KCSE PREDICTION 4
ALL SUBJECTS

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

All the best!

For Marking Schemes Contact Mr Machuki 0795491185

Kenya Educators Contacts:
+254795491185
kenyaeducators@gmail.com

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PREDICTION 4

Name…….Adm No……..
Class…… Index No…….. Signature……

121/1
Mathematics Paper 1
Form 4
2 ½ Hours

KCSE PREDICTION 4

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

INSTRUCTIONS TO CANDIDATES

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

FOR EXAMINERS USE ONLY

SECTION I

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

SECTION II

17	18	19	20	21	22	23	24	TOTAL

GRAND TOTAL

SECTION A (50 marks)

1. Without using a calculator or tables, evaluate:

$$\left(\frac{2\frac{1}{4} \div \frac{5}{4} + \left(\frac{-2}{3}\right)^3}{\frac{5}{7} - 2\frac{2}{3} of\ 3 + \frac{-3}{8}}\right)^{-2}$$ **(3 marks)**

2. Solve the equation for x. $5^{2x+1} + 5^{2x} - 750 = 0$ **(3 marks)**

3. Simplify $\frac{8mn-6m+8n^2-6n}{8n-6}$ **(3 marks)**

4. Use squares, square roots and reciprocals tables to evaluate the following giving your answer to 2 decimal places. **(4 marks)**

$$\frac{1}{\sqrt{20.52}} + \frac{2}{(6.23)^2}$$

5. Susan made a loss of 20% by selling a blender at sh. 2,400. What profit would she have made had she sold it at sh. 3300? **(3 marks)**

6. Solve for x and y using substitution method:

   $\frac{1}{3}(x + y) - 2 = 0$

   $\frac{1}{4}(x - y) = 1$ **(3 marks)**

7. The number of sides of two regular polygons differs by one. If the sum of the interior angles of these polygons is in the ratio 2:3, calculate the number of sides of each polygon and name them. **(3 marks)**

8. Solve for x in the following equation: $Sin\left(\frac{1}{2}\ x - 10^0\right) = Cos2x$ **(3 marks)**

9. A vehicle moves at an initial speed of 20m/s with a constant acceleration of 2m/s2 for five seconds before breaks are applied. If the car comes to rest under constant deceleration 4 seconds, determine the total distance travelled during the 9 seconds **(3 marks)**

10. Simplify completely the expression

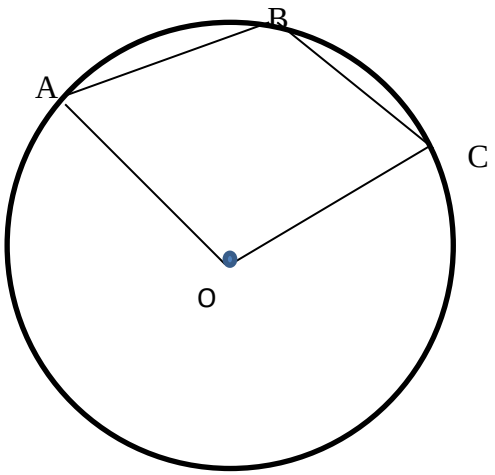
$$\frac{\frac{1}{9}x^2 - \frac{1}{25}y^2}{\frac{1}{9}x^2 + \frac{2}{25}xy + \frac{1}{25}y^2}$$

(4 marks)

11. A point P divides the line AB shown below internally in the ratio 2:3. By construction, find the position P and measure AB.

(3 marks)

12. In the figure below, O is the centre of the circle and reflects angle AOC =142^0. Find angle ABC. **(3 marks)**

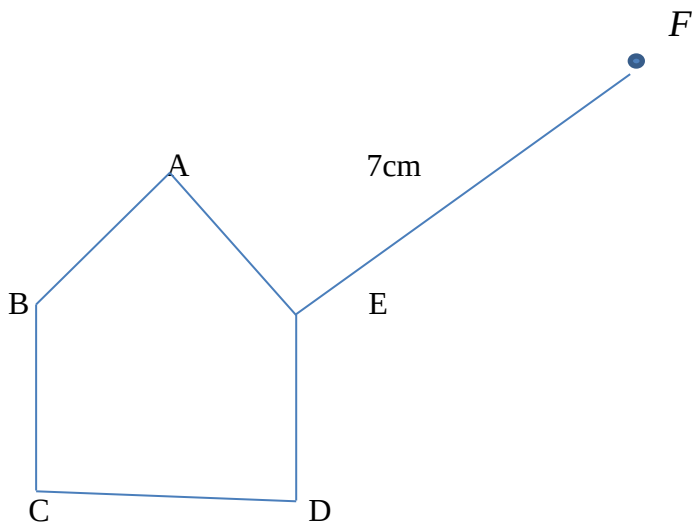


13. A tourist arrived in Kenya with 10,000 US dollars which he converted to Ksh on arrival. He spent Kshs.428,500 and converted the remaining amount to Sterling pounds. How much did he receive in Sterling pounds? The currency exchange rate of the day was as follows; **(3 marks)**

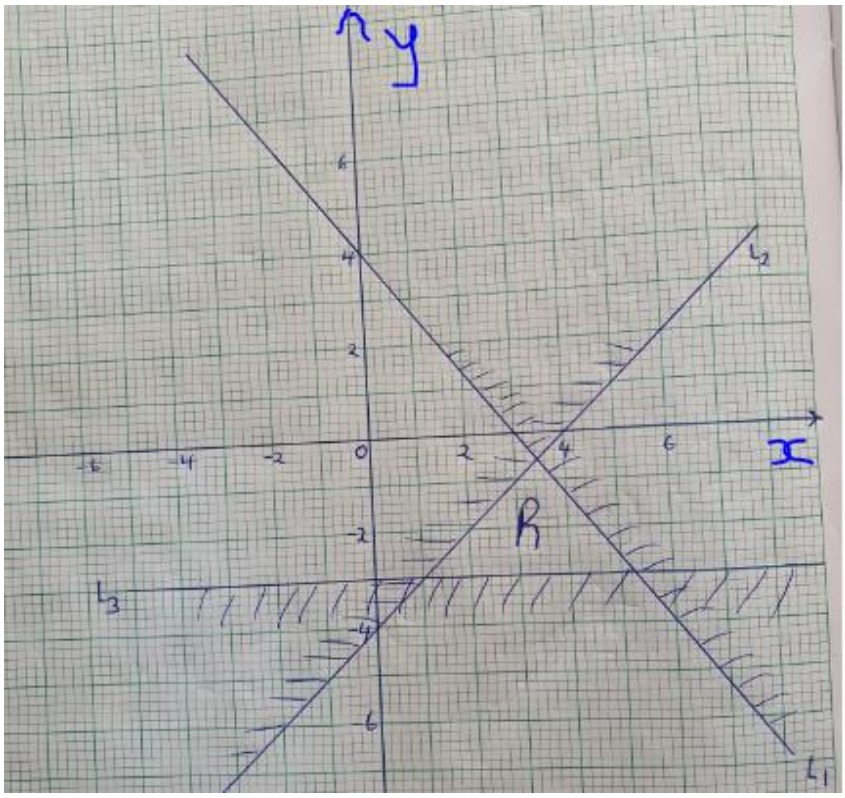
Currency	Buying	Selling
1 Sterling pound	135.50	135.97
1US dollar	72.23	72.65

14. Adam harvested 200 bags of wheat from 2 ha of his farm. How many bags of wheat would he harvest from 16 ha if he maintained the rate? **(3 marks)**

15. Complete the solid below whose length is 7cm **(3 marks)**



16. Write down three inequalities which fully describe the unshaded region R in the figure below **(3 marks)**



SECTION B (50 marks)

17. Three points P, Q and S are pm the vertices of a triangular plain field. P is 400m from Q on a bearing of 300^0 and R of 550m directly south of P.

(a) Using a scale of 1 cm to represent 100m on the ground, draw a diagram to show the position of the points. **(3 marks)**

(b) Use the scale drawing to determine;

(i) The distance and bearing of Q from R. **(2 marks)**

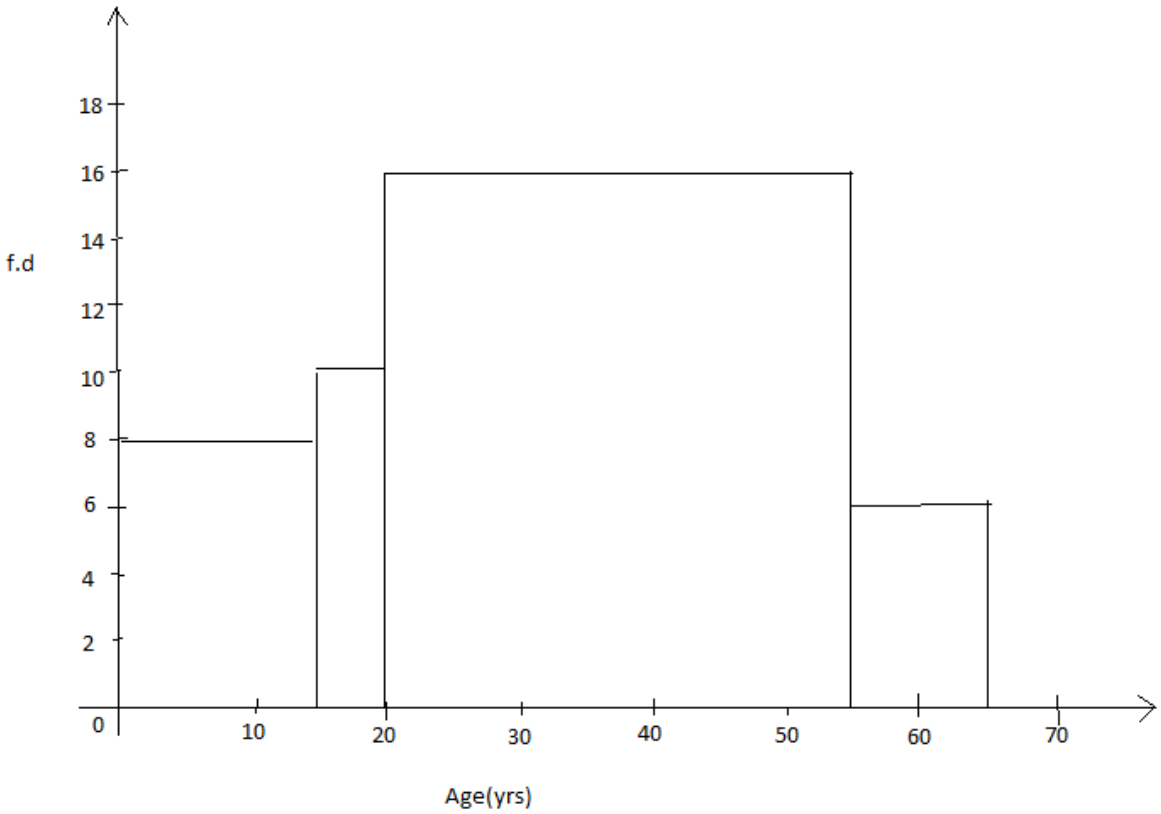
(ii) The bearing and distance of point S from P given that point S is directly 600m East of R. **(3 marks)**

(iii) The bearing and distance of Q from S. **(2 marks)**

18. A bus travelling at a speed of 80km/hr left Mombasa at 8.00am for Nairobi. Two hours later, a car travelling at a speed of 100km/hr left Nairobi for Mombasa.
    (a) Given that the distance between both cities is 500km, find the time of the day when the two vehicles met. **(6 marks)**

    (b) After meeting, the speed of both vehicles dropped to 60km/hr due to traffic jam. At what time did each vehicle arrive at its destination? **(4 marks)**

19. The figure below represents an histogram of heights against age brackets of members of a village.



Using the figure above,

a) Develop a frequency distribution table **(3marks)**

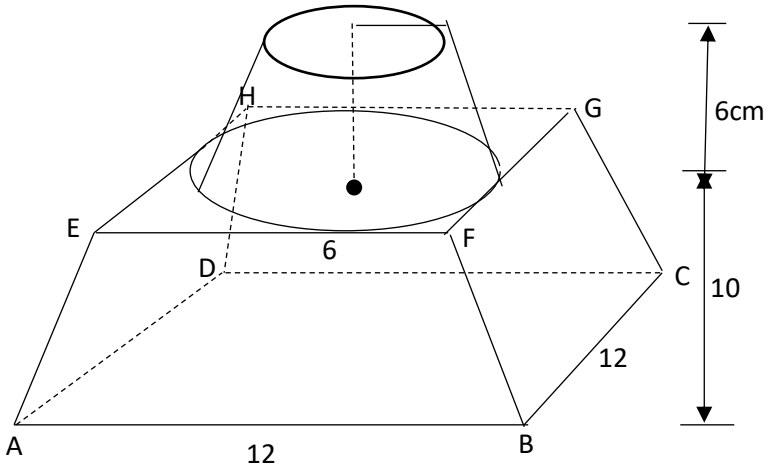
b) Using the table in (a) above find;

i. The mean**.** **(3marks)**

ii. The median class **(1mark)**

iii. The median **(3marks)**

20. The diagram below shows a container base made of a frustum of a square pyramid. The top is a solid frustum of a cone.



AB = BC = 12 cm

EF = 6

Height of 10 and 6 cm respectively.

(a) Calculate the surface area of the bottom solid. **(5 marks)**

(b) Calculate the surface area of the top side. **(4 marks)**

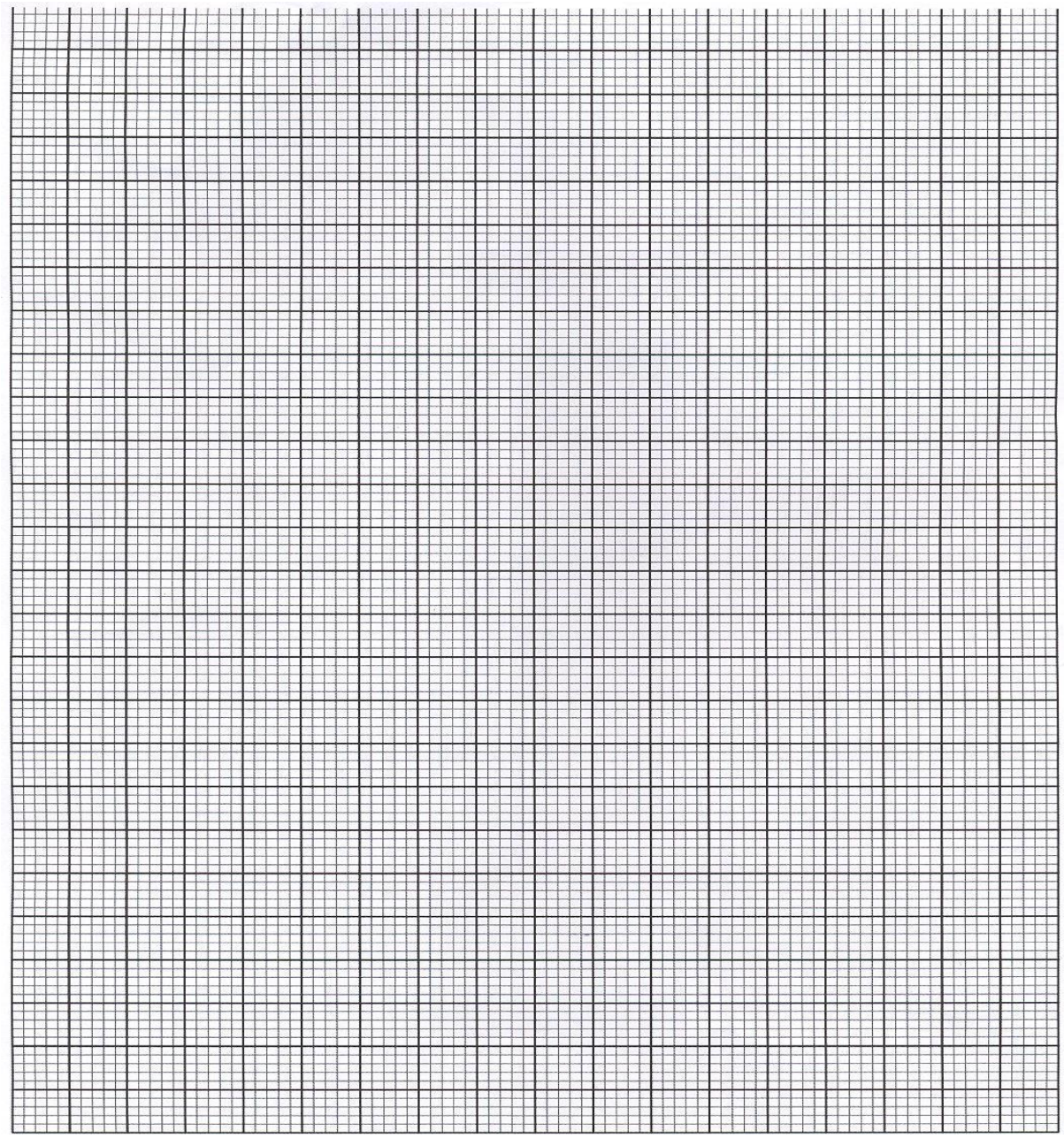
(c) Calculate the total area. **(1 mark)**

21. a).Complete the table below for the function

y=-$x^2 + 10x$ **(2marks)**

X	-1	0	1	2	3	4	5	6	8	10
Y			9			24				0

b) On the grid provided draw the graph of y=-$x^2 + 10x$ **(3marks)**



c) Using the graph above solves the equations:

i) 10x-$x^2 = 0$ **(2marks)**

ii) $x^2 - 7x - 8 = 0$ **(3marks)**

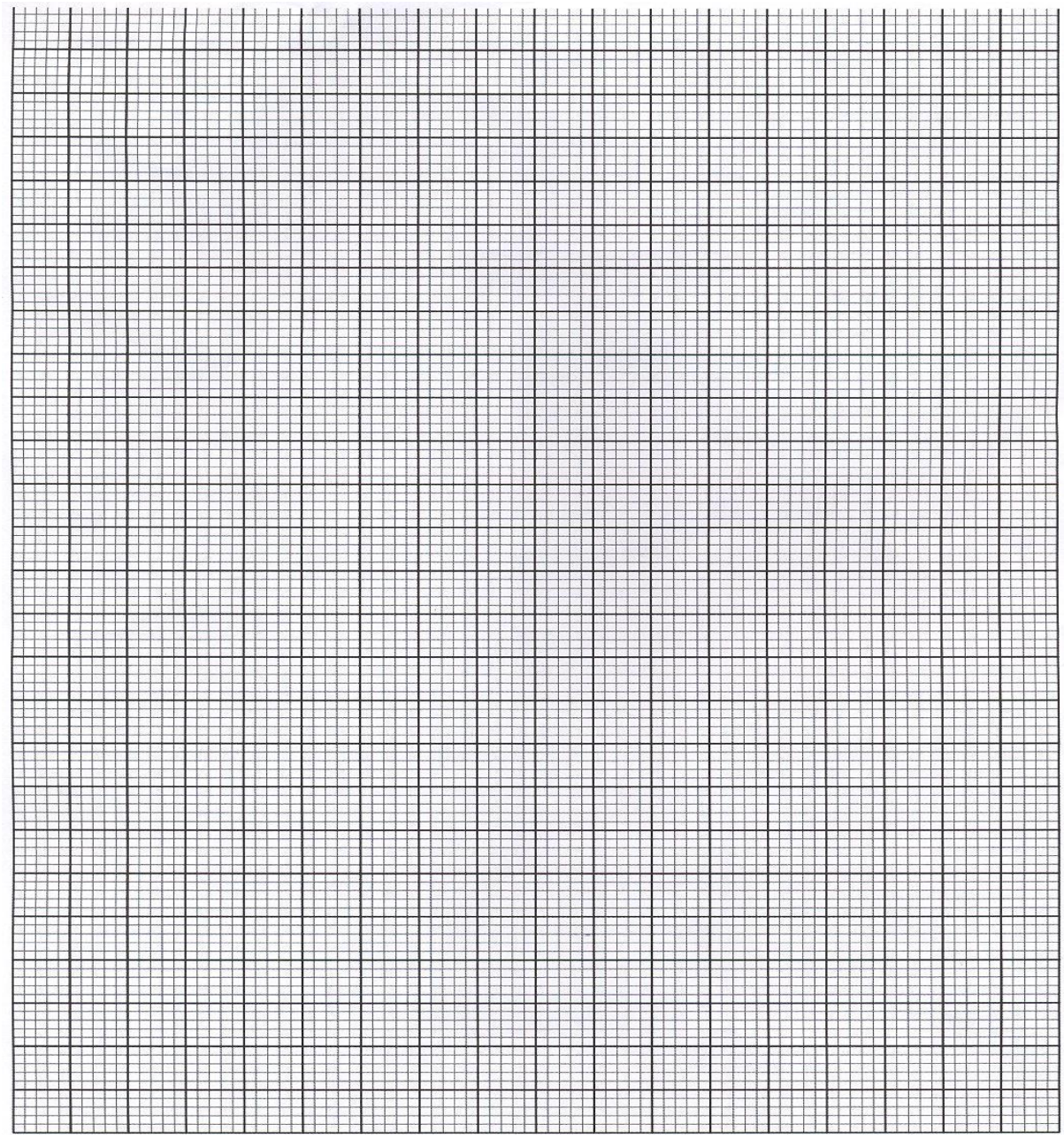
22. Two lines L_1=2y-3x-6 and L_2=3y+x-20=0 intersect at point A.

i. Find the coordinates of A **(3marks)**

ii. A third line L_3 is perpendicular to L_2 at point A. Find the equation of L_3 in form of y=mx+c, where m and c are constants. **(3marks)**

iii. Another line L_4 is parallel to l1 and passes through (-1,3). Find the x-intercept and the y-intercept of L_4. **(4marks)**

23. (a) PQRS is a quadrilateral with vertices P(1,4), Q(2,1), R(2,3) and S(6,4). On the grid provided, plot the quadrilateral. **(1 mark)**



(b) Draw P'Q'R'S' the image of PQRS under a positive quarter turn about the origin and write down its co-ordinates. **(3 marks)**

(c) Draw P"Q"R"S" the image of P'Q'R'S' under an enlargement scale factor -1 and center (0,0) and write down its co-ordinates. **(3 marks)**

(d) Determine the matrix of a single transformation that maps PQRS onto P"Q"R"S **(3 marks)**

24. A curve whose equation is $3y = 9 - 18x + \frac{27}{2}x^2 - 3x^3$ turns at points P and R.

a) Find the coordinates of P and R **(5 marks)**

b) Determine the nature of points P and R **(3 marks)**

c) Sketch the curve **(2 marks)**

PREDICTION 4

Name: …….. **Class: ……Adm.No……..**

School: …… **Date: ……**

Sign: ……

121/2
MATHEMATICS
PAPER 2
TIME: 2 ½ HOURS

KCSE PREDICTION 4
Kenya Certificate to Secondary Education

Instructions

- *Write your name, class, admission number, school, date and signature in spaces provided above.*
- *The paper contains **two** sections **A** and **B.***
- *Answer **all** questions in section **A** and **any five** questions from section **B** in the spaces provided below each question.*
- *Show all the steps in your calculations giving your answers at each stage in the spaces below each question.*
- *Non-programmable silent electronic calculator and mathematical tables may be used except where stated otherwise.*

For Examiner's Use Only

SECTION A

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

SECTION B

17	18	19	20	21	22	23	24	**TOTAL**

PERCENTAGE SCORE

SECTION A (50 MARKS)

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

1. Use logarithm table to evaluate. (4mks)

$$\sqrt[4]{\frac{(27\times 0.0293)^2}{(825-94)\div 0.2861}}$$

2. Three sisters, Ann, Beatrice and Caroline together invested Ksh. 48,000 as capital and started a small business. If the share of profit is Ksh. 2,300, Ksh. 1,700 and Ksh. 800 respectively, shared proportionally. Find the capital invested by each of them. (3mks)

3. Make t the subject of formula in $x = (\frac{p+t}{t})^{\frac{1}{3}}$ (3mks)

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

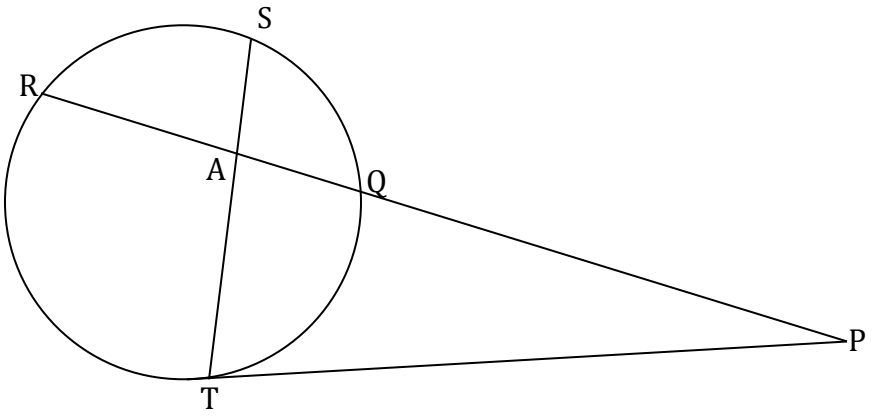
5. Expand and simplify $(3x - y)^4$ hence use the first three terms of the expansion to approximate the value of $(6 - 0.2)^4$. (4mks)

6. Find x without using tables if $3 + \log_2 3 + \log_2 x = \log_2 5 + 2$ (3mks)

7. Find the value of m for which the matrix transforms an object into a straight line. (3mks)

$$\begin{pmatrix} m^2 & 1 \\ 2m-1 & 1 \end{pmatrix}$$

8. In the figure below PT is a tangent to the circle at T, PQ = 9cm, SA = 6cm, AT = 8cm and AR = 3cm. Calculate the length of;



(a) AQ (2mks)

(b) PT (1mk)

9. A right angled triangle has a base of 15.3 cm and height 7.2 cm, each measured to the nearest 3 mm. Determine the percentage error in finding the area of the triangle, giving your answer to 2 decimal places. (3mks)

10. Given that sin $x=0.8$, without using a mathematical table and calculator find tan(90-x)

(3mks)

11. The point B(3,2) maps onto $B^1(7,1)$ under a translation T_1. Find T_1 (2mks)

12. Using a ruler and a pair of compasses only, construct triangle ABC in which BC=6cm, AB= 8.8cm and angle ABC= 22.5^0. (3mks)

13. Two grades of tea A and B, costing sh 100 and 150 per kg respectively are mixed in the ratio 3:5 by mass. The mixture is then sold at sh 160 per kg. Find the percentage profit on the cost price.

(3mks)

14. The first, the third and the ninth term of an increasing AP, makes, the first three terms of a G.P. If the first term of the AP is 3, find the difference of the AP and common ratio of GP.

(4mks)

15. The matrix M=$\begin{pmatrix} 3 & -2 \\ -5 & y \end{pmatrix}$ maps a triangular object of area 7 square units onto one with area of 35 square units. Find the value of x. (4mks)

16. The equation of a circle is given by $x^2+4x+y^2-2y-4=0$. Determine the centre and radius of the circle (3mks)

SECTION B (50 MARKS)

*(Answer any **five** questions in this section)*

17. A bag contains 3 black balls and 6 white balls. If two balls are drawn from the bag one at a time, find the:

a) Probability of drawing two white balls:

i) With replacement (2mks)

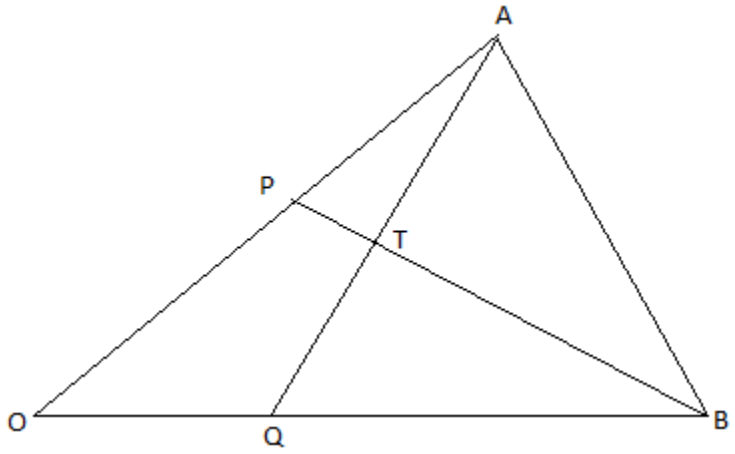
ii) Without replacement (2mks)

b) Probability of drawing a black ball and white ball:

i) With replacement (3mks)

ii) Without replacement. (3mks)

18. In the triangle below P and Q are points on OA and OB respectively such that OP:PA = 3 : 2 and OQ : QB = 1 : 2. AQ and PQ intersect at T. Given that **OA** = **a** and **OB** = **b**.



(a) Express AQ and PQ in terms of **a** and **b**. (2mks)

(b) Taking $BT = kBP$ and $AT = hAQ$ where h and k are real numbers.

(i) Find two expressions for OT in terms of **a** and **b**. (2mks)

(ii) Use the expression in b(i) above to find the values of h and k. (4mks)

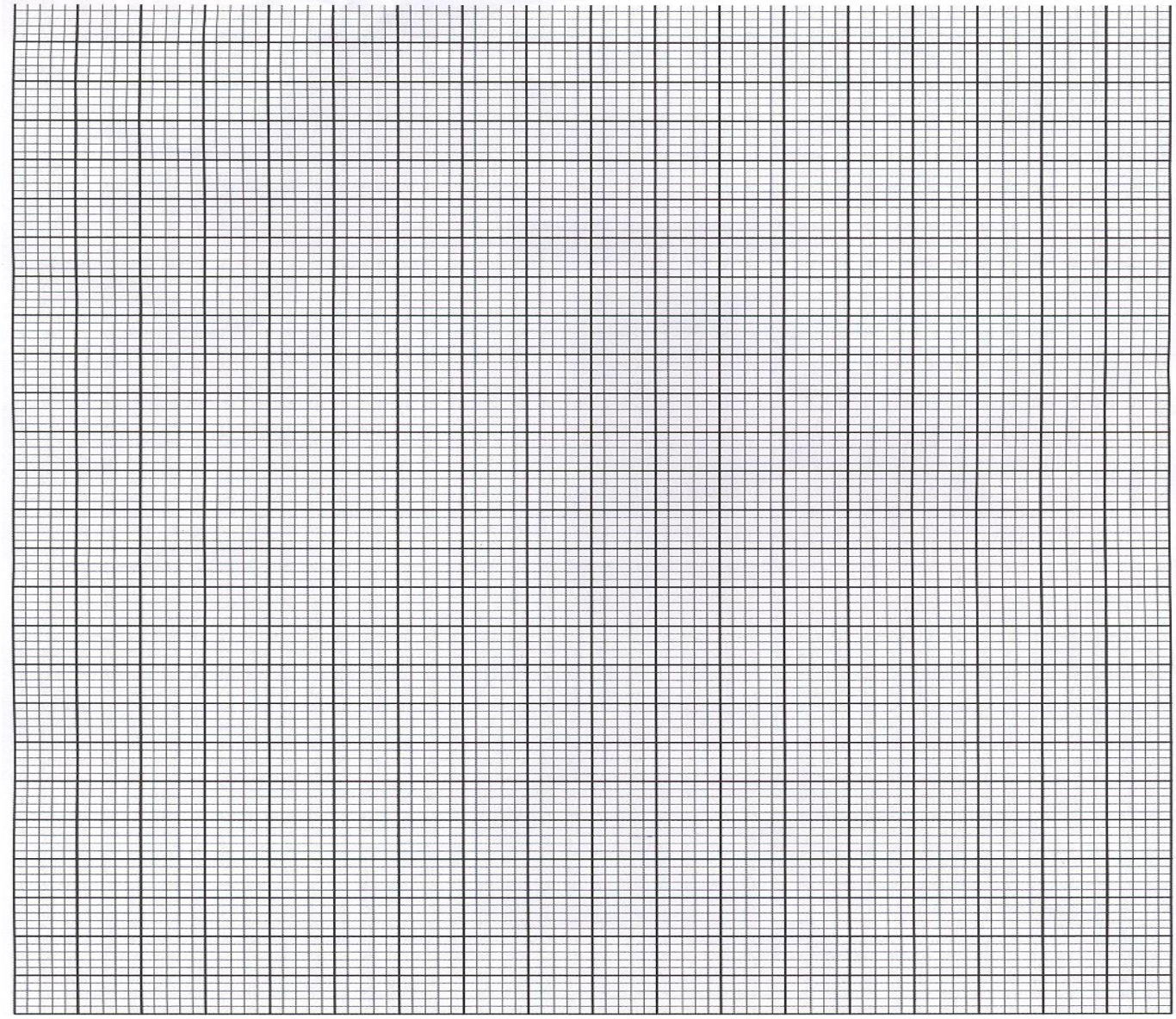
(c) Give the ratio $BT:TP$. (2mks)

19. Complete the table below for the functions $y=3\cos x-2$ for $0^0 \leq x \leq 360^0$ (2mks)

x	0	30	60	90	120	150	180	210	240	270	300	330	360
$y=3\cos x-$													

2													

a) Plot the graph of $y=3\cos x-2$ in the graph provided below. (3mks)



b) From the graph

i. Find the amplitude of the wave. (2mks)

ii. The period of the wave. (1mk)

iii. Find the solution to $3\cos x=2$ (2mks)

20. A plane leaves an airport A (41.5^0N, 36.4^0W) at 9:00am and flies due north to airport B on latitude 53.2^0N. Taking π as $\frac{22}{7}$ and the radius of the earth as 6370Km,

a) Calculate the distance covered by the plane in km (4mks)

b) The plane stopped for 30minutes to refuel at B and flew due east to C, 2500km from B. Calculate:

i) position of C (3mks)

ii) The time the plane lands at C if its speed is 500km/h (3mks)

21. The curve given by the equation $y = x^2 + 1$ is defined by the values in the table below.

(a) Complete the table by filling in the missing values. (2mks)

X	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Y	1.0		2.0		5.0		10.0		17.0		26.0		37.0

(b) Sketch the curve for $y = x^2 + 1$ for $0 \leq x \leq 6$ (2mks)

(c) Use the mid-ordinate rule with 5 ordinates to estimate the area of the region bounded by the curve $y = x^2 + 1$, the x-axis, the lines x = 0 and x = 6. (2mks)

(d) Use method of integration to find the exact value of the area of the region in (c) above. (2mks)

(e) Calculate the percentage error involved in using the mid-ordinate rule to find the area. (2mks)

22. (a) Using a ruler and pair of compasses only construct triangle PQR in which $\boldsymbol{PQ = 7.5cm}$ $\boldsymbol{QR = 6.0cm}$ and angle $\boldsymbol{PQR = 60^0}$. Measure PR *(3mks)*

(b) On same side of PQ as R

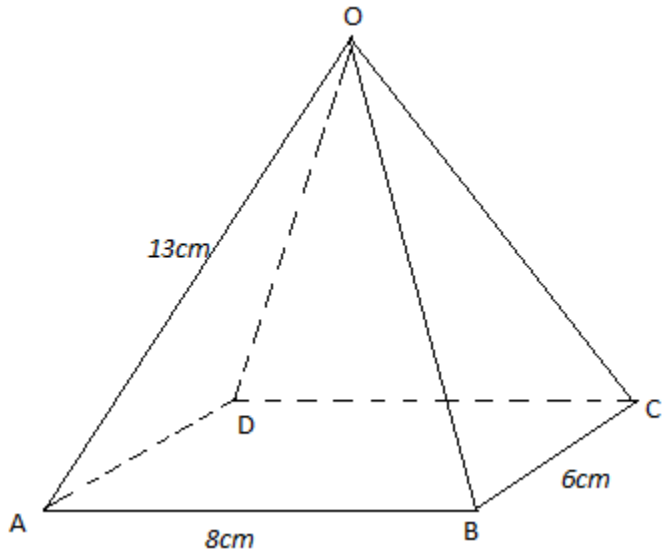
(i) Determine the locus of a point T such that angle $\boldsymbol{PTQ = 60^0}$ *(3mks)*

