KCSE PREDICTION 3
ALL SUBJECTS

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

All the best!

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PREDICTION 3

NAME: ……..…….. INDEX NO: ……

SCHOOL: ……

CANDIDATE SIGN: ……

DATE: ……

121/1
MATHEMATICS
PAPER 1
TIME: 2 ½ HOURS

KCSE PREDICTION 3

INSTRUCTION

a) Write your name and index number in the spaces provided above.
b) Sign and write the date of the examination in the spaces provided above.
c) This paper consist of **TWO** sections: **section I** and **Section II.**
d) Answer **ALL t**he questions in **Section I** and only **five** questions from **section II.**
e) Show all the steps in your calculations, giving your answers at each stage in the stage in the spaces below each question.
f) Marks may be given for correct working even if the answer is wrong.
g) **Non-programmable** silent electronic calculators **and** KNEC mathematical tables may be used, except where stated otherwise.

Section I

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

Section II

17	18	19	20	21	22	23	24	Total

Grand Total

SECTION 1: 50 MARKS. ANSWER ALL THE QUESTIONS

1. Evaluate: (3marks)

$\frac{3}{5} - 1\frac{2}{5} \div 1\frac{3}{4}$ of $2\frac{1}{3}$

$\frac{12}{17}$ of $(1\frac{3}{7} - \frac{5}{8} \times \frac{2}{3})$

2. A Kenyan businessman bought goods from Japan worthy 2,950,000 Japanese yen. On arrival in Kenya, custom duty of 20% was charged on the value of the goods. If the exchange rate were as follows:-
1 US dollar = 118 Japanese Yen
1US dollar = 76 Kenyan shillings Calculate the duty paid in Kenyan shillings. (3Mks)

3. A rally car travelled for 2 hours 40 minutes at an average speed of 120km/h. the car consumes an average of 1 litre of fuel for every 4 kilometers. A litre of fuel costs Ksh.59. Calculate the amount of money spent on fuel. (3mks)

4. The curved surface area of a cylindrical container is 1980cm^2. If the radius of the container is 21cm, calculate to one decimal place the capacity of the contai(Take $\pi = \frac{22}{7}$). (4 mks)

5. Given that $\sin\theta = \frac{5}{13}$, find $\tan(90-\theta)$ in its simplest form. (2mks)

6. The equation of line L_1 is $2x - 5y - 10 = 0$. Find the equation of line L_2 perpendicular to L_1 and passing through (5, -2) express your equation in the form $y=mx + c$ (3mks)

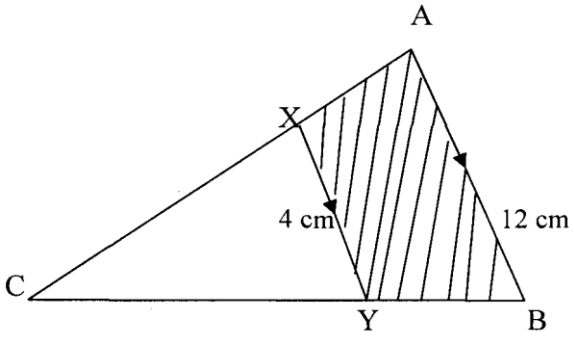
7. One interior angle of a polygon is equal to 80^0 and each of the other interior angles are 128°. Find the number of sides of the polygon. (3 mks)

8 . The length of a rectangle is (3x + 1) cm, its width is 3 cm shorter than its length. Given that the area of the rectangle is 28cm^2, find its length, (3 marks)

9. Simplify the expression. (3mks)

$$\frac{4x^2 - y^2}{3y^2 - 7xy + 2x^2}$$

10. In the figure below, lines AB and XY are parallel.



If the area of the shaded region is 36 cm^2, find the area of triangle CXY.
(3 marks)

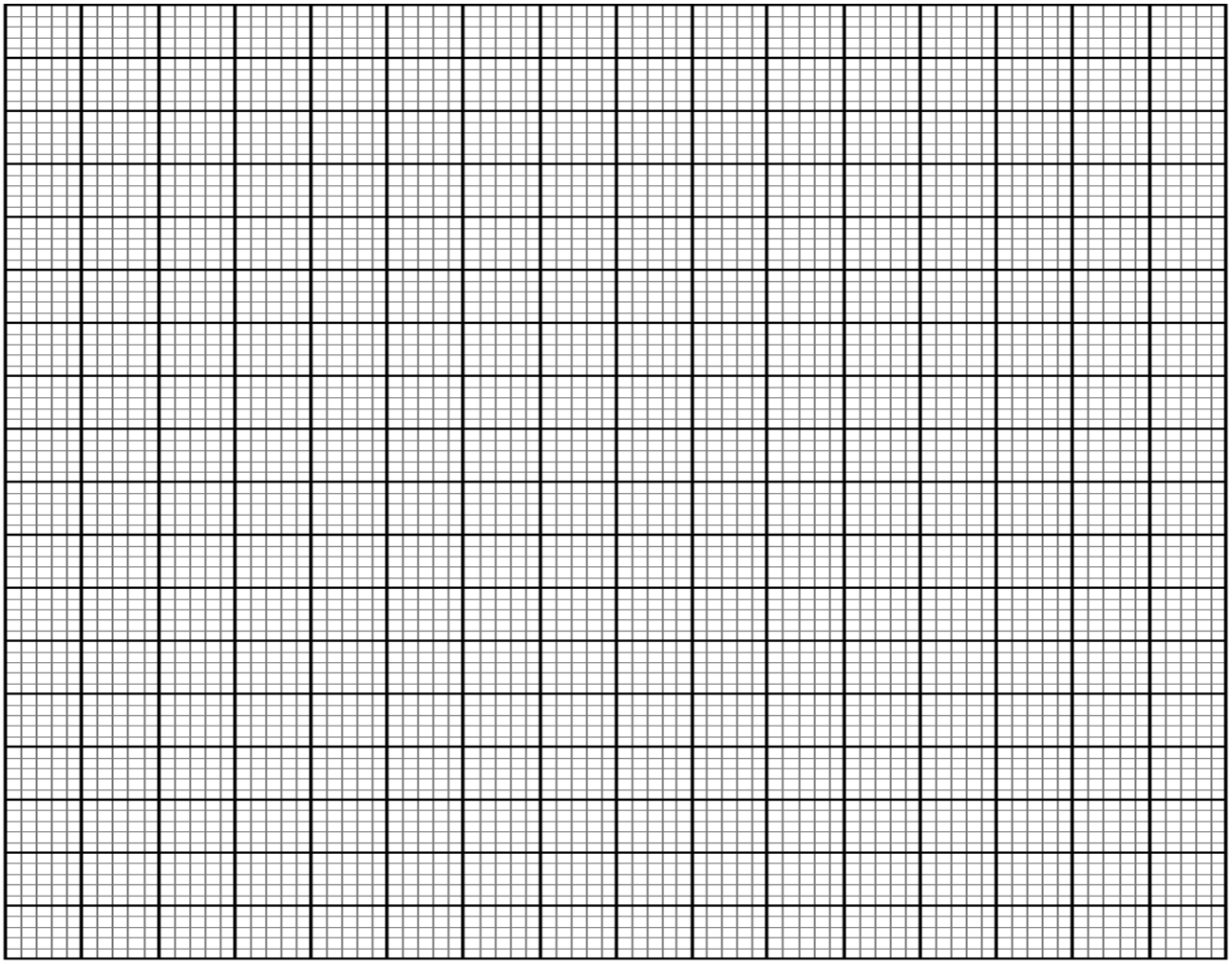
11. Using a pair of compasses and a ruler only construct a triangle ABC and such that AB= 4cm, BC =6cm and angle ABC=135^o. (2mks)

(b) Construct the height of triangle ABC in (a) above taking AB as the base, hence Calculate the area of triangle ABC. (2 mks)

12. The external length width and height of an open rectangular container are 41cm, 21cm and 15.5cm respectively. The thickness of the materials making the container is 5mm. If the container has 8 litres of water. Calculate the internal height above the water level. (3mks)

13. A triangle P with vertices x(2,4), Y(6,2) and z(4,8) is mapped onto triangle P^1 with vertices X^1 (10,0), Y^1(8, -4) and Z^1(14, -2) by a rotation.

a) On the grid provided, draw triangle P and its image (2mks)

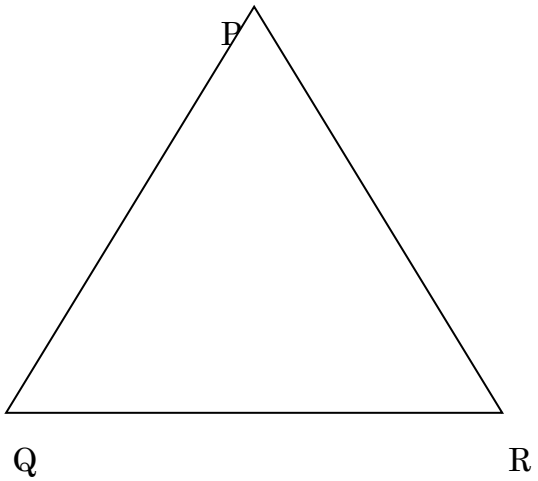


b) Determine the centre and angle of rotation that maps P onto P^1 (2mks)

14. Solve the following inequalities and state the integral values (3mks)

$2x - 2 \leq 3x + 1 < x + 11$

15. In the triangle PQR below, PQ =12cm, <PQR = 80^0 and <PRQ= 30^0



Calculate, to 4 s.f, the area of the triangle PQR (3mks)

16. A two digit number is such that the sum of digits in 13. When the digits are interchanged, the original number is increased by 9. Find the original number. (3mks)

SECTION II (50 MARKS)

Answer only five questions in this section

17. 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 (3, 5). Find.

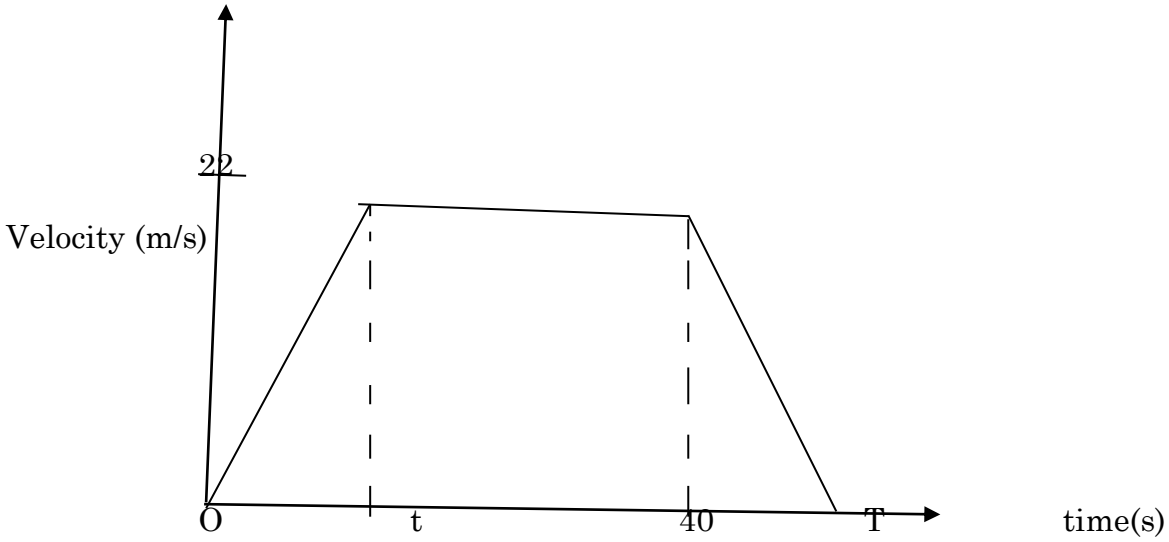
(a) The equation of L_1. (2mks)

(b) The equation of L_2 in the from ax+by+c=0 (2mks)

(c) The equation of a line passing through a point S (0, 1.5) and is perpendicular to L_2. (3mks)

d) The point of intersection of a line passing through S and L_2 3mks

18. The figure below shows a velocity – time graph of a car journey.



The car starts from rest and accelerates at $2.75m/s^2$ for t seconds until its speed is 22m/s. It then travels at this velocity until 40 seconds after starting. Its breaks bring it uniformly to rest. The total journey is 847m long and takes T seconds. Calculate the

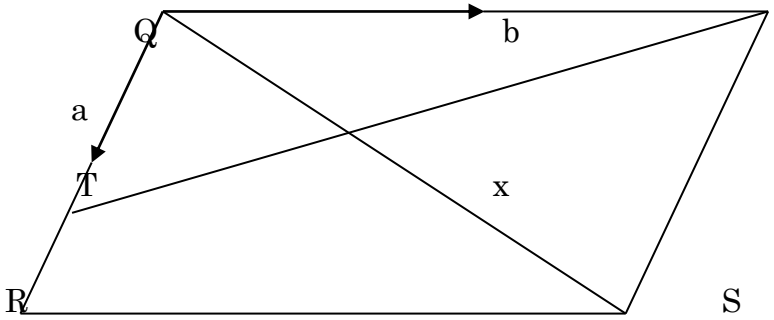
(i) Value of t (3mks)

(ii) Distance travelled during the first t seconds (2mks)

(iii) Value of T (3mks)

(iv) Final deceleration (2mks)

19. In the figure below, QT = a and QP = b.



(a) Express the vector PT in terms of a and b. (1mk)

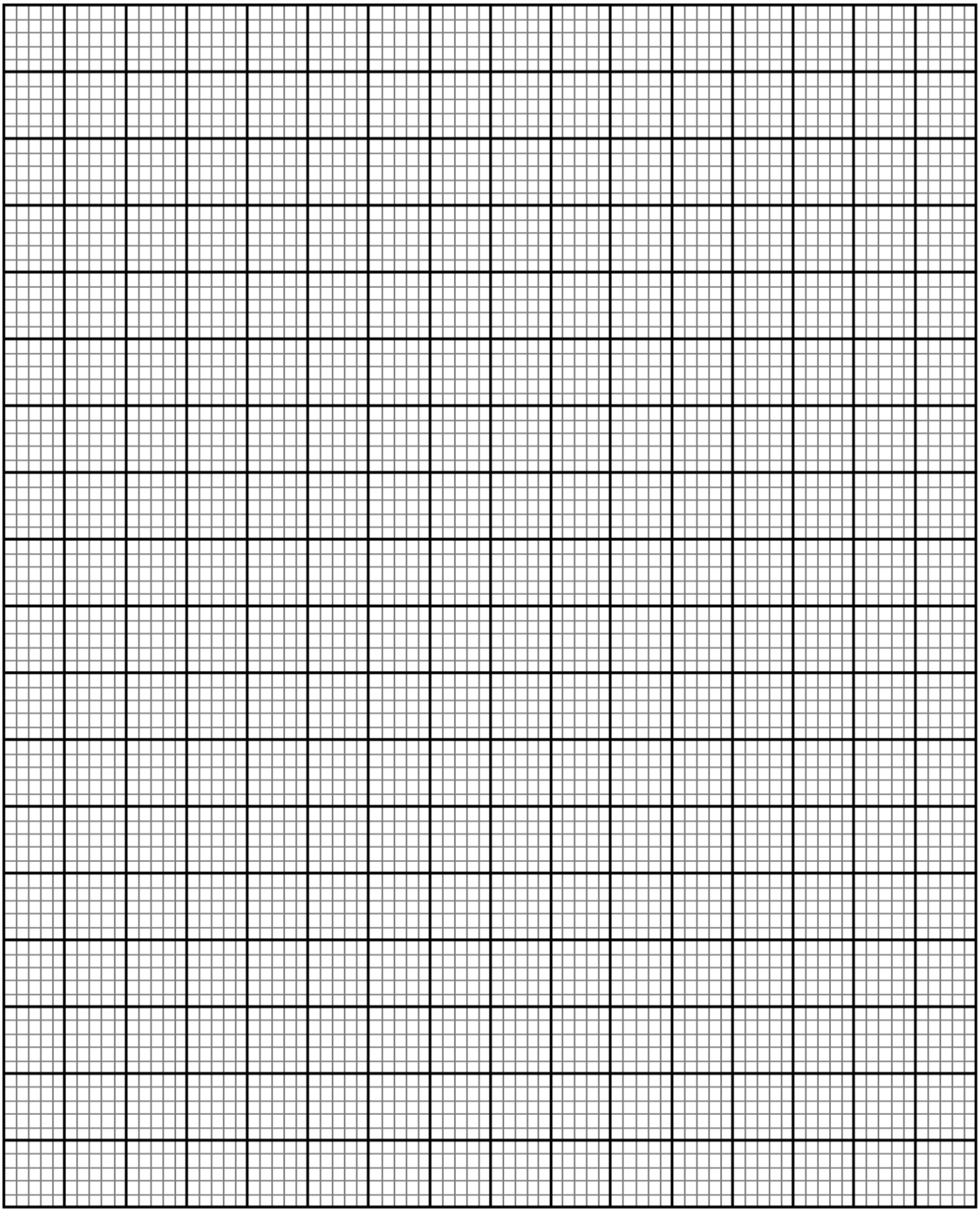
(b) If PX = kPT, express QX in terms of a, b and k, where k is a scala. (3mks)

(c) If QR = 3$\underset{\sim}{a}$ and RS = 2$\underset{\sim}{b}$, write down an expression for QS in terms of $\underset{\sim}{a}$ and $\underset{\sim}{b}$. (1mk)

(d) If QX = tQS, use your result in (b) and (c) to find the value of k and t. (4mks)

(e) Find the ratio PX : XT. (1mk)

20. A triangle with A(-4, 2), B(-6, 6) and C(-6, 2) is enlarged by a scale factor -1 and centre (-2, 6) to produce triangle $A^1B^1C^1$.
    a) Draw triangle ABC and $A^1B^1C^1$.and state its coordinates 4mks



b) Triangle $A^1B^1C^1$ is then reflected in the line $y = \chi$ to give triangle $A^{11}B^{11}C^{11}$.draw $A^{11}B^{11}C^{11}$.and state its coordinates 3mks

c) If triangle $A^{11}B^{11}C^{11}$ is mapped onto $A^{111}B^{111}C^{111}$ whose co-ordinates are $A^{111}(0, -2)$, $B^{111}(4, -4)$ and $C^{111}(0, -4)$ by a rotation. Find the centre and angle of rotation. (3mks)

21. Four towns P, R, T and S are such that R is 80km directly to the north of P and T is on a bearing of 290° from P at a distance of 65km. S is on a bearing of 330° from T and a distance of 30 km. Using a scale of 1cm to represent 10km, make an accurate scale drawing to show the relative position of the towns. (4mks)

Find:

(a) The distance and the bearing of R from T (3mks)

(b) The distance and the bearing of S from R (2mks)

(c) The bearing of P from S (lmk)

22. Four towns A, B, C and D are such that B is 80km directly North of A and C is on a bearing of 300^0 from A at a distance of 50km. D is on a bearing of 345^0 from C at a distance of 30km.

a) Using a scale of 1cm rep 10km, draw the relative positions of the towns (4mks)

b) Find:

(i) The distance and bearing of B from C (2mks)

(ii) The distance and bearing of B from D (2mks)

(iii) Calculate the distance of ABCD (2mks)

23. A school in Meru Central decided to buy x calculators for its students for a total cost of ksh. 16,200. The supplier agreed to offer a discount of ksh. 60 per calculator. The school was then able to get three extra calculators for the same amount of money.

(a) Write an expression in terms of x , for the

(i) Original price of each calculator (1mk)

(ii) Price of each calculator after the discount (1mk)

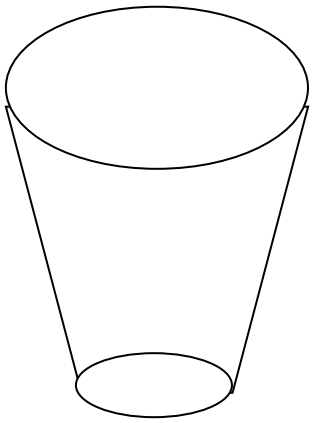
b) Form an equation in x and hence determine the number of calculators the school bought (5mks)

c) Calculate the discount offered to the school as a percentage (3mks)

24. 20.A solid is made up of a conical frustum and a hemispherical top. The slant height of the frustum is 8cm and its base radius is 3.5cm. If the radius of the hemispherical top is 4.2cm.

(a) Find the area of:

(i) The circular base. (2 Marks)



(ii) The curved surface of the frustum (3 Marks)

(iii) The hemispherical surface (3 Marks)

(b) A similar solid has a total surface area of 81.51cm^2. Determine the radius of its base. (2 Marks)

PREDICTION 3

NAME: ……..…….. INDEX NO: ……..

SCHOOL: ……

CANDIDATE SIGN: ……

DATE: ……

121/2
MATHEMATICS
PAPER 2
TIME: 2 ½ HOURS

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES:

(a) Write your name and index number in the spaces provided above
(b) Sign and write the date of examination in the spaces provided above.
(c) This paper consists of ***TWO*** sections: ***Section I*** and ***Section II.***
(d) Answer ***ALL*** the questions in ***section I*** and only five from ***Section II***
(e) All answers and working must be written on the question paper in the spaces provided below each question.
(f) ***Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.***
(g) Marks may be given for correct working even if the answer is wrong.
(h) ***Non-programmable*** silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.

FOR EXAMINER'S USE ONLY

Section I

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

Section II

17	18	19	20	21	22	23	24	Total

Grand Total

SECTION 1 : 50 MARKS.
ANSWER ALL THE QUESTIONS

1. Evaluate without using Mathematical tables or a calculator. (3mks)

$$2\log 5 - \frac{1}{2}\log 16 + 2\log 40$$

2. The sum of K terms of sequence 3,9,15,21.....is 7500. Determine the value of K. (3mks)

3. Use matrix method to solve (3mks)

$5x + 3y = 35$

$3x - 4y = -8$

4. Calculate the percentage error in the volume of a cone whose radius is 9.0cm and slant length 15.0cm. (3mks)

5. Make y the subject the subject of the formula (3mks)

$$\frac{p}{w} = \frac{my-2}{ny+4}$$

6. Solve for **x**: $\tan^2 x - 2\tan \mathbf{x} = 3$ for the interval $0 \leq \mathbf{x} \leq 180^o$ (3 marks)

7. The table below shows income tax rates in the year 2013.

Monthly Income in Ksh	Tax rate in each shilling
Up to 9680	10%
9681-18800	15%
18801 – 27920	20%
27921 – 37040	25%
Over 37040	30%

In that year, a monthly personal tax relief of ksh 1056 was allowed. Calculate the monthly income tax by a constable who earned a monthly salary of ksh. 42500 (3mks)

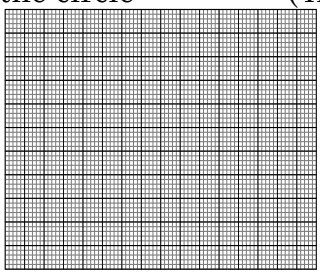
8. Simplify $\frac{2\sqrt{2}}{1+\sqrt{2}} - \frac{\sqrt{2}}{1-\sqrt{2}} = a + b\sqrt{c}$ leaving your answer in the form $a + b\sqrt{c}$, where a, b and c are rational numbers.
(3mks)

9 a) Expand $(1-n)^5$ (2mks)

b) Use the expansion in (a) up to the term in n^3 to approximate the value of $(0.98)^5$ (2mks)

10 The probability that three candidates; Anthony, Beatrice and Caleb will pass an examination are $\frac{3}{4}$, $\frac{2}{3}$ and $\frac{4}{5}$ respectfully. Find the probability that:-all the three candidates will not pass. (2mks)

11. The equation of a circle is $X^2 + Y^2 - 4x + 6y + 4 = 0$. On the graph provided draw the circle (4mks)



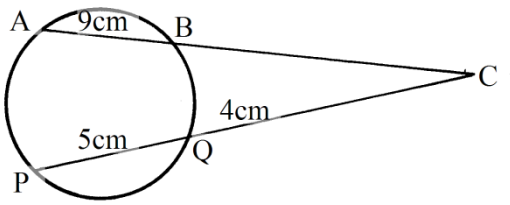
12. Find the shortest distance between points A(50^oS,25^ot) and B(50^oS, 140^oE in KM (Take R=6370 Km) (3mks)

13. The mid-point of AB is (1,-1.5, 2) and the position vector of a point A is $-\underset{\sim}{1}+\underset{\sim}{j}$.

Find the magnitude of $\vec{AB}$ correct to 1dp.
(3mks)

14. Without using a calculator or mathematical tables. Express $\frac{3}{1-COS\,30^0}$ in surd form and simplify (3mks)

15. The figure below shows a circle centre O. AB and PQ are chords intersecting externally at a point C. AB = 9cm, PQ= 5cm and QC = 4cm. Find the length of BC. (3mks)



16. Evaluate without using tables

Log(3x+8) -3log2 = log(x-4) (4mks)

SECTION II (50 MARKS)

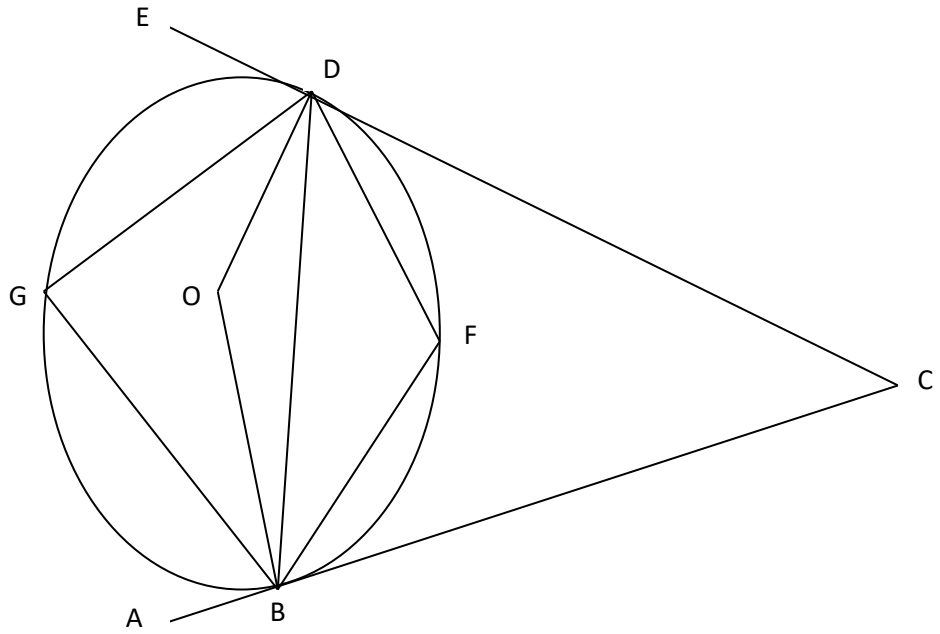
Answer ONLY FIVE questions in this section

17. a) Use the trapezium rule with six trapezia to excrete the areas bounded by the curve $Y=2n^2+ 3n +1$, the axis and the ordinate x=0 and x=3. (5mks)

b) Calculate the exact axed in (a) above by integration. (3mks)

c) Assuming they are calculated in (a) above is an estimate, calculate the percentage error made when the trapezium rule is used leaving your answer to 2 decimal places. (2mks)

18. In the diagram below <EDG=36^0 and <ABG=42^0 Line EDC and ABC are tangents to the circle at D and B respectively.



Calculate by giving reason

a) <DGB (2mks)

b) Obtuse <DOB (2mks)

c) <GDB (2mks)

d) <DCB (2mks)

e) <DFB (2mks)

19. The table below shows the rate at which income tax is charged for all income earned in a month in 2015.

Taxable Income p.m (Kenya pound)	**Rate in % per Kenya pound**
1 -236	10%
237 -472	15%
473 -708	20%
709 – 944	25%
945 and over	30%

Mrs.mumanyi earns a basic salary of 18000.She is entitled to a house allowance of Ksh. 6,000 a person relief of Ksh. 1064 month

. Every month she pays the following.

(i) Electricity bill shs.580
(ii) Water bill shs. 360
(iii) Co-operative shares shs. 800
(iv) Loan repayment Ksh. 3000

(a) Calculate her taxable income in k£ p.m (2Marks)

(b)Calculate her P.A.Y.E (6Marks)

(c) Calculate her net salary (2Marks)

20. A flower garden is in the shape of a triangle ABC such that AB = 9M, AC=7.5M and angle ACB=75%. Using a rule and a pair of compass only.

a) Construct $\triangle$ABC (3mks)

b) Construct a locus of P such that AP = pc (2mks)

c) Construct locus of Q such that it is equal distance from AB and BC and locus of R which is 2M from AC. (2mks)

d) Flowers are to be planted such that they are nearer AC than AB and less than 5m from a shade the portion with flowers. (3mks)

21. A tank has two water taps P and Q and another tap R. When empty the tank be filled by tap P alone in 5 hours or by tap Q in 3 hours .When full the tank can be emptied in 8 hours by tap R

a)The tank is initially empty . Find how long it would take to fill up the tank

i) If tap R is closed and taps P and Q are opened at the same time (2mks)

ii) If all the three taps are opened at the same time .Giving your answer to the nearest minute (2mks)

b) Assume the tank initially empty and the three taps are opened as follows

P at 8:00 am

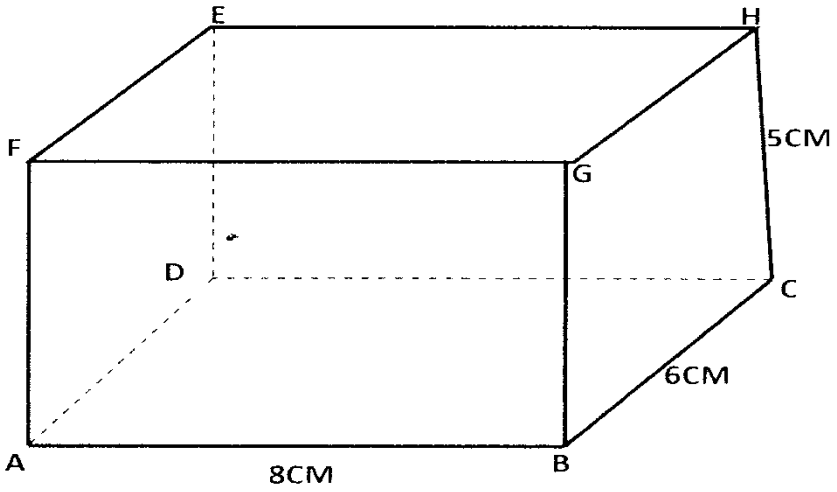
Q at 9:00 am

R at 9:00 am

i) Find the fraction of the time that would be filled by 10:00 am (3mks)

ii) Find the time the tank would be fully filled up. Give your answer to the nearest minute (3mks)

22. The figure below shows a cuboid.



Calculate

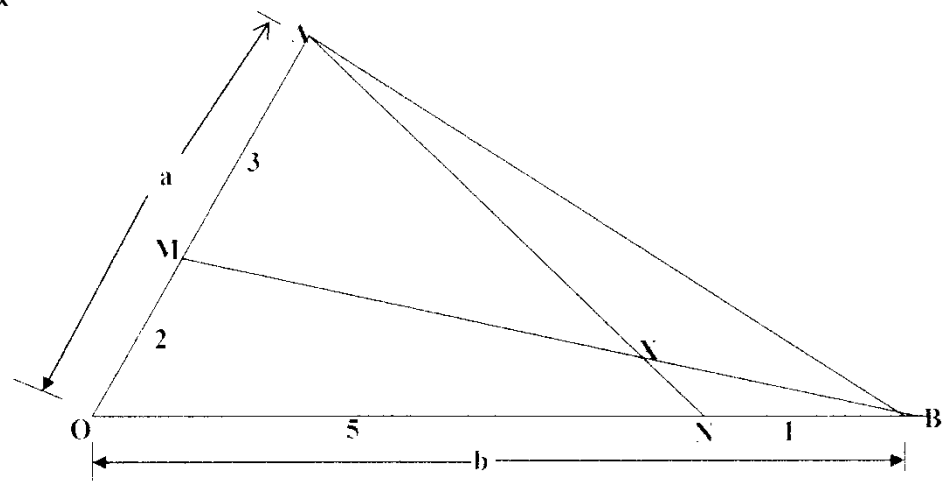
(a) The length BE (2Mks)

(b) The angle between BE and plane ABCD (3Mks)

(c) The angle between FH and BC. (2Mks)

(d) The angle between place AGHD and plane ABCD. (3Mks)

23. In triangle OAB below OA = a, OB = b point M lies on ON such that OM : MA= 2:3 and point N lies on OB such that ON: NB = 5:1 line AN intersect line MB at X



(a) Express in terms of a and b

(i) AN (1mk)

(ii) BM (1mk)

b) Given that AX=kAN and BX=rBM where k and r are scalars.
i. write down two different expression for OX in terms of a, b, k and r. (2mks)

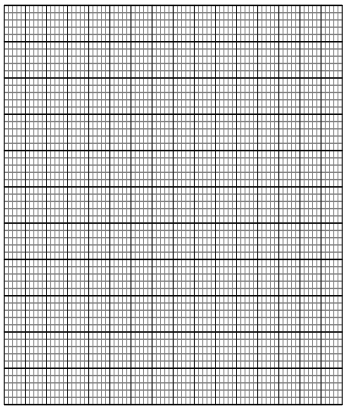
ii. Find the value of k and r. (4mks)

iii. Determine the ratio in which x divides line MB. (2mks)

24. (a) Complete the table below for the function $y=n^3-3k^2-k+2$ for $-2 \leq n \leq 4$. (2mks)

X	-2	-1	0	1	3	4
Y	-6		2			14

b) On the grid provided, draw the graph of $y=n^3-3n^2-n+2$. (3mks)



a) (i) Use the graph to solve the equation
$n^3 - 3n^2 - x + 2 = 0$ (2mk)

(ii) By drawing a suitable line on the graph, solve the equation
$n^3 - 3n^3 - 3n + 3 = 0$ (3mks)

PREDICTION 3

Kenya Certificate of Secondary Education

101/1
ENGLISH
Paper 1
Functional Skills
Time: 2 hours

Name…… Index Number…….

Candidate's Signature…….. Date…….

Instructions to candidates

a) Write your name and index number in the spaces provided above.
b) Sign and write the date of examination in the spaces provided above.
c) Answer all the questions in this paper.
d) All your answers must be written in the spaces provided in the question paper.
e) **This paper consists of 4 printed pages**
f) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
g) Candidates must answer the questions in English.

For Examiner's Use Only

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

Q1. FUNCTIONAL WRITING (20MRK)

Imagine you are the secretary of the wildlife club in your school. Your club is meeting for the second time this term. Six members attended but two could not and gave apologies. The patron is invited and is attending as well. Agenda include: registration of new members, club elections and club prefects for 2021. AOB include invitation of guest speakers and end of the year party.

Write minutes of the proceedings of the meeting.

Q2. CLOZE TEST – 10MKS

Read the following passage and fill in the blank spaces with the most suitable word.

Precis writing is a very fine exercise in reading. Most people (i) …….carelessly and retain only a vague idea of what they have read. You can easily test the (ii)…….of your reading. Read in your usual way a chapter or even a page of a book and (iii)……having closed your book, try to put down briefly the (iv)……..of what you have read. You will probably find that your memory of it is (v)……and muddled. Is this because your memory is (vi)……? No, it is because your attention was not fully (vii) ……..on the passage while you were reading. The memory cannot (viii)……..what was never given to hold; you did not remember the passage properly because you did not properly (ix)…….it as you read it.

Now précis writing forces you (x)……..pay attention to what your read; for one cannot write a summary of any page unless he has clearly grasped its meaning.

Q3. ORAL SKILL – 30MKS)

a) Read the oral narrative and the answer the questions that follow. (9mks)

<u>The Chameleon and The Hare</u>

Chameleon and the hare had always misunderstandings. They always quarrelled over who between them could run faster than the other.

"Chameleon, you are the slowest animal on earth," laughed the hare. "you cannot compete in any race, even among the slowest animals,, including the snail."

"My friend hare, please avoid blowing your own trumpet. I am certain you cannot defeat me in a race. I will finish the race and have enough time to take a meal and a nap before you arrive.

And the great competition was set. Then the day came.

"On your marks, set, goo!"The elephant started off the race.

No sooner had the race started than the chameleon jumped on the hare's tail. The hare ran like he had never run before. At the finishing line, he started celebrating but when he attempted to sit down and wait for the chameleon, the chameleon shouted, "wooii! Please do not sit on me! I arrived long enough to have a meal and a nap. You can never defeat me in a race! Shame on you!"

