr shs
Capital		283,200
Drawings	8000	
Cash at Bank	30,000	
Machinery	360,000	
Debtors	42 700	
Creditors		20 000
Stock (1.1.2011)	40000	
Sales		570 000
Purchases	325 000	
Return inwards	10000	
Return onwards		15000
Carriage inwards	4000	
Carriage outwards	5000	
Rent	18000	
Salaries and wages	40000	
Discounts Received		9000
General expenses.	14,500	
	897 200	897 200

Stock as at 31/12/2011 was valued at shs. 35,000

Required:

i)Prepare a trading, profit and loss account for the year ended 31st December, 2011(8 marks)

ii)Draw a balance sheet as at 31st December, 2011. (4 marks

3 (a) Explain five consideration for proper use of County Funds (10 marks)

(b) The following table represents the supply of potatoes for 3 months.

Year 2010	Price Per Kg	Quantity Supplied (Kgs)
January	100	100,000
February	100	90,000
March	100	80,000

Explain five reasons to account for the change in quantity supplied of potatoes in the market. (10 marks)

4 a)Mr Yego,a tea farmer in Kericho, wants to join Kiptigis farmers' co-operative society. Explain five benefits that would accrue to him as a result of being a member of the society (10marks)

b) On 1st September 2006,Mau Enterprises had the following balance.

Cash shs. 55,000
Bank shs. 250,000 (CR)

During the month, the following transaction took place
September 2nd: Cash Sales Banked shs. 535,260
3rd: Bought Ribbons in cash shs.4, 500
8th: Paid Wangila ,a creditor shs. 94,000 by cheque in full settlement of his Account after deducting 6% cash discount
12th: Received a cheque for shs.58, 800 from Wetu after allowing her cash discount of shs.1, 200
15th: Paid salaries shs.34, 000 in cash
25th: Withdrew shs. 50,000 from bank for office use
28th: Anyango a debtor, paid her account of shs.75.000 by cheque less 10% cash discount.
30th: Deposits all the cash into Bank except shs. 13,700

Required: Prepare a **three** column cash Book as at 30th September 2006 (10mrks)

5) a) Explain **five** measures that Kenya can take to solve the problem of unemployment. (10 marks)

b) Kenya is looking forward to the realization of vision 2030, explain five obstacles that may hinder the successful implementation of the development plan. (10marks)

6 (a) Draw five differences between perfect competition and monopolistic competition (10marks)

(b) Explain five negative implications of production activities on the environment (10marks)

PREDICTION 6

NAME ……..…… **ADM NO……** **CLASS……**

SCHOOL …… **SIGN……** **DATE……..……**

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

KCSE PREDICTION 6

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your name, index number and class in the spaces provided above.*
- *This paper consists of **THREE SECTIONS, A, B** and **C.***
- *Answer all questions in sections **A** and **B** and two questions in section **C.***
- *All your answers must be written in the spaces provided in this question paper.*

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
TOTAL		**90**	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing

SECTION A (30 MARKS)

Answer all questions from this section

1. What do the following terms mean? (1 ½ mks)
   a) Gross domestic product (G.D.P)

   ……

   ……

   b) Gross national income (GNI)

   ……

   ……

   c) Per capita income

   ……

   ……

2 a) What does the term opportunity cost in farming mean? (1mk)

   ……

   ……

   b) State two situations when opportunity cost is nil or zero (2mks)

   ……

   ……

3. List four advantages of individual owner tenure system (2mks)

   ……

   ……

   ……

   ……

4. State two ways to show how check dams reduce soils erosion (1mks)
5. Identify four soil constituents. (2mk)

…….

…….

…….

…….

6. Mention four ways of classifying herbicides (2mks)

…….

…….

…….

…….

7 (a) List two ways of controlling smut disease in the field. (1mk)

…….

…….

(b) Name any two pests that attack bean pods in the field (1mk)

…….

…….

8. What four factors should a farmer consider for effective control of pests in the field …….

…….

…….

…….