(ii) Construct the locus of **M** such that $\boldsymbol{PM = 3.5cm}$. *(2mks)*

(iii) Identify the region W such that $\boldsymbol{PR \geq 3}$ and angle $\boldsymbol{PTQ \geq 60^0}$ by shading the unwanted part. *(2mks)*

23. OABCD is a right pyramid on a rectangular base with AB = 8 cm, BC = 6 cm, OA = OB = OC = OD = 13 cm. Calculate;

(a) the height of the pyramid. (3mks)



(b) the inclination of OBC to the horizontal. (2mks)

(c) the angle between;

(i) OB and DC (3mks)

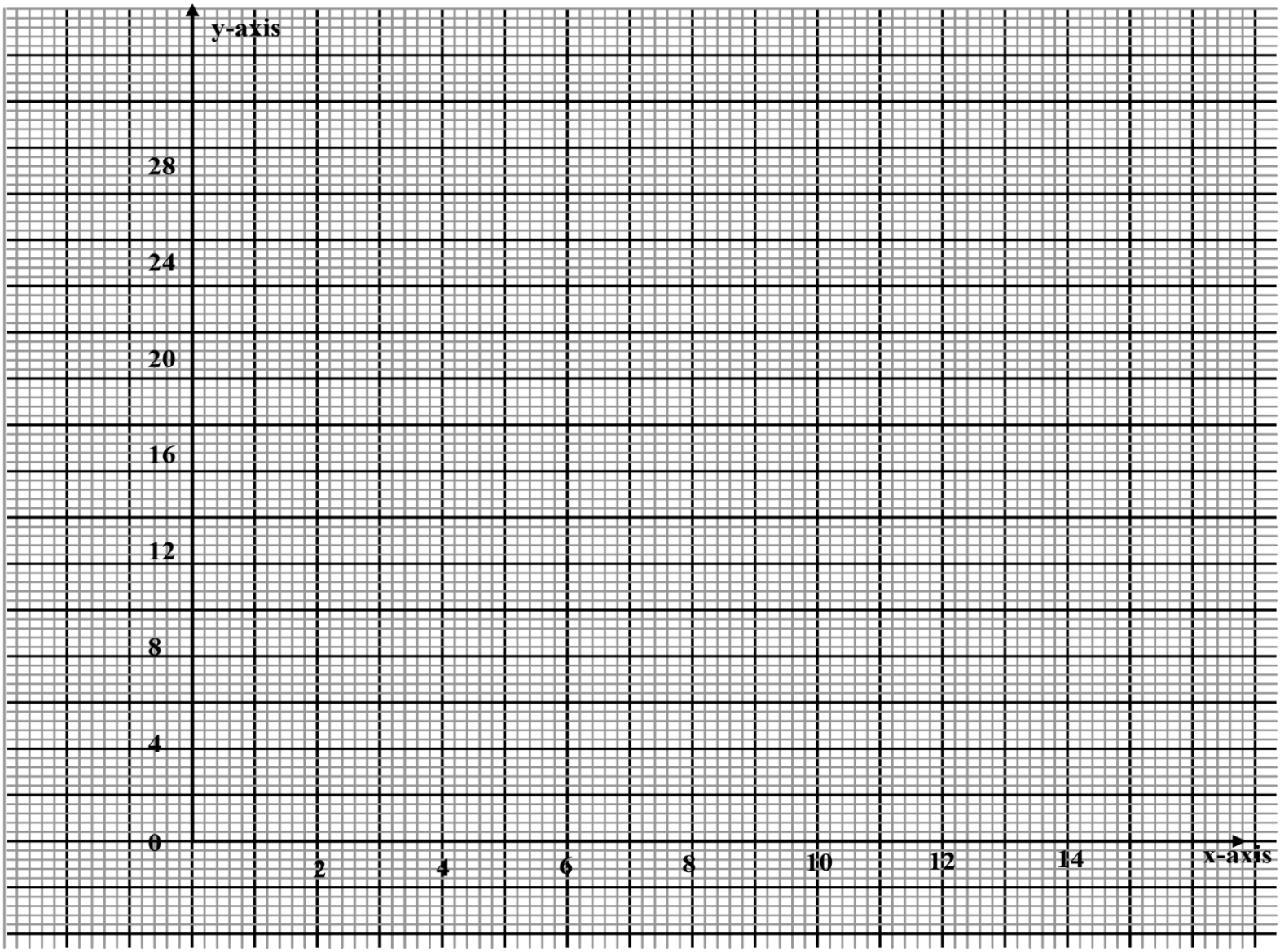
(ii) the planes OBC and OAD (2mks)

24. The games master wishes to hire two matatus for a trip. The operators have a Toyota which carries 10 passengers and a Kombi which carries 20 passengers. Altogether 120 people have to travel. The operators have only 20litres of fuel and

the Toyota consumes 4 litres on each round trip and the Kombi 1 litre on each round trip. If the Toyota makes **x** round trips and the kombi **y** round trips;

(a) write down four inequalities in x and y which must be satisfied . (2mks)

(b)Represent the inequalities graphically on the grid provided. (3mks)



(c) The operators charge shs.100 for each round trip in the Toyota and shs.300 for each round trip in the kombi;

(i) determine the number of trips made by each vehicle so as to make the total cost a minimum. (4mks)

(ii) find the minimum cost. (1mk)

PREDICTION 4

NAME: …… ADM NO: ……CLASS: ……

Date……

Candidate's Sign: ……..

English paper 1

101/1

(Functional Writing, Cloze Test and

Oral Skills)

Time: 2hrs

KCSE PREDICTION 4

Kenya Certificate of Secondary Education

INSTRUCTIONS

1. *Answer all questions in this paper.*
2. *All your answers must be written in the spaces provided.*
3. *This paper consists of 8 printed pages.*
4. *Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing*

FOR EXAMINER'S USE ONLY.

Question	**Maximum**	**Score**
1	**20**	
2	**10**	
3	**30**	
TOTAL	**60**	

1. Your best friend has asked you to recommend a book for him to read. You recently read *A Doll's House* by Henrik Ibsen and you really enjoyed it. You would like him to read the same book. Write a review that would convince him to read the book. 20 marks

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2. Read the passage below and fill the blanks with the most appropriate word. 10 marks

Stress, intonation and pronunciation are invaluable aspects of 1……for any fluent 2…… of the English language. Any handicap 3…… these three areas adversely affects the 4……of one's speech. One 5…… hope to achieve competence in both spoken and 6…… English if one has not mastered stress, intonation 7……pronunciation. In this book, the 8…… have endeavored to guide the reader to see the possibilities of working 9…… their effective use of the English language.

With the rising popularity and usage, the correct use of the English language has been 10……compromised.

3. (a) Read the following narrative and answer the questions after:

One day in June, Hare started bragging to the world in jungle land about his talents and abilities "I'm so fast" he said, "that I can beat anyone who wants to race with me. I'm Mr. Hot stuff on the track."

Tortoise blazed at Hare through drooping eyelids. "Alright", said Tortoise. "I'll take you up on it, I think I can beat you. Let's do it."

"You?" exclaimed Hare astonished.

"Why, you're slower than an elephant asleep stuck in the mud. I can beat you ten times before you go three feet."

"Insult me if you want", replied Tortoise. "I have a hard shell. But hold up on the bragging and boasting until the race is over. You never know, you know"

They decided to race for a distance of a mile, Giraffe acted as the starter. "Ready? On your marks! Go!" barked the Giraffe.

Hare took off like a tornado, rounding the bond in a few seconds. He felt the race was such a joke. He decided to take a little nap. He fell asleep and dreamed about the fields of Kales.

Tortoise chugged along at a determined, steady pace, very slowly. Eventually, she lumbered past Hare. Sharp observers noticed a faint odd smile on her face and a slight twinkle in the eyes beneath the droopy eyelids. Meanwhile, the snoring hare dreamed about the luscious Kales. A thunderclap awoke him. The sky was cloudy until the sun was setting.

Hare leaped up, rubbed the sleep out of his eyes, and zoomed down the road. When he got to the finishing line, the crowd of chimpanzees was cheering Tortoise on. Tortoise inched over the finishing line, a foot ahead of speeding Hare.

She was victorious!

"Eat my dust Bunny Boy!" said Tortoise

"You can eat your smart words for dinner, too."

Hare was too embarrassed for words. She shrunk back to his house, somewhat educated in the school of experience.

i) State two ways in which you can begin telling this story during a live performance.

(2marks)

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ii) If you were part of the audience for this story, explain two things you would do to show that you are participating in the story. (2marks)

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iii) Explain how you would say the statement "You can eat your smart words for dinner, too." (2 marks).

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b) For each of the following words provide another word pronounced the same. (4 marks)

i) Colonel……

ii) Liar ……..

iii) Quay ……

iv) Lichen……

c) For each of the following set of words, identify the odd one out according to pronunciation of the syllables highlighted. (3 marks)

i) pl**ea**sant, pr**ea**ch, pr**e**tty……..

ii) w**ea**pon, w**e**d, w**ee**d……..

iii) br**ea**the, br**ea**th, br**ea**dth……..

d) Read the form below and answer the questions that follow.

A flea and a fly flew up in a flue.
Said the flea, “Let us fly!”
Said the fly, “Let us flee.”
So they flew through a flaw in the flue.

i) Identify the genre above. (1 mark)

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ii) Identify and illustrate the dominant sound pattern in the genre above. (2 marks)

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iii) What would be lost if the above genre was translated into a different language? (1mark).

……

e) For each of the following sentences, indicate whether you would say it with a rising or falling intonation. (3 marks).

i) Which school does Allan teach?……

ii) Did you buy the items?……

iii) He is a good footballer, isn’t he?……

f) You are working as an intern at a local company attached to the Human Resources Manager’s office. You receive a call from someone who would want to talk to the Manager. Outline three things you would do to ensure the conversation is effective. (3 marks)

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g) Mrs. Mwangi asked her class Form 4C to decide which one of the books in their syllabus they should perform for the rest of the school. She had asked Joyce to lead the discussion. Read the discussion below and answer the questions that follow.

Mrs. Mwangi: Joyce would you lead the discussion?

Joyce: Aha, Ok, The question is : What play should we pick for our class play. Does anyone have suggestions? Sharon?

Sharon: I suggest we do "Betrayal in the City"

Anred: How about "The Caucasian Chalk Circle?

Joyce: No, I dislike "The Caucasian Chalk Circle" Passionately.

Kendra: I love "The River and the Source."

Sharon: No, way! That would make a stupid play! Let's do "Betrayal in the City"

Joyce: Benta?

Benta: I have never watched "The Caucasian Chalk Circle" but…..

Pamela: It's a superb play

Joyce: Pamela; please let Benta finish then it will be your turn

i) In terms of effective communication, identify <u>four</u> things some members of Form 4C did wrong in this discussion. (4marks).

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ii) Mention aspects of etiquette displayed by some members during the discussion. (3marks)

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PREDICTION 4

ENGLISH PAPER 2
(COMPREHENSION, LITERARY APPRECIATION AND GRAMMAR)

KCSE PREDICTION 4

1. COMPREHENSION

Read the passage below and answer the questions that follow

The process of developing social skills among children at an early age is important. Researchers have cited rejection by peers as the greatest challenge children face in their quest to build meaningful social skills. It has been reported that children who get bullied and snubbed by peers are more likely to have problems in relating with others. In recent times, researchers have found at least three factors in a child's behavior that can lead to social rejection. The factors involve a child's inability to pick up on and respond to nonverbal cues from their pals. In the United states 10 to 13 percent of school-going children experience some form of rejection by their peers. In addition to causing mental health problems, bullying and social isolation can increase the likelihood of a child getting poor grades, dropping out of school, or developing substance abuse problems.

It is reported that the social skills that children gain on the playground or elsewhere could show up later in life, according to Richard Lavoie, an expert in child social behaviour. He says that children experiment with the relationship styles they will have as adults during unstructured playtime-when children interact without the guidance of an **authority figure.** Researchers say that the number-one need of any human is to be liked by other humans. However, researchers have expressed concern that our children are like strangers in their own land. They don't understand the basic rules of social behaviour and their mistakes are usually unintentional.

Children who face rejection may have problems in at least one of three different areas of nonverbal communication, which is the reason they are rejected. These are reading nonverbal cues; understanding their social meaning; and coming up with options for resolving a social conflict. A child, for example, simply my not notice a person's scowl of impatience or understand what a tapped foot means. In another situation, a child may have trouble reconciling the desires of a friend with her own. Anyone trying to help children on their social skills should try to pinpoint the weaknesses a child has and then build those up.

When children have prolonged struggles with socializing, "a vicious cycle begins," children who are **shunned** by others have few opportunities to practice social skills whereas popular children have more than

enough opportunities to perfect theirs. However, having just one or two friends can be enough to give a child the social practice he or she need.

Parents, teachers and other adults in a child's life can help, too. Instead of reacting with anger or embarrassment to a child who, say, asks Aunt Vera if her new hairdo was a mistake, parents should teach social skills with the same tone they use for teaching numeracy skills or proper hygiene.If presented as a learning opportunity, rather than a punishment, children usually appreciate the lesson. It is important to note that most children are so desperate to have friends that they **just jump on board.**

To teach social skills, Lavoie advises a five-step approach in his book. The process works for children with or without learning disabilities and is best conducted immediately after a wrongdoing has been made. First, ask the child what happened and listen without judgment. Second, ask the child to identify their mistake. Often children only know that someone got upset, but don't understand their own role in the outcome. Third, help the child identify the cue they missed or mistake they made, by asking something like: "How would you feel if Emma was hogging the tyre swing?" Instead of lecturing with the word "should," offer options the child "could" have taken in the moment, such as "You could have asked Emma to join you or told her you would give her the swing after your turn. "Fourth, you can create an imaginary but similar scenario where the child can make the right choice. For example, you could say, "If you were playing with a shovel in the sand box and Aiden wanted to use it, what would you do?" Lastly, give the child" social homework" by asking him to practice this new skill, saying: "Now that you know the importance of sharing, I want to hear about something you share tomorrow."

(Adapted from livescience.com-Tue Feb 2, 2010)

Questions

a) In one sentence, explain what this passage is talking about? (2mks)

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b) What is the number one need of any human being? (1mk)

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c) What are cited as the causes for social rejection according to the passage (2mks)

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d) What is social rejection likely to lead to (2mks)

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e) What vicious cycle is referred to in this passage (2mks)

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f) How can a parent make children appreciate the lesson on social skills? (2mks)

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g) "How would you feel if Emma was hogging the tyre swing?" Re-write in reported speech.

(1mk)

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h) Make notes on the five-step approach to teach children social skills (5mks)

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i) Explain the meanings of the following words and phrases as used in the passage (3mks)

i. Authority figure

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ii. Shunned

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iii. Jump on board

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2. <u>Read the excerpt below and answer the questions that follow</u> (25mks)

A Doll's House:

Krogstad: (Controlling himself) Listen to me, Mrs. Helmer. If necessary, I am prepared to fight for my small post in the Bank as if I were fighting for my life.

Nora: So it seems

Krogstad: It is not only for the sake of the money; indeed, that weighs least with me in the matter. There is another reason-well, I may we well tell you. My position is this. I daresay you know, like everybody else, that once, many years ago, I was guilty of an indiscretion.

Nora: I think I have heard something of the kind.

Krogstad: The matter never came into court; but every way seemed to be closed to me after that. So I took to the business that you know of. I had to do something; and, honestly, I don't think I've been one of the worst. But now I must cut myself free from all that. My sons are growing up; for their sake I must try and win back as much respect as I can in the town. This post in the Bank was like the first step up for me – and now your husband is going to kick me downstairs again into the mud.

Nora: But you must believe me, Mr. Krogstad; it is not in my power to help you at all.

Krogstad: Then it is because you haven't the will; but I have means to compel you.

Nora: You don't mean that you will tell my husband that I owe you money?

Krogstad: Hm! – suppose I were to tell him?

Nora: I would be perfectly infamous of you. *(Sobbing)* To think of his learning my secret, which has been my joy and pride, in such an ugly, clumsy way – that he should learn it from you! And it would out me in a horribly disagreeable position-

Krogstad: Only disagreeable?

Nora: *(Impetuously)* well, do it, then! – and it will be the worse for you. My husband will see for himself what a blackguard you are, and you certainly won't keep your post them.

Krogstad: I asked you if it was only a disagreeable scene at home that you were afraid of?

Nora: If my husband does get to know of it, of course he will at once pay you what is still owing, and we shall have nothing more to do with you.

Krogstad: *(Coming a step nearer)*Listen to me, MrsHelmwe. Either you have a very bad memory or you know very little of business. I shall be obliged to remind you of a few details.

Questions

a) What happens just before this excerpt? (2mks)

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b) Identify and illustrate any two themes evident in the excerpt. (4mks)

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c) Using about fifty words, summarise why Krogstad is prepared to fight for the small post in the bank (5mks)

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d) Identify and illustrate any two character traits of; (4mks)

i. Krogstad

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ii. Nora

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e) Identify and illustrate any two stylistic devices used in the excerpt. (4mks)

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f) Explain the meaning of the following words as used in the extract (2mks)

i. Compel

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ii. Blackguard

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g) "I shall be obliged to remind you of a few details". Which are those details? (4mks)

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3. <u>Read the following narrative then answer the questions that follow</u> (20mks)

Once upon a time Hare and Hyena were very good friends. They visited each other every day and herded their cows together.

There came a time when the cows started dying one after the other. The two friends wanted to find out why the cows were dying. Hare said, 'Let us go and kill our mothers and take out their livers. We shall then cook and taste these livers. The bitter liver will show whose mother was making the cows die. At once Hyena went and killed his mother. He took out the liver and cooked it. Hare went and hid his mother in the garden in bushy banana plants. He then went and killed an antelope, took out its liver and cooked it.

The two friends met to eat their livers. “My liver is very bitter”, said the Hyena. “Mine is very sweet,” said Hare, “So it was your mother who was making the cows die.” Hyena kept quiet and went home feeling sad. He moved from the old house to a smaller one because now he had no mother. Hare did the same

After a short time, there was great famine in the land. The two friends decided that each of them was to look for food on alternate days sharing, on an equal basis what was available. When it was Hyena’s turn, he went and found only honeycombs without any honey. When Hyenabrought these, Hare refused this because he had secretly gone to his mother who had given him some bananas. This went on for many days, and Hyena grew thinner and thinner. Then he started wondering. “How does my friend remain fat and he doesn’t eat anything. I will find out.”

One day he followed Hare. Hare went to his mother as usual. ‘Mother, mother, I have come’ and the mother dropped some bananas which Hare ate quickly. He then looked for some honeycombs and took them to the friend. “This is all I could find my friend.” The Hyena kept quiet. The next day he went to the banana plant and called. His voice however was very deep and no bananas were dropped for him.
There was an old hyenawho was staying at the end of the forest and used to give advice to people. So Hare’s friend went to her and told her his problem. “Go and put your tongue on the path of black ants,” He was told, “Let them bite your tongue until it hurts. That’s how your voice will be soft.”

Hyena went and did as he was told. When he went to Hare’s mother his voice was as soft as Hare’s. “Mother, mother I have come.” And Hare’s mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she screamed but there was nobody near to help. Hyena killed her immediately.

Hyena went and met Hare as usual saying nothing about Hare’s mother. The following day it was Hare’s. “Mother, mother I have come.’ And Hare’s mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she screamed but there was nobody near to help. Hyena killed her immediately.

Hyena went and met Hare as usual saying nothing about Hare’s mother. The following day it was Hare’s turn. He went to his usual place. “Mother” he called again. He climbed up. There was nobody. Having seen some blood on the ground, Hare knew what had happened to his mother.

When Hare got back to Hyena's house, he said nothing. At night, Hare took all cows including Hyena's and went away to live in another part of the country. That ended the Hare and Hyena's friendship. And that is the end of my story to you.

Questions

a) With illustrations, classify the above narrative (2mks)

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b) Identify three features of narratives (3mks)

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c) Identify three features in this story that are characteristics of oral narratives (3mks)

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d) Briefly explain the character traits of the following (4mks)

i. Hare

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ii. Hyena

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e) What moral lesson do you learn from this story? (2mks)

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f) Identify two socio-economic activities from the community in which the narrative is taken from. (2mks)

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g) You have been selected for a fieldwork research to collect the above item.

i. Briefly explain two ways in which you would collect information on the item. (2mks)

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ii. Identify two challenges you might encounter during the field work and state how you would solve them. (2mks)

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h) Then he started wondering "How does my friend remain fat and he doesn't eat anything. I will find out". (Re-write into indirect speech) (1mk)

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i) Describe the irony in the fifth paragraph (2mks)

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4. <u>GRAMMAR (15MKS)</u>

a) Rewrite the following sentences according to the instructions given (3mks)

i. He will not be given a driving license. He passes the road test (Rewrite as one using 'unless')

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ii. The woman left the child with a neighbor and went to the market. (Begin: leaving….)

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iii. The boys went to play in the field (underline the adverbial)

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

i. Property worth millions of shillings went up …….flames.

ii. The three boys shared the bread ……..themselves.

iii. We should strive to live ……our means.

c) Use the correct form of the word in brackets to fill in the blank spaces in the sentences below. (3mks)

i. The audience was offended by the ……..……..(sense) of the speaker.

ii. The ……..(acquire) of a university degree is a great milestone to a student.

iii. Everyone should obey the law ……of their position in the society.

d) Use the correct alternative to complete the sentences below (4mks)

i. Teaching ……(practice/practice) is not an easy job for teacher-trainees.

ii. The prophet's …….(prophesy/prophecy) was misleading to his audience.

iii. He …….((insured/ensured) his car with Madison.

iv. Mwita ……..(hanged/hung) the chart on the wall.

e) Write the following sentences in indirect speech (1mk)

"These are juicy mangoes," Ken said.

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f) You do not require to cheat to pass (1mk)

(Supply a suitable question tag).

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PREDICTION 4

101/3

ENGLISH PAPER 3

1.Imaginative Composition (Compulsory)

Write a story illustrating the saying, "When the deal is too good, think twice.

Or

Write a composition explaining how young Kenyans can help eradicate poverty.

2. The Compulsory Set Text

"Blood is thicker than water." Drawing illustrations from the novel, Blossoms of the Savannah by Henry Ole Kulet, support the above statement.

3. The Optional Set Texts

a) "Choices have consequences." Justify this statement with reference to The Pearl by John Steinbeck.

Or

b) Drawing illustrations from the short story Light by Lesley Nneka in the anthology, Memories We Lost and Other Stories write an essay on the challenges that single male parents face when bringing up their daughters.

Or

c) "The more things change, the more they remain the same." Using illustrations from the play Inheritance by David Mulwa, write a composition to support this statement.

PREDICTION 4

JINA.....NAMBARI YAKO.....DARASA.....

TAREHE..... SAHIHI.....

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

MAAGIZO

a) *Andika jina lako na nambari ya usajili kwenye nafasi ulizoachiwa hapo juu.*
b) *Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.*
c) *Andika insha **mbili**. Insha ya kwanza ni ya **lazima.***
d) *Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.*
e) *Kila insha isipungue maneno **400**.*
f) *Kila insha ina alama **20.***
g) *Kila insha lazima iandikwe kwa lugha ya **Kiswahili.***

Kwa matumizi ya mtahini pekee

Swali	**Upeo**	**Alama**
1	20	
2	20	
3	20	
4	20	
Jumla	**40**	

1. Umealikwa katika jopo lililoteuliwa kuchagua kiongozi wa masuala ya watoto wanaorandaranda mitaani katika kaunti yenu. Andika tawasifu utakayowasilisha katika jopo hilo kuonyesha ufaafu wako.

2. Mitandao ya kijamii ina faida nyingi katika jamii. Thibitisha

3. Andika kisa kinachothibitisha ukweli wa methali “kutangulia si kufika”

4. **Andika kisa kinachoanza kwa maneno yafuatayo.**
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PREDICTION 4

KISWAHILI – KARATASI YA 2

Muda : Saa $2^1/_2$

JINA……..... NAMBARI …… DARASA……

SAHIHI…… TAREHE…….....

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

MAAGIZO

Jibu maswali maswali **yote** katika nafasi ulizopewa**.**

Majibu lazima yaandikwe katika lugha ya Kiswahili

Usitoe ukurasa wowote katika kijitabu hiki.

Kila mtahiniwa ahakikishe kuwa kurasa zote zimepigwa chapa pamoja na maswali.

KWA MATUMIZI YA MTAHINI :

SWALI	**UPEO**	Alama
1. UFAHAMU	15	
2.UFUPISHO	15	
3.MATUMIZI YA LUGHA	40	
4.ISIMUJAMII	10	
	JUMLA	

UFAHAMU - ALAMA 15

Ulimwengu mzima ulisimama ghafla na shughuli za kawaida zikakwama katika mataifa yote duniani. Walimwengu walipata kibarua kigumu mno huku shughuli za uchukuzi wa kimataifa zikitatizika kwa njia zisizomithilika. Ikumbukwe pia kuwa masomo yalitatizika pakubwa huku viwango vyote vya shule vikifungwa.

Vituo vya afya navyo vilifurika kwa msongamano mkubwa wa watu huku wahudumu wa afya wakilemewa na idadi kubwa ya wagonjwa. Wahudumu hao walijipata kwenye wadi na vyumba wa wagonjwa mahututi na wengine wengi walifariki . Wengineo walikosa nafasi ya matibabu au ya kulazwa katika hospitali wanazohudumu.

Uchumi uliathirika pakubwa. Watu wengi walipoteza kazi zao. Wengine walitumwa nyumbani kwa likizo bila malipo nao wengine wakikatwa mishahara kwa asilimia kubwa. Biashara nazo hazikusazwa na gonjwa hili kwani nyingi zilifungwa wengine wakipata hasara chungu nzima. Benki zilijipata kwa njia panda kwa wateja kushindwa kulipa mikopo.

Usisahau kuwa maelfu ya watu walipoteza maisha yao huku wengine wengi wakiendelea kukabiliana na makali ya ugonjwa wa Covid-19 ambayo kwa sasa ni uhakika kuwa umejua kuwa ndio ninaozungumzia. Kenya, kama mataifa mengine ulimwenguni inaendelea kukabiliana na janga hili.

Miongoni mwa dalili za mapema za maambukizi ya gonjwa hili ni kukohoa, kushindwa kupumua au ugumu wa kupumua, joto jingi au baridi kali mwilini ,maumivu ya misuli au mwili, kutapika au kuendesha, kupoteza hisia za kuonja na kunusa miongoni mwa mengine. Yeyote anayeonyesha dalili hizi anashauriwa kujitenga na kwenda hospitalini mara moja.

Ni muhimu kujilinda dhidi ya virusi hivi. Vaa barakoa kila wakati unapoenda kwenye watu. Kumbuka kuosha mikono yako kwa maji yanayotiririka na sabuni au kuitakasa. Epuka mikusanyiko ya watu na uzingatie umbali wa mita moja unapokumbana na watu. Kaa nyumbani kama inawezekana. Wenye magonjwa mengine kama shinikizo ya damu, ukimwi, saratani,kisukari miongoni na pia watu umri wa juu wanashauriwa na wataalamu wa afya wawe makini zaidi kwani wamo hatarini zaidi.

Hebu tugeukie mikakati mbali mbali iliyowekwa na serikali ya Kenya tangu kuliporipotiwa kisa cha kwanza nchini. Serikali ilitangaza kufungwa kwa shule. Kando na kufungwa huko, kafyu ya saa moja usiku hadi saa kumi na moja asubuhi iliwekwa hapo awali, hatua iliyolegezwa baadaye. Kufungwa kwa uchukuzi wa kimataifa ulitangazwa huku uchukuzi nchini ukidhibitiwa kwa kupunguzwa kwa idadi ya watu kwenye uchukuzi wa uma. Mikusanyiko ya watu ulipigwa

marufuku nazo kanisa zikifungwa japo kwa muda. Idadi ya watu katika arusi na mazishi ulipunguzwa mno. Maeneo ya burudani pia yalifungwa kwa muda nayo maeneo ya maabadini yalifungwa miongoni mwa mikakati mingine.

Baada ya miezi kadhaa, makali ya janga hili tandavu yalizidi kuwakumba wakenya huku kufungwa wa nchi kukiendelea kuathiri shughuli ya kawaida za kujikimu. Serikali iliweka mikakati ya kuinua uchumi. Wakenya wa viwango vya chini walitumiwa pesa za kujikimu huku wafanyibiashara wadogo wakiinuliwa kwa mikopo. Serikali pia ilizirai benki kuzungumza na wadeni wao na kuwasogezea nyakati za kulipa. Ikumbukwe pia serikali ilipunguza au ushuru kwa Wakenya wenye kipato cha chini. Serikali pia ililazimika kulegeza mikakati kadhaa ili kuwapa Wakenya nafasi ya kujichumia. Saa za Kafyu zilipunguzwa huku uchukuzi wa kitaifa na kimataifa ukifunguliwa upya. Shule pia zilianza kufunguliwa japo kwa watahiniwa. Wamiliki wa maeneo ya burudani walinufaika na kufunguliwa kwa maeneo hayo. Viongozi wa kidini na wafuasi wao walikuwa na kila sababu ya kutabasamu baada ya serikali kuwafungulia maeneo ya kuabudu.

Wakenya wanaendelea kuhimizwa kufuata kanuni za wizara ya Afya dhidi ya Covid -19. Hii inaendelea huku Wakenya wakilaumiwa kwa kutovaa barakoa, kuendelea kutangamana katika mikutano ya kisiasa, kutoosha wala kutakasa mikono,kutozingatia saa za kafyu miongoni mwa mengine.

Ulimwengu unaendeleza mchakato wa kutafiti na kutafuta chanjo ya korona huku baadhi ya mataifa wakitangaza kupiga hatua kubwa na kwamba tutakwamuliwa hivi karibuni. Kujilinda kunabaki kuwa chanjo kuu.

Maswali

a. Thibitisha kwamba Covid-19 umezia utangamano wa kimataifa. (Alama 1)

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b. Eleza kinaya inayojitokeza kwa Covid-19 na wahudumu wa afya. (Alama 1)

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c. Covid -19 umesababisha madhara mengi ya kiuchumi. Thibitisha ukweli wa kauli hii kwa hoja tatu. (Alama 3)

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d. Taja dalili zozote mbili za maambukizi ya virusi vya korona. (Alama 1)

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e. Eleza matendo matatu kulingana na kifungu hiki ambayo yanamweka mtu kwenye hatari ya maambukizi ya ugonjwa huu (Alama 3)

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f. Taja mikakati miwili iliyowekwa na serikali ya Kenya kukabiliana na virusi hivi. (Alama 2)

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g. Serikali ya Kenya ililegeza mikakati yake vipi? (Alama 1)

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h. Eleza maana ya maneno yafutayo jinsi yalivyotumika kifunguni (Alama 2)

i) Kafyu

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ii) Mchakato

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UFUPISHO - Alama 15.

Katika ulimwengu wa utandawazi, mitandao ya kijamii imekuwa na umuhimu sana. Dunia imekua kwa miaka mingi na kuendelea huko kumechangiwa pakubwa na mitandano ya kijamii. Miongoni mwa mitambao ya kijamii ni kama vile Facebook, Twitter, YouTube, Skype, Instagram, Whatsapp, zoom miongoni mwa mengine.

Mitandao ya kijamii imerahisisha mawasiliano. Imekuwa rahisi kwa kuwasiliana bila kukutana uso kwa uso. Fauka ya hayo, biashara kitaifa na kimataifa imemarishwa na mitandao ya kijamii. Wafanyabiashara wanaweza kufanya mauzo ya bidhaa zao kupitia mitandao hii na kukutana na wateja mitandaoni. Ni muhimu pia kutambua kuwa, mitandandao ya kijamii hukuza umoja na ushirikiano wa watu na vile uzalendo. Watu wanatangamana mitandaoni na hata kuwa marafiki. Huko kunaondoa hisia za kikabila ambazo ndizo zimebababisha uhasama mkubwa.

Mitandao ya kijamii imezidi kukuza na kuendeleza demokrasia. Katika michakato ya kisiasa, wapiga kura wanaweza kujadili na kudadisi sera za wawaniaji wa viti mbali mbali na kufanya maamuzi mazuri. Wanasia pia wanaweza kuuza sera zao mitandaoni. Isitoshe, elimu imeimarishwa pakubwa na mitandao ya kijamii. Walimu wanaweza kuwafundisha wanafunzi moja kwa moja kwa mitandao ya Kijamii. Zoom kwa mfano hutumika kuwa na mikutano na hata kufundisha. Wanafunzi pia hupata ufafanuzi wa mada mbali mbali kwa kutembelea tofuti na mitandao mbali mbali.

Ikumbukwe mitandao ya Kijamii ni nyenzo muhimu ya kueneza habari. Kando na utangazaji magazetini, runingani au redioni, habari nyingi tu hupitishwa katika mitandao kama vile facebook, Twitter, YouTube na kadhalika. Habari za kimataifa pia hueneza zaidi mitandaoni. Wasanii wengi wamenufaika kwa mitandao hii kama nyenzo ya kipato cha kila siku,hivyo basi imeunda nafasi za ajira. Mitandao ya kijamii pia imetoa nafasi pana ya burudani kwani watu wengi hupata kufurahishwa na kuchekeshwa na wasanii mitandaoni humo.

Ingawa mitandao ya Kijamii ina faida chungu nzima, kuna hasara zake vile vile. Vijana, hata wenye umri wa miaka chini ya kumi na nane wamejiingiza kwa mapenzi. Hii imetokana na shinikizo mitandaoni ikiwemo mitandao ya video za ngono. Kanda na hayo, mitandao hii imesababisha utovu wa maadili. Vijana kwa wazee wanaiingia kwenye mitandao hii na hata kutazama filamu, nyimbo na video mbali mbali zisizofaa. Watu wanaweza kuvalia vibaya ama hata kuzungumza lugha chafu. Matukio ni kuiga tabia hizo.

Utapeli ni mwingi mitandaoni. Waja huhadaiwa na kutapeli maelfu kwa mamilioni ya pesa humo. Hii inasababababisha hasara kubwa. Watu wanaweza pia kueneza habari za uwongo mitandaoni na kusababisha mizozo. Watu binafsi wanaweza kupatwa na usumbufu wa kiakili na wengine hata kujitoa uhai. Ni muhimu pia kutambua uzembe na uvivu kama hasara inayosababishwa na mitandao ya Kijamii. Vijana wengi huwa tu kwa simu na vipakatalishi siku kutwa na hata usiku kucha bila kufanya kazi ama hata

kusoma. Uchochezi wa kisiasa huenezwa humo pia. Watu ambao wangeishi kwa amani huanza vita kutokana na uchochezi mitandaoni. Hii inatinga amani ya Kijamii.

Mitandao ya Kijamii hukumbwa na changamoto nyingi. Moja ni ukosefu wa nguvu za umeme. Si watu wote wanaweza kupata nguvu hizi ili simu na vipakatilishi vipate kutumika. Upungufu wa fedha kutokana na ufukara husababishwa watu kukosa kununua simu au vipakatilisha au hata kukosa pesa za mjazo. Zaidi ya hayo ni kutoenea vya kutosha kwa mitandao mbali mbali na hivyo kutowafikia watu wote. Sera za kudhibiti matumizi matumizi ya mitandao ya Kijamii zingali ni finyu na changamamoto za kisheria. Ni muhimu kutumia mitandao hii kwa manufaa yetu wala si kutudhuru.