Questions

i. State two ways in which you would capture the attention of the audience before starting the performance of this narrative. (2mk)

……

……

……

……

……

ii. If you were the narrator of the story, explain three ways in which you would know that you had captured and retained the attention of the audience. (3mks)

……

……

……

……

……

……

……

……

iii. Identify two possible cues that the audience was not listening to you keenly. (2mks)

……

……

……

iv. "Wooi!..." comment on the narrative style of this statement. (2mks)

……

……

……

b) ***Identify the silent letters in the following words.*** **(6 marks)**

i. Practically
ii. Ballet
iii. Bristle
iv. Guilt
v. Baguette
vi. Psychotic

c) ***Pick out the word in which the underlined part is pronounced differently (3mks)***

i) Leisure, measure, pressure, pleasure

ii) Arch, March, search, monarch

iii) Trough, dough, tough cough

d) ***Underline the stressed syllables in the following words.*** **(3 marks)**

i. Palatial
ii. Rejuvenation
iii. Police

e) You have arrived late for work and you are talking to your boss. Fill up the blanks. (9mks)

You:……(1mk)

Boss: Good morning Albert. Why have you come late?

You: ……(1mk)

Boss: It must been really a huge traffic jam. You are two hours late.

You: ……(1mk)

Boss: But on often come late, it's your habit.

You:……

……(2mks)

Boss: (Interrupting) I think you should resign and look for another job.

You:……

……(2mks)

Boss: You have already got many chances. How will this office run if the staff come late?

You:……(1mk)

Boss: I will give you the last chance. Now, get up and go to your work.

You: ……(1mk)

PREDICTION 3

NAME:……..……INDEX NO:…….……

CANDIDATE'S SIGNATURE: …….

DATE: ……

101/2
ENGLISH
PAPER 2
(Comprehension, Literary Appreciation
and Grammar)
2 ½ HOURS

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES

- *Write your name and index in the spaces provided above. Sign and write the date of examination in the spaces provided above.*
- *Answer ALL the questions in this question paper.*
- *ALL your answers must be written in the spaces provided in the question paper.*

For Examiner's Use Only

Question	Maximum	Score
1	20	
2	25	
3	20	
4	15	
Total score		

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

Question 1

Read the passage below and answer the questions that follow:

A growing number of people are being afflicted with a condition christened " Cyberchondria" – the techies' term for patients who use the internet for self-diagnosis, and then present "misinformation" to their doctor.

Many of those who result to internet for solutions to their health problems say they want information on a medically diagnosed disease or illness, or to find alternative treatments.

Others seek support from fellow sufferers. There are those who turn to online diagnosis because of the state of government health services in the country. Our health service is itself not entirely healthy, and it barely survives with shoe-string budgets, low staffing levels and long queues of patients praying for help.

Internet statistics show that sites offering information on issues related to skin disorders, HIV and Aids, diabetes, cancer and sexually transmitted infections register more hits than other health information searches on the internet.

Self-diagnosis using medical websites is tricky, especially because these websites cover specific medical conditions. For example, if you type the symptom 'stomach pain into the search engine of a general health and medical website, it may offer gastritis, appendicitis, irritable bowel syndrome or gastoententis for further information.

It would be a mistake to consider these suggestions as possible diagnoses, because your stomach pain could be caused by a build-up of gas following the baked beans and eggs you had for lunch! The same goes for physical pains, such as pain in the lower back, or neurological symptoms. You can't rely on a website for self-diagnosis because it is going to spit out the most common reason for your symptoms, which may not be accurate.

It is better to present your aching stomach or back to your physician or health care professional for a more informed diagnosis. Otherwise, you may be wasting time, prayers, money and emotional energy taking care of a disease that you don't actually have. Whereas internet information can be valuable, the online health consumer should be wary because medical misinformation or ' cyberquackery' is rife on the internet. It is important to know how to recognize a reputable site.

You also can't use the Internet as the gospel truth to determine health problems because not all diseases and disorders are going to be catalogued on websites.

Even a seemingly thorough site like WebMD.com is going to miss something, and you don't want to rely on incomplete information.

Furthermore, you have no way of guaranteeing that the health information found on the Internet is accurate, I'm a public health technician, with bias in monitoring and evaluation, but I can start a website that says just about anything notwithstanding. I don't have to have a medical degree to give faulty advice.

Online diagnosis may breed panic and apprehension. Many people look up their symptoms on the internet and discover that they could have any number of terminal or serious illnesses when they really have nothing to worry about at all.

Why put those types of thought in your head? Generally speaking, doctors advise that one should ask a few questions about the information collected from an internet site before deciding whether to trust it.

You need to find out who is responsible for the content, and whether the website is owned or sponsored by reputable organization. Every affiliation should be clearly shown on the website. Look

for credentials and qualifications of the professionals presenting the information. Be especially cautions if they are anonymous. Can you contact the owners of the website via email, telephone and regular mail? Be vigilant, if the owners don't offer any means of communication.

(Adapted from the Daily Nation March 2008)

Questions

1. (a) According to the passage, **what** is cyberchondria? (1mk)

……

……

……

(b) Why do patients resort to internet for solution to their health problems?(2mks)

……

……

……

……

(c) **What** picture does the writer paint about government health services? (2mks)

……

……

(d) **Describe** how one can access a medical solution from the internet. (2mks)

……

……

……

……

(e) **What** caution does the writer give in paragraph six? (2mks)

……

……

……

(f) **Why** does the writer prefer health care professionals to the website? (2mks)

……

……

……

(g) You also can't use the internet as the gospel truth to determine health problems.

(Paraphrase the above statement) (1mk)

……

……

……

(h) **What** is the attitude of the writer towards looking for medical solutions from the Internet, illustrate. (2mks)

……

……

……

(i) Online diagnosis may breed panic and apprehension

(**Rewrite** the sentence in the passive) (1mk)

……

……

(j) Make notes on the precautions to be taken if one wishes to get credible diagnosis from the internet. (3mks)

……

……

……

……

……

(k) **Explain** the meaning of the following expressions as used in the passage:

Shoe string budget

……

……

Hits

……

.....

2. ***Read the excerpt below and then answer the questions that follow:***

Nora: I didn't find it dull.

Helmer: *(smilling)*But there was precious little result, Nora.

Nora: Oh, you shouldn't **tease** me about that again. How could I help the cat's going in and tearing everything to pieces?

Helmer: Of course you couldn't, poor little girl. You had the best of intentions to please us all, and that's the main thing. But it is a good thing that our hard times are over.

Nora: Yes, it is really wonderful.

Helmer: This time I needn't sit here and be **dull** all alone, and you needn't ruin your dear eyes and your pretty little hands-

Nora: *(clapping her hands)* No, Tovald, I needn't any longer, need I! It's wonderfully lovely to hear you say so! (*Taking his arm*) Now I will tell you how I have been thinking we ought to arrange things, Torvald. As soon as Christmas is over-(*A bell rings in the hall*.) There's the bell. (She tidies the room a little.) There's someone at the door. What a **nuisance**!

Helmer: If it is **a caller**, remember I am not at home.

Maid: *(in the doorway)* A lady to see you, ma'am,--a stranger.

Nora: Ask her to come in.

Maid: *(to Helmer)* The doctor came at the same time, sir.

Helmer: Did he go straight into my room?

Maid: Yes, sir.

Questions

1. What does Nora refer to in her opening words in this extract? (2 marks)

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

2. What has happened that has made the couple happy? (2 marks)

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

3. Discuss two themes evident in this extract. (4 marks)

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

4. “There’s someone at the door.” Add a question tag (1 mark)

.....

5. A lady has come to see Nora as reported by the maid. Who is this lady and how does her coming affect the Helmers from the rest of the play. Write your answer in note form. (6 marks)

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

6. Discuss one aspect of style in this extract. (2 marks)

.....
.....

7. Briefly explain what happens after this extract. (4 marks)

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

8 Explain the meaning of the following expressions as used in the excerpt. (4 marks)

i) Tease.....

ii) Dull.....

iii) Nuisance.....

iv)A caller.....

Q3. Read the oral Narrative below and answer the questions that follow. (20 marks)

THE WARRIOR WHO HAD EIGHT LOVERS

A long time ago there was a warrior whose bravery and handsome looks made the girls of the village fall in love with him. Eight girls, at least, were known to want to marry the young warrior, for they had composed many songs in his praise.

Now, this warrior was one time getting ready to go on alone raid in faraway country. Before he set off for the raid, he called the youngest of his eight lovers and told her to put fresh milk in a small guard. He also instructed her to keep checking on the colour of the milk every day. "Should the milk turn red," the warrior told the girl, "it would mean that I have been killed or I am seriously wounded."

The young girl was so touched by the departure of her lover that she composed the following song for him.

My warrior whom I love
For whom I open the sweet curdled
Milk of my father's herd,
And to whom I give fat rams
Of my father to slaughter,
To whom I give my slender
Thighs to lie on,
With whom are you going on a raid next?

It happened that many days after the departure of the warrior, the girl noticed that the milk was turning red. She wept bitterly, for she knew that her lover was either dead or dying in a faraway country. Without telling anyone, the girl set off to look for her dying lover.

For many days she traveled, and as she walked through plains and forests she sang the song she had composed for her warrior. She travelled on and as she travelled she checked the colour of the milk in the gourd. Each day that she saw the milk turn a little more red, she traveled faster. And each day she hoped that she would find her lover alive.

On the ninth day the girl sang louder and louder as she travelled. Each time she sang she would listen to hear if there was any reply. And as she listened at one time, she heard a faint voice. There was no mistake about it. It was her lover's voice. She ran and ran and after a while she found her lover. He was extremely weak and badly wounded. When the dying warrior saw her, he told her, "When I am finished, you take my attire and weapons home. When you get a son give them to him and with that the warrior seemed to be dying.

But the girl did not listen to him she quickly looked for water and washed his wounds. And after that she began to look for food for him. It did not take long before she saw a deer passing by. With her lover's spear she killed it, and wasted the meat for her lover. For many months the young women washed the wounds of her lover and fed him until he was well again.

Back at home everybody thought that the young woman and her lover were dead, and they insisted that their death rites be performed. However, the father of the warrior kept postponing the death rites.

But at last the old man agreed to perform the rites because his youngest son was to be circumcised, and could not be circumcised before the rites were performed.

So preparations for the death rites for the lost warrior were made. But on the morning of the day that the rites were to be performed, and as people were gathering, one of the people in the gathering heard a war song coming from the other side of the valley. He asked other people to listen. The father of the warrior could not mistake his son's voice. He was almost crying as he gazed on the other side of the valley. The singing voice became clearer and before long the warrior and his lover emerged, driving a large herd of cattle. The bells that were tied around the necks of the oxen played to the tune of the war song.

There was great rejoicing as people ran to meet the lost warrior and his young lover. On their arrival back home a big bull was slaughtered and there was a great feast. People ate and drank. And the warrior and his lover were married. The two became man and wife and lived happily. And my story ends.

From Oral Literature. A Junior Course
By A. Bukenya and M. Gachanja,
Longhorn Kenya.

Questions

1. With appropriate illustrations, classify the oral narrative above (2mks)

   .....

   .....

2. **Identify two** instances of repetition in the passage (2mks)

   .....

   .....

3. **Identify** and **illustrate** one character traits of:

   (i) The warrior (2mks)

   .....

   .....

   .....

   (ii) The youngest lover (2mks)

   .....

   .....

   .....

4. **Give two** functions of the song. (2mks)

.....

.....

.....

5. **Identify** instances of irony in the passage (2mks)

.....

.....

.....

6. Name and explain one economic activity of this community. (2mks)

.....

.....

.....

i. **Which** devices have been used to start and end this story? **What** are their functions? (4mks)

.....

.....

.....

ii. Using a proverb, **summarize** the moral lesson in the story. (2mks)

.....

.....

4. **GRAMMAR**

***(a) Rewrite the following sentences as instructed*. (5mks)**

(i) The young man did not join a public university. He did not pass the exam.
(Rewrite as one sentence beginning: If ...)

……

……

(ii) I waited until it was my turn to see the doctor. I was sitting on the couch.(Rewrite as one sentence beginning: Sitting

……

……

(iii) I never thought I would ever be a minister. (Begin: Not once.....)

……

iv) Come with me. (Add a question tag)

……

v) Most students benefit when they read in the morning. (Rewrite the sentence beginning with a gerund)

……

……

b) Replace the underlined words with suitable phrasal verbs. (3mks)

i)The girl had to raise her siblings after the mother passed on.

……

ii) Telcom Kenya sacked most of its workers.

……

iii)The government has abolished certain taxes.

……

c)Use the correct form of the word given in brackets to fill in the gap in each sentence. (4mks)

(i) The police said it was a strange..... (occur)

(ii) The .....of his speech was appreciated by many.(clear)

(iii) The baby had..... in the cot for hours when the mother returned. (lie)

(iv) Your .....of words should be clear for people to understand you. (pronounce)

d) Fill the blank spaces with correct prepositions.(3mks)

i) He also came home to congratulate me ..... my graduation.

ii) As a businessman, Ole Kaelo deals..... agricultural products.

iii) The thief was oblivious ..... the trap.

THE END

PREDICTION 3

Name……. Index No……

Signature…… Date……

101/3

ENGLISH

PAPER 3

TIME: 2 ½ HOURS

KCSE PREDICTION 3

Kenya Certificate of Secondary Education (KCSE)

INSTRUCTIONS TO THE CANDIDATES

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

*This paper consists of **2** printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.*

1. IMAGINATIVE COMPOSITION

Either

a) Write a story starting with:

As I said goodbye to her, little did I know that would be the last time I would be seeing her… **(20 Marks)**

Or

b) Write a composition to illustrate the following proverb:
"Beauty lies in the eyes of the beholder." **(20 Marks)**

2. THE NOVEL (COMPULSORY)

Blossoms of the Savannah by Ole Kulet **(20 Marks)**

Female assertiveness is one of the main thematic concerns. Using Resian as a point of reference, justify this statement.

3. THE OPTIONAL SET TEXTS

Either

a) The Play: 'The Inheritance' **(20 Marks)**

"Let it never be said that our world was built on the madness of the old." Describe the 'madness of the old' as referred to by this statement in the play 'The Inheritance' by David Mulwa.

Or

b) The short Story 'Memories We Lost and Other Stories (20 Marks)

Political strife cause suffering to the citizens. Justify this assertion drawing your illustrations from the short story 'The President' by Mariatu Kamara.

Or

c) **The Novel: The Pearl by John Steinbeck (20 Marks)**

With close reference to the novel, The Pearl by John Steinbeck, write an essay on how Juana and Kino complement each other in their family.

PREDICTION 3

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

MAAGIZO

i) Jibu maswali mawili

ii) Swali la kwanza ni la lazima

iii) Kisha chagua insha nyingine kutoka kwa maswali maatu yaliyosalia

iv) Kila insha isipungue maneno 400

v) Kila insha ina alama 20

vi) Kila insha aindikwe kwa lugha ya Kiswahili.

MASWALI

1. Umepata tangazo la nafasi ya kazi ya uhariri katika shirika la uchapishaji vitabu vya fasihi andishi kwenye gazeti la Taifa Leo.
   Andika barua ya kuomba nafasi hii na uiambatanishe na wasifu kazi wako kwa maelezo zaidi.

2. Jukumu la kuzuia msambao wa virusi vya korona ni la mtu binafsi. Jadili.

3. Andika insha itakyothibitisha ukweli wa methali
   Mchelea mwana kulia, hulia mwenyewe.

4. Anza kwa.
   Mwanangu, dunia imebadilika pakubwa lakini chunga mabadiliko hayo yasikuzuzue….

PREDICTION 3

102/2
KISWAHILI
KARATASI YA PILI
MUDA SAA 2 ½

JINA…… **NAMBARI……**

SAHIHI……..

Jibu maswali yote, majibu yako yaandikwe katika nafasi zilizoachwa katika kijitabu hiki cha maswali.

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

Soma makala yafuatayo kisha ujibu maswali.

1. **UFAHAMU (Alama 15)**

Huku ulimwengu unapoingia ya katika teknologia ya tarakilishi na sera ya utandaridhi, ukweli wa mambo ni kuwa akina mama wamezinduka. Suala la usawa wa kijinsia limeanza kushamiri kote duniani na ole wake mwanamume yeyote ambaye hajawa tayari kutembea na majira. Lakini hebu tuchunguze jambo hili kwa makini zaidi.

Usawa wa jinsia ni nini? Usawa wa kijinsia ni usawa wa binadamu wote; wawe wake au

waume. Usawa huu unapaswa kudhihirika katika kugawa nafasi za kazi, utoaji wa elimu, nafasi za uongozi na Nyanja zinginezo zozote za maisha.

Ubaguzi wa aina yoyote ile hasa dhidi ya mwanamke ni jambo linalokabiliwa na vita vikali sana ulimwenguni kote.

Dahari na dahari, hasa katika jamii za kiafrika kumekuwa na imani isiyotingizika kuwa mwanamke ni kiumbe duni akilinganishwa na mwanaume. Kwa hivyo mwanamke amekuwa akifanyiwa kila aina ya dhuluma ikiwepo kupigwa, kutukanwa, kudharauliwa, kunyimwa haki zake, kunyimwa heshima na mambo kama hayo, lakini je, ni kweli kuwa mwanamke ni kiumbe duni asiyefaa kutendewa haki?

Tukichunguza jamii kwa makini tunaweza kuona mara moja kuwa hivyo ni imani potovu isiyo na mashiko yoyote. Ukimulika familia yoyote ile iliyopiga hatua kimaendeleo, uwezekano mkubwa ni kuwa mume na mke wa familia inayohusika wana ushirikiano mkubwa. Mume anamthamini mke wake na hadiriki kufanya maamuzi muhimu yanayoweza kuathiri maendeleo ya familia bila kumhusisha mke. Mume kama huyo huketi na mkewe, wakishauriana na kufikia uamuzi bora.

Tukitoka katika muktadha wa kifamilia na kumulika ulimwengu wa kazi iwe ni katika afisi za serikali au kwenye makampuni binafsi, ukwerli ni kwamba kiongozi yeyote yule aliyefaulu katika usimamizi wake mara nyingi huwa na mke nyumbani ambaye wanashauiriana kila uchao kuhusu kazi anayofanya hata kama mke hafanyi kazi mahali pale. Hisia na mawaidha anayotoa mke kwa mume wake ni tunu na huenda asiyapate kwingineko kokote hata katika vitabu vya kupigiwa mifano. Hii ni mojawapo ya sababu ambayo huwafanya viongozi wa nchi mbalimbali kupenda sana kuwatambulisha wake na familia zao waziwazi kwa vile wanajua kuwa jamii inathamini sana msingi wa jamii. Kiongozi ambaye hana mke au familia au yule ambaye hana mke wake hatambuliki, hutiwa mashaka na jamii hata kama ni kiongozi aliye na azma ya kushikilia kazi ngumu ya kuongoza umma.

Tukirudi nyuma kidogo na kupiga darubini mataifa ya mbali, tunaweza kuwaona wanawake mashuhuri walio uongozini ambao hadi waleo unapigiwa mfano. Wanawake mashuhuri waliotoa uongozini ambao hadi wa leo unapigiwa mfano. Wanawake hao walisimamia mojawapo ya mataifa yenye uwezo na ushawishi mkubwa Zaidi duniani. Ingawa wengi wao sasa wameng'atuka, uongozi wao bado unakumbukwa hata baada ya miaka mingi ya wao kuamua kupumzika ,mfano ni kama :Bi Bandranaike wa Sri lanka, Golda Meir wa Israel na wengine wengi katika mataifa kama Indonesia, Ufilipino, Bangladesh, Pakistani na kwingineko.

Katika kufikia tamati, tunapozungumza kuhusu jinsia, hatuna budi kugusia kitafsili masuala nyeti. Kwanza,imani ya kushikilia kikiki tamaduni zisizofaa, ni jambo linalofaa kuchunguzwa kwa makini. Kwa mfano, kuna badhi ya jamii ambazo humlazimu mke kurithiwa baada ya kifo cha mumewe. Vile vile baadhi ya jamiii za kiafrika zinanshikilia kuwa mwanamke hana haki ya kurithi. Kutokana na Imani hii, wanawake wengi huishi maisha ya taabu baada ya kutengana na waume zao kwa vile hawana haki ya kurithi chochote kutoka kwa wazazi wao hata kama wazazi hao wana mali nyingi kupindukia. Mali ya wazazi ni haki ya watoto wa kiume wala si watoto wa kike! Hili ni jambo la kusikitisha mno.

Isitoshe, wanawake hukumbukwa na kizingiti kingine wanapojaribu kumiliki mali ya waumezao baada ya waume hao kukata kamba .sababu ni kuwa,baada ya hao wenda zao kuwekwa kaburini, vita vya umiliki wa mali huanza mara moja na mwishowe yule mke maskini hujikuta hana hata mahali pa kulala sembuse mali waliyochuma na mali yake yote kunyakuliwa na aila ya mumewe . Jambo hili linaonyesha namna tulivyoachwa nyuma na uhalisia wa mambo. Ni lazima jamii izuinduke na itoke kwenye kiza hiki chenye maki nzito.

MASWALI

a. Ina maana gani kusema kuwa wanaume hawana budi "kutembea na majira"

_____

_____

_____(alama 2)

b. Kabla ya uzinduzi huu kuhusu usawa wa jinsia, wanawake wamekuwa wakitendewa dhuluma za kila aina. Taja tatu.

_____
_____
_____
_____ (alama 3)

c. Je, ni kwa nini viongozi wengi hupenda kujitambulisha na familia zao?

_____
_____
_____(alama 2)

d. Je, unaamini kuwa hisi na mawaidha anayatoa mke wa mume wake ni tunu na huenda yasipatikane kwingineko? Fafanua

_____
_____
_____(alama 2)

e. Je, licha ya kunyimwa haki yake ya kujiamulia, ni matatizi yapi mengine yanayoweza kumkumba mke anayelazimishwa kurithiwa?

_____
_____
_____
_____ (alama 3)

f. Eleza maana ya maneno yafuatayo jinsi yalivyotumiwa katika hali muktadha. (alama 3)

Kushamiri

_____
_____

Hulka

_____
_____

Azma

2. MUHTASARI

Soma kifungu hiki kisha ujibu maswali yafuatayo.

Idadi kubwa ya wanafunzi huingiwa na wasiwasi wakaribiapo kufanya mtihani kwa sababu mbalimbali, kubwa likiwa ni hofu kwa jinsi ambavyo watafanya katika mtihani huo. Asilani mambo hayafai kuwa hivyo. Wataalamu wa masuala ya saikolojia na wale wa elimu wanashauri kuwa mtahiniwa anafaaa kupata muda mwingi wa mapumziko wakati anapokaribia kufanya mtihani ili aweze kuituliza akili asije akapatwa na mzongo wa akili.

Moja katika mashauri ni kuwa mtahiniwa anafaa kupata usingizi wa kutosha wakati akijiandaa na pia wakati akifanya mtihani. Hii ni kwa sababu mtihani wa mwisho si tofauti na mitihani mingine ambayo mtahiniwa amekuwa akifanya, pamoja na kuwa ni maswali ya jumla tu kutoka viwango vyote vya masomo. Hivyo basi, mtihani unapokaribia, mtahiniwa anafaa kudurusu na kufanya majaribio mbalimbali ya mtihani pamoja na kujikumbusha yale aliyofunzwa na mwalimu wake. Wale asimdunishe au kumdharau mwalimu hata kama stadi zake za kufundisha kazikumsisimua – alikupa kito cha thamani kitakachokufaa kama silaha wakati wa mtihani.

Mtihani unapokaribia, mtahiniwa anafaa kuwa amekwisha kutambua udhaifu wake na kutia bidii kuudhibiti kupitia udurusu, mijadala na mashauriano. Kumbuka kuwa bidii haiui ila hulipa. Hivyo basi, kila unaposhirikisha bidii na ujasiri wa wako na kuimarisha uelewe wako wa somo, na hatimaye ukaboresha matokeo katika somo hilo. Vilevile, kujadili au kufafanua mada unayoielewa vyema kwa m wenzio aiyeielewa kutakuwezesha kuielewa hata Zaidi na hivyo kuimarisha uwezo wako wa kuzoa alama nyingi katika mtihani endapo swali litatoka katika mada hiyo.

Pamoja na hayo, mtahiniwa anafaa kujihadhari na majuto ya kufanya kile ambacho hakupaswa kufanya. Anaweza kuhakikisha hili kwa kuyapitia maswali kwa makini Zaidi, na kuyatafakaria, kuyapangia na kuaandikia majibu sawasawa kasha kuyasoma tena majibu yake ili kuwa na uhakika kwamba hajapotoka.

Ikiwezekana (kwa sababu ya tofauti za kimapato na uwezo wa wazazi au walezi) mtahhiniwa anafaa kula visuri kabla kuenda kufanya mtihani. Vilevile, anapaswa kufika katika chumba cha mtihani kwa wakati unaofaa – mapema kabla ya muda wa kuanza kwa mtihani – na ahakikishe amebeba kila kifaa atakachokihitaji katika mtihani huo.

Ikiwa utashindwa kujibu swali Fulani, usipotezee muda mwingi. Baadala yake, enelea na swali linalofuatia kasha ulirejelee swali lile lililokutatiza baadaye ukishamaliza maswali yale mengine. Usipoteze muda kutafuta jibu ambalo huna kwa wakati huo. Juu ya yote, usidhubutu kuifanya hila katika mtihani kwa kuwa kitendo kama hicho kitasababisha matokeo yako kufutiliwa mbali, nayo bidii yako ya miaka mine itakuwa imeishia gizani, ukasalia kujuta.

Maswali.

a) Tumia maneno 60 kueleza ujumbe ulio katika aya mbili za mwanzo. (alama 6)

Nakala chafu

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Jibu

_____
_____

b) Mwandishi anatoa ushauri gani kwa mtahiniwa katika aya ya tatu hadi ya mwisho? Eleza kwa maneno 100 (alama 9)

Nakala chafu

Jibu

SEHEMU C - MATUMIZI YA LUGHA.

a) Eleza ufauti ya kimsingi iliyopo kati ya irabu na konsonanti.

_____

_____

_____ (ala2)

b) Taja sifa tatu bainifu za irabu /O/

_____

_____

_____

_____

_____(ala 3)

c) Andika maneno yenye muundo ufuatao

i) KKKIKI

_____

_____

ii) KKIKI

_____

_____(ala2)

d) Andika tungo ya neno moja yenye viambishi vifuatavyo.

i) Nafsi

_____

ii) Njeo

_____

iii) Kirejeshi

_____

iv) Shamirisho

_____

v) Mzizi

_____

vi) Kauli ya kufanyiza

_____

vii) Kiishio

_____ (ala3)

e) Andika vitenzi vifuatavyo katika hali ya kutendeana. (ala2)

i) –la

_____

ii) – nywa

f) Andika sentensi ifuayo kulingana na maagizo. (ala2)

Maagizo

Mhalifu alisamehewa kwa sababu alinyenyekea .

Geuza maneno yaliyopigiwa mstari kuwa nomino.

_____

_____

g) Andika kwa wingi

Kelele ya amchaye Mungu ni baraka.

_____

_____(ala1)

h) Tambua aina ya vishazi katika sentensi hii

Utazawadiwa ukicheza vizuri.

_____

_____ (ala2)

i) Tofautisha matumizi yapo katika sentensi hizi. (ala2)

1. Alipomwona alimhoji.
2. Amwonapo humhoji

_____

_____

j) Bainisha aina za virai vilivyopigiwa mistari. (ala2)

Ubaguzi wa kijinsia umekashifiwa mno na viongozi wenye msimamo thabiti mno.

_____

_____

_____

k) Unda nomino kutokana na vitenzi (ala2)

1. Jaribu

_____

2. Chuma

_____

l) Eleza matumizi ya ‘na’ katika sentensi

Wageni na wenyeji walikimbiliana

_____

_____ (ala 2)

m) Andika katika msemo wa taarifa. (ala3)

“Nitakuarifu nikimwona” Maria alisema

_____

_____

n) Eleza maana mbili za sentensi (ala2)

Tuliitwa na Juma

o) Tumia “0” rejeshi katika sentensi ifuatayo

Mtu ambaye hutupa tope hujichafua mwenyewe.

_____

_____(ala 2)

p) Tumia visawe vya maneno yaliyopigiwa mstari kuandika tena sentensi ifuatayo.
Ukuta umemwuumiza mvulana alipokuwa akiuparaga.

_____

_____

_____ (ala3)

q) Changanua sentensi kwa njia ya jedwali.
Ouma alianguka mtihani ila Kamau alifuzu vizuri.

_____

_____

_____

_____

_____ (ala4)

ISIMUJAMII

Mtu 1: Wewe njoo hapa (kwa sauti kubwa) fanya upesi.
Mtu II : (anakimbia mbio) Naja Sir
Mtu I : (anamtazama) unajifanya mwelevu?
Mu II : Hapana Sir……eh…..afande
Mtu I : Jina
Mtu II : Samwel Kioko
Mtu I : (Huku akiandika) Lete kitambulisho
Mtu II : Sina hapa sir
Mtu I : Huna kitambulisho? Utafanyiwa booking vipi?
Mtu II : Naomba
Mtu I : Naomba ! naomba! Unaomba nini? Wazururaji kama nyinyi tunawajua. Mnajifanya hamjui kuna curfew. Mnajiponza, “zerikali saidia”. Usiniharibie muda wangu (akiashiria) ingia ndani! Utakuwa mgeni wetu leo. Tutakukarimu chakula cha chumba.(anamsukuma ndani)

a) Bainisha sajili ya makala haya.

_____

_____

_____(ala2)

b) Eleza sifa nne za sajili kwa kurejelea makala haya.(ala 8)

_____

_____

_____

_____

_____

PREDICTION 3

102/3
KISWHILI
KARATASI YA TATU
FASIHI
MUDA: 2 ½

JINA LA MTAHINIWA:.....
NAMBARI YA USAJILI:..... SAHIHI.....

MAAGIZO

i) *Jibu maswali manne pekee*

ii) *Swali la kwanza ni la lazima*

iii) *Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki*

iv) *Usijibu maswali mawili kutoka sehemu moja*

1. FASIHI SIMULIZI: SWALI LA LAZIMA

a) *Miviga ni nini?* Al.2

_____

_____

b) *Eleza sifa tano za miviga.* Al.5

_____

_____

_____

_____

_____

_____

c) *Fafanua hasara tatu za miviga.* Al.3

_____

_____

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_____

d) *Eleza changamoto tano ambazo mtafiti hukabiliana nazo anapokusanya data ya fasihi simulizi.* *Al.5*

-

_____

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_____

e) *Eleza majukumu ya wimbo katika hadithi.* Al.5

_____

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_____

<u>TAMTHLIA: KIGOGO</u>

2. Tulipoanza safari hii matangazo yalikuwa bayana, dhahiri shahiri babu!

a) Eleza muktadha wa dondoo hili. ***Al.4***

_____

_____

_____

_____

_____

b) Tambua mbinu za uandishi zilizotumika katika kifungu hiki. ***Al.4***

_____

_____

_____

_____

_____

c) Eleza matatizo yanayokumba safari inayorejelewa. ***Al.12***

3. **Tamthlia ya kigogo inazungumza kuhusu hali halisi katika mataifa mengi ya kiafrika. Jadili**. **Al.20**

4. **<u>RIWAYA: CHOZI LA HERI</u>**

"***Alikumbuka jinsi rafiki yake……..alivyofishwa kwa njia hii. Akili yake ilimtambia kisa chenyewe kana kwamba inataka kumwonya (uk.120)***

a) Fafanua muktadha wa dondoo hili. Al.4

b) Bainisha tamathali mbili za usemi zinazojitokeza katika dondoo hili. Al.4

c) Tathmini nafasi ya anayelengwa na kauli hii katika kuijenga riwaya hii. Al.12

_____

_____

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_____

5. a) Fafanua namna mbinu ya majazi ilivyotumiwa katika riwaya. Al.10
   b) Jadili maudhui ya nafasi ya vijana katika jamii ukirejelea riwaya ya Chozi la Heri. Al.10

6. <u>HADITHI FUPI: TUMBO LISILOSHIBA</u>

a) Eleza ufaafu wa anwani mapenzi ya kifuaurongo kwa kurejelea mhusika Penina. Al.10

b) Eleza nafasi ya elimu katika maisha ya wanajamii ukirejelea hadithi: Mtihani wa maisha. Al.10

7. a) **<u>Mame Bakari</u>**

"Una nini? Umeshtuka mwanangu! Unaogopa? Uaogopa nini?

a) Weka dondoo hili katika muktadha wake. Al.4

b) Eleza sifa za mrejelewa. Al.6

_____

_____

_____

_____

_____

c) Tambua mbinu mbili za lugha zilizotumika katika dondoo. Al.2

_____

_____

d) Eleza umuhimu wa msemaji. ***Al.4***

_____

_____

_____

_____

e) Tambua maudhui yanayojitokeza katika kifungu hiki. ***Al.1***

_____

_____

f) Fafanua maudhui katika swali la (e) kwa kurejelea hadithi nzima. ***Al.3***

8. <u>USHAIRI</u>

<u>Soma shairi lifuatalo kasha ujibu maswali</u>

Alikwamba wako mama, kajifanya hupliiki,
Kakuasa kila jema, ukawa ng'oo!Hutaki
Sasa yamekusakama, popote hapashikiki,
Uliyataka mwenyewe!

Babayo lipokuonya, ukamwona ana chuki,
Mambo ukaboronganya, kujifanya hushindiki,
Sasa yamekunganya, kwa yeyote hupendeki,
Uliyataka mwenyewe!

Mazuri uliodhania, yamekuletea dhiki,
Mishikeli miania, kwako ona haitoki
Mwanzo ungekumbukia, ngekuwa huaziriki,
Uliyataka mwenyewe!

Dunia nayo h adaa, kwa fukara na maliki,
Ulimwenguni shujaa, hilo kama hukumbuki,
Ya nini kuyashangaa? Elewa hayafutiki,
Uliyataka mwenyewe!

Mwenyewe umelichimba, la kukuzika handaki,
Ulijidhania samba, hutishiki na fataki,
Manchangu yamekukumba, hata neno hutamki,
Uliyataka mwenyewe!

Kwa mno ulijivuna, kwa mambo ukadiriki,
Na tena ukajiona, kwamba we mstahiki,
Ndugu umepatikana, mikanganyo huepuki,
Uliyataka mwenyewe!

MASWALI

a) Eleza dhamira ya shairi hili. ***Al.2***

_____

_____

b) Tambua njia mbili anazotumia mtunzi wa shairi hili kusisitiza ujumbe wake.Al.2

_____

_____

c) Taja na utoe mifano ya aina zozote mbili za tamathali za usemi zilizotumika katika shairi.
Al.4

_____

_____

_____

_____

_____

d) Andika ubeti wa tatu katika lugha tutumbi. ***Al.4***

_____

_____

_____

_____

_____

e) Bainisha toni ya shairi hili. ***Al.2***

_____

_____

___

f) ***Kwa kutoa mfano mmoja mmoja, onyesha aina mbili za idhini ya kishairi katika shairi hili.*** Al.4

g) Eleza maana ya maneno haya kama yalivyotumiwa katika shairi. ***Al.2***

i) Mstahiki

_____

_____

ii) Hupuliki

_____

PREDICTION 3

Name…… Index No……/…….

School…… Candidates Signature……

Date …….

231/1

BIOLOGY

THEORY

Paper 1

2 Hours

KCSE PREDICTION 3

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

INSTRUCTIONS TO CANDIDATES

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- All workings **MUST** be clearly shown where necessary.

For Examiners use only.

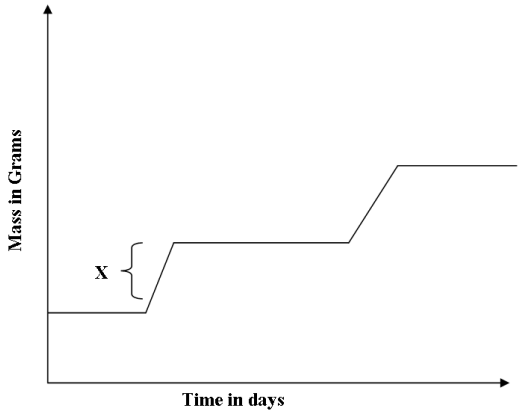
Question	Maximum Score	Candidates Score
1 – 25	80	

This paper consists of 11 Printed pages.

Candidates should check the question paper to ensure that all the

Papers are printed as indicated and no questions are missing

1. The graph below represents the growth pattern of animals in a certain phylum.



a) Name the type of growth curve shown above. (1mk)

……..

b) i) Identify the process represented by **X**. (1mk)

……..

ii) Name the hormone responsible for the process in b(i) above. (1mk)

……..

c) State the importance of the growth of a pollen tube to a plant. (1mk)

…….

2. a) What is the function of Sodium hydrogen Carbonate that is added to test solution of non-reducing sugar. (1mk)

……

…….....

b) The equation below represents a process X which is controlled by enzymes .

