INTER-COUNTY MOCK 2

KCSE COMPLIANT

CLASS OF KCSE MARCH 2022

INTERCOUNTY PRE MOCK 2

NAME: ……..……INDEX NO: ……..

CLASS: …….

DATE: …….

121/1
MATHEMATICS
PAPER 1
TIME: 2 ½ HOURS

KCSE INTERCOUNTY PRE MOCK 2

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 consists 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.

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. Simplify completely (4 mks)

$$\frac{2x^2 - 98}{3x^2 - 16x - 35} \div \frac{x + 7}{3x + 5}$$

2. Given that **x: y=1:2** and **y: z=3:2** find the value of $\frac{x+y}{2z+5x}$ (3mks)

3. Solve the simultaneous inequalities given below and list all the integral values of **x**. **(3mks)**

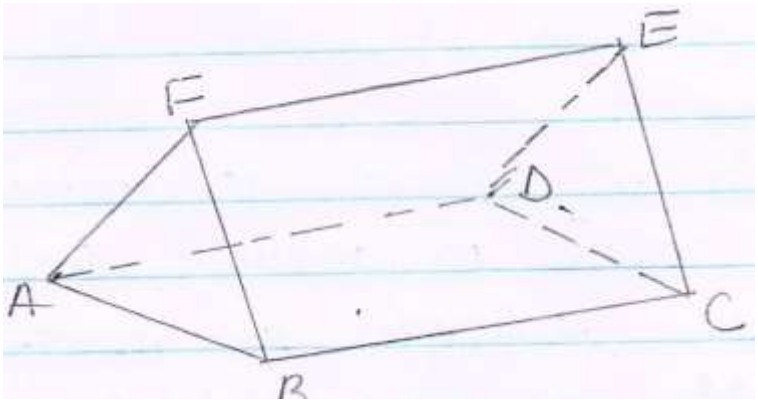
$$\frac{3-x}{2} \geq \frac{x+1}{3} \geq \frac{2x+1}{-3}$$

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

5. 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 **28cm²**, find its length. **(3 mks)**

6. The curved surface area of a cylindrical container is 1980cm². If the radius of the container is 21cm, calculate to one decimal place the capacity of the container in litres. (Take $\pi = \frac{22}{7}$). **(4 mks)**

7. The figure below is a triangular prism ABCDEF with sides AB = BF =AF = 3cm and BC = AD = EF = 5cm.



a. Draw the net of the solid. **(2mks)**

b. Calculate the surface area of the solid. **(2mks)**

8 .Two similar containers hold 2000cm^3 and 6.75litres respectively. If the smaller container has a diameter of 15.50cm, what is the radius of the larger container correct to one decimal place**. (3mks)**

9 . A tourist on holiday in Kenya had Us£7500. She changed all the amount into Kenya Shillings at the rate of Us$ 1 = kshs. 80.04, While in Kenya she spent two thirds of the money and changed the remainder back to Us $ at Us $1 = kshs. 80.50. How much to the nearest Us dollars did she get? **(3mks)**

10. Determine the **quartile deviation** of the following data. (**2mks)**

4,9,5,4,7,6,2,1,6,7,8,3

11. A farmer has a piece of land measuring 840m by 396m. He divides it into square plots of equal size. Find the maximum area of one plot. **(3 mks)**

12. A seven sided polygon has two of its interior angles as 140^o and 160^o and the remaining angles are equal. Find the size of one of the equal angles. **(3mks)**

13. If $\boldsymbol{P} = \begin{pmatrix} \mathbf{1} \\ \mathbf{1} - \boldsymbol{y} \end{pmatrix}$, $\boldsymbol{Q} = \begin{pmatrix} \mathbf{3} \\ \boldsymbol{y} + \mathbf{2} \end{pmatrix}$ $\boldsymbol{and}$ $|\boldsymbol{P}| = |\boldsymbol{Q}|$. Find the value of **y** . **(3 mks)**

14. Find the value of **x** if. **(3 mks)**

$$\left(\frac{27}{8}\right)^{x+7} = \left(\frac{4}{9}\right)^{-3x}$$

15 .Use reciprocal and square tables to evaluate, **to 4 significant figures**, the expression. **(3 mks)**

$$\frac{1}{0.03654} - 4.151^2$$

16. The following were recorded on a field note book by a surveyor. Taking the base line as **550M** find the area in **M^2.**

(3 mks)

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

SECTION II (50 MARKS)
Answer ONLY FIVE questions in this section

17. 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)**

18. A straight line $\mathbf{L_1}$ has a gradient $\mathbf{^{-}\frac{1}{2}}$ and passes through point **P (-1, 3).** Another line $\mathbf{L_2}$ passes through the points **Q (1, -3)** and **R (3, 5).** Find.

(a) The equation of $\mathbf{L_1}$. (2mks)

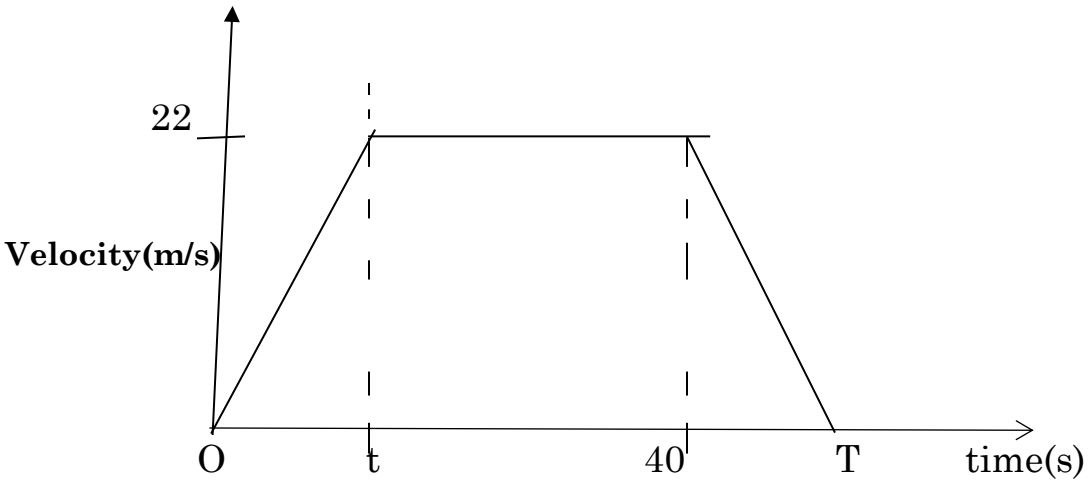
(b) The equation of $\mathbf{L_2}$ in the from **ax+by+c =0.** (2mks)

(c) The equation of a line passing through a point **S (0, 1.5)** and is perpendicular to $\mathbf{L_2}$. (3mks)

d) The point of intersection of a line passing through **S and** $\mathbf{L_2}$.

(3mks)

19. 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)**

20. 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)**

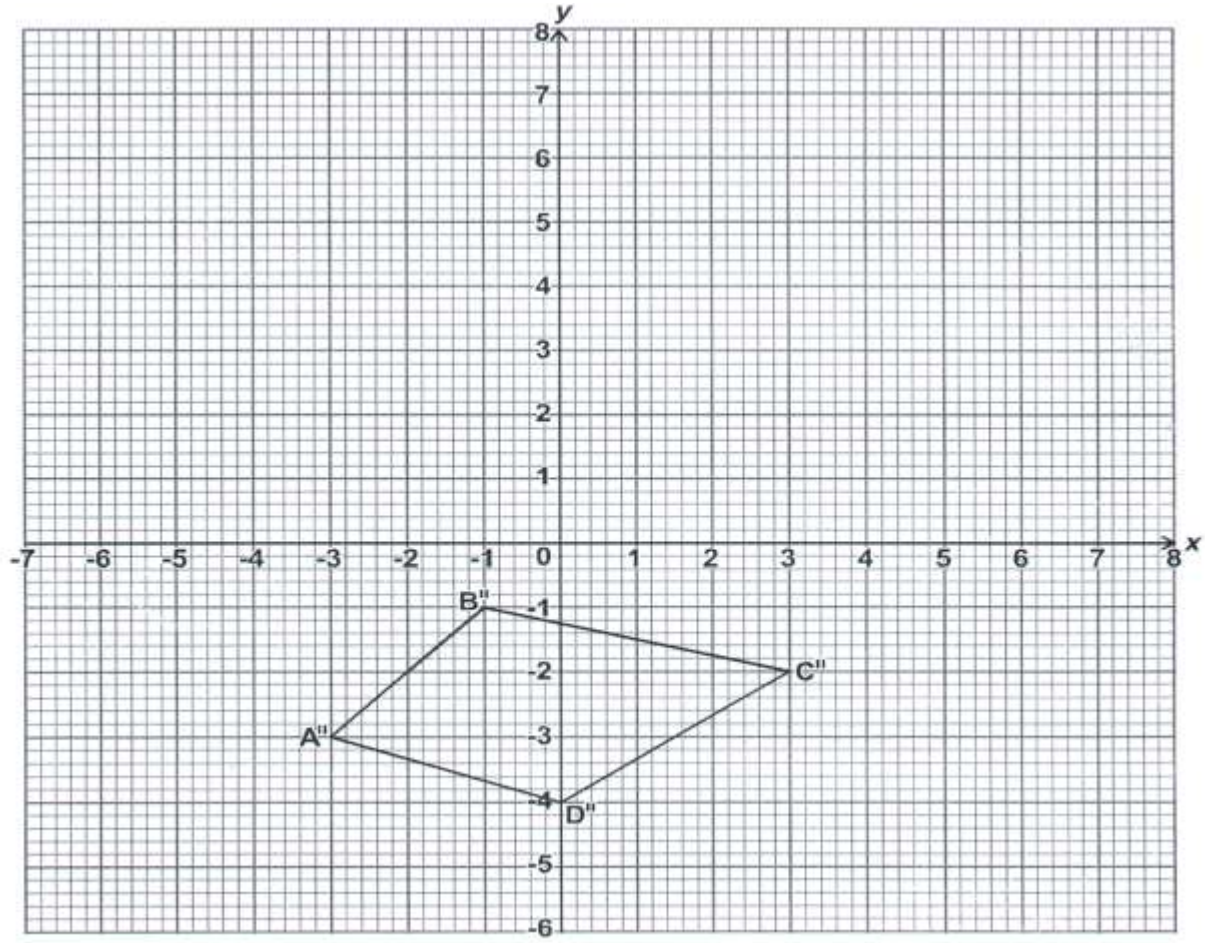
Find:

(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 **(l mk)**

21. On the Cartesian plane given below, draw the quadrilateral ABCD with vertices A(6,6)B(2,2)C(4,-6) and D(8,0). **(1mk)**



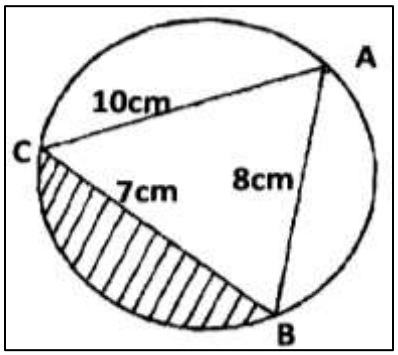
a) Draw the image $A^1B^1C^1D^1$ of ABCD under enlargement scale factor $\frac{1}{2}$,centre origin. State the coordinate of $A^1B^1C^1D^1$ **(3mks)**

b) Describe the transformation that maps $A^1B^1C^1D^1$ onto the given image $A^{11}B^{11}C^{11}D^{11}$ **(2mks)**

c) Rotate $A^{11}B^{11}C^{11}D^{11}$ with center (-2,-1) through a positive quarter turn to get $A^{111}B^{111}C^{111}D^{111}$ .state the coordinate of $A^{111}B^{111}C^{111}D^{111}$.**(3mks)**

d) State a pair of quadrilateral that are oppositely congruent. **(1mk)**

22. The figure below shows a triangle **ABC** inscribed in a circle.**AC** = 10cm, BC = 7cm and **AB** = 10cm.

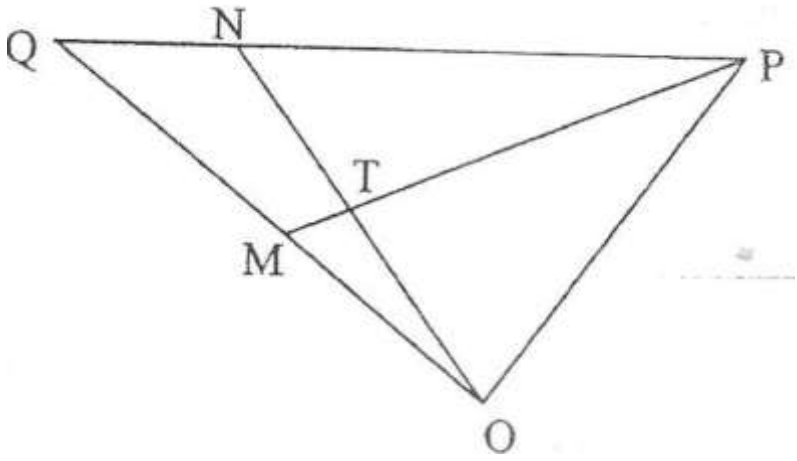


(a) Find the size of angle **BAC**. **(3 mks)**

(b) Find the radius of the circle. **(2 mks)**

(c) Hence calculate the area of the shaded region. **(5 mks)**

23. The diagram below shows a triangle OPQ in which **QN:NP = 1:2, OT:TN = 3:2** and **M** is the midpoint of **OQ.**



a) Given that **OP = p** and **OP = q,** Express the following vectors in terms of **p** and **q**

i) PQ **(1 mk)**

ii) **ON** **(2 mks)**

iii) **PT** **(2 mks)**

iv) PM **(1 mk)**

b) (i) Show that point **P, T and M** are collinear. **(3 mks)**

(ii) Determine the ratio **MT: TP.** **(1 mk)**

24. A school in Murang'a East 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)**

INTERCOUNTY PRE MOCK 2

NAME: ……..…….. INDEX NO: ……..…..

CLASS: ……

DATE:……..

121/2
MATHEMATICS
TIME: 2 ½ HOURS

INTERCOUNTY PRE MOCK 2

INSTRUCTIONS TO CANDIDATES:

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Grand Total

SECTION 1:(50 MARKS.)

ANSWER ALL THE QUESTIONS

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

$$\frac{4.497 \times \sqrt{0.3673}}{1-cos 81.53^\circ}$$

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

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

$$v = \left(\frac{ax^2y}{w-y}\right)^{\frac{1}{2}}$$

4. Solve for **x**: **$\tan^2 x - 2\tan x = 3$** for the interval **$0 \leq x \leq 180^o$** **(3 mks)**

5. Solve the equations **(4mks)**

$$x + 3y = 13$$
$$x^2 + 3y^2 = 43$$

6. Simplify $\frac{3+\sqrt{5}}{\sqrt{5}-2}$ give the answer in the form $a + b\sqrt{c}$ where a, b and c are integers. **(3mks)**

7. Kiprono buys tea costing sh 112 per kilogram and sh.132 per kilogram and mixes them, then sells the mixture at sh.150 per kilogram .If he is making a profit of 25% in each kilogram of the mixture, determine the ratio in which he mixes the tea. **(4mks)**

8. Find the value of x given that. **(3mks)**

$$\log_2(x^2 - 2) - \log_2\left(\frac{1}{2}x + 5\right) - 1 = 0$$

9. The tangent to the curve $y = ax^2 + bx + c$ is parallel to the line $y - 4x = 0$ at the point where $x = 2$. If the curve has a minimum value of -3 where $x = 1$, find the values of a, b and c. **(3 mks)**

10. The points **A, B and C** lie on a straight line. The position vectors of **A** and **C** are $2\mathbf{i} + 3\mathbf{j} + 9\mathbf{k}$ and $5\mathbf{i} - 3\mathbf{j} + 4\mathbf{k}$ respectively; B divides AC internally in the ratio 2:1. Find the

(a) Position vector of **B**. **(2 mks)**

(b) Distance of B from the origin. **(1 mk)**

11.(a) Find the inverse of the matrix $\begin{pmatrix} 4 & 3 \\ 3 & 5 \end{pmatrix}$ **(1 mk)**

(b) Hence solve the simultaneous equation using the matrix method. **(2 mks)**

4x +3y = 6

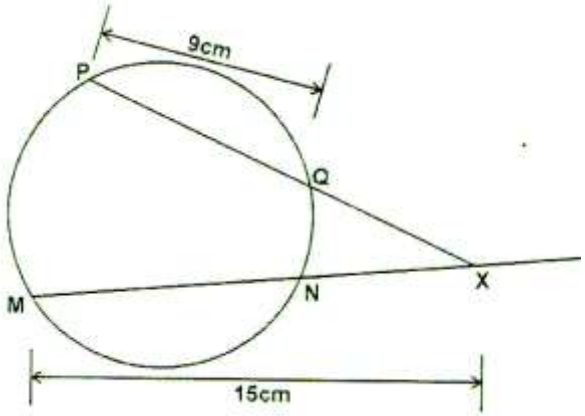
3x + 5y = 5

12. Find the radius and the centre of a circle whose equation is. **(3mks)**

$3x^2 + 3y^2+18y -12x-9=0$

13. A model of the globe representing the earth has a radius of 0.2m. Point A and B are located at (60˚ N,140˚ E) and (60˚ N,120˚ W),respectively. If O is the centre of the latitude 60 N, find the area of the minor sector OBA, in square metres. **(3 mks).**

14.Find the length NX in the figure below that PQ = 9cm, PX = 12cm and MX = 15cm. **(2 mks)**

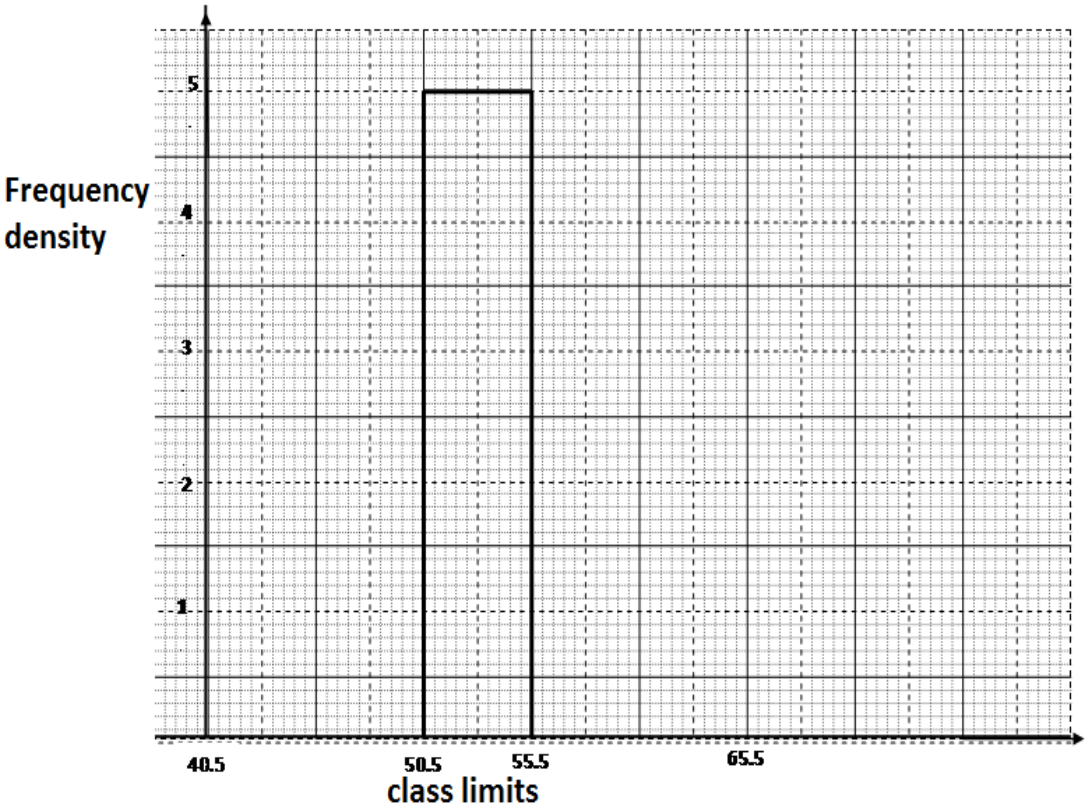


15. A colony of insects was found to have 250 insects at the beginning. Thereafter, the number of insects doubled every two days. Find the number of insects after 16 days. **(3 mks)**

16. The following data was obtained from the mass of a certain animal. Complete the table and the histogram below.

(3 mks)

Mass(kg)	frequency
41-50	20
51-55	
56-65	40



SECTION II (50 MARKS)

Answer ONLY FIVE questions in this section

17.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. **(2 mks)**

(b)Calculate her P.A.Y.E **(6 mks)**

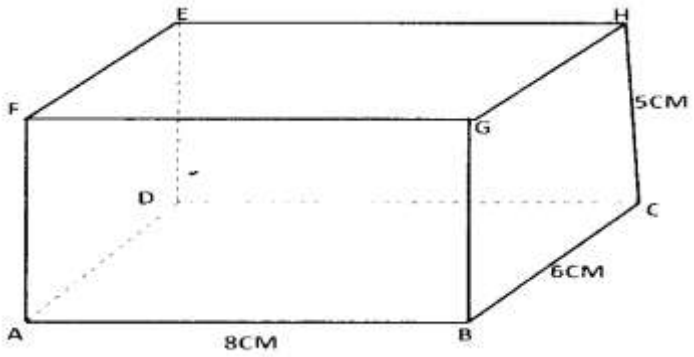
(c) Calculate her net salary. **(2 mks)**

18 (.a) Use the trapezium rule with six trapezia to calculate the areas bounded by the curve $Y=2x^2+ 3x +1$, 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)**

19. The figure below shows a cuboid.



Calculate

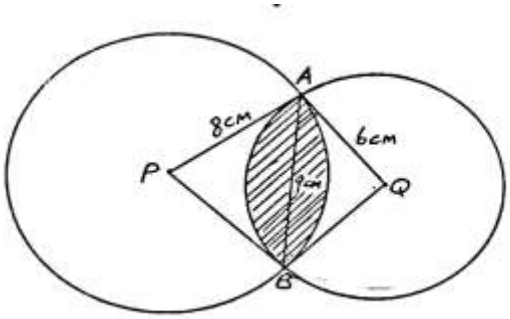
(a) The length **BE.** (2 mks)

b) The angle between BE and plane ABCD. **(3 mks)**

c) The angle between FH and BC. **(2mks)**

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

20. The figure below shows two intersecting circles radii 8cm and 6cm respectively. The common chord AB = 9cm and P and Q are the centres as shown.



a. Calculate the size of angle

i. APB **(1mk)**

ii. AQB **(1mk)**

b. Calculate the area of

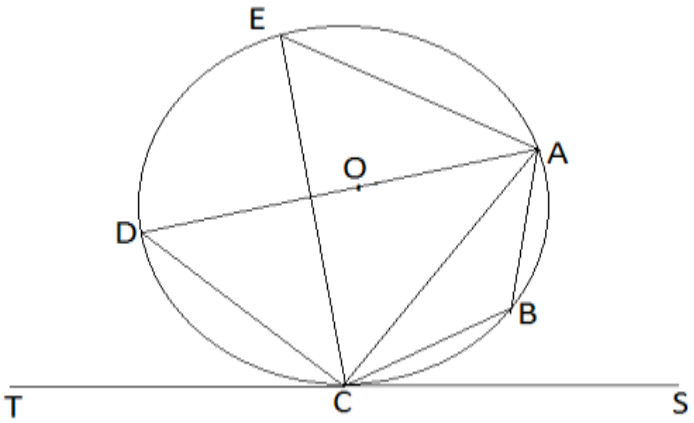
i. Minor segment of the circle centre P. **(2mks)**

ii. Minor segment of the circle centre Q **(2mks)**

iii. The quadrilateral APBQ **(2mks)**

iv. The shaded region **(2mks)**

21. In the figure below DA is a diameter of the circle ABCDE centre O. TCS is a tangent to the circle at C, AB = BC and angle DAC = 38^0



Giving reasons, determine the following angles:

(a) $\angle DCT$ **(2 mks)**

(b) $\angle DEA$ **(2 mks)**

(c) $\angle ACB$ **(2 mks)**

(d) $\angle BDC$ **(2 mks)**

(e) $\angle BOA$ **(2 mks)**

22. 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)**

23. Three variables p, q and r are such that p varies directly as q and inversely as the square of **r.**

a. When **p = 9, q = 12** and **r = 2** find **p** when **q = 15** and **r = 5** **(4mks)**

b. Express **q** in terms of **p** and **r** **(1mk)**

c. If p is increased by 20% and r is reduced by 10% find,

i. A simplified expression for the change in q in terms of **q** and **r.** **(3mks)**