Maswali

a. Fafanua faida za mitandao ya Kijamii kwa maneno 100 (Alama 9,utiririko 1)

Matayarisho

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Nakala safi

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b. Fupisha aya tatu za mwisho kwa maneno 90-100 (Alama 6,utiririko 1)

Matayarisho

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Nakala safi

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SARUFI

a)(1) Tofautisha kati ya ala tuli na ala sogezi kwa kutolea mifano moja moja (Al. 2)

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(2) Tambua sauti zenye sifa zifuatazo : (Al. 2)

i) irabu ya chini wastani

.....

ii) Sauti ambayo ni irabu na konsonanti vile vile

.....

iii) Kizuiwa-Kikwamizwa

.....

iv) Sauti tandaze ya mbele ,kati ya ulimi

.....

b). Eleza tofauti iliyopo kati ya silabi wazi na silabi funge (Al.1)

.....

.....

c) Tunga sentensi yenye kiunganishi cha masharti (Al. 1)

.....d)

Geuza kirejeshi katika sentensi ifuatayo ili kuleta dhana ya hali ya mazoea (Al.1)

Wanafunzi ambao wanasoma kwa bidii watatuzwa

.....

e) Eleza maana mbili zinazojitokeza katika sentensi ifuatayo : (Al. 1)

Pika chakula kingine

.....

.....g)

Kwa kuzingatia uamilifu, taja kwa kutolea mifano aina zozote nne za sentensi za Kiswahili (Al. 2)

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.....h)

Tilia shada katika maneno yaliyopigiwa mstari katika sentensi zifuatazo : (Al. 1)

i) Alifanya kazi yake barabara

ii) Mwimbaji alijinunulia ala za muziki.

i) Yakinisha kwa wastani (Al. 2)

Janajike lile halijanunua majitabu mazuri

..... j)

Tunga sentensi ya neno moja yenye viambajengo vifuatavyo : (Al. 2)

Nafsi ya pili wingi,mzizi, kauli ya kutendesha, kauli ya kutenda , 'o'rejeshi tamati

.....

k) Fafanua miundo mitatu ya ngeli ya A-WA kwa kutolea mifano mahususi (Al. 3)

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l) Ainisha viambishi awali na tamati ; (Al. 2)

Waliwao

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Msioabudu

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m) Tambua aina za shamirisho; (Al. 3)

Mama mzee alijengewa nyumba ya kifahari na mjukuwe kwa mawe

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n) Ainisha virai katika sentensi ifuatayo (Al. 3)

Mwalimu huyo alikuwa akiandika kitabu kikubwa mno jana jioni.

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o) Tunga sentensi moja kuonyesha maana mbili za neno "kaa" (Al. 2)

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p) Changanua sentensi ifuatayo kwa njia ya jedwali (Al. 4)

Wakulima wakipata pesa wataanza kazi

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q) Tunga sentensi moja kuonyesha matumizi mawili ya kiambishi "-ji" (Al. 2)

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r) Eleza matumizi ya kibainishi kwa kutolea mifano katika sentensi (Al. 2)

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s) Tambua kijalizo. (Al. 1)

Mtoto huyu ni mdogo.

.....

s) Andika kwa usemi halisi (Al. 3)

Mwalimu alishangaa na kutaka kujua kwa nini wanafunzi hawakuwa wameelewa mada hiyo siku hiyo.

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ISIMUJAMII

a. Eleza maana za istilahi zifuatazo : (Alama 2)

i) sajili

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.....

ii) lahaja

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b. Taja nadharia tatu za chimbuko la Kiswahili (Alama 3)

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c.(i) Eleza maana ya dhana usanifishaji (Alama 1)

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(ii) Fafanua sababu mbili za usanifishaji wa Kiswahili. (Alama 2)

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d. Eleza dhima mbili za lugha lugha rasmi. (Alama 2)

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PREDICTION 4

JINA……NAMBARI……SAHIHI……..TAREHE…....

102/3

KISWAHILI

KARATASI YA 3
FASIHI
MUDA: SAA MBILI

MAAGIZO

1) Jibu maswali manne pekee.
2) Swali la **kwanza** ni la **lazima.**
3) Maswali hayo mengine yachaguliwe kutoka sehemu nne zilizobaki, yaani: tamthilia, fasihi simulizi, hadithi fupi na riwaya.
4) Karatasi hii ina kurasa **6** zilizopigwa chapa.
5) Kila mtahiniwa ni lazima ahakikishe kwamba kurasa zote zimepigwa chapa sawasawa na kuwa maswali yote yamo.

SEHEMU YA A: SHAIRI -SWALI LA LAZIMA

1. M.S.Khatib:*Fungate ya Uhuru*

Soma shairi lifuatalo kisha ujibu maswali yanayofuata

Maendeleo ya umma

Sio vitu maghalani

Kama tele vimesaki

Lakini havishikiki
Ama havikamatiki
Ni kama jinga la moto
Bei juu

Maendeleo ya umma
Sio vitu gulioni
Kuviona madukani
Kuvishika mikononi
Na huku wavitamani
Kama tamaa ya fisi
Kuvipata ng'o

Maendeleo ya umma
Sio vitu shubakani
Dhiki ni kwa mafakiri
Nafuu kwa matajiri
Ni wao tu washitiri
Huo ni ustiimari
Lo! Warudia

Maendeleo ya umma
Ni vitu kumilikiwa
Na wanyonge kupatiwa
Kwa bei kuzingatiwa
Bila ya kudhulumiwa
Na hata kuhadaiwa

Hiyo ni haki

Maendeleo ya umma

Dola kudhibiti vitu

Vijapo nchini mwetu

Na kuwauzia watu

Toka nguo na supatu

Pasibakishwe na kitu

Huo usawa

Maendeleo ya umma

Watu kuwa na kauli

Katika zao shughuli

Vikaoni kujadili

Na mwisho kuyakubali

Maamuzi halali

Udikteta la

Maendeleo ya umma

Watu kuwa waungwana

Vijakazi na watwana

Nchini kuwa hakuna

Wote kuheshimiwa

Wazee hata vijana

Maswali

a) Huku ukitoa mifano, toa ithibati kuwa hili ni shairi huru (alama 5)
b) Mtunzi wa shairi hili alidhamiria nini? (alama 1)
c) Bainisha matumizi mawili ya tamathali za usemi katika shairi hili. (alama 2)
d) Andika ubeti wa nne kwa lugha ya kawaida (alama 4)
e) Eleza mambo yanayodhihirisha kuwa nchi imepiga hatua kiuchumi kwa mujibu wa shairi hili. (alama 4)
f) Eleza kwa kutoa mfano mbinu ambayo mtunzi wa shairi hili ametumia kutosheleza mahitaji ya kiarudhi katika ubeti wa sita. (alama 2)

g) Eleza aina ya urudiaji unaojitokeza katika ubeti wa pili na uonyeshe umuhimu wake katika shairi hili. (alama 2)

SEHEMU YA B: RIWAYA

Assumpta K. Matei: c*hozi la Heri*

Jibu swali la 2 au la 3.

2. Riwaya ya *Chozi la Heri* inasawiri adha zinayozikumba nchi za Kiafrika. Thibitisha kwa kutoa mifano mwafaka. (alama 20)

3. "Vijana hawapaswi kungojea kufanyiwa kila kitu. Tumewapa nyavu za kuvulia, nao wanaona wangoje kuletewa samaki!"

   a) Eleza muktadha wa dondoo hili (alama 4)
   b) Fafanua maudhui yanayodhihirika katika dondoo hili (alama 2)
   c) Tambua na ueleze mbinu mbili za kimtindo zinazojitokeza katika dondoo hili (alama 4)
   d) Eleza maafa yaliyomwandama msemaji wa kauli hizi (alama 4)
   e) Taja na ueleze sifa sita za msemewa (alama 6)

SEHEMU YA C: TAMTHILIA

P. Kea: *Kigogo*

Jibu swali la 4 au la 5

4. Tamthilia ya *Kigogo* imesheheni mambo ya kukatisha tamaa. Thibitisha huku ukitoa mifano inayofaa. (alama 20)

5. "Walikuwa wanataka kukukanganya tu ili usiweze hata kuwakisia waliokudhuru"

   a) Eleza umuhimu wa msemaji katika dondoo hili (alama 4)
   b) Ni maudhui yapi yanayodhihirika katika dondoo hili? (alama 2)
   c) Msemewa na wenzake ambao wanapigania ukombozi pamoja walikumbana na vizingiti anuai. Eleza kwa kutoa mifano (alama 14)

SEHEMU YA D: HADITHI FUPI

A.Chokocho na D. Kayanda: *Tumbo Lisiloshiba na Hadithi Nyingine*

Jibu swali la 6 au la 7.

Ali A. Ali: *Ndoto ya Mashaka*

6. “Na kwa nini hazitaki kuukemea mfumo huu wa maisha? Mfumo wa mwenye nacho kuendelea kupata na msinacho kuendelea kukosa?”

    a) Eleza muktadha wa dondoo hili (alama 4)
    b) Fafanua maudhui mawili yanayodhihirika katika dondoo hili (alama 4)
    c) Tambua na ueleze sifa sita za msemaji (alama 6)
    d) Eleza athari ya “msinacho kuendelea kukosa” katika jamii husika (alama 6)

7. Fafanua jinsi suala la elimu limeshughulikiwa katika *Tumbo Lisiloshiba na Hadithi Nyingine* kwa kurejelea hadidhi zifuatazo:
    a) *Mapenzi ya Kifaurongo* (alama 5)
    b) *Shogake Dada ana Ndevu* (alama 5)
    c) *Mtihani wa Maisha* (alama 5)
    d) *Mwalimu Mstaafu* (alama 5)

SEHEMU YA E: FASIHI SIMULIZI

8. Soma utungo ufuatao kisha ujibu maswali

Hapo zamani za kale paliishi mtoto katika kisima kimoja. Siku moja mtoto huyu aliokota kijiwe karibu na soko kuu. Kijiwe kilikuwa kikimeremeta kwa rangi mbalimbali na kilizingirwa na pete ya dhahabu.

Mtoto huyu na wenzake walianza kurushiana kijiwe hicho. Baada ya muda kilianza kuongezeka umbo na kuonekana kama kiwiliwili cha binadamu. Kikaanza kuwakimbiza wale watoto. Kutokana na ukelele wao, watu walikuja kutazama nini kilikuwa cha mno. Walipofika walikutana ana kwa ana na dubwana hilo. Lilizidi kuongezeka umbo na likawameza wote pamoja na mifugo wao. Wachache waliojaribu kukimbia liliwashika kwa mikono yake mipana na mirefu. Kwa bahati njema alikuwepo mama mmoja aliyeona hayo yote. Alikuwa mbali kiasi na hapo. Aliteremka kutoka kilele cha mlima na kuwapata wakulima makondeni na sawia akawajuza kuhusu kitendo kilichomwogofya sana. Wote wakaacha shughuli zao na wakatwaa silaha zao wakaelekea soko kuu.

Dude sasa lilikuwa limejilaza baada ya shibe, wakulima wale walichagua watu sita ambao walijulikana kwa ushujaa wao. Pamoja walilinyemelea lile nyangarika na kulikata mara moja. Lilitoa mkoromo mkuu kabla halijakata kamba. Punde, wanakijiji kwa uangalifu mkubwa walitoboa tumbo lake wakitarajia kupata maiti za wapenzi wao pamoja na mifugo wao. Wote walijawa na furaha kuu walipoona wapenzi wao wakijichomoza kutoka tumboni, mmoja baada ya mwingine hadi akatoka yule wa mwisho. Mbuzi, kondoo na ng’ombe wote walitoka mmoja mmoja.

Siku hiyo kuliandaliwa sherehe ya kumshukuru Muumba kwa wema wake. Watoto walishauriwa wasithubutu kuchezea vitu wasivyovijua.

Maswali

a) Ainisha kipera hiki cha hadithi (alama 1)
b) Fafanua mambo manne yanayodhihirisha kuwa kipera hiki ni sanaa. (alama 4)
c) Mwasilishaji bora wa kipera hiki anafaa kuwa na sifa gani? Eleza zozote nne. (alama 4)
d) Onyesha mifano miwili ya fantasia katika hadithi hii. (alama 2)
e) Eleza majukumu manne ya tungo hizi kwa wanajamii (alama 4)
f) Eleza majukumu matano ya mtindo uliotumiwa kuanzisha hadithi hii. (alama 5)

PREDICTION 4

Name…….Index Number……..Class……..…Candidate'sSignature…… Date……

BIOLOGY

PAPER 1

231/1

TIME; 2 HOURS.

KCSE PREDICTION 4

(Kenya Certificate of Secondary Education)

BIOLOGY THEORY

For examiner's use only

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 - 29	80	

This paper consist of 11 printed pages. Candidates should check the questions to ascertain that all the pages are printed as indicated and no questions are missing.

1. The table below shows concentration of some minerals inside the cells of a water plant and in the surrounding water.

Mineral	Sodium	Magnesium	Calcium
Cell sap	631	202	318
Surrounding water	28	293	47

a) Name the process by which magnesium is taken up by the plant. (1mrk)

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b) Explain why maize plant take up calcium minerals quicker in well aerated soils than in water logged soil. (3mrks)

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2. Give a reason why a mature plant cell does not lose its shape even after losing water. (1mrk)

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3. i) State the function for co-factors in cell metabolism. (1mrk)

……

ii) Give one example of a metallic co – factor. (1mrk)

……

4. Name the features that increase the surface area of the small intestines. (2mrks)

……

……

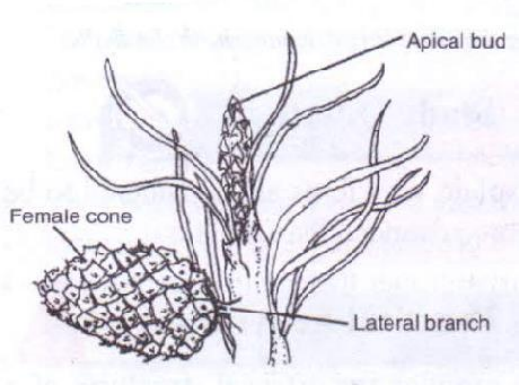
5. a) Name three characteristics that are used to divide the members of phylum Arthropoda into classes. (3mrks)

……

……

……

b) The diagram below represents a certain plant species.



i) State the class to which the plant belongs. (1mrk)

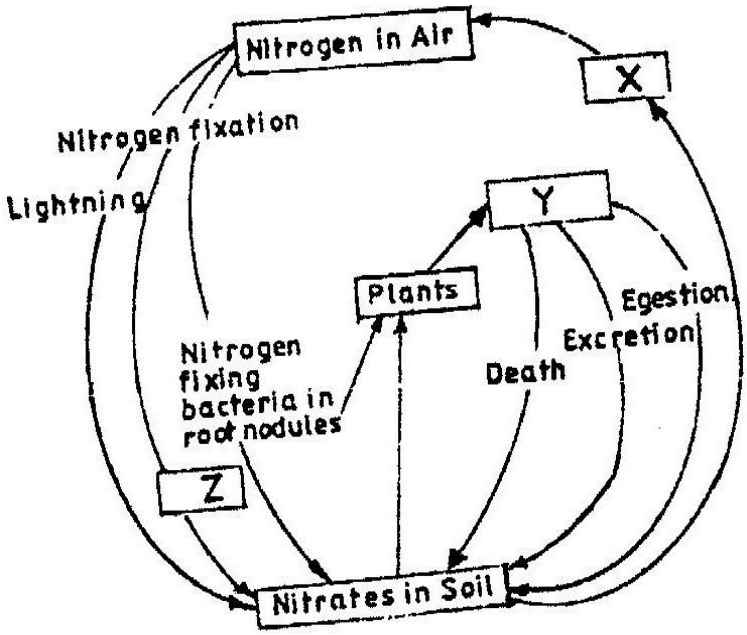
……

ii) State one observable xerophytic characteristic seen in the diagram above?. (1mrk)

……

……

6. The chart below represents a simplified nitrogen cycle.



What is represented by X, Y and Z. (3mrks)

X……

Y……

Z…….

7. People can die when they inhale gases from a burning charcoal stove in a poorly ventilated room. What compound is formed in the human body that lead to such deaths?. (1mrk)

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8. Explain why blood from a donor whose blood group is A cannot be transfused into a recipient whose blood group is B. (2mrks)

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9. In an experiment, a student covered one of the leaves of a potted plant on both upper and lower surfaces with blue cobalt chloride paper. The plant was exposed outside for 45 minutes.

Observation: The cobalt chloride on the undersurface of the leave changed into pink in the first 20 minutes only as the upper surface remained blue. However at the end of the experiment, after 45 minutes, the upper surface also turned pink.

i) State the aim of the experiment. (1mrk)

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ii) Give one significance of the results obtained. (1mrk)

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10. When transplanting seedlings, it is advisable to remove some leaves. Explain (1mrk)

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11. a) Describe the path taken by carbon (IV) oxide released from the tissue of an insect to the atmosphere. (3mrks)

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b) Name two structures for gaseous exchange in plants. (2mrks)

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c) What is the effect of contraction of the diaphragm muscles during breathing in mammals?. (2mrks)

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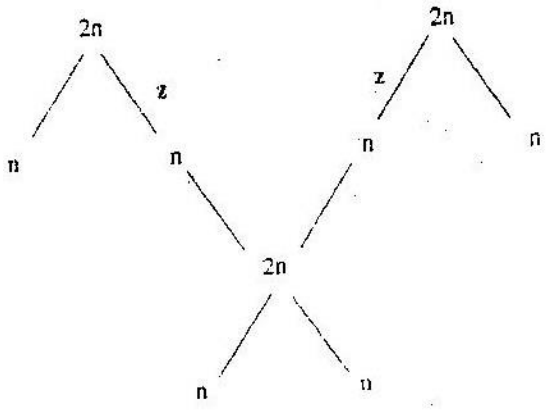
12. The chart below shows the number of chromosomes before and after cell division and fertilization in a mammal.



a). What type of cell division takes place at Z. (1mrk)

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b) Where in the female body of humans does process Z occur?. (1mrk)

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c) Name the process that leads to addition or loss of one or more chromosomes. (1mrk)

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13. State three benefits of polyploidy in plants to a farmer. (3mrks)

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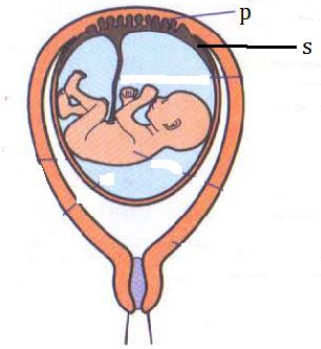
14. The diagram below represents human foetus.



a) Name the part labelled S (1mrk)

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b) Give the roles of structure P in; (2mrks)

i) Nutrition.

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ii) Protection.

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d) What is the function of the following in the human male reproductive system?. (2mrks)

i) Epididymis.

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ii) Scrotal sac.

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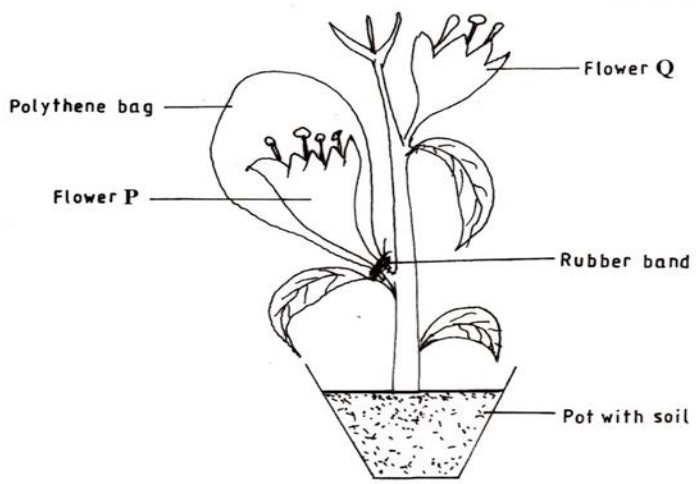
15. The diagram represents an experimental set up used by students to investigate a certain process.



Flower Q produced seeds, while P did not. Account for the results (3mrks)

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16. Name any two branches of microbiology. (2mrks)

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17. Which biological tool would a scientist require to collect rats to be used for study? (1mrk)

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18. Distinguish between magnification and resolution as used in microscopy. (1mrk)

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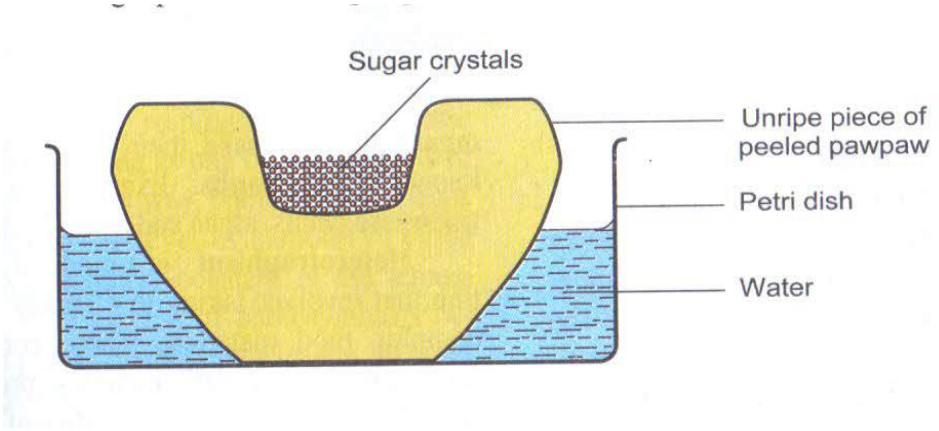
19. A group of students set up an experiment to investigate a certain physiological process. The set up was as shown below.



a) Name the physiological process being investigated. (1mrk)
.....
.....

b) Account for the formation and rise in the level of sugar solution at the end of the experiment. (3mrks)
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20. The scientific name of a blackjack is bidens pilosa. Identify two mistakes in the written name. (2mrks)

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21. State two advantages of natural selection to organisms. (2mrks)

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22. a) Give two ways in which sexual reproduction is important in the evolution of plants and animals. (2mrks)

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b) Explain why it is only mutations in genes of gametes that influence evolution (1mrk)

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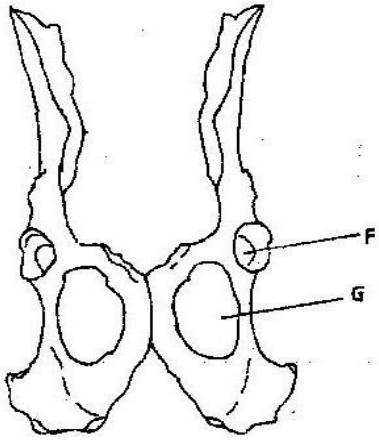
23. The diagram below shows two fused bones of a mammal.



(a) Identify the fused bone. (1 mark)

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……

(b) Name the

(i) Bone that articulates at the point labelled F. (1 mark)

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……....

(ii) The hole labelled G. (1 mark)

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24. The chart below represents the result of successive crosses, staring with red- flowered plants and white flowed plants and in which both plants are pure breeding.

Parental genotypes: Red flowers x white flowers

↓

First filial generation

↓ Selfed

Second filial generation

3 red flowers: 1 white flower

Phenotypic ratio 3: 1

(a) What were the parental genotypes? Use letter R to represent the gene for red colour and r for white colour. (1mrk)

……

(b) (i) What was the colour of the flowers in the first filial generation?. (1mrk)

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

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(c) What is a test- cross?. (1 mark)

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25. a) Name two tissues in plants which are thickened with lignin. (2 marks)

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b) How is support attained in herbaceous plants? (1 mark)

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26. Name the type of response exhibited by; (2mrks)

(a) Euglena when it swims towards the source of light.

……..……

(b) Sperms when they swim towards the ovum.

……..……

27. A person was able to read a book clearly at arm's length but not at normal reading distance. (3mrks)

a) State the defect the person suffered from?.

……

b) Why was he unable to read book clearly at normal distance.

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c) How can the defect be corrected?.

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28. The photograph below shows the effects of certain pollutant in Nairobi dam. Study it carefully and use to answer the questions that follow.

i) Suggest the main pollutant in the dam (1mark)

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ii) What are the possible effects of pollution illustrated in the photograph (2mrks)

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iii) Suggest one possible pollution control measure that can be put in place to save aquatic organisms in the dam. (1mark)

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29. State one structural and one functional difference between motor and sensory neurones. (2mrks)

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PREDICTION 4

Name……Index no……

Admission No…… Candidate's signature……

School …….....Date….....

231/2

BIOLOGY

PAPER 2

TIME: 2 HOURS

KCSE PREDICTION 4

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

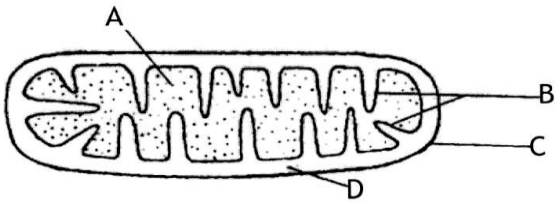
INSTRUCTIONS TO CANDIDATE:

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

For examiners use only:

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

1. a) Study the diagram of a cell organelle shown below and answer the questions that follow



i. Identify the organelle (1mark)

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……..

ii. State the function (1mark)

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iii. Name the parts labelled A and B (2marks)

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b) When preparing plant sections to be observed under the microscope:

Water is used to mount the tissue

Very thin sections of plant should be cut

Give a reason why each of the steps are carried out (2marks)

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c) Naomi observed an object using a microscope with eye piece lens of magnification X5 and an objective lens of magnification X20.What was the magnification of the object? (2marks)

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2. During an experiment a group of students took equal volumes of blood from the same person containing 50 red blood cells and were suspended salt solutions A, B and C.

After an hour the cells in each solution were counted and their sizes determined and results tabulated as shown below. Study the table and answer the questions that follow

Solution	A	B	C
SIZE	Large	Normal	Small
NUMBER	20	50	50

a) State the nature of solutions

B (1mark)

……

C (1mark)

…….

b) Account for the number of red blood cells in solution A after one hour (3marks)

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c) Explain how the above physiological process facilitates the following actions in living organisms

i. Gaseous exchange (1mark)

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ii. Osmoregulation (2marks)

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3. A cross between a red flowered and a white flowered Mirabilis plant produced pink flowered F1 plants

a) Suggest a reason to explain why there were no red or white flowered F1 plants (1mark)

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b) The F1 offsprings were selved to get F2 generation. Using appropriate letter symbols work out the following for the generation: (4marks)

i. The genotypic ratio

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ii. The phenotypic ratio

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c) What would be the result of crossing one of the F1 offspring producing pink flowers with a true breeding plant producing white flowers? (3marks)

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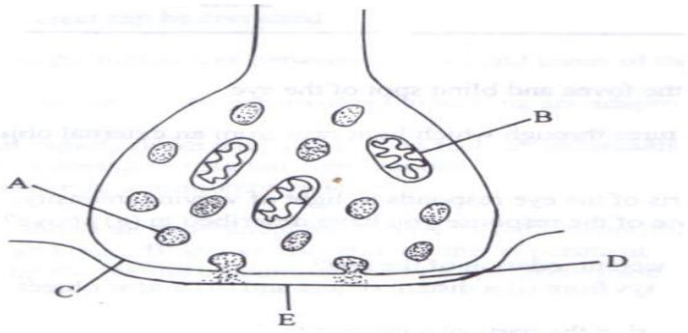
4. Examine the diagram of a synapse below and answer the questions that follow



a) Name the parts labelled A and C (2marks)

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b) Name the enzyme that exerts its effects on the structure above (1mark)

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c) Name the neurotransmitter substance in impulse transmission (1mark)

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d) State the function of B (1mark)

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e) Identify the two synaptic inhibitors that may poison to interfere with a transmission of an impulse across the synapse (2marks)

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f) State the possible causes of hypermetropia (1mark)

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5. a) Define natural selection (2marks)

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b) Explain the following

Survival for the fittest (3marks)

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Struggle for existence (3marks)

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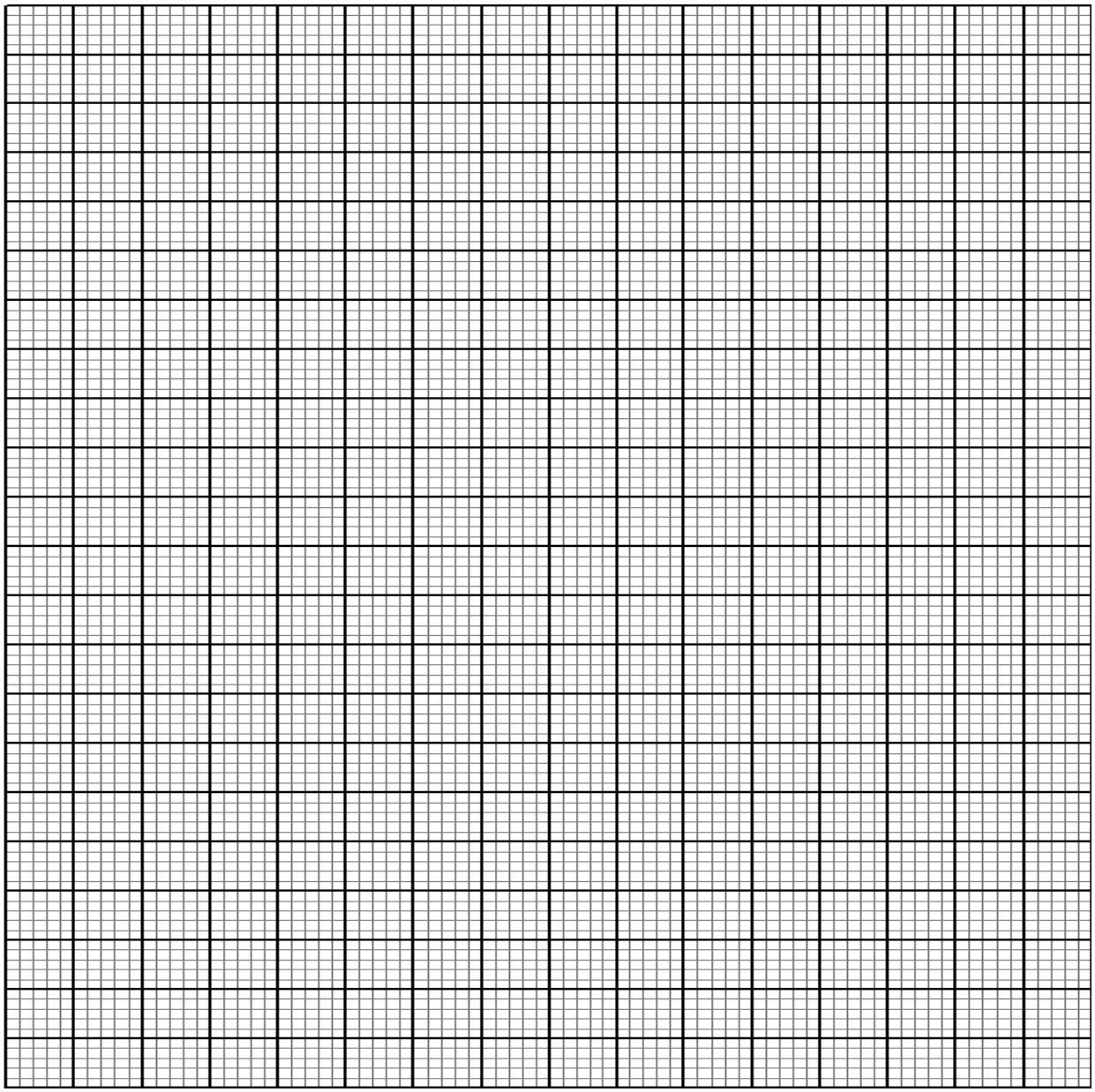
SECTION B

Answer question 6 and either question 7or 8

6. Two sets of a pea seeds were germinated, set A was placed in normal daylight conditions in the laboratory while set B was placed in a dark cupboard. Starting a few days later the shoots lengths were measured twice daily and their means lengths recorded as shown in the table below.

Time in hours	0	12	24	36	48	60	72	84
Set A length(mm)	12	14	20	23	28	31	47	54
Set B length (mm)	17	23	28	35	48	62	80	94

a. Using suitable scale draw the graphs of the mean lengths in set A and B against time on the grid provided (8marks)



b. From the graph state the mean shoot length of each of seedling at the 66^{th} hour (2marks)

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c. Account for the difference of curve B and A (3marks)

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d. Explain what would happen to set up B if it were allowed to continue to grow under conditions of darkness (4marks)

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e. State three external conditions which should be constant for both set ups (3marks)

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7. Describe the role of the following parts in human reproduction

i. Testes (4marks)
ii. Ovary (6marks)
iii. Sperm and ovum (6marks)
iv. Uterus wall/endometrium (4marks)

8.State the adaptations of the following tissues for support in plants

i. Parenchyma tissues (4marks)
ii. Collenchyma tissues (4marks)
iii. Sclerenchyma tissues (2marks)
iv. Tracheids (6marks)
v. Xylem vessels (4marks)

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PREDICTION 4

BIOLOGY PAPER 3 (231/3)

CONFIDENTIAL

Candidates require the following in the working bench

QUESTION 1

a. Mixture J: Solution containing a mixture of sucrose and vitamin C.
b. Benedict's solution,
c. Dilute hydrochloric acid solution.
d. Iodine solution
e. Dichlorophenol – indophenol (DCPIP) solution,
f. Sodium hydrogen – carbonate,
g. Means of heating,
h. 5 test tubes,
i. Test tube holder
j. Test tube rack

QUESTION 2

a. Photograph Q: complete hibiscus flower (Each candidate should be provided with a real flower)
b. Photograph Q: Half flower of hibiscus
c. Scalpel / razor blade

PREDICTION 4

NAME……. STRM……ADM……..

DATE……. ……. SIGN…….…….

231/3

BIOLOGY PRACTICAL

PAPER 3

Time: 1 ¾ Hours

KCSE PREDICTION 4

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- Answer all the questions in the spaces provided.
- You are required to spend the first **15** minutes of **1** ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Candidates may be penalized for recording irrelevant information and for incorrect spelling especially of technical terms.

FOR EXAMINER'S USE ONLY

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

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

1. You are provided with an unknown mixture labelled J

   You are also provided with Benedict's solution, dilute hydrochloric acid solution, iodine solution, Dichlorophenol-Indophenol (DCPIP) solution. Sodium hydrogen-carbonate solution, means of heating, test tubes, test tube holder and a test tube rack.

   a) Using the reagent provided only, test for the food substances in mixture J. Record in the table below the chemical test, the procedure of the test, your observations and conclusions. 8mks

Chemical test	**Procedure**	**Observations**	**Conclusions**

b) Which of the components of mixture J does not undergo digestion in the mammalian digestive system? 1mk

……

c) i)Name a deficiency disease that may result from a deficiency of the component identified in (b) above. 1mk

……

d) Name a common carbohydrate that could be present in mixture J. 1mk

……

e) State the role of hydrochloric acid and sodium hydrogen carbonate in the experiment. 2mks

Hydrochloric Acid

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……..

Sodium Hydrogen Carbonate

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2. The photographs below show a flower specimen. Study it carefully and use to answer the questions that follow.

a) On the photograph, label the following parts 3mks

   i. Stigma

   ii. Style

   iii. Staminal tube

b) i) Classify the plant from which the flower was picked into the taxonomic groups listed below. 4mks

Kingdom

……

Division

……

Sub division

……

Class

……

ii) Name three observable features from the photograph of the class you named in (a) (i) above. 3mks

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……..

c) Suggest the pollination agent of this flower. Give reasons for your answer.