X

⇌

R

$C_6H_{12}O_6 + C_6H_{12}O_6$ $\qquad\qquad$ $C_{12}H_{22}O_{11} + H_2O$

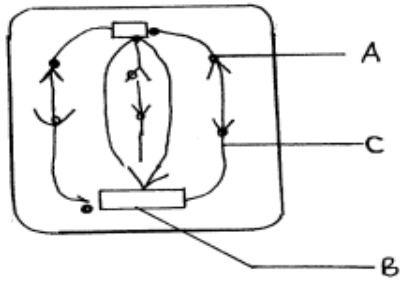
Glucose + Fructose $\qquad\qquad$ Sucrose + Water

i) Name the process **X** and enzyme **R**

Process **X** …… (1mk)

Enzyme **R** …….. (1mk)

3. The diagram shows an epidermal cell undergoing mitotic cell division.



i) Name the stage of mitosis it represents

…….(1mk)

ii) Name the structures

A ……. (1mk)

C…….. (1mk)

4. What is the effect of gibberellins on the shoots of plants? (4mks)

……

……

……

……

……

……

5. (a) **Give two** forms in which carbon (IV) oxide is transported in human blood. (2mks)

……

……

……

(b) **Name** the enzyme that enhances the loading and off – loading of carbon (IV) oxide in the human blood. (1mk)

……

……

6. a) What is the importance of the counter current flow in the exchange of gases in a fish. (2mks)

……..

……..…

……..

b) State **two** ways in which the tracheoles of an insect are adapted to their functions. (2mks)

……..

…….

7. The equation below represents a reaction that occurs during respiration in a cell.

K + Phosphate ⟶ Adnenosine triphosphate

a) Identify the compound K. (1mk)

……..

b) State **two** differences between **K** and **ATP.** (2mks)

……..

……..

c) Name the organelle responsible for the production of energy in a cell muscle (1mk)

……..

8. Explain how crops grown along roads can be a source of lead poisoning to human beings. (2mks)

……

.....……

9. Explain why plants growing in low altitude areas grow faster than those in high altitudes. (3mks)

…….....

……

……

.....……

…….....……

10. List down **four** phenotypic characteristics that have been selected for the production of strains suitable for modern agricultural purposes. (4mks)

……

…….....……

…….....……

…….....……

……

……

11. Name the type of eye defects that can be corrected by;

i) Use of bifocal lens (1mk)

……

ii) Use of artificial lens (1mk)

……

iii) Use of concave lens (1mk)

……

12. a) The length from the tail tip to the anus of a certain tilapia fish is 10cm. The length from the tail tip to the mouth is 35cm. Calculate the tail power of the fish. (Show all your working). (2mks)

b) What is the significance of high tail power in fish? (1mk)

……

13. List down three differences between the endocrine system and nervous system. (3mks)

Endocrine system	Nervous system
i. …… … ii …… … iii …… …	i. …… … ii …… … iii …… …

14. Distinguish between the struggle for existence and survival for the fittest as used in the theory of natural selection.

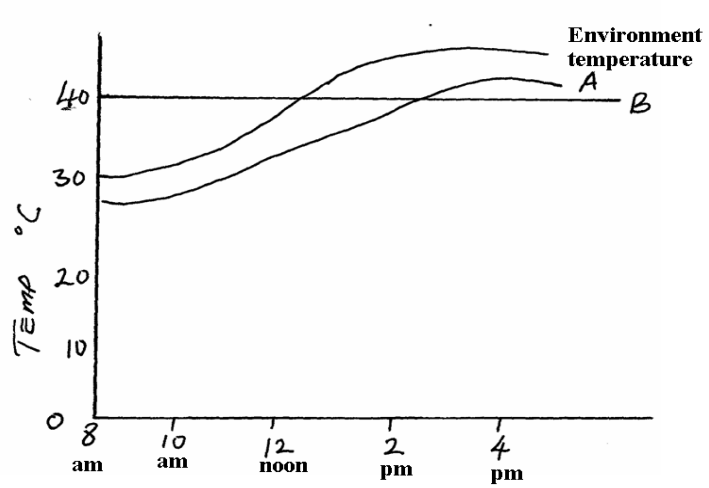
(2mks)

……

…….....……

…….....……

15. The body temperatures of two animals A and B varied as below with environmental Temperature



a) Which of the animals is;

i) Endothermic …….. (1mk)

ii) Ectothermic …… (1mk)

b) With a reason, state which of the animals is likely to be widely distributed (2mks)

……

……

……

16. State three roles of oestrogen during the menstrual cycle (3mks)

……

……

……

……

17. State three characteristics of cells at the zone of cell division in an apical merintem(3mks)

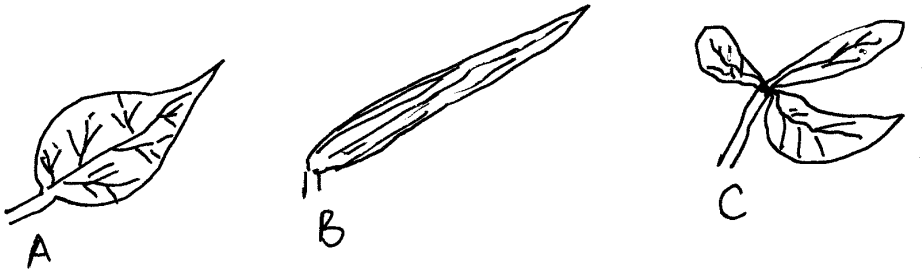
……

……

……

18. Below are diagrams of three leaves A, B and C. Construct a two step dichotomous

key which can be used to identify each of them. (4mks)



……

……

……

……

……

……

19. a) Name two mutagenic agents. 2mks)

……..

……..

b) Identify the type of gene mutations represented by the following pairs of words.

i) Shirt instead of skirt …….. (1mk)

ii) Hopping instead of shopping …….. (1mk)

20. Liver damage leads to impaired digestion of fats. Explain this statement. (2mks)

……

……

21. Explain why several lateral buds sprout when a terminal bud in a young tree is removed. (3mks)

……

……

……

……

22. (a) State **two** structural adaptations that make xylem vessels suitable for transport of water and mineral salts. (2mks)

……
……
……
……
……

(b) List any **three** adaptations of the root hair cells to their functions (3mks)

……
……
……
……
……
……

23. (a) Define the following terms:- (2mks)

(i) Species:

……
……
……

(ii) Binomial nomenclature:-

……
……

24. What is the significance of active transport in the human body. (3mks)

……

……

……

……

……

……

……

25. Explain how the biceps and triceps muscles bring about the movement at the hinge joint of the elbow in man. (2mks)

………

……

……

……

.

PREDICTION 3

Name……. Index No……/…….

School…… Date ……..…

Candidate's Signature……

231/2
BIOLOGY
(THEORY)
Paper 2
Time: 2 Hours

KCSE PREDICTION 3
Kenya Certificate of Secondary Education (K.C.S.E)

231/2
BIOLOGY
(THEORY)
Paper 2
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

- This paper consists of two sections **A** and **B**.
- Answer **ALL** questions in section **A**
- Answer question **6** (compulsory) and either question **7** or **8** in section **B**.

For Examiner's Use Only

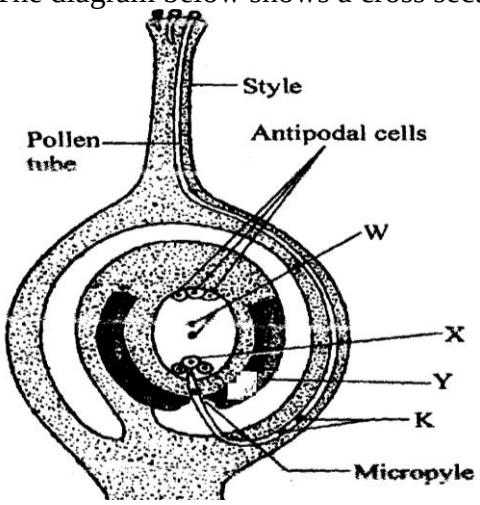
Section	*Question*	*Maximum score*	*Candidate's score*
A	***1***	***8***	
	2	***8***	
	3	***8***	
	4	***8***	
	5	***8***	
B	***6***	***20***	
	7	***20***	
	8	***20***	
Total Marks		***80***	

This paper consists of 13 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

SECTION A (40 MARKS)

Answer all questions in this section.

1. The diagram below shows a cross section through the female part of a flower.



a) Name the structures labeled **W**,**X**, and **Y**. (3mks)

W .....

X .....

Y .....

b) State **two** functions of the pollen tube. (2mks)

.....

.....

.....

.....

c) What happens to antipodal cells after fertilization. (1mk)

.....

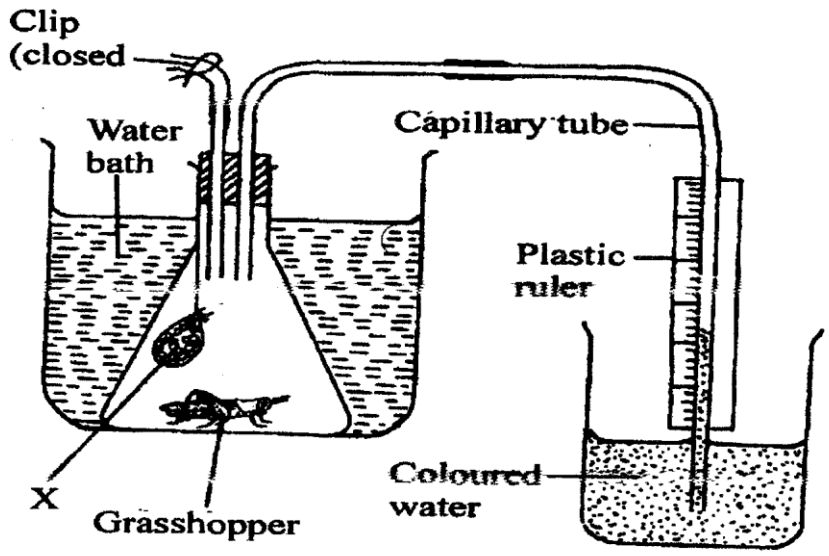
.....

d) Name the structure labeled **K** and state their role. (2mks)

.....

.....

2. The diagram below illustrates and experiment to determine the rate of respiration in a small insect.



a) Name the chemical compound labeled **X** and state its function. 2mks)

.....

b) Why is it necessary to place the flask in a water bath. 3mks)

.....

.....

.....

.....

.....

c) What changes would you expect to observe in the level of coloured water in the capillary tube after the experiment has run for five minutes. (1mk)

.....

.....

d) Explain the changes you have started in (c) above. (3mks)

.....

.....

.....

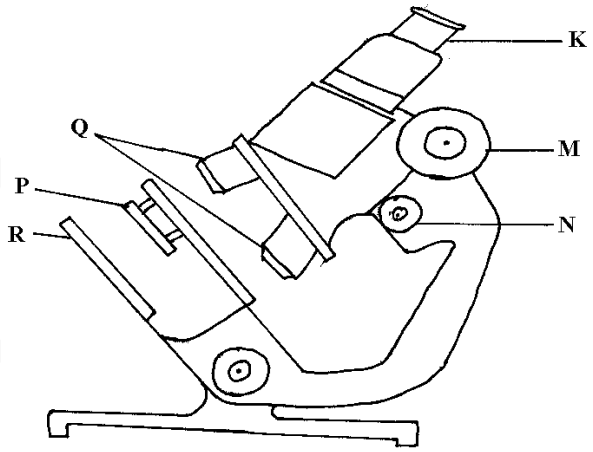
.....

e) State how you can set up a control experiment . (1mk)

.....

.....

3. The diagram below shows some components of a light microscope.



a) Name the parts labeled

(2mrks)

K

……

M

……

b) State the functions of (2mrks)

P

……

Q

……

c) A student was viewing a prepared slide of a plant cell under high power microscope. The features of the cell were blurred. Which one of the labeled parts of the microscope would the student use to obtain:-

(i) a sharper outline of the features. (1mrk)

……

(ii) Give the formula used to calculate magnification in a light microscope. (1mrk)

……

d) A student was preparing a section of a plant cell to be viewed on a light microscope. Give a reason for each of the following steps:-

(i)Cutting a very thin section (1mrk)

……

……

……

(ii)Staining the section (1mrk)

……

……

……

(iii)Putting the section in water (1mrk)

……

……

……

4. In an experiment, a black mouse was mated with a brown mouse; all the off-springs were black. The off-springs grew and were allowed to mate with one another. The total number of (F2) generation off-springs was 96.

a) Using the letter symbols capital letter **B** for the gene of black colour and small **b** for brown colour, Work out the genotype of the F1 generation. (3mrks)

b) From the information above, work out the following for the F2 generation.

i) Genotypic ratio. (2mrks)

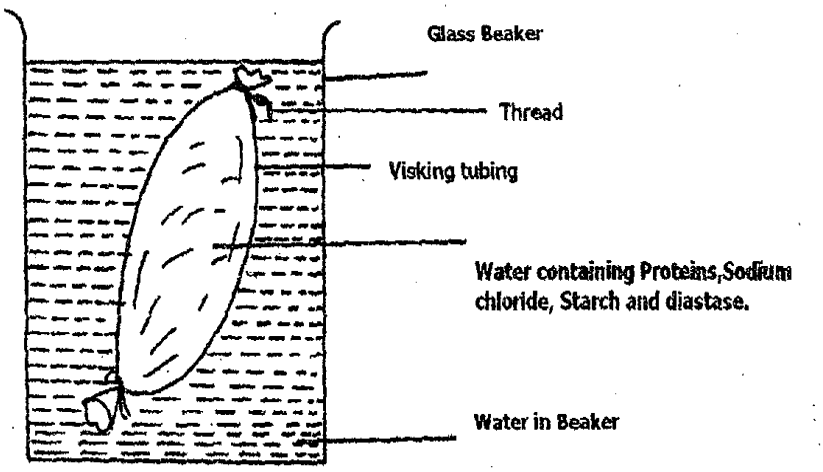
……

ii) Phenotypic ratio. (1mrk)

……

iiii) The total number of brown mice (2mrks)

5. In a physiological experiment, starch, protein, diastase and sodium chloride were added to water and put inside a visking tubing. The visking tubing was then placed in a water bath maintained at a temperature between *35* – 40°C. The set up was as shown in the diagram below.



The following observations were made after the procedures indicated.

Contents in	At the start of experiment	After 1 hour
Visking tubing	i) Solution tastes salty	Solution tastes salty
	ii) Visking tubing is not firm	Visking tubing is firm
	iii) After boiling with Benedicts solution, solution remains blue	After boiling with Benedicts solution the solution turns brown
	iv) On addition of solution hydroxide followed by copper sulphate solution to the solution, the colour changes to purple	On addition of sodium hydroxide followed by coppers sulphate to the solution, the colour changes to purple
Beaker	i) Water is tasteless	Solution tastes sweet/salty
	ii) After boiling solution with Benedicts solution, Blue colour remains	After boiling solution with Benedicts solution, colour turns to brown
	iii) On addition to sodium hydroxide	On addition of sodium hydroxide

	followed by copper sulphate solution, colour remains blue	followed by copper sulphate solution, colour remains blue

a) Name the process by which salt moved into the water in the beaker from the visking tubing. (1mark)

……

b) i) Name the food substance responsible for the brown colour observed after 1 hour both in the beaker and visking tubing when solutions are boiled with benedicts solution. (l mark)

……

ii) Account for the observation in (b i) above. (3 marks)

……

……

……

……

c) i) Name the food substance tested with sodium hydroxide followed by copper sulphate solution(s) (1 mark)

……

ii) Account for the absence of the food substance named in (c i) above in the beaker after 1 hour. (l mark)

……

……

d) After one hour the visking tubing was firm. State the term used to describe this state. (1 mark)

……

SECTION B(40 MARKS)

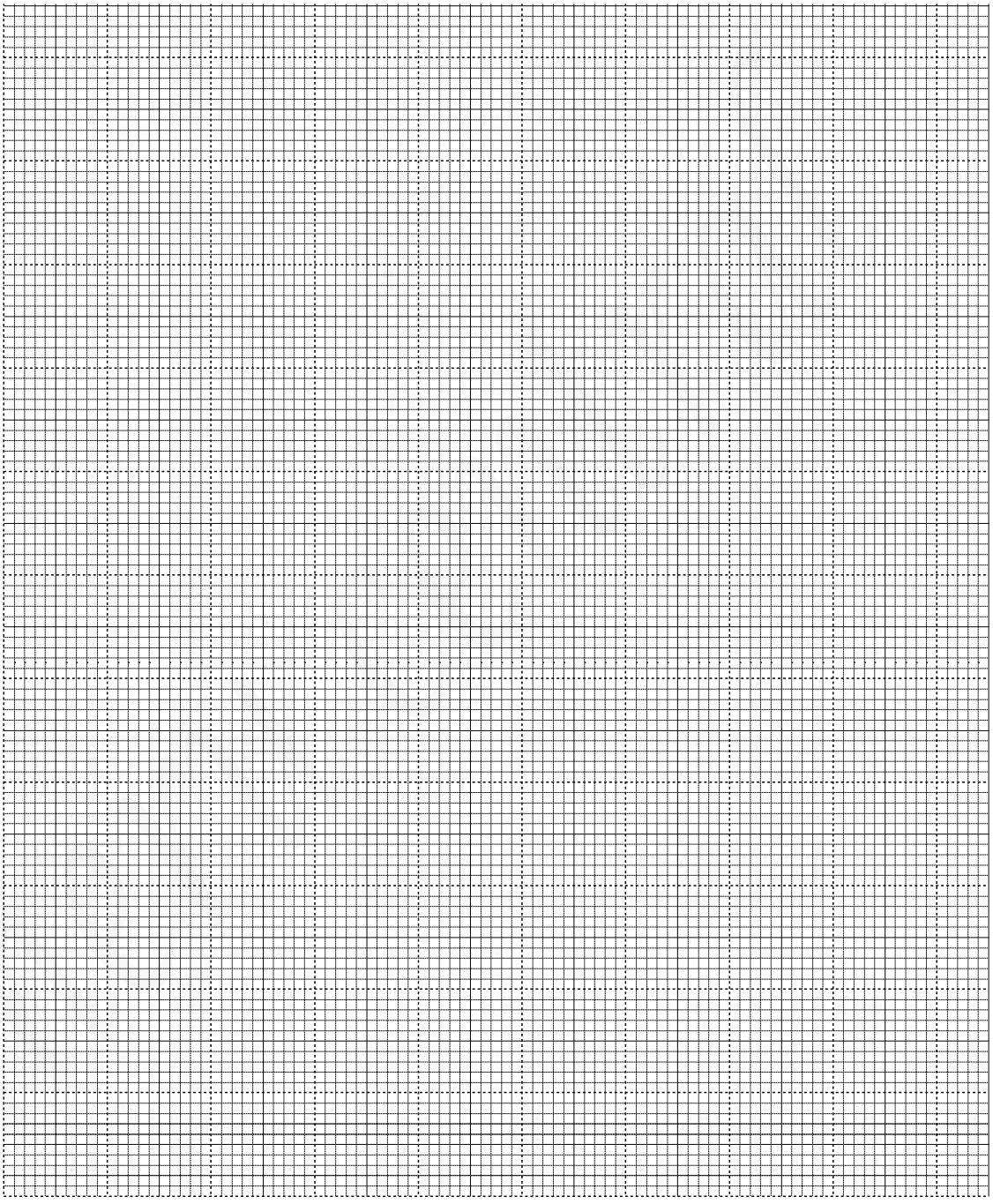
Answer questions 6 (compulsory)and either questions 7 or 8 in the spaces provided questions 8

6. An experiment was carried out whereby three healthy rats were fed on equal amounts of glucose. After half an hour, the glucose concentration per ml. of blood was measured at 15 minutes intervals for three hours. The following results were obtained.

Glucose conc. mg/ml / Rats	**0 min**	**15 min**	**30 min**	**45 min**	**60 min**	**75 min**	**90 min**
A	0.800	0.774	0.715	0.680	0.650	0.595	0.555
B	0.745	0.695	0.695	0.660	0.635	0.600	0.545
C	0.795	0.695	0.665	0.635	0.590	0.550	0.495
Mean	0.780	0.720	0.691	-	0.625	-	0.532

a) i) Calculate the mean concentration of glucose in mg per ml of blood at 45 and 75 minutes. Record your answer on the table. (2mks)

ii) On the graph paper provided, plot a graph of the mean glucose concentration against time.(6mks



iii) What was the mean glucose concentration in the blood after 37.5 minutes? (1mk)

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iv) Give a reason why it was necessary to use three rats in the experiment instead of one. (1mk)

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v) Why was the initial concentration of glucose in the rats not the same? (2mks)

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……

vi) Account for the difference in mean glucose concentration during the period. (3mks)

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b) Give two reasons why glucose is the main respiratory substrate. (2mks)

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c) Give three ways in which glucose is assimilated in the body. (3mks)

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7. a) What assumption are made when using the captured recapture method in estimating population of animals. (5mks)

b) Describe how you would use the capture – recapture method to estimate the population of fish in the school pond. (15mks)

8. (a) Define natural selection. (2mks)

(b) Natural selection brings about adaptation of a species to the environment. Discuss. (18mks)

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PREDICTION 3

CONFIDENTIAL

Each candidate should have:

One ripe banana

Scalpel/blade

PREDICTION 3

NAME _____ CLASS_____ADM. NO. _____

School.....
231/3
BIOLOGY
PAPER 3

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES

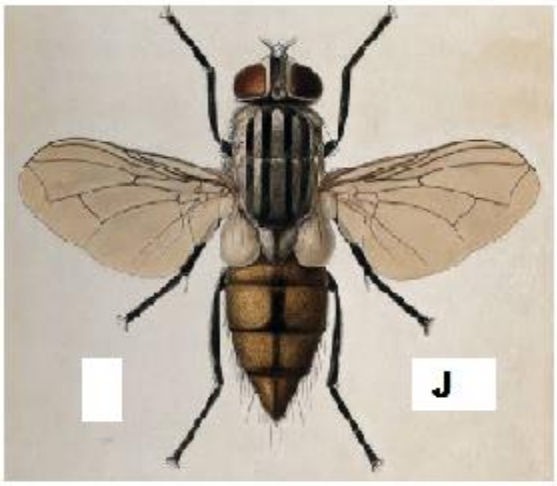
- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign** and write the **date** of examination in the spaces provided above.*
- *You are required to spend the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- *Answers must be written in the spaces provided in the question paper.*

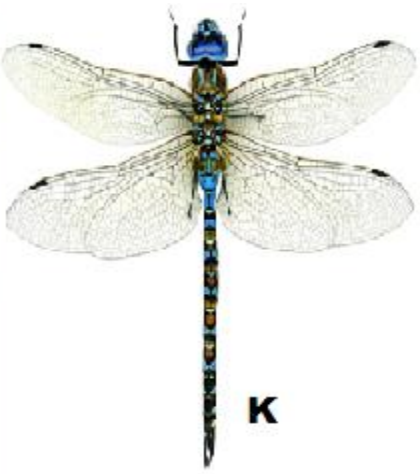
For Examiner's Use only:-

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

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

1. Below are photographs of two specimens, **J** and **K.** Both of them belong to the same phylum and class. Observe them carefully before you answer the questions that follow.





a) Name the class to which **J** and **K** belong and support your answer with two reasons.

Class

……1mk

Reasons 2mks

i) ……

ii) ……

b) Suggest why the circulatory fluid in **J** and **K** has no haemoglobin.

2mks

……

……

c) Observe their wings and suggest the type of evolution that could have taken place to give rise to **J** and **K**, and then give a reason for your answer.

Type of evolution

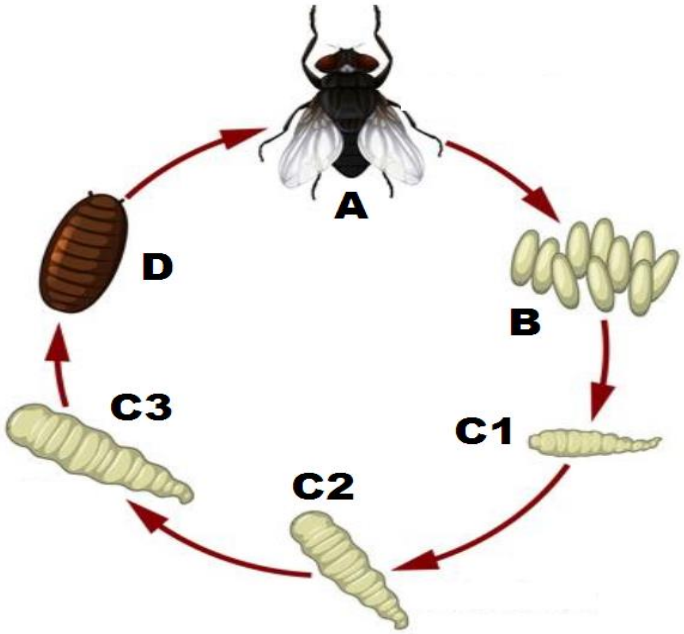
……1mk

Reason

……

……2mks

d) Below is a diagram showing the life cycle of specimen J.



i) Identify the stage labeled **D**.

……1mk

ii) Name the hormone responsible for the change from **D** to **A**.

1mk

……

iii) Explain the differences in the change from **C2** to **C3** and from **C3** to **D**. 4mks

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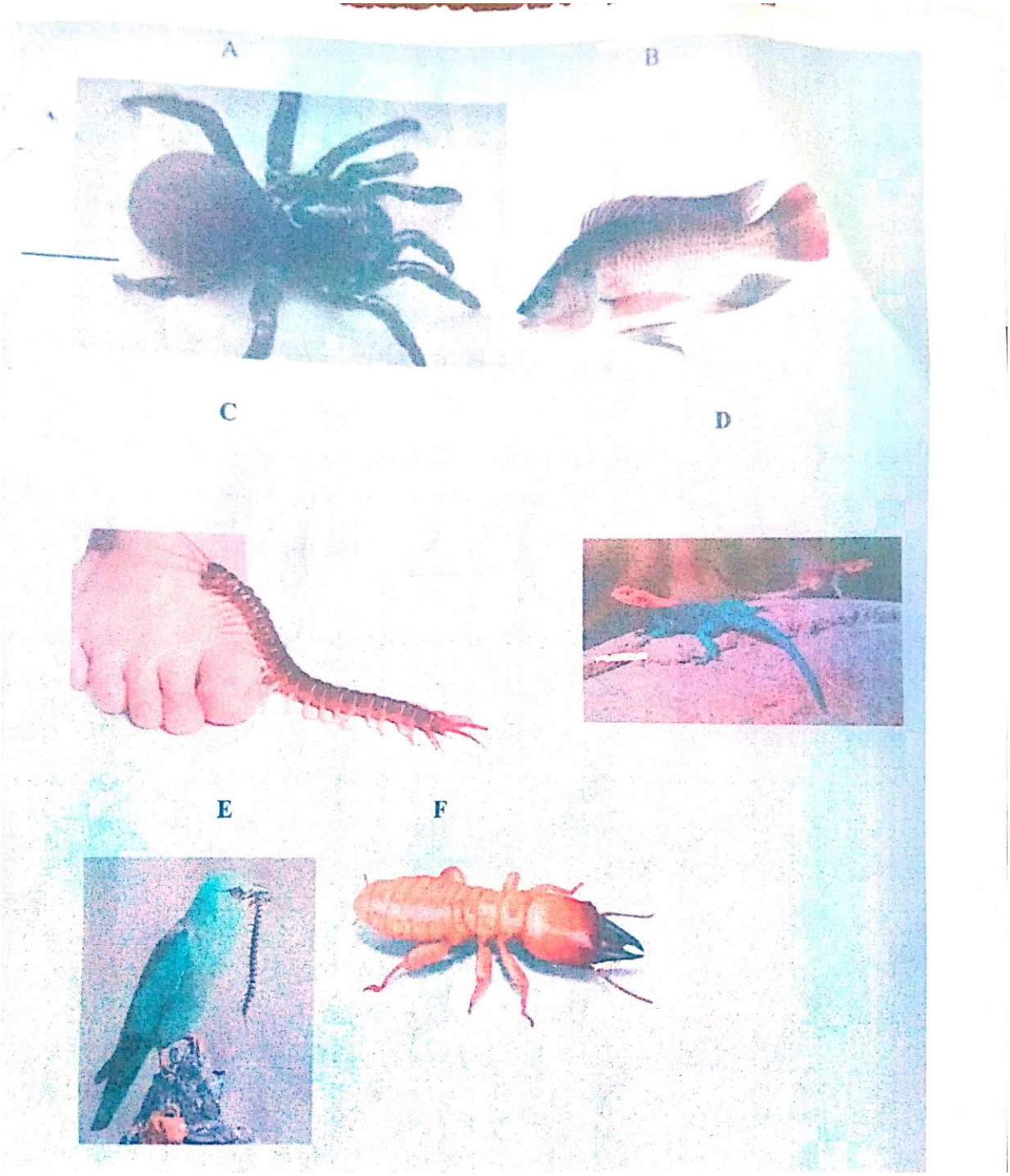
……

Q2. Study the organisms below and answer questions in spaces provided .



a. Complete and use the key below to identify the organism. 2mks

1a. Organism with endoskeleton ..... go to 2
1b. _____ ..... go to 3

2a. Has scales on the body..... go to 4
2b. Has no scales on the body..... mammalian.

3a. Has cephalothorax ..... Arachnida.
3b. Has no cephalothorax.....go to 5

4a. _____..... pisces
4b. Has no fins ..... Go to 7

5a. Has three pairs of legs ..... Insects.
5b. Has more than three pairs of legs ..... go to 6

6a. Two pairs of legs per segment .....Diplopoda
6b. One pair of legs per segment.....chilopoda.

7a. Has feathers ..... Aves
7b. Has no feathers .....go to 8

8a. Has a tail.....Reptilia
8b. Has no tail.....Amphibia.

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

Specimen	Steps followed	Identity
A		
B		
C		
D		
E		
F		

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

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

……
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……

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

……

Q3.You are provided with a specimen labeled **T** which is a fruit. Use it to answer the questions that follow.

a) Make a **transverse** section of the specimen **T**. Draw and label at least 3 parts. 6mks

b) With reasons, state the identity of fruit **T.**

Type of fruit……1mk

Reason

……1mk

c) Suggest the possible agent of dispersal and give **two** reasons

Agent

……1mk

Reason

……

……

2mk

d) What is the placentation of **T**?

……1mk

e) Specimen **T** was green in colour before it was treated with a plant hormone.

Suggest the plant hormone.

……1mk

END

PREDICTION 3

NAME……...… INDEX NUMBER……..…

SCHOOL …….. CANDIDATE SIGN ……..

DATE ……..

233/1

CHEMISTRY

PAPER 1

TIME: 2 HOURS

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES

a) Write your name and index number in the spaces provided above
b) Sign and write the date of examination in the spaces provided
c) Answer all questions in the spaces provided
d) KNEC mathematical tables and silent electronic calculators may be used
e) All workings must be clearly shown where necessary
f) Candidates should answer all questions in ENGLISH

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1 - 32	80	

1 a) What is meant by allotropy? (1mk)

b) Identify the two crystalline allotropes of carbon. (1mk)

c) Give one use of carbon black. (1mk)

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

Mass of evaporating dish = 78.94g
Mass of evaporating dish + hydrated salt = 84.14g
Mass of evaporating dish + residue = 81.78g
Determine the empirical formula of the hydrated salt
(Relative formula Mass of $FeSO_4$ = 152, H_2O =18) (3mks)

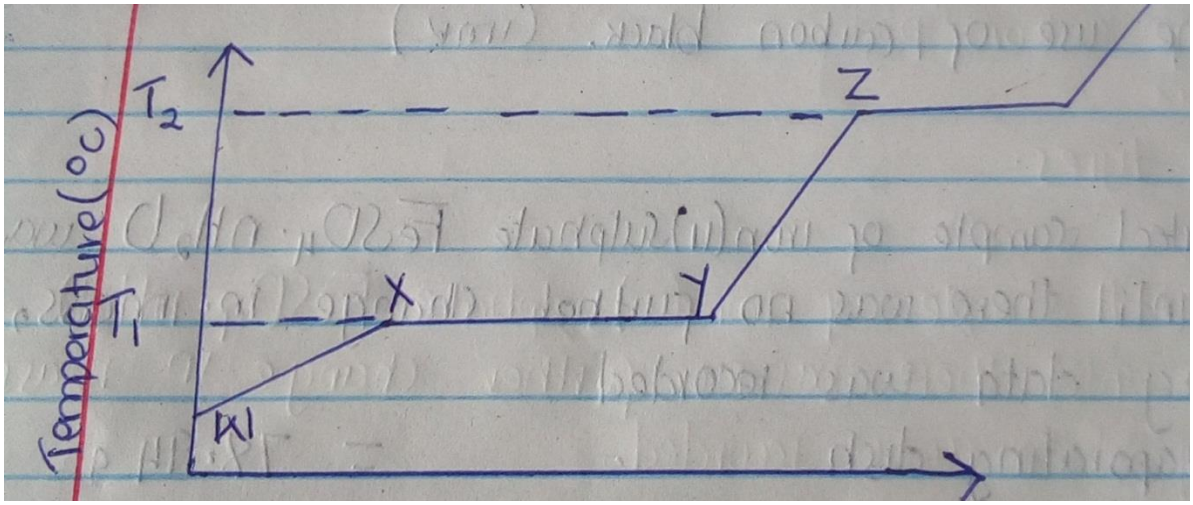
3. Equal volumes of 2M monobasic acids R and S were each reacted with excess magnesium ribbon. The table below shows the volume of the gas produced after one minutes

Acid	Volume of gas (cm^3)
R	80
S	30

a) Write the ionic equation for reaction which took place (1mk)

b) Explain the difference in the volumes of the gas produced (2mks)

4. The graph below shows the changes which takes place when a solid is heated.



a) What happened to the molecules between W and X? (1mk)

b) What is the significance of temperatures T_1 and T_2 (1mk)

c) Explain why the temperature does not rise between X and Y (1mk)

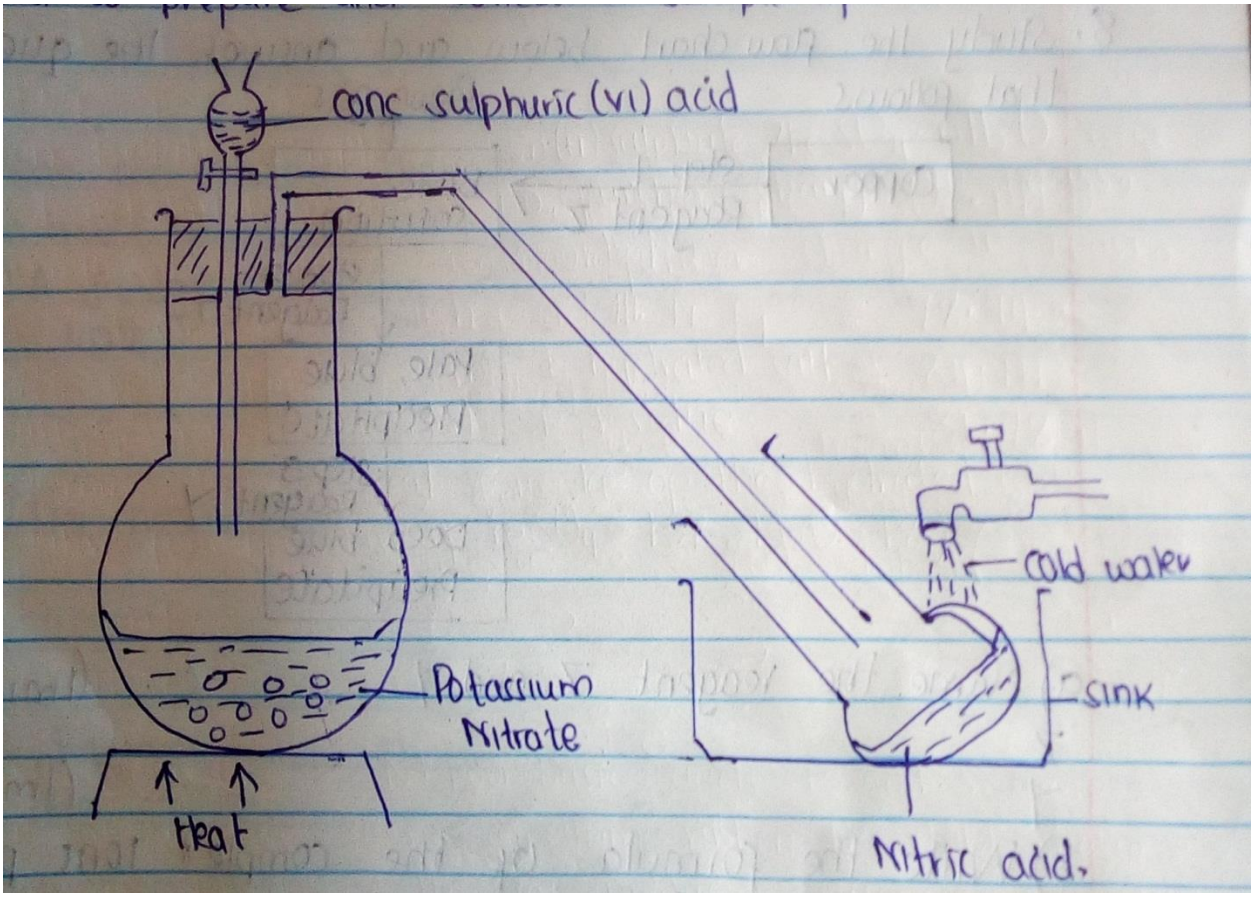
5. In an experiment to determine the solubility of potassium nitrate at 30^0c, a saturated solution was heated in an evaporating dish until there was no further change in mass. The following

data was obtained.