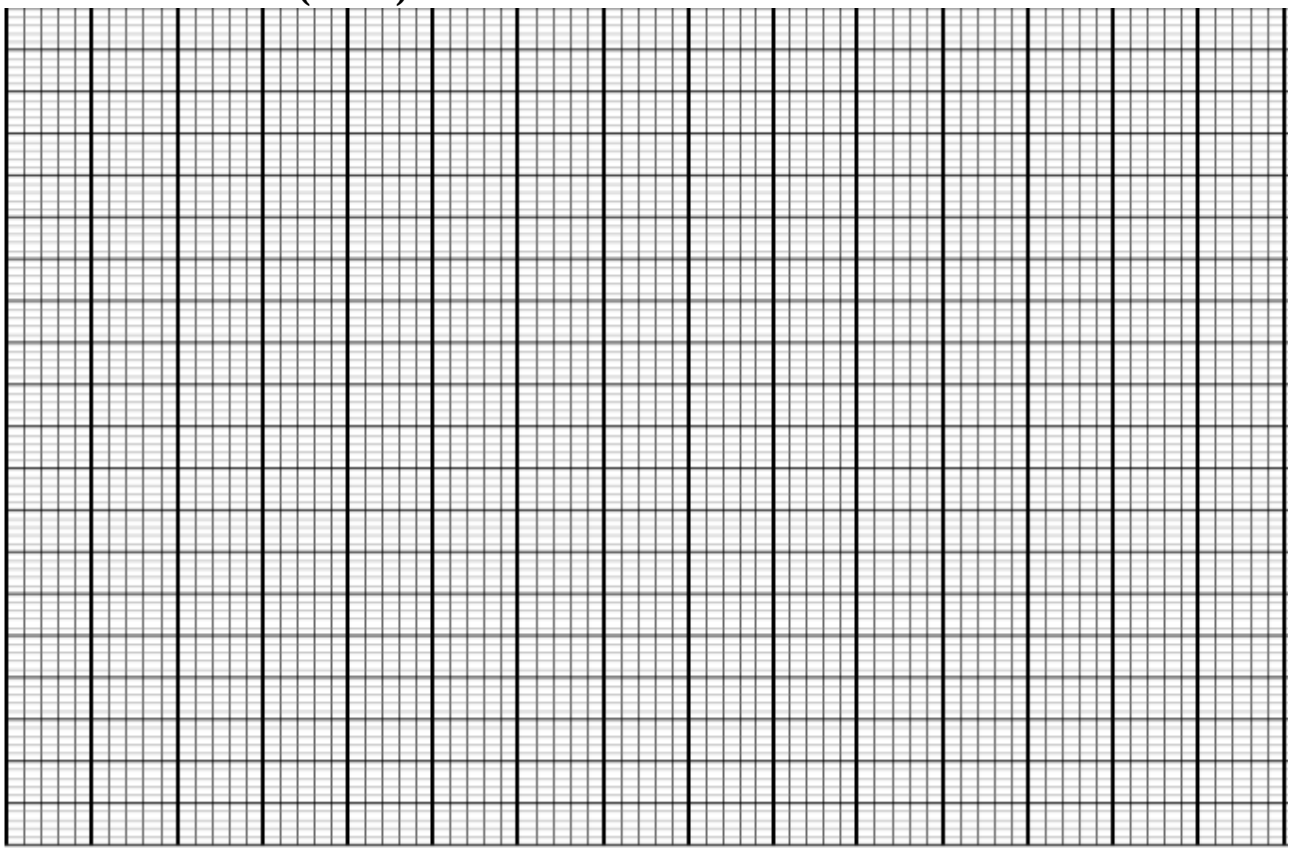
ii. The percentage change in **q.** **(2mks)**

24. The table below shows some values of the curve **y = 2cos x** and **y= 3 sin x.**

a. Complete the table for values **y=2cosx** and **y=3 sin x**, correct to 1 decimal places. **(3mks)**

X	**0**	**30^0**	**60^0**	**90^0**	**120^0**	**150^o**	**180^0**	**210^0**	**240^0**	**270^0**	**300^0**	**330^0**	**360^0**
y=2cos x	2		1	0			-1.7	-1.7	-1		1	1.7	2
y=3sin x	0	1.5		3	2.6				-2.6			-1.5	0

On the grid provided draw the graphs of **y=2cos x** and **y=3sin x** for **$0^0 \leq x \leq 360^0$** on the same axis. **(5mks)**



a) Use the graph to find the values of x when **2cos x- 3sin x=0. (2mks)**

b) Use the graph to find the values of y when 2 cos x = 3sin x. **(1mk)**

INTERCOUNTY PRE MOCK 2

Name: ……..…… Adm :……... Class: ……

Candidate's Signature: ……

Date :……

101/1
ENGLISH
Paper 1
(Functional Skills)
Time: 2 Hours

INTER COUNTY PRE MOCK 2

Kenya Certificate of Secondary Education
101/1
ENGLISH
Paper 1 (Functional Skills)
Time: 2 Hours

Instructions to students

- *Write your **name, admission number** and **class** in the spaces provided.*
- *Sign and write the date of the examination in the spaces provided.*
- *Answer **all** questions in the spaces provided*
- *All your answers must be written in the spaces provided in this question paper.*
- *This paper consists of **6 printed** pages.*
- *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
- *Candidates must answer all questions in English.*

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	10		
3	30		
TOTAL	60		

1. Imagine you are the school captain. One of the students in your school has been invited for a two weeks Young Leadership Program to be held during the holiday. The organizing committee requires further information about the student and has asked you to write a recommendation letter. Write the **Recommendation letter** addressed to;

   The Secretary,
   Young Leadership Program
   P.O Box 16950,
   00100
   Nairobi

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2. Read the passage below and fill the blanks provided with a suitable word. (10 marks)

Conducting a job search 1_____the Internet has definitely2_____how job seekers contact hiring 3_____. The availability of copying and pasting a text version CV into a format 4_____company's Website has laid the foundation for an easier and 5_____ convenient process. 6_____ the Internet's convenience, a breeding ground for scam artists continues to 7_____each year as well. Identity thefts have increased to an overwhelming 10 million 8_____ per year and many of them are the result of phishing-not surprisingly, the employment industry is 9_____ attack as well. Knowing what to look for and how to stop fraud can be the best deterrent to ensuring you have a safe experience while conducting your 10_____ search.

3. *Oral skills*

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

Breakthrough

When I reached the threshold
The gate was quickly locked
Though loud and long knocked
They left me in the cold

I stood outside for long
Wondering what was wrong
Honour wouldn't let me
A peeping to be

When night tiptoed behind
Me a stranded pilgrim
Ah, I made up my mind
To fight on for my dream

I crashed open the gate
Uncaring it was wrong
Wow, I was hugged with a song –
A welcome initiate

(Anonymous)

i) How has rhythm been achieved in the poem? (2 marks)

……..……

……

……

ii) How would you say the last two lines of the poem and why? (2 marks)

……

……

……

iii) Which words would you stress in the first stanza line 4 of this poem? (2 marks)

……

……

……

b) Identify the silent letters in the following words (4 marks)

i) Honour ……..

ii) Could ……..

iii) Badge……..

iv) Receipt…….

c) Identify the odd one out in each of the following sets of words (4 marks)

i) Respect, resist, religion, referee ……

ii) Resign, resolve, advise, waste……

iii) Usual, visual, pleasure, passion…….

iv) Chef, chin, chic, chauffer……..

d) The underlining indicates the stressed word in the sentences below. Briefly explain what each sentence means. (3 marks)

i) Amanda rode the bus to school

……

…….

ii) Amanda rode the bus to school

……

…….

iii) Amanda rode the bus to school

……

……

e) A Non-governmental Organization is seeking to recruit form four graduates to serve as clerks. You have been invited for an interview. Explain briefly what you will do before and during the interview. (6 marks)

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f) Read the following telephone conversation and answer the questions that follow.

Secretary: (phone rings) Hello, Masomo Secondary School. How may I help you?

Caller: I want to speak to my mother.

Secretary: May I know who your mother is please?

Caller: (impatient and irritated) I have said I want to speak to my mother.

Secretary: Excuse me, I don't know who your mother is. Could you please tell me her name?

Caller: (shouting) You have been working in that institution for the last ten years and you don't know Mrs. Marita?

Secretary: (politely) oh, Mrs. Marita? She has just stepped out shortly. May I take a message for her please?

Caller: (bangs the receiver).

i) Identify three instances that show the caller's lack of etiquette (3 marks)

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j) What shows that the secretary demonstrates professional conversational skills during the telephone conversation? (4 marks)

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INTERCOUNTY PRE MOCK 2

ENGLISH PAPER 2

1. QUESTION 1: COMPREHENSION. (20MKS)

Read the passage below and answer the questions that follow.

Substance Abuse has emerged in recent decades as a major concern both on and off the job. Although reasons vary, substance abuse can be a way that some people try to manage or reduce distress.

But it is important to be clear on what is generally meant by a drinking problem. In all cases related to alcohol abuse, a common factor is the unfavorable effect alcohol has on the health or well-being of the drinker and his or her associates. Common signs and symptoms that frequently indicate a drinking problem include being constantly absent from work, causing on-the-job accidents and expressing grievances most of the time.

Alcoholic employees can sometimes go undetected for years. Coworkers cover up for those unable to perform their jobs because of drunkenness. Even managers may be adept at concealing their alcohol abuse problems. Their secretaries or loyal associates may cover up for them. Alcoholics can be clever at inventing "credible" excuses when detected: "I must have a drink or two when I'm entertaining customers, of course."

Drug abuse, or drug addiction, exists when the taking of drugs, whether prescribed or nonprescribed, legal or illegal, causes difficulties in any area of an individual's life. Years ago, the stereotype of the drug user was either of a glazed-eyed musician frantically beating his sticks on a tight skin or a person who dwelt in a slum. Mass publicity on drug abuse has long since caused that stereotype to fade from view.

Complicating the ongoing war on drugs are changes in public attitudes and drug-use patterns. It sometimes seems that no sooner is progress made in combating one illegal drug than a different kind of substance abuse comes into vogue. Ethyl alcohol was the social drug during prohibition (1920 – 1933), marijuana became the social drug of the 1960s and 1970s, and some observers believe that crack cocaine and possibly ectasy – another so-called upper – became the social drugs of the 1980s and 1990s. the drugs of choice and people's attitude toward them may change, but the problem of drug abuse appears to be continuing unabated.

Pinpointing the specific symptoms of alcohol and drug abuse problems is not a simple task. A supervisor's main responsibility, therefore should not necessarily be uncovering evidence of dependency on alcohol and drugs but instead being observant for declining job performance. Yet there are certain behavioural patterns that some excessive users of alcohol and drugs display. These patterns can sometimes be spotted through simple observation. Increasingly though, employers are taking more aggressive steps to ferret out substance abuse among their workforces. A growing number of companies, especially large ones with many employees and those in business with potential to effect public health or safety, are adopting drug-testing programmes.

The signs of alcohol dependency, unfortunately, do not always become manifest until the middle of the late stages of the problem. No wonder some managers have mistaken an employee's euphoric appearance for the "look of love". The earlier treatment begins, naturally, the earlier treatment begins, naturally, the easier it will be. A person could experience some isolated incidents of such drinking problems without necessarily being a alcoholic. However, alcohol abuse usually results in declining job performance. Because there are many symptoms of drug abuse, no one person would exhibit all of them and a

supervisor should guard against assuming that the presence of one or more symptoms is conclusive of alcohol or drug abuse.

Questions

1. What is the main reason given for substance abuse? (2 mks)

2. From paragraph two, state three ways in which alcohol abuse can unfavourably affect the workmates of a drunker? (3mks)

3. According to the passage, what is drug abuse? (2mks)

4. What was the common misconception about who a drug user was? (2mks)

5. Rewrite the following sentences using "as soon as"
   It sometimes seems that no sooner is progress made in combating one illegal drug than a different kind
   of substance abuse comes into vogue. (1mk)

6. What can we infer about "prohibition"? (2mks)

7. In not more than 55 words, summarize the reasons that make it difficult to effectively deal with substance abuse. (4mks)

8. Why do you think the author of the passage cautions supervisors against hastily concluding that one is a drug abuser? (2mks)

9. Explain the meaning of the following words as used in the passage. (2mks)

i) Credible

ii) Stereotype –

2. EXCERPT

Krogstad : Are you sure of that?

MrsLinde : Quite sure, but –

Krogstad: (with a searching look at her) Is that what it all mean? That you want to save your

friend at any cost? Tell me frankly. Is that it?

Mrs Linde: Nils, a woman who has once sold herself for another's sake doesn't do it a second time.

Krogstad: I will ask for my letter back.

Mrs Linde: No, no.

Krogstad: Yes, of course I will. I will wait here until Helmer comes; I will tell him he must give me my letter back-that it only concerns my dismissal-that he is not to read it. Mrs Linde: No Nils, you must not recall your letter.

Krogstad: But, tell me wasn't it for that very purpose that you asked me to meet you here? Mrs Linde: In my first moment of right, it was. But twenty-four hours have **elapsed** since then, and in that time I have witnessed **incredible** things in this house. Helmer must know all about it. This unhappy secret must be disclosed; they must have a complete understanding between them which is impossible with all this concealment and falsehood going on.

Krogstad: very well, if you take the responsibility. But there is one thing I can do in my case and I shall do it at once.

Mrs Linde: (listening) You must be quick and go! The dance is over, we are not safe a moment longer.

Krogstad: I will wait for you below

Mrs Linde: Yes, do. You must see me back to my door.

Krogstad: I have never had such an amazing piece of good fortune in my life!

Questions

1. Explain what happens before this excerpt. (2mks)

2. Why does Krogstad say he would ask for his letter back? Explain. (2mks)

3. Identify and explain the dominant theme in the excerpt. (2mks)

4. "Nills, a woman who has once sold herself for another sake doesn't do it a second time". Briefly explain what makes Mrs Linde say this? (3mks)

5. Explain the use of irony in this excerpt. (2mks)

6. Identify and illustrate two character traits of Mrs Linde in this excerpt. (4mks)

7. " I have never had such amazing piece of good fortune in my life!" Rewrite beginning never…… (1mk)

8. What makes Krogstad say that he has never had such good fortune in his life? (2mks)

9. "But there is one thing I can do in any case and I shall do it at once." What is that Krogstad does and how does it affect the rest of the play? (3mks)

10. Explain the meaning of the following words and phrases as used in the passage. (4mks)
    i) At any cost –

ii) Recall –

iii) Elapsed –

iv) Incredible things –

3. **Read the following oral poem and answer the questions that follow.**

Oh beautiful bride, don't cry,
Your marriage will be happy,
Console yourself, your husband will be good.

And like your mother and your aunt,
You will have many children in your life,
Two children, three children, four……..

Resign yourself do like all other,
A man is not a leopard,

A husband is not a thunderstruck, Your mother was your
father's wife, It will not kill you to work.

It will not kill you to grind the grain Nor will it kill you to wash the pots Nobody dies from gathering firewood Nor from washing clothes.

We did not do it for you,
We did not want to see you go,
We love you too much for that

Its your beauty that did it
Because you are so gorgeous
Ah, we see you laugh beneath your tears!

Goodbye, your husband is here
And already you don't seem To need our consolations.

<u>Questions</u>

a) With evidence, classify the oral poem. (2mks)

b) Who do you think are the singers of the song? Illustrate. (2mks)

c) How do the singers make the situation bearable for the lady? (2mks)

d) What is the attitude of the society from which the song is derived towards women? (2mks

e) Illustrate and explain the use of the following stylistic devices in this oral poem. (4mks)

i) Repetition – ii)

Ellipses –

f) State in note form the duties of a wife according to the song. (2mks)

g) Explain any social aspect and one economic activity carried out in the commodity from which the oral poem is taken (4mks)

h) Explain the irony in the 7^{th} stanza. (2mks)

4. GRAMMAR

i) **Rewrite the following sentences according to the instructions given.**

a) If he comes he will not be punished.

Begin: Unless……

b) The snail reached the ark only by perseverance

Begin: Only……

c) They had just walked out of the building when the bomb went off. (Begin: No sooner ……

d) John told the principal that he needed to go and see the nurse because he was feeling unwell. (Rewrite as direct speech)……

e) These books belong to the daughters of our teacher. (Begin: These are ……..

ii) **Replace the underlined words with phrasal verbs that begin with the words given in brackets. (3mks)**

a) Parents should not <u>yield</u> to their children's unreasonable demands. (give

b) The officials <u>cancelled</u> the match because of the heavy rain (call

c) <u>Disagreeing</u> with his parents was his worst mistake. (fall)

iii) **Explain the difference in meaning of the following pair of sentence.**

a) I only heard the news in brief.
b) I only heard the news briefly.

iv) **Change the following sentences into passive.**

a) Njoroge wrote the best composition.
b) Sue bought the beautiful house on the hill.

Complete the following sentences using the appropriate form of the word given in brackets.

a) Sophie's mother …….of Sophie wearing very tight clothes to church (approve

b) His ……..cost him his job (efficient)

c) The ……of the traveler's was hindered by the poor roads (mobile)

INTERCOUNTY PRE MOCK 2

101/3

ENGLISH PAPER 2
FORM 4

1. Imaginative Composition

EITHER

a) Write a composition that has the following: *explosion, crowd, siren and hospital*

OR

b) Write a composition on the following statement*: "Technological advancement has impacted negatively on the society, especially the youth."*

2. The Compulsory Set Text.

"Self-interest is a vice that whoever engages in it is bound to fail." Using Blossoms of the Savannah, write an essay to support this assertion. (20 marks)

3. The Optional Set Texts. (20 marks)

Answer any one of the following two questions.

EITHER

a) The Short Story:

Poverty creates deep social contrast in the way people live in the society. Write an essay in support of the above statement drawing illustrations from NoViolet Bulawayo's story, Hitting Budapest.

OR

b) drama: inheritance

In what ways is Judah zenMelo's struggle symbolic of the struggle of all workers in Kutula

Republic? **c) The novel**

"Failure to positively respond to wise counsel often leads to suffering and frustrations." Show the validity of this statement focusing on characters in the novel The Pearl

INTERCOUNTY PRE MOCK 2

JINA: …… NAMBARI:……

102/1

KISWAHILI

KARATASI YA 1

INSHA

MUDA: SAA 1 ¾

MAAGIZO:

- ✓ Andika insha mbili. Insha ya kwanza ni ya lazima
- ✓ Kisha chagua insha moja nyingine kutoka kwa hizo tatu zilizobakia.
- ✓ Insha yako isipungue maneno 400
- ✓ Kila insha ina alama 20.

1.Wewe ni Mkurugenzi wa tume ya kupambana na ufisadi nchini. Andika barua pepe kwa watumishi wote wa umma ukiwaeleza athari za ufisadi kwa taifa.

2.Teknolojia ya kisasa ina athari mbaya katika maisha ya vijana. Jadili.

3.Andika insha itakayodhirisha maana ya methali ifuatayo: Mzaha mzaha hutumbuka usaha.

4. Andika kisa kitakachomalizika kwa … hivyo ndivyo ukurasa mpya katika kitabu cha maisha
Yangu ulivyofunguka.

INTERCOUNTY PRE MOCK 2

102/2

KISWAHILI

KARATASI YA 2

LUGHA

MUDA : SAA 2 ½

JINA ……NAMBARI YA MTAHINIWA…….

SAHIHI YA MTAHINIWA ……. TAREHE ……

MAAGIZO

a)Andika jina yako na nambari yako katika nafasi ulizoachiwa hapo juu.

b)Tia sahihi yako kasha uandike tarehe ya mtihani katika nafasi ulizoachiwa.

c)Jibu maswali yote.

d)Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.

e)Majibu yote lazima yaandikwe kwa Kiswahili.

f)Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1		
2		
3		
4		
JUMLA	**80**	

1.UFAHAMU (ALAMA 15)

Soma makala yafuatayo kisha ujibu maswali:

Mwanamke wa kisasa anazaliwa na kukulia katika mazingira yaliyobadilika mno. Matazamio yake maishani ni tofauti na yale ya wanawake waliosihi mapote mawili yaliyopita; wanawake makamu ya nyanyake na mamake –kuu.

Yeye hatarajii kuzaliwa, kukua, kuolewa, kuwa mke wa bwana, kumzalia watoto, na daima dawamu kuwa **"mwandani wa jikoni"** akawapikia watoto na bwanake chakula; na akitoka jikoni aelekee shambani kulima, kichakani, kuchanja kuni,, mtoni kufua nguo na kuteka maji ya kutumia nyumbani. Mwanamke wa kisasa huandamana na mwanamume. **Akanyagapo mume naye papo huutia wayo wake.**

Mwanamke wa kisasa huenda shule na kujifunza yote yafunzwayo huko. Hushindana na wanawake kwa wanaume na kuibuka mshindi si mara haba. Huibuka mshindi katika masomo yake ya lugha, historia, jiografia, hesabu, sayansi na mengineyo, sawa na mwanamume.

Mwanamke wa kisasa hutaka kufanya kazi za kibega, akazifanya. Akitaka kuwa mwalimu, akawa. Akataka kuwa daktari, akafanikiwa. Almuradi, siku hizi mwanamke hufanya kazi yoyote ile afanyayo mwanamume. Kuna wanawake marubani wa ndege, masonara, waashi wahandishi, madereva wa magari, mawakili, mahakimu, mawaziri wakuu na hata marais wananchi. Hakuna kazi isiyofanywa na mwanamke siku hizi.

Mwanamke wa kisasa **hateswi akafyata ulimi**. Anapohiniwa yeye hupigania haki kwa dhati na hamasa. Katu hakubali'mahali pake' katika jamii alipotengwa na wanaume wenye mawazo ya kihaidhina yaliyopitwa na wakati.

Siku hizi mwanamke huolewa tu wakati amepata kazi ya kumwezesha kujikimu maishani au pale anapokuwa na hakika kwamba biashara yake, iwapo ni mfanyi biashara, imepiga hatua ya kutomrudisha **ukutani**.

Mwanamke wa kisasa haamuliwi katika jambo lolote, bali hufanya maamuzi yake mwenyewe. Kwa upande mwingine, mwanaume wa 'kisasa', ambaye bado amefungwa pingu na taasubi za kiume, hapendezwi na mwanamke huyu. Huuma kidole akatamani yale ya akale, lakini wapi! Analazimika kukubali mwanamke huyu kama mshirika sawa maishani, na kuishi naye, apende asipende. Shingo upande analazimika kukubali kwamba mabadiliko haya sio mithili ya kiwingu kipitacho, bali ni ya **aushi**.

MASWALI

a)Msemo '**mwendani wa vijungu jiko'** unadhihirisha hali gani ya mwanamke katika jamii? (al.2)

……

……

……

b)Jamii imefanya mwanamke kuwa hayawani wa mizigo. Fafanua. (al.2)

……

……

……

c)Eleza maana ya **'akanyagapo mume papo huutia wayo wake'** (al.2)

……

……

d)Mlinganishe mwanamke wa kiasili na wa kisasa katika maswala ya ndoa na elimu. (al.4)

……

……

……

……

……

e)Mwanamume wa kisasa anamwonaje mwanamke wa kisasa? (al.2)

……

……

……

f)Eleza maana ya:

(i)Akafyata ulimi (al.1)

……

(ii)Ukatani (al.1)

……

(iii)Taasubi za kiume (al.1)

……

2.MUHTASARI / UFUPISHO

Soma kifungu kisha ujibu maswali.

Imesemekana na kurudiwa tena na tena kwamba, iwapo tuna maono ya kujiondoa katika umaskini wa kupindukia, ni lazima tukipe kilimo umuhimu. Zaidi ya Wakenya milioni kumi wamo katika hatari ya kufa katika maeneo mbali mbali kwa sasa kufuatia uhaba wa chakula nchini.

Kiini kikubwa cha njaa hiyo ni mapuuza ya muda mrefu katika sekta ya kilimo.Imesahaulika kuwa karibu asilimia sabini na tano ya Wakenya wanategemea kilimo kwa chakula na mapato ya kifedha kila siku. Kilimo hutoa karibu robo tatu ya nafasi za kazi kwa wananchi na pia kuletea serikali karibu robo ya mapato yake kutokana na mauzo ya mazao katika mataifa ya nje.

Wataalamu wa maswala ya zaraa wanaeleza kuwa pato la nchi linatokana na kilimo huangamiza njaa mara nne zaidi ya mapato yanayotokana na shughuli nyinginezo za kiuchumi. Hiyo ni kwa sababu shughuli za kilimo hulenga kuzalisha vyakula moja kwa moja.

Imebainika kuwa, katika mataifa mengi yanayostawi, asilimia sabini na tano ya wananchi huishi katika maeneo ya mashambani na idadi hii hutegemea kilimo kujimudu kimaisha ilhali hapa Kenya ni asilimia nne pekee ya bajeti inayowekezwa katika kilimo.Kwa wakati huo, ushuru unaotozwa bidhaa za kilimo katika maeneo haya umebainika kuwa mkubwa. Hii imepelekea uwekezaji katika kilimo kupungua na hivyo kuchangia kukithiri kwa baa la njaa.

Wakati umewadia kwa serikali za Afrika na wapangaji wa masuala ya uchumi kuweka juhudi maradufu katika kushabikia ili kumaliza njaa na umaskini. Kuna haja ya kuwajulisha, kuwahimiza na kuwaelimisha wakulima wa mashamba madogo madogo kuhusu mihimili ya zaharaa kama vile uzalishaji wa matunda na mboga, ufugaji wa ndege, samaki na ng'ombe mbali na kuweka mikakati ya kuanzisha nafasi za kazi katika sekta ya kilimo.

Serikali itafikia lengo hili iwapo itaanza kufadhili kilimo, kupunguza gharama za pembejeo za kilimo, kuweka sera zinazodhibiti uuzaji na ununuzi wa vyakula hasa baina ya mataifa na kuongeza sehemu ya bajeti inayotengewa kilimo. Bila hilo hatutakuwa na linguine bali kukimbilia mataifa yalistawi kuomba misaada ili kuwanusuru raia wetu kutokana na ghadhabu na njaa.

a)Fupisha aya mbili za mwanzo (maneno 50 – 55) (al.6, 1 ½ ya mtiririko)

Matayarisho

……

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Nakala safi

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(b)Bila kubadili maana,fupisha aya mbili za mwisho. (maneno 55 – 60) (al.6, 1 ½ utiririko)

Matayarisho

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Nakala safi

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3.MATUMIZI YA LUGHA (ALAMA 40)

a)Taja sauti zenye sifa zifuatazo. (al.2)

i)Irabu ya mbele, juu, tandazwa.

……

ii)Kiyeyusho cha midomo.

……

b)Tofautisha kati ya silabi funge na silabi wazi na utolee mifano. (al.2)

……

……

……

……

c)Eleza dhima ya sentensi ifuatayo. (al.1)

Naomba uniazime kalamu yako.

……

……

d)(i)Eleza maana ya mofimu. (al.1)

……

……

……

(ii)Ainisha mofimu katika neon

alani? (al.2)

……

e)Tambua aina za vitenzi katika sentensi ifuatayo: (al.3)

Hawa sio walimu bali wamekuwa wakifunza katika shule hii.

……

……

……

……

f)Weka neno hili katika ngeli mbili tofauti : (al.2)

Maziwa

……

g)Eleza tofauti iliyopo kati ya ukanushaji na kinyume. (al.2)Andika kinyume cha

Kibe alikunja nguo zilizoangikwa ukutani alama 1

……

Kanusha

Kibe alikunja nguo zilizoangikwa ukutani alama 1

……

h)Andika katika wingi: (al.2)

Zigo la kuliwa halilemei.

……

……

i)Andika sentensi ifuatayo katika hali ya udogo wingi. (al.2)

Meza ilianguka ikavunjika tendeguu.