Pollinating agent **1mk**

……

Reasons **2mks**

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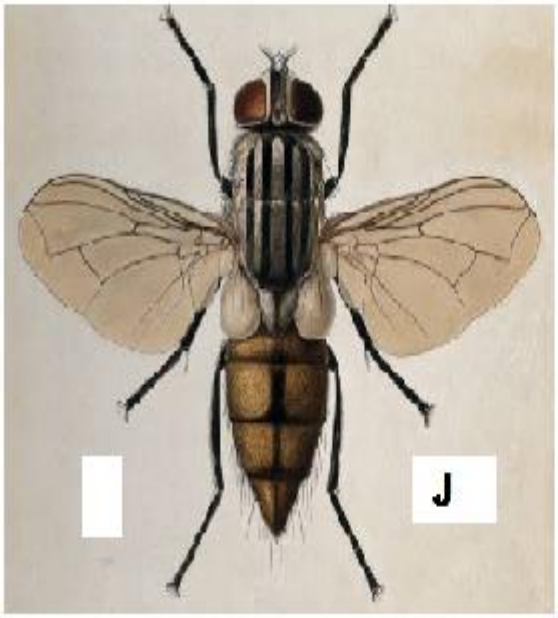
……

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



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

Class 1mk

……

Reasons 2mks

……

……

……

……

b. Suggest why the transport fluid in **J** and **K** has no haemoglobin. 2mks

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c. The actual length of specimen K is 8cm, given that both J and K are under the same magnification, determine the actual length of J 3mks

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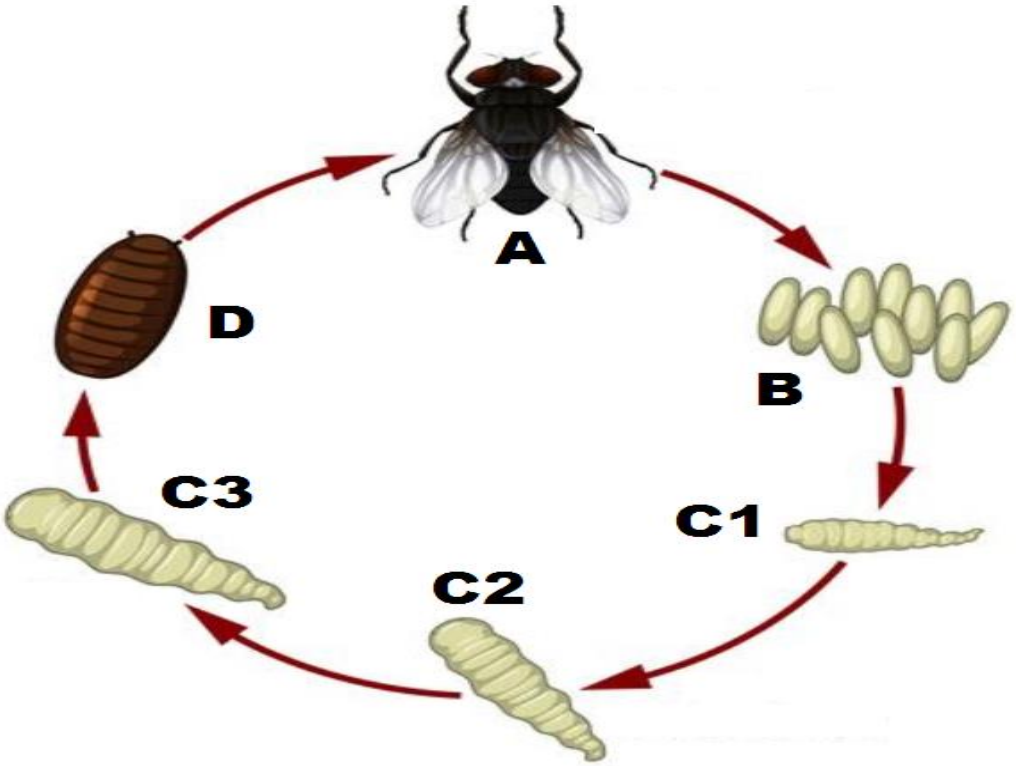
d. Below is a diagram showing the life cycle of specimen J.



i. Identify the stage labeled **D**. 1mk

……

ii. Name the hormone responsible for the change from **D** to **A**. 1mk

……...……...

iii. Explain the differences in the change from **C2** to **C3** and from **C3** to **D**. 2mks

C2 to C3

……

……..

C3 to D

……

……

iv. State the importance of the process illustrated above in the life cycle of the organism 2mks

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PREDICTION 4

Name: …… Index No.…….....

School: ……. Class ……..

Date: ……

233/1

CHEMISTRY THEORY

PAPER 1

TIME: 2 HOURS

KCSE PREDICTION 4

Instructions to Candidates

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

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

*(c) Answer **ALL** the questions in the spaces provided in the question paper*

(d) KNEC Mathematical tables and electronic calculators may be used for calculations

*(e) All working **MUST** be clearly shown where necessary*

(f) This paper consists of 12 printed pages

(g) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

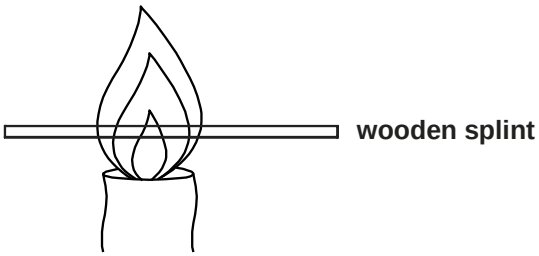
(h) Candidates should answer the questions in English

FOR EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1 – 29	80	

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

1. Study the diagram below then use it to answer the questions that follow.



a) Draw the wooden splint at the end of the experiment. If it was slipped then removed. (1 mark)

b) Explain the appearance of the wooden splint in (a) above. (2 marks)

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2. (a) The half-life of $^{210}_{83}M$ is 7 days. Determine the mass of remaining if 100g decayed in 35 days. (1 mark)

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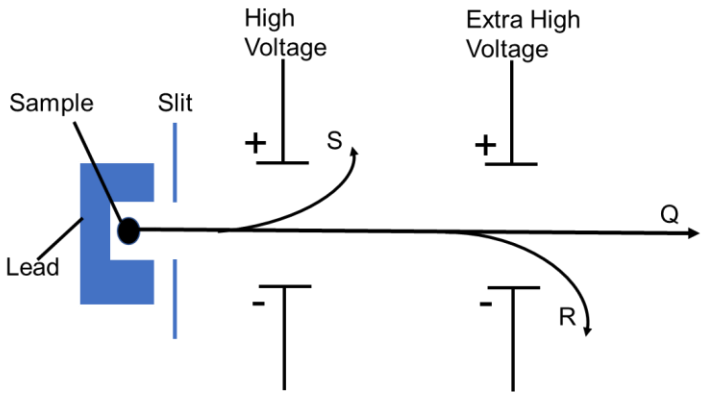
(b) The diagram below shows the radiations emitted by a radioactive sample.



(i) Identify radiation particles **S** and **R**. (1 mark)

S……

R……

(ii) Which emission causes most harm to human cells. Give a reason. (1mark)

……

……

3. a) Starting with copper metal, describe how a solid sample of copper (II) carbonate can be prepared. (3 marks)

……1……

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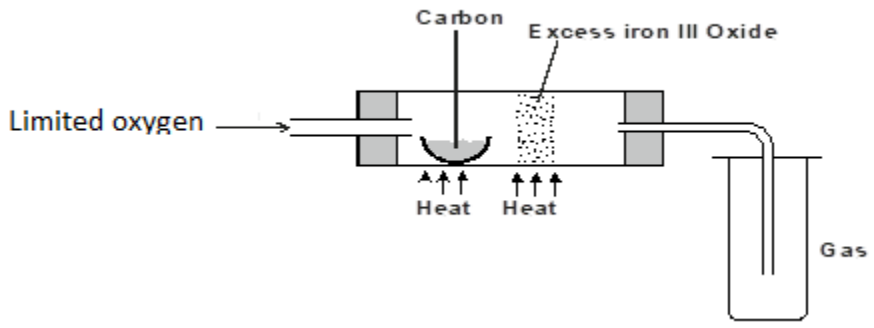
4. The set-up below was used to obtain a sample of iron.



Write two equations for the reactions which occur in the combustion tube. (2 marks)

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5. Below are the bond dissociation energies of some elements.

Bond	Bond dissociation energy
C – C	343 kJ mol^{-1}
C – H	414 kJ mol^{-1}
H – H	435 kJ mol^{-1}
C = C	612 kJ mol^{-1}

Use this information to calculate the heat of reaction for (3 marks)

$$C_2H_{4(g)} + H_{2(g)} \rightarrow C_2H_{6(g)}$$

6. Sulphur (IV) oxide is oxidized catalytically to sulphur (VI) oxide in the reaction.

$$2SO_{2(g)} + O_{2(g)} \longrightarrow 2SO_{3(g)} \quad \Delta H = -197kJ$$

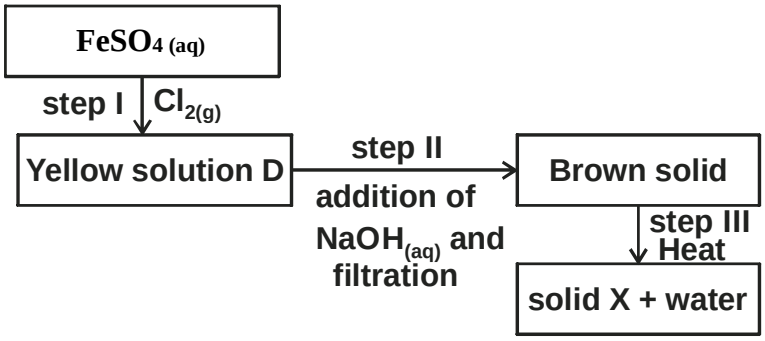
a) What information about the reaction is given by ΔH = -197kJ ? (1 mark)

……

b) Name one catalyst that can be used in this reaction. (1 mark)

……

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



a) Write the formula of the cation present in solution D. (1 mark)

……

b) What property of chlorine is shown in step 1. (1 mark)

……

c) Write an equation for the reaction which occurred in step III. (1 mark)

……

8. 0.63g of lead powder were dissolved in excess nitric (V) acid to form lead (II) nitrate solution. All the lead (II) nitrate was then reacted with sodium sulphate solution.

a) Write an ionic equation for the reaction between sodium sulphate solution and lead (II) nitrate solution. (1 mark)

……

b) Determine the mass of the lead salt formed in the reaction in (a) above (Pb = 207, S = 32, O = 16) (2 marks)

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9. Use the cell representation below to answer the questions that follow.

$$Cr_{(s)} / Cr^{3+}_{(aq)} // Fe^{2+}_{(aq)} / Fe_{(s)}$$

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

……

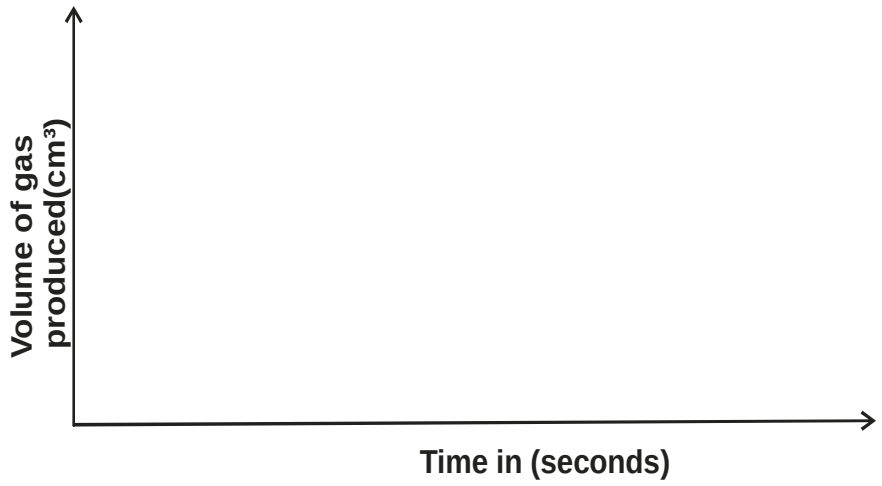
b) If the emf of the cell is 0.30V and the E^0 value for $Fe^{2+} / Fe_{(S)}$ is -0.44V. Calculate the E^0 value for $Cr_{(s)} / Cr^{3+}_{(aq)}$ (2 marks)

10. An element Q has a relative atomic mass of 88. When a current of 0.5A was passed through the fused chloride of Q for 32 minutes and 10 seconds, 0.44g of Q were deposited at cathode. Determine the charge on the ion of Q. (1 Faraday = 96500 coulombs) (3 marks)

11. The table below gives three experiments on the reaction of excess sulphuric (VI) acid and 0.5g Zinc done under different conditions. In each case the volume of gas liberated was recorded at different time intervals.

Experiment	Form of Zinc	Sulphuric (VI) acid
I	Powder	0.8M
II	Powder	1.0M
III	Granules	0.8M

On the axes below, draw and label the three curves that would be obtained from the results above.
(3 marks)



12. a) Starting with red roses, describe how a solution containing the red pigments may be prepared? (2 marks)

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b) How can the solution be shown to be an indicator. (1 mark)

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13. The table below provides data on the successive ionisation energies of carbon.

Ionisation numbers	1st	2nd	3rd	4th	5th	6^{th}
Ionisation energy (kJ/mol)	1090	2350	4610	6220	37800	47300

a) Explain why each ionisation energy increase in nature. (2 marks)

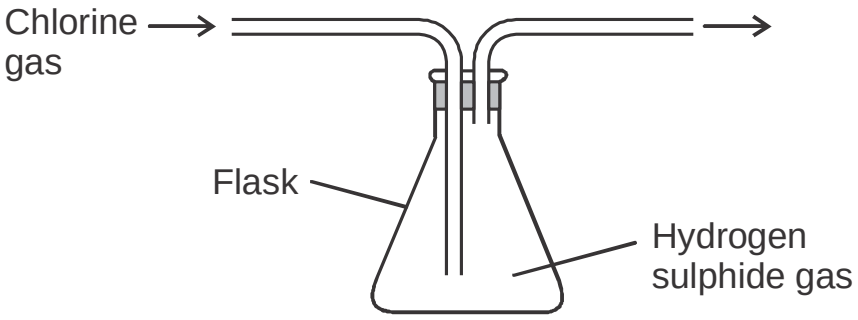
……

……

b) Write an equation for the 5th ionisation energy of carbon. (1 mark)

……

14. The figure below was set by a student to investigate the reaction between chlorine gas and hydrogen sulphide gas.



a) Write an equation for the reaction that took place in the flask. (1 mark)

……

……

b) What observation was made in the flask ? (1 mark)

……

c) What precaution should be taken in carrying out the experiment ? (1 mark)

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……

15. A certain carbonate, QCO_3, reacts with dilute hydrochloric acid according to the equation given below.

$$QCO_{3(S)} + 2HCl_{(aq)} \rightarrow QCl_{2(aq)} + CO_{2(g)} + H_2O_{(l)}$$

If 1g of the carbonate reacts completely with $20cm^3$ of 1M hydrochloric acid. Calculate the relative atomic mass of Q.(C = 12.0, O=16.0) (3 marks)

16. When bismuth (III) chloride is added to water, a reaction occurs and a white precipitate forms as shown below.

$BiCl_{3(aq)} + H_2O_{(l)} \rightleftharpoons BiOCl_{(s)} + 2HCl_{(aq)}$

What would be the effect on the amount of the precipitate formed if sodium hydroxide solution is added to the equilibrium mixture? Explain your answer. (2marks)

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17. (a) State the Gay Lussac's Law. (1 mark)

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(b) $10cm^3$ of a gaseous hydrocarbon, C_2H_X required $30cm^3$ of oxygen for complete combustion. If steam and $20cm^3$ of carbon (IV) oxide were produced, what is the value of X? (2 marks)

18. (a) Give Bronsted and Lowry definition of an acid (1mk)

……

……

(b) Differentiate between a strong acid and a concentrated acid (2mks)

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19. When a hydrated sample of $CaSO_4.xH_2O$ was heated until all water was lost, the following data was recorded

Mass of crucible = 30.296 g
Mass of crucible + hydrated salt = 33.111 g
Mass of crucible + anhydrous salt = 32.781 g

Determine the empirical formula of the hydrated salt. *($CaSO_4=136, H_2O=18$).* (3marks)

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20. Describe a chemical test used to distinguish butane from butene in the laboratory. (2marks)

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21. The table below gives the atomic numbers of elements W, X, Y and Z.

Element	W	X	Y	Z
Atomic number	14	17	16	19

a) Name the type of bonding that exist in the compound formed when **X** and **Z** reacts. (1mark)

……

……

b) Select the letter representing the strongest reducing agent. Give a reason for your answer. (2mks)

……

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22. In an electrochemical cell, the standard hydrogen electrode uses platinized platinum. State **three** functions of the platinized platinum. (3 marks)

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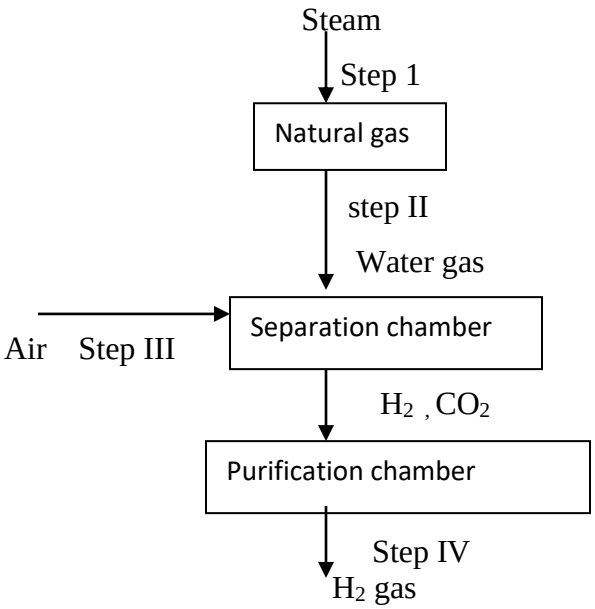
23. The flowchart below shows the scheme for extraction of Hydrogen from hydrolysis of natural gas, study it and answer the questions that follow.



a) In step II water gas is formed. State one use of water gas. (1marks)

……

b) When air is added in step III CO is converted to CO_2 name one chemical substance that can be used to separate CO_2 from H_2 in step IV (1marks)

……

c) State one large scale use of Hydrogen gas formed. (1marks)

……

24. Aluminium is obtained from the ore with the formula Al_2O_3. $2H_2O$. The ore is first heated and refined to obtain pure aluminium oxide (Al_2O_3). The oxide is then electrolysed to get Aluminium and oxygen gas using carbon anodes and carbon as cathode.

i) Give the common name of the ore from which aluminium is extracted. (1 mark)

.....

ii) What would be the importance of heating the ore first before refining it ? (1 mark)

.....

iii) The refined ore has to be dissolved in cryolite first before electrolysis. Why is this necessary?

……. (1 mark)

iv) Why are the carbon anodes replaced every now and then in the cell for electrolysing aluminium oxide? (1 mark)

.....

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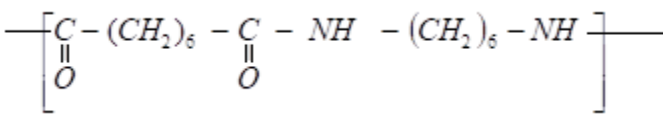
26. Nylon polymer has the structure below.



i) Determine the structures of the monomers. (2mks)

……

……

……

ii) State the type of polymerization. (1mk)

……..…

……..

27. (a) Define the term solubility. (1 mark)

……

……

b) The following were the results obtained in an experiment to determine solubility of potassium nitrate at room temperature.

Mass of evaporating dish = 14.32 g

Mass of evaporating dish + saturated solution = 35.70 g

Mass of evaporating dish + salt (residue) = 18.60 g

Calculate the solubility of potassium nitrate from the above results. (2 marks)

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28. Describe a simple laboratory experiment that can be used to distinguish between sodium sulphide and sodium carbonate. (2mks)

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29. (a)Give **one** reason some of the laboratory apparatus are made of ceramics.

(1 mark)

……

(b) Name **two** apparatus that can be used to measure approximately 75 cm^3 of dilute sulphuric (VI) acid. **(2 marks)**

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Last Printed Page

PREDICTION 4

Name ……..……Index No……..……

School……..…….. Date……

233/2
CHEMISTRY
Paper 2
THEORY
2 hours

KCSE PREDICTION 4
Kenya Certificate of Secondary Education

Instructions

Write your name, Index number and class in the spaces provided above.
*Answer **ALL** the questions in the spaces provided.*
Mathematical tables and silent electronic calculators may be used.
*All working **MUST** be clearly shown where necessary.*

For Examiner's use only

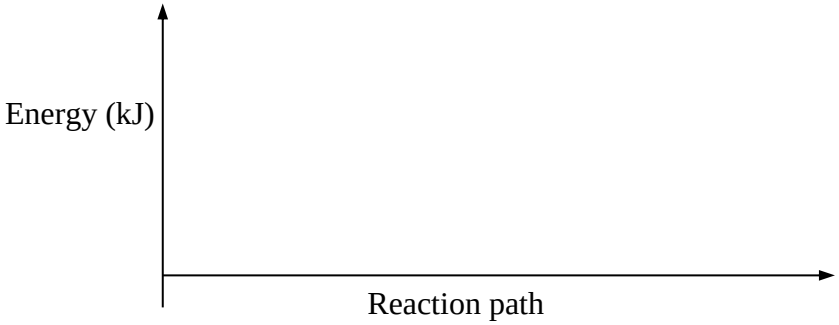
Question	Maximum Score	Candidate's Score
1	**11**	
2	**12**	
3	**12**	
4	**12**	
5	**11**	
6	**11**	
7	**11**	
Total	**80**	

*This question paper has **10** printed pages.*
Confirm that all the pages are printed as indicated and
***No** questions are missing.*

1. a) Consider the following reaction:

$A_{2(g)} + B_{2(g)} \rightleftharpoons 2AB_{(g)}$, $\Delta H = +75$ kJ

Sketch an energy level diagram showing the relative activation energies for the catalysed and uncatalysed reactions using the axes below. (2mks)



b) Given that; $\Delta H_f\ (Al_2O_3) =$ **– 1590** $kJmol^{-1}$

$\Delta H_f\ (Cr_2O_3) =$ **-1134**$kJmol^{-1}$

Calculate the heat of reaction for; $2Al_{(s)} + Cr_2O_{3(s)} \longrightarrow Al_2O_3 + 2Cr_{(s)}$ **(2mks)**

c) The following data was obtained during an experiment

Mass of ethanol burnt = 0.2g

Mass of water in the calorimeter = 200g

Specific heat capacity of water = 4.2 $jg^{-1}k^{-1}$

Initial temperature of water = 23.5 ^0C

Final temperature of water = 28.0 ^0C

i) **How** was the mass of ethanol that burnt determined? (1mk)

……

……

ii) **How** much heat was required to raise the temperature of water from 23.5 ^0C to 28.0^0C? (2mks)

……

……

iii) Two assumptions were made in calculating the enthalpy of combustion for ethanol. **State them.** (1mk)

……

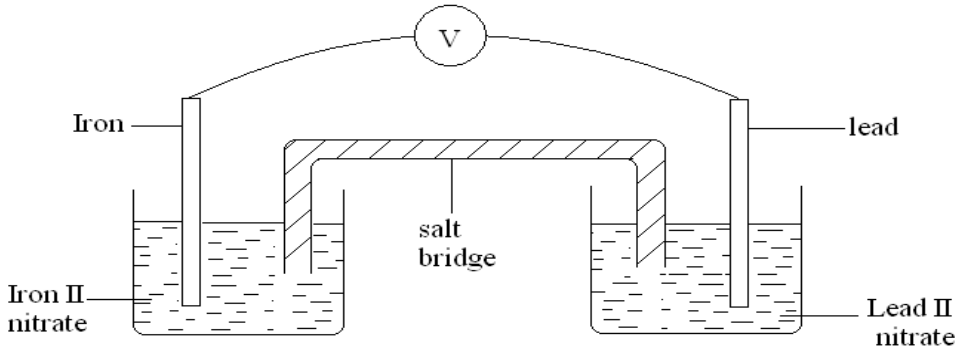
……

iv) **Determine** the molar enthalpy of combustion of ethanol.(C= 12,H=1, O=16) (2mks)

v) **Write** a thermochemical equation for the combustion of ethanol given the accurate value for enthalpy of combustion is – 1368 $kJmol^{-1}$. (1mk)

……

2. Two half cells were connected as shown to form a voltaic cell. The reduction potentials are given.



$Pb^{2+}_{(aq)}$ + 2e ⟶ $Pb_{(s)}$ E^{Θ} = – 0.13V
$Fe^{2+}_{(aq)}$ + 2e ⟶ $Fe_{(s)}$ E^{Θ} = – 0.44V

a) **Calculate** the e.m.f of the cell. (1mk)

b) **Sodium chloride is used as the salt bridge. State the** two functions of the salt bridge. (2mks)

……

……

c) **Show** the direction of the electron flow in the external circuit. (1mk)

d) The e.m.f of the cell will reduce with time. Give a reason for this. (1mk)

……

……

e) During electrolysis of water acidified with Sulphuric acid, two gases were produced at the electrodes:

i) **State** which ions are preferentially discharged at the electrodes. **Explain** with aid of half ionic equations.

Anode. (2mks)

……..…….

……..…….

Cathode. (2mks)

……..…….

……..…….

ii) **Calculate** the volume of the gases at s.t.p produced when a current of 0.025A is passed for 4 hours. (1 Faraday=96500C) (3mks)

3. a) The fermentation of glucose is catalysed by enzymes from yeast. Yeast is added to aqueous glucose, the solution starts to bubble and becomes cloudy as more yeast cells are formed.

$$C_6H_{12}O_{6(aq)} \longrightarrow 2C_2H_5OH_{(aq)} + 2CO_{2(g)}$$

The reaction is exothermic. Eventually the fermentation stops when the concentration of ethanol is about 12%.

(i) On a large scale, the reaction mixture is cooled. Suggest a reason why this is necessary. (1mk)

….……

……..

(ii) Why does the fermentation stop? Suggest one reasons. (1mk)

……

……

(iii) What technique is used to concentrate the aqueous ethanol? (1mk)

……

……

b) A compound X contains carbon, hydrogen and oxygen only. X contains **54.54**% of carbon by mass, **9.09**% of hydrogen by mass and **36.37**% of oxygen by mass. (C=12, O=16, H=1)

(i) Determine the empirical formula of compound X. (2mks)

(ii) Compound X has a relative molecular mass of 88. Draw the structural formula of compound X. (2mks)

c) The table below gives formulae of three organic compounds A, B and C

Compound	Formulae
A	**$C_2H_4O_2$**
B	**C_2H_6O**
C	**C_2H_6**

Giving a reason in each case, select the letter(s) which represent a compound that

i) Decolourises acidified potassium manganate (VII). (1mk)

……

……

ii) .Gives effervescence with sodium hydrogen carbonate. (1mk)

……

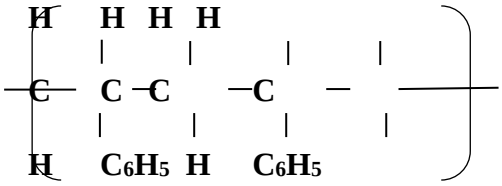
……

iii) Undergoes substitution reaction with chlorine gas. (1mk)

……

……

d) The following is a small reaction of polystyrene polymer. Study it and answer the questions that follow.



(i) Draw the structure of the monomer unit of polystyrene. (1mk)

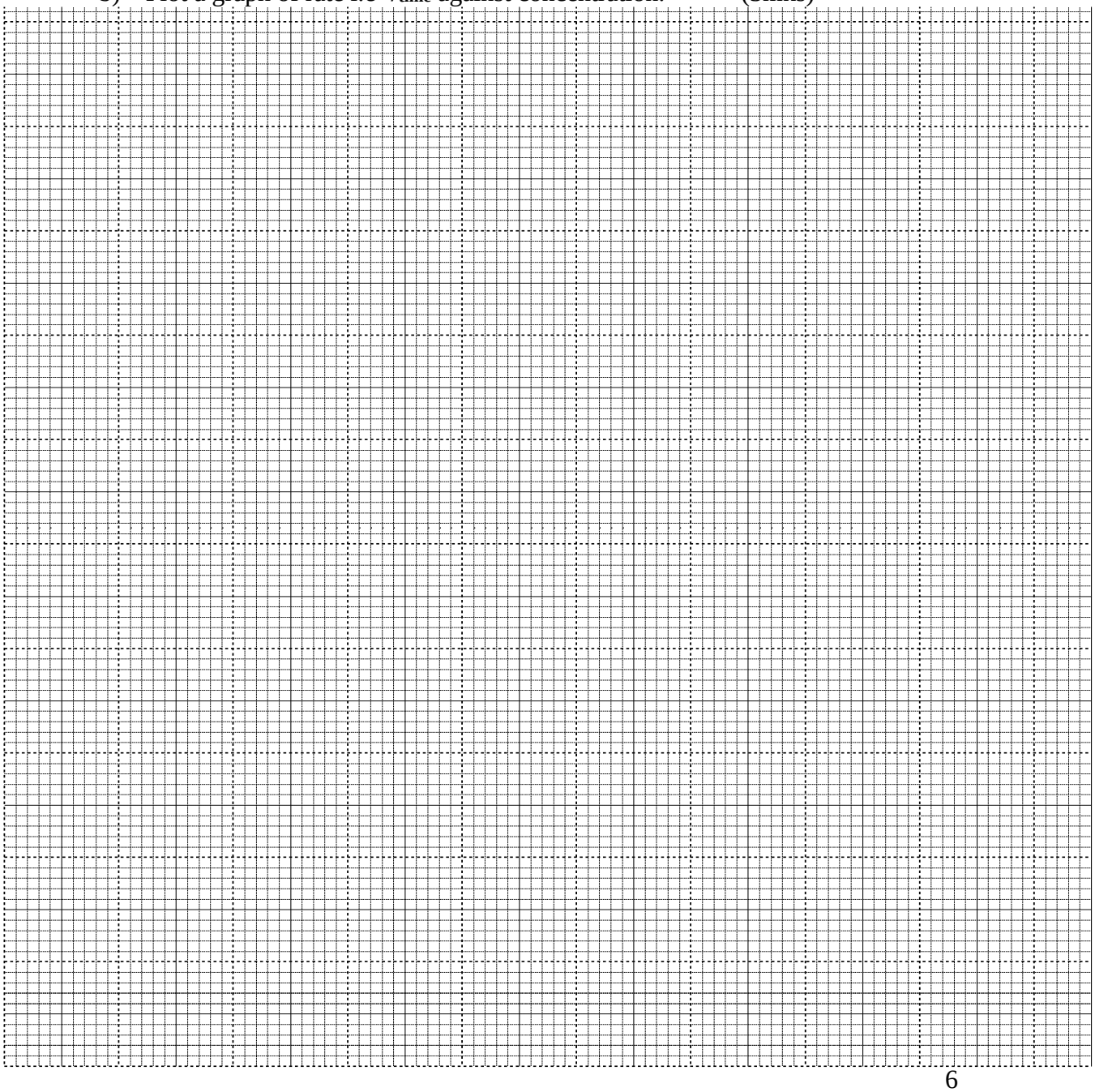
(ii) Calculate the number of monomers used to form the polystyrene of relative molecular mass of 18096. (H = 1, C = 12) (1mk)

4. An experiment was carried out using magnesium ribbon and dilute hydrochloric acid of different concentrations. The time needed to produce $50cm^3$ of the gas for every experiment was recorded in a table.

Concentration of HCl (moles per litre)	2.0	1.75	1.50	1.25	1.00	0.75	0.50	0.25
Time (seconds)	8.8	10.0	11.7	14.0	17.5	18.7	35.0	70.0
$\frac{1}{time}$ (Sec^{-1})								

a) Complete the table above for $^{1}/_{time}$. (4mks)

b) Plot a graph of rate i.e $^{1}/_{time}$ against concentration. (3mks)



c) From your graph determine the concentration needed to produce 50cm^3 of hydrogen gas when time is 15.0 seconds (1mks)

……

……

d) From your graph state the relationship between the rate of reaction and concentration. Give a reason. (1mk)

……

……

e) A state of equilibrium between dichromate (vi) and chromate ions is established as shown below

$$Cr_2O_7^{2-}{}_{(aq)} + 2OH^-{}_{(aq)} \rightleftharpoons 2CrO_4^{2-}{}_{(aq)} + H_2O_{(l)}$$

Orange **(Yellow)**

i) What is meant by dynamic equilibrium? (1mk)

……

……

……

ii) State and explain observation made, when a few pellets of Hydrochloric acid are added to equilibrium mixture (2mks)

……

……

……

……

……

5. I) The table below shows properties of some elements represented by symbols W,X,Y and Z. Study the information in the table and answer the questions that follows

Element	**No. Of protons**	**Atomic radius(nm)**	**Boiling point ^{0}C**
W	2	0.93	-269
X	10	1.31	-246
Y	18	1.54	-186
Z	36	1.89	-152

a) Write down the electron arrangement for elements W and X (1mk)

……

……

b) In which group of the periodic table are the elements in the table above? Give the name of the group (2mks)

…..……

……..

c) Explain why the atomic radius of W is smaller than that of X (1mk)

…..……

…….

d) state one use of element X (1mk)

……

……

II. The section below represents part of the periodic table. Study it and answer the questions that follow. The letters are not the actual symbol of the elements.

				Q				
X			**B**	**H**		**M**	**T**	
Y		**A**					**V**	
Z							**S**	

a) **Select** the least reactive non-metal. (1mk)

……..…….

b) **Which** of the elements has the greatest tendency of forming covalent compounds in nature? **Explain** your choice. (1mk)

……..…….

……..…….

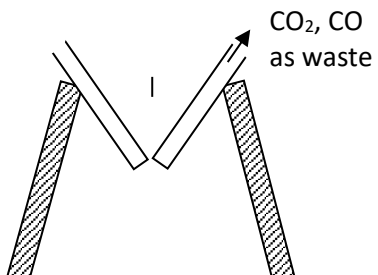
c) **Explain** why the atomic radius of **T** is smaller than that of **M**. (2mks)

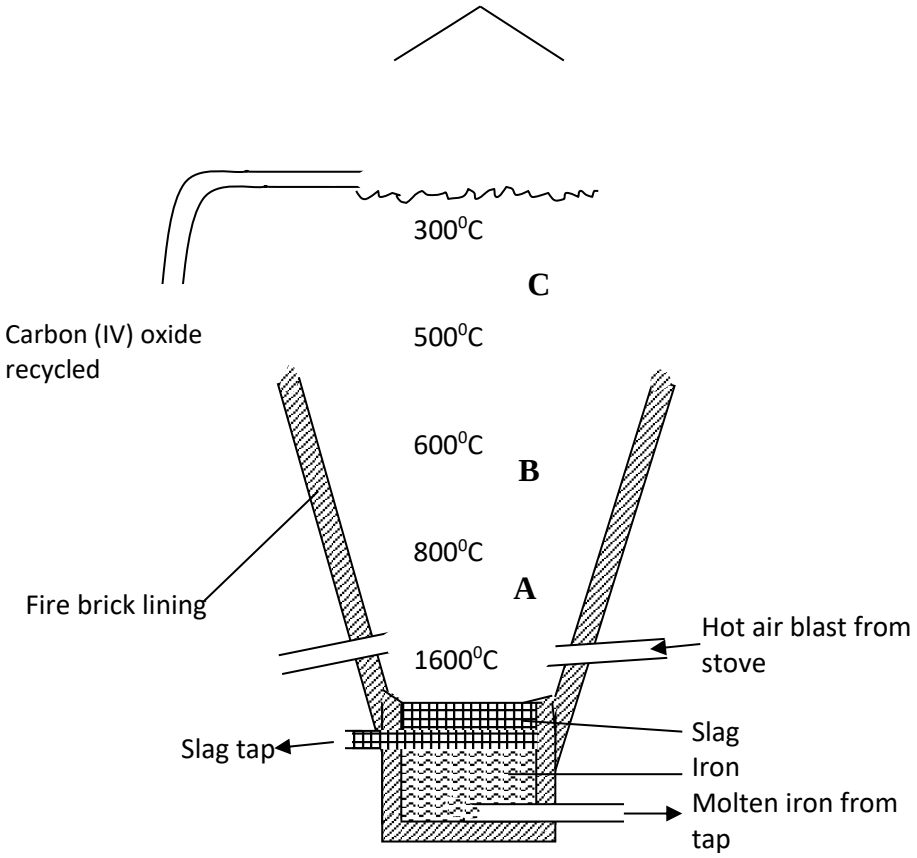
……..…….