Mass of dish + solution	= 128.9 g
Mass of dish + dry salt	= 103.9 g
Mass of empty dish	= 94.3 g

Determine the solubility of potassium nitrate at 30^0c. (3mks)

6. The diagram below shows a set up that was used to prepare and collect a sample of nitric acid.

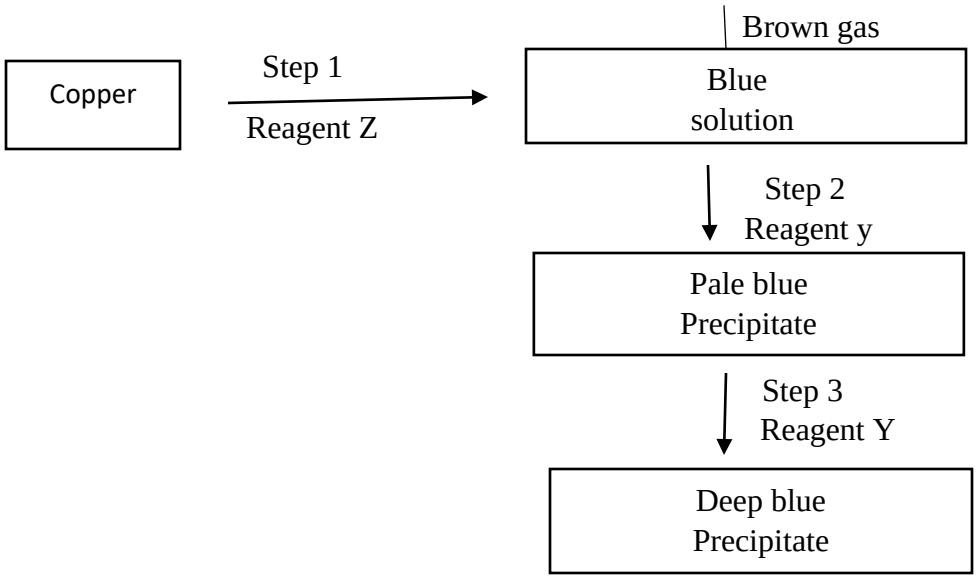


a) Give a reason why it is possible to separate nitric acid from Sulphuric acid in the set up. (1mk)

b) Name another substance that can be used instead of potassium nitrate. (1mk)

7. Starting with lead oxide, nitric acid, sodium sulphate, water and all necessary apparatus, describe how you would prepare a dry sample of lead (II) sulphate (3mks)

8. Study the flow chart below and answer the questions that follows:



a) Name the reagent Z and Y

Z (1mk)

Y (1mk)

b) Write the formula of the complex ions presented in the deep blue solution (1mk)

9. The equations below shows the molar enthalpies of combustion of carbon, hydrogen and methane.

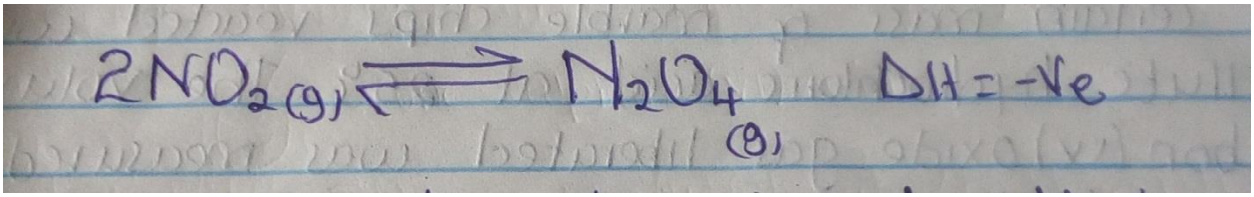
$C(s) + O_2(g) \longrightarrow CO_2(g)$ $\Delta H_c = -393\ KJmol^{-1}$

$H_2(g) + ½\ O_2(g) \longrightarrow H_2O(l)$ $\Delta H_c = -285\ KJmol^{-1}$

$CH_4(g) + O_2(g) \longrightarrow CO_2(g)$ $\Delta H_c = -890 KJmol^{-1}$

Use the energy cycle diagram to calculate the heat of formation of methane (3mks)

10. NO_2 and N_2O_4 gases exist in equilibrium at 20^0c

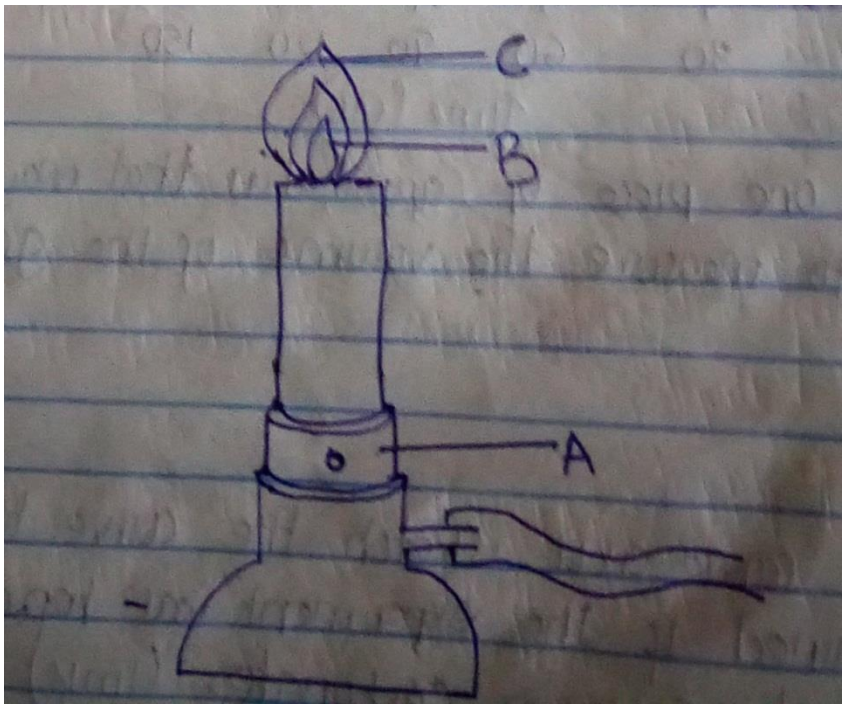


State and explain the observation that would be made when

a) A syringe containing the mixture 20^0c is heated to 40^0c (1mk)

b) The gaseous mixture in a syringe is compressed. (1mk)

11. The diagram below shows a Bunsen burner when in use



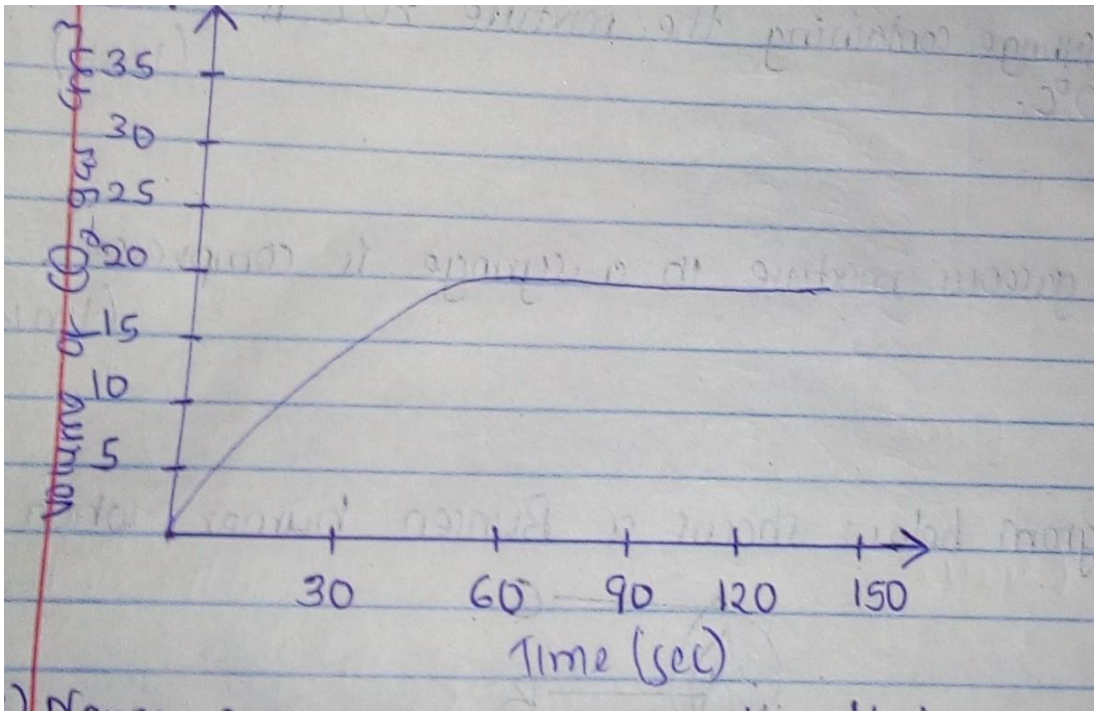
a) Name the regions labelled B and C (1mk)

B

C

b) What is the function of the part labelled A? (1mk)

12. A certain mass of marble chips reacted with excess dilute hydrochloric acid at 25^0c. The volume of carbon (iv) oxide gas liberated was measured after 30 seconds. The results were presented as shown in the graph below.



a) Name one piece of apparatus that may have been used to measure the volume of the gas liberated. (1mk)

b) On the same axis sketch the curve that would be obtained if the experiment was repeated using powdered calcium carbonate. (1mk)

13. When hydrogen Sulphide gas was bubbled into an aqueous solution of iron (iii) chloride, a yellow precipitate was deposited.

a) State another observation that would be made (1mk)

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

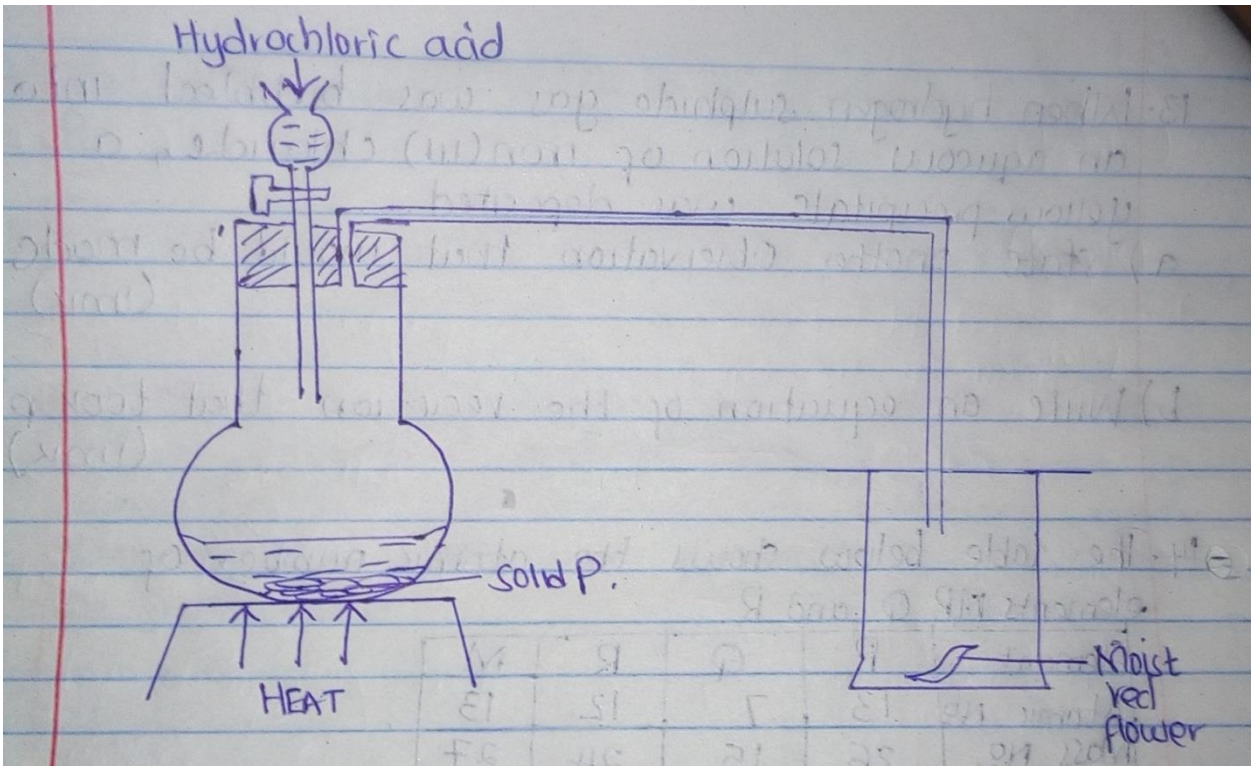
14. The table below shows the atomic number of elements M, P, Q and R.

Element	P	Q	R	M
Atomic No	13	7	12	13
Mass No	26	15	24	27

a) Which two letters represent the same element? Give reasons (1mk)

b) Give the number of neutrons of an atom of element Q (1mk)

15. The diagram below show the set up that was used to prepare and collect Sulphur (iv) oxide gas.



a) Identify the solid P (1mk)

b) i) Why is it possible to collect Sulphur (iv) oxide as shown? (1mk)

ii) What happened to the red flower? (1mk)

16 a) State Charles' law (1mk)

b) The volume o f a sample of nitrogen gas at temperature of 298k and 600mmHg pressure was $0.048m^3$, calculate the temperature at which the volume of the gas would be $0.032m^3$ if pressure remains the same. (2mks)

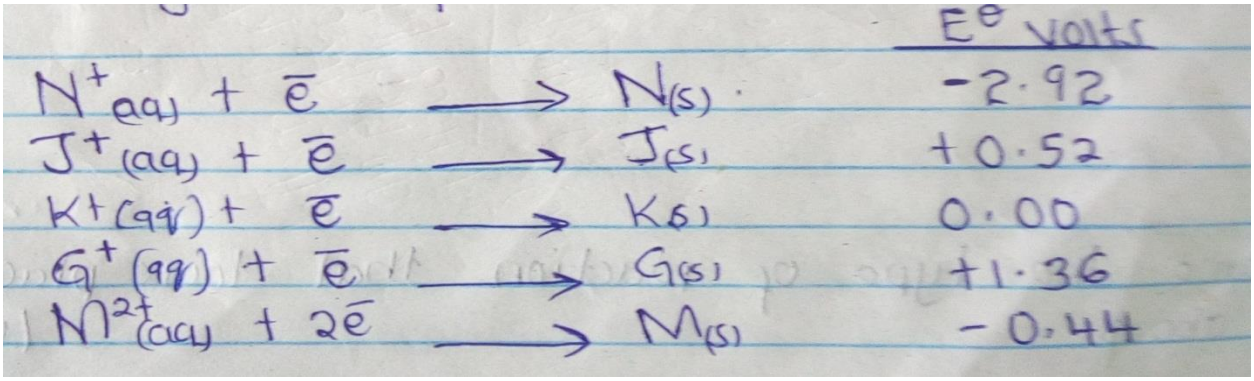
17. Element T consists of two isotopes ^{62}T and ^{64}T in the ratio 7:3 respectively. Calculate the Relative atomic mass of element T (3mks)

18. Name the process which takes place when

a) Solid carbon (iv) oxide changes directly into gas (1mk)

b) Butanol reacts with hexanoic acid in the presence of Sulphuric (iv) acid. (1mk)

19. Study the standard electrode potentials for the half-cells give below and answer the questions that follows (the letters do not represent the actual symbols of the elements)



a) Identify

i) The strongest reducing agent (½ mks)

ii) The strongest oxidizing agent (½mks)

b) Calculate the e.m.f of the cell (2mks)

$N_{(s)}/N^{+}_{(aq)}$ // $G^{+}_{(aq)}$ / $G_{(s)}$

20. Study the table below and answer the questions that follow

Bond type	Bond energy KJ/mol
C - C	346
C = C	610
C - H	413
C - Br	280
Br - Br	193

a) Calculate the enthalpy of the following reaction. (2mks)

$C_2 H_{4(g)} + Br_2 (g) \longrightarrow C_2H_4 Br_2 (g)$

b) Name the type of reaction that took place in a) above (1mk)

21. Briefly explain how you would obtain pure sample of lead (ii) chloride from a mixture of lead (ii) chloride and silver chloride (3mks)

22. Explain the following observations: very little carbon (iv) oxide is evolved when lead carbonate reacts with dilute hydrochloric acid (2mks)

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

Compound	B.P^{0}C	M.P^{0}C	Conductivity in water
P	77	-23	Does not conduct
Q	74	-19	Does not conduct
R	-161	-85	Conduct
S	2407	714	Conduct

a) Which one of the compounds in the table is ionic?
Explain (1mk)

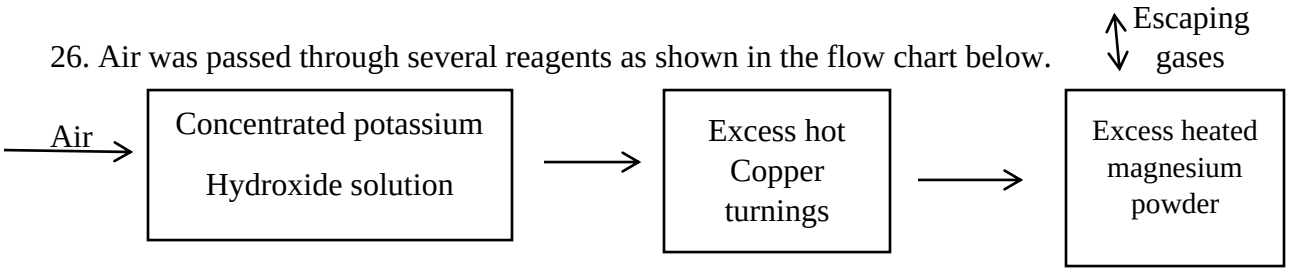
b) Give the compound that is liquid at room temperature. (1mk)

24. When butan – 1 – 0L is oxidized by acidic potassium dichromate, a weak organic acid is formed. Draw and name the structure formula of the acid obtained from the above reaction. (2mks)

25. When a hydrocarbon fuel burns, one of the main products is acidic gas R
i) Identify gas R (1mk)

ii) What two effects does gas R have when its concentration in the atmosphere exceeds its acceptable level. (2mks)

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



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

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

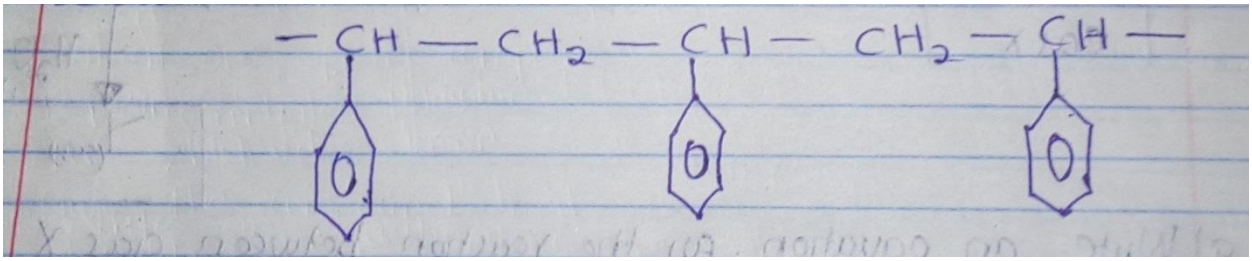
27. When a current of 6.42 Amperes was passed through an electrolyte Y^{2+} for 10 minutes, 2.74g of Y were deposited. (1mk)

i) Calculate the quantity of the electricity passed in the experiment.

ii) Determine the relative atomic mass of (1 faraday = 96,500 coulombs) (2mks)

28. Explain why aluminium metal is not extracted from aluminium chloride (2mks)

29. Part of the structure of a polymer is given below.



i) Identify the polymer. (1mk)

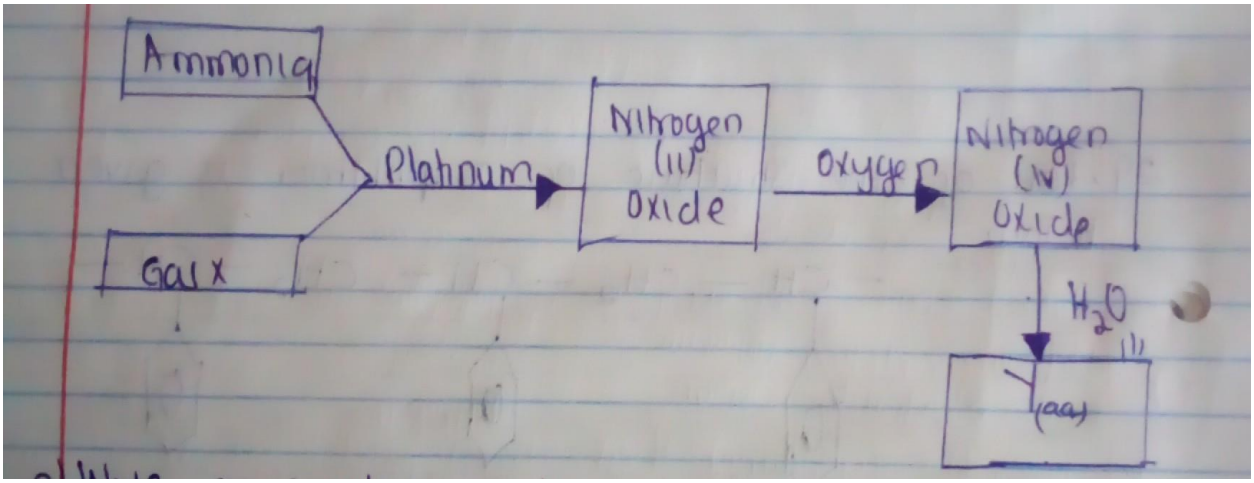
ii) State one disadvantage of continued use of this polymer (1mk)

30. The table below gives the rate of decay for a radioactive element M

Number of days	Mass (g)
0	12.8
280	0.8

Determine the half – life of the radioactive element M (2mks)

31. Study the flow chart below and answer the questions that follows.



a) Write an equation for the reaction between gas X and ammonia (1mk)

b) Write the formulae of the substance present in the mixture Y(aq) (2mks)

32. When the air hole is fully opened, the Bunsen burner produces a non-luminous flame
Explain (1mk)

PREDICTION 3

NAME……..… INDEX NUMBER……..…

CANDIDATE SIGN ……..… DATE ……..

KCSE PREDICTION 3

233/2

CHEMISTRY PAPER 2

TIME: 2 HOURS

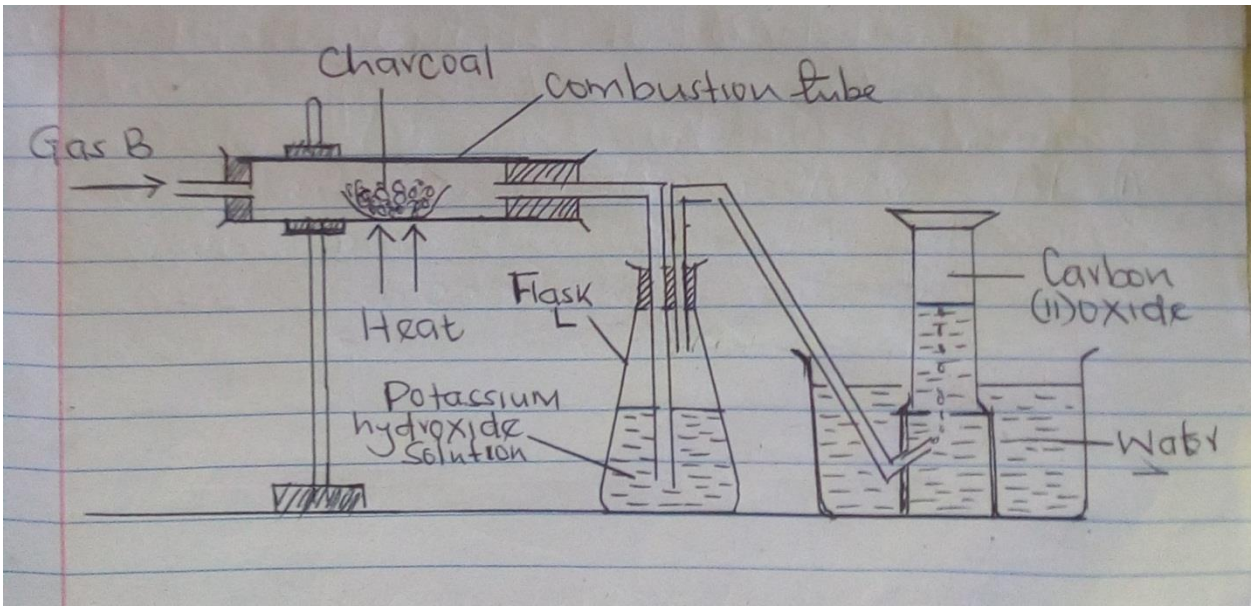
INSTRUCTIONS TO CANDIDATES

a) Write your name and index number in the spaces provided above
b) Answer **all** the questions in the spaces provided
c) KNEC mathematical tables and silent electronic calculators may be used
d) All workings must be clearly shown where necessary
e) Candidates should answer all questions in ENGLISH

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	12	
2	14	
3	12	
4	12	
5	10	
6	10	
7	10	
Total score	80 marks	

1. A student set-up the following apparatus to prepare carbon (II) oxide from charcoal in the laboratory.



i) State the purpose of potassium hydroxide solution (1mk)

ii) Identify gas B (1mk)

iii) Name **two** substances that react together to produce gas B (2mks)

iv) Write balanced equations for reactions in
   i) Combustion tube (1mk)

   ii) Flask L (1mk)

v) Describe **two** simple test that you would use to distinguish between Carbon (IV) oxide and Carbon (II) oxide. (2mks)

vi) In another experiment, the student reacted charcoal with excess hot concentrated nitric (v) acid.

i) State one observation made (1mk)

ii) Write balanced equation for the reaction (1mk)

vii) State two use of Carbon (II) oxide (1mk)

2. Use the information in the table below to answer the questions that follow. The letters are not the actual symbols of the elements.

Element	Atomic Number	M.P (^{0}c)
A	11	97.8
B	13	660
C	14	1410
D	17	-95
E	20	839

a) Write the electronic arrangement for the ions formed by elements D and A (2mks)

b) Select an element which is :

i) A poor conductor of electric current (1mk)

ii) The strongest reducing agent (1mk)

iii) Has a giant covalent structure (1mk)

iv) In which state will element B exists at 661^0c Explain. (1mk)

c) Compare the electrical conductivity of element A and B. Give a reason (1mk)

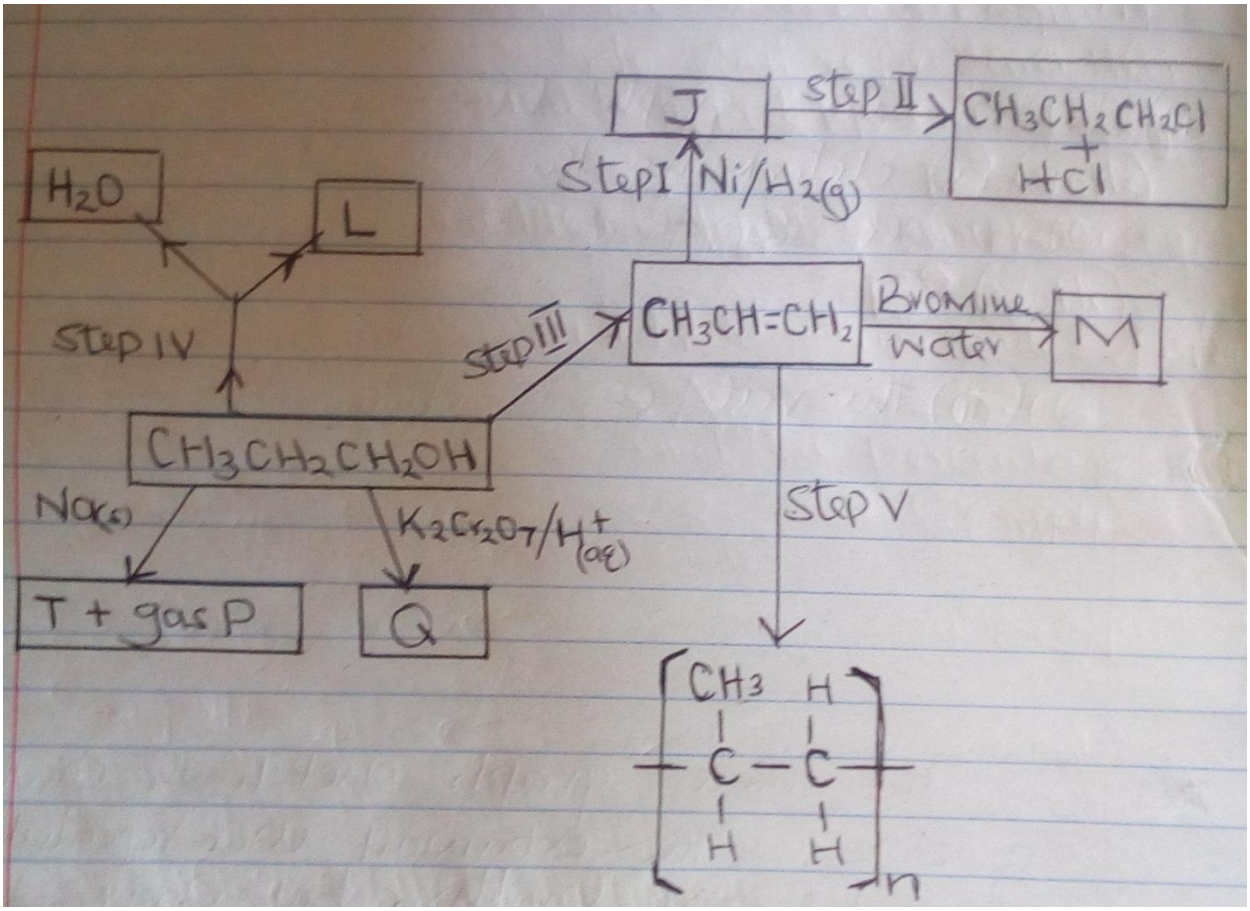
d) Using dots (.) and crosses (x) to represent the outermost electrons, show the bonding in the compound formed between elements C and D. (2mks)

e) Explain the difference in melting points in elements B and A (2mks)

f) Write an equation for the reaction that takes place between element E and steam. (1mk)

g) Describe how a solid mixture of the Chloride of E and lead (II) Sulphate can be separated into solid sample. (2mks)

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



(a) Name substance J and draw its structural formula: (2mks)

Name

Structural formula

(b) What reagents and conditions are necessary for:

i) Step (III) : Reagent (1mk)

Condition

ii) Step II: Reagent (1mk)

Condition

c) Name the following

i) L (1mk)

ii) Gas P (1mk)

iii) Q (1mk)

iv) M (1mk)

d) Write the equation of the reaction that occur in step (IV) (1mk)

e) Give the name of process in step (V) (1mk)

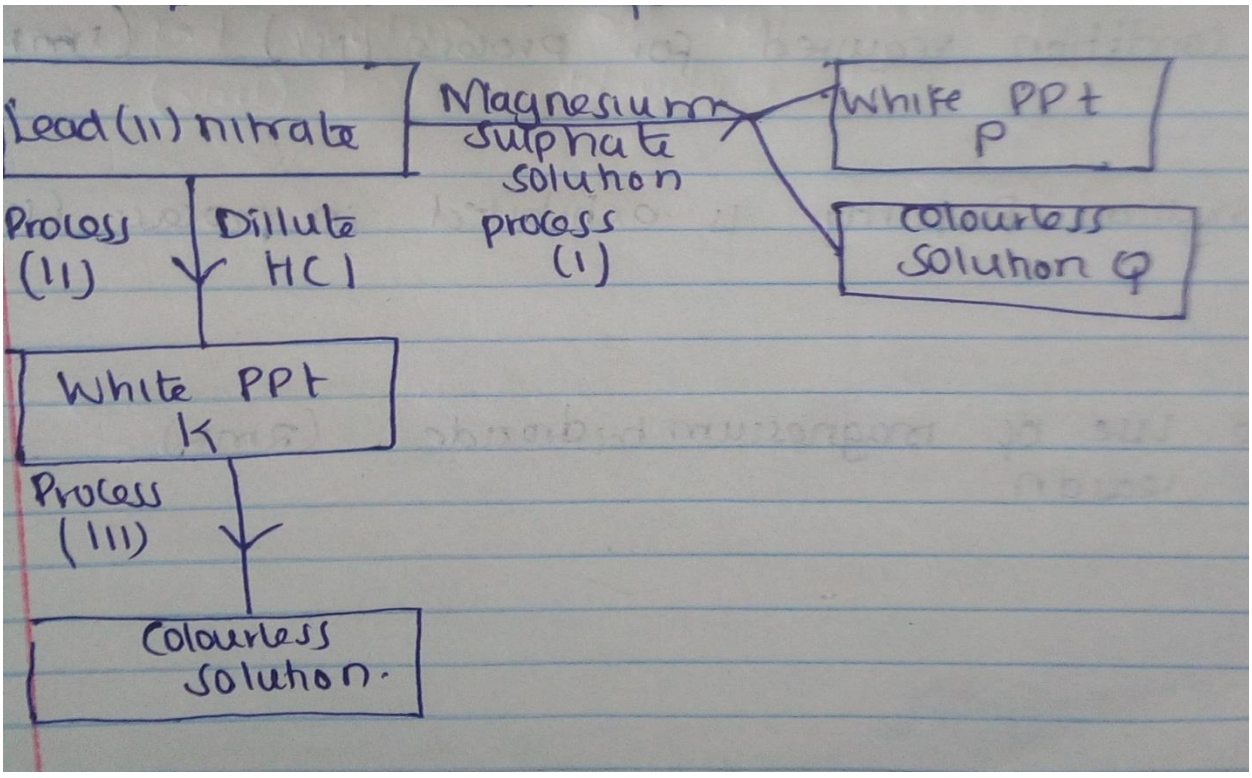
f) If the relative Molecular Mass of R is 21,000, determine the value of n. (C = 12.0, H = 1.0) (2mks)

4. a) Define an electrolyte (1mk)

b) Explain why the following substances conduct an electric current (2mks)
i) Magnesium metal

ii) Molten magnesium Chloride

c) Study the reaction scheme below and answer the questions that follow.



i) Write the formula of P and Q (2mks)

ii) Write an ionic equation for the formation of P (1mk)

iii) Name process (i) (1mk)

iv) Write a balanced equation for the formation of white precipitate K (1mk)

v) State the condition required for process (III) (1mk)

vi) Which physical property is exhibited in process (III) (1mk)

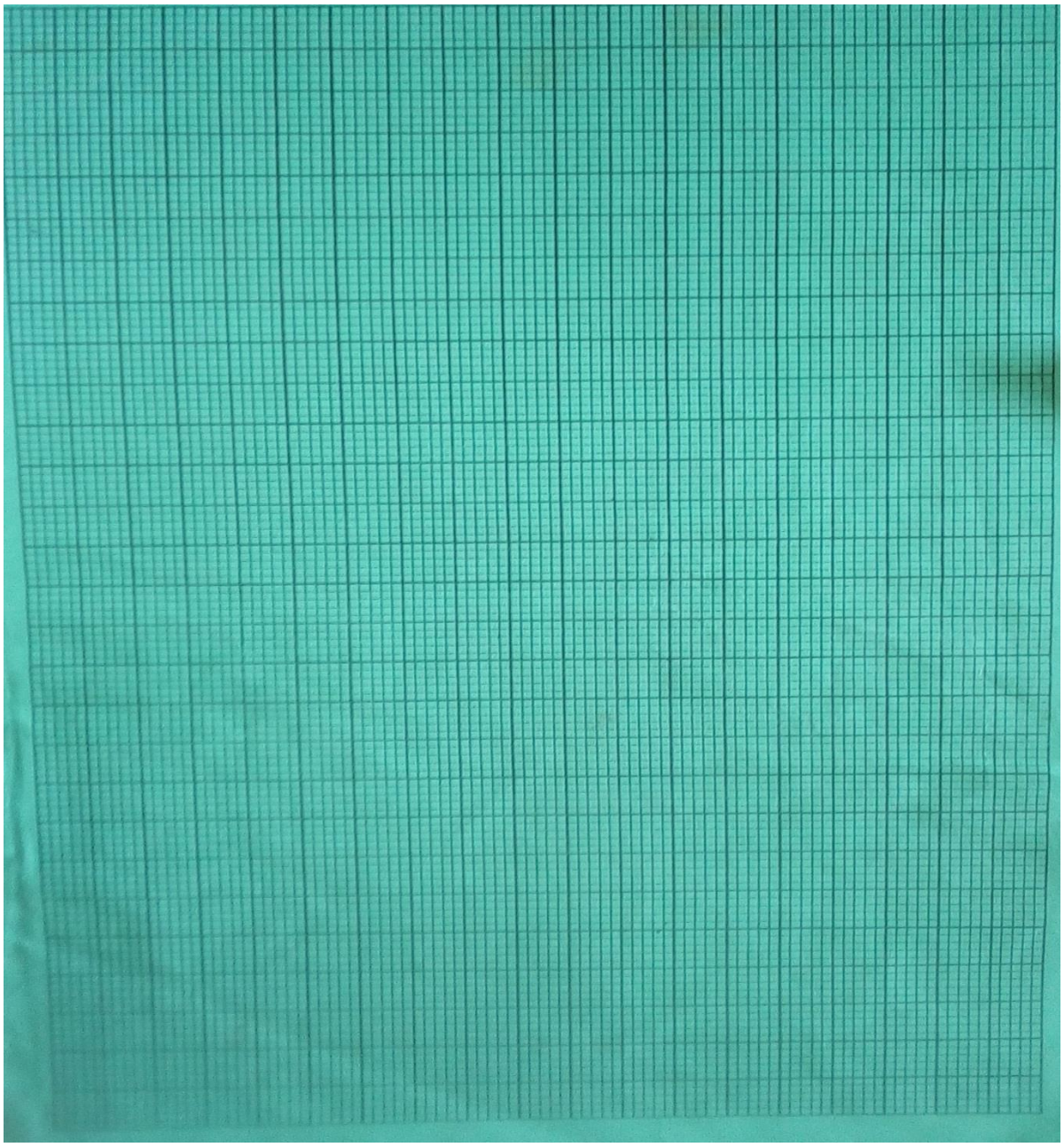
vii) State one use of magnesium hydroxide (2mks)
Give one reason

5 a) At 25^0c, 50g of potassium nitrate were added to 100g of water to make a saturated solution.
What is meant by a saturated solution? (1mk)

b) The table below gives the solubilities of potassium nitrate at different temperatures.