……

)Tunga sentensi mojamoja ukitumia vitenzi vifuatavyo katika kauli ulizopewa mabanoni. (al.2)

Paka (tendata)

……

Choma (tendua)

……

k)Tumia nomino mji kama kielezi cha mfanano. (al.1)

……

……

l)Tunga sentensi mbili kuonyesha maana tofauti za neno walakini na uzitaje. (al.2)

……

……

……

……

m)(i)Tunga moja sentensi ambatano.(al.2)

……

……

(ii)Changanua sentensi ifuatayo kwa njia ya matawi . (al.4)

Mbwa pamoja na paka walikuwa wakiuzwa sokoni.

n)Ainisha virai katika sentensi ifuatayo:

Wote wanne walijificha nyumba ya mlango.

……

……

……

o)Onyesha aina za vishazi katika sentensi ifuatayo. (al.2)

Babake alipofika nyumbani alipumzika kitandani.

……

……

……

p)Andika sentensi **<u>moja</u>** yenye shamirisho zifuatazo. (al.3)

kipozi, kitondo na ala.

……

……

q)Andika sentensi ifuatayo katika msemo wa taarifa.

“Tutawapa zawadi zenu kesho mkija na wazazi,” mwalimu aliwaambia.

……

……

……

r)Andika upya sentensi ifuatayo ukitumia kisawe cha neno lililopigiwa mstari. (al.1)

Babangu hapendi kunywa <u>pombe.</u>

……

……

s)Tofautisha sentensi. (al.2)

(i)Ungalisoma kwa bidii, ungalipita mtihani.

……..

……..

ii)Ungelisoma kwa bidii, ungelipita mtihani.

……

……

4. ISIMU JAMII (ALAMA 10)

"Naona 'Horse Power' mwenyewe ndiye atakayepiga,….. atakayecheza foul hiyo. Wachezaji wa …….."

a)Tambua sajili inayorejelewa. (al.2)

……

……

……

b)Tambua sifa zinazobainisha sajili yenyewe. (al.8)

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INTERCOUNTY PRE MOCK 2

102/3

KISWAHILI FASIHI

KARATASI YA 3

MUHULA WA PILI

MUDA : SAA 2 ½

MAAGIZO

a)Jibu maswali manne pekee.

b)Swali la kwanza ni la lazima.

c)Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki ; yaani Tamthiliya fupi, Ushairi na Riwaya.

d)Usijibu maswali mawili kutoka sehemu moja.

e)Majibu yote lazima yaandikwe kwa lugha ya Kiswahili.

MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1	20	
	20	
	20	
	20	
JUMLA	**80**	

SWAli 1 LAZIMA SEHEMU YA : FASIHI SIMULIZI

Hapo zamani za kale paliishi sungura na ndovu. Wanyama hawa waliishi baharini.Maulana alikuwa amewatunukia mapenzi si haba.Makazi yao yalikuwa yamepambwa yakapambika.Walitegemea matunda mbalimbali yaliyokuwa baharini kama mapera, matomoko matikitimaji na kadhalika.

Siku moja usiku wa manane, maji yakaanza kupwa.Ndovu aliathirika zaidi. Alijaribu kuinama majini lakini hakuweza . Alimwita sungura amsaidie lakini sungura alikuwa ametoweka. Ndovu aliamua kwenda kumtafuta sungura. Alimtafuta hadi msituni lakini hakumpata. Alihofia kurudi baharini na hadi wa leo yumo msituni.

MASWALI

a)Tambua utanzu na kijipera chake. (al.2)

b)Taja fomyula zingine **mbili** za kutanguliza kifungu hiki. (al.2)

c)Eleza umuhimu wa kijipera hiki. (al.5)

d)Eleza sifa za kifungu hiki. (al.5)

e)Eleza umuhimu wa fomyula:

(i)Kutanguliza (al.3)

(ii)Kuhitimisha (al.3)

SEHEMU YA B : TAMTHILIA (P.KEA KIGOGO)

Jibu Swali la pili au la tatu.

2 "…… Udongo haubishani na Mfinyanzi. Acha porojo zako. Kigogo hachezewi; watafuta maangamizi!"

a)Eleza muktadha wa dondoo hili. (al.4)

b)Fafanua mbinu **mbili** za kimtindo zilizotumika katika dondoo hili. (al.2)

c)Eleza sifa zozote **nne** za msemaji. (al.4)

d)Onyesha ukweli wa kauli hii katika dondoo hili ukirejelea hoja **kumi**. (al.10)

AU

3.a)Tatizo la uongozi katika bora la Afrika ni kikwazo kikubwa cha maendeleo. Kwa kurejelea matukio kwenye Tamthilia ya Kigogo. Jadili ukweli wa kauli hii. (al.10)

b)Eleza mbinu alizotumia Majoka kufanikisha utawala wake. (al.10)

SEHEMU YA C : RIWAYA (A.MATEI : CHOZI LA HERI)

Jibu swali la nne au la tano

4."Lakini itakuwaje historical injustice, nawe Ridhaa hapo ulipo sicho kitovu chako?"

a)Eleza muktadha wa dondoo hili. (al.4)

b)Eleza tamathali **mbili** za lugha zilizotumika kwenye dondoo hili. (al.4)

c)Fafanua sifa **tatu** na umuhimu tatu wa msemaji wa maneno haya. (al.6)

d)Taja mambo **sita** yaliyowakumba wale ambao kitovu chao sicho walicho? (al.6)

AU

5.a)"Siasa mbaya maisha mabaya."Thibitisha ukweli wa kauli hii kwa kurejelea riwaya ya Chozi la Heri. (al.10).

b)Fafanua athari za umaskini katika jamii ukirejelea Riwaya ya Chozi la Heri.

SEHEMU YA D : HADITHI FUPI (Alifa Chokocho na D.Kayanda (Wahariri)

Jibu swali la sita au la saba.

6."Lazima niache kazi maana mume wangu haniamini."

a)Fafanua muktadha wa dondoo hii. (al.4)

b)Eleza sifa **sita** za mzungumzaji katika dondoo hili. (al.6)

c)Eleza mbinu zifuatazo kama zilivyotumika katika hadithi.

(i)Sadfa (al.6)

(ii)Majazi (al.4)

AU

7.”Hatuwezi kumaliza kula, kila leo tuna kula”.

a)Eleza muktadha wa dondoo hili. (al.4)

b)Fafanua tamathali ya usemi iliyotumika. (al.2)

c)Eleza umuhimu wa mnenaji. (al.4)

d)”Lakini nakwambia tena, kula kunatumaliza”. Kwa kudokeza hoja **kumi** jadili ukweli wa kauli hii. (al.10)

SEHEMU YA E : USHAIRI

HEKO JESHI LETU

Hebu niwatangazieni, mitimani yalotanda,

Katu si ya furahani, bali ya mori kupanda,

Kenya yetu I motoni, Al Shabaab katenda,

Katuchokoza yakini, kututeka kama punda,

Lo! Vyombo vya baharini, kwa telki kavidanda.

Wakashambuliya pwani, watalii wakadinda,

Kawapora mifukoni, ilo ndarama mabunda,

Maguruneti jijini, mabomu ja parapanda,

Waasi hawa kidini, kajifunga kwa magwanda,

Wakavuruga amani, ya wakenya waso inda.

Hawa sisi twalaani, kwa usalama kuvunda,

Toka Somalia baini, kuteka Kenya kapenda,

Ndo kavamiya wageni, kisha nao wakaenda,

Kawatesa matekani, kuwafunga kwa mikanda,

Sote kajawa huzuni, kutendewa kama kinda.

Wanajeshi wa nchini, chonjo pasi kusarenda,

Wakenda hivyo vitani, nyoyo bila kuwatunda,

Ka'nzisha operesheni, ya jeshi nchi kulinda

Kajitoma mipakani, huku vikosi meunda,

Somalia sadikini, kawa wa kondo ukanda.

Kwa silaha mikononi, mahandakiyo karanda,

Vita vya anga, jangwani, kulo maji na migunda,

A'Shabab nuksani, kamegwa mfano tunda,

Chao kawa hatarini, wanajeshi kawawinda,

Mchana piya jioni, ngomezi zao kaganda.

Wanamgambo sikieni, kazingirwa kikandanda,

Kavunjavunjwa usoni, miguuni piya vyanda,

Kahasiriwa mwilini, huku kabaki mepinda,

Haramia kawa duni, wakangamizwe manunda

Jeshi kajitahidini, matunda mema katunda.

Habari ulimwenguni, kamoma propaganda,

Kuenezeka kampeni, nazo nchi kama Rwanda,

Jeshi kajitoleeni, siku kadha’ za kalenda,

Jeshi letu shukurani, kutulinda ja makinda,

Twakusihi E Manani, tujali kwa kutupenda.

MASWALI

a)Pendekeza kichwa kingine kinachofaa shairi hili. (al.1)

b)Onyesha toni ya shairi hili. (al.1)

c)Eleza nafsi neni katika shairi hili (alama 1)

c)Ni madhila gani yametendwa na Al Shabab? (al.6)

d)Fafanua uhuru wa kishairi uliotumiwa na mtunzi katika ubeti wa pili. (al.4)

e)Eleza muundo wa shairi hili. (al.4)

f)Eleza maana ya maneno haya yalivyotumwa na msanii. (al.3)

i)Magwanda.

ii)Mahandaki

iii)Maharamia

INTERCOUNTY PRE MOCK 2

Name…… Index No……/…….

School…… Candidates Signature……

Date …….

231/1

BIOLOGY

THEORY

Paper 1

2 Hours

INSTRUCTIONS TO CANDIDATES

- Sign and write date of examination in the spaces provided above.
- Write your name and Index Number 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	

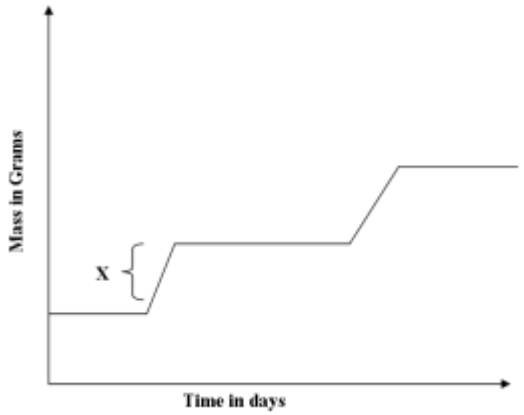
1.State three activities of the cell that are controlled by the nucleus (3mks)

……

……

……

2.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)

……..

…….

3 .Name the causative agent of the following diseases in human

(3mks)

i. Amoebic dysentery_____

ii. Bilhazia _____

iii. Typhoid _____

4.Give three reasons why plants do not require specialized excretory organs

(3mks)

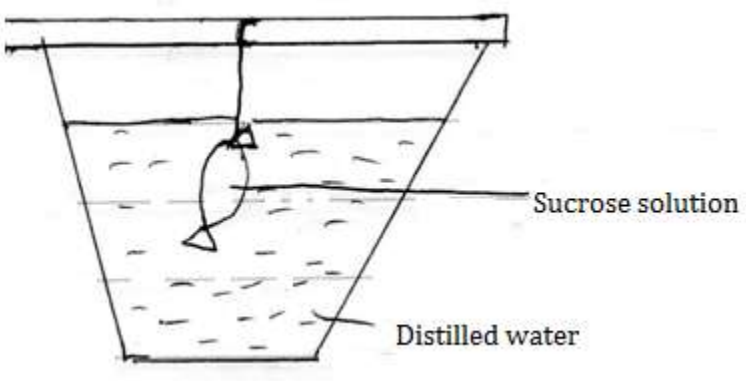
_____

_____

_____

_____

5. An experiment was set up as shown below



The set up was left for 30 minutes.

a. State the expected results

(1mk)

b. Explain your answer in (a) above

(3mks)

_____

_____

_____

_____

_____

6.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 .

$$C_6H_{12}O_6 + C_6H_{12}O_6 \underset{\mathbf{R}}{\overset{\mathbf{X}}{\rightleftharpoons}} C_{12}H_{22}O_{11} + H_2O$$

Glucose + Fructose Sucrose + Water

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

Process **X** …… (1mk)

Enzyme **R** …….. (1mk)

7.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)

……..

…….

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

……

…….....……

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……

……

9. State the branch of Biology that deals with:
(2 marks)

(a) Study of birds

.....

.....

(b) Study of the chemical composition of organisms

.....
.....

10. A certain mammal has no incisors, no canines, 6 molars and 6 premolars on the upper jaw. It has 6 incisors, 2 canines, 6 premolars and 6 molars on the lower jaw.

(a) Write its dental formula
(1 mark)

(b) Suggest with reasons the possible mode of feeding of the animal.
(2 marks)

.....
.....

11. (a)Some herbaceous plants have very little strengthening tissue yet they remain firm and upright. Give a reason for this observation.
(1 mark)

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.....

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.....

.....
.....

(b) Name the strengthening material in the following tissues.
(2 marks)

(i) Collenchyma

.....
.....

(ii) Xylem vessels

.....
.....

12. State **two** functions of Aerenchyma tissue in plants.
(2 marks)

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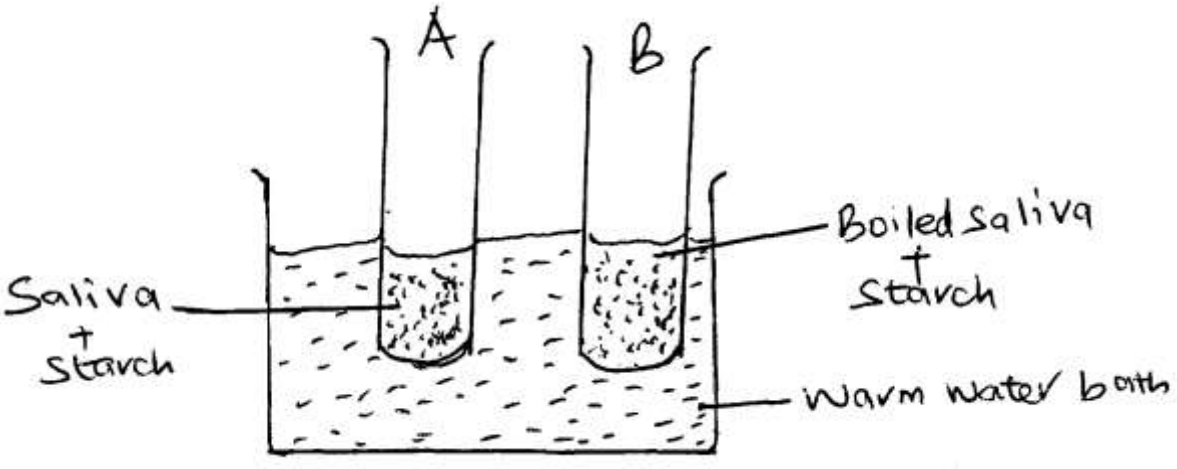
.....

13. A woman gave birth to a child of blood group B+ (B positive). Name two antigens that determined the child's blood group.
(2 marks)

14. In an experiment to investigate an aspect of digestion, two test tubes A and B were set up as shown below.



(a) The test tubes were left in the warm water bath for 30 minutes. The contents of the test tubes were tested for starch using Iodine solution.

State the observations in:
(2 marks)

Test tube A

.....
.....

.....
.....

Test tube B

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.....

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.....

(b) Account for the results in (a) above.
(2 marks)

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

B.....
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.....

15 Explain each of the following

a) Variegated plants accumulate less food than non-variegated plants under similar conditions.(1mark

b) Most leaves are thin with broad leaf surface.
(1mark)

c) State **three** importances of photosynthesis in an ecosystem.
(3marks)

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16.Wing of an insect, wing of a bird, hand of a man, flipper of a whale, foreleg of a horse are locomotory structures in animals. Using the structures listed above state the ones considered as

a) Homologous structures
(1mark)

……

……...

b)Identify the type of evolution that brings about homologous structures.
(1mark)

……

……..

17. A certain plant was found to have the following features

Parallel venation of leaves

Sheath like petiole

Flower parts in multiple of three

a) Name the class to which the plant belongs.

(1mark)

……

……..

b) Suggest the expected arrangement of vascular bundle in the stem of the plant.

(1mark)

……

……

18. Explain the reason for each of the following in flowering plants

i) Wind pollinated flowers produce large number of pollen grains.

(1mark)

……

……

……

ii)Insect pollinated flowers have small sticky stigmas that an firmly attached to the style.

(2marks)

……

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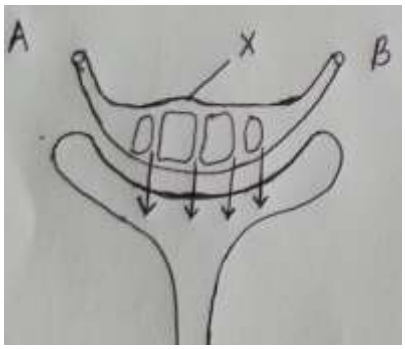
……

……

19.The following is part of a kidney nephron,



a) (i) Name the process represented by the arrows (1mk)

……
…

(ii) Name the conditions necessary for the process named in (a)(i) above to take place (2mks)

……
……
……
……
……
……

b) Name one blood component that a) (i) Name the process represented by the arrows (1mk)

……

(ii) Name the conditions necessary for the process named in (a)(i) above to take place (2mks)

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……

20. a) what is seed dormancy (1mk).

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b) state two ways in which seed dormancy can be broken (2mks)

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

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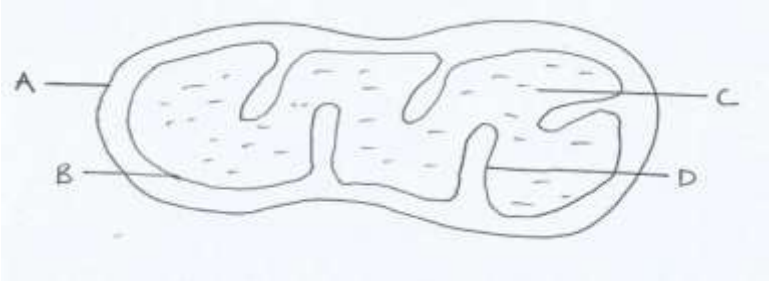
……

……

22.Below is a diagram of an organelle that is involved in aerobic respiration.



a) Name the organelle

(1mark)

……

……..

b) Name the parts labeled;

A……

…… (1mark)

B……..(1mark)

C……...(1mark)

c) What is the purpose of the in-foding labeled D?

(1mark)

d) Give the mechanical compound which is formed in the organelle and forms the immediate source of energy

(1mark)

22.State the function of the following parts of a light microscope

a) Clip

(1mark)

……

……

……

b) Eye piece lens

(1mark)

……

……

……

c) When focusing under high power objective lens the coarse adjustment knob should never be used for focusing. Explain

(2marks)

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……

23a) Name two defects of the circulatory system in humans.

(2marks)

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……

b) Explain two protective functions of mammalian blood.

(3marks)……

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INTERCOUNTY PRE MOCK 2

Name…….. Index No……/…….

School…… Date ……

Candidate's Signature……

231/2

BIOLOGY

(THEORY)

Paper 2

Time: 2 Hours

INTERCOUNTY PRE MOCK 2

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

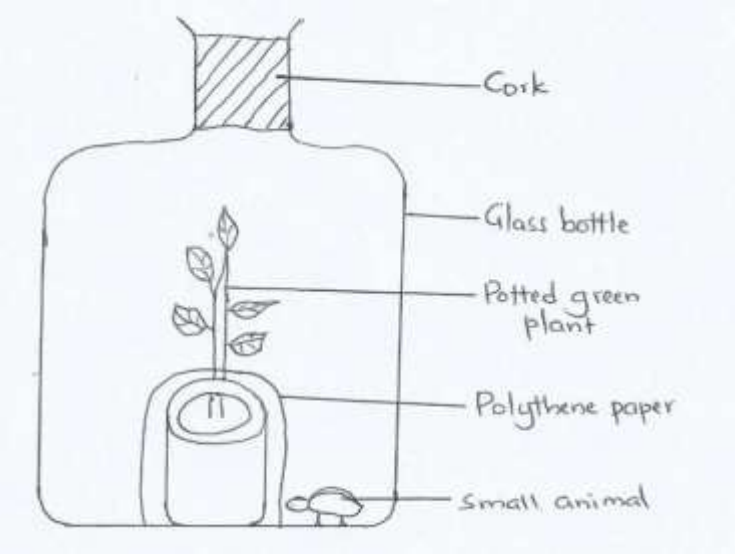
INSTRUCTIONS TO CANDIDATES

- 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**.

SECTION A (40 marks)

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

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



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

a) Explain why it was necessary to apply Vaseline.

(1 mark)

……

……

……

b) Explain why it was necessary to cover the pot with polythene paper.

(1 mark)

……

……

……

c) What was the purpose of including the small animal?

(2marks)

……

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……

d)i)What would happen to the small animal if the set up was left overnight in darkness?

(1mark)

……

……

……

ii) Account for the answer above

(1 mark)

……

……

……

e)Explain why organisms in phylum Arthropoda die when Vaseline is applied on its thorax.

(2marks)

……

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……

2. (a) In a field study to estimate the population of grasshoppers in the school field of 0.4 km^2, 60 grasshoppers were caught using sweep nets, marked with red paint and released back to the field. The following day students went back with their sweep nets and caught 100 grasshoppers, of which 20 were found to be already marked.

(i) Calculate the population size of grasshoppers in the field.
(2 marks)

(ii) Calculate the population density of the grasshoppers in the field.
(2 marks)

(iii) What two factors would maintain the population of grasshoppers at the carrying capacity?
(2 marks)

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(b) Giving an example, state what is meant by the term symbiosis.
(2 marks)

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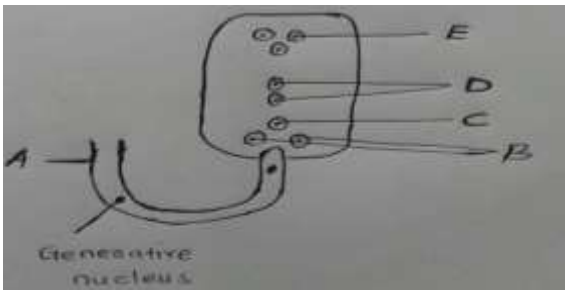
3 .The figure below shows the embryo sac before fertilization.



a) Identify the structures labeled A and B (2mks)
A……
……
B……
……

b) identify the structures labeled in the diagram that will develop into the following after fertilization (2mks)

(i) Embryo

……
…

Endosperm

……
……

c) State the ploidy of each of the following nuclei after fertilisation (2mks)
(i)
C……
……

(ii)D……
……

d) Briefly outline the process of double fertilisation in flowering plant (2mks)
……
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……..

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)

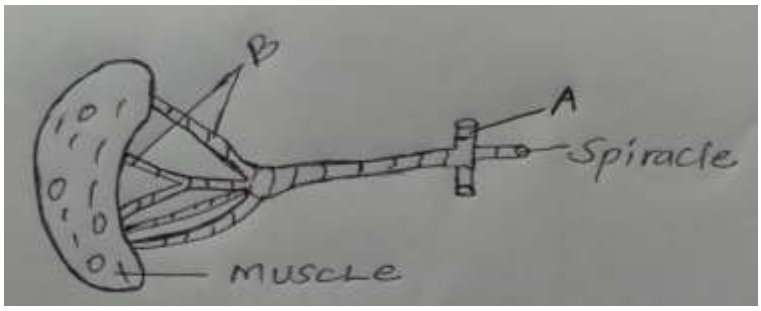
……

ii) Phenotypic ratio. (1mrk)

……

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

5. The diagram below shows part of gaseous exchange system in an insect. Study it and answer the questions that follows.



a) What is the structural adaptations of the parts labeled A and B to their functions (2mks)

A……
……
……
……

……
…

B……
……

b) Name the parts of the following animals that carry out the same functions as part B above (2mks)

(ii) Tilapia fish

c) Name the structures used for gaseous exchange in plant growing in waterlogged soils (1mk)

……
……

d) (i) Give two reasons why accumulation of lactic acid during vigorous exercise leads to an increase of heart beat

(2mks)

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……

(ii) In what form is oxygen transported from lungs to the tissues (1mk)

……
……

SECTION B (40 MARKS)

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

6. The table below shows how the quantities of urine and sweat vary with external temperature

External temperature(^oC)	**Urine (cm^3/hr)**	**Sweat (cm^3/hr)**

0	100	5
5	90	6
10	80	10
15	70	20
20	60	30
25	50	60
30	40	120
35	30	200

(a) On the grid provided, plot the quantities of urine and sweat produced against external temperature
(7 marks)

(b) At what temperature is the amount of sweat and urine produced equal?
(1 mark)

.....
.....

(c) What happens to the amount of sweat produced as the temperature rises? Explain your observation
(3 marks)

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(d) Explain the observation made on the amount of urine produced.
(3 marks)

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.....

(e) How are the following parts of the mammalian skin adapted for temperature regulation during cold weather?
(6 marks)

Hair:.....
.....

.....
.....

.....
.....

Sweat glands
.....

.....
.....

.....
.....

Blood
vessels.....
.....

.....
.....

.....
.....

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

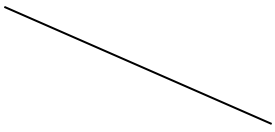
(10marks)

b)Describe blood sugar regulation in mammals.

(10marks)

8.a) Describe how urea is formed in the liver cells from excess amino acid
(5mks)

b) Describe the roles of hormones in the growth and development in plants
(15mks)



INTERCOUNTY PRE MOCK 2

INTERCOUNTY MOCK 2

BIOLOGY PAPER 3 PRACTICAL REQUIREMENTS

1.Besides other laboratory fittings and equipment, each candidate will require the following:

- A germinated maize seedling (with the first foliage leaves) labelled **A**

- A germinated bean seedling (with the first foliage leaves) labelled **B**

2. **Each candidate should have:**

One ripe banana

Scalpel/blade

3. Iodine solution
Dilute sodium hydroxide solution
1 % copper (II) sulphate
Boiling tube
3 test tubes
Distilled water
N- Small intestine of a cow5cm for each student. (Inner contents should intact)

INTERCOUNTY PRE MOCK 2

NAME: …… ADM NO:

.....CLASS……

DATE…….....

SIGN……..