……..…….

d) Compare the electrical conductivity of element X and B. (2mks)

6. Extraction of iron involves two main processes, smelting and refining. Below is the blast furnace which is used to smelt iron from its ore.





a) (a) (i) The chief ore is Haematite. Name one other ore used in extraction of iron (1 mark)

……

……

(ii) Name the reducing agent in the process. **(1mk)**

……

……

(i) What is the role of the hot air blast in the process? **(2mks)**

……

……

(b) Write equations for the reactions that take place at the region marked A, B and C. **(3mks)**

A……

B……

C ……

(c) What is the purpose of limestone in the extraction process? **(1mk)**

……

(d) Write equations to show how impurities are removed from the ore. **(2mks)**

……

……

……

(e) State one environmental effect of the process. (1mk)

……

……

7. a) Read the following passage and answer the questions.

A salt K was heated with slaked lime (calcium hydroxide). A colourless gas L with a characteristic smell and turns red litmus paper blue was evolved. A large quantity of this gas was passed through an inverted filter funnel into Copper(II)sulphate solution, and a deep blue solution M was obtained.

a) Identify gas L (1mk)

……

……

b) What is K most likely to be? (1mk)

……

……

c) Write an equation for the reaction between K and slaked lime (1mk)

……..

d) Write an ionic equation for the reaction with copper(II) sulphate forming the deep blue solution (1mk)

……

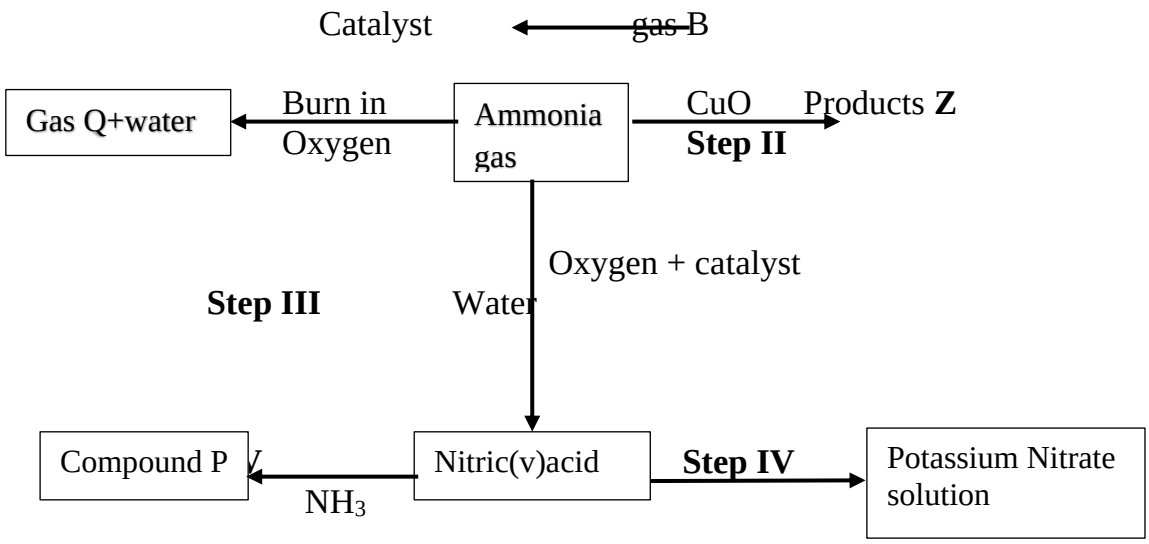
……

……

b) Study the flow chart below and answer questions that follow:

$H_{2(g)}$

Step I



(i) State **one** source of gas B (1mk)

……

……

(ii) Name the catalysts used in; (1mk)

a) Step I

……

b) Step III

……

(iii) Write chemical equations for reactions in; (3mks)

a) Step I

……

b) Step II

……

c) Step V

……

(iv) Identify any other gas that can be used instead of Ammonia in step II (1mk)

……

(v) State one use of gas Q (1mk)

……

……

PREDICTION 4

Name:.....**.Index No:**.....

School:.....**Venue**.....**Adm no:**.....**Class:**.....

Candidate's Signature:.....

Date: .....

233/3
CHEMISTRY PRACTICAL
Paper 3
2021
TIME: *2 ¼* **HOURS**

KCSE PREDICTION 4

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

INSTRUCTIONS TO CANDIDATES:

- Answer all the questions in the spaces provided in the question paper.
- You are **NOT** allowed to start working within the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you read the question paper and make sure you have all the chemicals and apparatus that you may need.
- All working **MUST** be clearly shown.
- Mathematical tables and silent scientific calculators may be used.
- This paper consists of **7 printed** pages.
- Candidates should check to ascertain that all papers are printed as indicated and that no questions are Missing

For Examiner's Use Only:

Question	Maximum score	Candidate's score	Examiner's initials
1	**22**		
2	**11**		
3	**7**		
Total score	**40**		

1. You are provided with:

- ***5.0g** of **solid X** in a boiling tube*

- ***Solution Y**, which is acidified Potassium manganate (VII) containing **9.0g** of Potassium manganate (VII), $KMnO_4$, in $1000cm^3$ of solution.*

You are required to determine:

(i) The solubility of solid X at different temperatures

(ii) The number of moles of water of crystallization in solid **X**

Procedure

i).Using a 10 cm^3 measuring cylinder add $4cm^3$ of distilled water to solid **X** in the boiling tube. Heat the mixture while stirring with the thermometer to **about 85^0C**.When **all** the solid has dissolved allow the solution to cool while stirring with the thermometer.(You can occasionally immerse the boiling tube in a beaker of tap water).Note the temperature at which crystals of solid **X** first appear. Record this temperature in table 1.

ii) Add $2cm^3$ of distilled water to the contents of the boiling tube warm the mixture while stirring with the thermometer until **all** the solid dissolves. Allow the mixture to cool while stirring. Note and record the temperature at which crystals of solid **X** first appear.

iii)Repeat procedure (ii) ***three*** more times and record the temperature in the table 1. **Retain the contents of the boiling tube** for use in the procedure (v).

iv).a).Complete table 1 by calculating the solubility of solid **X** at different temperatures.

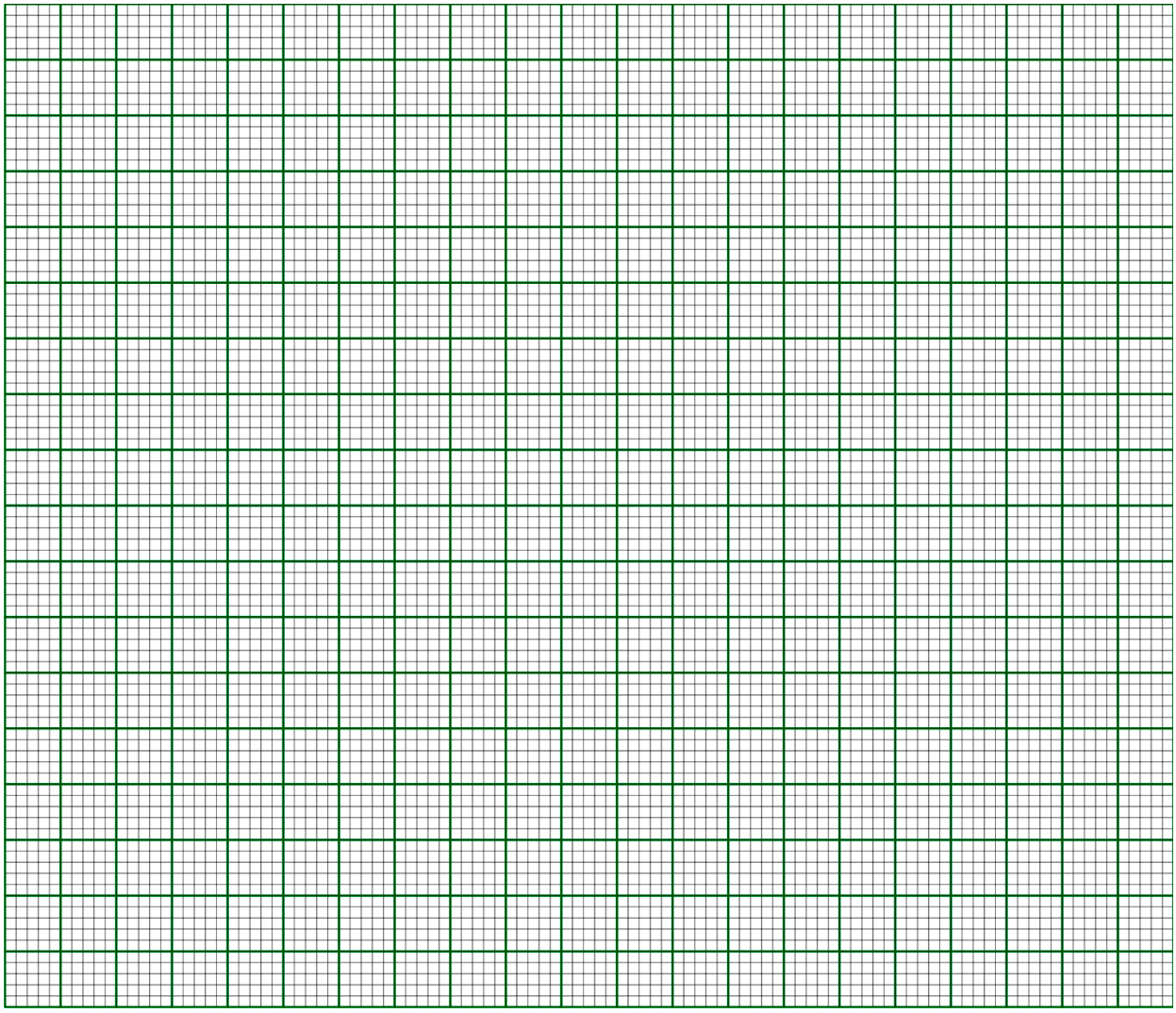
Table 1

Volume of water (cm^3)	**Temperature at which crystals(^{0}C)**	**Solubility of solid X (g/100g of water)**
4		
6		
8		
10		
12		

(6 marks)

b). On the grid provided, plot a graph of solubility of solid X (vertical axis) against temperature.

(3 marks)



c).Using your graph, determine the temperature at which 100g of solid **X** would dissolve in 100cm^3 of water.
(1 mark)

Procedure II

v) a).Transfer the contents of the boiling tube into a 250ml volumetric flask, rinse both the boiling tube and the thermometer with distilled water and add to the volumetric flask. Add more distilled water to make up to the mark. Label this solution **X**. Fill a burette with solution **Y**.

Using the pipette and pipette filler, place 25.0cm^3 of solution **X** into a conical flask. Warm the mixture to about 60^{0}C. Titrate the hot solution **X** with solution **Y** until a permanent pink colour persists. Continuously shake the mixture during the titration. Record your readings in table 2.

Repeat the titration two more times and complete the table2**.**

Table 2

Titration	I	II	III
Final burette reading (cm^3)			

Initial burette reading (cm^3)			
Volume of solution Y used (cm^3)			

(4 marks)

b). Calculate the:

I. average volume of solution Y used (1 mark)

II. Number of moles of Solution Y, Potassium manganate (VII) used
(K=39, Mn=55, O=16) (2 marks)

III. Number of moles of X in $25cm^3$ of solution X given that 2 moles of potassium manganate (VII) react completely with 5 moles of X

(1 mark)

IV. Number of moles of X in $250cm^3$ of solution (1 mark)

V Relative formula mass of X, (1 mark)

c). The formula of **X** has the form $\boldsymbol{X}.nH_2O$. Determine the value of n in the formula given that the relative mass of **X** is 90.0

(O=16.0, H=1.0) (2 marks)

2. You have been provided with **solid R**. Carry out the tests below

(a)Transfer all the solid R to a boiling tube. Add about $6cm^3$ of distilled water and shake the mixture thoroughly. Allow to settle then carefully filter into another boiling tube. **Retain the residue for part (b)**

Divide the filtrate into ***three*** portions

i) To the first portion of the **filtrate** in a test tube, add few drops of 2M lead (II) nitrate solution and warm

Observations	Inferences
(1 mark)	(1/2 mark)

ii) To the second portion of the **filtrate** in a test tube, add 2M sodium hydroxide solution drop wise until in excess

Observations	Inferences
(1 mark)	(1 mark)

(iii)

(I)Describe how you would carry out a **flame test** on the solution obtained.

Procedure	Expected observation
(1 mark)	(1 mark)

(II) On the third portion of the **filtrate**, carry out the flame test described above

Observations	Inferences
(1/2 mark)	(1/2 mark)

b). i).To the residue in a boiling tube add 2M hydrochloric acid provided drop wise until there is no more change. Test for any gas using a burning splint.

Divide the resultant solution into ***two*** portions

Observations	Inferences
(1 marks)	(1/2 mark)

ii). To the first portion, add 2M sodium hydroxide solution drop wise until in excess

Observations	Inferences
(1 mark)	(1/2 mark)

iii). To the second portion, add 2M ammonium hydroxide solution until in excess

Observations	Inferences
(1 mark)	(1/2 mark)

3. You are provided with solid **H**. Carry out the tests below. Write your observations and inferences in the spaces provided.

a). Using a clean metallic spatula, heat about one third of solid H in a Bunsen burner flame.

Observations	Inferences

(1 mark)	(1 mark)

b). Dissolve the remaining portion of **solid H** by adding about $6cm^3$ of distilled water and divide the solution into **3 portions**.

i) To the first portion, add two drops of acidified potassium manganate (VII) solution

Observations	Inferences
(1 mark)	(1 mark)

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

Observations	Inferences
(1 mark)	(1 mark)

iii) Determine the pH of the third portion using universal indicator paper

Observations	Inferences
(1/2 mark)	(1/2 mark)

PREDICTION 4

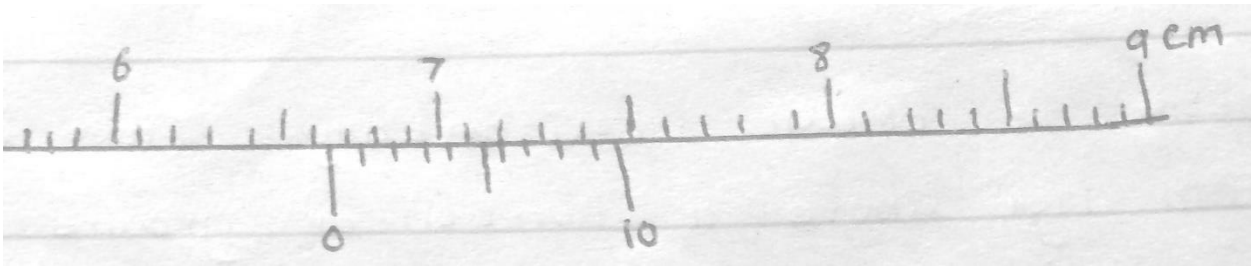
PHYSICS PAPER 1

FORM 4

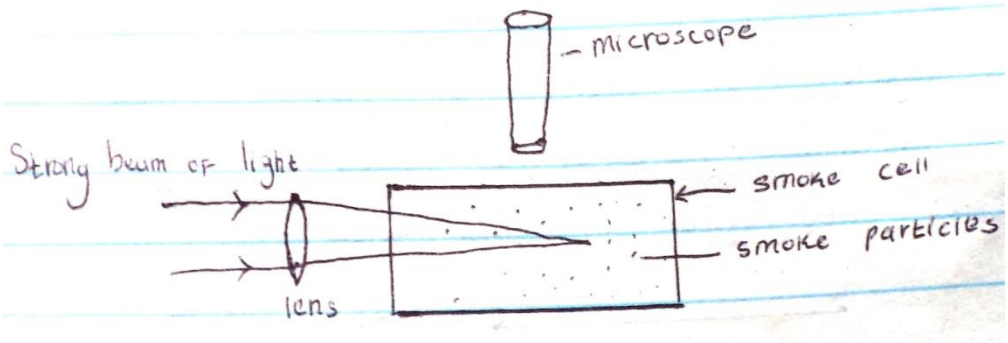
NAME …… ADM ……

CLASS ……..

1. What is the reading of the vernier eallipers shown in the fly below if it has a positive error of 0.02cm? (3mks)



2. The figure below shows apparatus used to observe behavior of smoke particles in a smoke cell.



a) State a reason why smoke particles are used in the experiment. (1mk)

b) State the observation made. (1mk)

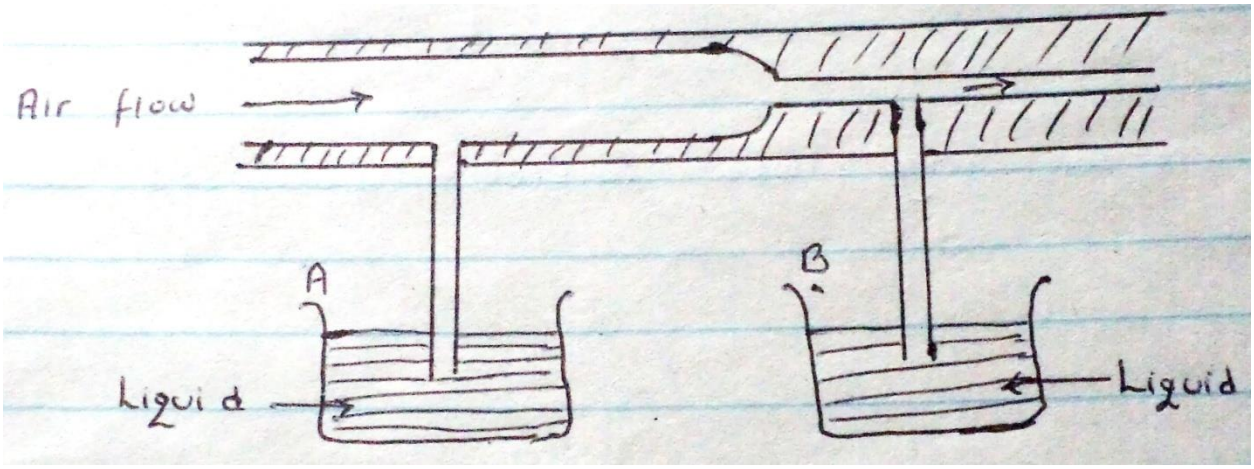
c) What would happen if temperature was lowered? (1mk)

3. Explain why fish can survive under water when the surface is already frozen. (1mk)

4. State one way on which the stability of the can be increased. (1mk)

5. A stone is thrown horizontally from a building that is 50m high above a horizontal ground. The stone hits the ground at a point, which is 65m from the foot of the building. Calculate the initial horizontal velocity of the stone. ($g=10ms^{-2}$) (3mks)

6. The figure below shows air flowing through a pipe of non-uniform cross-sectional area .Two pipes A and B are dipped into liquids as shown below.



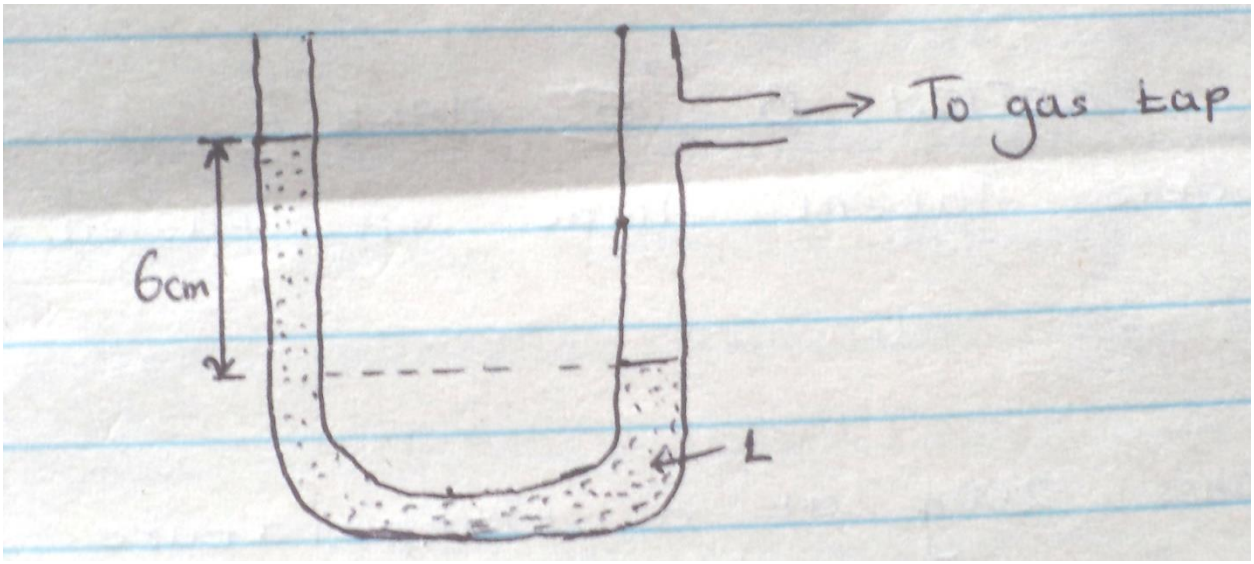
   a. Indicate the levels of the liquids in pipe A and B. (1mk)

   b. Explain your answer in (a) above. (1mk)

7. When a mercury thermometer is used to measure the temperature of hot water, it is observed that the mercury level first drops before beginning to rise. Explain (2mks)

8. Figure below shows a u-tube manometer containing a liquid L. One end connectected to a gas tap.

Given that the atmosphere pressure is 1.0×10^5pa, determinate the pressure of the gas (density of liquid L is 900kg/m^3, g=10N/kg) (2mks)



9. The figure below represents part of a tape pulled through a ticker-timer by trolley moving down an inclined plane. If the frequency of the ticker-timer is 50Hz, calculate the acceleration of the trolley. (3mks)

10. Explain why a glass container with thick glass walls is more likely to crack than one with a thin wall when a very hot liquid is poured into it. (2mks)

11. Find the amount of work in stretching a sprig constant 25N/M when its lenghth is increased from 0.1m to 0.2m. (3mks)

SECTION B (55MARKS)

12. A) Define specific latent heat of fusion of a substance. (1mk)

b) Water of mass 200g at a temperature of 60^0c is put in a well lagged copper calorimeter of mass of 80g. A piece of ice at 0^0 c and mass 20g is placed in the calorimeter and the mixture stirred gently until all the ice melts. The final temperatures, T of the mixture are then measured. Determine:

i) The heat absorbed by melting ice at 0^0c. (2mk)

ii) The heat absorbed by melted ice (water) to rise to temperature. T (Give the answer in terms of T (2mks)

ii) The heat lost by warm water and the calorimeter. (2mks) (Give the answer interms of T)

iii) The heat lost by warm and the calorimeter (2mks) (Give the interms of T)

IV) The final temperature T of the mixture. (Specific latent heat of fusion of ice=334,000 Jkg^{-} specific heat of water =4200Jkg^{-1}, specific heat capacity of copper =900$Jkg^{-1}k^{-}$) (3mks)

13. A ball bearing x is dropped vertically downwards from the edge of the table and it takes 0.5s to hit the floor below. Another ball bearing Y leaves the odge of the table horizontally with a velocity of $5ms^{-}1$ find :
    a) The horizontal distance travelled by Y before hitting the floor. (2mks)

    b) The vertical distance of the table top above the floor level. (2mks)

    c) A bullet mass of 22g travelling horizontal with a velocity of $300ms^{-1}$ strikes a block of wood of mass 1978g which rests on a rough horizontal surface. After impact the bullet and the block move together and come to rest when the block has travelled a distance of 5M. Calculate :
        i) The velocity of bullet and wood after impact. (2mk)

        ii) The force of friction between wood and surface. (2mks)

(d)A car starts from rest and accelerates uniformly at $2m/s^2$ for 5 seconds before accelerating again at 2.5 m/s^2 for 2 more seconds. The car is then brought to rest in another 2 seconds.

i) Sketch a velocity time graph for this motion. (2mks)

ii) From the graph, calculate the total distance travelled. (2mks)

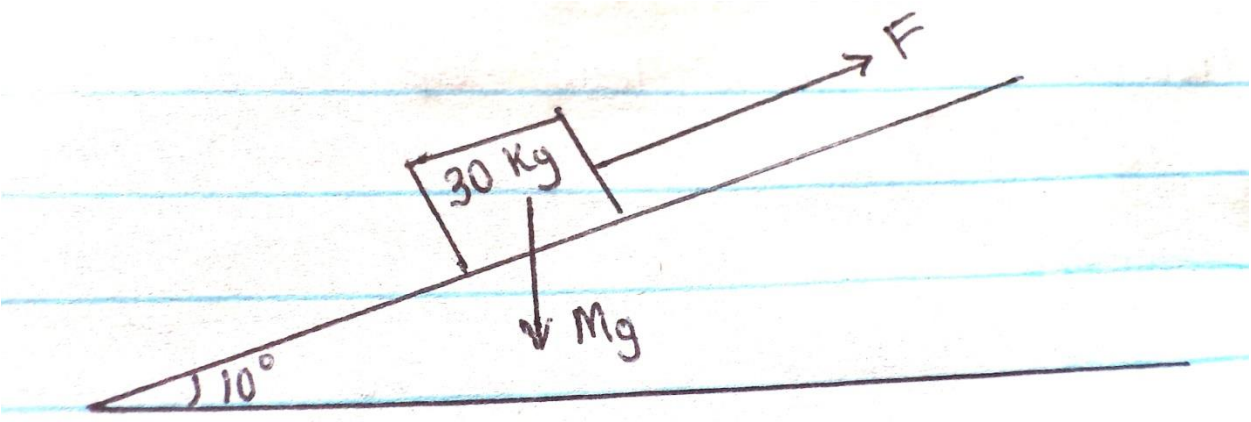
14. A) State two important factors to be considered when selecting the banking angles of a road.

b) A ball of mass 2kg is whirled at the end of a string in a horizontal circular path at a speed of $5m/s^{-1}$. If the string is 2.0m long find,

i) Angular velocity of the stone? (3mks)

ii. The tension of the string.

15. The figure below shows a block of mass 30.0kg being pulled up a slope by a force F at a constant speed. The friction force on the block is 200 N.



A) I) on the same figure above name and indicate the other forces acting on the block. (2mks)

II) Determine the force acting on the block down the slopes. (2mks)

iii) Determine the value of F (2mks)

B. On reaching the top of the slopes. The block is left to run freely down the slopes.

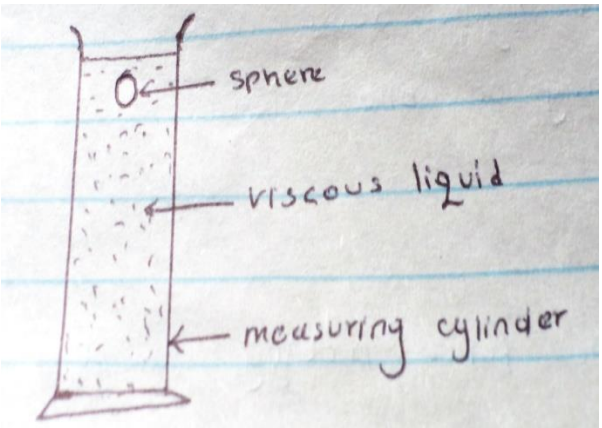
i) Which of the force previously acting on the block would then act in the opposite direction? (1mk)

II) Determine the acceleration of the block down the slope. (2mks)

III) What is the effect of increasing the angle of the slopes on your answer in (ii) above? (1mk)

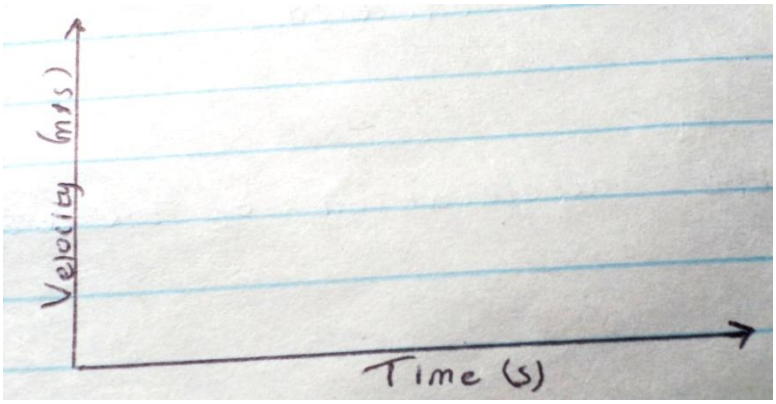
16. A) i) State Newton's second law of motion. (1mk)

ii) The figure below shows a sphere moving in a viscous liquid in a tall measuring cylinder.



Show on the diagram the force acting on the sphere. (3mks)

iii) Sketch on the Cartesian plane below a graph of the variation of velocity with time until the ball attains terminal velocity.



b) i. State Boyle's law. (1mk)

ii. What is the absolute zero temperature? (1mk)

iii). A bicycle pump with the exit hole closed contains 80cm of air at 760 mmHg pressure and a temperature of 10c. When the air was compressed to 38cm under a pressure of 1700mmHg pressure, its temperature rises. Calculate the rise in temperature. (2mks)

PREDICTION 4

NAME: ……..…CLASS:…..…ADM NO:……

SIGNATURE:……INDEX NO:……

DATE:……..

232/2
PHYSICS
PAPER 2
TIME: 2 HOURS

KCSE PREDICTION 4

Kenya Certificate of Secondary Education

Instructions to candidates

- Write your name, admission number, class, signature and date in the spaces provided at the top of the page.
- This paper consists of two sections A and B.
- Answer all the questions in the two sections in the spaces provided after each question
- All working must be clearly shown.
- Electronic calculators, mathematical tables may be used.
- All numerical answers should be expressed in the decimal notations.
- This paper consists of 14 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1 – 11	25	
B	12	10	
	13	10	
	14	8	
	15	16	

	16	**11**	
TOTAL		**80**	

SECTION A: (25 MARKS)

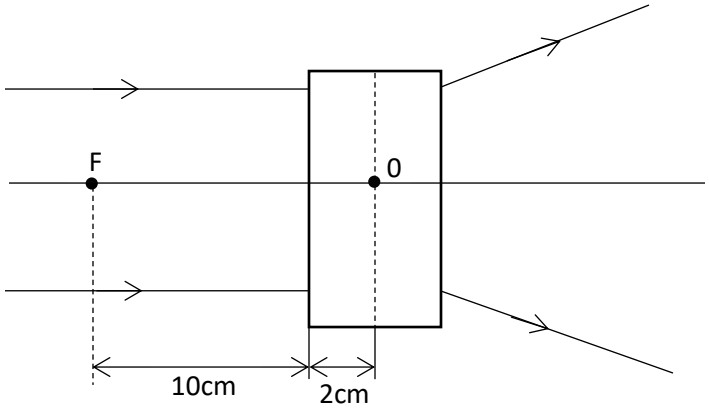
1. Explain why repulsion method is the best test for polarity of a magnet as opposed to attraction. (1 mark)

2. Define the following;

   (i) the direction of an electric field. (1 mark)

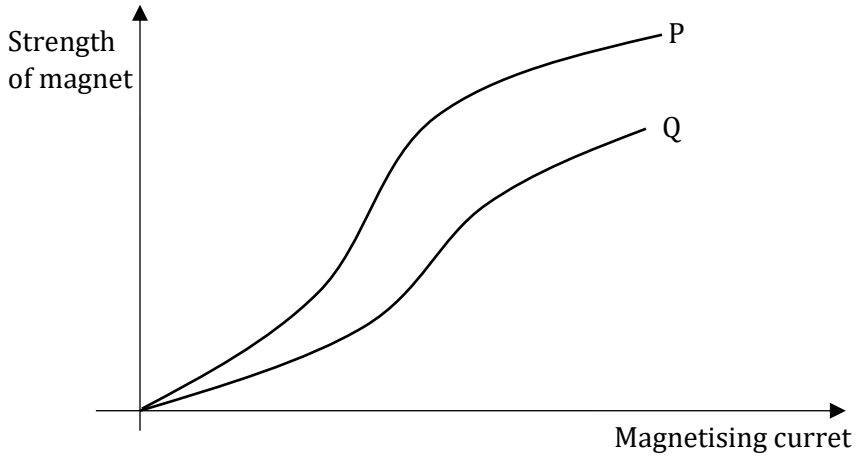
   (ii) the capacitance of a capacitor. (1 mark)

3. The diagram below shows a set of parallel rays of light incident on a thin lens and emerging out from the lens. The lens is placed inside a blackbox with narrow opening on both sides.



   (a) State the type of the lens in the box and explain your answer. (2 marks)

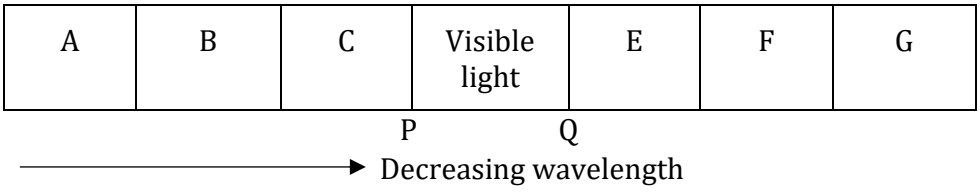
4. In an experiment to magnetize two substances P and Q using electric currents, two curves were obtained as shown below.



(i) Explain the difference between substances P and Q with reference to domain theory. (1 mark)

(ii) State and explain which of the two substances in (i) above would be suitable for use as a core of an electromagnet. (1 mark)

5. The letters in the figure below represents different types of radiations in the electromagnetic spectrum.



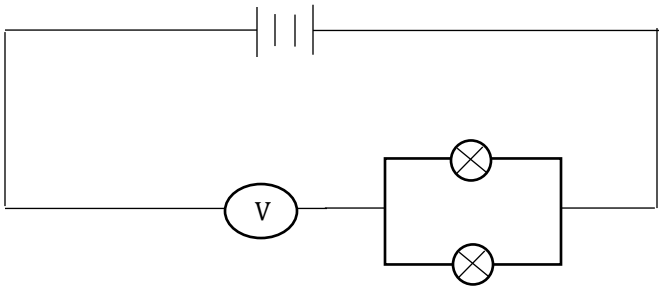
(i) Which colours of spectrum appears at P and Q?