Temperature (^{0}c)	12	20	28	36	44	52
Solubility g/100g of water	22	31	42	55	70	90

i) Plot a graph of the solubility of potassium nitrate (vertical axis) against temperature (3mks)



ii) Using the graph

i) Determine the solubility of potassium nitrate at 15^0c. (1mk)

ii) Determine the mass of potassium nitrate that remained undissolved given that 80g of potassium nitrate were added to $100cm^3$ of water and water to 40^0c. (2mks)

c) Determine the molar Concentration of potassium nitrate at 15^0c.
(Assume there is no change in density of water at this temperature)
(K = 39.0, N = 14.0, O = 16.0) (3mks)

6 a) Aluminium oxide reacts with both acids and bases
i) Write an equation for the reaction between aluminium oxide and hydrochloric acid (1mk)

ii) Using the equation in (a) above, calculate the number of moles of hydrochloric acid that would react completely with 153.0g of aluminium oxide (Al = 27.0, O = 16.0) (3mks)

b) Sodium hydroxide pellet were accidentally mixed with sodium chloride, 8.8g of the mixture were dissolved in water to make one litre of solution. $50cm^3$ of the solution was neutralized by $20.0cm^3$ of 0.25M Sulphuric (vi) acid.

i) Write the equation for the reaction that took place. (1mk)

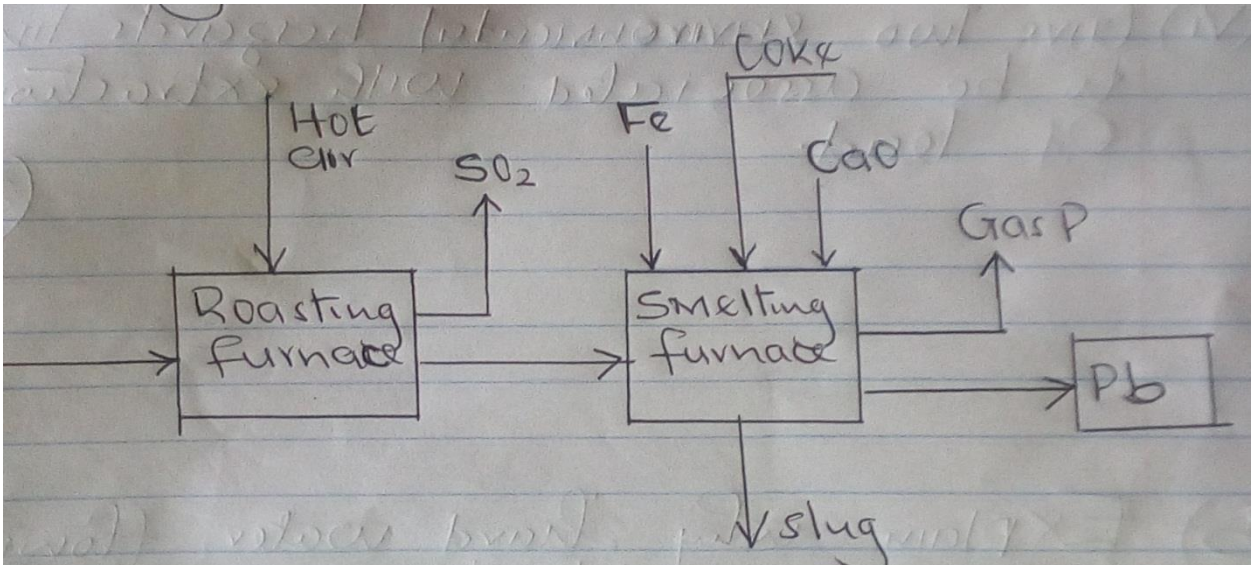
ii) Calculate the:

i) Number of moles of the substance that reacted with Sulphuric (vi) acid (2mks)

ii) Number of moles of the substance that would react with Sulphuric (vi) acid in the one litre solution. (1mk)

iii)The percentage of sodium chloride in the mixture. (2mks)

7. The flow chart below illustrates the industrial extraction of lead metal.
Study it and answer the questions that follow.



a) i) Name the ore that is commonly used in the process (1mk)

ii) Explain what takes place in the roasting furnace (1mk)

iii) Identify gas P (1mk)

iv) Write the equation for the main reaction that takes place in the smelting furnace. (1mk)

v) What is the purpose of adding iron in the smelting furnace? (1mk)

vi) Give two environmental hazards likely to be associated with extraction of lead. (2mks)

b) Explain why hard water flowing in lead pipes may be safer for drinking than soft water flowing in the same. (2mks)

c) State one use of lead other than the making of lead pipes (1mk)

PREDICTION 3

CONFIDENTIAL

Each candidate should have:

One ripe banana

Scalpel/blade

PREDICTION 3

NAME: …….. INDEX.NO: ……..……

SCHOOL: ……CANDIDATES SIGN: ……..…..…

DATE: ……

233/3

CHEMISTY PAPER 3
PRACTICAL

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

Instructions to candidates

1. *Write your name, index number and school in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *Answer **ALL** the questions in section in the spaces provided.*
4. ***ALL** working **MUST** be clearly shown.*

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
1 2 3	18 12 ½ 9 ½	
TOTAL	**40**	

1. You are provided with:
    - Solution A, Dilute hydrochloric acid

- Solution B, made by dissolving 0.5g of sodium hydroxide in water and made to 250cm^3 of solution
- Solid C, Magnesium ribbon
- Phenolphthalein in indicator

You are required to:

(i) Standardize solution A
(ii) Determine the rate of reaction between solution A and magnesium

PROCEDURE

(i) Measure exactly 10cm^3 of solution A using a burette and transfer into a 250ml volumetric flask. Top up to the mark using distilled water. Label this solution D.
(ii) Drain the remaining solution A in the burette, rinse the burette thoroughly and fill the burette with solution D.
(iii) Pipette 25cm^3 of solution B into a conical flask. Add three drops of phenolphthalein indicator
(iv) Titrate solution D with solution B. Record your results in the table below. Repeat procedure (i) to (iv) to complete the table. (3 marks)

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

(a) Calculate the average volume of solution D used (1 mark)

(b) Calculate:
(i) Number of moles of solution B used (1½ marks)

(ii) Number of moles of solution D in 250cm3 of solution (1½ marks)

(iii) Morality of solution A (1 mark)

PROCEDURE II

(i) Cut solid C into equal pieces, each 2cm long.

(ii) Using a burette, measure 12cm^3 of solution A, into a clean boiling tube.

(iii) Drop one piece of solid C into the boiling tube containing solution A and start stopwatch immediately. Stop the stopwatch when all solid C has just reacted. Record your results in the table below.

(iv) Repeat steps (ii) and (iii) above using 10cm3, 8cm3, 6cm3 and 4cm3 of solution A. Top up each with distilled water to make 12cm3 of solution and complete the table below. (4 marks)

Volume of solution A (cm^3)	Volume of distilled water (cm^3)	Concentration of solution a (moles/l	Time(s)	$\frac{I}{t}(s^{-1})$
12	0			
10	2			
8	4			
6	6			
4	8			

(a) Plot a graph of $\frac{I}{t}(y-axis)$ against the concentration of solution A (3 marks)

(b) From the graph, determine the time taken for the reaction to reach completion when 1.5 moles of solution A are used (2 marks)

(c) Comment on the shape of the graph (1 mark)

2. You are provided with solid Q. Carry out the tests below and record your observations and inferences in the spaces provided.

(a) Strongly heat a spatula-end full of solid Q in a dry test tube (1 mark)

Observation	Inference

(b) (i) Place the remaining solid Q in a boiling tube. Add 10cm3 of distilled water. Divide the solution into five portions. (2 marks)

Observation	Inference

(ii) To the first portion, add aqueous lead (II) nitrate solution (1 mark)

Observation	Inference

(iii) To the second portion add dilute nitric (V) acid, followed by barium nitrate solution (2marks)

Observation	inference

(iv) To the third portion add a few drops of sodium hydroxide until excess observation (2marks)

Observation	Inference

(v) To the fourth portion, add a few drops of aqueous ammonia until is excess. (2 marks)

Observation	Inference

(vi) To the fifth portion, add a few drops of hydrochloric acid (1½ marks)
Warm the contents.

Observation	Inference

3. You are provided with solid R. carry out the tests below and record your observations and inferences.

(a) Place a spatula-end full of solid R in a dry boiling tube and add about $10cm^3$ of distilled water. Shake thoroughly and heat to boil. Divide the solution into five portions.

(1½ marks)

Observation	inference

(b) (i) Test the first portion with the universal indicator solution provided. (1½ marks)

Observation	Inference

(ii) To the second portion, add a few drops of acidified potassium manganite (VII) solution

(2 marks)

Observation	Inference

(iii) To the third portion, add a few drops of bromine water (2 marks)

Observation	Inference

(iv) To the fourth portion, add half spatula of sodium hydrogen carbonate (1 mark)

Observation	Inference

(v) To the fifth portion in a boiling tube, add 5cm3 of ethanol followed by a few drops of concentrated sulphuric (VI) acid. Warm the mixture. (1 ½ Marks)

Observation	Inference

PREDICTION 3

NAME: …….. INDEX.NO: ……..……..

SCHOOL: ……..CANDIDATES SIGN: ……...…..…

DATE: ……

232/1
PHYSICS
PAPER 1

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

TIME: 2 HOURS.

Instructions to candidates

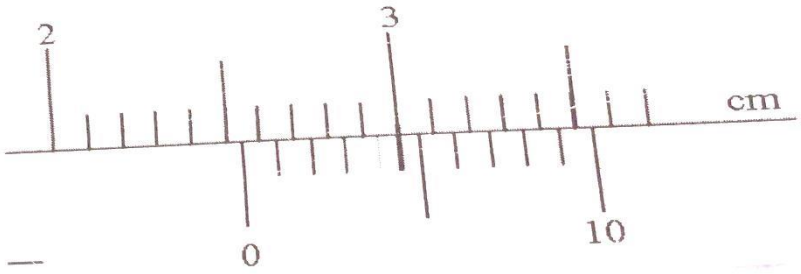
1. *Write your name, index number and school in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *This paper consist of **TWO** sections; **A** and **B**.*
4. *Answer **ALL** the questions in section **A** and **B** in the spaces provided.*
5. ***ALL** working **MUST** be clearly shown.*

FOR EXAMINERS USE ONLY

MAXIMUM SCORE	**80 MARKS**
CANDIDATE'S SCORE	

SECTION A – 25 MARKS (ANSWER ALL THE QUESTIONS)

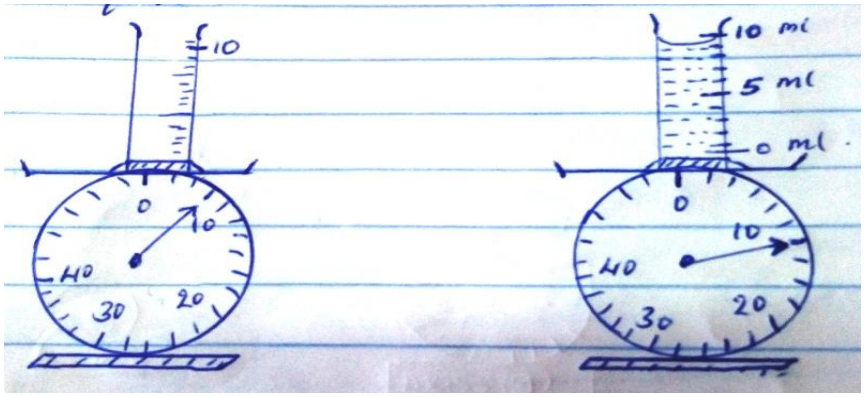
1. The verneir calipers in the figure below has a zero error of -0.05cm.



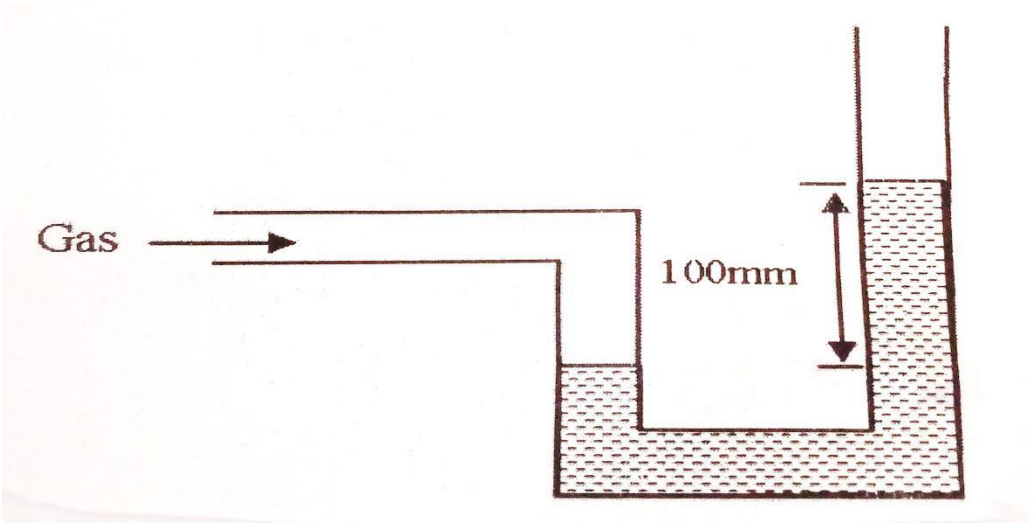
State the actual reading of the measuring instrument (2 marks)

2.Fig.1(a) and (b) shows a set – up to determine the density of a liquid.

Determining the density of the liquid. (3mks)



3. The figure below shows an open-ended monometer with water connected to a gas supply



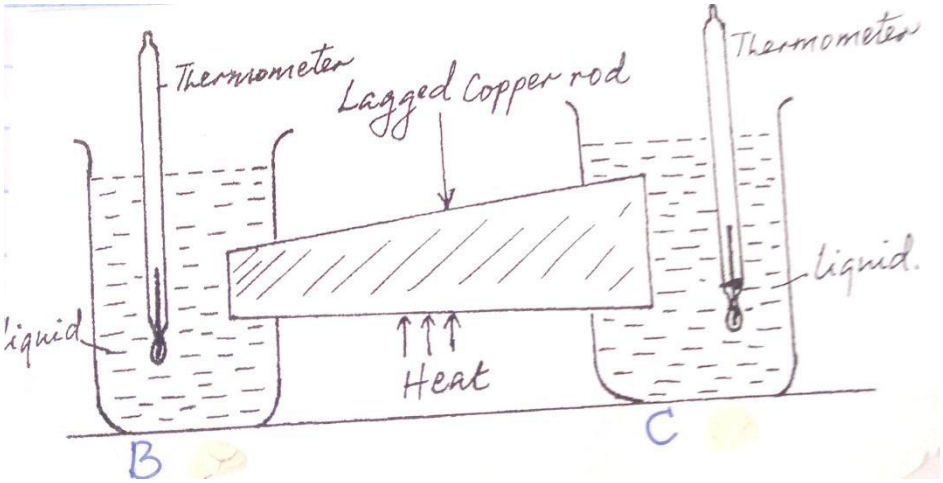
If a mercury barometer reads 760mm, calculate the pressure of gas (give your answer in N/m^3).

(Density water = 1g/cm3, density of mercury = 13.6 g/cm^3 (3 marks)

4.An object weighs 49N on earth where gravitational acceleration is 9.8N/Kg and 40.5N on another planet. Determine the gravitational acceleration on the planet (2 marks)

5.A measuring cylinder contains 20cm^3 of water. 10cm^3 of salt is added and stirred. Explain why the new volume is not 30cm^3 (2 marks)

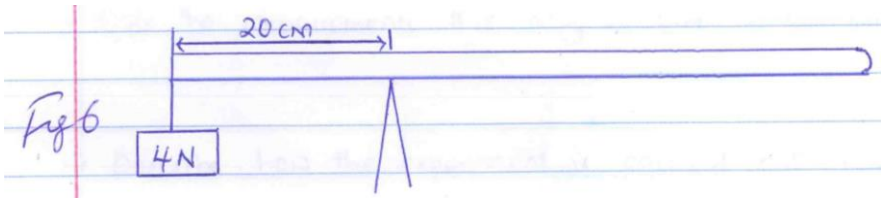
6.The figure below shows samples of same liquid B and C being heated through a well-lagged copper rod of non-uniform thickness. A thermometer is placed on each sample for some time.



If the rod is heated at the middle, state and explain which of thermometers records a higher temperature (2 marks)

7. Give one reason why boiling water cannot be used to sterilize a clinical thermometer (1mark)

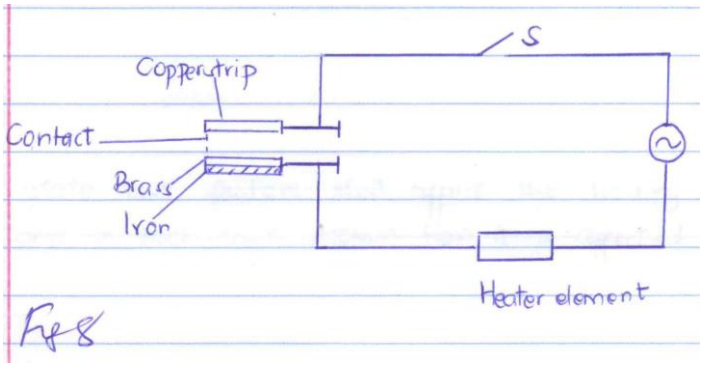
8. The figure 6 below shows a uniform 50cm rod. It is balanced horizontally by a load of 4N on one end. Calculate the weight of the rod 2mks)



9. Explain why a car feels lighter as it travel at a higher velocity. (2mks)

10. Pure water at 0^0c is heated up to 10^0c. Sketch the graph of volume against temperature on the axes given below 2mks)

11. The figure 8 below shows a circuit diagram for a device for controlling the temperature in a room.



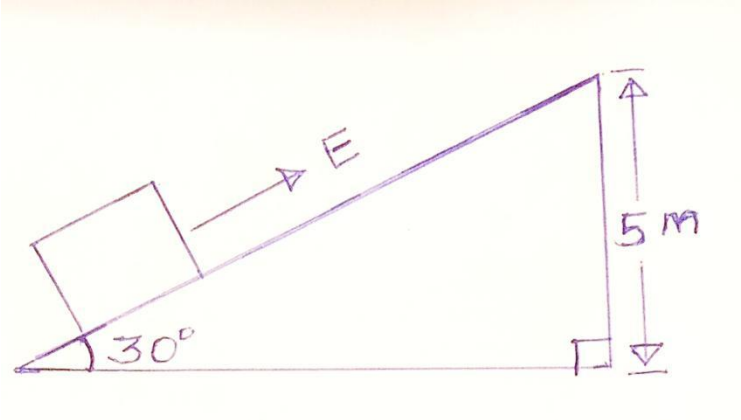
i) Explain the purpose of the metallic strip 2mks)

ii) Describe how the circuit controls the temperature when the switch S is closed 2mks)

SECTION B – 55 MARKS (ANSWER ALL THE QUESTIONS)

12. (a) Define the term velocity ratio of a machine (1 mark)

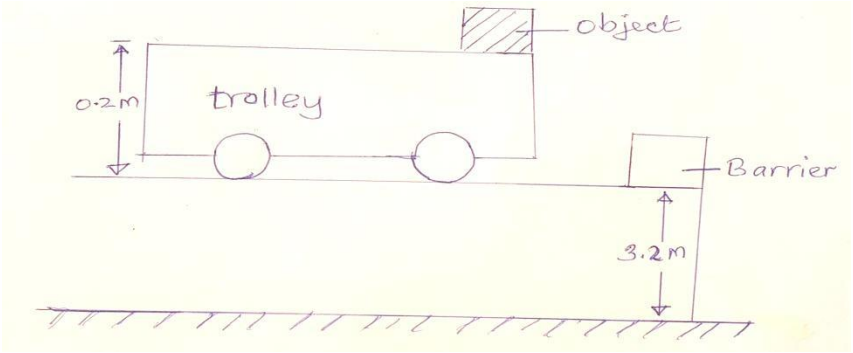
(b) A man pushes a load of mass 80kg up an inclined plane through a vertical height of 5m as shown below. The inclined plane makes and angle of 300 to the horizontal (take g to be $10m/s^2$)
(i) Determine the velocity ratio of the velocity ratio of the inclined plane. (2 marks)



(ii) If the efficiency of the plane is 75% determine:
(I) The mechanical advantage (2 marks)

(II) The effort E, needed to pull the load up the plane. (2 marks)

(c) A trolley of height 0.2m moving on a horizontal bench of height 3.2m strikes a barrier at the edge of the bench. The object on top of the trolley flies off on impact and lands on the ground 2.5m from the edge of the bench as shown below. Use this information to answer the questions that follow:



(i) Give a reason why the object on the trolley flies off on impact (2 marks)

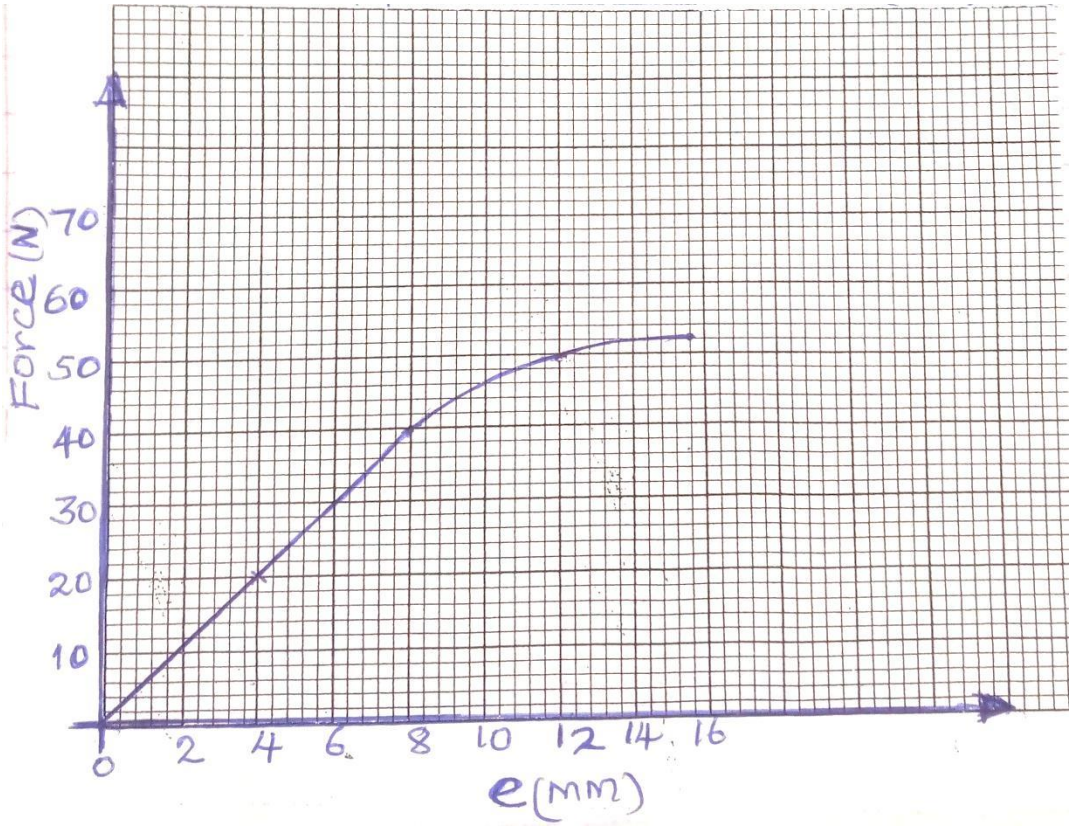
(ii) Determine the time taken by the object to land on the ground (2 marks)

13. (a) state Hooke's Law (1 Mark)

(b) (i) A vertical spring of un streched length of 30cm is clamped at its upper end. When sand is placed in a pan attached to the lower end of the spring its length becomes 45cm. When 20g mass is placed on top of the sand the length increases to 55cm. Determine the mass of the sand (3 marks)

(ii) If the spring in (i) above is compressed from its original length to a length of 24cm, calculate the work done in compressing the spring. (3 marks)

(c) The graph below shows the relationship between (F) against extension (e) of a spring.

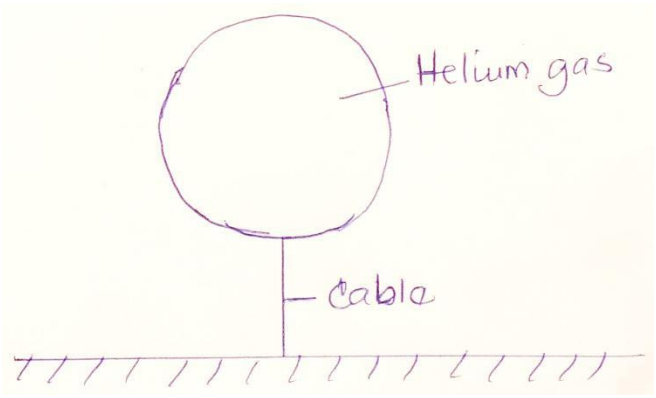


Determine the spring constant of the spring (3 marks)

14. (a) state Archimedes Principle (1 mark)

(b) Explain one application of Archimedes Principle in real life situation (2 marks)

(c) The mass of the fabric of a large balloon is 500g. The balloon is inflated with 2000m^3 of helium gas. The balloon is attached to a cable tied on the ground as shown. (Density of helium and air are 0.18g/cm^3 and 1.3g/cm^3 respectively.

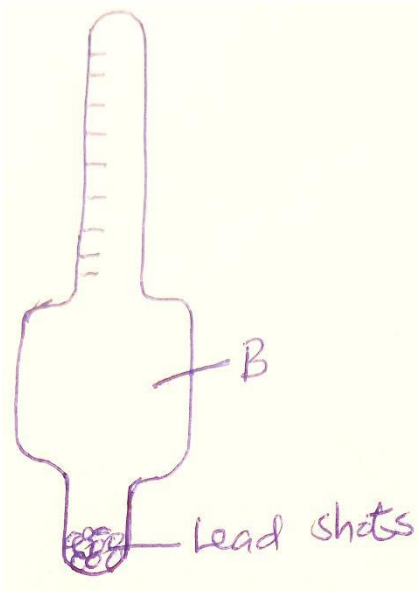


(i) State 3 forces acting on the set up. (3 marks)

(ii) Determine the tension in the cable (3 marks)

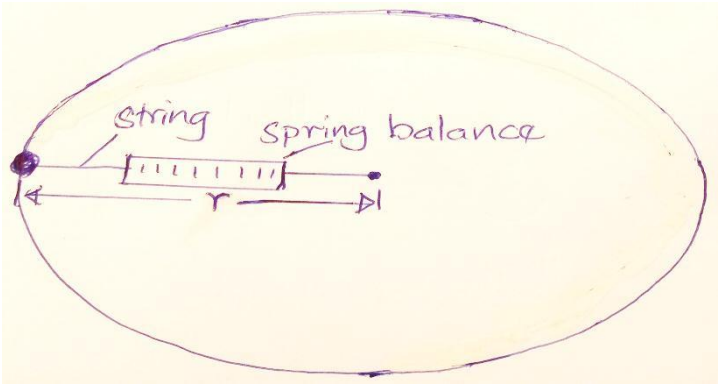
(iii) Calculate the acceleration of the balloon if the cable is cut. (2 marks)

(d) The diagram below shows a hydrometer.



Why is the part marked B wider? (1 mark)

15. The diagram below shows a spring balance tied to an object of mass M and rotated in a circular path of radius r.



(a) (i) State the force that keeps the object moving in a circular path. (1mark)

(ii) The speed of the object is constant but the body is acceleration on the circular path. Explain (1 mark)

(b) (i) If the object is whirled faster, what would happen to the spring balance reading? (1 mark)

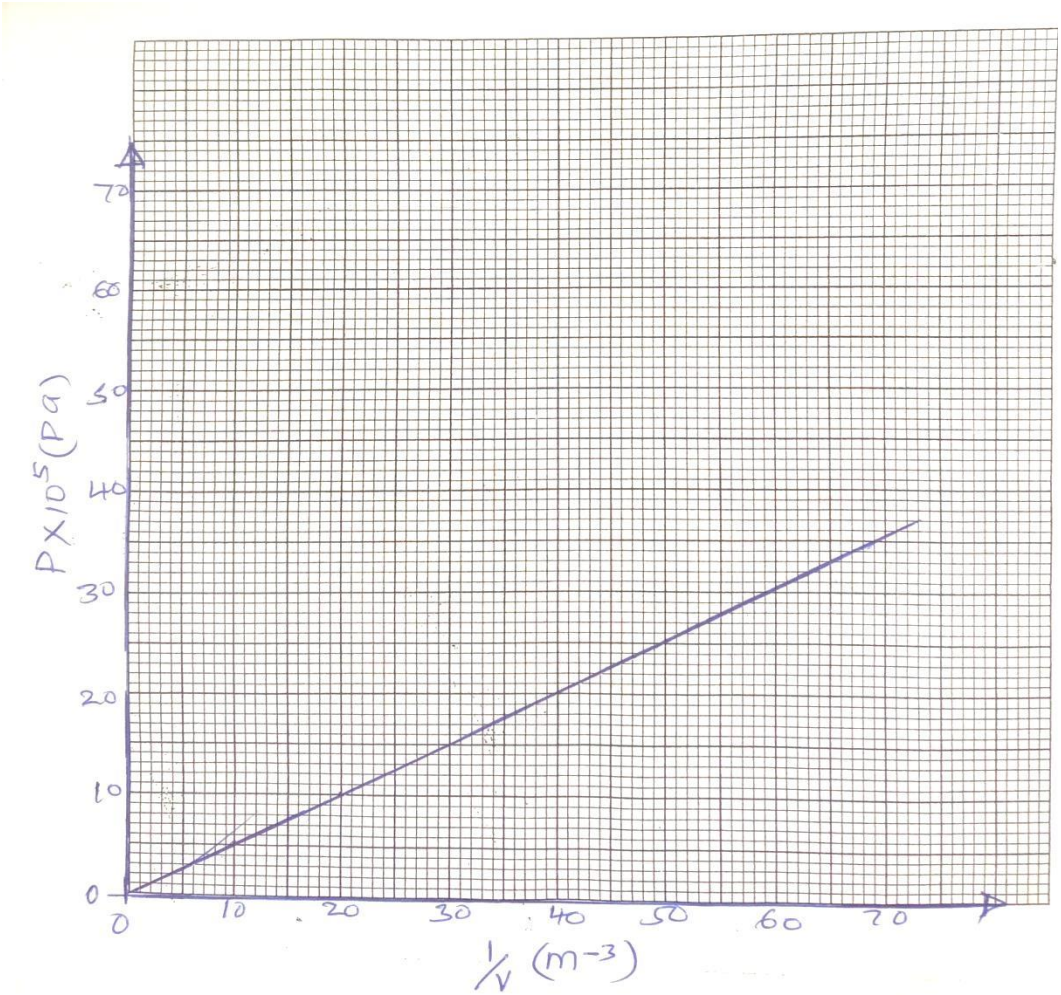
(ii) Give a reason for your answer in b (i) above (1mark)

(iii) As the object is whirled round, the sting snaps and cuts off. Describe the subsequent path of the object (1 mark)

(c) If the mass m of the object s 500g and radius r is 50cm. determine the velocity of the body if the spring balances reads 81N (3 marks)

16. (a) State the pressure law for an ideal gas. (1 mark)

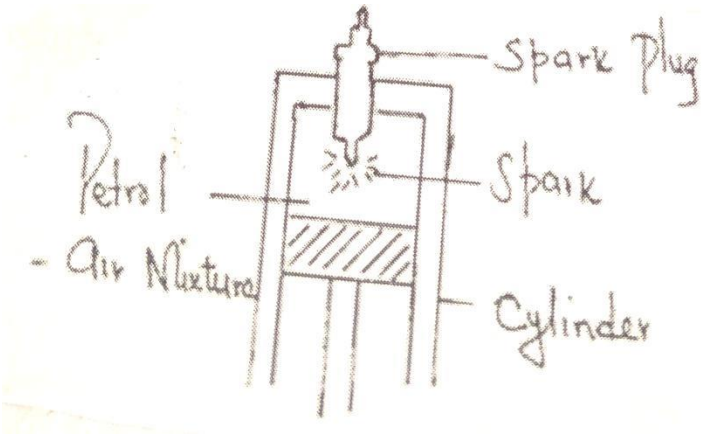
(b) The pressure P of a fixed mass of gas at constant temperature of T = 200k is varied continuously and the values of corresponding volume recorded. A graph of P against $\frac{1}{v}$ is shown on the graph below.



Use the graph to:

(i) Determine the volume of the gas when pressure reads 2.8×10^5 pa (2marks)

(d) The petrol air mixture in the cylinder of a car engine is ignited when the piston is in the position shown below.



Use kinetic theory of matter to explain why the piston moves down. (3 marks)

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

(b) 100g of steam of 100^0C was passed into cold water at 27^oC. The temperature of the mixture became 500C. Taking specific heat capacity of water as 4200jkg^{-1}k^{-1} and specific latent heat of vaporization of water as 2260kjkg^{-1} and that heat losses were negligible. Determine

(i) quantity of heat lost by steam. (2mks)

(ii) quantity of heat gained by water. (3mks)

(iii) Mass of the cold water. (3mks)

PREDICTION 3

NAME: …….. INDEX.NO: ……..…….

SCHOOL: ……CANDIDATES SIGN: ……..…..…

DATE: ……

232/2
PHYSICS
PAPER 2

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

TIME: 2 HOURS.

Instructions to candidates

1. *Write your name, index number and school in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *This paper consist of **TWO** sections; **A** and **B**.*
4. *Answer **ALL** the questions in section **A** and **B** in the spaces provided.*
5. ***ALL** working **MUST** be clearly shown.*

FOR EXAMINERS USE ONLY

MAXIMUM SCORE	**80 MARKS**
CANDIDATE'S SCORE	

SECTION A – 25 MARKS (ANSWER ALL THE QUESTIONS)

1. Figure 1 below shows an object **O** placed in front of a plane mirror. A ray of light is drawn coming object **O** and striking the mirror at **P.** After striking the mirror, the ray of light is reflected.