231/3

BIOLOGY

PAPER 3

PRACTICAL

TIME: 1 ¾ HOURS

INTERCOUNTY PRE MOCK 2

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

Instructions to candidate

- **Answer ALL questions**
- **You are required to spend the first 15 min of $1\frac{3}{4}$ hours allowed for this paper reading the whole paper before carefully before commencing your work.**
- **Answer must be written in the spaces provided in the question paper**
- **Don't insert additional page /paper**

QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
1	13	
2	13	
3	14	
TOTAL	40	

1. You are provided with specimens labelled **A** and **B**. Examine the specimens and answer the questions that follow.

(a) With a reason state the type of germination in each of the specimens.
(4 marks)

Specimen **A**. Type of germination:
.....

Reason:
.....
.....

.....
.....

Specimen **B**. Type of germination:
.....

Reason:
.....
.....

.....
.....

(b) Draw a well labelled diagram of specimen **B**.
(5 marks)

(c) Using observable features only state the class to which each of the specimens belongs.
(4 marks)

Specimen **A**. Class:
.....

Reason:
.....
.....

.....
.....

Specimen **B**. Class:
.....

Reason:
.....
.....

.....
.....

Q2.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

3. You are provided with a specimen labeled N. Squeeze the contents of N into the test tube. Add $3cm^3$ of water and shake the contents. Reserve the piece of intestine for question (b)

a)Use the reagents provided to test for the presence of various food substances in N extract. Record your observations in the table below (6mks)

Food substance tested	Procedure	Observation	Conclusion

b)Account for the results obtained in (a) above.

(2marks)

……
……
……
……
……

c)Cut specimen N along its length to expose the inner surface
(2marks)

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……

……i) Compare the inner and outer surface of the specimen. Record your observations.
(2marks)

……
……
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.....

ii)Account for your observation of the inner surface.
(2marks)

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INTERCOUNTY PRE MOCK 2

NAME……..… INDEX NUMBER……..…

SCHOOL …….. CANDIDATE SIGN ……..

DATE ……..

233/1

CHEMISTRY

PAPER 1

TIME: 2 HOURS

INTERCOUNTY PRE MOCK 1

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

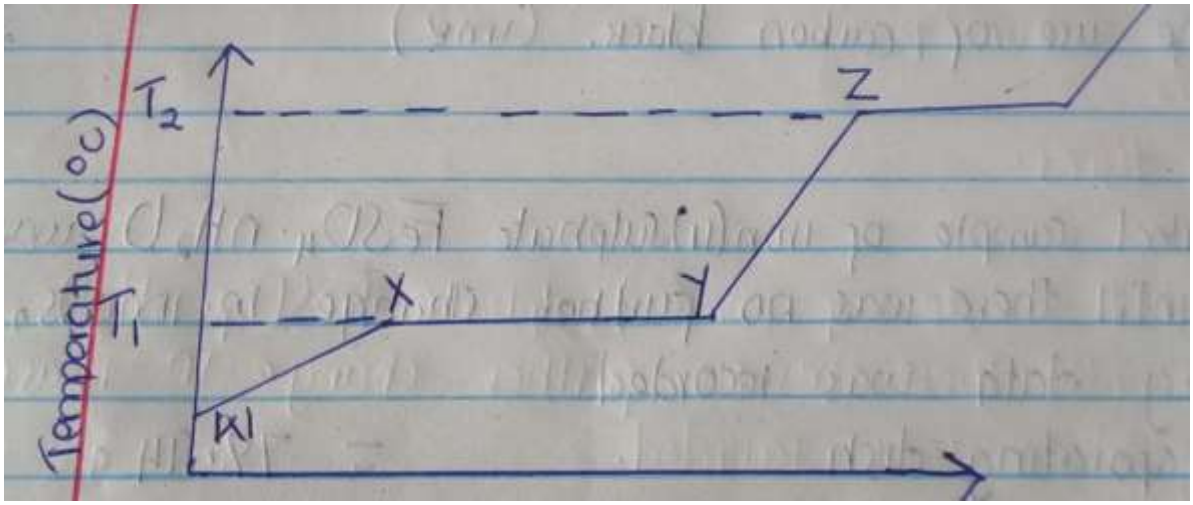
Acid	Volume of gas (cm^3)
R	80

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)

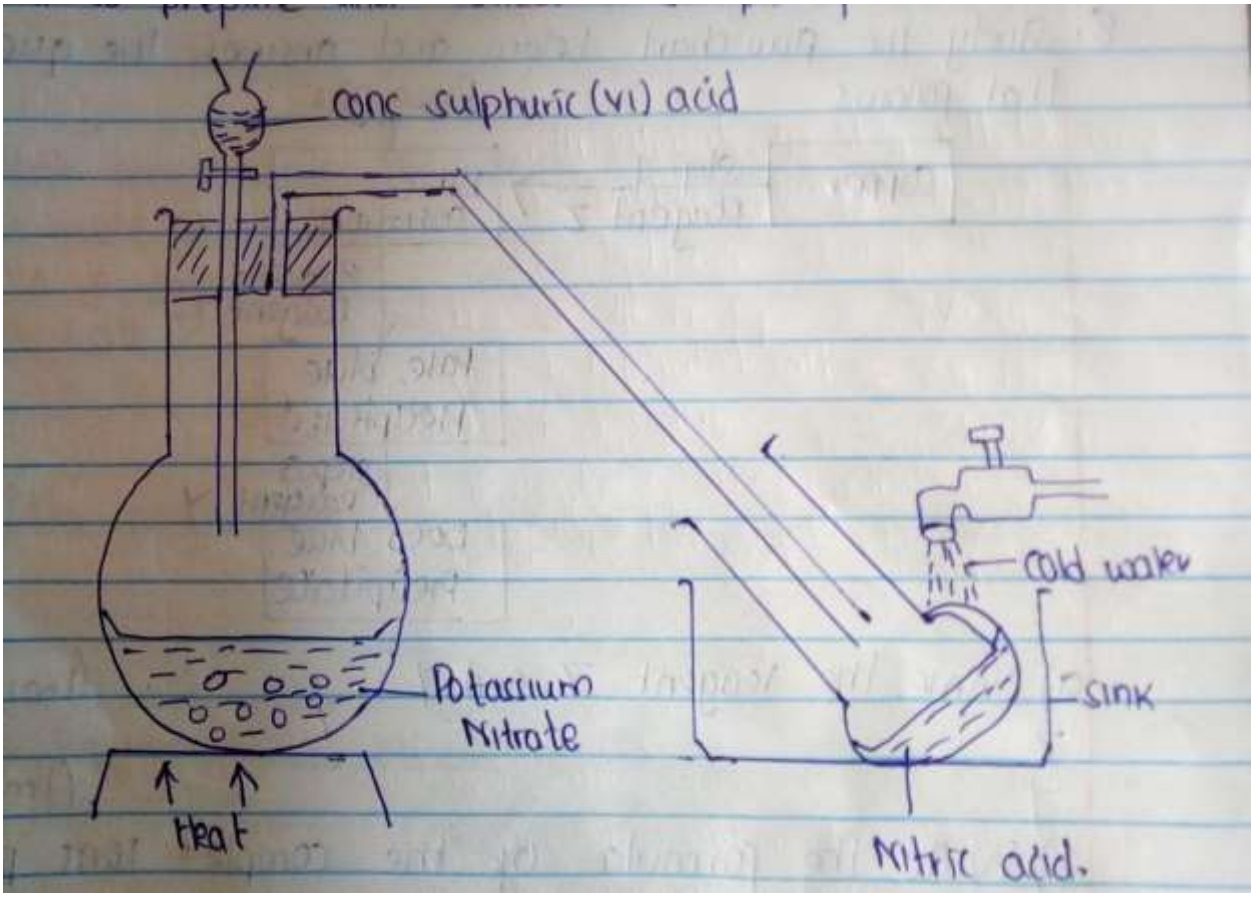
5. In an experiment to determine the solubility of potassium nitrate at 30^0c, a saturated solution was heated in an evaporating dish until there was no further change in mass. The following

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.

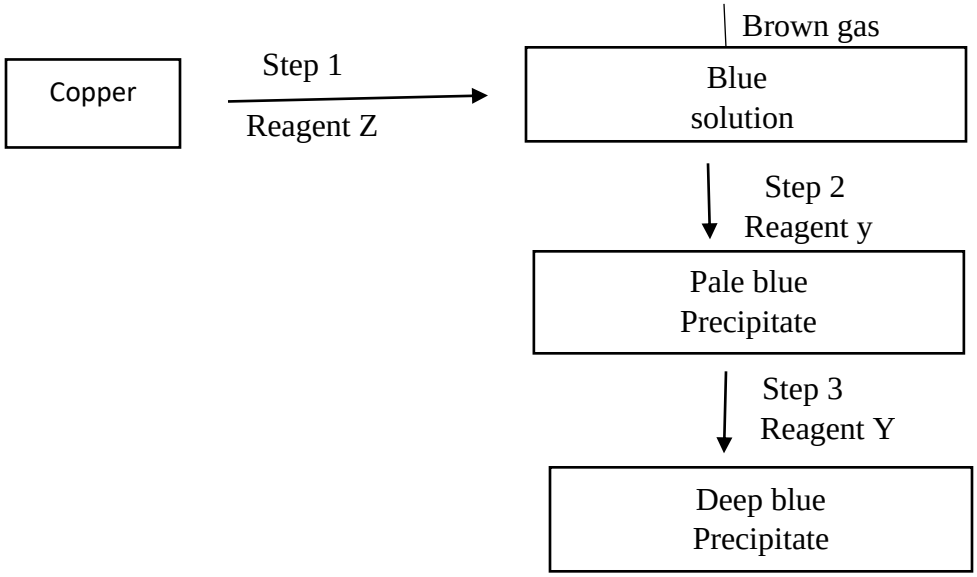


a) Give a reason why it is possible to separate nitric acid from Sulphuric acid in the set up. (1mk)

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.

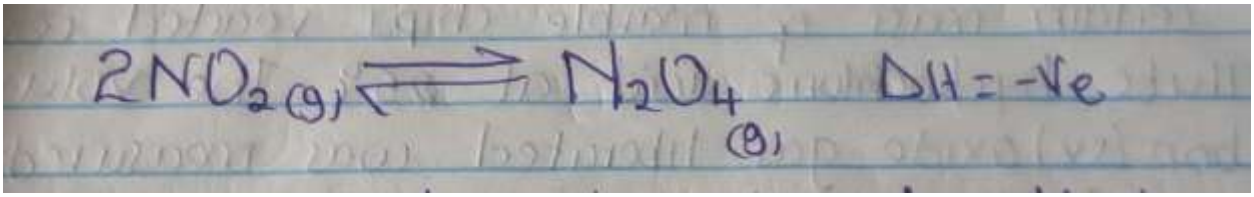
$C(s) + O_2(g) \longrightarrow CO_2(g)$ $\quad \Delta H_c = -393\ KJmol^{-1}$

$H_2(g) + \frac{1}{2} O_2(g) \longrightarrow H_2O(l)$ $\quad \Delta H_c = -285\ KJmol^{-1}$

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

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

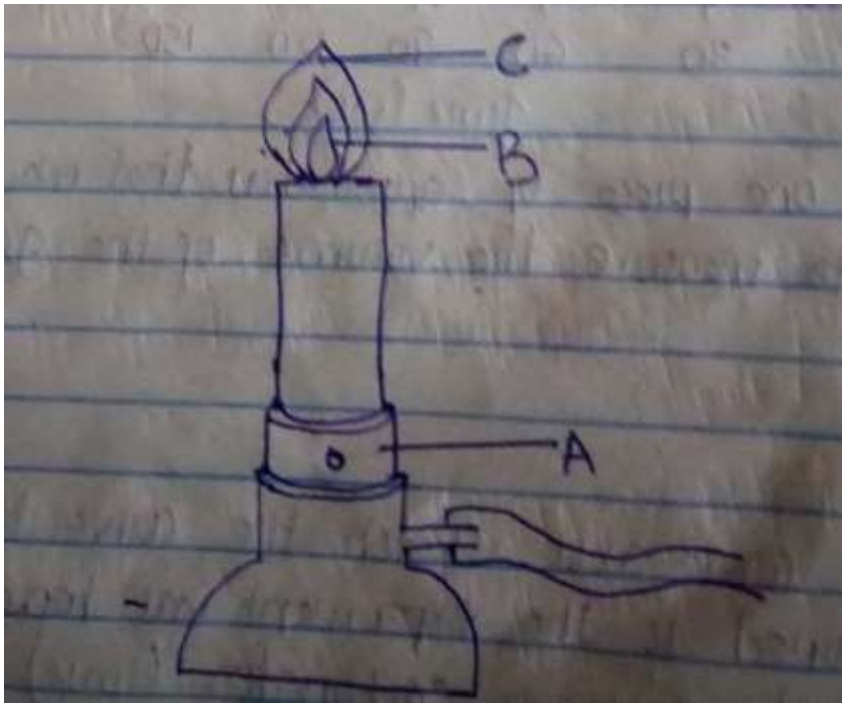


State and explain the observation that would be made when

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



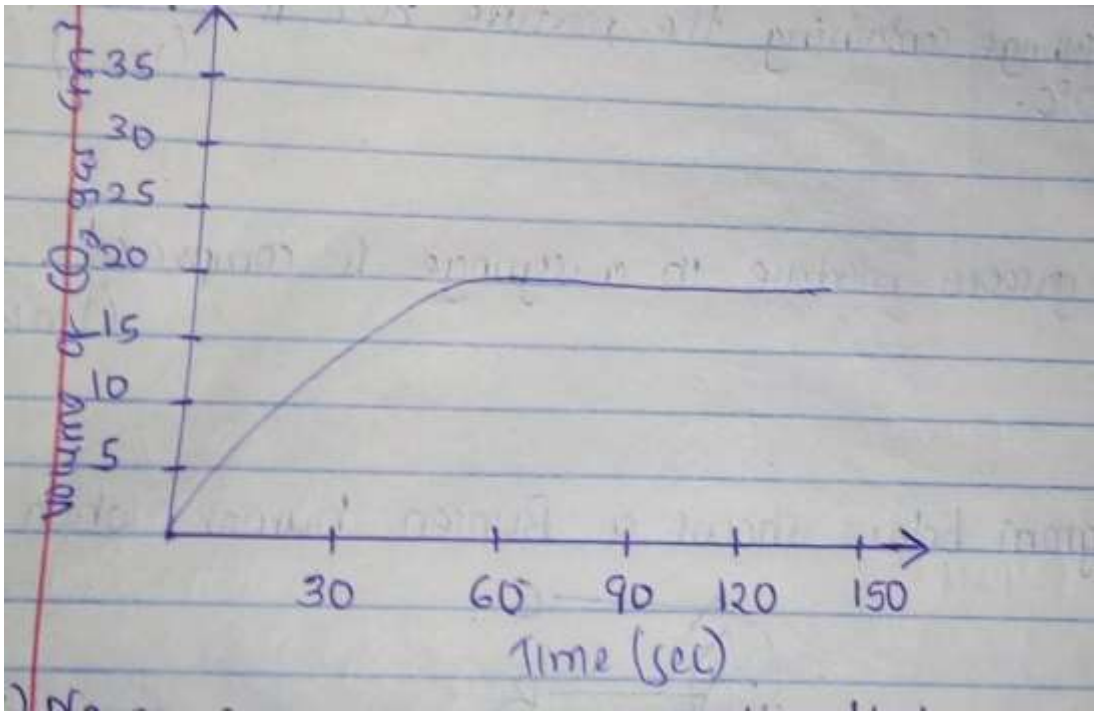
a) Name the regions labelled B and C (1mk)

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)

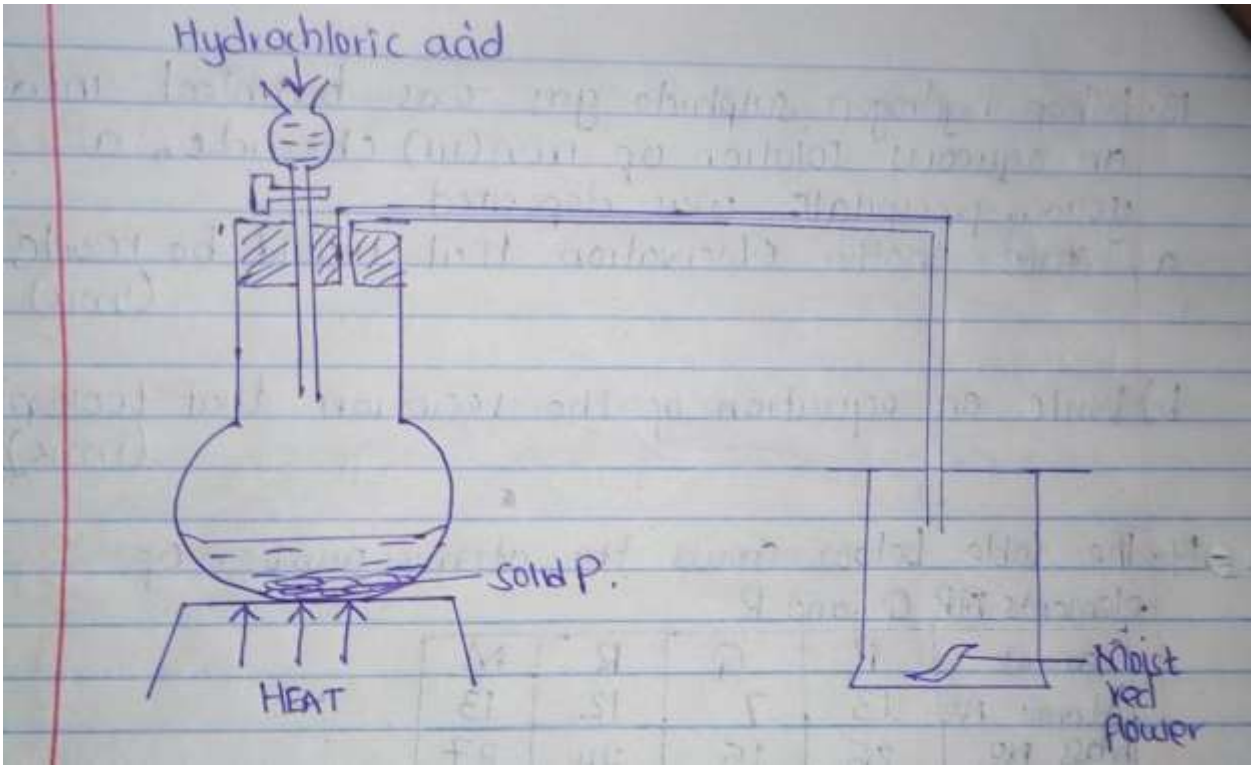
14. The table below shows the atomic number of elements M, P, Q and R.

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)

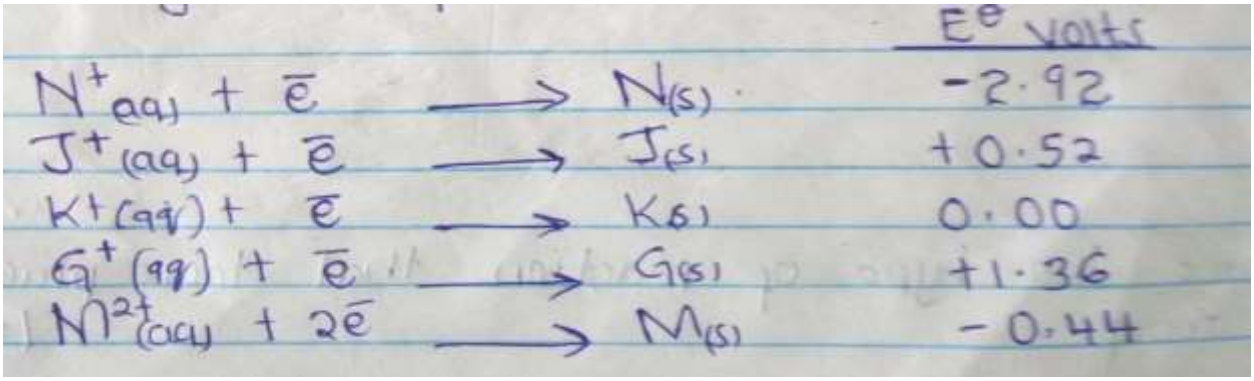
17. Element T consists of two isotopes ^{62}T and ^{64}T in the ratio 7:3 respectively. Calculate the Relative atomic mass of element T (3mks)

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)

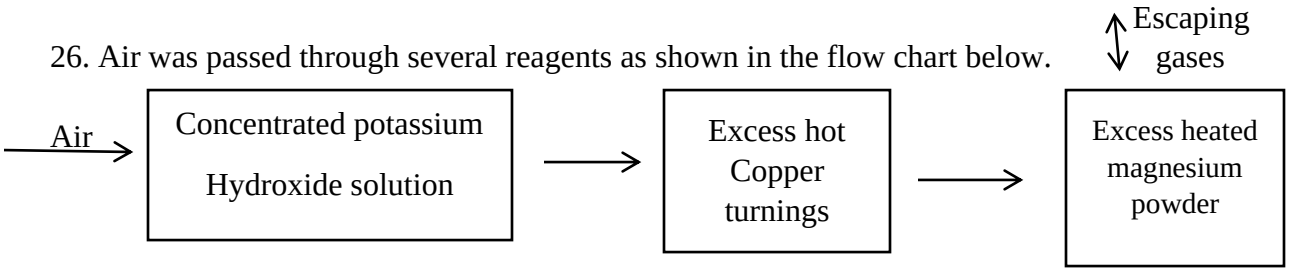
b) Give the compound that is liquid at room temperature. (1mk)

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)

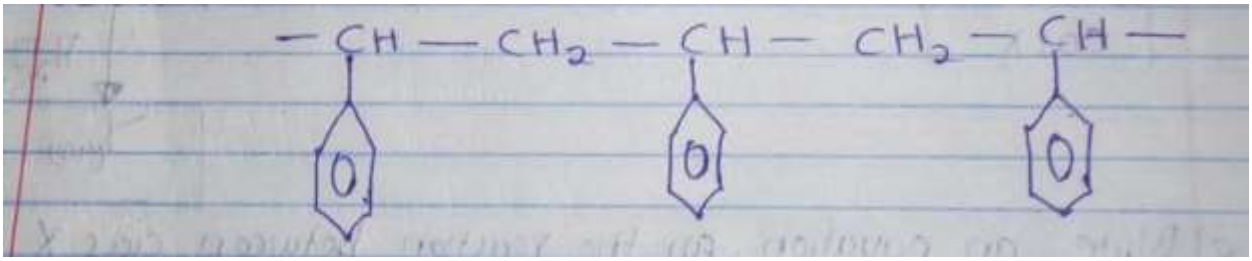
27. When a current of 6.42 Amperes was passed through an electrolyte Y^{2+} for 10 minutes, 2.74g of Y were deposited. (1mk)

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)

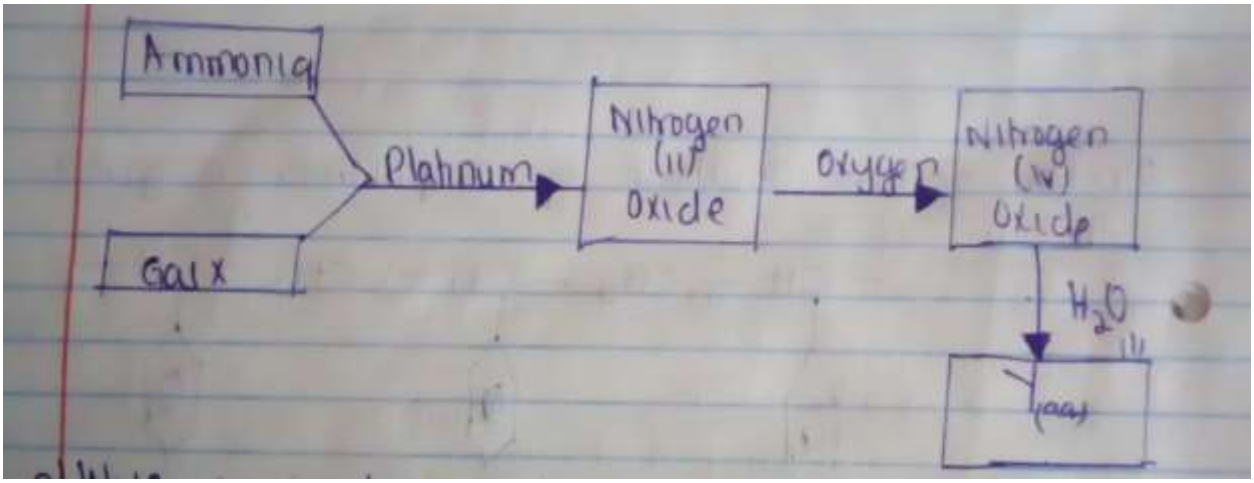
ii) State one disadvantage of continued use of this polymer (1mk)

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)

INTERCOUNTY PRE MOCK 2

NAME……...… INDEX NUMBER……..…

CANDIDATE SIGN ……...… DATE ……

233/2

CHEMISTRY PAPER 2

TIME: 2 HOURS

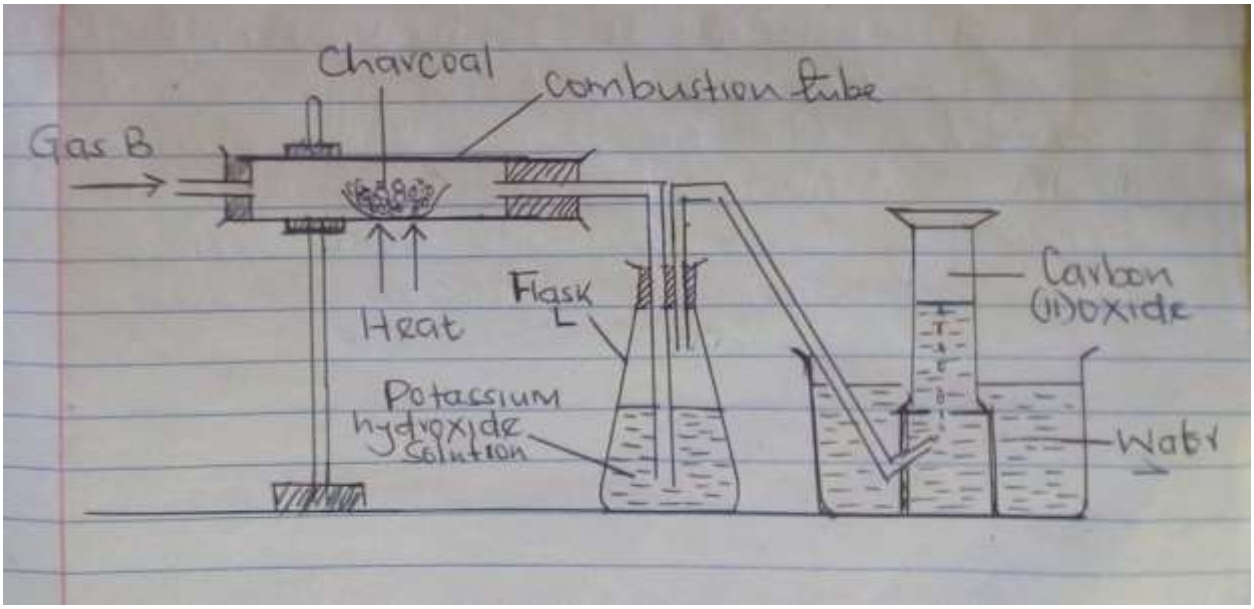
INSTRUCTIONS TO CANDIDATES

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)