(2mks)

9. Mr. Wotsula Applied 150kg N.P.K 25:20:15 to his one hectare of groundnuts in his Kakamega

farm. Calculate how many kilograms of each of the fertilizer element he applied. (3mks)

10.State five marketing functions (2 ½mks)

…….

…….

…….

…….

…….

11. State five functions of cooperative societies (2½ mks)

…….

…….

…….

…….

…….

12. List three characteristics of green manure crops (1 ½ mks)

…….

…….

…….

13.Name three types of water pumps to be used on the farm. (1 ½ mks)

…….

…….

…….

14. Name four species of trees commonly used in agroforestry (2mks)

…….

…….

…….

…….

15. List four factors that determine the competitive ability of weeds (2 mks)

…….

…….

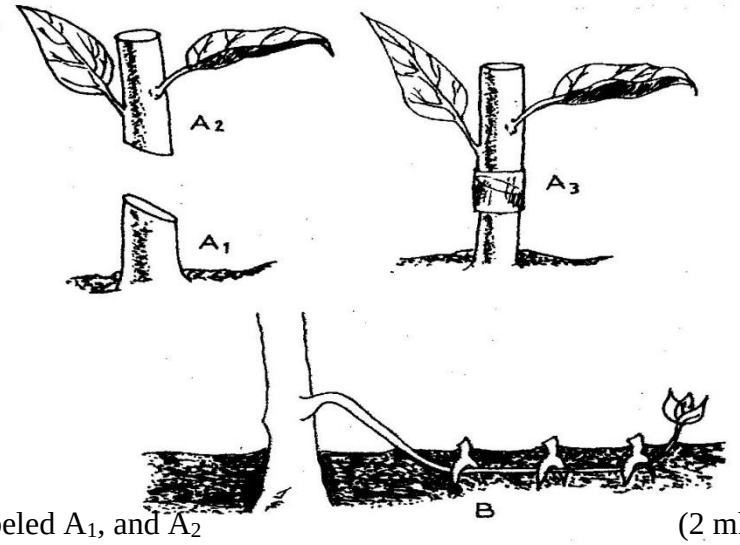
…….

…….

SECTION B: (20 MARKS)

Answer all questions in this section

16. The diagrams labeled A_1, A_2, A_3, and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



(a) Name the parts labeled A_1, and A_2 (2 mks)

A_1 - …….

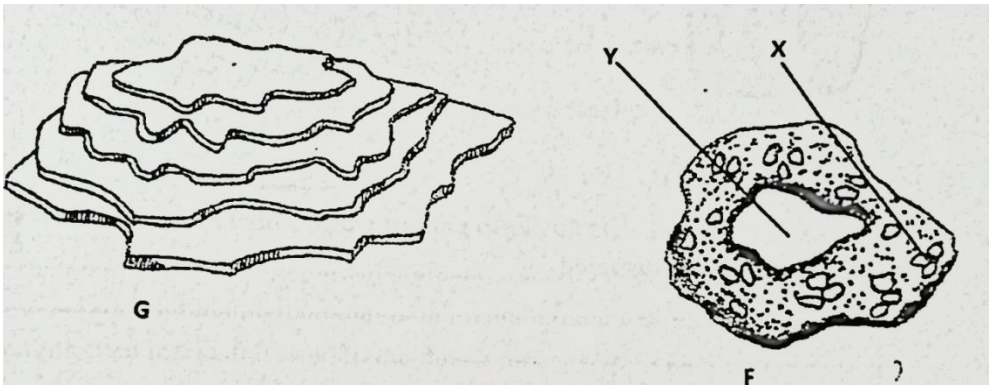
A_2 - …….

(b) Name the methods of propagation illustrated in diagrams A_3 and B (2 mks)

A_3 ……..….

B- …….

17. The diagram below illustrates some soil structures. Study it and answer the questions that follow.



a) Identify the soil structures F and G (2mks)

…….

b) Name the parts labeled X and Y in diagram F (1mk)

…….

…….

…….