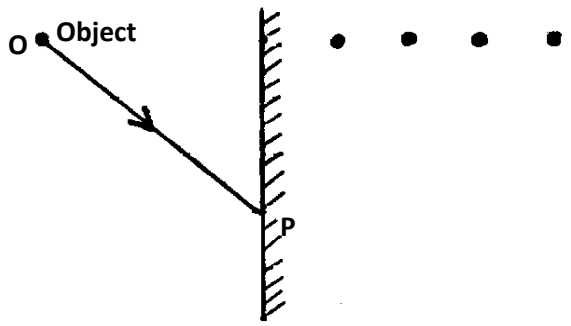


Fig. 1

(i) Which of the four dots represent correct position of the image of **O**? Label this dot **Q** (1mk)

(ii) By drawing a line on the diagram above to represent the reflected ray at **P**, mark the angle of reflection and label it **r**. (1mk)

2. An echo sounder of a ship received the reflected waves from a sea bed after 0.20s. Determine the depth of the sea bed if the velocity of sound in water is 1450m/s (2mks)

3. Figure 2 below shows a simple experiment using a permanent magnet and two metal bars **A** and **B**

Put close to the iron filings.

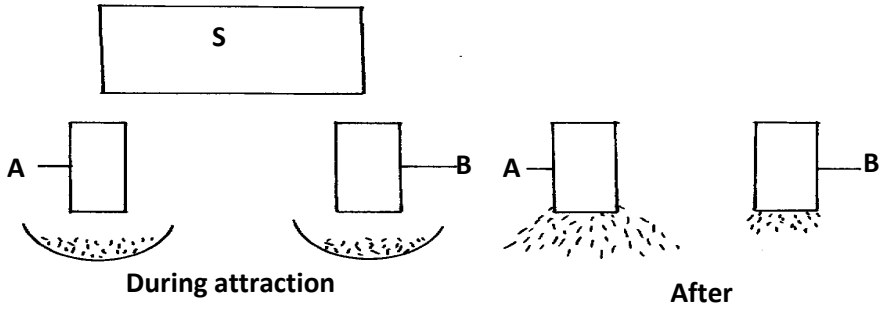
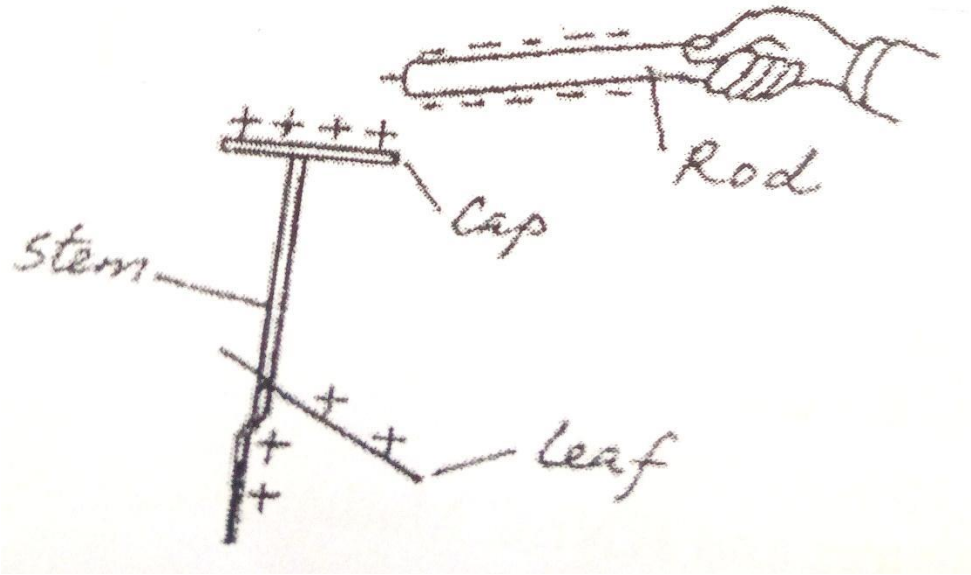


Fig. 2

State with a reason which bar is made from a soft magnetic material.

(2mks)

4. The figure below shows a highly negatively charged rod being brought slowly near the cap of a positively charged leaf electroscope. It is observed that the leaf initially falls and then rises.

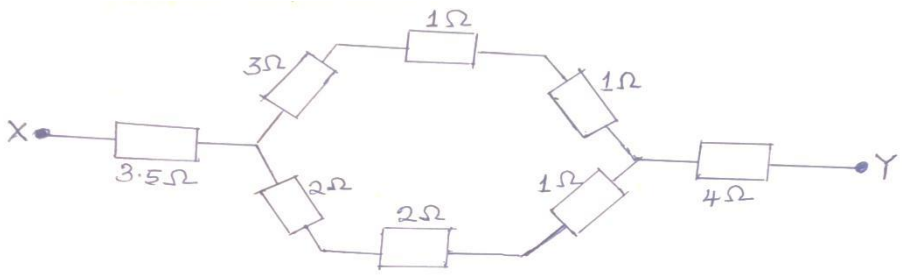


Explain this observation (2 marks)

5.(a) A generator capable of producing 100kw is connected to a factory by a cable with a total resistance of 5 ohms. If the generator produces the power at a potential difference of 5kv. What would be the maximum power available to the factory? (2 marks)

(b) State one cause of power loss in transmission of the main electricity (1 mark)

6.The figure below shows eight resistors forming a network in circuit between X and Y.



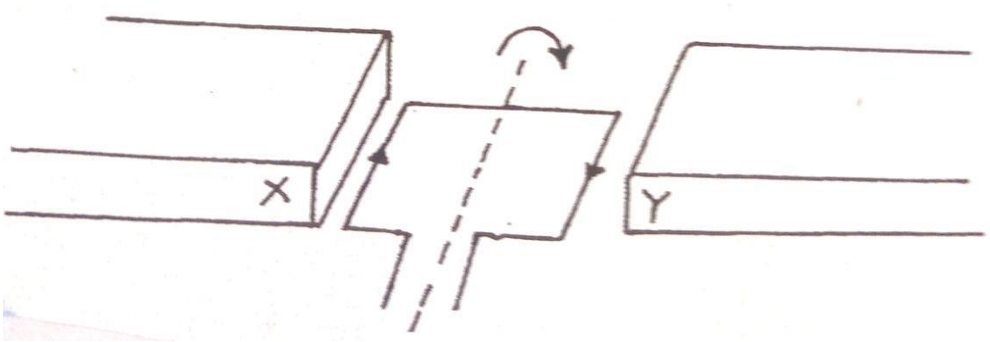
Calculate the effective resistance of the network. (3 marks)

7.State:

(a) One application of ultraviolet radiation (1 mark)

(b) One detector of the radiation in (a) above. (1 mark)

9. The figure below shows a rectangular coil in a magnetic fields rotating in a clockwise direction.



(i) Indicate the poles X and Y of the magnets. (1 mark)

(ii) Suggest one way of increasing the magnitude of the force in such a coil. (1 mark)

10. A battery is rated at 30Ah. For how long will it work if it steadily supplies a current of 3A.

(2 marks)

11. (b) An element **R** decays by giving off an alpha particle. Complete the equation below showing the

valves of **a** and **b**

(2mk)

$$^{236}_{72}R = {}^{a}_{b}V + {}^{4}_{2}He$$

a = _____ b = _____

12.) The circuit diagram in figure13 below shows four capacitors connected between two points **A**

and **B**

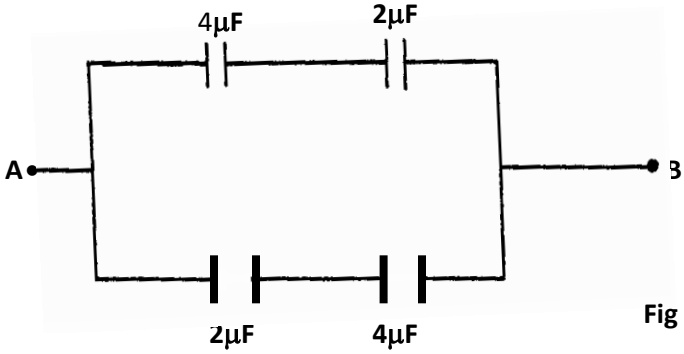


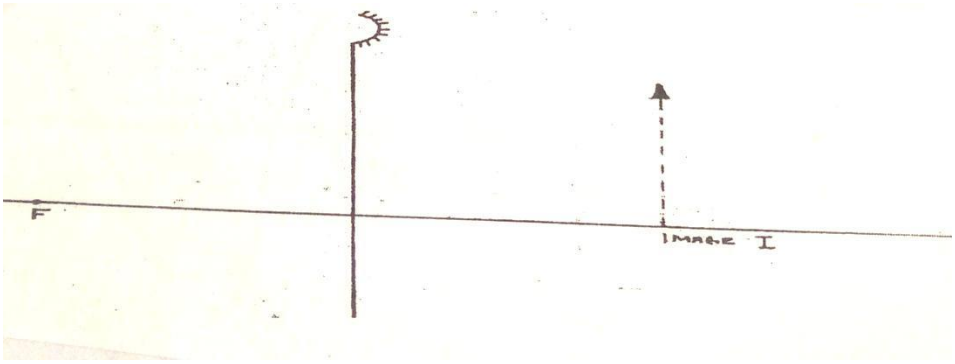
Fig 13

Determine the capacitance across **AB**. (3mks)

Section B (55 marks)

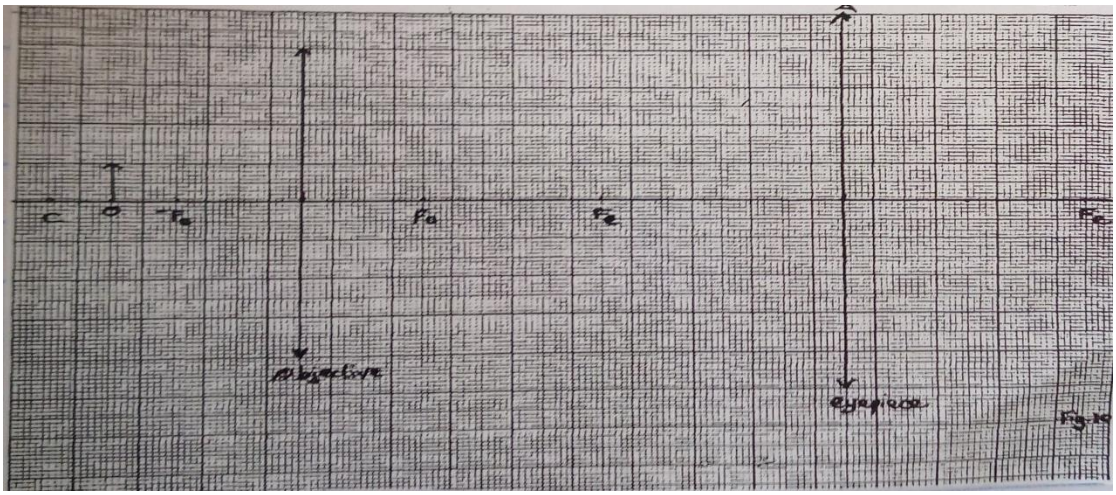
Answer all questions

13a)The figure below shows and image I formed by a concave mirror



Determine its magnification M. (3 marks)

b)The figure below shows lenses of a compound microscope. The focal length of the objective is 2 cm and that of eyepiece is 4cm. The two lenses are 9cm apart. An object 1 cm high is placed 3cm from the objective lens.

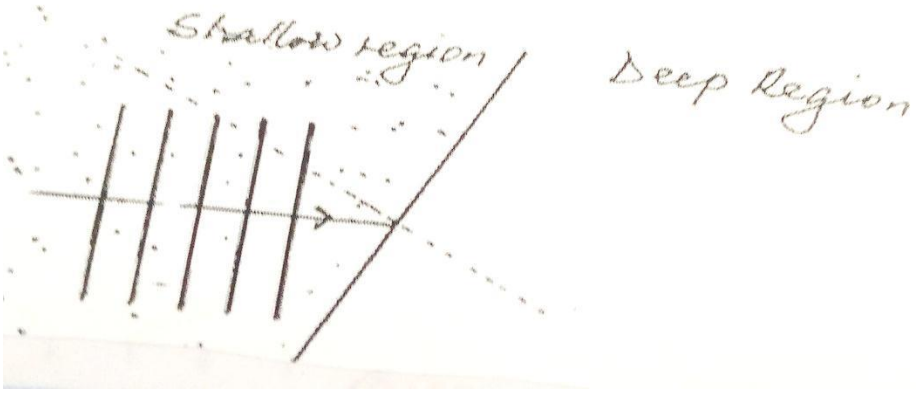


(i) Construct rays to show the position of the final image seen by the eye. (4 marks)

(ii) Find the magnification obtained by this arrangement (2 marks)

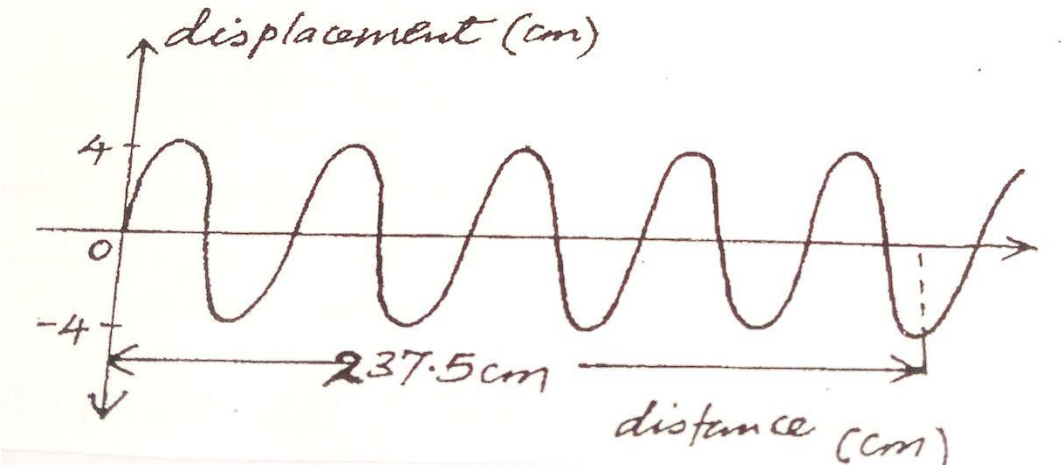
14.The figure below shows water wave fronts

(a) Approaching a boundary between a shallow and deep region. The speed of the waves in the shallow region is less than in the deep region.



On the same diagram complete the fare to show the wave fronts after crossing the boundary. (2 marks)

(b) A vibrator is used to generate water waves in a ripple tank. It is observed that the distance between the first crest and the midpoint to the fifth trough is 237.5cm. The waves travel 224.0cm in 6.0 seconds.



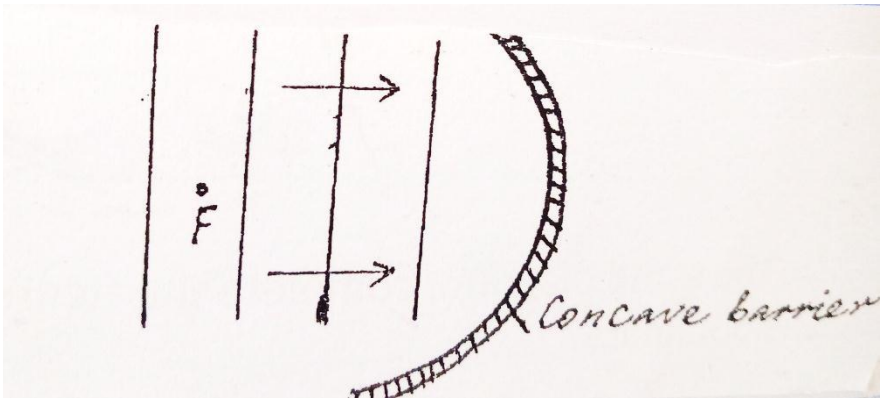
Determine:

(i) The wavelength of the waves (3 marks)

(ii) The speed of the waves (2 marks)

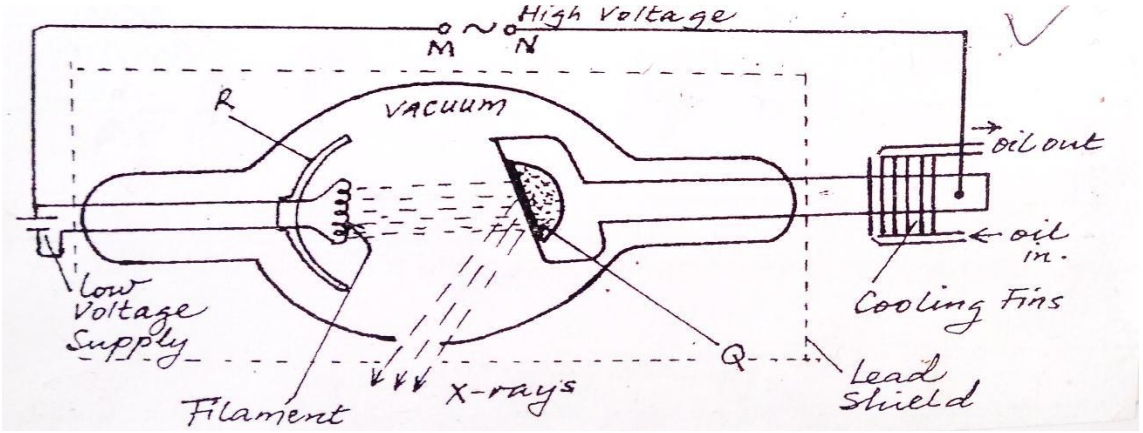
(iii) The frequency of the vibrator (2 marks)

(c) The plane water wave front are incident onto a concaved barrier as show in the figure below.



Show on the same diagram the nature of the reflected wave fronts. (2 marks)

15.The figure below shows the parts and circuit of a model X-ray tube.



(a) Name the parts labeled Q and R
(2marks)

Q

R

(b) State the suitable material for use in Q and give a reason for your answer (2marks)

(c) State the function of part R (1 marks)

(d) Describe how electrons, hence X-rays, are produced in the tube (2 marks)

(e) Explain why the glass tube is evacuated (2 marks)

(f) What property of lead makes its suitable material for shielding (1 mark)

(g) State how the following changes affect the nature of X-rays produced

(I) Increasing in potential across MN (1mark)

(II) Increasing the filament current (1 mark)

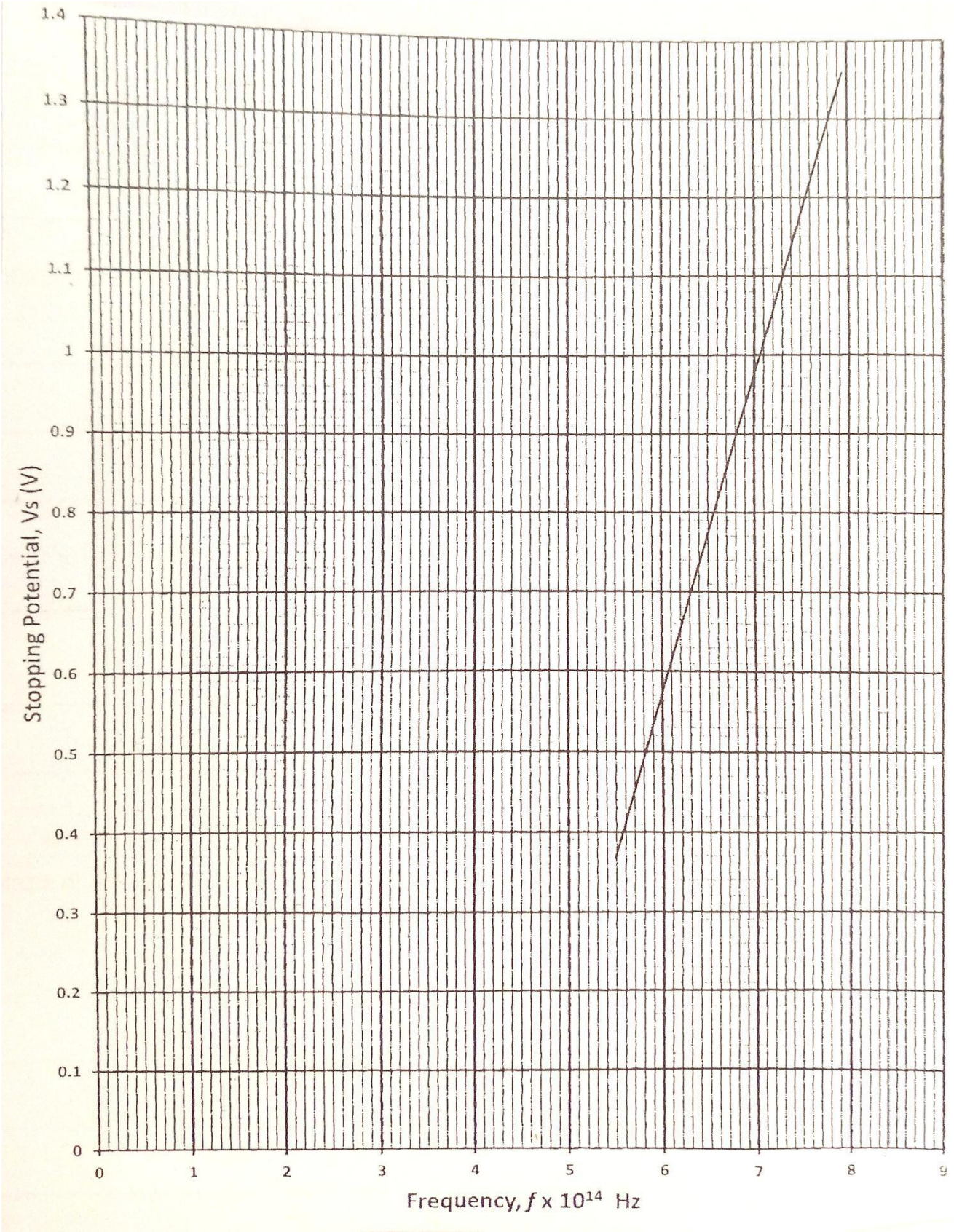
16(a) What is photoelectric emission? (1 mark)

(c) A radiation falls on photosensitive material state how the following changes affect the emitted photoelectrons:

(i) Increase in intensity of incident radiation. (1 mark)

(ii) Increase in the frequency of incident radiation (1 mark)

(d) The figure below shows a graph of stopping potential (voltage)V, against frequency f, of a radiation falling on a photosensitive surface.
Given that eVs = hf – hfo where h= plants constant, f_o = threshold frequency i.e frequency when $V_s = 0$ and e is the charge on an electron = 1.6 x 10^{-9}C. Use the graph to determine;


Stopping Potential, Vs (V)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
Frequency, f x 10^14 Hz

(I) The threshold frequency for the surface (1 mark)

(II) The gradient of the graph, hence the value of plank's constant h. (3 marks)

(III) The work function Wo of the surface given that Wo = Hfo for the surface (2mrk)

17. A student connected a circuit as shown in figure 16 below hoping to produce a rectified out put

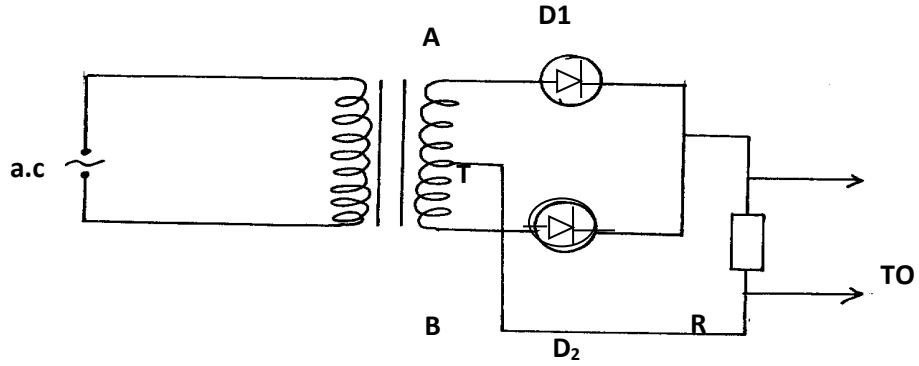


Fig 16.

(a) Sketch the graph of the output on the **CRO** screen (1mk)

(b) Explain how the output above is produced (2mks)

(c) Name other **two** uses of a junction diode (2mks)

20. Figure 7 shows two coils A and B placed close to each other. A is connected to a steady dc supply and a switch B is connected to a sensitive galvanometer.

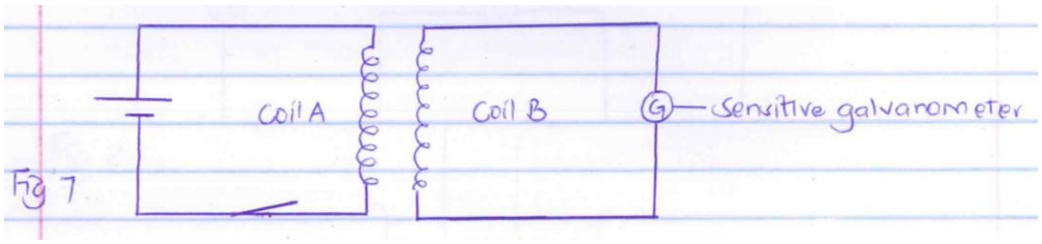


Fig 7

i) The switch is now closed. State the observation made on the galvanometer 2mks)

ii) Explain what would be observed if the switch is then open 2mks)

b) the primary coil of a transformer has 1000 turns and secondary coil has 200 turns the primary coil is connected to a 240v ac supply

ii) Determine the secondary voltage 3mks)

iii) Determine the efficiency of the transformer given that the current in the primary coil is 0.2A and in the secondary coil is 0.7A 3mks)

(a)

PREDICTION 3

232 / 3

PHYSICS

CONFIDENTIAL

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

CONFIDENTIAL TO ALL SCHOOLS FOR PHYSICS TEACHERS

INSTRUCTIONS TO SCHOOLS

The information contained in this paper is to enable the head of the school and the teacher in charge of Physics to make adequate preparations for this year's physics practical mock 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. Physics teachers **SHOULD NOT** perform any of the experiments in the same room as the candidates or make the results of the experiments available to the candidates or give any other information related to the experiments. Doing so will constitute an examination irregularity which is punishable.

- The apparatus required by each candidate for the Physics practical examination are set out on page 2 of this paper. It is expected that ordinary apparatus of a Physics laboratory will be available

- The Physics teacher should note that it is his/her responsibility to ensure that each apparatus acquired for this examination agrees with the specification on page 2 of this paper
- Teachers are reminded that electronic calculators may be allowed in this examination room.
- The question paper will **not** be opened in advance

NB:- ANY USE OF APPARATUS OTHER THAN THE ONES SPECIFIED MAY LEAD TO CANDIDATES BEING PENALIZED

Each student will require the following :-

1. 2 new dry cells (size D)
2. A cell holder
3. A switch
4. An ammeter (0-2.5A)
5. A voltmeter (0 – 5v)
6. 6 connecting wires
7. 2 crocodile clips
8. A nichrome wire 1.0m long mounted on a scale (SWG 32) labeled X
9. A candle
10. A lens (f = 20 cm) and a lens holder
11. A screen
12. A metre rule
13. Rubber bung (hard).
14. Vernier calipers (shared).
15. Electronic beam balance (shared).

    (which records to 1 d.p.)
16. a retort stand, one boss, one clamp
17. One 500ml beaker ¾ full of water
18. One 100g mass
19. One 50g mass
20. 3 pieces of thread approximately 30cm long

PREDICTION 3

NAME ……..…….. ADM. NO. ……..

SCHOOL ……..……..DATE…….…….

PHYSICS

FORM 4

PAPER 3

TIME: 2 HRS 30 MIN

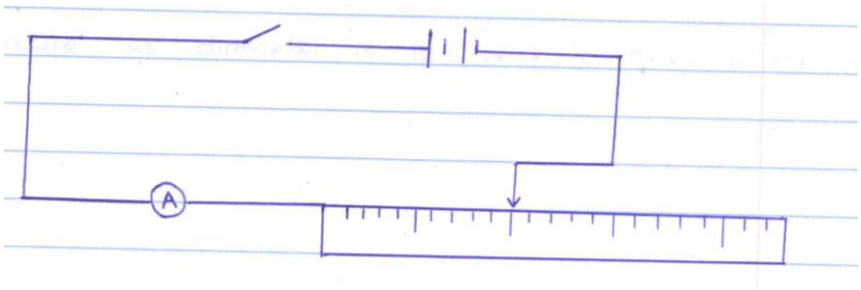
INSTRUCTIONS

Answer all the questions in the spaces provided

Question 1:
Each student will require the following

- 2 new dry cells (size D)
- A cell holder
- A switch
- An ammeter (0-2.5A)
- A voltmeter (0 – 5v)
- 6 connecting wires
- 2 crocodile clips
- A nichrome wire 1.0m long mounted on a scale (SWG 32) labeled X
- A micrometer screw gauge (can be shared)

Proceed as follows
a) Connect the circuit as shown in the figure below



b) Measure the voltage, E (across the cells) before closing the switch
E= …….. 1mk)

c) Adjust the length L of the wire 0.2, close the switch S and read the value of current and record the table below

Length L(m)	0.2	0.3	0.4	0.5	0.6	0.7
Current I (A)						
$\frac{1}{I}$ (A^{-1})						

d) Repeat the procedure in (c) above for the value of lengths given 6mks)

e) Calculate the values of $\frac{1}{I}$ and record in table above

f) On the grid provided, plot a graph of $\frac{1}{I}$ (y axis) against L 5mks)

g) Determine the gradient of the graph 3mks)

h) i) Measure the diameter of the wire in three points used
d_1 =

d_2=

d_3 =

Average d= 1mk)

ii) Determine the cross section area of the wire 2mks)

i) From the equation
$\frac{1}{I} = \frac{kL}{AE} + \frac{Q}{E}$ determine,

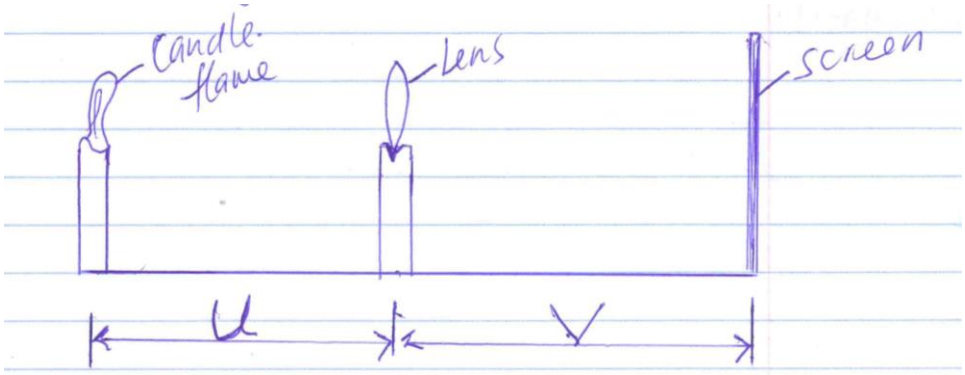
i) The value of k 2mks)

ii) The value of Q 1mk)

Question 2.
Section A
You are provided with the following

- A candle
- A lens and a lens holder
- A screen
- A metre rule

a) Set up the apparatus as shown in figure below (ensure that the candle flame and the lens are approximately the same height above the bench)



b) Set the position of the lens so that the 40cm from the candle (U=40). Adjust the position of the screen until a sharp image of the candle flame is obtained. Measure the distance, V between the lens and the screen. Record the value of V_1 V = …… cm)
1mk)

c) Repeat the procedures in b) above for other values of U in the table b below.
Table b)

U(cm)	45	50	55
V(cm)			
Magnification (m) $\frac{v}{u}$			

d) Given that f = $\frac{v}{m+1,}$

where f is the focal length of the lens, use the results in table above to determine the average values of f. 4mks)

PART B.

You are provided with the following:

- rubber bung.
- vernier calipers.
- beam balance.

Proceed as follows:

a) Using a vernier caliper, measure the lengths D, d, and h as shown in **figure 2.**

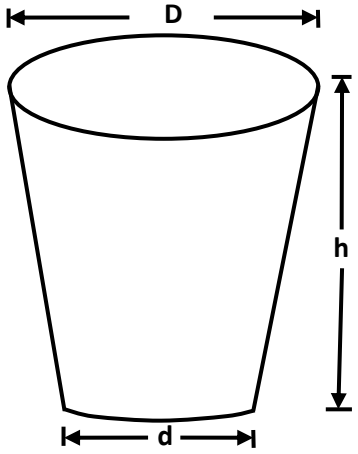


Figure 2

D = ... m (1 mark)

d = ... m (1 mark)

h = ... m (1 mark)

b) (i) Measure the mass, M of the rubber bung using the beam balance.

M = ... kg (1 mark)

(ii) Given that Q = $\left(\frac{d + D}{4} \right)$, determine the value of Q. (1 mark)

(iii) Determine the value of r given that $\pi r Q^2 = \frac{M}{h}$ (3mark)

(iv)what are the units of r (1 mrk)

(v) what is the significance of r (1 mrk)

SECTION C

You are provided with the following

- a metre rule
- a retort stand, one boss, one clamp

- One 500ml beaker ¾ full of water
- One 100g mass
- One 50g mass
- 3 pieces of thread approximately 30cm long

Procedure

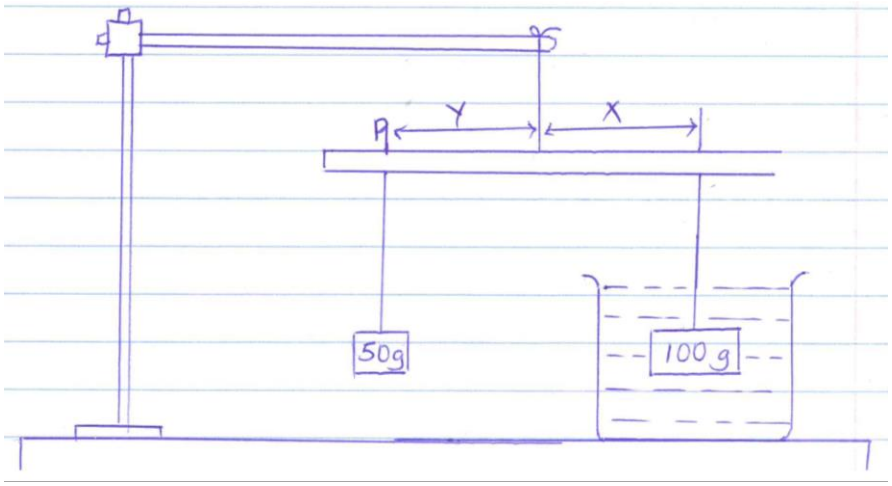
a) Balance the metre rule horizontally by suspending it from the stand and clamp with one of the threads.

Record the balance point G

G = _____ cm 1mk)

b) suspend the 100g mass from the metre rule at a point such that x =5cm from point G, with the 100g mass completely immersed in water in the beaker hang the 50g mass from the metre rule. Note the point of suspension (p) of the mass

P=_____1mk)



c) Calculate the apparent weight of the 100 g mass in water. 3mk)

d)Find the upthrust of 100g mass in water. 2mk)

PREDICTION 3

NAME…… **INDEX NO……**

SCHOOL…… **SIGNATURE……**

DATE……

312/1

GEOGRAPHY

PAPER 1.

TIME $2\frac{3}{4}$ Hours.

Instructions to candidates.

(a)*White your name and index number in the spaces provided above.*

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

*(c) This paper consists of two sections; **A** and **B.***

*(d) Answer all the questions in section A and question 6 and any other two questions in section **B.***

(e) Answer all the questions in English.

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-5	25	
B	6	25 25 25	
	TOTAL SCORE		

SECTION A. *Answer all questions in this section.*

1. (a) Name **two** forces responsible for the shape of the earth (2mks)
   (b) Mention **three** effects of the rotation of the earth (3mks)
2. (a) Sate **two** types of igneous rocks (2mks)
   (b)Give **three** characteristics of sedimentary rocks (3mks)
3. (a) Differentiate between weathering and mass wasting (2mks)

(b) State **three** causes of landslides (3mks

4. **a)** Give three reasons why it is necessary to study the plate tectonic theory. (3 marks)

   b) Name two types of plate tectonic boundaries. (2 marks)

5. .(a) Name two features that are formed on emerged highland coast (2mks)
   (b) State three conditions necessary for the formation of a spit (3mks)

SECTION B :Answer question 6 compulsory and only other two from the remaining questions.