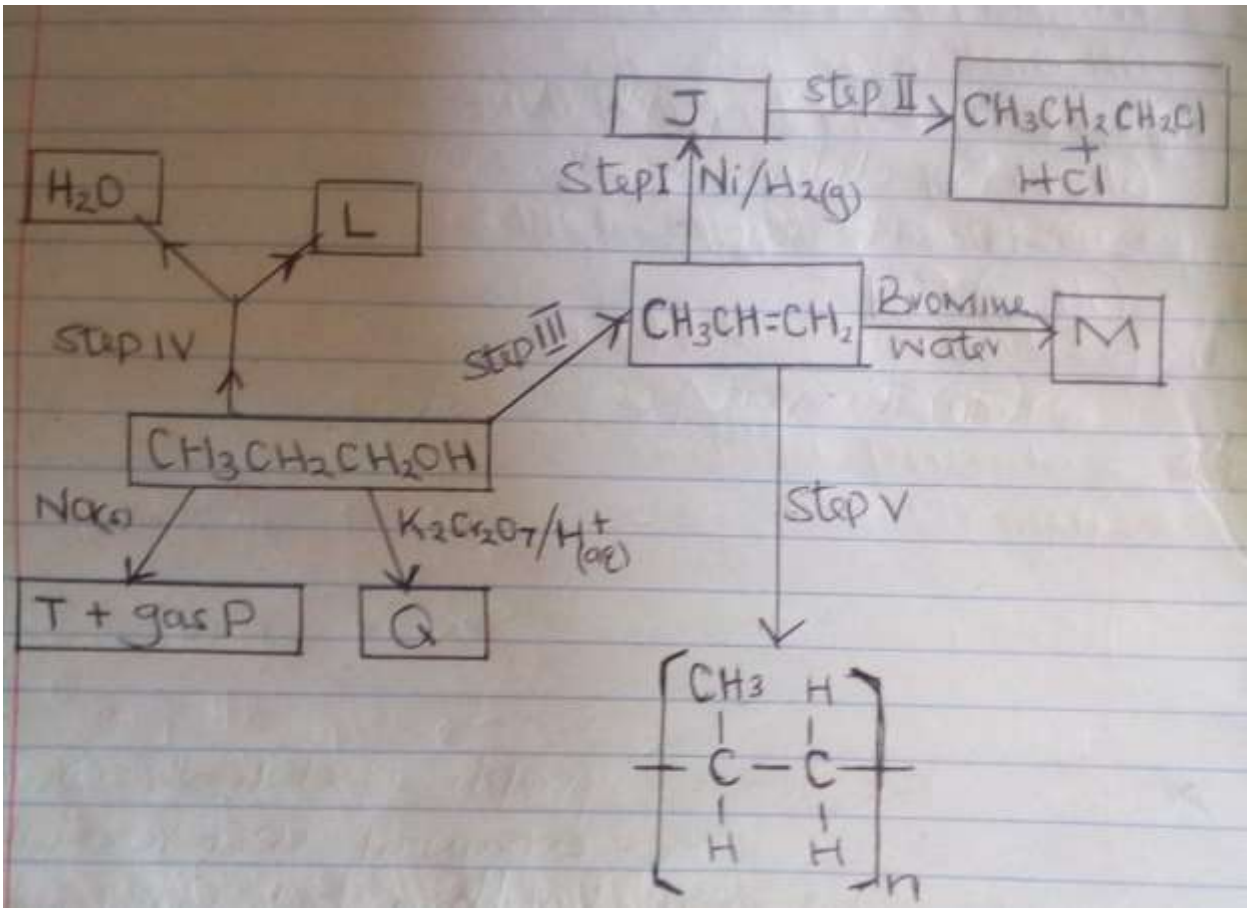
d) Using dots (.) and crosses (x) to represent the outermost electrons, show the bonding in the compound formed between elements C and D. (2mks)

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)

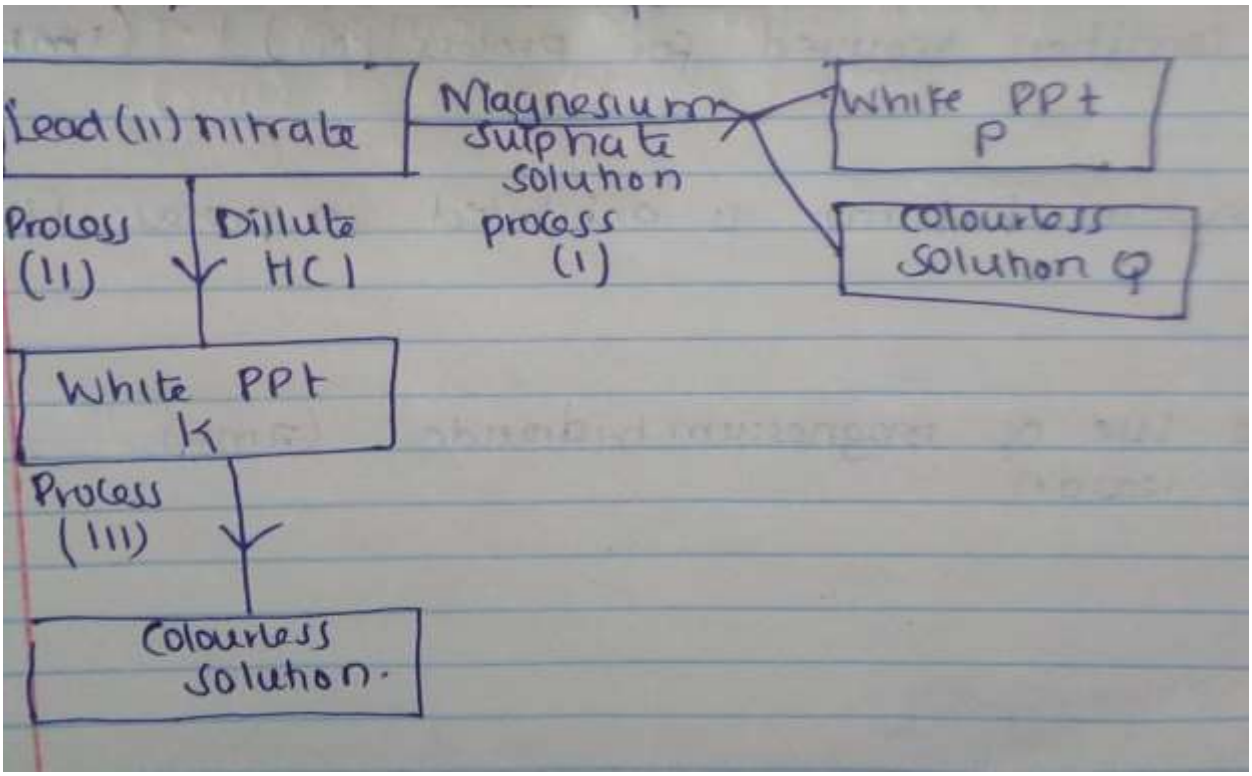
f) If the relative Molecular Mass of R is 21,000, determine the value of n. (C = 12.0, H = 1.0) (2mks)

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)

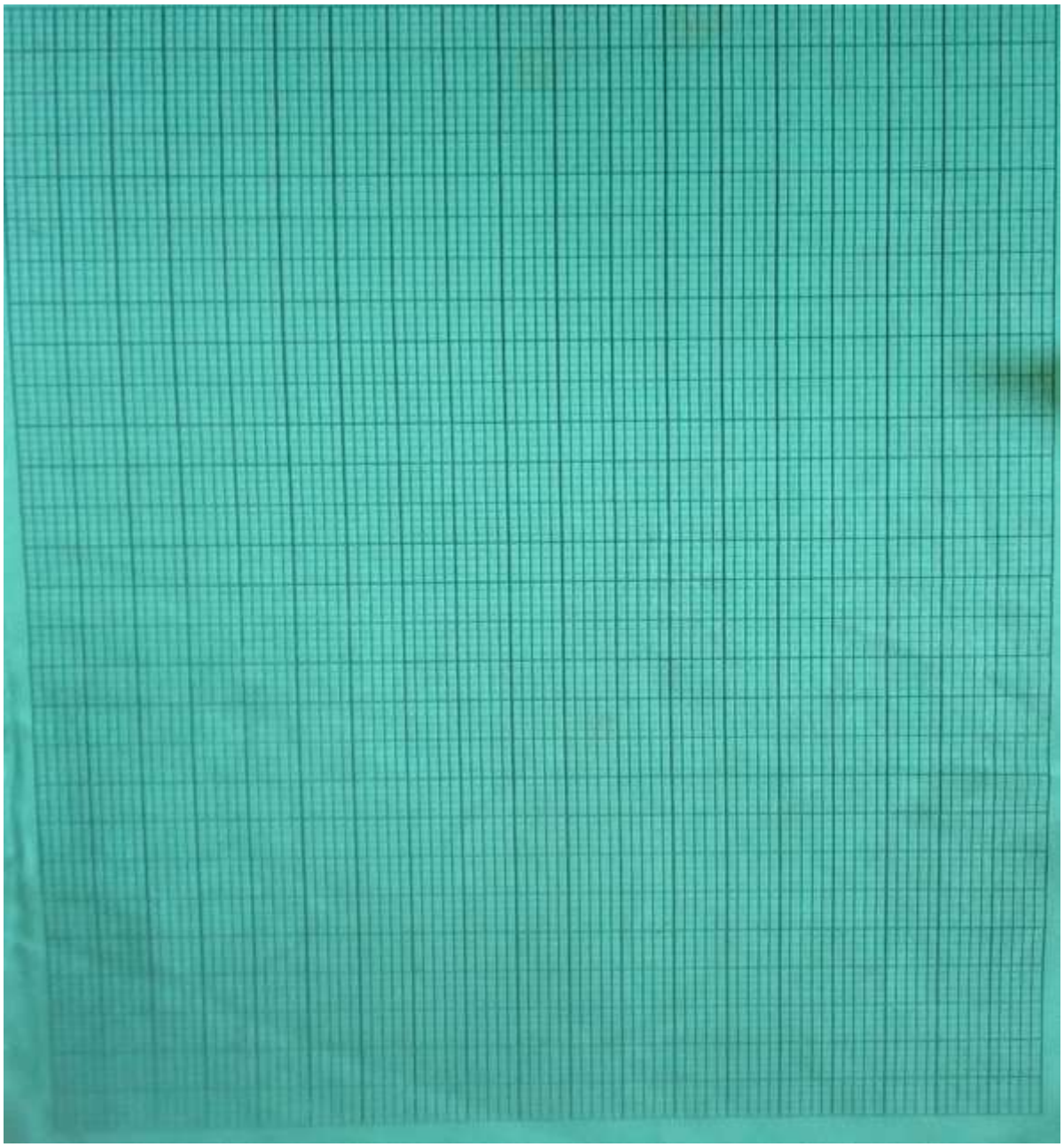
vii) State one use of magnesium hydroxide (2mks)
Give one reason

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)

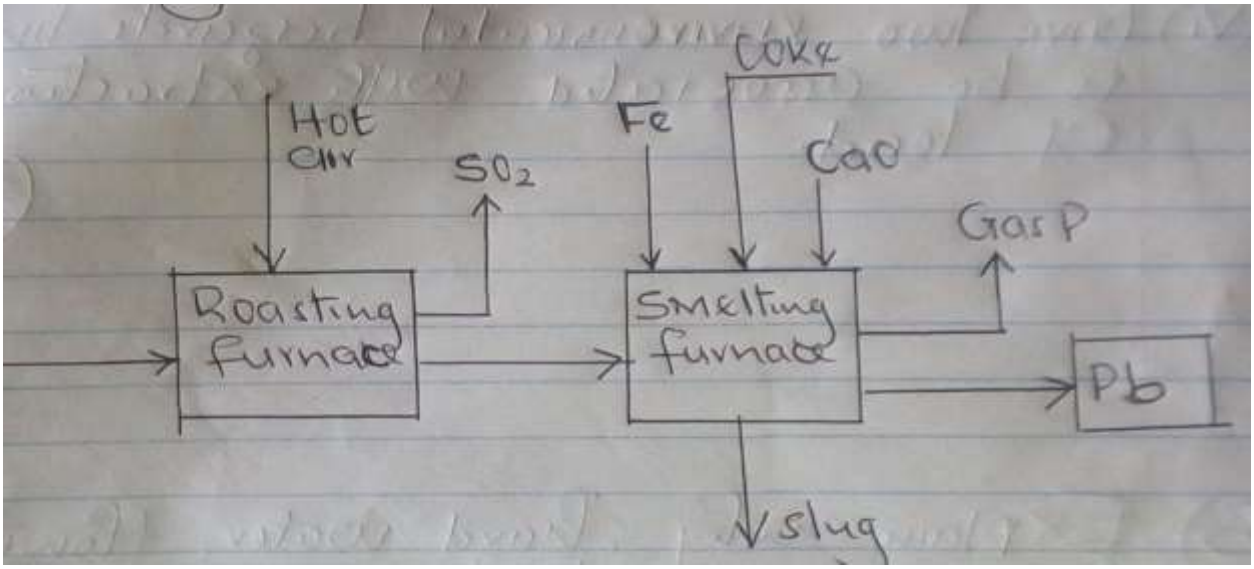
ii) Calculate the:

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)

INTERCOUNTY PRE MOCK 2

233/3

CHEMISTY PAPER 3

CONFIDENTIAL

FORM 4

2021

INTERCOUNTY PRE MOCK 2

KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE)

CONFIDENTIAL

Each candidate requires

1. Solution A, 60cm^3 of 2mHCl.
2. Solution B, 100cm^3 of 0.05MNaOH
3. Solid C, 10cm magnesium ribbon.
4. 10ml measuring cylinder
5. 25ml pipette
6. 50ml Burette
7. Complete stand
8. Stopwatch
9. 2 labels
10. Distilled water
11. 6 test tubes.
12. 0.5g sodium hydrogen carbonate.
13. 5cm3 ethanol.
14. 1 – 14 PH chart.
15. Solid R, 1g Oxalic acid.
16. Solid Q, Mixture of $(NH_4)_2SO_4$ and $Al_2(SO_4)_3$ (ration 1:1)
17. Pipette filler
18. Phenolphthalein indicator
19. 250ml conical flask (2)
20. 250ml volumetric flask
21. 1 boiling tube
22. 1 spatula

ACCESS TO:

23. Universal indicator solution
24. Acidified potassium manganite (VII) solution
25. Bromine water
26. Conc. Sulphuric (VII) acid with a dropper.
27. Means of heating.
28. 2M Lead (II) nitrate solution.
29. 2M dilute nitric (V) acid solution
30. 0.5m Barium nitrate solution
31. 2M sodium hydroxide solution.
32. 2M Aqueous ammonia.

33. 2M Hydrochloric acid.

INTERCOUNTY PRE MOCK 2

NAME: …….. INDEX.NO: ……..……

SCHOOL: ……CANDIDATES SIGN: ……..…..…

DATE: ……

233/3

CHEMISTY PAPER 3
PRACTICAL
FORM 4

INTERCOUNTY PRE MOCK 2
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

INTERCOUNTY PRE MOCK 2

NAME:……. INDEX NO:…….. ……

SCHOOL…… SIGNATURE:…….....

231/1
PHYSICS
PAPER 1 (THEORY)
TIME: 2 HOURS

INTERCOUNTY PRE MOCK 2

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

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 consists of sections: A and B.
(d) Answer all the questions in sections A and B in the spaces provided.
(e) All working must be clearly shown.
(f) Mathematical tables and electronic calculators may be used.

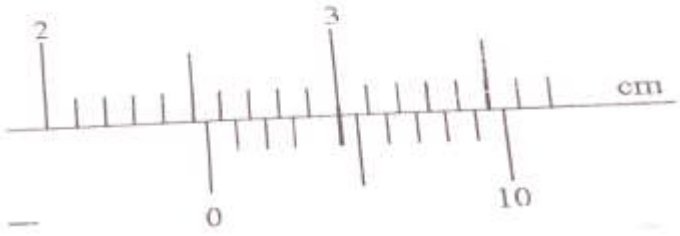
Take g = 10N/kg

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-11	25	
B	12	11	
	13	10	
	14	12	
	15	7	
	16	6	
	17	9	
TOTAL SCORE		80	

SECTION A – 25 MARKS (ANSWER ALL THE QUESTIONS)

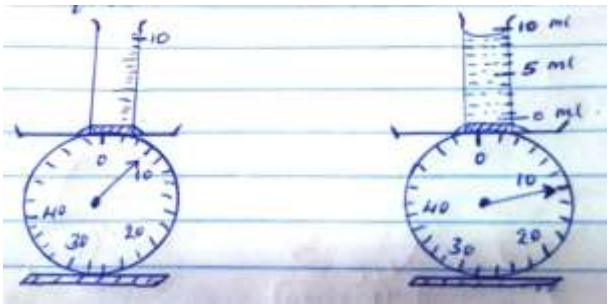
1. The vernier callipers in the figure below has a zero error of -0.05cm.



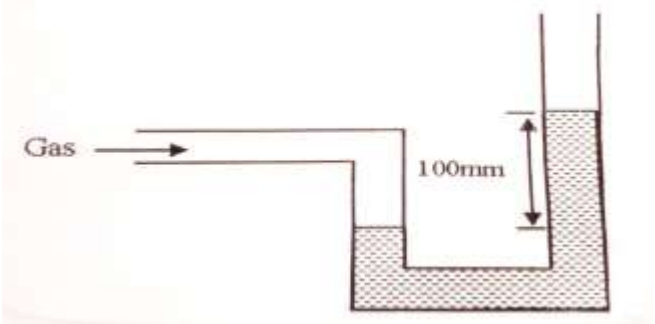
State the actual reading of the measuring instrument (2 marks)

2. Fig.1(a) and (b) shows a set – up to determine the density of a liquid. The balance is calibrated in grams.

Determine the density of the liquid. (3mks)



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



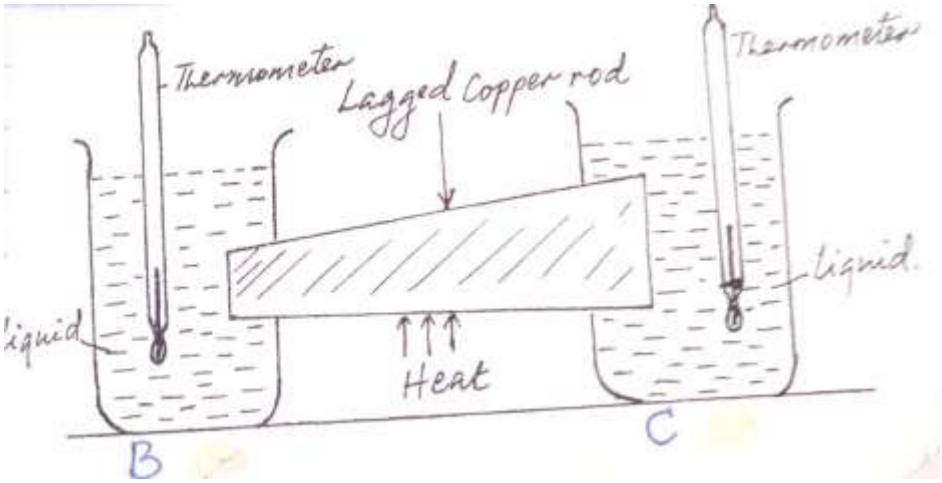
If a mercury barometer reads 760mm, calculate the pressure of gas (give your answer in N/m^2).

(Density water = 1 g/cm^3, 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)

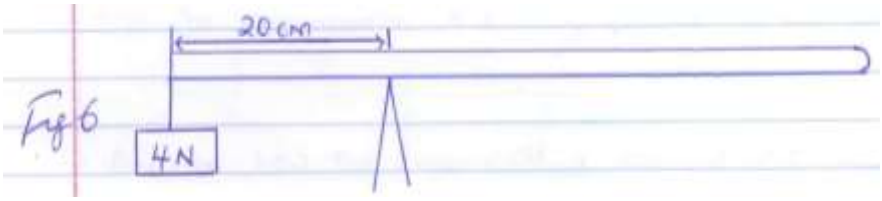
6.The figure below shows samples of same liquid B and C being heated through a well-lagged copper rod of non-uniform thickness. A thermometer is placed on each sample for some time.



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)

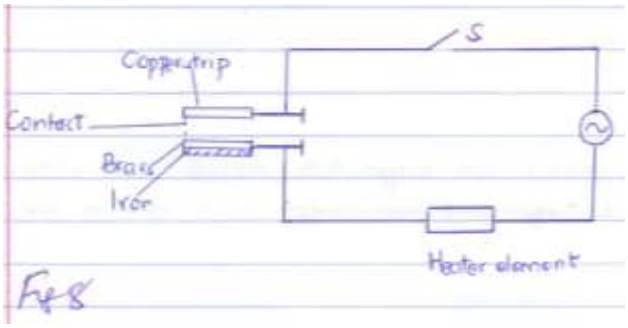
8. The figure 6 below shows a uniform 50cm rod. It is balanced horizontally by a load of 4N on one end. Calculate the weight of the rod 2mks)



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)

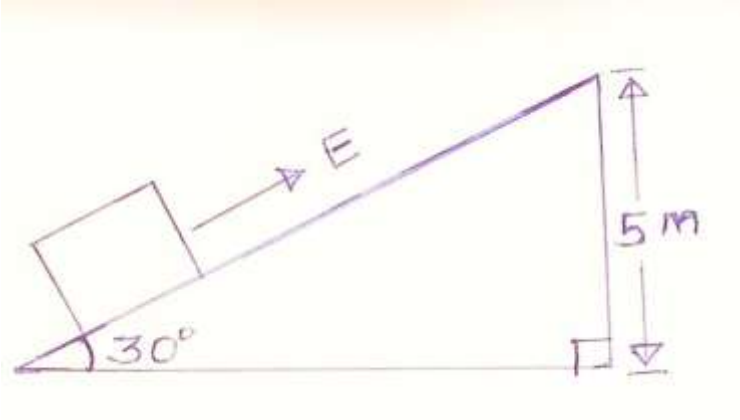
ii) Describe how the circuit controls the temperature when the switch S is closed 2mks)

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 30^0 to the horizontal (take g to be $10m/s^2$)

(i) Determine the velocity ratio of the inclined plane. (2 marks)

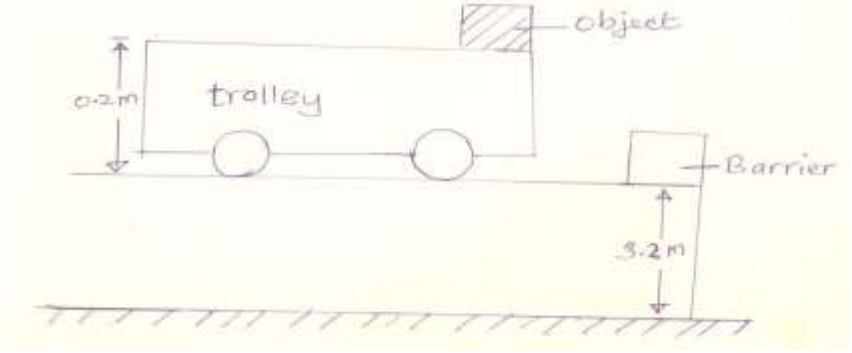


(ii) If the efficiency of the plane is 75% determine:

(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)

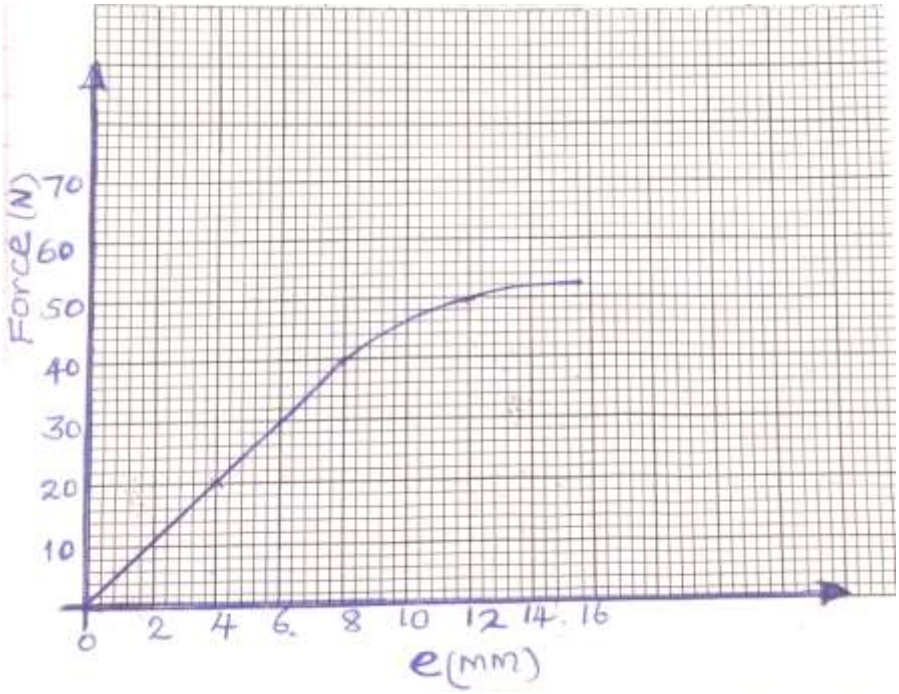
(ii) Determine the time taken by the object to land on the ground (2 marks)

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

(b) (i) A vertical spring of unstretched 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 (b)(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.