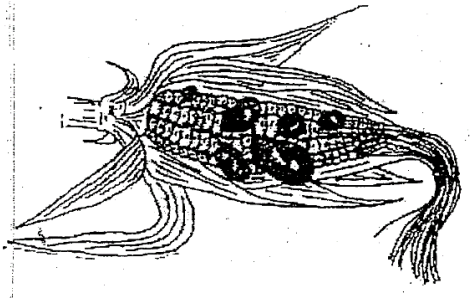
c) Sate two ways through which structure G influences crop production (2mks)

…….

…….

18. Below is an illustration of a maize cob attacked by smut disease. Study it carefully and

answer the questions that follow:



a) Beside what is visible on the maize cob, state two other symptoms of the disease (2mks)

…….

…….

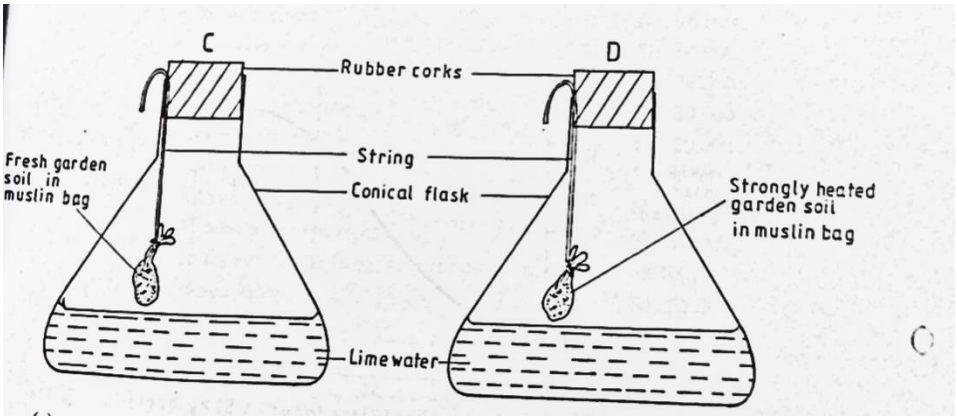
b) State three control measures of the above disease. (3mks)

…….

…….

…….

19. The diagram below shows a set up used to study an aspect of soil. The set up was left undisturbed for five hours. Study it and answer the questions that follow.



a) What was the aim of the experiment? (1mk)

…….

b) State one observation that was made in each of the flasks labelled C and D (2mks)

C- …….

D-…….

c) Give a reason for your answer in (b) above (2mks)

……

d) Apart from the aspect under the study above, state any other soil component that could be studied (1mk)

……

……

SECTION C: (40 MARKS)

Answer any TWO questions from this section

20. The following table shows an illustration of production of maize (in tons) using various levels of inputs.

Units of variable input (Man hours)	Total output of maize (Tons)	Marginal Product	Average product
0	0		
1	6		
2	18		
3	33		
4	40		
5	45		
6	48		
7	48		
8	40		

a) Work out the marginal product and average product and fill in the table (9mks)

b) On the same graph paper, plot the graph showing total output, marginal product and average product against variable input (8mks)
c) On the graph draw lines to show the following zones (3mks)
   i) Increasing return production function
   ii) Decreasing return Production function
   iii) Diminishing return production function

21(a) Outline five benefits of trees and shrubs to the economic wellbeing of Kenyans (5mks)

b) Explain 7 ways on how farmers overcome risks and uncertainties in a farming business (7mks)

c) Explain the factors that influence the type of irrigation to be used in a farm (8 mks)

22 (a) State the principles involved in planning a crop rotation programme.(6mks)

(b) Discuss the production of maize under the following subheadingsMaize

I Seedbed preparation (2mks)

ii) Planting (2mks)

iii) Weed control (2mks)

iv) Field management practices (2mks)

v) Pests control (2mks)

vi) Disease control (2mks)

vii) Harvesting (2mks)

…….

…….

…….

…….

…….

…….

…….

…….