6. (a) (i) What type of map is Yimbo Map extract (1mk)
   (ii) Convert the scale of the map to statement scale (1mk)
   (iii) Measure the length of all weather road, loose surface road C 506 from the junction in the grid square 3082 up to where it ends in the grid square 3986. (Give your answer in kilometers) (2mks)
   (iv) Calculate the bearing of the Trigonometric station 115 T 27 from the air photo principal point in the grid square 2586 (2mks)

   (b) Draw a rectangle measuring 14cm by 10cm to represent the area enclosed by Eastings 28 and 35 and northing 78 and 83. (6mks)

   On the rectangle, mark and name the following features

   - All weather roads, loose surface
   - Lake Victoria
   - Ndate River
   - Thicket

- Papyrus swamp

(c) (i) Identify two methods used to show relief of the area covered by the map (2mks)

(ii) Describe the drainage of the area covered by the map (7mks)

(d) Citing evidence from the map, state two economic activities of the area shown on the map (4mks)

7.(a) (i) Define continental drift

(ii) Give two significance of plate tectonic boundaries (2mks)

b (i) Apart from tension forces, explain two other process that may cause faulting (4mks)

(ii) With the aid of well-labelled diagrams, describe the formation of Rift valley through tension forces (6mks)

iii) Mention four positive effect of faulting (4mks)

c)You are planning to carry out a field study on the area affected by faulting

i) State two objectives for your study

ii) State three reasons why it is important to have a reconnaissance survey/pre-visit of the area (3mks)

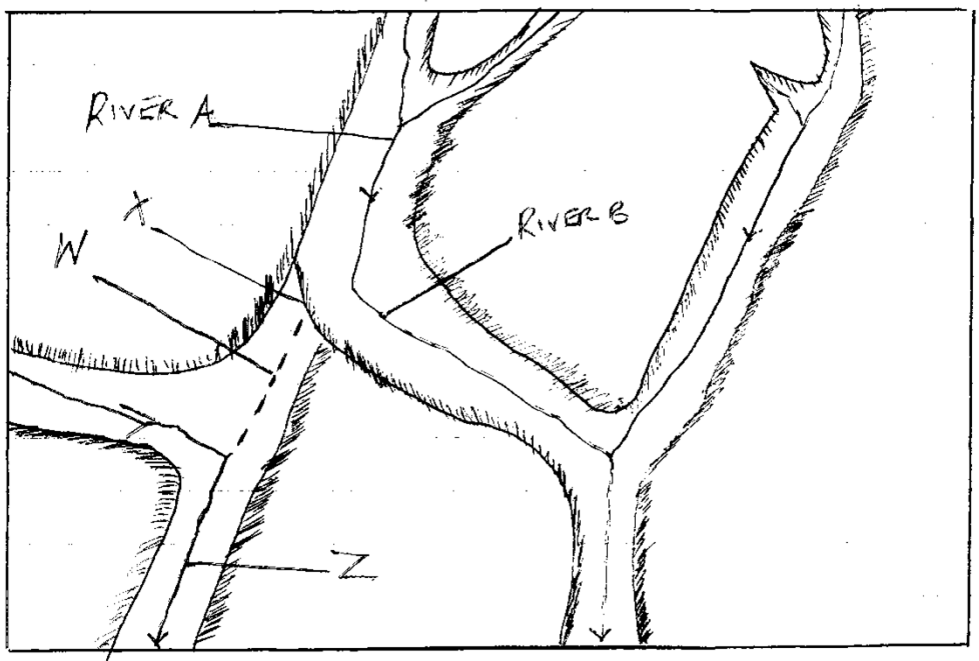
iii) Give three follow-up activities you are likely to engage in (3mks)

8. a i) Define the term glaciation. (2 marks)
ii) Name three types of glaciers. (3 marks)
b) Describe how the following features found in upland glaciated landscape are formed.
i) U-shaped valley (5 marks)
ii) Pyramidal peak (5 marks)
c) Explain three significances of upland glaciated features to human activities. (6 marks)
d) Suppose you were to carry out a field study of glaciated lowland.
i) State two advantages of using oral interview to collect information during the field study. (2 marks)
ii) Name two features found in glaciated lowland that you are likely to study. (2 marks)

9.(a) (i) Differentiate between watershed and catchment area (2mks)

(ii) Explain three ways by which a river transports its load (6mks)

(b) Study the diagram given below and answer questions that follow



i

ii) Explain the process of river capture (3mks)

c) Give three characteristics of a river in its youthful stage (3mks)

d) Explain four economic importance of a river to human activities (8mks)

10 a, .Define aridity

i. With an aid of a well labeled diagram describe how a rock pedestal is formed (5mks)

b ,

i. Give two process through which wind erodes the earth surface (2mks)
ii. Give two wind depositional features found in the desert (2mks)
iii. explain two ways through which plants causes weathering in arid and semi-arid areas 4mks

c. i. Explain the causes of aridity and desertification (6mks)

ii. State four measures that can control aridity and desertification (4mks)

PREDICTION 3

NAME…… **INDEX NO……**

SCHOOL…… **SIGNATURE……**

DATE……

KCSE PREDICTION 3

312/2

GEOGRAPHY

PAPER 2.

TIME $2\frac{3}{4}$ Hours.

Instructions to candidates.

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

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

(c) This paper consist of two sections; A and B.

(d) Answer all the questions in section A and question 6 and any other two questions in section B.

(e) Answer all the questions in English.

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-5	25	
B	6	25 25 25	
	TOTAL SCORE		

SECTION A. ***Answer all the questions.***

1. a) Give any two ways in which minerals occur. (2 marks)

b) State three problems facing soda ash exploitation in Magadi. (3 marks)

2. a) Define the term agroforestry. (2 marks)

b) State three reasons why agroforestry is being encouraged in Kenya. (3 marks)

3.a) Apart from land pollution name two other types of environmental hazards (2mks)

b) State three ways through which land pollution can be controlled. (3mks

4.(a) Apart from a telephone, state two other forms of communication (2mks)

(b) Mention three problems facing railway transport in Africa (3mks)

5.

a) Apart from the common market for Eastern and southern Africa (COMESA) identify two other trading blocks in Africa. (2mks)

b) Give three benefits of COMESA to member states. (3mks)

SECTION B. ***Answer question 6 compulsory and only other two questions from the remaining questions.***

6.

Study the photograph below and answer questions that follow

a) (i) Identify the type of photograph shown above

(1mk)

(ii) Draw a rectangle measuring 15cm by 10cm to represent the area covered by the photograph (1mk)

(iii) On the rectangle, sketch and label four main features (4mks)

b) (i) Which type of farming is shown on the photograph (1mk)

(ii) Give three physical conditions favouring tea farming in Kenya (3mks)

(iii) Describe the stages of tea processing (5mks)

c) (i) State two areas in Kenya where maize is grown on large – scale (2mks)

(ii) Explain four problems facing maize farmers in Kenya (8mks)

7.a) i) Identify two types of open cast mining .
(2mks)
ii) Describe the stages involved in deep- shaft mining (6mks)

b)State three negative effects of mining on the environment
(3mks)

c) Give two reasons why Kenya import her oil in crude form
(2mks)

d) Explain four ways in which mining contribute to the to the economy of Kenya
(8mks)

e) Explain how the following factors influence exploitations of minerals
(2mks)

i)) Technology

ii) Quality of the one

8. a) Define the term global warming. (2 marks)
b) Distinguish between environmental conservation and environment management. (2 marks)
c) State four reasons why Kenya should conserve her environment. (4 marks
d) Explain four effects of land pollution to the environment. (8 marks)
e) Briefly explain the main reasons for the following environmental acts in the law of Kenya.
i) The factories act (2 marks)
ii) The water act (2 marks)
f) Your class intends to carry out a field study on environmental water pollution in the locality.
i) State one possible objective for the study. (1 mark)
ii) Give two reasons why you need to conduct a reconnaissance. (2 marks)
iii) Suggest any two ways to control the environmental problem under study. (2 marks)

9.

a) i) Differentiate between population and demography (2mks)

ii) State two types of migration (2mks)

iii) State three causes of rural- rural migration
(3mks)

b) Explain how the following factors led to the population increase in Kenya

i) Migration (2mks)

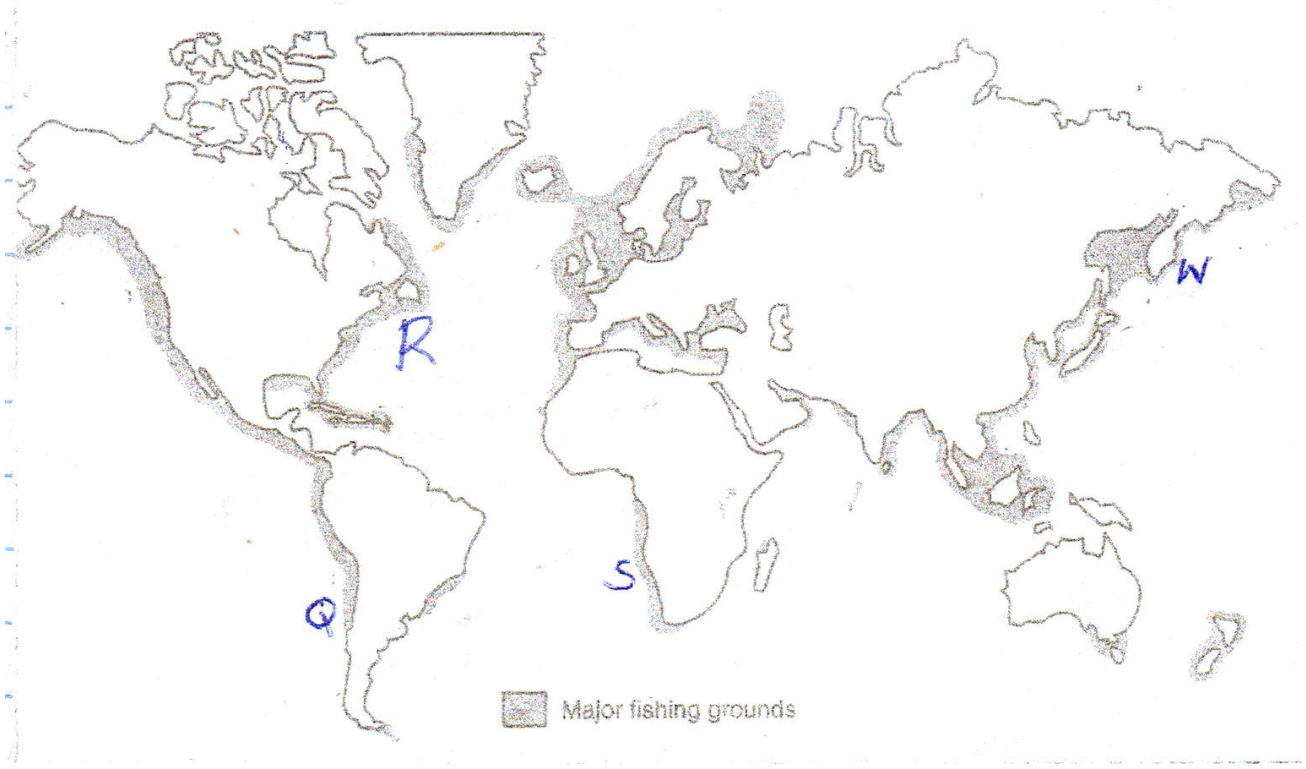
ii) Improved medical care (2mks)

iii) Cultural beliefs and traditions (2mks)

c) Explain three problems which result from high population growth rate in Kenya (6mks)

d) Explain three ways in which the population of Kenya differs from that of Sweden (6mks)

10. Study the world map shown below and answer questions that follow.



(a) (i) Identify the fishing grounds marked Q, S and W (3mks)

(ii) Explain three physical conditions favouring fishing activities in the area marked R (6mks)

(b) (i) Give two methods of fish preservation (2mks)

(ii) Describe trawling fishing methods (5mks)

(c) (i) Give three reasons why the government of Kenya encourages fish farming (3mks)

(ii) Explain three human factors that make Japan to be a leading fishing nation in the world (6mks)

PREDICTION 3

NAME:……INDEX NO……

CANDIDATE'S SIGN:…… DATE ……

HISTORY AND GOVERNMENT
PAPER 1 (311/1)
FORM 4
Time: 2 Hours 30min

INSTRUCTIONS TO CANDIDATES

1. Write your name and Index number in the spaces provided above
2. Answer **all** questions in section A
3. Answer any **three** questions in section B
4. Answer any **two** questions in section C

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM	CANDIDATE'S SCORE
A	1 – 17	25	
B	18 – 21	45	
C	22 - 24	30	
TOTAL SCORE			

SECTION A 25MARKS

Answer all the questions in this section

1. Give **two** unwritten sources of information on history and government. 2mks)

2. Identify **one** community in Kenya which belongs to the Southern Cushitic group. 1mk)

3. State **two** religious functions of the Orkoiyot among the Nandi 2mks)

4. State the **main** factor that contributed to the growth of city states along the Kenyan coast before 1500 AD 1mk)

5. Name some of the missionary groups which were involved in spreading of Christianity in Kenya in the 19^{th} and 20^{th} century 2mks)

6. Give t**wo** factors that enabled the early visitors to come to Kenyan coast by 1500 AD 2mks)

7. Give **one** reason why the government of Kenya may limit a person freedom of speech 1mk)

8. Identify **two** political causes of conflicts in Kenya 2mks)

9. State **two** factors that determine the constitution to be adopted by a country 2mks)

10. Give **one** reason why the constitution is important in Kenya 1mk)

11. Name **one** group that monitors human rights in Kenya 1mk)

12. Give **one** reason why some Kenyan communities collaborated during the colonial period 1mk)

13. Give the **main** reason why the colonial government created African reserves in Kenya 1mk)

14. Name the leader of the chartered company which administered the Kenyan colony 1mk)

15. Give **one** challenge facing multiparty democracy in Kenya 1mk)

16. Identify **two** external sources of revenue for national government in Kenya 2mks)

17. Give **two** disadvantages of Kenya's reliance on foreign aid as a source of revenue 2mks)

SECTION B 45 MARKS

Answer any three questions from this section

18a) Give **five** reasons which led to the migration of the cushites from their original homeland into Kenya during the pre-colonial period 5mks)

b) Explain **five** results of the interaction between Bantu and the cushites in the pre-colonial period 10mks)

19a) State **five** problems experienced by the imperial British East African Company in Kenya 5mks)

b) Explain the effects of land alienation in Kenya during the colonial period 10mks)

20a) Give **three** terms of the Devonshire white paper of 1923 3mks)

b) Explain the role played by women in the struggle for independence in Kenya 12mks)

21a) State **five** ways in which the government of Kenya has improved the health of its citizens since independence 5mks)

b) Explain **five** challenges facing the agricultural sector in Kenya today 10mks)

SECTION C 30MKS

Answer any two questions in the section

22a) Give **five** rights of a citizen in Kenya 5mks)

b) Explain **five** values of a good citizen 10mks)

23a) Give **three** reasons that can make the parliament in Kenya to be dissolved 3mks)

b) Explain **six** functions of the National assembly in Kenya 12mks)

24a) Give the composition of County Assembly in Kenya 3mks)

b) Explain **six** functions of County government in Kenya 12mks)

PREDICTION 3

NAME:……INDEX NO……

CANDIDATE'S SIGN:……DATE ……

HISTORY AND GOVERNMENT
PAPER 2 (311/2)
FORM 4
Time: 2 Hours 30Min

INSTRUCTIONS TO CANDIDATES

1. Write your name and Index number in the spaces provided above
2. Answer **all** questions in section A
3. Answer any **three** questions in section B
4. Answer any **two** questions in section C

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM	CANDIDATE'S SCORE
A	1 – 17	25	
B	18 – 21	45	
C	22 - 24	30	
TOTAL SCORE			

SECTION A 25 MARKS
Answer all questions in this section

1. List **two** methods used by elders to pass information to the young generation on history and government in traditional African communities 2mks)

2. Name the **oldes**t hominid in the stages of evolution of man 1mk)

3. Outline **two** non environmental reasons for the domestication of crops and animals by early man 2mks)

4. Identify the **greatest** contribution of Michael Faraday in the field of science 1mk)

5. Outline **two** roles played by the middlemen during the Trans-Atlantic trade 2mks)

6. Give the **main** use of steam power during industrial revolution in Europe 1mk)

7. Identify the **main** method of trade in Africa during the pre-colonial period1mk)

8. State **two** advantages of using fire and smoke signals to pass messages in traditional societies 2mks)

9. State **one** way in which the city of Cairo was influenced by river Nile 1mk)

10. Identify **one** symbol of national unity in Shona Kingdom during the pre colonial period 1mk)

11. Identify **two** European activities in African during the 19^{th} century 2mks

12. Name **two** communities that took part in the maji maji rebellion in Tanganyika 2mks)

13. Identify **two** similar methods used to recruit African labour in the British and French colonies in Africa 2mks)

14. Name the political party that led Ghana to independence from Britain in 1957 1mk)

15. State the country that was blamed for the outbreak of the first world war 1mk)

16. Identify **one** Germany colony in West Africa 1mk)

17. Identify **two** permanent members of the security council of the united nations organization 2mks)

SECTION B 45 MARKS
Answer any three questions in this section

18a) State ways in which the development of the upright posture improved the early man's way of life 5mks)

b) Describe the way of life of early human beings during the middle stone age period 10mks)

19a) Give **three** developments that have taken place in road transport system since 1950 3mks)

b) Explain ways through which the invention of the railway speeded up industrialization in Europe 12mks)

20a) Give **three** functions of Lukiko in the kingdom of Buganda during the pre-colonial period 3mks)

b) Explain **six** factors that led to the growth of the Asante empire by the 19th century 12mks)

21a) State **five** factors that led to the development of African nationalism in Ghana 5mks)

b) Describe the problems which undermined the activities of nationalists in Mozambique 10mks)

SECTION C 30 MKS

Answer any two questions in this section

22a) Identify **five** main organs of the United Nations Organization 5mks)

b) Explain **five** ways through which the United Nation promotes peace in the world 10mks)

23a) Give **three** political changes introduced by Mobutu Seseko which led to dictatorship in democratic republic of Congo 3mks)

b) Describe **six** social developments that have taken place in Tanzania since independence 12mks)

24a) Give **three** categories of the members of parliament in Britain 3mks)

b) Explain **six** functions of the cabinet in India 12mks)

PREDICTION 3

CRE 313/1

PAPER 1

Name …….. Adm no:……Index:……..

QUESTION PAPER

1. a). STATE **Six Similarities** in the Biblical stories of creation in Genesis 1 and 2. ***(6 marks)***

   b). Give REASONS why human beings are considered special to the rest of the creation. ***(7marks)***

   c) State **SEVEN** ways in which Christians continue with the work of creation today. ***(7 marks)***

2. a) **DESCRIBE** ways in which the covenant between God and the Israelites was sealed at Mount Sinai. ***(7marks)***

   b). Write **SIX** conditions that the Israelites were given during the renewal of the covenant ***(7 marks)***

   c). State SIX ways in which the church worship is abused today. ***(6 marks)***

3. a). From the story of Naboth's vineyard explain the commandments which king Ahab and Jezebel broke. ***(8 marks)***

   b). State the effects of idolatry during the time of prophet Elijah ***(7marks)***

   c) Give **FIVE** reasons why Christians build churches ***(5 marks)***

4.a). **IDENTIFY** the importance of Old Testament prophets in Israel ***(6 marks)***

   b). State **SEVEN** forms of punishment that would befall the Israelites according to prophet Amos ***(7 marks)***

   c). Give **SEVEN** reasons why Christian find it difficult to help the needy in the Society today ***(7 marks)***

5.a) **DISCUSS** Jeremiah's teaching at the temple gate **(7 marks)**

b). STATE ways in which Jeremiah encouraged the Israelites to live in hope during

the Babylonian exile ***(7 marks)***

c). Outline **SIX** ways through which Christians renew their faith in God ***(6 marks***

6. a)Identify **SEVEN** moral values taught to youth during initiation period in Traditional African communities ***(7marks)***

b). STATE the traditional African practices which demonstrated their belief in life after death ***(7marks)***

c) Give **SIX** changes which have taken place in Land ownership today ***(6 marks)***

……...End…….

PREDICTION 3

C.R.E. PAPER 2

313/2 – QUESTION PAPER.

1(a) **OUTLINE** Nathan prophecy concerning the Messiah (2samuel 7:3-17) (6mks)

(b) STATE the events that took place on the night Jesus was born (Luke 2:6-22) (7mks)

c) Give **SEVEN** ways through which church leaders prepare for the second coming of Christ (7mks)

2(a) With reference to the Sermon on the plain state **SEVEN** teachings of Jesus on how human beings relate to one another (7mks)

b) Describe the incident in which Jesus Christ calmed the storm (Lk 8: 22-25) (8mks)

c) State **FIV**E Christian values that can be learnt from the Centurion whose servant Jesus healed in (Lk 7: 1-10) (5mks)

3(a) DESCRIBE the triumphant entry of Jesus into Jerusalem (LK 19: 28-40) (6mks)

b) OUTLINE the events that took place from the time Jesus was arrested up to the time he was Sentenced to die (7mks)

c) State **SEVEN** lessons Christians learn from the suffering and death of Jesus (7mks)

4(a) DESCRIBE how Peters' life was transformed on the day of Pentecost (7mks)

b) EXPLAIN how the unity of believers is expressed in the church as the body of Christ (6mks)

c)How can Christians promote unity in the work place? (7mks)

5(a) Outline the sources of Christian ethics (7mks)

b) State six similarities between the traditional African and Christian view on human sexuality. (6mks)

c) How is responsible parenthood demonstrated by Christians in Kenya today? (7mks)

6(a) Outline seven Christian teaching on marriage (7mks)

b) State **SEVEN** reasons why some young people remain unmarried in Kenya (7mks)

c)In what six ways is the church helping to solve the problems of domestic violence today. (6mks)

……*End*……

PREDICTION 3

NAME:…… ADM NO……

SCHOOL:…… DATE ……

BUSINESS STUDIES (565/1)
FORM 4 PAPER 1
Time: 2 Hours

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES

1. Write your name and Admission number in the spaces provided above
2. Answer all questions

1. State the unit of carriage for each of the following modes of transport 4mks)

Mode of transport	unit of carriage
Porterage	_____
Cartage	_____
Sea	_____
Air	_____

2. Outline four elements of demographic environment that may influence the operation of a business. (4 marks)

3. State four reasons why consumers have to make choices between competing wants. (4marks)

4.In the spaces provided below, indicate the type of utility created by each of the following business activities

Business activity	Type of utility	(4marks)

Selling face masks to customers –
Transporting onions-
Storing onions in a granary-
Making a camera-

5. Outline four circumstances under which differed payment may be used (4marks)

6.State four advantages of transacting business through the internet. (4marks)

7. The following information relates to Mumbua traders for the year ended 31st April 2015.

	Shs.
Cash at bank	30,000
Cash in hand	40,000
Current liability	500,000
Sales	920,000
Opening stock	150,000
Closing stock	230,000

Margin 25%
Expenses 15% of sales
Determine
i) Gross profit
(1mark)

ii) cost of sales
(1mark)

iii)Purchase for the year
(1mark)

iv)Net profit
(1mark)

8 For each of the following transactions indicate the account to be debited and credited.4 marks

Transaction	**A/c debited**	**A/c credited**
a) Received discount from Top Suppliers		
b) Allowed discount to Shujaa Traders		
c) Sold furniture to Owuor in cash		
d) Took stock worth sh.200 for personal use		

9. Identify four benefits of international trade to a country (4marks)

10. Alice a retailer had a capital balance of sh.160,000 as at 30th June 2016. During the year ended June 30th 2017, the business made a profit of 130,000. Alice the proprietor made drawings of 1500 each month for her personal use. Compute the business capital as at 30th June 2017 (3marks)

11.Highlight four reasons that would make an organization use cell phones for communication within and outside the organization. (4marks)

12. State four benefits of "pooling of risks" to insurance company. (4marks)

13.Outline four circumstances under which a firm may locate its operations near the source of raw materials. (4 marks)

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

15. Many countries in Africa, Latin America and Asia are considered as under developed. Outline four characteristics underdeveloped countries have in common. (4marks)

16. State four ways of improving service delivery in parastatals and state corporation. (4marks)

17.State four locations in a country where bonded warehouse are likely to be found. (4marks)

18. The following information was extracted from the books of Amani traders on 31st Dec 2010

Commission received	22,000
Sales	763,000
Loan interest	52,500
Purchases	474,000
General expenses	30,000
Drawings	96,000
Rent	120,000
Salaries owing	72,000
Electricity pre paid	85,000

Prepare Amani traders trial balance for the month ended 31st Dec 2010.(5 marks)

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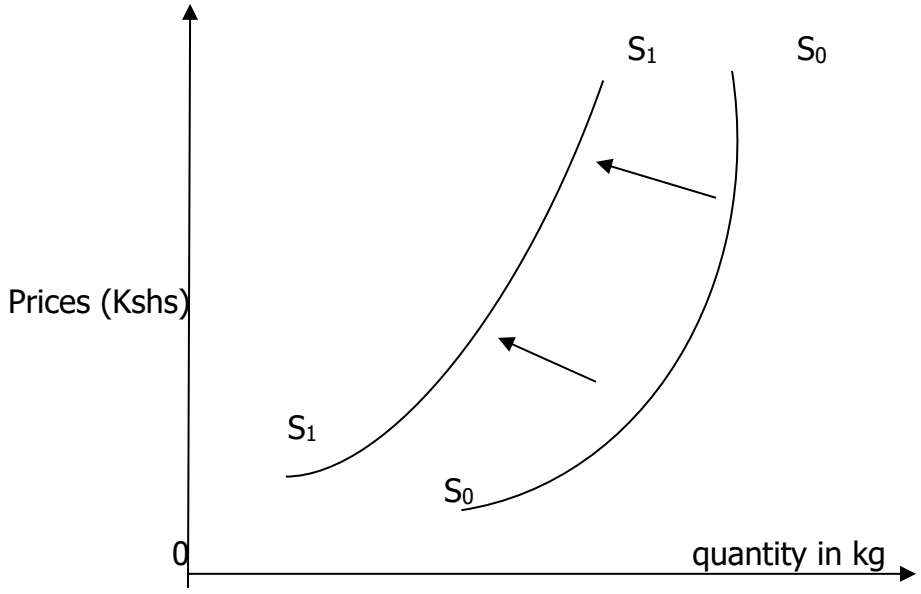
19.The diagram below shows a shift in supply curve form S_0S_0 to S_1S_1.



State four factors that may account for the above shift. (4marks).

20. Outline four contributions of the households to the national income of a country. (4marks)

21. State four circumstances under which a customer would prefer to be paid by a banker's cheque. (4 marks)

22. outline four benefits of becoming a member of a savings and credit cooperative society.(SACCO).
(4marks)

23 Highlight four methods used by a monopolistic firm to differentiate products.(4marks)

24.State four circumstances under which a business firm may use photocopying as a means of reproducing documents.
(4 marks)

25. Apart from government borrowing, outline four other sources of government revenue.
(4marks)

PREDICTION 3

NAME:…… ADM NO……

SCHOOL:…… DATE ……

565/2
BUSINESS STUDIES
FORM 4 PAPER 2
Time: 2:30Hours

KCSE PREDICTION 3

INSTRUCTIONS TO CANDIDATES

1. Write your name and Admission number in the spaces provided above
2. Answer any five questions

1 a)Describe five features of economic resources (10marks)

b)Explain five internal economies of scale that a firm can enjoy as its scale of production increases. (10marks)

2a) Explain five important of filing documents in an organization (10marks)

b) Explain five factors that determine the size of a firm (10marks)

3a) The following trial balance was prepared from the books of Muranga traders as at 31st Dec 2018

Muranga traders
Trial balance
As at 31st Dec 2018

	Dr (shs)	Cr (shs)
Sales		900,000
Purchases	500,000	
Returns	60,000	20,000
Carriage inwards	30,000	
Carriage outwards	3,000	
Stock (jan 2018)	100 ,000	
Rent	12,000	60,000
Delivery van	300,000	
Bank	60,000	
Creditors		50,000
Debtors	100 000	
Interest	18,000	
General expenses	7,000	
Capital		178,000
	1,190,000	1,190,000

Stock on 31st Dec 2018 was at sh.130,000 required,
Prepare a trading profit and loss account for the year ended 31st Dec 20189. (10marks)

3b) Explain any five limitations of advertising goods in newspapers (10marks)

4a) Explain 5 ways of correcting balance of payment deficit. (10marks)

b)Explain five factors that are likely to lead to high birth rate in Kenya. (10 marks)

5a)Explain five challenges that may be faced by a producer who sells goods directly to consumers. (10 marks)

b) On March 1 2017, Lyon had cash in hand sh.87,000 and cash at bank sh.250,000. During the month, the following transactions took place:

2017

March 2: Cash sales sh.60,000
3: Paid salaries sh.101,500 by cheque
7: Received a cheque of sh.76,000 from Henry after allowing him a cash discount of 5%
13: Bought office furniture by cheque sh.86,000
17: Settled Marita's account for sh.34,200 in cash, having deducted sh.800 cash discount.
20: Received a cheque for sh.165,000 in respect of cash sales.
22: Paid wages sh,25,000 in cash.
24: Withdrew sh.32,000 from the bank for office use.
25: Withdrew sh.4000 cash for personal use
29: received sh.17,000 cash form Alvin in settlement of his account less sh.1000 cash discount.
31: Deposited all the money into the bank except sh.24,000.

Required:
Prepare a three column cash book duly balanced. (10 marks)

6a) Differentiate between life assurance and property insurance (10marks)
b) Explain five circumstances under which personal selling may be most appropriate. (10 marks)

PREDICTION 3

NAME……..IDEX NO……..

SCHOOL……..SIGN……DATE……

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

KCSE PREDICTION 3

Kenya certificate of secondary education (k.c.s.e)

INSTRUCTIONS TO CANDIDATES

- Write your name, school and index number, in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of three sections: A, B and C.
- Answer **all** the questions in section **A** and **B** and **any two** questions from section **C.**
- All answers must be written in the spaces provided in this booklet

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For Examiner's Use Only

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1−15	30	
B	16−19	20	
C		20	
		20	
	Total score	90	

SECTION A (30 MRKS)

1.Differentiate between olericulture and pomoculture as used in crop production .(1mrk)

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2.Give four method of farming (2mrks)

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3.Give two examples for each of the following types of cost incurred in broiler production .

a) Variable cost (2 marks)

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b) fixed cost (2 marks)

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4.Give **four** advantages of crop rotation .(2mrk)

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5.State **four** factors that that should be considered when classifying crop pest (2mrks)

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6. a) Name **four** pieces of information contained in a land title deed (2mks

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b) Name **two** forms of collective land tenure system. (1mk

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7. List **four** post – harvest practices that are carried out in maize production (2mks

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8. What is opportunity cost? (1/2 mk)

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9.Outline **four** ways of improving lab our productivity (2mks

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10. State **four** factors that can affect the efficiency of pesticides (2mks

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11 List **four** sites on which agro forestry trees can be established on a farm. (2mks

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12.Give **four** advantages of using seeds over vegetative materials. (2 mks)

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13.State **four** features that should be considered when choosing water pipes for use on the farm. (2 mks)

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14.Give **three** reasons why primary cultivation should be done early before the onset of the rains(1 ½)

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15. Give **four** suitable characteristics of plants used as green manure. (2mks)

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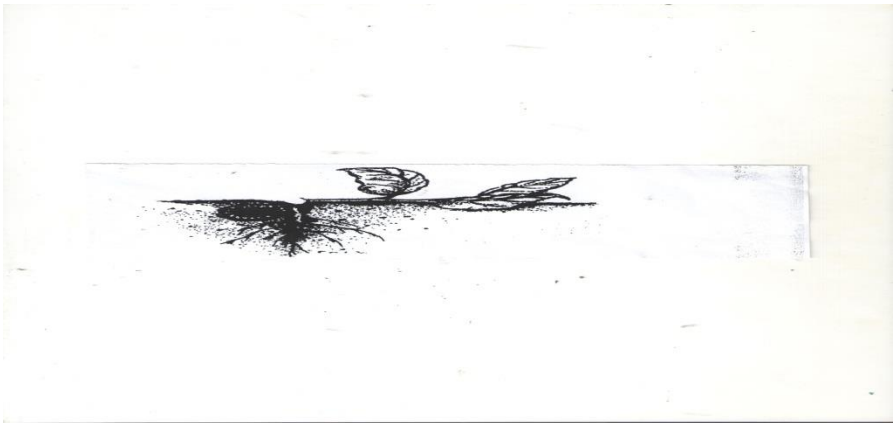
SECTION B: (20 marks)

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

16. The diagram below shows a pest and the damaged crop study it and answer the questions that follow.



a) Identify the pest illustrated above (1mk

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b) Explain **two** ways of controlling the pest (2mks

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c) State **two** ways in which the pest economically important. (2mks)

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17. a) Distinguish between straight and compound fertilizers. (1mk

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b) A farmer applied 200kg of C A N (20%N) per hectare maize crop. Calculate the amount of Nitrogen applied on his 5 hectare crop. Show your working (4mks

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18The diagram below shows a maize cob attacked by a certain disease. Study it and then answer the following questions.

a) Identify the disease (1 Mk)

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b) Name **two** causal organism of the disease. (1 Mk)

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c) State **three** cultural methods of controlling the disease. (3 Mks)

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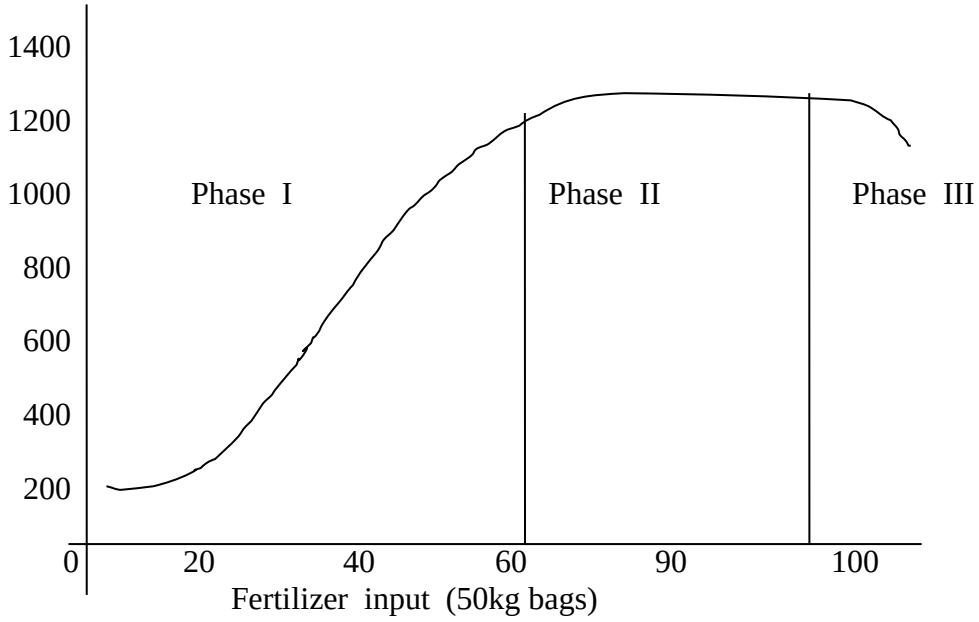
19. Below is a graphical representation of a law in agricultural economics. Study the graph carefully
and answer the questions that follow.



a) State the law illustrated by the graph (2mk

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b) Explain how each additional unit of fertilizer input relates to the total output of maize in **phases II and III .(** 2 mks)

Phase II

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Phase III (1mk

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c) State the importance of the law identified in (I) above to the maize farmer (1mk

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SECTION C (40MARKS)

Answer any two questions in this section in the spaces provided

20a) Explain **five** factors that should be considered in farm planning. (10 Mks)

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b) Describe transplanting of tomatoes seedling. (10 Mks)

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21Describe paddy rice production under the following sub-headings.

i) Land preparation (2 Mks)

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ii) Water control (2 Mks)

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iii) Fertilizer application (2 Mks)

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iv) Weed control (2 Mks)

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b) Explain how each of the properties of rainfall and light influence crop production.

i) Rainfall (8 Mks)

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ii) Light

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c) Explain **four** factors that should be considered when sitting a vegetable nursery. (4mks)

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22a) Describe **six** advantages of rotational grazing (6mrks)

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b)Explain **eigh**t ways in which soil fertility can be maintained (8mrks)

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c) Explain **six** reasons for pruning coffee.(6mrks)

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PREDICTION 3

NAME……..IDEX NO……..

SCHOOL……..SIGN……DATE…… ……

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

KCSE PREDICTION 3

Kenya certificate of secondary education (k.c.s.e)

INSTRUCTIONS TO CANDIDATES

- Write your name, school and index number, in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of three sections: A, B and C.
- Answer **all** the questions in section **A** and **B** and **any two** questions from section **C.**
- All answers must be written in the spaces provided in this booklet

.