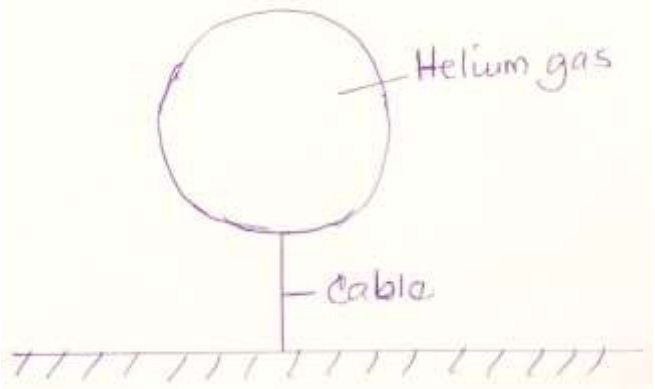


Determine the spring constant of the spring (3 marks)

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.

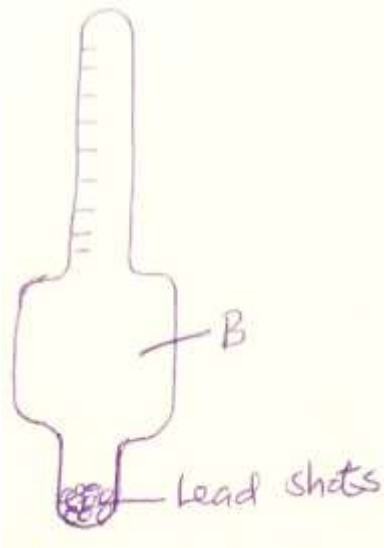


(i) State 3 forces acting on the set up. (3 marks)

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

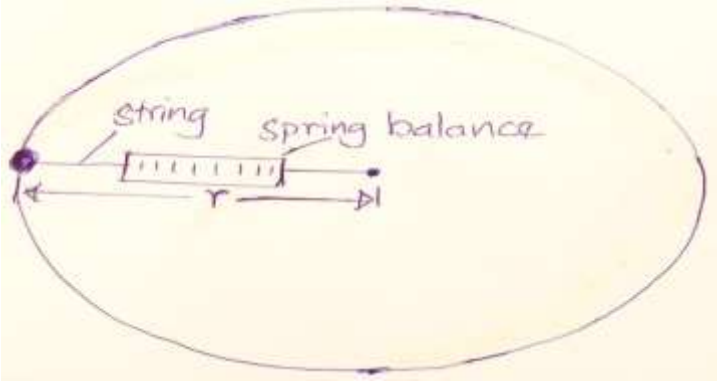
(iii) Calculate the acceleration of the balloon if the cable is cut. (2 marks)

(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 accelerating 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)

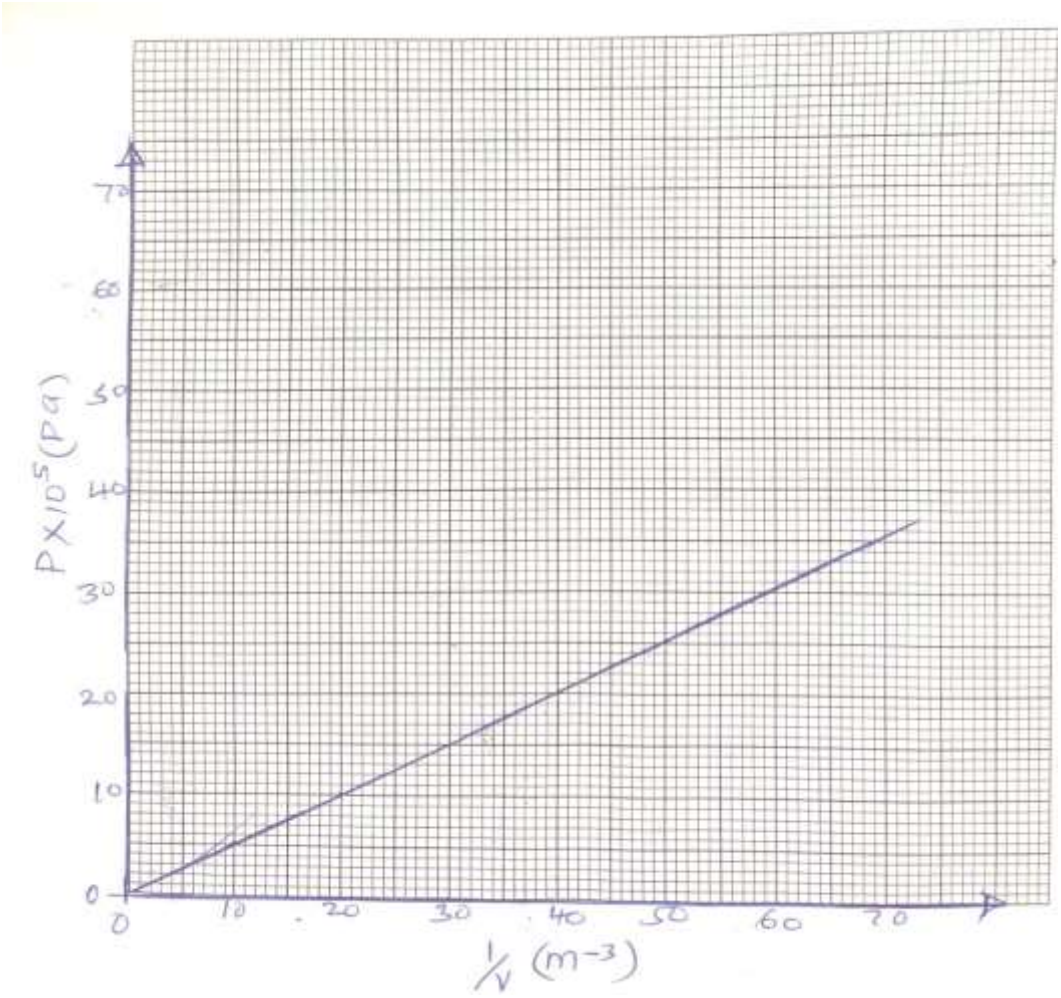
(ii) Give a reason for your answer in b (i) above (1mark)

(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)

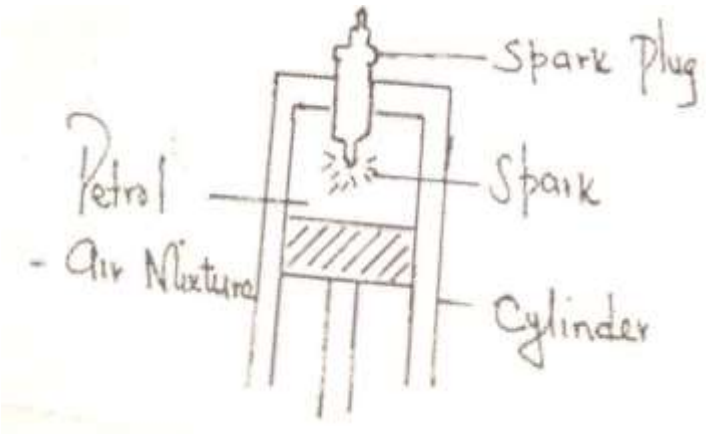
(b) The pressure P of a fixed mass of gas at constant temperature of T = 200k is varied continuously and the values of corresponding volume recorded. A graph of P against $\frac{1}{v}$ is shown on the graph below.



Use the graph to:

(i) Determine the volume of the gas when pressure reads 2.8 x 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)

INTERCOUNTY PRE MOCK 2

NAME:……. INDEX NO:…….. ……

SCHOOL…… SIGNATURE:…….....

231/2
PHYSICS
PAPER 2 (THEORY)
TIME: 2 HOURS

INTERCOUNTY PRE MOCK 2

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

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 consists of sections: A and B.
(d) Answer all the questions in sections A and B in the spaces provided.
(e) All working must be clearly shown.
(f) Mathematical tables and electronic calculators may be used.

Take g = 10N/kg

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-11	25	
B	12	9	
	13	11	
	14	13	
	15	9	
	16	5	
	17	10	
TOTAL SCORE		80	

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.

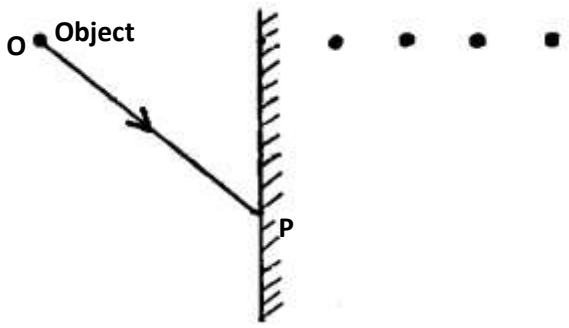


Fig. 1

(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.

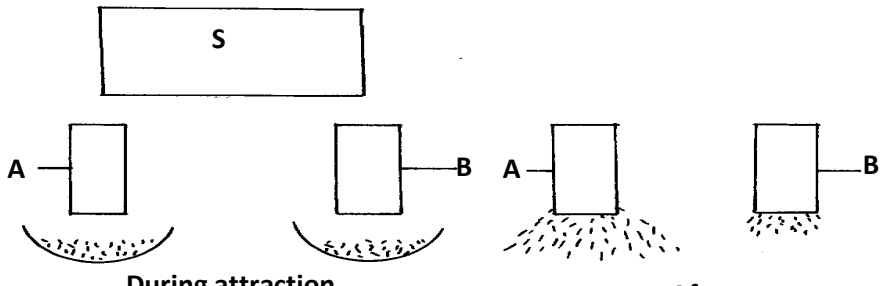
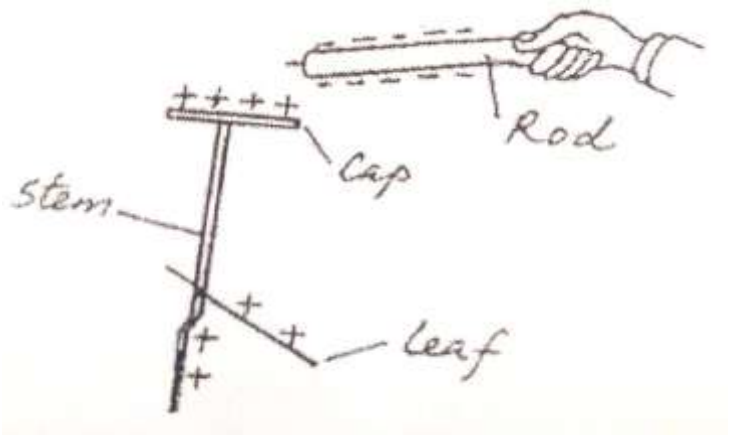


Fig. 2

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.

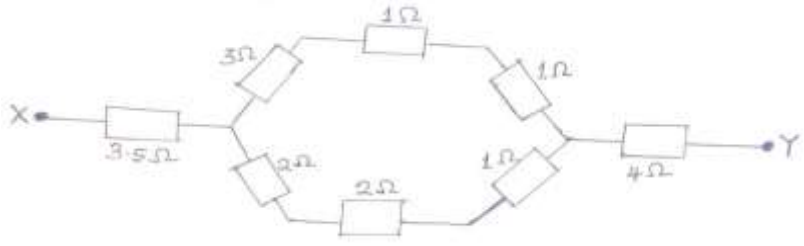


Explain this observation (2 marks)

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.



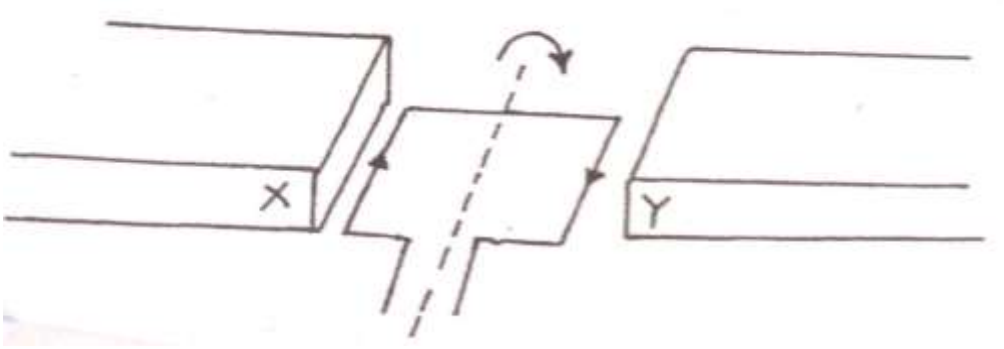
Calculate the effective resistance of the network. (3 marks)

7.State:

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

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

8. 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)

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

(2 marks)

10. (b) An element **R** decays by giving off an alpha particle. Complete the equation below showing the values of **a** and **b** (2mk)

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

a = _____ b = _____

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

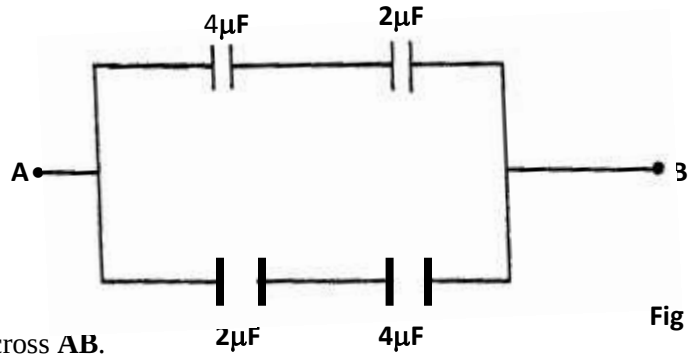


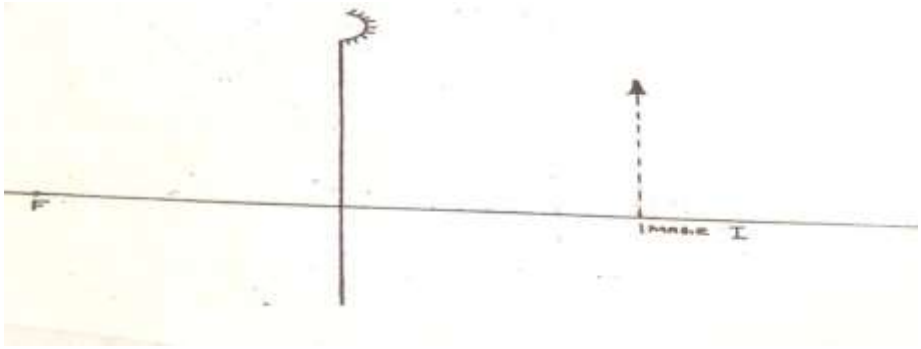
Fig 13

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

Section B (55 marks)

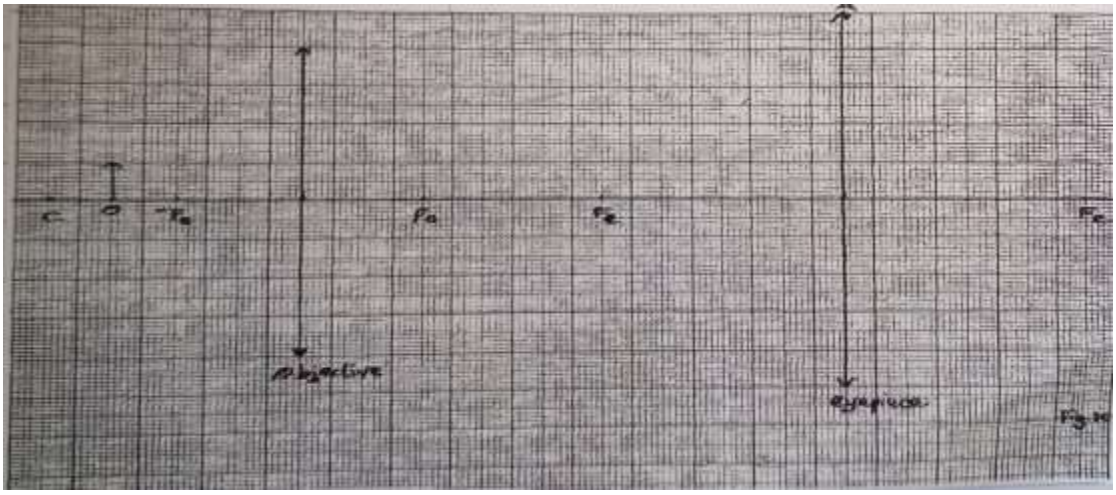
Answer all questions in the spaces provided

12a) The figure below shows and image I formed by a concave mirror



Determine its magnification M. (3 marks)

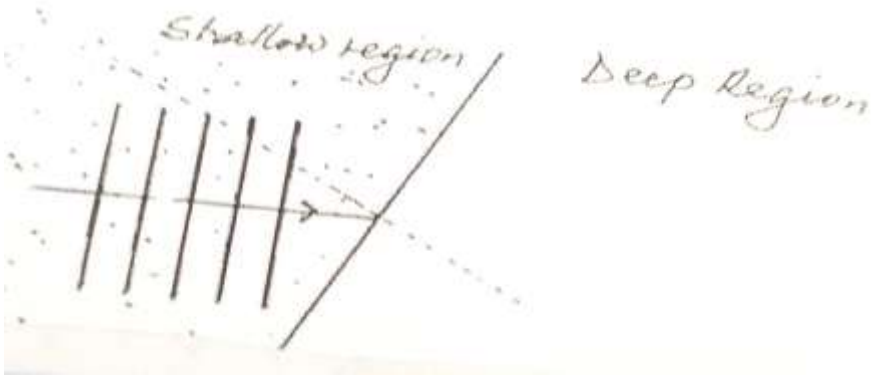
b) The figure below shows lenses of a compound microscope. The focal length of the objective lens is 2 cm and that of eyepiece lens is 4cm. The two lenses are 9cm apart. An object 1 cm high is placed 3cm from the objective lens.



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

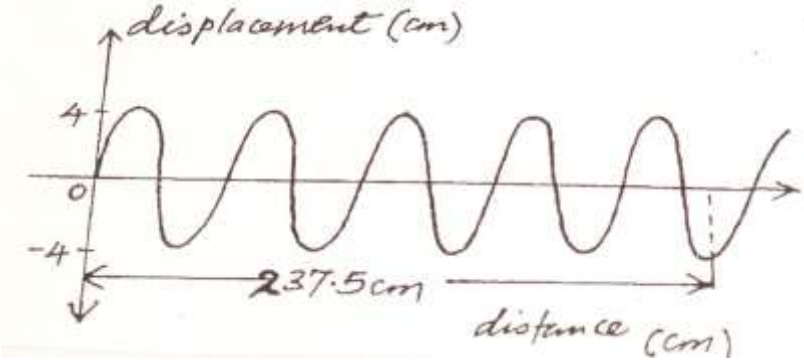
(ii) Find the magnification obtained by this arrangement (2 marks)

13. (a) The figure below shows water wave fronts 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 figure 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.



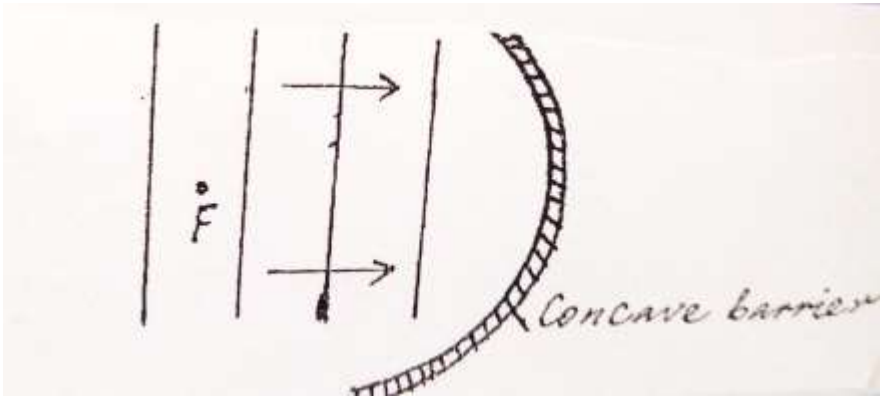
Determine:

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

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

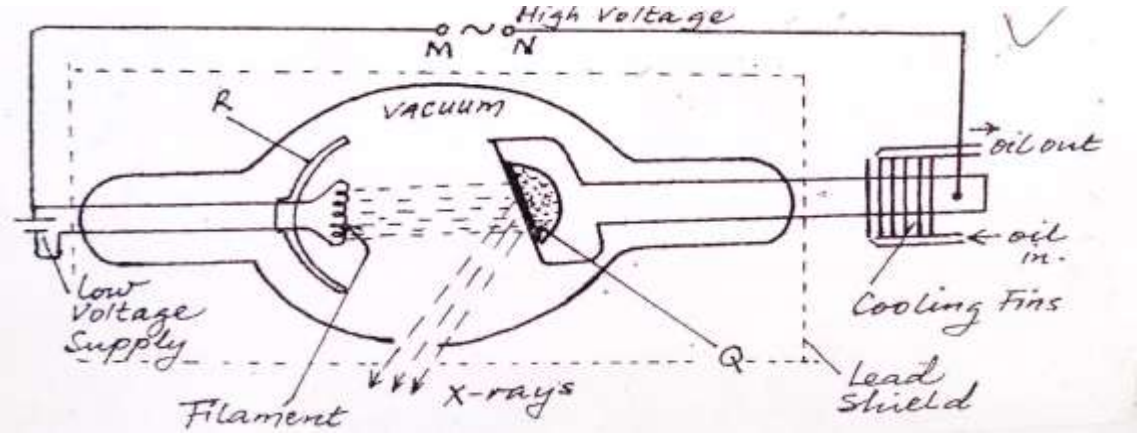
(iii) The frequency of the vibrator (2 marks)

(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)

14. 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)

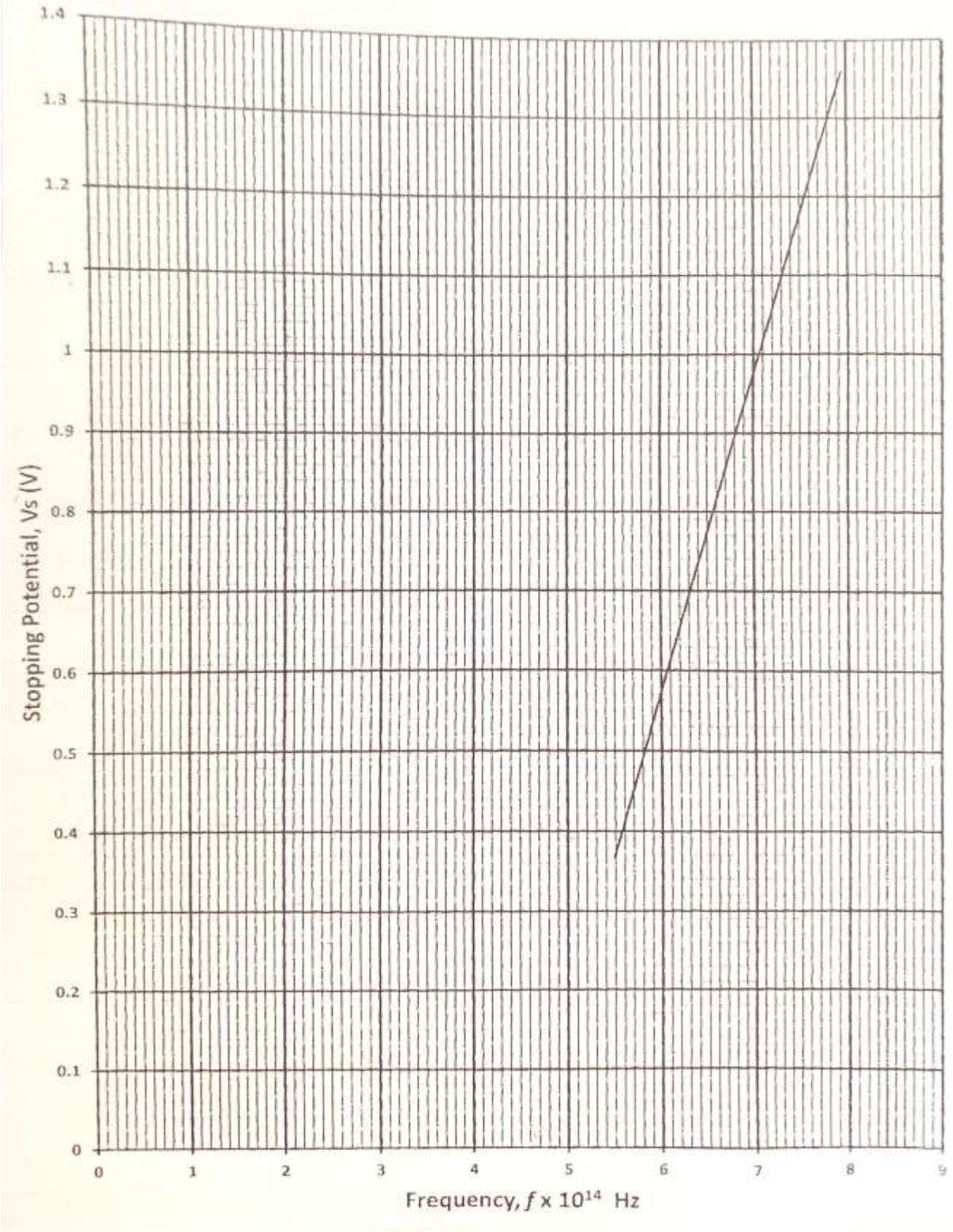
15 (a) What is photoelectric emission? (1 mark)

(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)

(a) The figure below shows a graph of stopping potential (voltage) V, against frequency f, of a radiation falling on a photosensitive surface.
Given that $eV_s = hf - hf_o$ 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;



(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 W_o of the surface given that $W_o = hf_o$ for the surface (2mrk)

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

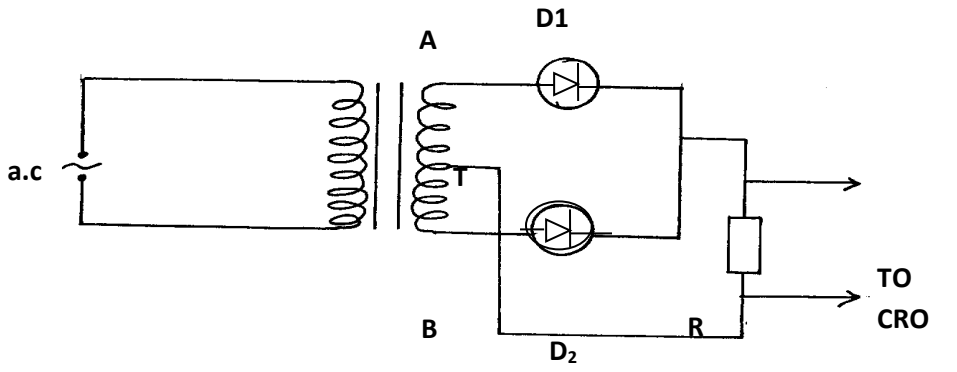


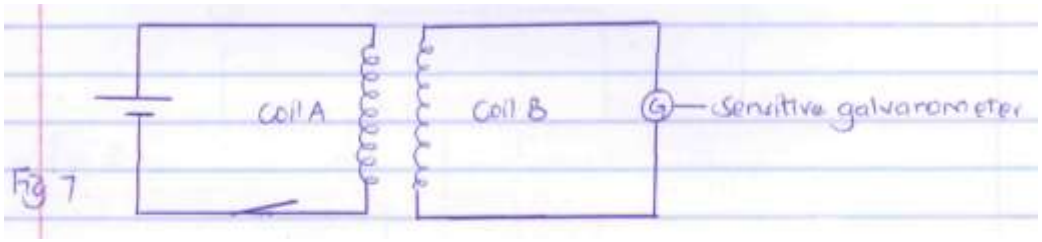
Fig 16.