………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………
………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……

PREDICTION 6

NAME ……... …… ADM NO…… CLASS……

SCHOOL …… SIGN…… DATE……...……

443/2
AGRICULTURE
PAPER 2
TIME: 2 HOURS

KCSE PREDICTION 6

443/2
AGRICULTURE
PAPER 2
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

a) *Write your name, index number and class in the spaces provided above.*
b) *This paper consists of **THREE SECTIONS, A, B** and **C.***
c) *Answer all questions in sections **A** and **B** and two questions in section **C.***
d) *All your answers must be written in the spaces provided in this question paper.*

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
TOTAL		**90**	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no pages are missing

SECTION A: (30 MARKS)

Answer all the questions from this section.

1. State the use of each of the following tools . ($1^1/_2$mks)
   (i) Strip cup:
   ……

   (ii) Sickle:
   ……

   (iii) Stock and die:
   ……

2. Name two reasons why rabbits hutches should be raised above the ground. (1mks)

   .....

   ……

3. Name two predisposing factors of coccidiosis,. (1mks)

   .....

   ……

4. Define the following terms as used in livestock production.
   (i) Crutching (1mk)
   .....

   ……

   (ii) Farrowing: (1mk)
   .....

   ……

5. Name the infective stage of the liver flake in livestock. (1mk)

   .....

6. State four disadvantages of using human power instead of tractors as a source of power in a farm. (2mks)
   .....

   ……

   .....

   ……

7. Name two tractors drawn implements attached to the tractor at one- point hitch. (1mks)

.....
……

8. Distinguish between pen mating and flock mating in poultry. (2mks)

.....
……

9. Give two ways in which proper breeding and selection helps to control livestock diseases. (1mk)

.....
……

10. (a) Name two types of feed additives. (1mk)

.....
……

(b) Give two reasons why it is important to include additives in commercial feeds. (1mk)

.....
……

11. (a) Name four pig breeds commonly reared in Kenya. (2mks)

.....
……
.....
……

(b) Name four characteristics of dairy cattle breeds. (2mks)

.....
……
.....
……

12. Outline four qualities of eggs used for incubation. (2mks)

.....

……

.....

……

13. (a) Name two hormones that control milk let down in dairy cow. (1mk)

.....

……

(b) State four factors that influence milk let – down. (2mks)

.....

……

.....

……

14. State four reasons why bees may swarm from a hive . (2mks)

.....

……

.....

……

15. Name three sources of water in the body of livestock. ($1^1/_2$mks)

.....

……

.....

……

16. Name four cattle diseases whose outbreak calls for quarantine. (2mks)

.....

……

.....

……

17. State two functions of ventilation in a pig house. (1mk)

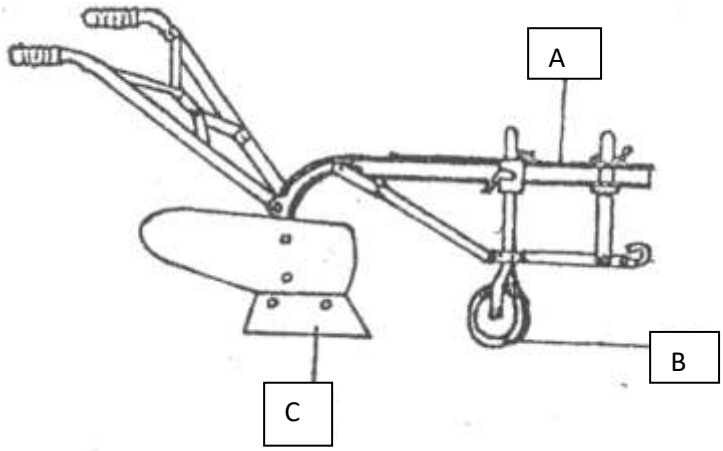
.....

……

SECTION B: (20MARKS)

Answer all the questions from this section.

18. The diagram below shows a farm implement used by small scale farmers for several operations in the farm. Study it carefully and then answer the questions that follow.



(a) Identify the implement. (1mk)

.....