For Examiner's Use Only

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1−18	30	
B	18−22	20	
C		20	
		20	
	Total score	90	

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

1. Name **two** dairy goat breeds found in Kenya. (1 Mk)
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2. Outline **four** reasons for maintaining farm tools and equipment in good condition. (2 Mks)
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3. Outline **two** predisposing factors of foot rot. (1 Mk)
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4. Name **two** rules that should be observed when milking. (1 Mks)
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5. Outline **two** duties of a worker bee in a colony of bees. (1 Mks)
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6. Study the table below fill in the blanks to show the term used to refer to parturition and young ones of the following animals. (2 Mks)

Type of animal	**Act of parturition**	**Term to refer to the young one**
Cattle	Calving	Calf
Goats	……	……..
pig	……	……..

7. State **four** harmful effects of ticks. (2 Mks)
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8. State **four** desirable factors to consider when siting a fish pond. (2 Mks)
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9. Name the most appropriate tools used in the following operations

a) Removing metal chippings in file (1mrk)

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b) Cutting wood along grains (1mrk)

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c) Branding (1mrks)

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10. State **four** characteristic of Boran cattle (2mrks)

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11. Name **three** methods of out breeding in livestock production ((1 ½ marks)

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12 .What do you understand by the following terms as used I animal production .

a) Caponisation (1mrk)

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b) Bullock (1mrk)

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c. Epistasis(1mrk)

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13State **four** control measures of a liver fluke in livestock.
(2 marks)

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14What is “dry cow therapy” in dairy cattle management?
(1/2 mark)

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

16.Distinguish between mothering ability and prolificacy as used in livestock breeding.(1mks)

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17 Name **two** sources of protein for livestock nutrition.

(2 marks)

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18State **four** signs of parturition shown by a in calf cow. (2 marks)

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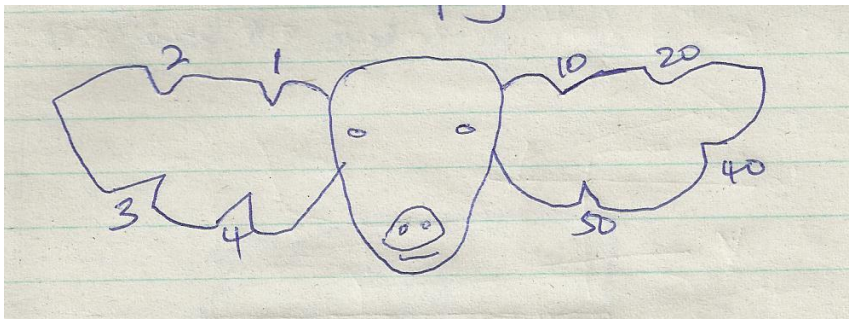
SECTION B (20 mks)

ANSWER ALL THE QUESTIONS IN THIS SECTION

19The diagram below shows a certain practice carried out on pig



a) Identify the practice illustrated above (1mrk)

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b) Draw another illustration depicting pig number 37(1mrk)

c) Name the tool used to carry out the practice illustrated above (1mrk)

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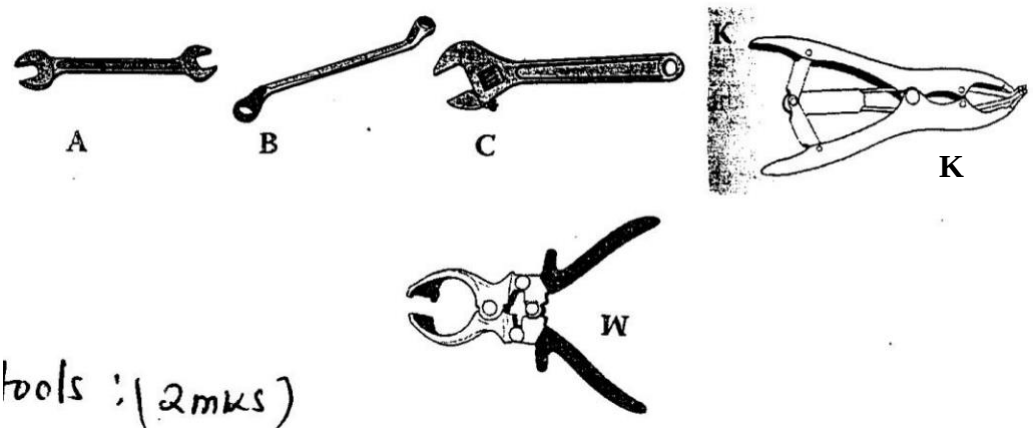
d) State two other method of identifying piglet (2mrks)

i)……
……..

ii)……
…….

20. The diagrams below show some farm tools. study them and answer the question that follow.



tools :(2mks)

a) Name the tools.

(2 marks)

A
……..

B
……..

C
……..

W
……..

b) State the functional differences between tools K and W.

(1 mark)

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c) What advantage does C have over A and B? (1 mark)

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d) State **one** common maintenance practice carried out in tool C and W.

(1 mark)

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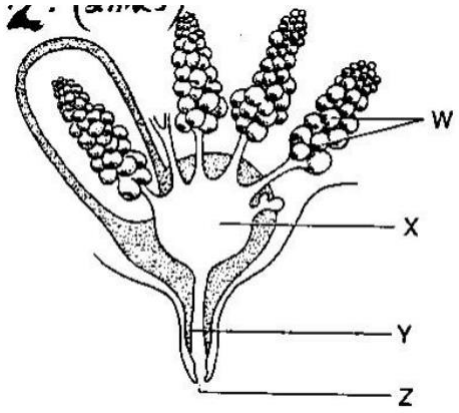
21a) The diagram below shows a structure of the udder of a cow. Name the part labeled W, X, Y and Z.(2 marks)



W

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X

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Y

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Z

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b) What is milk let down (1 mrk)

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c) Name **two** hormones that control milk let down in dairy cow. (2 mrk)

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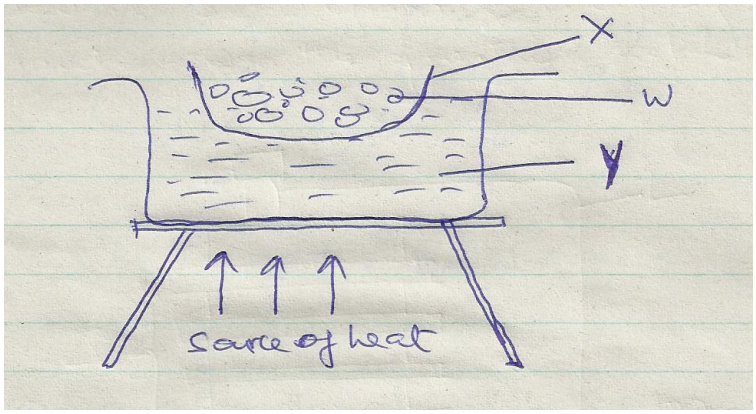
22. Below is an illustration of a method of extracting honey from combs .Study the diagram and answer the question that follow .



a) Identify the above method of extracting honey (1mrk)

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b) Give a reason why container x should not be heated directly (1mrk

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c) Name the parts labeled w and y(2mrks)

W……

Y……

d) Besides the above method ,State one other method of extracting honey (1mrk)

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SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

23(a) State **five** reasons why bees swarm. (5 marks)

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b) Describe **five** maintenance practices carried out on a tractor battery. (5 marks)

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c) Explain **five** factors considered when culling livestock. (5 Mks)

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d. Explain **five** mechanical methods of controlling ticks.(5 mks)

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24a) Describe the process of egg formation in chicken up to the point of laying. (10 Mks)

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b) State the differences between four stroke cycle and two stroke cycle engine. (5 Mks)

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c) Describe the process of digestion in rumen. (5 Mks)

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25. a) Describe trypanosomiasis disease under the following sub-headings.

i) Causal organism (1 Mk)

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ii) Animal attacked (1 Mk)

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iii) **Five** symptoms of attacked animals (5 Mks)

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iv) **Three** control measures (3 Mks)

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b) Control **five** control measures for cannibalism (5 Mks)

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(c) Explain **five** parts of a piggery unit (10mrks)

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PREDICTION 3

NAME_____SCHOOL_____ADMNO_____

451/1

COMPUTER STUDIES

Paper 1 (theory)

2 ½ hours

FORM FOUR

INSTRUCTIONS TO CANDIDATES

This paper consists of **TWO** sections **A** and **B**

Answer **ALL** the questions in section A.

Answer questions **16** and any other **THREE** questions from section B

FOR OFFICIAL USE ONLY

SECTION	QUESTION	SCORE
A	1- 15	
	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

SECTION A **(40 Marks)**

Answer all the questions in this section

1. Explain disk formatting (2mks)

2. (a) Explain why the following controls should be implemented for computer based system (2mks)

(i) Data Back- ups

-

(ii) Password

(b) List two examples of utility software in operating systems (2mks)

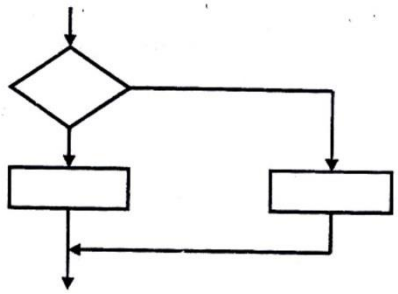
3. Differentiate between **source** code and **object** code (4mks)

4. The cells P3 to P20 of a worksheet contain remarks on students ' performance such as very good, good, fair and fail depending on the average mark. Write a formula that can be used to count ALL students who have the remark "very good". (3 mks)

5. (a) State the purpose of registers in a computer system (1 mk)

6. Give Three advantages of using GUI based operating system over a command line interface (3mks)

7. (a) Name the control structure depicted by the flowchart below (1 mk)



(b) Explain the following terms as used in system implementation (2 mks)

(i) **parallel running**

ii) **Direct change over**

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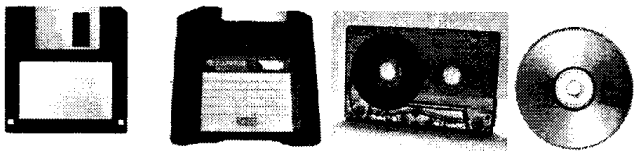
8. (a) Name two methods of representing **signed** numbers in computers (2 mks)

(b) Identify the **four** types of storage media shown below. (2 marks)



i **ii** **iii** **iv**

c) Compare the storage device (i) and (iii) above. (1 mark)

9. Differentiate between **Random** and **indexed-sequential** file organization methods (2mks)

10. Name two types of relationships that can be applied in database design. (2mks)

11. Explain the following terms as used in word processing: (3 mks)

a) Indenting

b) Alignment

c) Word wrap

12. Outline two ways in which computers can be applied in hotels. (2mks)

13. a) Explain binary coded decimal code of data representation. (1mk)

b) Define the term firewall. (1 mark)

14. Arrange the following data units in ascending order of size.

BYTE, FILE, BIT, NIBBLE (2mks)

15. State two health issues that may result from prolonged use of computers. (2mks)

SECTION B **(60 MKS)**

ANSWER QUESTION **16** *AND* ***ANY*** *OTHER* ***THREE*** *QUESTIONS FROM THIS SECTION*

16. a) State the stage of program development in which: (4mks)

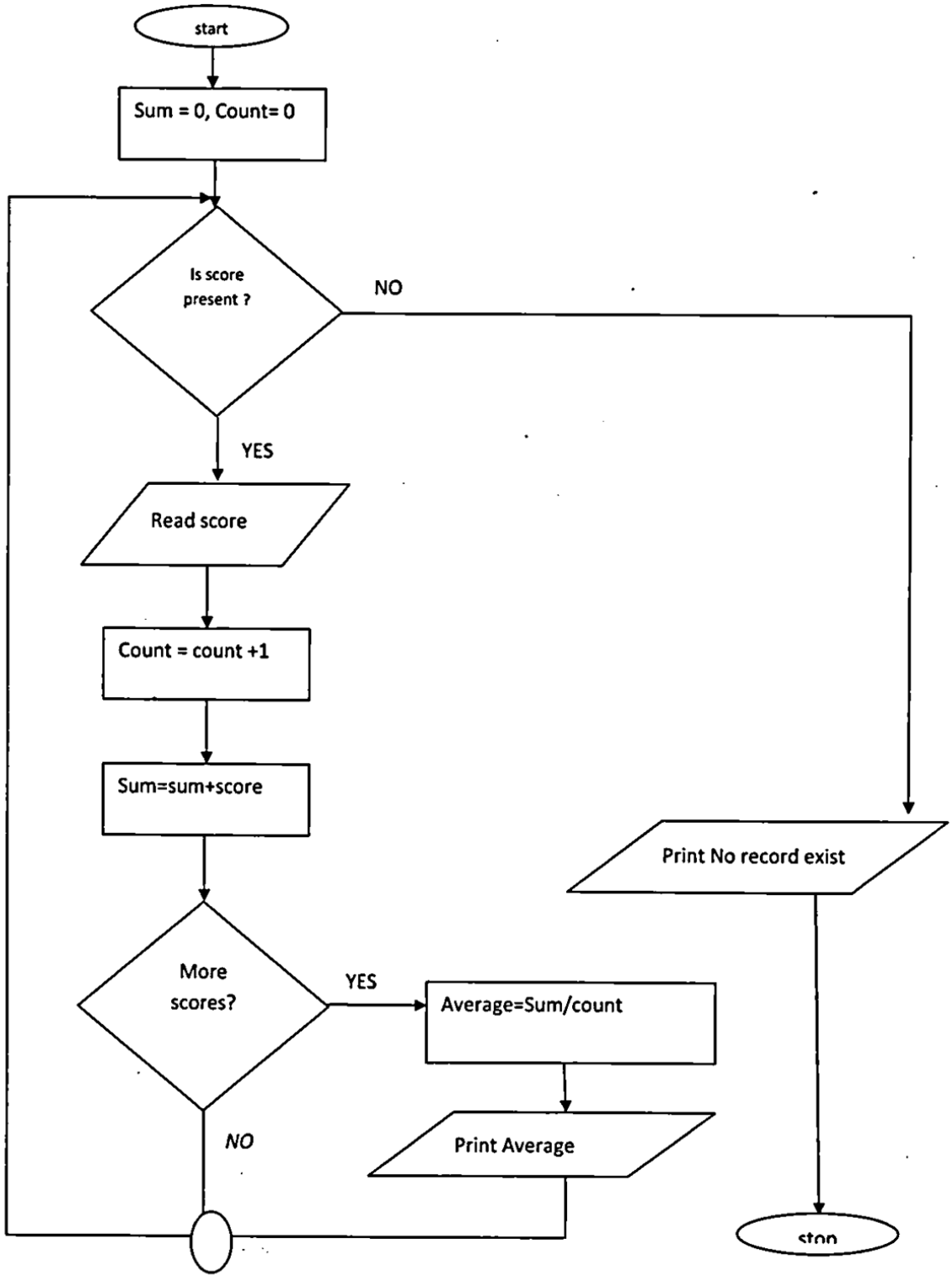
i) A flowchart would be drawn

ii) The programmer would check whether the program does as required program

iii) The user guide would be written

iv) The user guide would be written

Study the flowchart below and answer the questions that follow.



b) Translate the following flowchart into a pseudo code. (8 marks)

c) Assuming the following score are entered 0, 20 and 60 respectively what would be output from the flowchart. (3 marks)

17. a) Convert each of the following binary numbers to decimal equivalent given that the left most digit is a sign bit. (4 marks)

i) 00101101_2

ii) 11001001_2

b) Convert the decimal number 0.42 to 6 bit binary notation. (4 marks)

c) Using two's complement, subtract 11_{10} from 8_{10}, leaving your answer in binary notation. (3 marks)

d) Perform the following binary operation. (2 marks)

$11001_2 + 1101_2 + 101_2$

e) Using place value method, convert 45_{10} to its binary equivalent. (2 marks)

18. a) What is virtual reality? (1 mark)

b) Explain the following interactive sensory equipment used in virtual reality. (2 marks)

i) Head gear

ii) Body suit

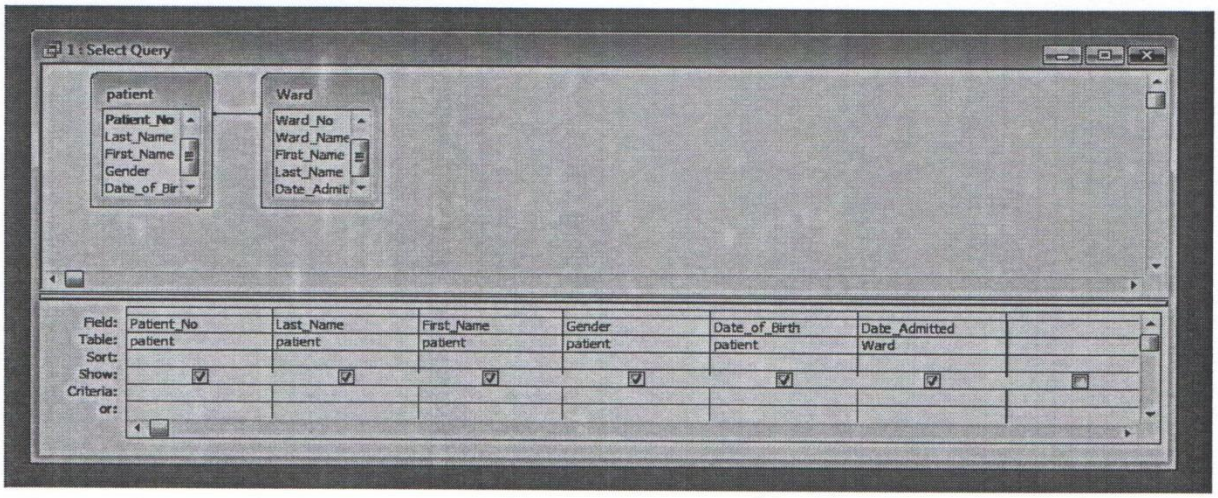
c) What is Artificial intelligence? (1 mark)

d) State and explain **three** components of an expert system. (6 marks)

e) Explain method of information gathering in system development. (3 marks)

f) List **two** application area of virtual reality. (2 marks)

19. a) The following is an extract of a select query (QBE) in Microsoft Access about hospital database.



i) Other than select queries name **two** other queries used in databases. (2 marks)

ii) Write an expression that will return only those patients who are 20 years' old. (3 marks)

b) Differentiate between bold and unbold controls as used in database forms. (2 marks)

c) Give **two** reasons why input screens are better data entry designs than entering data directly into a table. (2 marks)

d) The figure below is an extract of a worksheet containing information on household items. Use it to answer the following questions:

	A	B	C	D	E	F
1	**Item description**	**No of units**	**Cost per unit**	**Total cost**		
2	Maize flour	20	210			
3	Tea leaves	64	185			
4	Sugar	77	149			
5	Salt	28	25			

i) Write a formula to calculate the total cost of sugar. (1 mark)

ii) The prices of all items increased by 10% and the value 10% is placed in cell B8. Using cell addresses with absolute referencing only, write a formula to calculate the new unit of the salt. (2 marks)

iii) Write a function to display the number of cells in which the cost per unit is equal to 25. (2 marks)

iv) Write a function to display the least total cost for all items. (1 mark)

20. A school computer laboratory is scheduled to undergo major renovations.
The lab is scheduled to receive new computer whose specifications are given below:-
Pentium IV 2.8GHz processor
40GB HDD
3½ FDD
256MB RAM
56 x CD ROM
17”SVGA TFT monitor

The computers are going to be networked and will be able to browse the internet.

a) Explain what is meant by the terms:- (2 marks)

i) FDD

ii) HDD

iii) SVGA

iv) TFT

b) The computer is to be networked, name **one** extra device that should be fitted on every computer to enable this to happen. (1 mark)

c) The computer is to receive internet facilities through the server on a dial; up system. Name and describe the function of a special device that needs to be connected to the server to complete the connection. (1 mark)

d) i) The school has to apply star topology to link up the computer. List **two** advantages of this type of topology. (1 mark)

ii) Name the central device used to connect the computers in this topology. (1 mark)

e) List **two** other types of topologies that the school could have opted for. (1 mark)

f) List **four** advantages of using a network. (2 marks)

g) i) Data transmission via the internet is done using a mode known as packet switching. Describe this data transmission mode. (1 mark)

ii) Name **two** other modes of transmission. (1 mark)

h) i) The school's LAN is done using UTP cable. List **two** advantages of using this type of cable. (1 mark)

ii) List **two** advantages of using fibre cable in networking. (1 mark)

i) Data flows in the school's LAN in a duplex manner. Discuss **two** other types of data transmission in network giving examples. (2 marks)

PREDICTION 3

451/2
COMPUTER STUDIES
PAPER 2
CONFIDENTIAL

INSTRUCTIONS TO SCHOOLS

The information contained in this document is to enable the head teacher of the school and the teacher in charge of computer studies (451/2) to make adequate preparation for this year's examination.

Each school offering Computer Studies (451/2) should ensure that:

1. Each candidate is provided with a computer which has:

   - The following software installed:-
     a) DTP – publisher
     b) Word Processor – Ms Word
     c) Spread sheet – Ms Excel
     d) Database – Ms Access

- A DVD writing drive and a new blank CD-RW (i.e. *compact disk re-writable*)

2. Enough computers and fast printers. Not more than two shifts.
3. Computer teacher should disable the network and computer related examination in the beginning of each session.

PREDICTION 3

451/2 COMPUTER STUDIES

Paper 2 (PRACTICAL)

2 ½ hours

FORM FOUR

INSTRUCTIONS TO CANDIDATES

a) Indicate your name and index number at the right hand corner of each printout
b) Write your name and index number on the CD/removable storage medium provided
c) Write the name and version of the software used for each question attempted in the answer sheet provided
d) Answer all the questions
e) All questions carry equal marks
f) Passwords should not be used while saving in the CD/removable storage Medium
g) Marked printout of the answers on the sheet
h) Arrange your printouts and staple them together
i) Hand in all the printouts and the CD/removable storage medium used
j) All the work should be saved at the desktop of your computer in a folder named with our name and index number. All the work in your folder should be burned to the CD/WR provided

1. The following table contains details of Baharini Girls school **(50MARKS)**

ADM NO	Stud name	DOB	KCPE MARKS	RECEIPT NO	Fees Paid(kshs)	Fees Bal(kshs)	House No	House Name	House Capacity
1001	Alice K	7/4/1999	380	101	20000	5000	H20	simba	200
1050	Lilly O	2/3/2002	350	894	18000	7000	S08	chui	150
1202	Mary	8/10/2000	400	500	23000	2000	P30	Kifaru	180
1025	Juliet	4/4/2000	358	258	25000	0	H20	Simba	200
1200	Joan	5/1/2001	398	259	15000	10000	S08	chui	150
1278	Milly	3/4/1998	402	200	15000	10000	H20	simba	200
1201	Linet	2/7/1998	356	205	20000	5000	P30	kifaru	180
1203	Lisper	9/5/2001	403	209	25000	0	S08	chui	150

REQUIRED

a) Create a database file that can be used to store the above data. Name the file Baharini school database. (2mks)

b) Create Three tables, one for **student details**, **Accounts table** and **dormitory table** (11 mks)

c) Create a relationship between the three tables (3mks)

d) Using appropriate forms, Enter the information given into the three tables (15mks)

e) Create a query for " **all students housed in Chui"** (3mks)

f) Design a "**current age query"** to display current ages of all the students (5mks)

g) Create a report "**Hefty Balances"** showing students with fees balances of more than 10000kshs (3mks)

h) Create a report to show all students admitted in the school (3mks)

i) Print,The **three tables**,**Hefty balances report** and **all students housed in Chui report** (5mks**)**

(50MARKS)

2. **QUESTION 2**

Use a spreadsheet to manipulate data in the table below.

Adm No	Name	Stream	Comp	Art	Bus	Eng	Mat	Student mean	Rank
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		
C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								
	TOTAL	FOR H							
	TOTAL	FOR K							

a) Enter the data in all bordered worksheet and auto fit all column. Save the workbook as **mark 1** (15mks)

b) Find the total marks for each subject (3mks)

c) Find total for each subject per stream using a function (5mks)

d) Find mean mark for each student using a function (5mks)

e) Rank mean student in descending order using the mean (5mks)

f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as **mark 2.** (7mks)

g) Using **mark1,** use subtotals to find the average mark for each subject per stream. Save the workbook as **mark 3** (7mks)

h) Print **mark 1,mark 2** and the **chart** (3mks)

PREDICTION 3

NAME: …….. INDEX.NO: ……..……

SCHOOL: ……..CANDIDATES SIGN: ……...…..…

DATE: ……

441 /1
HOMESCIENCE (THEORY)
PAPER 1
2 ½ HOURS

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

TIME: 2 ½ HOURS.

Instructions to candidates

1. *Write your name and index number in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *This paper consists of **three** section; **A, B** and **C**.*
4. *Answer all the questions in sections **A** and **B** and any **two** questions from section **C** in the spaces provided.*
5. *This paper consists of 8 printed pages.*
6. *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
7. *Candidates should answer the questions in English.*

FOR EXAMINERS USE ONLY

Section	Questions	Maximum Score	Candidate's Score
A	1 - 20	40	
B	21	20	
C		20	
		20	
	Total Score	100	

SECTION A (40 MARKS)

Answer all questions in the spaces provided

1. State two uses of lemon in cooking (2 marks)

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2. Name two textile fibres of animal origin (1 mark)

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3. Distinguish between a scald from a burn (2 marks)

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4. State three factors to consider when choosing sleeves for a garment (3 marks)

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5. Give two reasons for blanching vegetables (2 marks)

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6. List four items in a first aid kit that may be used to manage a sprain (2 marks)

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7. Name two vaccines a child is given at the age of nine months (2 marks)

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8. Give two uses of a loose cover on upholstery (2 marks)

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9. Give the meaning of the following terms in relation to colour:

(a) Hue ……

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…… (1 mark)

(b) Intensity ……

…… (1 mark)

(c) Value ……...

…… (1 mark)

10. State two factors that may affect a budget (2 marks)

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11. Differentiate between batters and dough in flour mixtures (2 marks)

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12. State two positive effects of advertisement on the consumers. (2 marks)

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13. List four methods on neatening seams. (2 marks)

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14. What is food fortification? (2 marks)

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15. Give two reasons for using common salt when laundering handkerchief (2 marks)

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16. List two types of play in child development (2 marks)

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17. Give two reasons for using facings on a garment (2 marks)

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18. Name four methods of steaming foods. (2 marks)

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19. Give one reason for carrying out the following processes during cleaning: (2marks)

(a) Cleaning the window from outside then to the inside

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(b) Closing the windows and the doors while sweeping

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20. Suggest two ways in which old newspapers may be used during the cleaning of a house (2 marks)

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SECTION B COMPULSORY (20 MARKS)

21. You are taking care of your uncle who is recovering from covid-19 infection;

(a) Explain how you would clean the cemented floor of his bedroom (9 marks)

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(b) Describe how to wash and dry his woolen socks (6 marks)

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(c) Sponge and press your Uncle's polyester tie (5 marks)

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SECTION C

ANSWER ANY TWO QUESTIONS (40 MARKS)

22. (a) Explain four factors to consider when weaning a baby (8 marks)

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(b) State four symptoms of roundworm infestation (4 marks)

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(c) Give four factors to consider when buying a sewing machine (4 marks)

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(d) Mention four qualities of a well constructed handmade button hole (4 marks)

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23. (a) Giving a reason, identify four processes/methods that are not suitable when laundering loose coloured clothes (8 marks)

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(b) Explain four hygienic practices to observe during food storage (8 marks)

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(c) Suggest four factors that determine the repair method to be used on household articles (4 marks)

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24. (a) Mention any five advantages of using left over food (5 marks)

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(b) State five duties of weights and measures inspectors (5 marks)

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(c) Suggest five reasons for caring for the sick at home (5 marks)

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(d) Highlight five advantages of lining a bedroom curtains (5 marks)

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PREDICTION 3

NAME: …….. INDEX.NO: ……..……

SCHOOL: ……..CANDIDATES SIGN: ……...…..…

DATE: ……

441 /2
HOMESCIENCE
(CLOTHING CONSTRUCTION)
(PRACTICAL)
PAPER 2
2 ½ HOURS

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

TIME: 2 ½ HOURS.

Instructions to candidates

(a) This paper consists of 3 printed pages.

(b) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

*(c) Candidates **MUST** use machine stitches appropriately in the construction of the garment. Hand stiches used **INSTEAD** of machine stiches will not be marked.*

(d) Hand stitches will only be allowed for the making of hemming, tacking and loop stitches.

A pattern of a girls dress is provided. You are advised to study sketches, instructions and layout carefully before you begin the test.

Materials provided

1. Pattern pieces
   A. Bodice front
   B. Bodice back
   C. Skirt front
   D. Skirt back
   E. Collar
   F. Cut out a cross way strip measuring 18cm long by 4cm wide
2. Plain light weight cotton fabric 70cm long by 90cm wide
3. Cotton sewing thread to match the fabric
4. One large envelope

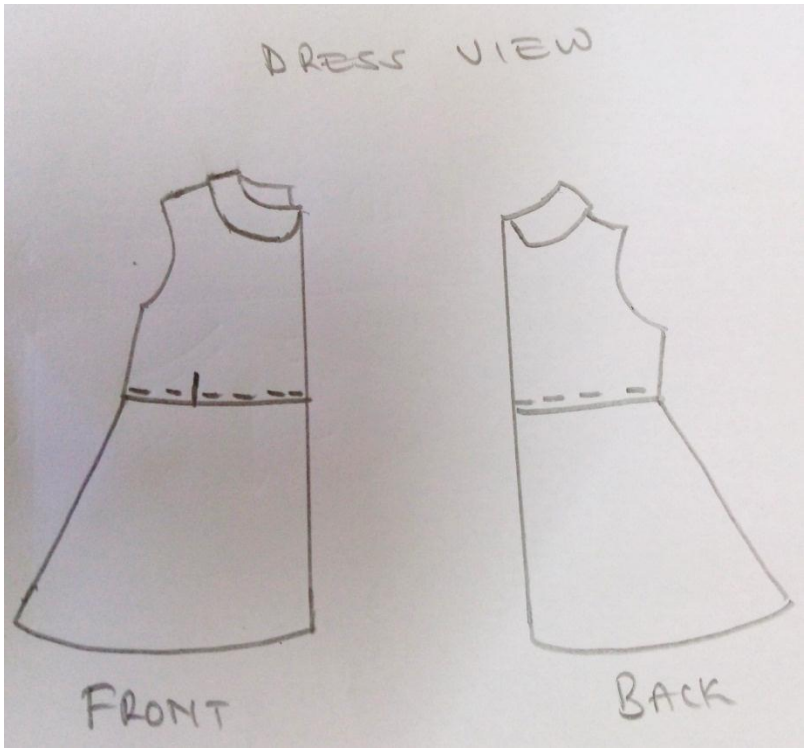
THE TEST

Using the materials provided, cut out and make the **LEFT SIDE** of the girl's dress to show the following processes:

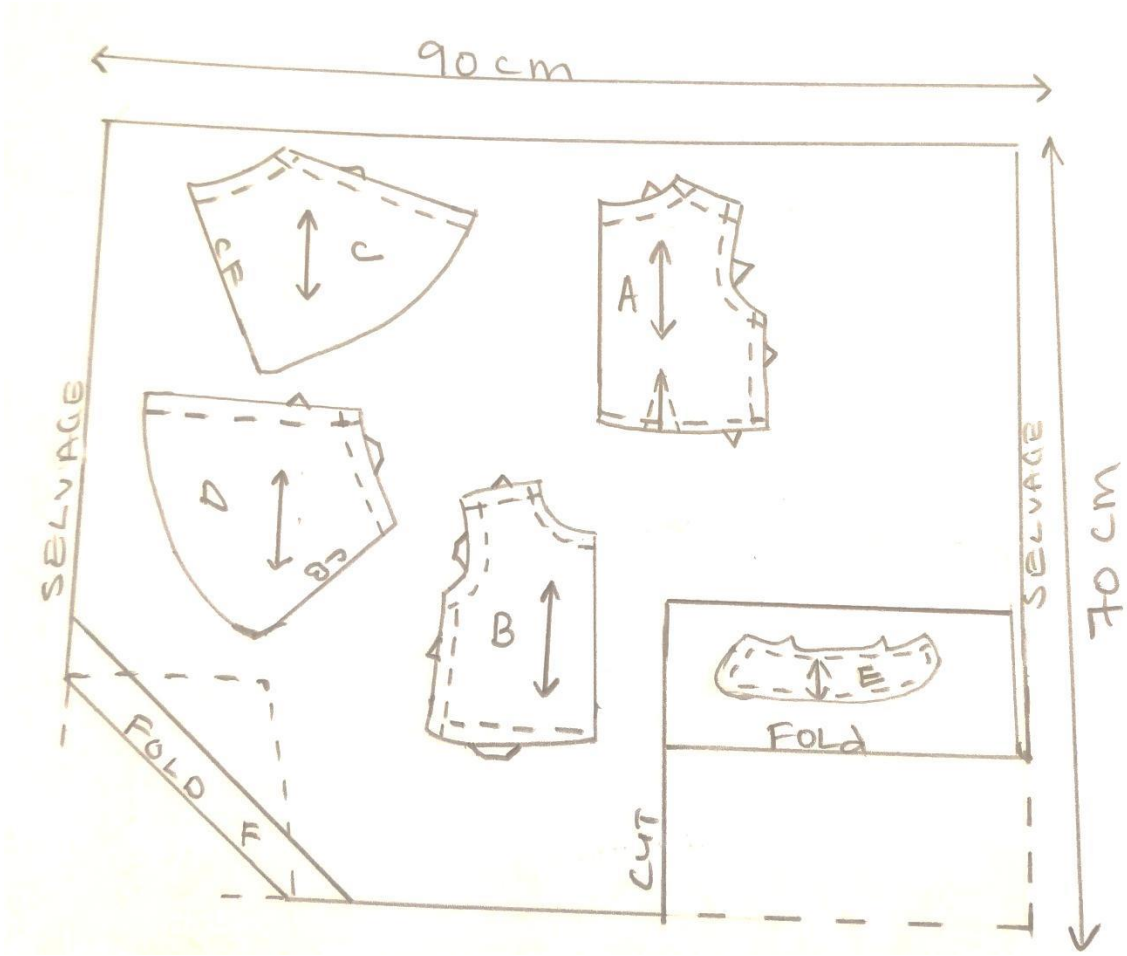
(a) Cutting out (18 marks)
(b) Making of the dart at the front bodice (6 ½ marks)
(c) Making of the shoulder seam using an open seam (13 ½ marks)
(d) Making of the side seam on the bodice and skirt using a French seam (22 marks)
(e) Attaching of the bodice pieces to the skirt pieces using an overlaid seam and neatening of half of the back seam using overcasting stitches (9 marks)
(f) Preparation of the collar. Attaching of the collar using a crossway strip (13 marks)
(g) Edge stitching at the hem ready for attachment (2 marks)
(h) Overall presentation (6 marks)

At the end of the examination; firmly sew on your work, on a single fabric, a label bearing your name and index number. Remove the needle and pins from your work. Fold your work neatly and place it in the envelope provided.

Do not put scraps of fabric in the envelope.



LAY OUT (NOT DRAWN TO SCALE)



PREDICTION 3

NAME: …….. INDEX.NO: ……..…….

SCHOOL: ……..CANDIDATES SIGN: ……..……

DATE: ……

441 /3
HOMESCIENCE
(FOOD AND NUTRITION)
(PRACTICAL)
PAPER 3
1 HOUR 45 MIN

KCSE PREDICTION 3

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

Planning session – 30 minutes

Practical session – 1¼ hours

INSTRUCTION TO CANDIDATES

1. *Read the test carefully.*
2. *Write your name and index number on every sheet of paper*
3. *Text books and recipes may be used during the planning session.*
4. *You will be expected to keep to your order of work during the practical session.*
5. *You are only allowed to take your reference materials at the end of the planning session.*
6. *You are not allowed to bring additional notes to the practical session.*

THE TEST

Your cousin who is an Athlete is coming home for supper after a whole day's practice in readiness for the following days competitions .

Using all the ingredients listed below ,plan ,prepare, cook and present a suitable one course dinner for the two of you.

Include a refreshing drink.

Ingredients

- Maize meal flour/Wheat flour /Rice
- Beef /Green peas/Beans
- Fruits in season
- Fat/Oil
- Tomatoes
- Carrots
- Onions
- Salt
- Sugar
- Capsicum
- Dhania
- Green leafy vegetables /Cabbage

PLANNING SESSION - 30 MINUTES

For each task listed below ,Use separate sheets of paper and make duplicate copies using carbon paper.

Proceed as follows:

1. Identify the dishes and write the recipes
2. Write your order of work
3. Make a list of food stuff and equipment you will require