(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)

17. 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.



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

i) Determine the secondary voltage 3mks)

ii) 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)

INTERCOUNTY PRE MOCK 2

232 / 3
PHYSICS
CONFIDENTIAL

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

INTERCOUNTY PRE MOCK 2

NAME:……. INDEX NO:…….. ……

SCHOOL…… SIGNATURE:…….....

231/3
PHYSICS
PAPER 3 (PRACTICAL)
TIME: 2 1/2HOURS

INTERCOUNTY PRE MOCK 2

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

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 consists of questions: 1 and 2.
(d) Answer all the questions 1 and 2 in the spaces provided.
(e) All working must be clearly shown.
(f) Mathematical tables and electronic calculators may be used.

Take g = 10N/kg

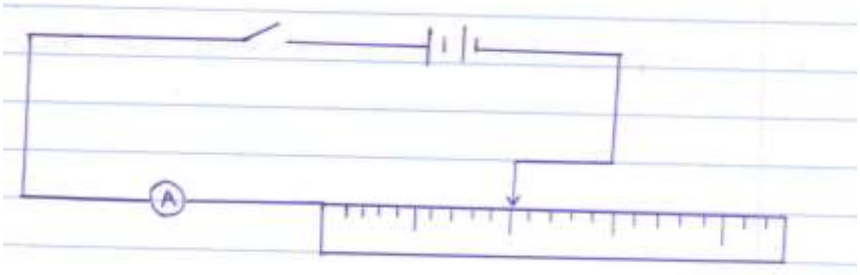
FOR EXAMINER'S USE ONLY

QUESTION	PART	MAXIMUM SCORE	CANDIDATE'S SCORE
1		20	
2	A	5	
	B	9	
	C	6	
TOTAL SCORE		40	

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)

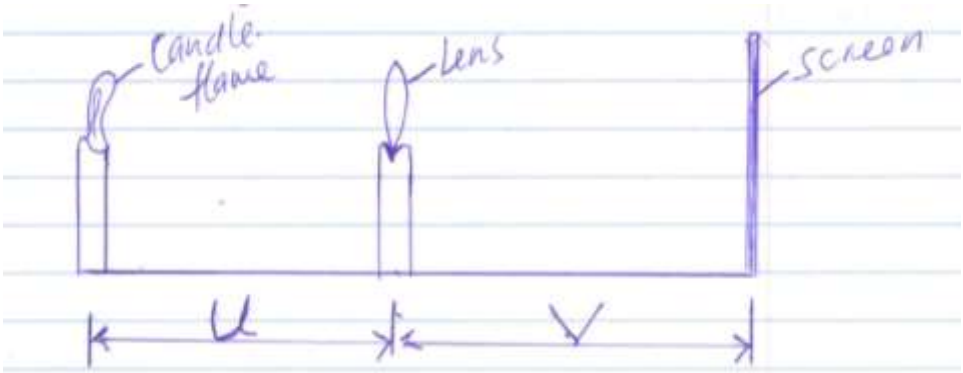
Question 2.

PART 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.**

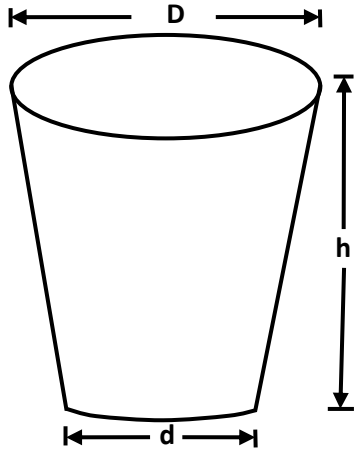


Figure 2

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)

PART: C

You are provided with the following

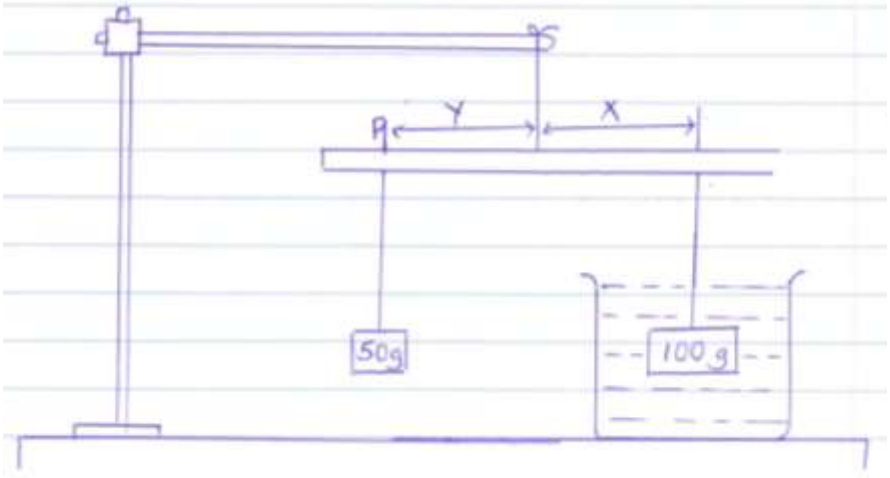
- a metre rule
- a retort stand, one boss, one clamp
- One 500ml beaker ¾ full of water
- One 100g mass
- One 50g mass
- 3 pieces of thread approximately 30cm long

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)

INTERCOUNTY PRE MOCK 2

GEOGRAPHY

312/1

FORM FOUR

NAME……..ADM……

INSTRUCTIONS TO CANDIDATES

1 ***Write your name and admission number in the space provided above.***

2 This paper has two sections A and B answer all questions in Section A.

3 Answer question 6 and any other two questions from section B.

4 Candidates should answer the questions in English.

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-5	25	
B		25	
		25	
		25	
		TOTAL SCORE	

SECTION A

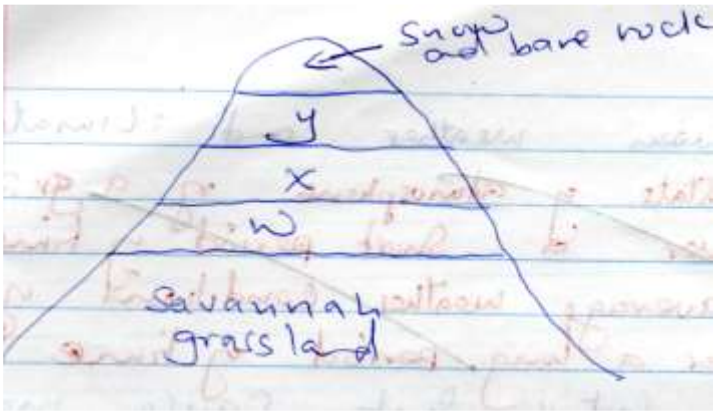
1. (a) Differentiate between weather and climate. (2 mks)

(b) State three factors that cause inaccuracy of recording data in a schools weather station. (3 mks)

2. (a) What is folding (2 mks)

(b) State three factors that influence folding. (3 mks)

3. The diagram below shows arrangement of vegetation on a mountain .



(a) Identify the vegetation zones marked. (3 mks)

W-

X-

Y-

(b) Give reasons why mountain tops have no vegetation. (2 mks)

4. (a) Define the term soil. (2 mks)

(b) State three factors that determine colour of the soil. (3 mks)

5. (a) Name two features due to wind erosion in the desert. (2 mks)

(b) State three factors influencing wind erosion in the deserts. (3mks)

SECTION B

6. Study the map of YIMBO 1:50,000(sheet 115/1) provided answer the following questions.

a.) i.) Convert the representative fraction scale given on the map to a statement scale (2 mks)

ii.)Identify three Districts that are covered by the Yimbo map (3 mks)

b.) i.) Give the exact height of Usengi hill (1 mk)

ii.) with evidence from the map, give any two social services that are offered in the area covered by the map (2 mks)

c.) i.) Using a scale of 1 cm represents 20 m, draw a cross section from grid reference 320790 to grid reference 390790 (4 mks)

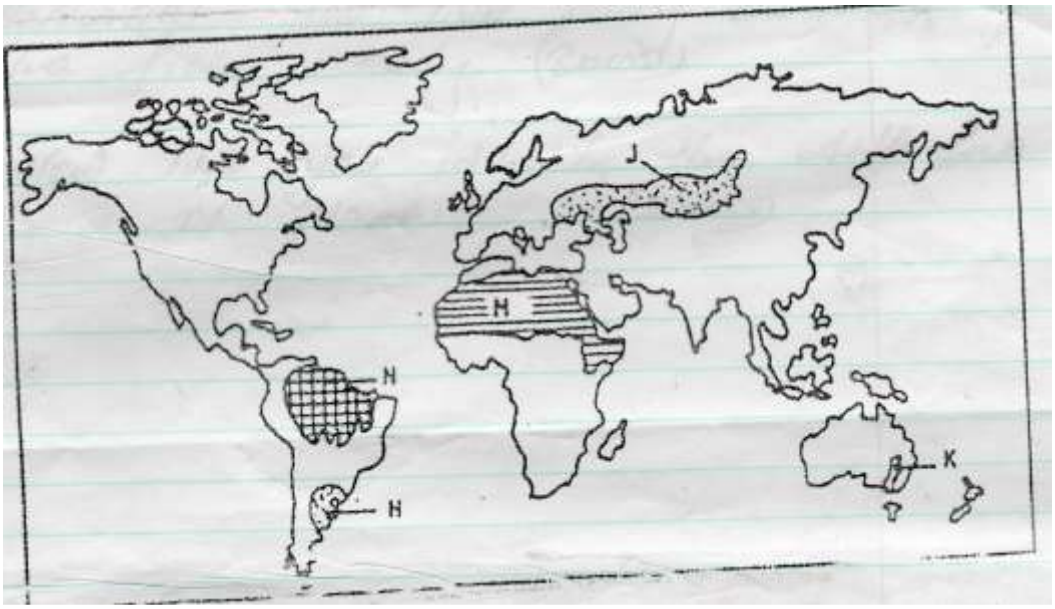
ii.) On the cross section, mark and name the following:-

- A lake (1 mk)
- Main track (motorable) (1 mk)
- A river (1 mk)

d.) i.) Describe the relief of the area covered by the map (4 mks)

ii.) Explain three factors that have influenced settlement in the area covered by the map (6 mks)

7. The map below shows some vegetation of the world. Use it to answer (a) to (c)



a) Name the temperate grasslands marked H, J and K (3mks)

b) Describe the characteristics of the natural vegetation found in the shaded area marked N. (6 mks)

c) (i) Explain four ways which the vegetation found in the area marked M adopts to the environmental conditions of the region. (8 mks)

(ii) Give two reasons why the Tundra region has scanty vegetation. (2 mks)

d) You are required to carry out a field study of the vegetation within the local environment.

(i) Apart from identifying the different types of plants, state three other activities you will carry out during the field study. (3 mks)

(ii) How will you identify the different types of plants? (3 mks)

8. (a) (i) Define the term glacier (2 mks)

(ii) State three ways in which glacier moves. (3 mks)

(b) (i) Describe the following processes of glacier erosion.

Abrasion (3 mks)

Plucking (3 mks)

c) Describe how a pyramidal peak is formed. (6 mks)

d) Explain four positive effects of glaciations in the lowland areas. (8 mks)

9. a) i) Differentiate between weathering and mass wasting. (2 mks)

ii) Give four factors that influence the rate of weathering. (4 mks)

iii) Name four processes of mechanical weathering. (4 mks)

b) Explain how the following contribute to biological weathering.

- Animals (2 mks)
- Man (2 mks)

c) i) What is mass movement? (2 mks)

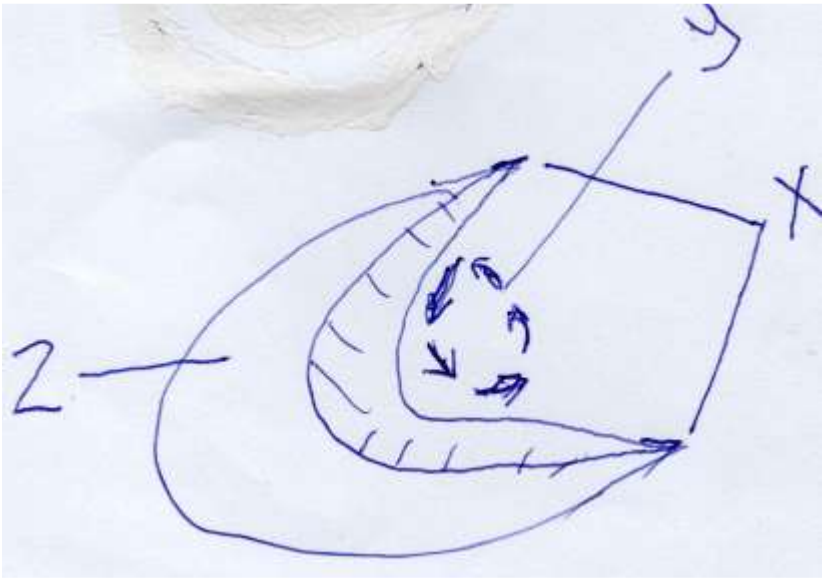
ii) Give three types of rapid mass movement. (3 mks)

d) Explain three positive effects of weathering on human activities. (6 mks)

10. (a) i) Name three types of desert surfaces (3 mks)

ii) Explain three ways in which wind transports materials in the deserts. (6 mks)

(b) The diagram below represents a barchans. Use it to answer the question (3mks)



X----------

Y----------

Z----------

(c) By aid of well labelled diagram, describe how the rock pedestal is formed. (5 mks)

(d) Explain four ways in which desert features are of significance to human activities. (8 mks)

INTERCOUNTY PRE MOCK 2

NAME……..……. INDEX NO……

SCHOOL……..…….SIGNATURE……..

DATE……

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 mks)

b) State three problems facing soda ash exploitation in Magadi. (3 mks)

2. a) Define the term agroforestry. (2 mks)

b) State three reasons why agroforestry is being encouraged in Kenya. (3 mks)

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. (3 mks)

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. (2 mks)

b) Give three benefits of COMESA to member states. (3 mks)

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 (1 mk)

(ii) Draw a rectangle measuring 15cm by 10cm to represent the area covered by the Photograph (1 mk)

(iii) On the rectangle, sketch and label four main features (4 mks)

b) (i) Which type of farming is shown on the photograph (1 mk)

(ii) Give three physical conditions favouring tea farming in Kenya (3 mks)

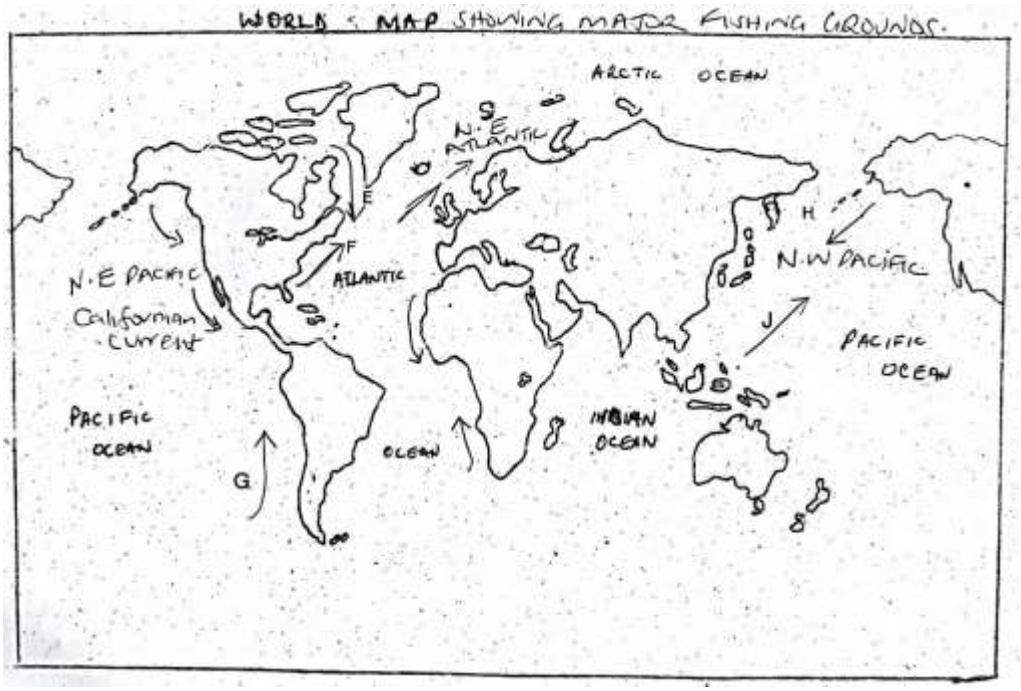
(iii) Describe the stages of tea processing (5 mks)

c) (i) State two areas in Kenya where maize is grown on large – scale (2 mks)

(ii) Explain four problems facing maize farmers in Kenya (8 mks)

7. a) Differentiate between Land Reclamation and Rehabilitation. (2 mks)
b) Give three methods used to reclaim land in Kenya. (3mks)
c) i) State two methods that are used to control tse tse fly in Kenya. (2 mks)
ii) Explain three benefits of perkerra irrigation scheme. (6 mks)
d) i) What is a polder? (2 mks)
ii) Name two crops grown in the polders. (2 mks)
iii) Outline the stages through which land is reclaimed from the sea in the Netherlands. (8 mks)

8. a) i) Differentiate between fishing and fisheries. (2 mks)
ii) State two categories of fish. (2 mks)
b) Apart from Trawling, name two other methods of fishing. (2 mks)
c) Explain four problems experienced by Kenyan fishermen in Lake Victoria. (8 mks)
d) The world map below shows major fishing grounds.



Use it to answer the following questions.

i) Name the ocean currents marked: (5 mks)

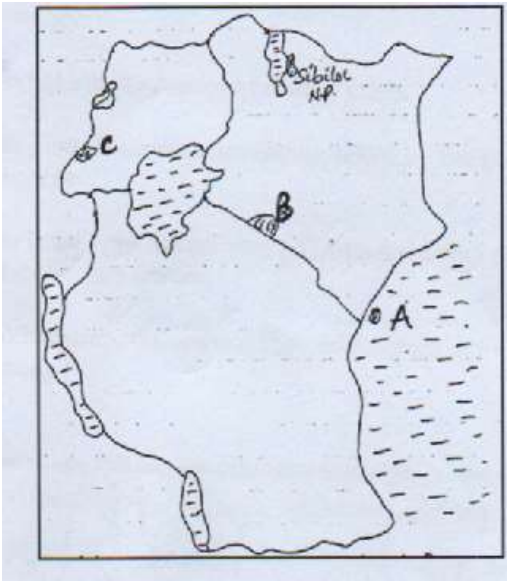
E –
F –
G –
H –
J –

ii) Explain three factors that favour fishing in Japan. (6 mks)

9. a) i) Define wildlife. (2 mks)

ii) Distinguish between a game sanctuary and a game ranch. (4 mks)

b) Study the following map of East Africa and answer the questions below.



i) Name national parks marked A, B and C. (3 mks)

ii) Explain four factors showing the future of tourism industry in Kenya. (8 mks)

iii) Explain how the following factors influence wildlife.

- ✓ Vegetation. (4 mks)
- ✓ Altitude. (4 mks)

10. a) i) What is energy conservation? (2 mks)

ii) Identify three non-renewable sources of energy. (3 mks)

iii) State three advantages of Hydroelectric power as a source of energy. (3 mks)

b) i) What are the causes of energy crisis? (4 mks)

ii) Explain four measures being taken by the government to conserve energy. (8 mks)

c) Students from your school carried out a field at Olkaria Geothermal Power Generation station.

i) What preparations did they take before going out for the field study. (3 mks)

ii) Identify the secondary sources of data they would use to prepare for the study. (2 mks

INTERCOUNTY PRE MOCK 2

HISTORY PAPER 1

SECTION (25 MARKS): ANSWER ALL QUESTIONS

1. Identify one branch of History. (1mk)

2. Name one pre-historical sites in Kenya. (1mk)

3. State one community that belongs to the Southern Cushites. (1mk)

4. Give two ways in which archeologists identify a pre-historic site. (2mks)

5. Give two peaceful methods of resolving conflict in Kenya. (2mks)

6. State two ways through which mission stations promoted the spread of Christianity in Kenya. (2mks)

7. Name two types of human rights. (2mks)

8. Give one type of democracy. (1mk)

9. Identify two Education Commission established in Kenya since independence. (2mks)

10. Name the document that contains the rights of the child in Kenya. (1mk)

11. Apart from the Nandi, name two other communities that resisted the establishment of the colonial rule. (2mks)

12. Give one method used by the British to acquire territories in Kenya. (1mk)

13. Identify two methods which were used by the colonial administration to attract European settlers in Kenya. (2mks)

14. State one feature of early political associations that were formed between 1920-1939. (1mk)

15. Name two political parties which were formed in Kenya between 1960 – 1963. (2mks)

16. Who is the Administrative head of the Parliamentary Service Commission? (1mk)

17. State the main voting system used in Kenya during the general elections. (1mk)

SECTION B: (45 MARKS)

18a. Name three reasons why Africa is regarded as the cradle of mankind. (3mks)

b. Explain six effects of Agrarian revolution in Britain. (12mks)

19a. 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)

20a. Outline five problems experienced by political Associations in Kenya up to 1939. (5mks)

b. Explain the effects of the establishment of independent schools and churches in Kenya during colonial period. (12mks)

21a. Give three major problems that Jomo Kenyatta urged people to fight against at independence. (3mks)

b. Explain sic problems associated with the Moi regime in Kenya. (12mks)

SECTION C

22a. Identify three reasons why the government may limit one's freedom of expression in Kenya. (3mks)

b. Discuss the features of the constitution of Kenya (2010). (12mks)

23a. Identify the organs of National Security. (3mks)

b. Explain six challenges facing the judiciary. (12mks)

24a. Give the composition fo County Assembly in Kenya. (3mks)

b. Explain six functions of County Government in Kenya. (12mks)

INTERCOUNTY PRE MOCK 2

HISTORY PAPER 2

SECTION A (25 MARKS): ANSWER ALL QUESTIONS

1. Identify two types of written materials used by Historians as a source of History and Government.

(2mks)

2. Name the oldest hominid in the stages of Evolution of man. (1mk)

3. Give two reasons that made man to live in groups during the Stone Age period.

(2mks)

4. Give the main reason why early agriculture developed in Egypt. (1mk)

5. Identify two reasons why the African slaves were preferred over the red Indians during the Trans-Atlantic trade. (2mks)

6. List two forms of communication that are used to send messages to distant places in the shortest time possible. (2mks)

7. Give the main use of steam power during Industrial Revolution in Europe.

(1mk)

8. State one theory of origin about the knowledge of iron working in Africa. (1mk)

9. State two functions of the Lukiiko among the Buganda during the pre-colonial period. (2mks)

10. Identify one way in which Africans reacted to European colonization in Africa. (1mk)

11. Name the chartered company that ruled Zimbabwe. (1mk)

12. Give two reasons for the establishment of UNO. (2mks)

13. State the main reason why Pan-African was formed. (1mk)

14. Name one English speaking member of ECOWAS. (1mk)

15. Give two reasons why there were civil wars in DRC soon after independence. (2mks)

16. Name the type of constitution used in Britain. (1mk)

17. Identify two houses of congress in U.S.A. (2mks)

SECTION B (45 MARKS): ANSWER ANY THREE QUESTIONS

18a. Describe five ways in which the development of upright posture improved the early man's way of life during the Stone Age period. (5mks)

b. Describe the way of life of early man during the middle Stone Age period. (10mks)

19a. State three uses of Bronze in Egypt. (3mks)

b. Explain six advantages of using internet as a source of information on History and Government. (12mks)

20a. Identify five factors for industrial growth in Japan. (10mks)

b. Explain five problems hindering industrialization in Third world countries. (10mks)

21a. Give three reasons why British used direct rule in Zimbabwe. (3mks)

b. Explain six effects of the use of indirect rule by the British in Northern Nigeria. (12mks)

SECTION C (30 MARKS): ANSWER TWO QUESTIONS

22a. State five factors that led to the development of African nationalism in Ghana.

b. Explain five factors that contributed to the success of front for the liberation of Mozambique (FRELIMO) in the struggle for independence in Mozambique.

23a. Give five achievements of the League of Nations between 1919 and 1939.

b. Why did the league fail to maintain world peace?

24a. State three ways in which a person can become a member of parliament in Britain.

b. Explain six functions of the cabinet of India?