P - …… (1 mark)

Q - …… (1 mark)

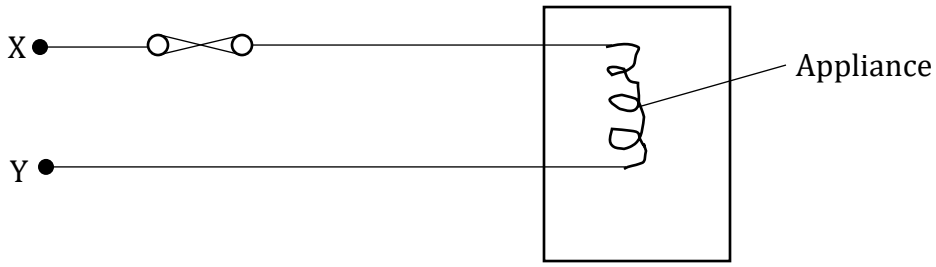
(ii) How is radiation marked C detected? (1 mark)

6. The diagram below shows a circuit that was connected by a form one student. Comment with a reason on the brightness of the bulbs. (2 marks)



7. A car battery requires topping up with distilled water occasionally. Explain why this is necessary and why distilled water is used. (2 marks)

8. The figure below shows the wiring in a modern mains appliance.



Identify the wires X, Y and Z. (2 marks)

X - ……

Y - ……

Z - ……

9. Three resistors of resistance 2.0Ω, 4.0Ω and 6.0Ω are connected together in a circuit. Draw a circuit diagram to show the arrangement to the resistors which gives;

(i) An effective resistance of 3.0Ω (2 marks)

(ii) A minimum resistance. (1 mark)

10. When rod X was rubbed with material Y, it was observed that the material acquired a negative charge.

(i) State the charge on the rod X. (1 mark)

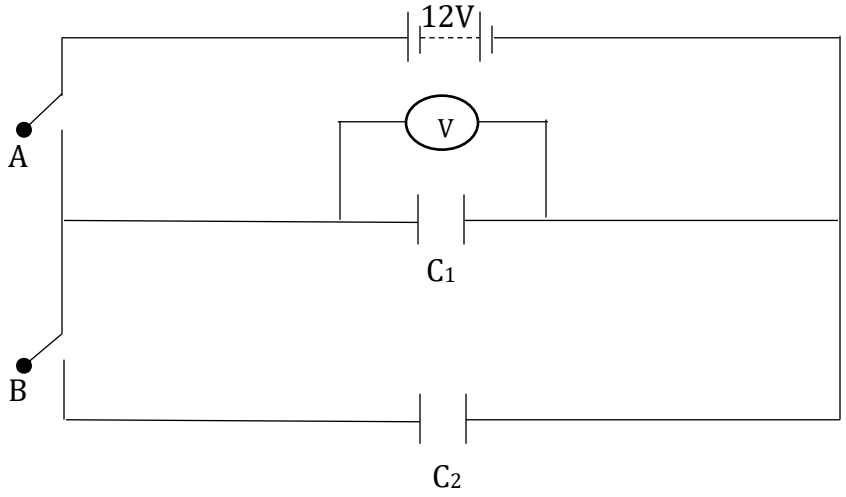
(ii) Explain how the rod X acquired the charge. (1 mark)

(iii) Explain briefly how you would test the nature of the charge on rod X using an electroscope. (2 marks)

11. Distinguish between intrinsic semi-conductor and extrinsic semiconductor. (2 marks)

SECTION B: (55 MARKS)

12. The following figure shows a circuit where a battery of an e.m.f. 12v, switches A and B, two capacitors C_1 = 9.0μF and C_2 = 3.0μF and a voltmeter connected as shown below.



(i) Determine the charge on C_1 when the switch A is closed and B open. (2 marks)

(ii) What is the voltmeter reading when switch A is closed and switch B open? (Assume capacitor C_1 is fully charged). (1 mark)

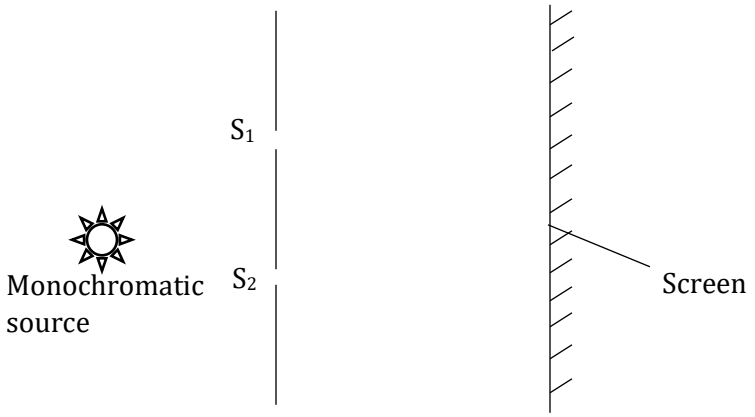
Switch A is now opened and switch B closed. Determine:

(iii) The effective capacitance of C_1 and C_2. (2 marks)

(iv) The voltmeter reacing V. (3 marks)

(v) The energy stored by C_1 (2 marks)

13. (a) In an experiment to study one of the properties of waves, a double slit was placed close to the source of monochromatic light as shown below.



(i) What property of waves is being investigated? (1 mark)

(ii) State the function of the double slit. (1 mark)

(iii) State and explain the observation made on the screen. (2 marks)

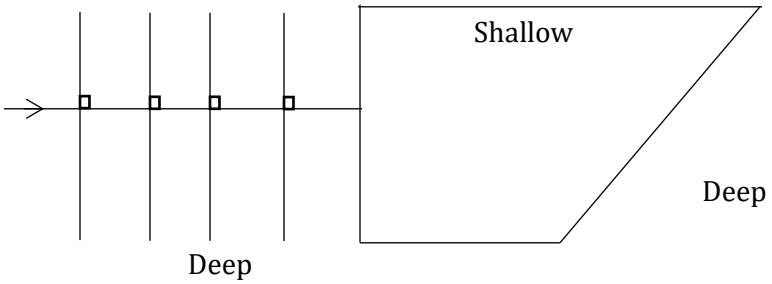
(iv) State what is observed on the screen when;

(I) the slit separation S_1 S_2 is decreased. (1 mark)

(II) White source of light is used in place of monochromatic source. (1 mark)

(III) S_1 and S_2 are made larger. (1 mark)

(b) The diagram below shows plane wave fronts in a ripple tank incident on a boundary between a deep to shallow region.



On the same diagram, sketch the wave pattern in and beyond the shallow region. (2 marks)

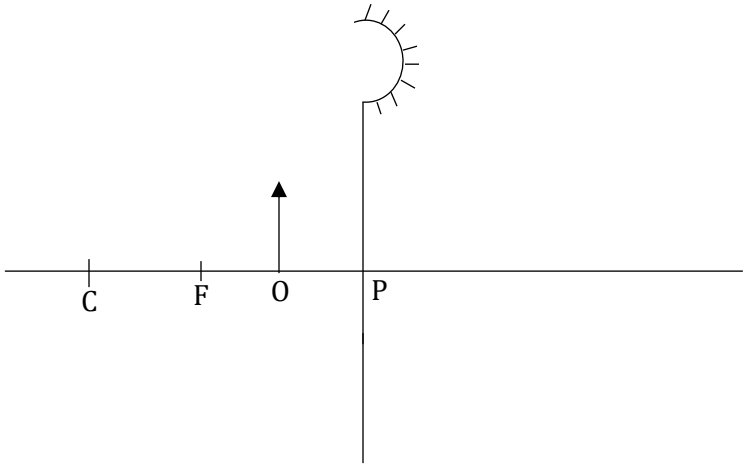
(c) The equation below represents a nuclear decay. (1 mark)

$$^{232}_{90}W \xrightarrow{A} {}^{228}_{88}X$$

Identify the radiation A.

A - ……

14. (a) The diagram below shows an object O placed infront of a concave mirror as shown.

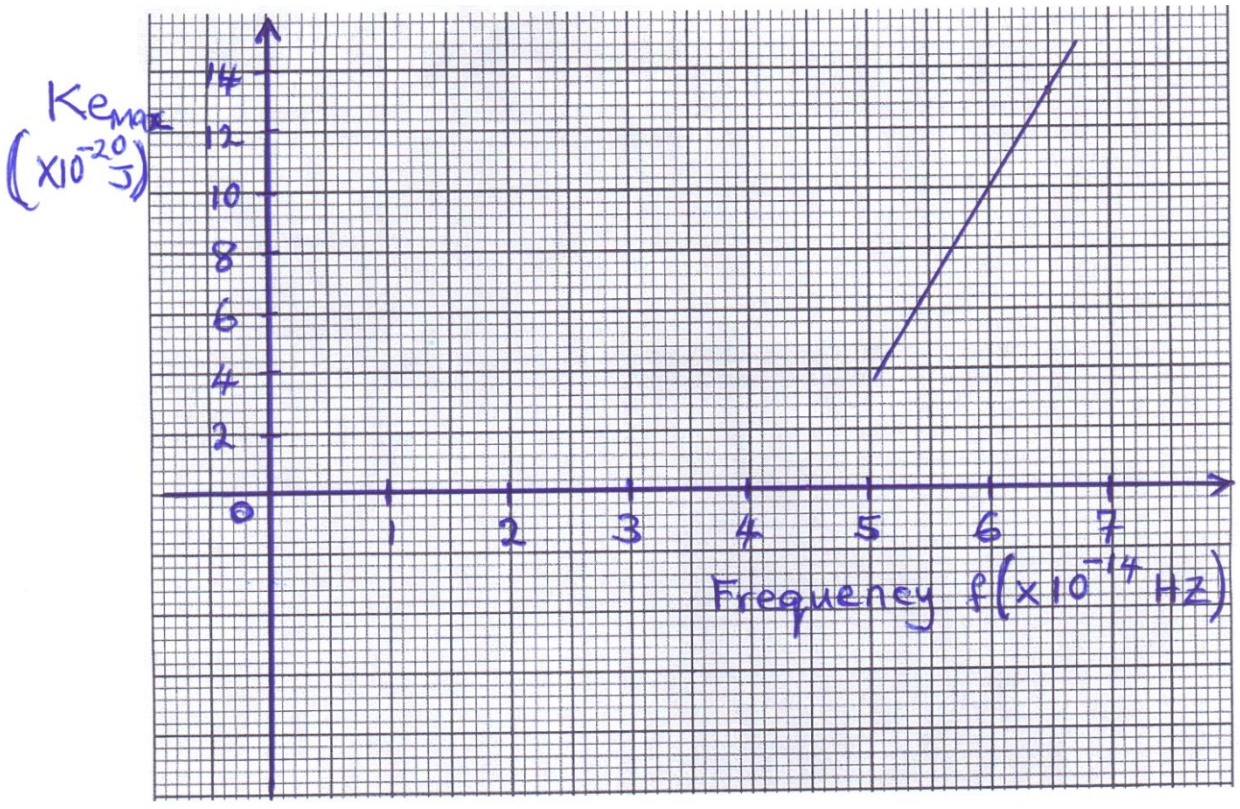


(i) Complete the diagram to show the image formed. (2 marks)

(ii) State two characteristics of the image formed. (1 mark)

(b) (i) State two factors that determine the speed by which electrons are emitted from metal surface by light falling on it. (2 marks)

(ii) In an experiment using a photocell, light of varying frequency but constant intensity was shone onto the surface of a metal. The maximum kinetic energy, $(Ke)_{max}$ emitted for each frequency, was determined. The graph below shows how Ke_{max} varies with frequency f.



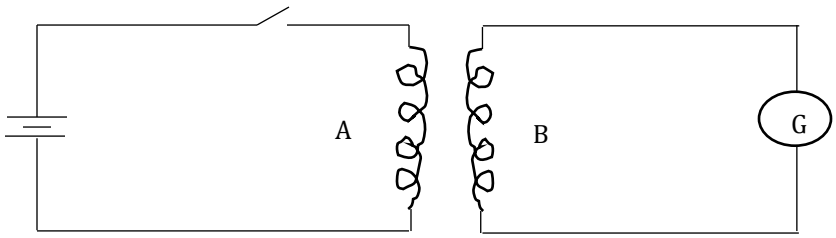
From Einstein's equation, $hf = \Theta + Ke_{max}$, where Θ is the work function. Determine.

(i) the threshold frequency, f_0 from the graph (1 mark)

(ii) the planks constant, h (2 marks)

15. (a) An electric cooker has an oven rated 3KW, a grill rated 2KW and two rings each rated at 500W. The cooker operates from 240V mains. What is the cost of operating all the parts for 30 minutes if electricity cost Ksh.6.50 per unit? (3 marks)

(b) Fig. below shows identical copper coils A and B placed close to each other. Coil A is connected to a d.c. power supply while coil B is connected to a galvanometer.



(i) State and explain what is observed on the galvanometer when the switch is closed. (2 marks)

(ii) State what is observed on the galvanometer when the switch is opened.
(1 mark)

(iii) State what would be observed if the number of turns of coil B is doubled.
(1 mark)

(c) A transformer with 2000 turns in the primary circuit and 150 turns in the secondary circuit has a primary circuit connected to a 800V ac source. It is found that when a heater is connected to the secondary circuit, it produces heat at the rate of 1000w. Assuming 90% efficiency, determine the;

(i) Voltage in the secondary circuit. (2 marks)

(ii) the current in the primary circuit. (2 marks)

(iii) Current in the secondary circuit (1 mark)

(d) A cell drives a current of 5A through a 1.6Ω resistor. When connected to a 2.8Ω resistor, the current that flows is 3.2A. Determine the e.m.f. (E) and internal resistance (r) of the cell. (4 marks)

16. (a) State how each of the following can be increased in an x-ray tube.

(i) Intensity of x-rays. (1 mark)

(ii) penetrating power of x-rays. (1 mark)

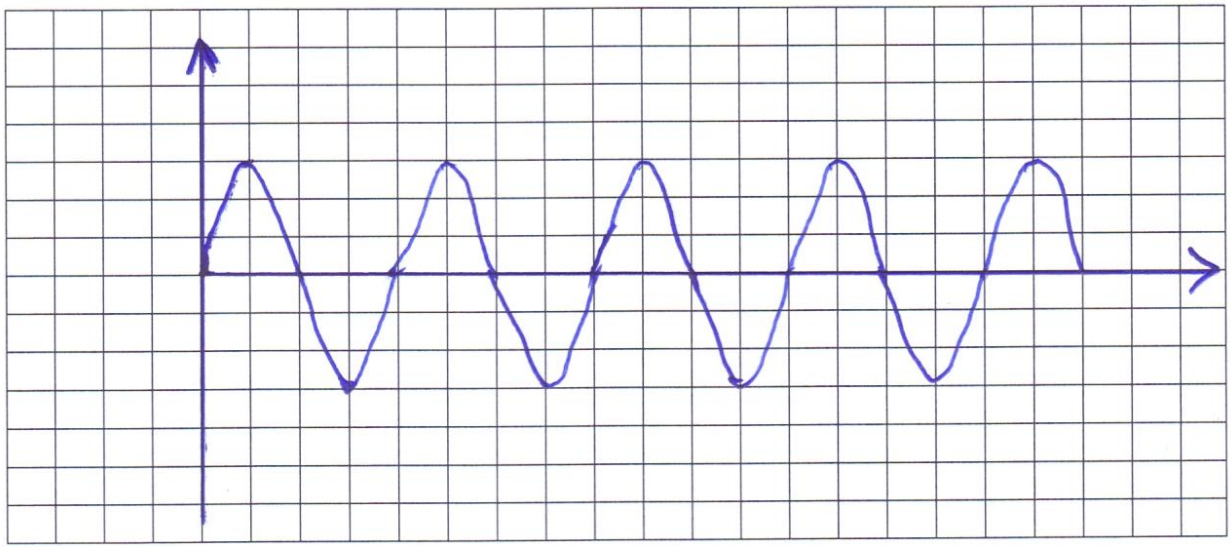
(b) An x-ray tube has an electron beam current of 10mA and is accelerated through a p.d of 60KV. The efficiency is 0.5%. Calculate;

(i) the input power (2 marks)

(ii) the quantity of heat produced per second. (1 mark)

(iii) the number of electrons hitting the target per second. (2 marks)

(c) The fig. below shows an a.c. signal on the C.R.O screen.



Determine:

(i) The frequency of the signal given that the time base is set at 10ms/div.
(2 marks)

(ii) The peak voltage of the signal given that the y-gain is set at 50v/div
(2 marks)

PREDICTION 4

PHYSICS CONFIDENTIAL

QUESTION ONE

-stopwatch

-250ml beaker

-Rubber bung

-Thermometer

- 150 ml of boiling water

-Tripod

- Gauze

- Retort stand and clamp

- Hot water

QUESTION 2

PART A

- One resistor labelled R = 40Ω
- A wire labelled W mounted on millimetre scale (32 gauge)
- A wire labelled S mounted on a millimetre scale (28 gauge)
- One dry cell and a cell holder
- One jockey
- One centre zero galvanometer
- Eight connecting wires, four with crocodile clips at both ends
- A micrometer screw gauge
- A switch

PART B

-Lens and a lens holder (f=10cm)

- Half metre rule

- White screen

PREDICTION 4

Name:……...…… **Index No**…….

232/3
PHYSICS
PRACTICAL
PAPER 3
TIME: $2\frac{1}{2}$ HRS

Candidate's Signature:……

Date:……..……

KCSE PREDICTION 4.

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

INSTRUCTIONS TO CANDIDATES

- **Write your name and index number in the spaces provided.**
- **Mathematical tables and non-programmable calculators may be used.**
- **This paper consists of three questions.**
- **Attempt all the questions in the spaces provided.**
- **ALLOW working MUST be clearly shown.**

For Examiners Use

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	20	
TOTAL	40	

This paper consists of 11 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing

QUESTION ONE

Apparatus

-stopwatch

-250ml beaker

-Rubber bung

-Thermometer

- Bunsen burner

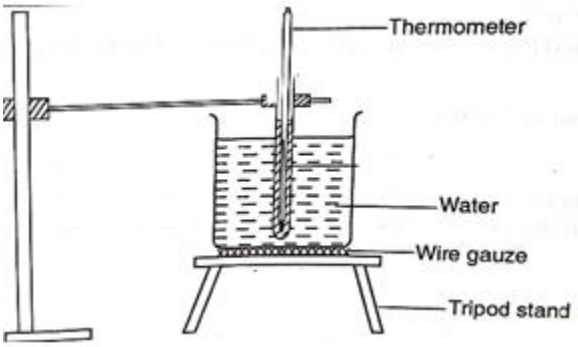
-Tripod

- Gauze

- Retort stand and clamp

- Hot water

Figure 2.



Procedure

(a) (i) Measure and record the ambient temperature, T_A =……^{0}C (1 mark)

(ii) Fill an empty beaker with exactly 150ml of hot water (check the side scale of the beaker)

(iii)Set up the apparatus as shown in **figure 2**. Ensure the thermometer is about 2cm above the bottom of the beaker.

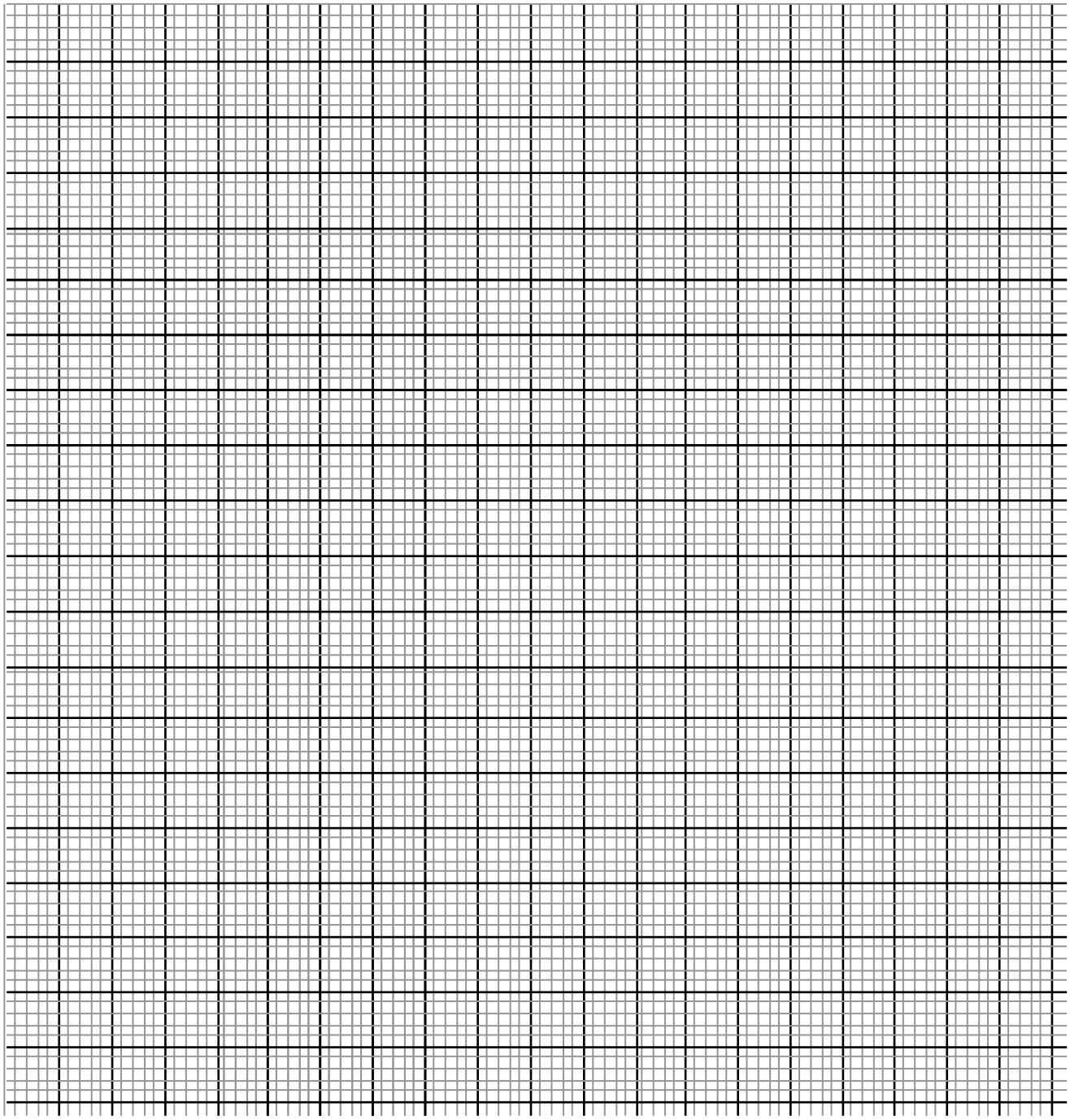
(i) Record the initial highest temperature of water T_H=…….. ^{0}C
(1 mark)

(b) Start the stopwatch and time for every 2.0 minutes the temperature T of water. Record the temperature in **Table 2** for 20 minutes

Time (t) in minutes	2	4	6	8	10	12	14	16	18	20
Temperature (T) in ^{0}C										
$(T-T_A)^0$C										
$Log_{10}(T-T_A)$ (2 d.p)										

(6 mark)

(c) Plot a graph of $Log_{10}(T-T_A)$ against time (5 mark)



(d) From the graph determine:

(i) The Slope S (3marks)

……
……
……
……

(ii) The cooling constant , K of water given S=-0.4343K (2 mark)

……
……

(e) Given that the specific heat capacity of water is 4.2J/g/^{0}C determine the heat lost when the water cools to the temperature of the surrounding
(2 mark)

……
……
……
……

2. PART A

You are provided with the following apparatus :

- One resistor labelled R = 40Ω
- A wire labelled W mounted on milliameter scale
- A wire labelled S mounted on a milliameter scale
- One dry cell and a cell holder
- One jockey
- one centre zero galvanometer
- Eight connecting wires, four with crocodile clips at both ends
- A micrometer screw gauge
- A switch

Proceed as follows

a) Determine the average diameter D, of the wire labelled W using the micrometer screws gauge provided.

D_1 = ... mm (½ mark)

D_2 = ... mm (½ mark)

$D = \frac{D_1 + D_2}{2}$ (in cm) (1 mark)

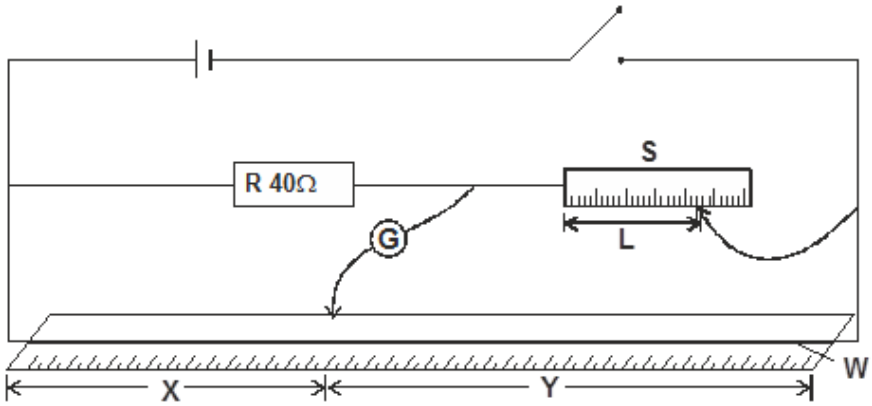
.....

.....

.....

b) Set up the apparatus as shown in the circuit diagram in **figure 3** below.

Use the crocodile clips to fix length L, of wire labelled S at 50cm from the end connected to the galvanometer G.



c) Close the switch and use the jockey to touch one end of the wire W, and then the other end. The deflections on the galvanometer should be in opposite directions, if not check the circuit. Adjust the positions of the jockey along the wire W until there is no deflection in the galvanometer. Record the value of x and y.

x = ... cm (½ mark)

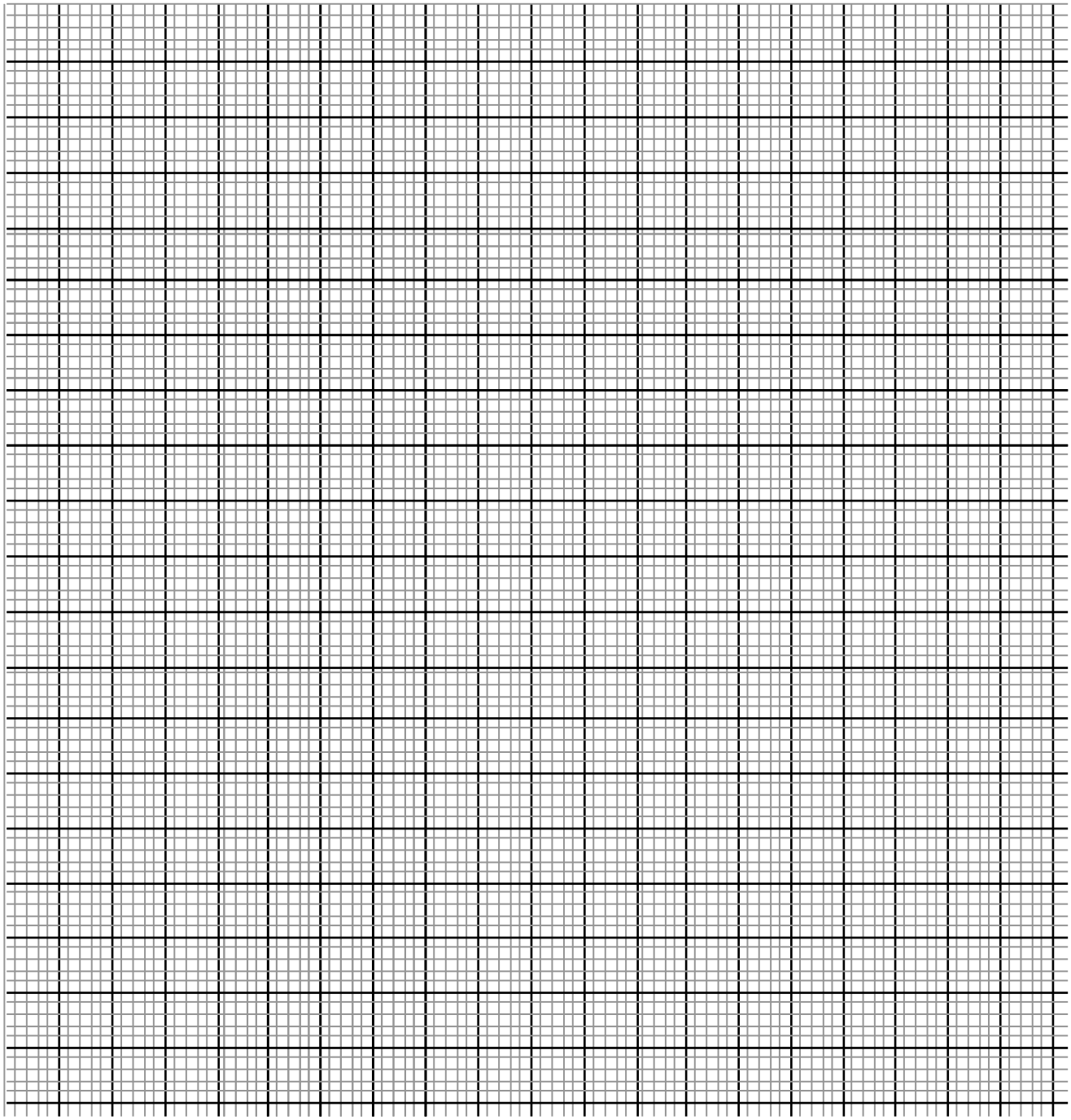
y = ... cm (½ mark)

d) Record for other values of L in **table 3** below

L (cm)	45	40	35	30	25	20
X (cm)						
Y (cm)						
y/x (3 d.p)						

(4 marks)

e) i) Plot a graph of y/x (y-axis) against L. (5 marks)



ii) Determine the slope, m of the graph. (2 marks)

……
……
……
……...

iii) Given that K = 100D, determine the value of K. (2 marks)

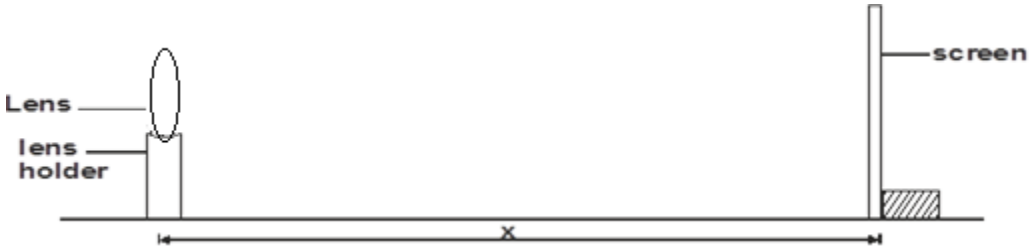
……
……
……
……..

PART B

b) You are provided with a lens P a lens holder a white screen and half metre rule.

Procedure

i)Set the apparatus as shown in **figure 4** below. Focus a sharp image of a distant object on the screen (e.g windov



a) Measure the distance x in cm between the lens and the screen at which a sharp image is obtained repeat this two times, using different objects and record your readings in **table 4** below.

Object	Distance X, (cm)
1	
2	

(2 marks)

ii) Calculate the average value of x (1 mark)

……
……..

iii)What is the physical significance of the result obtained in (iii) above? (1 mark)

……
……
……

PREDICTION 4

Name: …….. Index No: ……dm No……..

Candidate Signature: …… Date: ……Class……...

3/2/1
GEOGRAPHY
Paper 1
Time 2 hours 45 min.

KCSE PREDICTION 4
Kenya Certificate of Secondary Education

Instructions to Candidates

a) Answer all questions in section **A**.
b) In section **B**, Answer question **6** and any other **two** questions from the remaining questions.
c) Answer all questions using the answer booklet provided.
d) Candidate should check that all pages are printed and no questions are missing.

For Examination use only.

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

SECTION A

Answer all the questions in this section.

1. a) Differentiate a Star from a Natural satellite. (2mks)
   b) State three weaknesses of the Passing Star Theory. (3mks)

2. a) Give three ways in which igneous rocks can be classified. (3mks)
   b) Describe how Dynamic metamorphism leads to formation of metamorphic rocks. (2mks)
3. a) Outline three agents of Weathering. (3mks)
   b) State how topography influences Weathering of rocks. (3mks)
4. a) State the factors that influence river deposition. (3mks)
   b) Describe radial drainage pattern. (2mks)
5. a) What is Glaciation? (2mks)
   b) State three factors that influence glacial erosion. (3mks)

SECTION B

Answer Question 6 and Any Other <u>two</u> Questions in this Section.

6. Study the map of Yimbo (**Sheet 115/1** provided and use it to answer the questions the following questions.

(a) (i) identify the latitudinal extent of the area covered by the map. **(1 mark)**

(ii) Give the six-figure grid reference of Ramogi hill. **(1 mark)**

(b) (i) Convert the ratio scale of the map into statement scale. **(2 marks)**

(ii) Calculate the area covered by Lake Victoria to the east of **Easting 30** in square. kilometres **(2 marks)**

(c) (i) Draw a cross-section along the **Northing 90** and between the **Eastings 30** and **36**, using a vertical scale of **1 cm represent 50 m.** **(4 marks)**

On the cross-section, mark and name:

- Thicket vegetation **(1 mark)**
- Kapiyo school **(1 mark)**
- River **(1 mark)**

(ii) Calculate the vertical exaggeration of the drawn cross-section. **(2 marks)**

(d) (i) Citing evidence, identify **two** economic activities carried out in the Yimbo area. **(2 marks)**

(ii) Describe how relief has influenced the distribution of settlements in the area covered by the map. **(4 mark)**

(iii) Describe the drainage of river Yala **(4marks)**

7. a) Distinguish between orogenic and epierogenic earth movements**.** **(2marks)**

b) Give any **three** features associated with the extension boundary**.** **(3marks)**

c) Describe how the following theories causes earth's movements

i) Convectional currents **(4marks)**

ii) Gravitative pressure **(4marks)**

d) State **four** characteristics of the Great Gregory Rift Valley. **(4marks)**

e) Explain **four** effects of faulting on physical environment. **(8marks)**

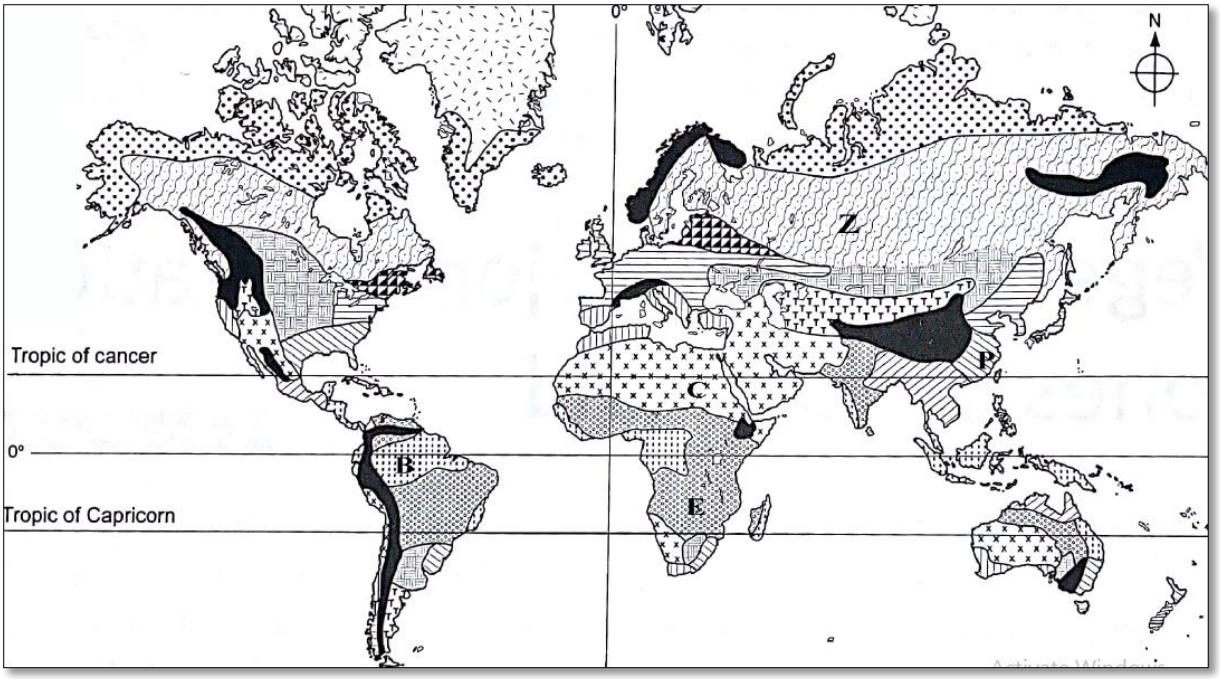
8. (a) Differentiate between derived and cultivated vegetation. **(2 marks)**

(b) Explain how the following factors influence vegetation distribution in Kenya:

(i) Living organisms **(2 marks)**

(ii) Precipitation (**2 marks)**

(c) The map below shows the global distribution of vegetation. Study and use it to answer the questions that follow.