(b) State the function of the part labeled A, B and C. (3mks)

A .....

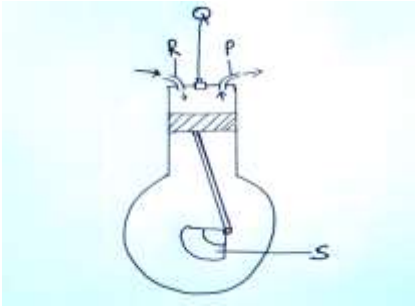
B …….

C ……

(c) Apart from land preparation, state any other one operations that can be done using the above implement. (1mk)

.....

19. The illustration below shows an engine cylinder.



(i) Identify the parts labeled P, Q, R and S (2mks)

P ……

Q ……..

R …….

S ……...

(ii) Give the function of the part labeled Q above. (1mk)

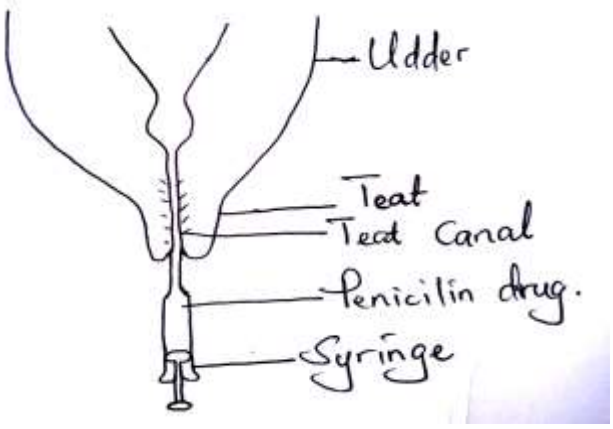
.....

(iii) Give two disadvantages of four-stroke engines. (2mks)

.....

……

20. The activity illustrated below indicates a task undertaken in farm animals.



(i) Name the above activity. (1mk)

.....

(ii) State the importance of the above activity. (1mk)

.....

(iii) Name the disease controlled by the above practice. (1mk)

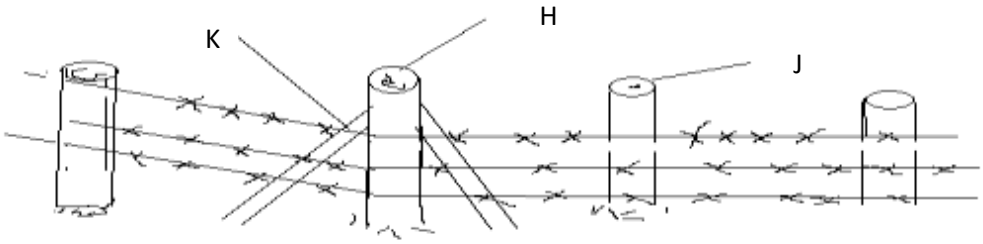
.....

(iv) Name two other diseases that only attack female cattle. (2mks)

.....

……

21. Below is a diagram showing parts of a fence. Use it to answer the questions that follow.



(a) Identify the type of fence above. (1mk)

……

(b) Name the parts labeled H and J. (2mks)

H ……

J …….

(c) What is the role of the part labeled K? (1mk)

.....

……

(d) On the diagram, draw a dropper in the right position. (1mk)

SECTION C: (40MARKS)

Answer any two questions from this section on the spaces provided after the last question.

22. (a) Discuss bloat under the following sub-headings.

((i) Species of animals effected. (3mks)

(ii) Causes of the disease. (4mks)

(iii) Symptoms

(iv) Control. (2mks)

(b) Discuss various types of tools required to construct a barbed wire fence. (5mks)

23. (a) Describe various cultural uses of livestock. (8mks)

(b) Describe various livestock rearing practices. (12mks)

24. (a) State four functions of vitamins in livestock nutrition. (4mks)

(b) Tabulate the differences between digestion in ruminants and non-ruminants. (6mks)

(c) Discuss the components of the cooling system of a tractor. (10mks)

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……