INTERCOUNTY PRE MOCK 1

CRE PAPER 1

1. a). STATE **Six Similarities** in the Biblical stories of creation in Genesis chapter 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 ***(7marks)***

c). State SIX ways in which the church worship is abused today. (6marks)

3.a) Give seven reasons why Samuel was against kingship in Israel. (7mks)

b) Outline the activities of King Jeroboam which made the Israelites in the Northern Kingdom turn away from God. (7mks)

c) List down ***six*** life skills Christians need to fight corruption in Kenya today. (6mks)

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) Outline ***seven*** occasions when Nehemiah prayed. **(7marks)**

b) Outline ***seven*** reforms carried out by Nehemiah after the Babylonian exile. **(7mks)**

c) What lessons do Christian leaders learn from the leadership of Nehemiah? **(6mks)**

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)***

INTERCOUNTY PRE MOCK 2

CRE PAPER 2

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) Giving examples, state the methods used by Jesus to spread the gospel. (7mks)
b) Describe the raising of widow's son at Nain Luke 7:11-17 (7mks)
c) Identify ways through which the church continues with the healing ministry of Jesus (6mks)

3.a) Outline the preparations that Jesus made for the last supper. (Luke 22:7-14) (7mks)

b) Give six actions of Pilate that showed that he had found Jesus innocent. (6mks)

c) Why should Christians be discouraged from taking part in mob justice? (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) Explain six sources of Christian ethics. (6mks)

b) Show ways in which life skills are important to Christians today. (8mks)

c) List the Christian values that enhance the creation of a just society. (6mks)

6 (a) Outline seven Christian teaching on marriage (7mks)

b) State **SEVEN** reasons why some young people remain unmarried in Kenya (7mks)

c)State six ways in which the church is helping to solve the problems of domestic violence today. (6mks)

INTERCOUNTY PRE MOCK 1

NAME _____ INDEX NO. _____ SIGN_____

SCHOOL_____CLASS _____

565/1

BUSINESS STUDIES

PAPER 1

2 HOURS

INSTRUCTIONS TO CANDIDATES

(I) Write your name, admission number and class in the spaces provided.
(II) All questions should be written in the spaces provided.
(III) This paper consists of **9** pages.
(IV) Candidates should answer the questions in English.

For Examiners use only

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Marks														

Question	15	16	17	18	19	20	21	22	23	24	25
Marks											

TOTAL MARKS

1. Outline four elements of demographic environment that may influence the operation of a business. (4 marks)

---

2. 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-	

3. Highlight **four** importance of consumer protection. (4 marks)

---

4. Highlight four disciplines of business studies. (4 mks)

---

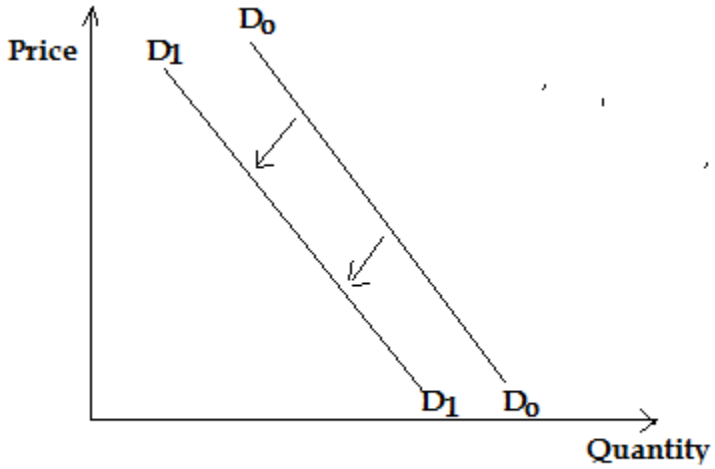
5. State four benefits of "pooling of risks" to insurance company. (4marks)

---

6. State four reasons why the concept of choice is important in economics. (4mks)

---

7. The diagram below shows a shift in demand curve of a commodity from D_oD_o to D_1D1.



Outline four factors that may have contributed to the above shift. (4 mks)

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8. Identify the book of original entry associated with the following sources documents given below. (4 marks)

Source documents	Books of original entry
i. Invoice received	
ii. Credit note received	
iii. Receipt issued	
iv. Credit note issued	

9. State the unit of carriage for each of the following modes of transport 4mks)

Mode of transport	unit of carriage
Porterage	_____
Cartage	_____
Sea	_____
Air	_____

10. Highlight four characteristics of money as a means of payment. (4mks)

---

11. State four ways of improving service delivery in parastatals and state corporation. (4marks)

---

12. State four circumstances under which a trader may require less warehousing space (4mks)

---

13. The use of electronic boards is becoming increasingly popular as a mean of product promotion. State **four** advantages derived from their use. (4 marks)

---

14. Outline four contributions of the households to the national income of a country. (4marks)

---

15. Outline four factors that an entrepreneur will consider when determining the most viable business opportunity. (4 mks)

---

16. List **four** factors that may discourage the use of pipeline as a means of transporting petroleum products in a country. (4 marks)

---

17. Open relevant ledger accounts using the following information. (4 mks)
    1/2/2011 started business with sh. 10,000 in cash and sh. 50,000 at bank.
    2/2/2011 Bought goods on credit from LK traders worth sh.5000
    4/2/2011 Withdrew sh. 2000 from bank for office use.

18. Outline four circumstances under which deffered payment may be used (4marks)

---

19. 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)

20. Identify four benefits of international trade to a country (4marks)

---

21. State four basic features of a market. (4 mks)

---

22. State four circumstances under which a business firm may use photocopying as a means of reproducing documents. (4 marks)

---

23. A business had the following record for the year ended 31st December 2018 (4mks)
sh.

capital as at 31/12/18	64,000
net profit for the year	14,000
capital as at 1st Jan 2018	42,000
Monthly drawings	1,500

Calculate the additional investments made during the year

24. Highlight **four** circumstances under which the heads of sales department may need to communicate with the head of production department in a business.
(4 marks)

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25. Hekima private limited company would like to open up a subsidiary branch in Mombasa. Outline factors it would consider before setting up the manufacturing unit (4mks)

INTERCOUNTY PRE MOCK 2

NAME..... **ADM NO.....**

SCHOOL:..... **CLASS .....**

BUSINESS STUDIES (565/2)
FORM 4
PAPER 2

Time: 2:30Hours

INSTRUCTIONS TO CANDIDATES

1. Write your name and Admission number in the spaces provided above
2. This paper consists of 6 questions. Answer any **FIVE** questions

GRAND TOTAL

1. a) Explain 5 money transfer facilities offered by a commercial bank to its customers.

(10mks)

b) Differentiate between a public limited company and a public corporation (10mks)

2. a) 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)

3. a) By the aid of a diagram, explain excess demand and excess supply (10mks)
   b) Discuss any five circumstances under which an insured may not be compensated in the event of a loss. (10mks)

4. a. Explain **five** services offered by wholesalers to retailers. (10 marks)
   b. On March 1 2017, Martha had cash in hand sh 87,000 and cash at bank sh 250,000. During the month, the following transaction took place.
   March 2: Cash sales sh 60,000

   3: Paid salaries sh 101,500 by cheque.
   7: Received a cheque sh 76,000 from Henry, after allowing him cash discount of 5 %.
   13: Bought office furniture by cheque shs 86,000.
   17: Settled Maria's account for shs 34,200 in cash, having deducted shs 800 cash discount.
   20: Received a cheque for shs 165,000 in respect of cash sales.
   22: Paid wages shs 25,000 in cash.
   24: Withdrew shs 32,000 from the bank for office use.
   25: Withdrew shs 4,000 cash for personal use.
   29: Received shs 17,000 cash from Alvin in settlement of his account less shs 1,000 cash Discount.
   31: Deposited all the money into the bank except shs 24,000.

   Prepare three column cash book duly balanced. (10 marks)

5. a) Explain **five** benefits of filing office documents to an organization. (10 marks)
   b) A trader want to place an order to his suppliers. Explain **five** factors that he should consider before choosing the appropriate means of communication.
   (10 marks)

6. a) 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)

b) Explain any five limitations of advertising goods in newspapers (10marks)

INTERCOUNTY PRE MOCK 2

NAME……ADM NO……CLASS……..

DATE……SIGN.....……

443/1

PAPER 1

TIME: 2 HOURS

INTERCOUNTY PRE MOCK 2

AGRICULTURE

PAPER ONE

TIME: 2 HOURS

INSTRUCTIONS TO CANDIADATES

1. Write your name, admission number and class
2. This paper contains**three** sections
3. Answer all question in section **A** and **B**
4. In section **C** answer any two questions
5. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing
6. This paper has 15 printed page
7. Candidates must answer all the questions in English

For examiner's use only

Section	Questions	Maximum score	Candidate score
A	**1 -18**	**30**	
B	**19 -22**	**20**	
C		**20**	
		20	
Total score		**90**	

SECTION A(30MARKS)

Answer **ALL** questions in this section

1) Name a chemical used to achieve the following during water treatment.

(a)Coagulation of solid particles (½mark)

……..

.

(b)Softening of water (½mark)

……

(c)Killing pathogens (½mark)

…….....

2) State **two** causes of forking in carrots (1mark)

……

……

3) Name **four** books of account kept by a farmer (2 mark)

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4) Give the element whose deficiency in plants is characterized by the following

(a) Interveinal chlorosis of the leaves .....(½ mark)

(b Blossom end rot in tomatoes .....($^1/_2$mark)

(c) Scorched edges of a leaf ..... (½ mark)

5) Give **two** roles of agriculture in industrial growth. (1 mark)

…….

…….

6) Difference between olericulture and pomoculture(1 mark)

……..

……..

7 a) Give **two** disadvantages of hydram pumps(1 mark)

…….

…….

(b) State **two** methods of harvesting Maize (1 mark)

…….

……..

8) a) What is Agro forestry. (1mark)

……..

b) State **four** ways in which Agro forestry is important. (2marks)

……..

……..

9) Give **four** farming practices that may help in achieving minimum tillage. (2 marks)

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……..

10) Define the term "Economic Injury Level" of a crop. (1 mark)

……..

……..

11) State **two** conditions when opportunity costs are zero (1 mark)

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12) State **four** factors that influence solifluction(2 marks)

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13) Give **four** conditions that necessitate clearing of land. (2 marks)

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14) Give **four** reasons for keeping health records (2 marks)

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15) Name any **two** diseases that affect bean production in the field. (1 mark)

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16) State **four** benefits of crop rotation (2 marks)

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17) State **four**management practices in a vegetable nursery (2 marks)

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18) Give **four** methods of land reform practiced in Kenya (2mks)

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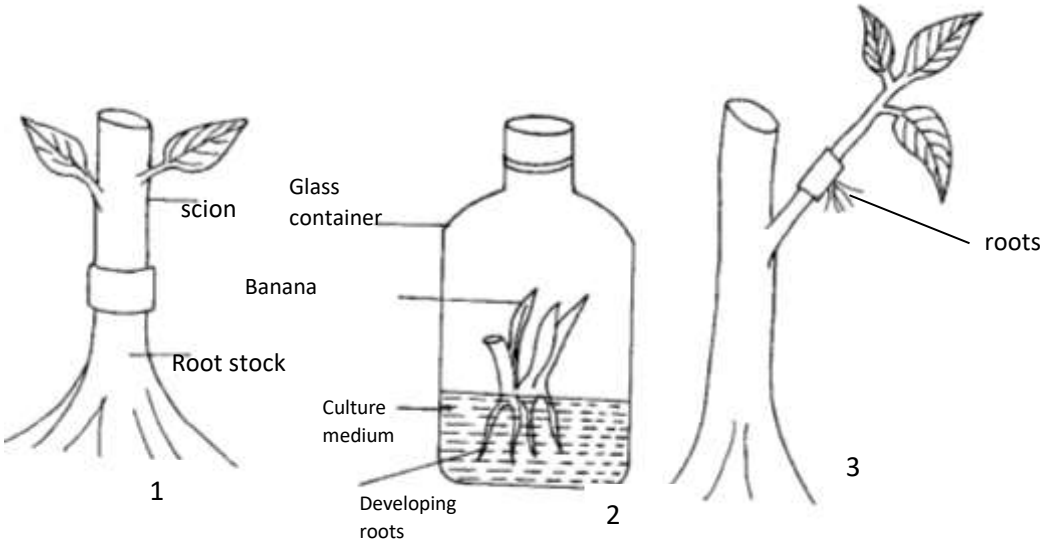
SECTION B (20 MARKS)

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

19. Study the methods of crop propagation illustrated below and answer the questions that follow



a) Identify the methods of crop propagation illustrated above.

1……. (½ mark)

2 …… (½ mark)

3…… (.½ mark)

b) Give **one** condition under which method (1) above is carried out. (½ mark)

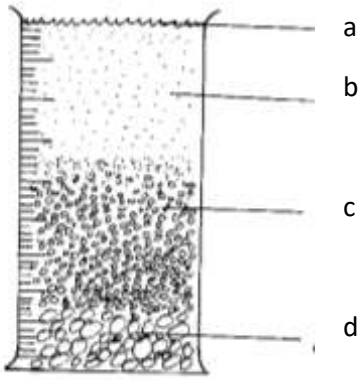
……..

c) State **two** disadvantages of using stem cuttings for planting. (2marks)

…….

…….....

20.(a) Form two student put some soil sample in a measuring cylinder, added some water and sodium carbonate and then covered the cylinder with the hand and shook the cylinder for about two minutes. He left the cylinder on the bench for one hour. The result was as shown below.



(i). Name the layers marked a,b,cand d. (4x ½ =2 mark)

a) …….

b) …….

c)…….

d)…….....

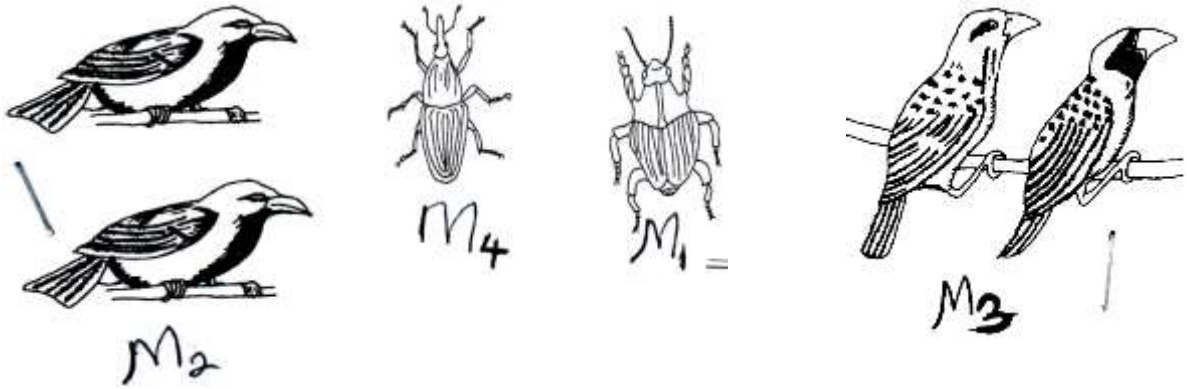
(ii) What was the function of sodium carbonate in this experiment? (Imark)

……

(iii) What was the aim of this experiment? (lmark)

. …….

21.The diagrams below illustrate both field and storage pests



a) Identify the pests in the illustration. (4marks)

M_1……

M_2…….

M_3: ……

M_4: …….

b) State **two** ways by which pest labelled M_2 causes loss in cereal crops. (1marks)

……

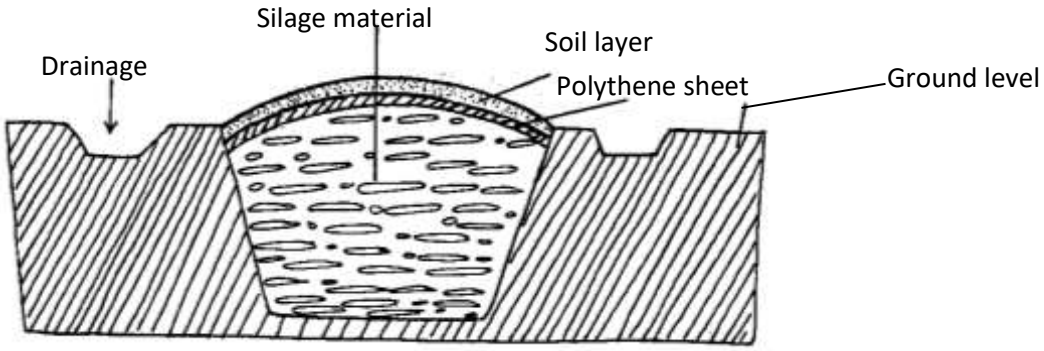
……

c) State **two** methods which are used to control the pest labeled M_2. (2marks)

……

……

22.Study the diagram on silage making shown below and answer the questions that follow.



a) Identify the silage preparation method shown above. (1mark)

……

b) Give **two**precautions taken when ensiling to ensure high quality silage. (2marks)

……..

……..……

c) State **two** advantages of this method of forage conservation over other methods. (2marks)

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SECTION C (40 marks)

Answer **TWO** questions from this section in the spaces provided

23.a) State and explain **five** agricultural services offered to farmers. (10marks)

b) Give ways in which labour efficiency can be increased in the farm (5marks)

c) State **five** the functions of co-operatives. (5marks)

24.a) Give one reason in each case why it is difficult to control the following weeds.

i) Oxalis

ii) Nut grass

iii) Couch grass (3marks)

b) State **two** main factors which contributes to competitive ability of weeds. (2marks)

c) State **five** safety measures that a farmer must consider to prevent danger to other people and environment when using herbicides. (5marks)

d) Describe any **five** cultural methods of controlling weeds. (10marks)

25. a) The table gives information on the supply of potatoes in a local market.

Price /bag in Kshs. 1000	Quantity Demanded (in bags)	Quantity supplied (in bags)
1	20	2
2	15	8
3	12	12
4	10	16
5	9	19

i) using a suitable scale and on the same axis, draw and label supply and demand curves using the data given. (8marks)

ii) From the curves drawn, what is the price per bag when 15 bags of potatoes were supplied? (1mark)

iii) How many bags of potatoes were supplied at Equilibrium price. (1mark)

b) Outline the harvesting of coffee under following subheadings

i) Stage of harvesting (2marks)

ii) Procedure of harvesting (5marks)

iii) Precautions when harvesting (3marks)

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INTERCOUNTY PRE MOCK 2

NAME …… ADM NO……

CLASS…….. DATE ……..... SIGN …….
443/2
AGRICULTURE
PAPER 2
2 HOURS

INTERCOUNTY PRE MOCK 2
AGRICULTURE
Paper 2
2 Hours.

INSTRUCTIONS TO CANDIDATES

a) Write your name, admission number and class in the spaces provided above.
b) Sign and write the date of the examination in the spaces provided above.
*c) This paper consists of **three** sections : **A, B** and **C.***
*d) Answer **all** question in section **A** and **B.***
*e) Answer any **two** questions in section **C.***
f) All answers should be written in the spaces provided.
*g) **This paper consists of 14 printed pages.***
*h) **Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.***
*i) **Candidates must answer all the questions in English**.*

For Examiner's Use Only

SECTION	Question	Maximum Score	Candidate's Score
A	1 – 18	30	
B	19 – 22	20	
C		20	
		20	
TOTAL SCORE		90	

SECTION A (30 marks)

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

1. Name any **two** dairy cattle breeds reared in Kenya. (1mk)

   ……

   ……

2. List **four** materials that can be used in constructing a Kenya Top Bar Hive. (2mks)

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3. a) What is a zoonotic disease? (½mk)

   ……

   b) Give **one** example of zoonotic disease. (½mk)

   ……

4. a) State **four** factors affecting feed digestibility in livestock. (2mks)

   ……

   ……

   ……

   …….

   b) State **two** functions of crop in poultry digestive system. (1mk)

   ……

   …….

5. Give **three** limitations of using solar power on the farm. (1½mks)

……

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6. State **three** reasons for carrying out egg candling before incubation. (1½mks)

……

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7. State **two** functions of a queen bee in a colony. (1mk)

……

……

8. Give **two** categories of tractor drawn implements on the basis of the mode of attachment. (1mk)

……

……

9. State **two** advantages of natural calf rearing. (1mk)

……

……

10. Distinguish between each of the following terms as used in livestock rearing practices.

a) Steaming up and flushing. (2mks)

……

……

……

b) Kindling and farrowing. (2mks)

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11. Give **four** reason of using litter in a deep litter poultry rearing system. (2mks)

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12. Give **four** factors considered when sitting a fish pond in a farm. (2mks)

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13. State **four** reasons for castrating male kids not required for breeding in a farm. (2mks)

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

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15. State **four** reasons that necessitate handling of livestock in the farm. (2mks)

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16. List **three** factors that influence the strength of concrete. (1½mks)

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17. Name **three** routes through which vaccines can be administered in livestock. (1½mks)

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18. Name **four** ways of increasing ploughing depth of the disc plough. (2mks)

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SECTION B (20 Marks)

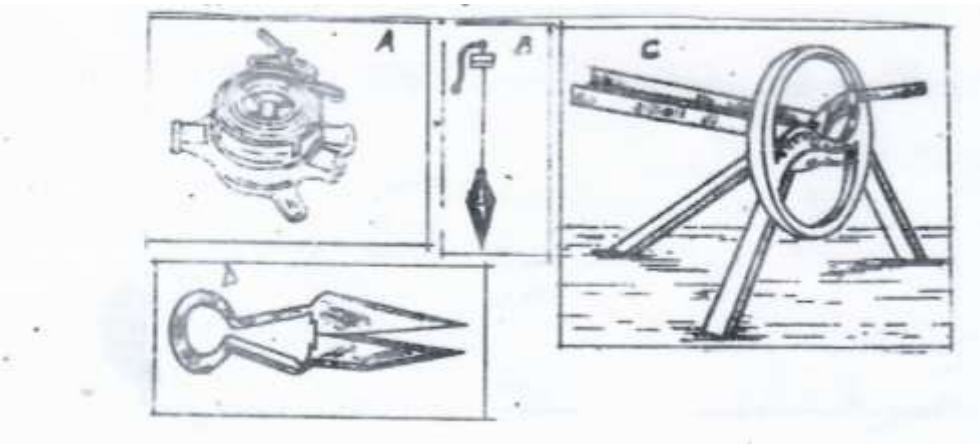
Answer **all** the questions in the spaces provided.

19. a) Using a Pearson's square, Calculate how much of wheat (35% D.C.P) would be mixed with sunflower seedcake (10% DCP) to come up with duck mash (20 % DCP) on a ration weighing 200kg. (show your working) (4mks)

b) Apart from the Pearson's square method, **Name** the other method used in livestock feed computation. (1mk)

……

20. The diagrams below represent some farm tools and equipment. Study them carefully and answer the questions that follow.



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

A ……

B ……

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

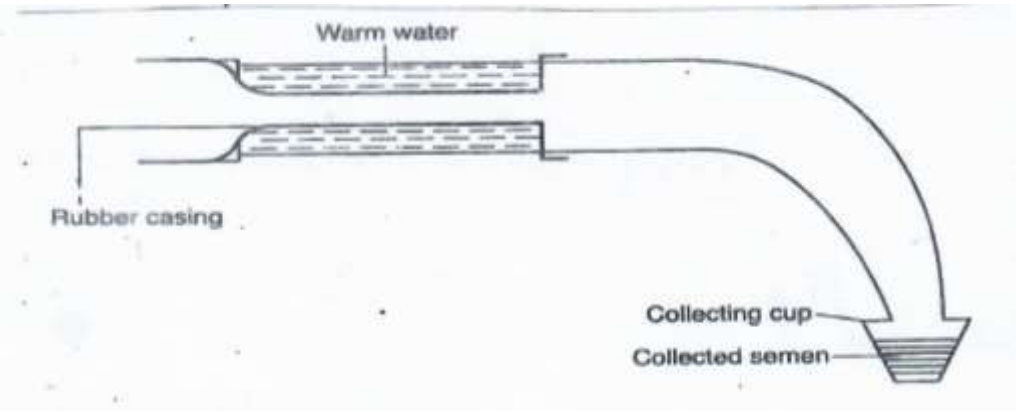
C ……

D ……

c) Explain **one** maintenance practice carried out on tool D. (1mk)

……

21. The diagram below shows livestock production equipment. Study it and answer the questions that follow.



a) Identify the equipment. (1mk)

……

b) What is the importance of the warm water in the equipment. (1mk)

……

b) Describe the procedure followed when using the equipment in collecting semen. (3mks)

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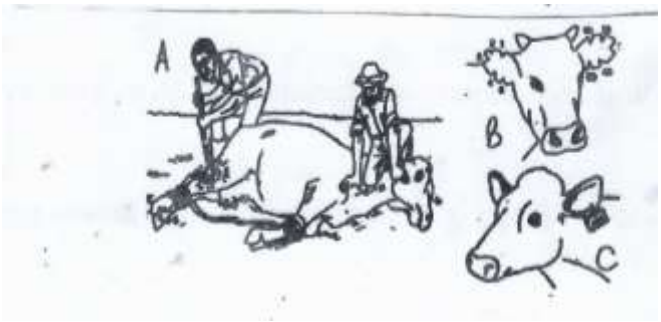
…….

22. The diagram below shows various methods of a **practice** in livestock production.



a) Name the practice. (1mk)

…….

b) Name the methods A, B, and C (3mks)

A …….....

B ……

C ……..

c) State **one** disadvantages of method A. (1mk)

…….

SECTION C (40 Marks)

Answer any **two** questions from this section in the spaces provided after question **25**;

23. a) State **five** signs of parturition in a cow. (5mks)
.

b) State **five** control measures of Round worms *(Ascaris lumbricoides*) in livestock. (5mks)

c) Describe Coccidiosis disease under the following sub-headings.

i. Animals attacked. (2mks)

ii. Symptoms of attack. (5mks)

iii. Control (3mks)

24. a) Outline **five** factors that contribute to the distribution of livestock in Kenya. (5mks)

b) Describe **five** maintenance practices carried out on a rotary mower . (5mks)

c) Discuss **five** factors affecting milk composition in livestock production. (10mks)

25. a) Describe the artificial rearing of layers chick from one day up to the end of brooding. (10mks)

b) Outline the uses of fences in the farm. (10mks)

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