(i) Identify the vegetation labelled **B, C** and **Z**. **(3 marks)**

(ii) Describe the adaptive characteristics of the vegetation labeled **E** on the map.

(6 marks)

(d) Your class is to planning to undertake a field study on vegetation in Mau forest;

(i) State **three** preparations you would carry out. **(3 marks)**

(ii) Give **three** sampling techniques you would use. **(3 marks)**

(iii) Identify **four** challenges you are likely to face during the actual field study.

(4 marks)

9. a) i) Differentiate between Aridity and Desertification. (**2marks)**

ii) Explain the following processes of wind erosion.

- Abrasion **(2mks)**
- Deflation. **(2mks)**

b) With a well labelled diagram, describe the formation of a Mushroom block. **(5mks)**

c) i) State three factors which influence wind transport. **(3mks)**

ii) Give three characteristics of a Barchan. **(3mks)**

d) Marsabit Boys high school went for a field study near their school on action of water in arid areas.

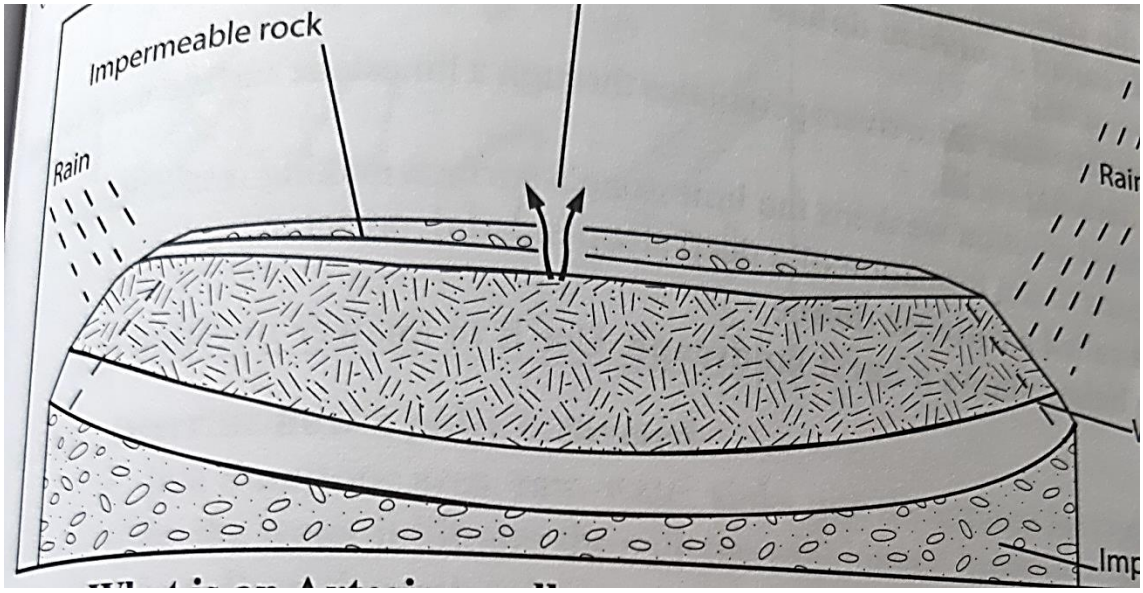
i) Give three reasons why they required a route map. **(3mks)**

ii) State three problems they are likely to encounter while in the field. **(3mks)**

iii) Name two features they are likely to observe. **(2mks)**

10. a) State three factors necessary for the development of Karst scenery. **(3mks)**

b. The diagram below shows an Artesian Basin. Use it to answer the question (i) and (ii).



i) Name the parts marked S and T. **(2mks)**

ii) State three ideal conditions for the formation of an artesian well. **(3mks)**

iii) Explain how a Doline is formed**.** **(4mks)**

c) i) Give reasons why some lakes are fresh. **(3mks)**

ii) Describe how a tarn is formed. **(5mks)**

d) Explain two negative effects of lakes. **(4mks)**

PREDICTION 4

312/2
GEOGRAPHY
Paper 2
Time: 2¾ hours

KCSE PREDICTION 4
Kenya Certificate of Secondary Education

INSTRUCTIONS TO STUDENTS

- *This paper has **two** sections **A** and **B***
- *Answer **ALL** the questions in section **A**. In section **B** answer questions **6** and any other **TWO** questions.*

SECTION A

*Answer **all** the questions in this section.*

1. (a) What is practical Geography? (2 marks)

   (b) State ***three*** practical aspect we study in Geography. (3 marks)

2. (a) Apart from marine parks, give ***two*** other tourist attractions at the Kenyan coast. (2 marks)

   (b) State ***three*** reasons why national parks have been established in Kenya. (3 marks)

3. (a) Name ***two*** towns in Kenya where motor vehicle assembly plants are found. (2 marks)

   (b) State ***three*** ways in which Kenya has benefited from assembling of motor vehicles locally. (3 marks)

4. (a) Identify ***two*** indigenous beef cattle breeds raised in Kenya. (2 marks)

   (b) Give ***three*** factors which favour beef farming in the Nyika plateau. (3 marks)

5. (a) Differentiate between exports and imports. (2 marks)

(b) State ***three*** factors which influence external trade in Kenya. (3 marks)

SECTION B

*Answer question **6** and any other **TWO** questions from this section.*

6. Study the photograph below and use it to answer question (a).

(a) (i) What evidence in the photograph shows that this is a ground general view type of photograph? (2 marks)

(ii) Name the type of pollution shown on the photograph. (1 mark)

(iii) Draw a rectangle measuring 15cm by 10cm to represent the area on the photograph. On it, sketch and label the main features shown on the photograph. (5 marks)

(iv) State ***three*** causes of this type of pollution. (3 marks)

(v) Explain ***three*** measures that may be taken to combat this type of pollution. (6 marks)

(b) (i) Name ***two*** rivers in Kenya to the west of the rift valley which cause large scale flooding. (2 marks)

(ii) Explain factors that lead to frequent flooding in the lake region of Kenya. (6 marks)

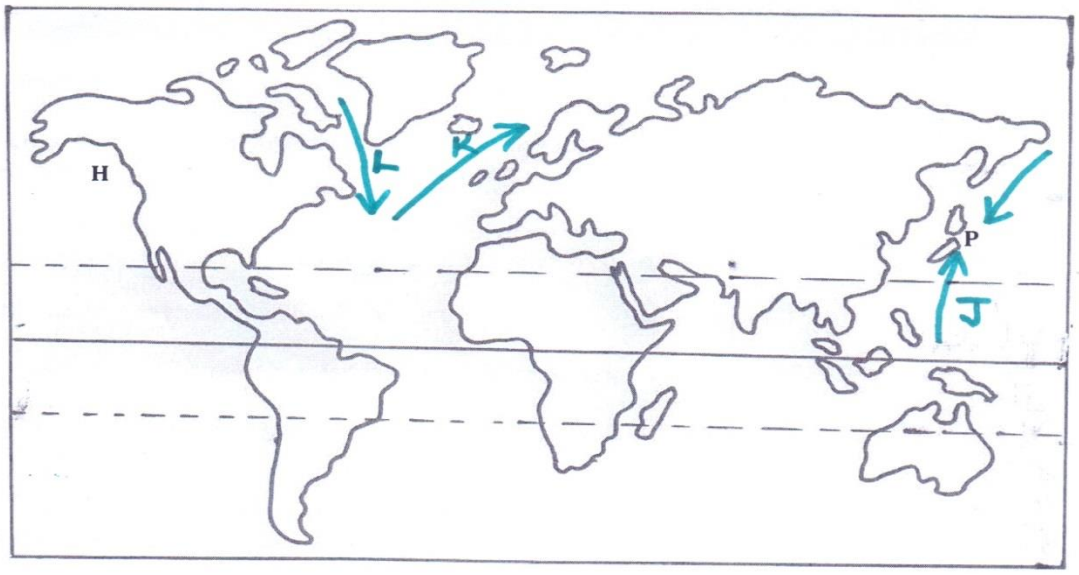
7. (a) (i) Define the term fisheries. (2 marks)

(ii) Name ***two*** types of inland fisheries in East Africa. (2 marks)

(iii) State ***four*** measures that the government of Kenya has taken to conserve fisheries. (4 marks)

(b) Describe how basket fishing method is used to catch fish. (6 marks)

(c) The following map shows the world distribution of the major fishing grounds. Study and use it to answer the questions that follow.



(i) Name ***two*** types of fish species found in the fishing ground marked **P**. (2 marks)

(ii) Identify the ocean currents labelled **J, K** and **L**. (3 marks)

(iii) Explain ***three*** physical factors that favour large scale fishing in the fishing ground marked **H**. (6 marks)

8. (a) (i) Identify the type of energy from the following sources of energy.

- Tides (1 mark)
- Uranium (1 mark)

(ii) What is Geothermal energy? (2 marks)

(iii) State ***three*** factors that hinder expansion of geothermal production in Kenya. (3 marks)

(b) Explain ***three*** problems that face the use of firewood as a source of energy in Kenya. (6 marks)

(c) (i) State ***four*** physical factors that favoured the location of the Owen Falls Hydro-electric Power project in Uganda. (4 marks)

(ii) Explain ***two*** problems the government of Kenya faces in her effort to develop H. E. P stations. (4 marks)

(d) Form Four students carried out a field study in Kamburu H.E.P plant.

(i) State ***two*** objectives for their study. (2 marks)

(ii) Give ***two*** reasons why they needed a working schedule. (2 marks)

9. (a) Differentiate between transport and communication? (2 marks)

(b) Explain how the following factors influence development of transport in Kenya.

(i) Government policy (2 marks)

(ii) Relief (2 marks)

(c) (i) Identify ***three*** conditions of roads in Kenya that cause occurrence of accidents. (3 marks)

(ii) State ***three*** measures taken by the government of Kenya to reduce road accidents. (3 marks)

(d) (i) Name ***two*** major railway lines in East Africa. (2 marks)

(ii) State ***three*** reasons why road transport is more developed than railway transport in East Africa. (3 marks)

(e) Study the map of the great lakes and the St, Lawrence Sea way provided and use it to answer the questions that follow.

(i) Name the port mark **P** and the canal marked **Q**. (2 marks)

(ii) Explain ***three*** ways in which the sea route has contributed to industrial growth in the region. (6 marks)

10. (a) (i) What is population? (2 marks)

(ii) Give ***three*** reasons why it is important for the government to conduct a population census. (3 marks)

(b) Explain how the following physical factors has influenced population distribution in Kenya.

(i) Climate (2 marks)

(ii) Pests and diseases. (2 marks)

(c) (i) Define the term fertility. (2 marks)

(ii) Give ***four*** factors that influence fertility. (4 marks)

(iii) State ***four*** causes of intra-urban migration. (4 marks)

(d) Explain ***three*** problems that result from high population growth rate in Kenya. (6 marks)

PREDICTION 4

HISTORY PAPER 1

SECTION A (25 MARKS)

*Answer **all** the questions*

1. Identify ***two*** ways through which archaeologists obtain information on the history of Kenya (2 marks)
2. Name ***one*** sub-group of Eastern Cushites (1 mark)
3. Identify the title given to council of elders among the Agikuyu (1 mark)
4. Give ***two*** missionary societies that operated in Kenya (2 marks)
5. Give **one** way in which African communities in Kenya reacted to British Invasion (1 mark)
6. Identify the ***main*** reason why *kipande* system was introduced in Kenya during the Colonial period (1 mark)
7. List ***two*** challenges faced by independent schools in Kenya (2 marks)
8. Give ***two*** reasons why oathing was administered to *Mau Mau* fighters (2 marks)
9. Identify ***one*** commission on education constituted during the colonial period (1 mark)
10. Identify ***two*** ways in which the colonial government encouraged settler farming (2 marks)
11. Name ***one*** founder member of Kenya African Democratic Union (1 mark)
12. Give the **main** reason why the second Lancaster house conference was convened (1 mark)
13. List ***two*** ways in which Kenyan citizens exercise direct democracy (2 marks)
14. Outline ***two*** functions of the deputy speaker of the National Assembly (2 marks)
15. Give ***one*** way in which the government has promoted the culture of the people of Kenya Si nce independence (1 mark)
16. State ***one*** challenge facing *Harambee* culture in Kenya (1 marks)
17. Give ***two*** ways in which one can become a member of county assembly of Kenya (2 marks)

SECTION B (45 MARKS)

*Answer **any three** questions*

18 a) State **five** reasons which influenced migration of the Cushites into Kenya during the Pre-colonial period (5 marks)

18 b) Describe the social organization of the Mijikenda during the pre – colonial period (10 marks)

19 a) Give **five** reasons that enabled the Akamba to successfully participate in the Long Distance trade. (5 marks)

19 b) Explain **five** factors that influenced the growth of Nairobi as an urban center (10 marks)

20 a) State **five** roles of Africans in provision of health services during colonial rule in Kenya. (5 marks)

20 b) Explain **five** roles of women in the Mau Mau uprising during the struggle for independence in Kenya (10 marks)

21 a) State **five** reasons for the Maasai collaboration (5 marks)

21 b) Explain **five** challenges facing culture and sports in Kenya since independence. (10 marks)

SECTION C (30 MARKS)

Answer ***any two*** questions

22 a) Give **three** factors that promote National Unity (3 marks)

22 b) Explain **six** importance of National Integration (12 marks)

23 a) Identify **three** special groups given special rights in the Kenya Constitution 2010 (3 marks)

23 b)Explain **six** functions of the Kenya National Human Rights and Equality Commission (KNHREC) (12 marks)

24 a) State **three** sources of revenue for the National Government (3 marks)

24 b) Explain **six** ways in which the constitution regulates public finance and expenditure (12 marks)

PREDICTION 4

311/2
HISTORY AND GOVERNMENT
PAPER 2

TIME: 2 ½ HOURS

KCSE PREDICTION 4

Kenya Certificate of Secondary Education (KCSE)

INSTRUCTIONS TO CANDIDATES:

- This paper consists of **three** sections A, B and C.
- Answer **ALL** questions in section A, **THREE** questions from section B, and **TWO** questions from section C.
- Candidates may be penalized for not following the instructions in this paper.
- Answers to all questions should be written in the answer booklet provided.

*This paper consists of **3** printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.*

SECTION A (25 marks)

*Answer **ALL** the questions in this section in the answer booklet provided.*

1. Give **two** sources of information in history and government. (2 marks)

2. State **two** methods used by Early Man to find food during the Stone Age period. (2 marks)

3. Give the main reason why early agriculture developed in Egypt. (1 mark)

4. Identify **two** early sources of energy. (2 marks)

5. State **one** disadvantage of using a messenger to pass on information. (1mark)

6. State the main advantage of using air transport. (1 mark)

7. Identify the main method of trade in Africa during the pre- colonial period. (1 mark)

8. Identify **one** reason that led to the decline of Meroe as an early urban centre. (1 mark)

9. State the role of the 'golden stool' in the Asante Kingdom during the 19th century. (1 mark)

10. Identify the **two** European powers that acquired colonies in East Africa. (2 marks)

11. Give **one** reason why the Lozi collaborated with the British during the colonization of Africa. (1 mark)

12. Give **two** results of the French assimilation policy in Senegal. (2 marks)

13. Identify the immediate cause of the First World War. (1 marks)

14. State the main reason why nationalism developed in Ghana during the colonial rule. (1 mark)

15. State **two** duties of the United Nations Secretariat. (2 marks)

16. Give **two** achievements of the commonwealth. (2 marks)

17. Identify **two** types of democracy. (2 marks)

SECTION B (45 marks)

*Answer any **THREE** questions from this section in the answer booklet provided*

18. (a) State **three** ways in which people in developing countries are affected by food shortages. (3 marks)

    (b) Explain **six** ways that the developing countries can use to reduce the problem of food shortages. (12 marks)

19. (a) Identify the **three** types of trade. (3 marks)

    (b) Describe the organization of the Trans – Saharan trade. (12 marks)

20. (a) Outline **five** European activities in Africa during the 19th century. (5 marks)

    (b) Explain **five** effects of the Mandinka resistance against the French invasion in the late 19th Century. (l0 marks)

21. (a) Give the reasons why it look long for Mozambique to achieve independence from Portugal. (3 marks)

    (b) Explain **six** factors that favoured the success of FRELIMO nationalists during their struggle for independence in Mozambique. (12 marks)

SECTION C (30 marks)

*Answer any **TWO** questions from this section in the answer booklet provided*

22. (a) State the role played by the United States of America in ending the Second World War. (3 marks)

    (b) Explain **six** causes of the cold war after 1945. (12 marks)

23. (a) Identify **three** duties performed by the Secretary-General of the new east African Community established in 2001. (3 marks)

    (b) Explain **six** benefits of the new East African Community established in 2001. (12marks)

24. (a) Identify **three** circumstances that may make the vice president assume presidency in India. (3 marks)

    (b) Explain **six** functions of the president in India. (12 marks)

PREDICTION 4

313/1
CHRISTIAN RELIGIOUS EDUCATION
Paper 1
Time: 2½ hours

KCSE PREDICTION 4
Kenya Certificate of Secondary Education

Instructions to candidates

(a) *There are six questions in this paper.*

(b) *This paper has two pages.*

(c) *Answer any **FIVE** questions.*

(d) *Each student must verify that all pages and questions are present in the paper.*

(e) *All answers must be in the answer sheets provided.*

(f) *All answers must be in English*

FOR EXAMINERS USE ONLY

QUESTION	1	2	3	4	5	6	TOTAL
SCORE							

1. (a) Identify the teachings about human beings from the Biblical creation accounts. (7 marks)

(b) State ***six*** reasons why the Bible had to be compiled into its present form by early Christians. (6 marks)

(c) Outline ***seven*** occasions when Christians use the Bible. (7 marks)

2. (a) Explain the meaning of the symbolic objects and acts used by the Hebrews on the night of exodus. (7 marks)

(b) Relate the covenant ceremony between God and Abraham. Genesis 15:1-19. (7 marks)

(c) Give ***six*** reasons why church leaders in Kenya take vows before starting their mission. (6 marks)

3. (a) Mention ***seven*** ways how King David is an ancestor of Jesus Christ. (7 marks)

(b) Outline ***six*** ways how King Ahab broke the covenant in the case of Naboth's vineyard (6 marks)

(c) State ***seven*** reasons why it has been difficult to fight the evil of Bribery and corruption in Kenya today. (7 marks)

4. (a) Outline ***seven*** roles of prophets in the Old Testament. (7 marks)

(b) State ***seven*** teachings of Prophet Amos about the Day of the Lord. (7 marks)

(c) Identify ***six*** forms of hypocrisy in the church in Kenya today. (6 marks)

5. (a) Outline Jeremiah's teaching about the New Covenant. (7 marks)

(b) State ***seven*** teachings of Jeremiah on Judgement and Punishment. (7 marks)

(c) Identify the evils that Church leaders condemn today. (6 marks)

6. (a) State any ***seven*** roles of ancestors traditional African society. (7 marks)

(b) Identify the importance of naming in traditional African society. (7 marks)

(c) What are some of the factors that affect initiation rites today? (6 marks)

PREDICTION 4

313/2
CHRISTIAN RELIGIOUS EDUCATION
Paper 2
Time: 2½ hours

KCSE PREDICTION 4
Kenya Certificate of Secondary Education

Instructions to candidates

(a) *There are six questions in this paper.*

(b) *This paper has two pages.*

(c) *Answer any **FIVE** questions.*

(d) *Each student must verify that all pages and questions are present in the paper.*

(e) *All answers must be in the answer sheets provided.*

(f) *All answers must be in English*

FOR EXAMINERS USE ONLY

QUESTION	1	2	3	4	5	6	TOTAL
SCORE							

1. (a) State ***six*** similarities in the annunciations of the birth of John the Baptist and Jesus Christ. (6 marks)

(b) With reference to Lk1:13-17, outline the message of Angel Gabriel about John to Zechariah. (7 marks)

(c) What lessons do Christians learn about family relationships from the incident when Jesus accompanied His pare4nts for the Passover Festival? (7 marks)

2. (a) With reference to the Sermon on the Plain, state five teachings of Jesus on how human beings should relate to one another. (7 marks)

(b) Describe the incident in which Jesus calmed the storm. Lk 8: 22-25(7 marks)

(c) Give ***six*** reasons why Christians should have faith in God. (6 marks)

3. (a) Give an account of Jesus' teaching on watchfulness and readiness. Luke 12:35-48. (7 marks)

(b) How did Jesus celebrate the Last Supper with his disciples? Luke 22:14-38 (7 marks)

(c) Give ***six*** reasons why the disciples found it difficult to believe that Jesus had resurrected. (6 marks)

4. (a) Explain ***four*** ways in which the unity of believers is expressed in the Body of Christ. 1 Corinthians 12:12-26 (8 marks)

(b) Outline St. Paul's teaching on how the gifts of the Holy Spirit should be used in the church. (5 marks)

(c) Give ***seven*** ways in which Christians prevent divisions in the church in Kenya today. (7 marks)

5. (a) Outline ***seven*** similarities between traditional African and Christian teaching on marriage (7 marks)

(b) Give ***seven*** problems associated with childlessness in marriage today (7 marks)

(c) Mention ***six*** ways through which Christians can resolve misunderstanding between parents and their children (6 marks)

6. (a) Outline ***seven*** ways how law, order and justice is maintained in Traditional African communities today (7 marks)

(b) Outline ***seven*** roles played by the church to alleviate poverty in Kenya (7 marks)

(c) Give ***six*** reasons why Christians should declare their wealth. (6 marks)

PREDICTION 4

Kenya Certificate of Secondary Education.

565/1
BUSINESS STUDIES
PAPER 1
TIME: 2HOURS

Name: …… **Adm No.:** …… **Class** ……..

Candidate's Signature: ……... **Date**: ……

Instructions to Candidates

(a) *Write your name and index number in the spaces provided above.*
(b) *Sign and write the date of the examination in the spaces provided.*
(c) *Answer **all** the questions.*
(d) *All answers must be written in the spaces provided in this booklet.*
(e) *Do not remove any pages from this booklet.*
(f) ***This paper consists of 9 printed pages.***
(g) ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.***

For Teacher's Use Only

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

16	17	18	19	20	21	22	23	24	25

TOTAL MARKS

1. List **four** functions of the entrepreneur as a factor of production. (4 marks)

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2. State **four** circumstances under which the capital of a business may change. (4 marks)

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3. Outline **four** disadvantages of operating a partnership form of business. (4 marks)

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4. State **four** factors that can hasten the economic development of a country. (4 marks)

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5. State **four** services rendered by a wholesaler to a retailer. (4 marks)

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6. State **four** advantages of containerization as a mode of transport. (4 marks)

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7. Highlight **four** uses of journals in a business. (4 marks)

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8. Outline **four** functions of the office in an organization. (4 marks)

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9. In the spaces provided, indicate with a (√) whether each of the following transactions will increase, decrease or have no effect in the balance sheet totals. (4 marks)

Transaction	**Increase**	**Decrease**	**No effect**
a). Buying stock on credit			
b). Drawing cash from the business bank account for personal use			
c). Buying stock in cash			
d). Paying a creditor by cheque.			

10. State **four** problems that may interfere with the effectiveness of face to face communication. (4 marks)

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11. State **four** sources of Government revenue for development expenditure. (4 marks)

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12. Highlight **four** ways in which a firm can improve the productivity of its human resource. (4 marks)

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13. State **four** reasons why some countries are reluctant in implementing free trade agreement. (4 marks)

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14. In which **four** ways are consumers benefiting from warehousing. (4 marks)

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15. Record the following transactions in ledger accounts. (4 marks)

a) Received Sh 12,000 cash in respect to rent paid by Mary, a tenant.
b) Purchased goods worth Sh. 120,000 on credit from Gilanis supermarket.

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16. Highlight **four** factors that have limited the use of credit cards in Kenya. (4 marks)

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17. State **four** specific duties performed by commercial attachee's in foreign offices. (4 marks)

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18. The following information was extracted from the books of Mama mboga grocery.

Rate of stock turnover	3
Opening stock	180,000
Closing stock	200,000
Mark up	20%

Determine the Gross profit. (4 marks)

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19. State **four** reasons why new industries tend to be attracted to well- established towns. (4 marks)

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20. Highlight **four** factors that should be considered in choosing a method of distributing agricultural produce. (4 marks)

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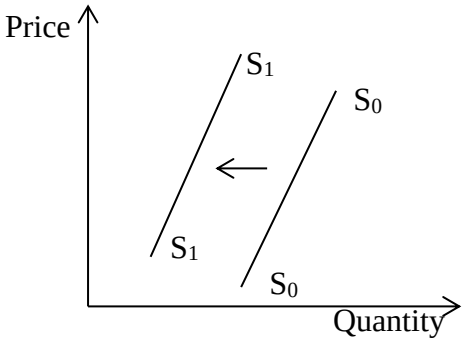
21. The diagram below shows a shift in the supply curve from S_0S_0 to S_1S_1.



Identify **four** factors that could have made the supply curve to shift from S_0S_0 to S_1S_1. (4 marks)

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22. Outline **four** ways in which the insurance industry contributes to the development of Kenya's economy. (4 marks)

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23. Highlight **four** functions of the Central bank of Kenya. (4 marks)

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24. Outline **four** negative effects of an ageing population to an economy. (4 marks)

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25. Prepare a trial balance from the following balances extracted from the books of Soi Traders on 31st December, 2020. (4 marks)

	Sh.
Capital	947,470
Cash	74,000
Premises	870,000
Debtors	36,520
Creditors	45,300
Stock	12,250

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PREDICTION 4

Kenya Certificate of Secondary Education.
565/2
BUSINESS STUDIES
PAPER 2
TIME: 2HOURS

NAME: …… **ADM NO.:** …… **CLASS** ……

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

Instructions to Candidates

(a) *Write your name and index number in the spaces provided above.*
(b) *Sign and write the date of the examination in the spaces provided.*
(c) *This paper consist of six question.*
(d) *Answer **any five** questions in the spaces provided.*
(e) ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.***

FOR EXAMINERS USE ONLY

Question	Candidate's score	Maximum Score
		20
		20
		20
		20
		20
TOTAL SCORE		**100%**

1. a) Discuss five factors that influence entrepreneurship in Kenya. (10 marks)

   b) Explain five monetary measures that can be taken to control inflation. (10 Marks)

2. a) On 1st January 2018, Sunlight enterprise had Kshs.95000 cash in hand and Kshs.125000 at bank. During the month the following transactions took place;

   2018

   Jan 3rd; Cash sales kshs.9000 directly banked

   - 5th ; Purchased goods worth kshs.19500 by cash
   - 12th; Deposited kshs.25000 into the business bank account from private sources.
   - 14th ; Obura a debtor settled his account of kshs.15000 by cash less 5% cash discount
   - 17th; Paid James kshs.3900 by cheque in full settlement of his account less 2.5% cash discount.
   - 20th; Sold goods worth kshs.13500 to Kim on credit.
   - 23rd; Settled Kamau's account of kshs.15000 by a cheque of kshs.13500.
   - 24th; Received a cheque of kshs.28800 from Leeroy a debtor having allowed a cash discount of 4%.
   - 25th ; Paid salaries by cheque kshs.36000
   - 27th ; Bought stationery by cash Kshs.29600
   - 28th; The cheque received from Leeroy on 24th was dishonoured.
   - 30th; All cash was banked except Kshs.15000.

   Required;
   Prepare a dully balanced three column cash book. (10 Marks)

   b) Explain five differences between commercial banks and Non-Bank financial institutions. (10 Marks)

3. a) With the aid of an appropriate diagram, Explain how the price of a commodity is determined in a free market. (10 Marks)

   b) Discuss five trends in forms of business units. (10 Marks)

4. a) Katiba enterprise is a new firm which was established recently. Discuss five factors that the marketing manager should consider in order to choose an appropriate method of promoting their product. (10 Marks)

   b) Describe five features of economic resources. (10 Marks)

5. a) The following information was extracted from the books of Chelule Traders for the year ended 31st December 2019.

ITEM	KSHS.
Capital	636,000
Salaries	95,000
Transport	16,000
Commission allowed	800
Commission received	2,800
Rent income	72,000
Gross profit	326,000
Insurance	92,000
Power & Lighting	2,500
Discount received	1,200
Machinery	800,000
Furniture	150,000
Debtors	35,000
Creditors	17,000
Cash at Bank	89,700
Cash in hand	74,000
Advertising	4,500
N.I.C Bank loan	320,000
Discount allowed	500

Stock on 31st December 2019 was valued at Kshs.15,000

Required;

- Prepare Chelule Traders profit and loss account for the year ended 31st Dec 2019. (7 Marks)

- Extract a balance sheet as at 31st Dec 2019. (5 Marks)

b) Poor services delivery in most counties is caused by inappropriate utilization of public resources, explain four principles that should guide public expenditure in order to improve service delivery. (8 Marks)

6. a) Discuss five characteristics of perfect competitive market . (10 Marks)

b) Explain five reasons why some countries engage in trade restriction. (10 Marks)

PREDICTION 4

Name……Index No……Class……..AdmNo……

443/1

AGRICULTURE

Paper 1

2 hours

KCSE PREDICTION 4

Kenya Certificate of Secondary Education

Instructions to candidates

Write your name and index number in the spaces provided above.

*This paper consists of **three** sections **A,B** and **C**.*

*Answer **ALL** questions in Sections **A** and **B** and any **TWO** questions from section. **ALL** answers must be written in the spaces provided after every question.*

The paper consists of 10 printed pages. Check to ascertain that all pages are printed.

Do not remove any pages from this booklet.

For Examiners' use only

Section	Questions	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 questions in this section in the spaces provide.

1. (a) Give two characteristics of intensive farming system. (1mk)

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(b) State two advantages of mixed farming. (1mk)

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2 State two forms in which water is available in the soil. (1mk)

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3 Give three agents of physical weathering. (1 ½ mks)

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4 Give two ways in which mulch control the soil erosion. (1mk)

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5 State four advantages of drip irrigation. (2mks)

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6 Give two benefits of adding organic manure to sandy soil. (1mk)

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7 Give four advantages of using grafting as a method of improving avocado fruits. (2mks)

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8 Give four reasons for using certified seeds for planting. (2mks)

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9 List three methods used to control weeds in pastures. (1 ½ mks)

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10 State two reasons for conserving forage crops. (1mk)

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11 Name two types of labour records kept in the farm. (1mk)

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12 State four causes of land fragmentation. (2mks)

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13 Outline four roles of trees in soil and water. (2mks)

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14 Give two reasons for earthing up tobacco crop. (1mk)

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15 List three examples of working capital employed by a farmer in the production of maize.(1 ½ mks)

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16 State three ways in which labour productivity can be improved. (1 ½ mks)

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17 (a) Give two reasons why nitrogenous fertilizers are suitable for top- dressing. (1mk)

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(b) Outline four deficiency symptoms of sulphur in crops. (2mks)

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18 State four symptoms of maize stalk borer infestation in maize. (2mks)

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SECTION B (20 Marks)

Answer all questions in this section in the spaces provided.

19 Study the illustration below and answer questions that follow.

(i) Identify the weed. (1mk)

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(ii) Give two harmful effects of the weed illustrated above. (2mks)

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(iii) State two reasons why tillage is sometimes preferred as a method of weed control.

(2mks)

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20 (a) Given that a maize crop is planted at a spacing of 75cm x 25cm, calculate the plant population in one hectare of land if two seeds are planted per hole.(Show your working). (3mks)

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(b) Give two reasons for having the correct plant population in the production of annual crops.

(2mks)

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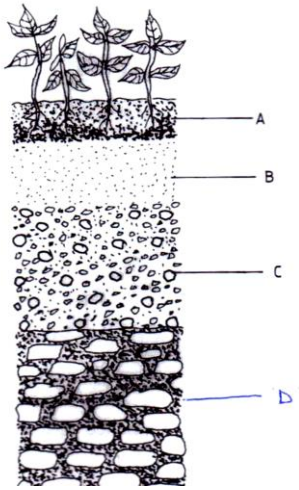
21 Study the illustration below and answer questions that follow.



(i) Identify the structure above. (1mk)

……

(ii) Name the parts labelled A,B,C and D above. (2mks)

A……

B……

C……

D……

(iii) Give four ways in which the above illustration influences crop distribution. (2mks)

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22 (a) Below is a diagram showing a crop infected by a disease. Study it and answer questions that follow.

(i) Identify the disease. (1mk)

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(ii) Name the category in which the disease is classified. (1mk)

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(iii) Give three control measures of the disease illustrated above. (3mks)

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SECTION C (40 Marks)

Answer any two questions from this section in the spaces provided after every question.

23(a) Describe the field production of maize under the following sub-headings.

(i) Seedbed preparation. (3mks)

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(ii) Planting (5mks)

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(b) State and explain six marketing functions. (12mks)

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24 (a)(I) Explain the precautions taken during the harvesting of pyrethrum. (3mks)

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(ii) Outline five factors that affect the rooting of cuttings. (5mks)

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(b) The following is a Demand and Supply schedule of eggs to teachers in a school.

Price per 30 kg crate (Ksh)	**Demand per day (No of crates)**	**Supply per day (No. of crates)**
330.00	5	47
310.00	11	46
290.00	15	44
270.00	19	42
255.00	24	39.5
240.00	29	36.5
225.00	33	33
210.00	37	29
200.00	43	27
190.00	49	20

(i) Using the same axis with price on the vertical axis, illustrate the demand and supply schedule curves for eggs. (6mks)

(ii) Determine the equilibrium price. (1mk)

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(iii) What would be the price if 45 trays were supplied? (1mk)

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(iv) Apart from price, outline four other factors that influence the demand of eggs in a market? (4mks)

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25 (a) State and explain six ways in which soil lose fertility. (12mks)

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(b) Outline eight factors considered in farm planning. (8mks)

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PREDICTION 4

Name: ……... Index no ……..….....

School: …….. Candidate's sign …….....

Class……..…..… Adm No……...……...

AGRICULTURE

PAPER 2 (443/2)

TIME: 2 HOURS

KCSE PREDICTION 4

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

INSTRUCTIONS TO CANDIDATES:

- *Write your **name, index number, school, class** and **admission number** in the spaces provided.*
- *Sign and write the date in the spaces provided above.*
- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C.***
- *Answers should be written in the spaces provided in this booklet.*

For Examiner's Use Only:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-20	30	
B	21-24	20	
C		20	
		20	
	TOTAL	**90**	

This paper consists of 11 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION A (30MARKS)

1. Give **four** livestock rearing practices that can be carried out in a crush. (2mks)

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2. Name the part of the digestive system of poultry where insoluble grit is found. $(\frac{1}{2}mk)$

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3. Give **two** distinguishing external characteristics of Californian breed of rabbit. (1mk)

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4. State **four** pre-disposing factors of livestock diseases. (2mks)

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5. Outline **four** functions of proteins in the body of an animal. (2mks)

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6. State **four** observable features of indigenous cattle (*Bos indicus*) (2mks)

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7. State **four** importance of creep feeding. (2mks)

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8. Name **four** materials that are collected by bees. (2mks)

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9. Give the function of each of the following parts of a fish pond.

a) Spillway $(\frac{1}{2}mk)$

……....

b) Outlet $(\frac{1}{2}mk)$

……

10. State **four** advantages of cross-breeding. (2mks)

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11. Name the part of the digestive system of a non-ruminant animal where cellulose is broken down $(\frac{1}{2}mk)$

……..

12. State **three** field conditions under which a disc plough should be used instead of a mouldboard plough. $(1\frac{1}{2}mks)$

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13. State **four** advantages of artificial incubation in comparison to natural incubation as a method of hatching chicks. $(1\frac{1}{2}mks)$

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14. Give **four** maintenance practices carried out on the water cooling system of a tractor. (2mks)

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15. State **four** advantages of a four-stroke cycle engine. (2mks)

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16. Give **three** reasons why drenching alone is not an effective method of controlling intestinal parasites in livestock. $(1\frac{1}{2}mks)$

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17. Name **three** poultry diseases that are controlled by vaccination. $(1\frac{1}{2}mks)$

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18. Give the mineral whose deficiency causes the following disorders in livestock.

a) Anaemia $\left(\frac{1}{2}mk\right)$

……

b) Parakeratosis $\left(\frac{1}{2}mk\right)$

……

19. Give **three** reasons why liming is done in fish ponds. $(1\frac{1}{2}mks)$

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20. If records show that a rabbit was served on 27th September 2020.Which date did it give birth. $\left(\frac{1}{2}mk\right)$

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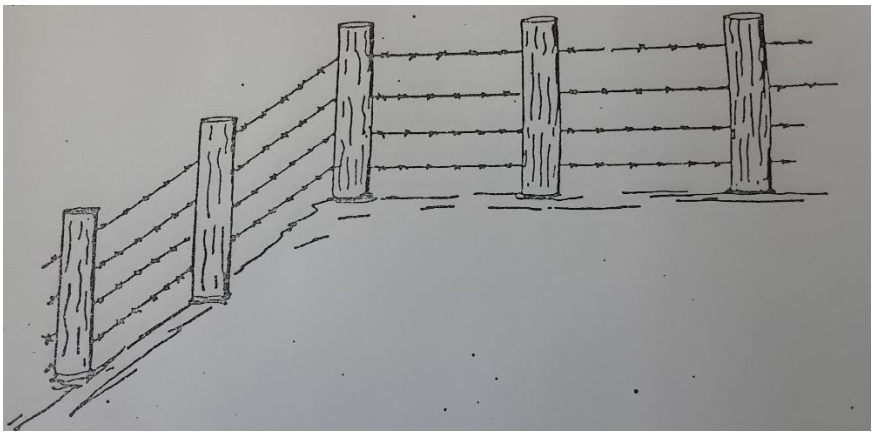
SECTION B (20 MARKS)

21. Below is an illustration of part of a wooden post wire fence. Study it and answer the questions that follow.



a) Identify the type of wire in the illustration. (1mk)

……..

b) On the illustration show by drawing how the corner post should be supported. (1mk)

c) On the illustration draw, label and give the function of a dropper. (2mks)

……..…

……..

d) Name the correct tool for tightening the wire during construction of the fence. (1mk)

……

22. Observe the tools A, B and C illustrated below then answer the questions that follow.

a) Name tools A, B and C and state the correct use of each tool. (3mks)

Tool	Identity	Function
A		
B		
C		

b) State **two** maintenance practices that should be carried out to ensure that tool C is in a good working condition. (2mks)

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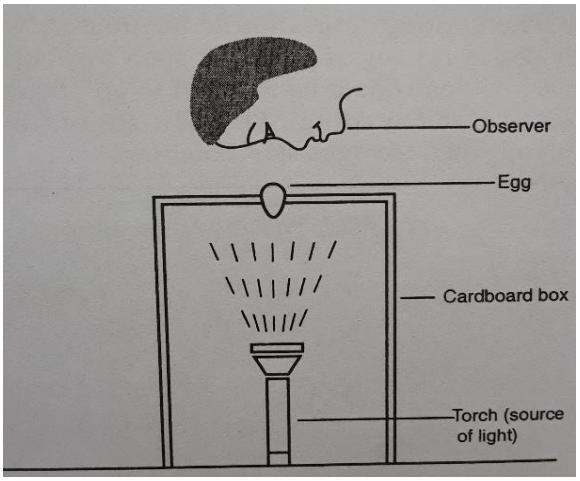
23. Below is an illustration of an activity carried out by a poultry farmer keeping layers



a) Identify the activity carried out using the set-up. (1mk)

……

b) State **four** abnormalities in eggs that can be detected using the set-up above. (2mks)

……....

c) How can a farmer improve the following?

i. Hardness of egg shells. (1mk)

……

ii. Yellowness of the egg yolk. (1mk)

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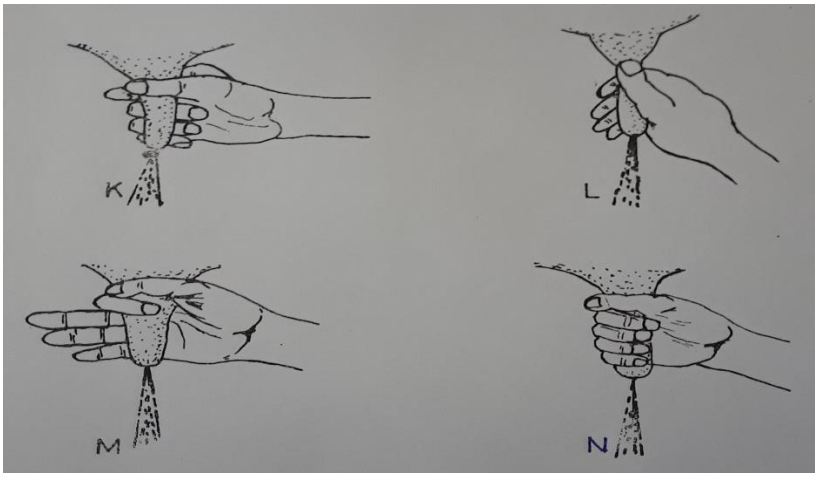
24. The diagrams K, L, M and N below show four possible ways of drawing milk from the teat of a cow during milking.



a) Which diagram shows the proper way of drawing milk. (1mk)
……
b) How long should it take to milk a cow from the start to the end of milking. (1mk)
……
c) How would a milkman ensure that no milk remains in the udder at the end of milking? (1mk)
……
d) Give **two** practices carried out on milk immediately after milking. (2mks)
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SECTION C (40MARKS)

25. a) Describe the advantages of battery cage system of rearing layers. (10mks)
b) State and explain **five** factors affecting milk production. (10mks)

26. a) State the functions of any **six** parts of a plunge dip. (6mks)
b) State and explain **four** ways through which power transmitted from the engine is made available for use. (4mks)
c) Explain **five** mechanical methods of controlling ticks. (10mks)

27. a) State **five** advantages of embryo transplant. (5mks)
b) Describe coccidiosis disease under the following sub- headings.
i. Animals attacked (2mks)
ii. Causal organism (1mk)
iii. Symptoms (4mks)
iv. Control measures (3mks)

c) A ration containing 20% DCP for growing chicks is to be obtained by mixing ground maize containing 10% DCP and fishmeal containing 50% DCP. Calculate the amount of each feedstuff in kilograms required to prepare 200kg of the feed. (5mks)

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PREDICTION 4

Kenya Certificate of Secondary Education

451/1 - COMPUTER STUDIES – Paper 1

FORM 4 (THEORY)

TIME: 2½hrs

Name…… Index Number……

Admission Number……Class……....

Date……..……

Instruction to candidates

a) *Write your name and index number in the space provided above.*

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

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

d) *Answer **all** the questions in section **A.***

e) *Answer question **16** and any other **three** questions from section **B.***

f) *All answers should be written in the space provided in the question paper.*

g) This paper consists of 14 printed pages.

h) Do not remove and pages from this booklet.

i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

j) ***Candidates should answer the questions in English.***

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
	Total Score	

SECTION A (40 MARKS)
ANSWER ALL QUESTIONS IN THIS SECTION

1. a) Computer memory determines the processing power of a computer. State the memory capacities of the following computer generations. (1mark)

i. First Generation

……

ii. Third Generation (1 mark)

……

b) State the storage devices used by the generations named in (a) above. (1mark)

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2. Differentiate between dedicated computers and special purpose computers. (2 marks)

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3. (a) State the meaning of *computer output on Microform* (COM) as used in output devices. (1 marks)

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(b) State **two** types of *computer output on Microform*. (2 marks)

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4. (a) State **one** limitation of each of the following cables as used in computer interfacing.

(i) Parallel cables; (1 mark)

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(ii) Serial port (1 mark)

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(b). State **two** advantages of using firewire over USB cables. (2 marks)

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5. Apart from use of carpets, suggest **three** possible ways of reducing dust in a computer room. (3 marks)

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6. (a)Explain how a mouse can be used to perform the operations listed below.

i. Selecting objects and commands (1 mark)

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ii. Opening files and folders (1 mark)

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iii. Invoking context menus (1 mark)

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7. A computer system is composed of several microchips, each having different functions in the operation of a computer.

a. Write the acronym *BIOS* in full as used in computing. (1 mark)

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b. State the function of the *BIOS* during booting process. (1 mark)

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c. Explain the meaning of the term *cold booting process*. (2 marks)

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8. Due to the risks involved in using the traditional classroom teaching method during this covid-19 period, many schools have embraced online teaching methods. State the meaning of the following teaching methods:

a. Distance learning (1 mark)

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b. Interactive learning (1 mark)

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9. In a calculation, the actual result obtained was 0.7649326 but the computer presented it as 0.764.

a. With reference to data processing, identify the type of error above and state how it can be minimized (1 mark)

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b. Distinguish between Sequential file organization and indexed Sequential file organization (2 marks)

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10. State **two** circumstance which may prompt a teacher to use computer simulations when teaching in a school. (2 marks)

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11. State the meaning of the term *multi-user* operating system as used in computing. (2 marks)

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12. State **two** ways in which operating system manages memory in a computer system. (2 marks)

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13. State **three** reasons why system maintenance is necessary in system development life cycle (SDLC).

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14. Table 1 and Table 2 are related tables in a database. Use them to answer the questions that follow.

DeptID	Dept Name
001	Computer
002	Aviation
003	Engineering

Table 2

DeptID	Std Registration No.	Student's Name
001	St01	Alex Too
003	St02	Naomi Komi
002	St03	Peter Kengo

(a) State the names of the fields shown in table 2 above;

(i) DeptID ……. (1 mark)

(ii) Std Registration No. …… (1 mark)

(b) State **two** reasons for adding **DeptID** field in Table 2 above. (2 marks)

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15. Explain the term *bookmark* feature as used in when accessing the internet. (2 marks)

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SECTION B (60 marks)

Answer question 16 (compulsory) and any other three questions from this section.

16. (a)Explain the meaning of the term *pseudocode* as used in program development.

(2 marks)

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(b)State the function of the following language translators during program development.

(i) Interpreter (1 mark)

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(ii) Compiler (1 mark)

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(c)State the stage of program development in which:

(i) a flowchart would be drawn (1 mark)

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(ii) the program runs as intended and performs as required. (1 mark)

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(iii) the user guide would be written (1 mark)

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(iv) a programmer seeks to better understand the problem. (1 mark)

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(d)A bookshop owner contracted a programmer to design a program that can be used to manage *N number of books* in his business as follows;

- Enter the book name, publisher and marked price of each book.
- Calculate the discount and new price of each book.

The book shop gives a discount of 13% for purchase of a books worth Ksh.5, 000, 8% for purchase of books worth Ksh.1000 and none for purchase worth Ksh.1,000 and below.
Draw a flowchart to represent the information above, count number of books and output book name, publisher, marked price, discount and new price. (7 marks)

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17. (a) XYZ company is facing challenges with their current information system, hence the need for a new application software that could solve their problems. The management has assigned the ICT department to develop its own in-house programs.

i. Define the term in-house developed programs (1 mark)

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ii. State any two advantages and one disadvantage of in-house developed programs (3 marks)

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(b)Data communication is known to have greatly changed the way people exchange and access information around the world.

(i) Define the term topology as used in data communication (1 mark)

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(ii) Distinguish between the terms listed below

(I) Message switching and packet switching (2 marks)

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(II) Half duplex and full duplex mode of data transmission (2 marks)

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(c)Identify the ICT personnel responsible for each of the following duties in an organisation:

(i) Ensuring up-to-date maintenance of ICT records (1 mark)

……..

(ii) Identify and fixing security loopholes (1 mark)

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(iii) Testing and debugging program (1 mark)

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(d)State the function of each of the following keyboard keys in a keyboard.

(i) tab key (1 mark)

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(ii)Space bar (1 mark)

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(iii)Delete key (1 mark)

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18. (a) (i)Distinguish between real time and online data processing. (2 marks)

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(ii) State the significance of the following types of files to a business

I. Backup (1 mark)

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II. Master (1 mark)

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III. Archive (1 mark)

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(b) Explain **two** benefits of displaying information in a computer system using a monitor compared to printer. (4 marks)

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(c)Explain the purpose of each of the following in system implementation stage.

(i) file conversion (2 marks)

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(ii)Staff training (2 marks)

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(d)State how data in a computer system is secured using;

(i) Antivirus (1 mark)

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(ii) Password (1 mark)

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19. (a) Explain any **three** types of human computer interfaces as used in computing. (3 marks)

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(b) State **four** ways in which computers are used in the lands department in a county government. (4 marks)

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(c)(i)Explain the following types of errors as found in Microsoft excel.

I. #NUM! (1 mark)

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II. #VALUE! (1 mark)

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(ii)Outline **three** cell referencing methods giving examples. (3 marks)

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(d)State a situation when each of the following Desktop Publishing program features may be used when creating a publication.

(a) Layout guides ; (1 mark)

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(b) Layering; (1 mark)

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(c) Bring Forward; (1 mark)

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20. (a)Bob was advised to format a hard disk for a computer. Explain **two** circumstances which may prompt a technician to format a hard disk in the computer room.(4 marks)

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(b)Explain a situation when each of the following Word Processing program may be used when creating a document.

(i) Wrap text (2 marks)

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(ii)Watermark (2 marks)

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(c)Perform the binary arithmetic:

$1101_2 + 101_2 - 1001_2$ and convert the answer to decimal notation (3 marks)

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(d)Using 6- bit ones complement perform the arithmetic operation; (4 marks)

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PREDICTION 4

451/2 - COMPUTER STUDIES – Paper 2 (PRACTICAL)

TIME: 2½ HRS

KCSE PREDICTION 4

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

Name……...……Adm.No……..…….

Index No. ……..……Class……Signature ……..…..

INSTRUCTIONS TO CANDIDATES

1. Type your name and admission number at the top right hand corner of each printout
2. Sign and write the date of the examination below the name and index number on each printout
3. Write your name and index number on the compact disks
4. Write the name and version of the software used for each question attempted in the answer sheet
5. Passwords should not be used while saving in the compact disks
6. Answer all the questions
7. All questions carry equal marks
8. All answers must be saved in your compact disks
9. Make a printout of the answers on the answer sheets provided
10. Hand in all the printouts and the compact disks.

1. The table below shows records kept by Agriculture teacher in Makonge Secondary School on issuing of farm tools to young farmers club members.

(a) Open a database program and create a database named Y-Farmers. (1 mark)
(b) (i) Create three tables named Class, Students and Items in the database file created in (a) using the following details. (13 marks)

Field name	Data types and properties
Student_Id	Text (Size = 4, Required = Yes)

Student Names	Text (Size = 25)
Gender	Text (size = 2)
Class	Text (size = 2)

Table 1: Students_Table

Field name	Data types and properties
Tool_Id	Text (Size = 4, Required = Yes)
Tool Name	Text (Size = 15)
Number issued	Number

Table 2: Tools_Table

Field name	Data types and properties
Issuing_Id	AutoNumber (Size = 2, Required = Yes)
Student_Id	Text (Size = 4)
Tool_Id	Text (Size = 4)
Date issued	Date and time (Format medium date)
Returned	(Boolean Yes/No)

Table 3: Issuing_Table

(c) Create the relationship between the three tables. (2 marks)

(d)Enforce referential integrity between the tables. (1 mark)

(e)Create data entry form for each table. Save the forms as StudentsForm, ToolsForm and IssuingForm.

(3 marks)

(f)Enter the following data into the database using the respective forms. (12 marks)

Student_Id	Student Names	Gender	Class
900	Silah Rokito	F	4W

230	Sarah Martin	M	4R
450	Tedd Mwilu	F	2S
600	Brian Kibet	M	3N

Table 1: Students_Table

Tool_Id	Tool Name	Number issued
320	Jembe	22
321	Panga	15
322	Slasher	12
323	Rake	8

Table 2: Tools_Table

Issuing_Id	Student_Id	Tool_Id	Date issued	Returned
1	900	320	07/03/2019	Yes
2	600	321	09/04/2019	No
3	230	322	27/04/2019	No
4	900	320	17/04/2019	Yes
5	230	322	07/05/2019	Yes
6	450	321	25/05/2019	No
7	600	323	30/06/2019	Yes
8	230	322	13/07/2019	No
9	450	321	18/07/2019	No
10	600	323	07/04/2019	Yes

Table 3: Issuing_Table

(g) Modify the issuing table so as to capture the cost of each tool as shown below.(2 marks)

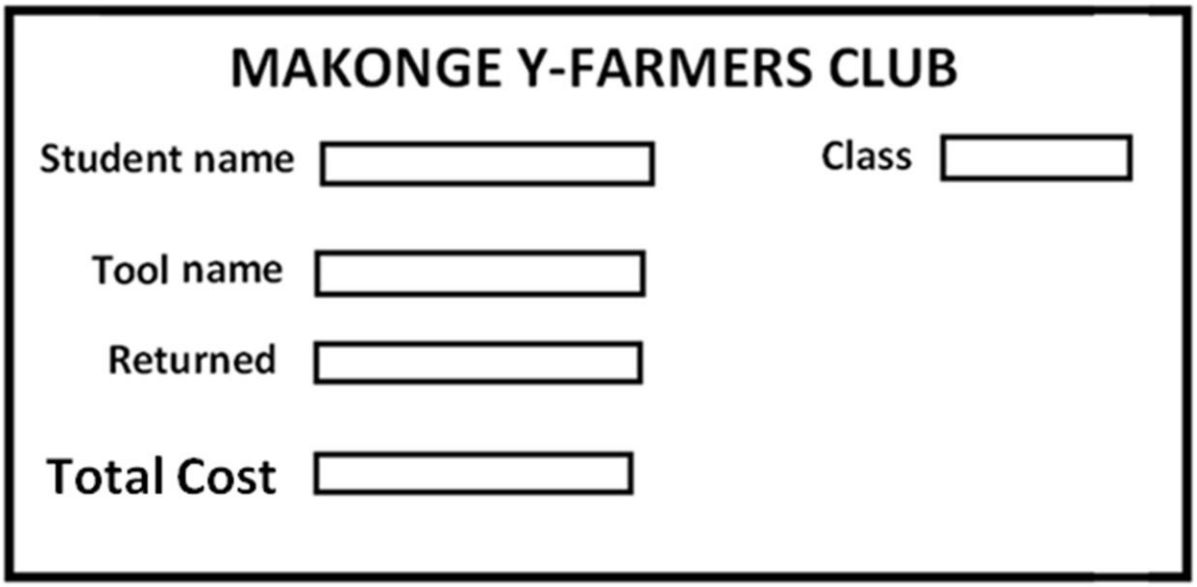
Tool_Id	Tool Cost
320	600
321	450
322	520
323	320

(h) (i) Create a query named T_Query to display the student name, gender, class, tools name and number of tools issued per student and cost. Compute cost of all the tools issued to students. (4 marks)

(ii) Create a query named NR_Query to display the student name, class, tools name, and number of tools issued, date issued and not returned. (4 marks)

(i) (I) Create a report named Y-Report to display students as it appears in figure below.

(3 marks)



(II) Group the records per tool name and compute cost of all the tools issued.(2 marks)

(j) Generate a bar graph named Tool_Chart to display tool name and the number issued.

(k)Printout each of the following: (3 marks)

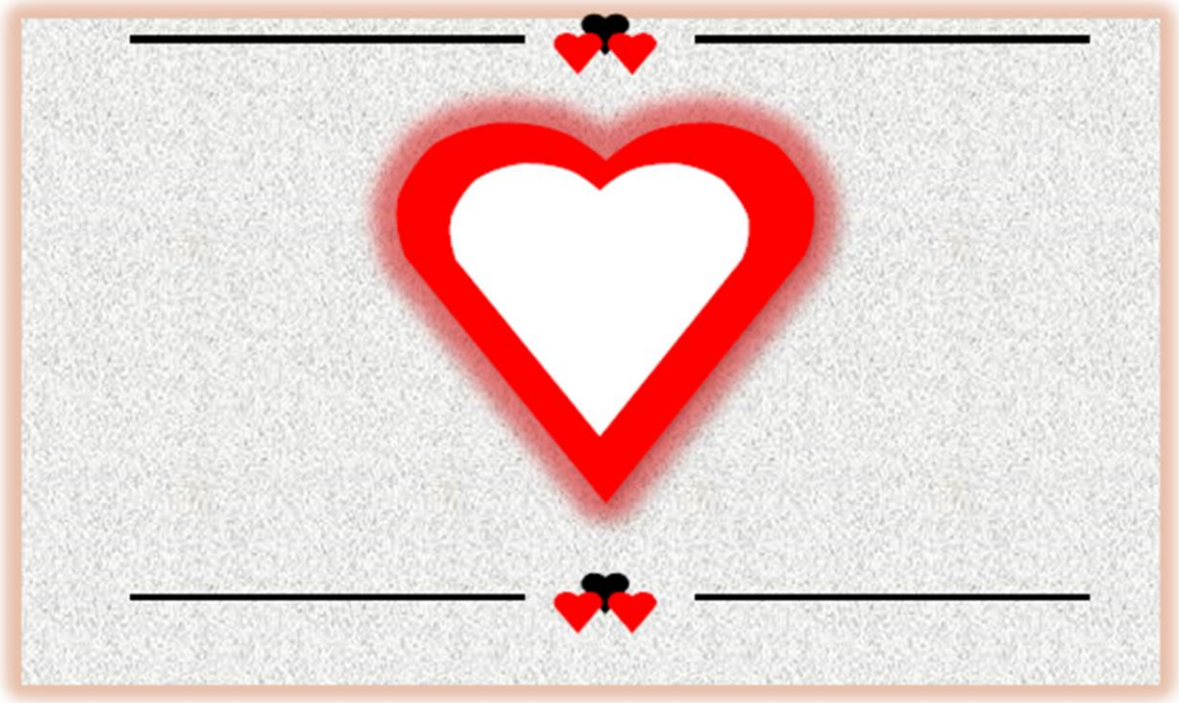
(i) The three tables
(ii) The two queries
(iii)Report for the first three students.

2. The figure below shows the design of a wedding card. It comprises of the back and the front page.

(a) Open a Desktop Publishing program and make the following page settings.(4 marks)

(i) Orientation : Landscape
(ii) Units : centimeters
(iii) Paper size : A4
(iv) Margins : 2 cm all round

(b) Create the weeding card as it appears in Figure 2. Save the design as W_Card.(45 marks)



PREDICTION 4

Name……Index No…….

Candidate's sign……

Date……..

441/1
HOME SCIENCE
Paper 1
THEORY
2 ½ hours

Instructions to candidates

(a) Write your name and index number in the spaces provided above.
(b) Sign and write the date in the examination spaces provided above
(c) This paper consists of **three** sections: **A, B** and **C.**
(d) Answer **all** questions in section **A** and **B** and any **two** from section **C.**
(e) Answers to **all** the questions must be written in the spaces provided.
(f) **This paper consists of 16 printed pages.**
(g) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
(h) **Candidates should answer the questions in English.**

For Examner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1-40	40	
B	41	20	
C	42	40	
	43		
	44		
	Total score	100	

SECTION A (40 MARKS)

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

1. With the pandemic we are experiencing, state a suitable method of **meal service** that schools should adopt and give a reason why. (1mark)

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2. State **two** precautions to take while handling and storing fuels in the home. (1mark)

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3. Describe how to **hang** clothes during storage. (1mark)

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4. State **two** uses of facings in garment construction. (1mark)

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5. Differentiate between **ironing** and **pressing.** (1mark)

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6. Give **two** conditions suitable for growth of yeast. (1mark)

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7. State **two** reasons why polyester is commonly used to make school uniforms. (1mark)

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8. Mention **two** ways of preventing food spoilage. (1mark)

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9. Note down **two** points to observe when using a sewing machine. (1mark)

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10. Identify any **two** methods of neatening seams. (1mark)

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11. State **two** measures to take in order to control the incidence of bed sores in bed ridden invalids. (1mark)

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12. Give **two** points to observe when using a refrigerator. (1mark)

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13. Highlight **two** reasons for cooking pulses. (1mark)

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14. Gliding doors are commonly used in banks. Give **two** reasons why this is so. (1mark)

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15. Name **two** types of electric lamps. (1mark)

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16. State **two** points to observe when using sugar in jam making. (1mark)

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17. Mention **two** preparations done on fabric before laying out. (1mark)

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18. Convenience foods have become quite popular. Give **two** scenarios where they would come in handy. (1mark)

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19. List **two** ways of caring for open drains. (1mark)

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20. Differentiate between the **cutting line** and the **stitching line.** (1mark)

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21. State **two** points to consider when working stitches for buttonholes. (1mark)

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22. Identify the part of the **skin** that is responsible for its strength and elasticity. (1mark)

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23. A serving tray should be lined before use give **two** reasons for this. (1mark)

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24. Describe how to manage **choking** in babies. (1mark)

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25. What is **Immunization?** (1mark)

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26. Give **two** ways poison can be introduced into the body. (1mark)

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27. Building houses is preferred as opposed to **buying.** Discuss (1mark)

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28. State **two** risk factors that may cause pre-mature birth. (1mark)

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29. List **two** fabrics that cannot be disinfected by boiling. (1mark)

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30. Point out **two** qualities of a good stitch. (1mark)

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31. Give **two** advantages of dry-cleaning. (1mark)

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32. Note down **two** importance of breast feeding. (1mark)

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33. How can habit training be achieved? Give **two** ways (1mark)

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34. Mention **two** ways of minimizing the wastage of detergents during washing. (1mark)

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35. Give **two** reasons why sleeves are used in a garment. (1mark)

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36. State **two** reasons why abrupt weaning may be done for a baby. (1mark)

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37. Give **two** functions of carbohydrates in the body. (1mark)

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38. Mention **two** qualities of a good cleaning cloth. (1mark)

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39. State **two** reasons why galvanized iron buckets have become unpopular in many households. (1mark)

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40. Explain the cleaning action of a **detergent.** (1mark)

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SECTION B (20 MARKS)

Complusory Question. Write your answers in the spaces provided

41. You have arrived home for your Christmas holiday explain how to clean the following items.

(a) Muddy leather shoes in readiness for polishing. (7marks)

(b) Clean a polished wooden table. (6marks)

(c) Launder a loose coloured cotton T-shirt with a wax stain. (7marks)

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SECTION C; (40 MARKS)

Answer any TWO questions in this section in the spaces provided at the end of this section.

42. (a) Identify **four** factors that affect the efficiency of a detergent. (4marks)

(b) Identify **four** ways a consumer can deal with scarcity of resources. (4marks)

(c) Note down **four** points to consider when planning and preparing meals for vegeterians. (4marks)

(d)Name **four** areas where darts could be stitched on a garment. (4marks)

(e) Give **four** ways one would use to test/know whether a cake is cooked. (4marks)

43. (a) Identify **four** advantages of simple non-installment credit. (4marks)

(b) Mention **four** points to consider when choosing fabric for curtains. (4marks)

(d) Discuss **four** methods of controlling fullness suitable for children's garments. (4marks)

(e) Highlight **four** points to consider when selecting clothes for a short plump figure. (4marks)

(e) State **four** symptoms of scurvy. (4marks)

44. (a) Note down how secondary colours are obtained and give examples. (4marks)

(b) Identify **four** functions of Kenya Bureau of Standards. (4marks)

(c) List four qualities of a well-made collar. (4marks)

(d) Give **four** food preservation has become necessary in the recent past. (4marks)

(e) Define the following terms as used in soft furnishings. (4marks)

(a) Tint

(b) Intensity

(c) Value

(d) Hue

PREDICTION 4

441/2
HOME SCIENCE
CLOTHING CONSTRUCTION
PAPER 2

KCSE PREDICTION 4

Kenya Certificate of Secondary Education

Time: 2 ½ hours

This paper consists of 3 printed pages Candidates should check the question paper to ensure that all pages are printed as indicated and that no questions are missing.

A pattern of a girl's dress is provided. You are advised to study the sketches, instructions and the layout carefully before you begin the test.

MATERIALS PROVIDED

1. Pattern pieces

   A - SKIRT BACK
   B - FRONT BODICE
   C - BACK BODICE
   D - SLEEVE
   E - COLLAR
   F - SLEEVE CUFF
   G - SLEEVE BINDING
   H - BACK NECK FACING

2. Plain light weight cotton fabric 67 by 90 cm.
3. Sewing thread to match the fabric.
4. 1 large envelope.

THE TEST

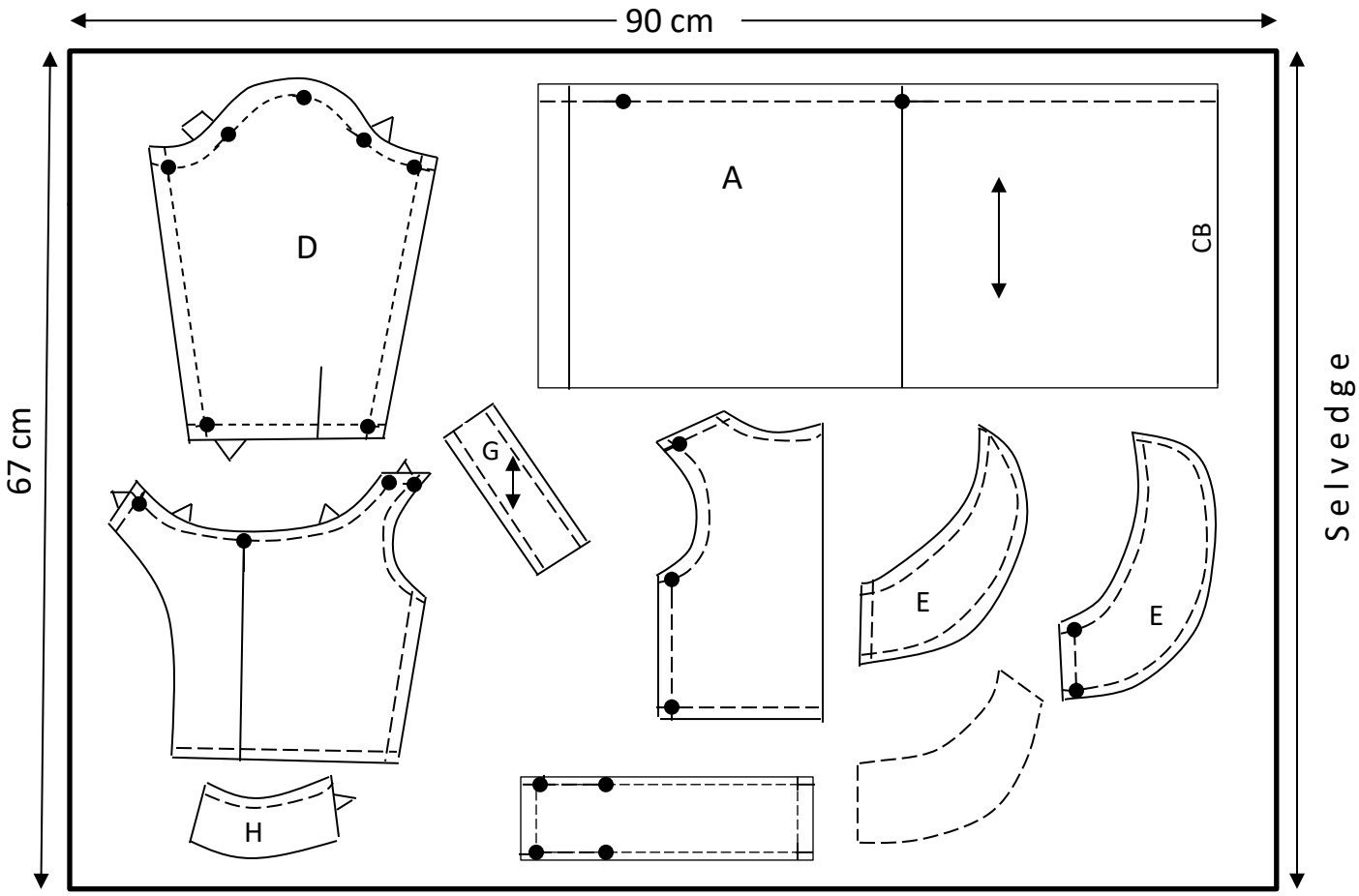
Using the materials provided, cut out and make up the **LEFT HALF** of the girl's dress to show the following.

1. Cutting out. (16mks)
2. Making of the shoulder seam using double stitched seam. ($6^1/_2$mks)
3. Making of bodice side seam using an open seam. ($4^1/_2$ mks)
4. Making of gathers on front and back skirts. ($1^1/_2$mks)

5. Attaching the joined bodices to the skirt using overlaid seam. ($9^1/_2$mks)
6. Joining the front facing to the back facing and neatening the free edge (6mks)
7. Preparation and attachment of the interfaced collar by sandwiching between the garment and the joined facings. (10mks)
8. Making the bond opening at the lower edge of the sleeve. (5mks)
9. Management of fullness at the crown. (2mks)
10. Making of the underarm seam using French seam. (8mks)
11. Preparation and attachment of the cuff at the lower edge of the sleeve. (8mks)
12. Joining of the sleeve to the garment at the armhole. ***(Do not trim, do not neaten)*** *(7mks)*
13. Presentation. (6mks)

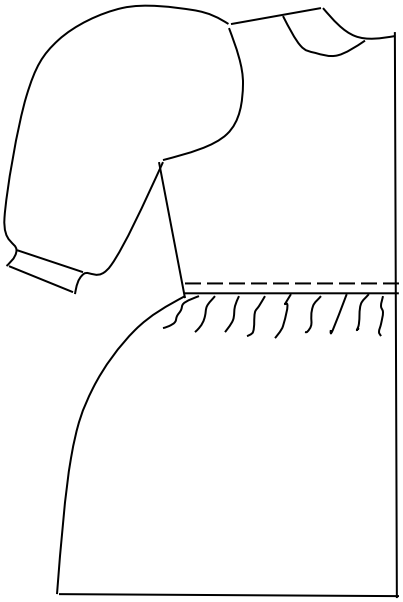
NOTE:
At the end of the test, firmly sew on to your work on a single fabric a label bearing your name and admission number. Remove needles and pins from work. Then fold your work carefully and place it in the envelope. DO NOT PUT SCRAPS OF MATERIALS IN THE ENVELOPE.

LAYOUT – NOT DRAWN TO SCALE

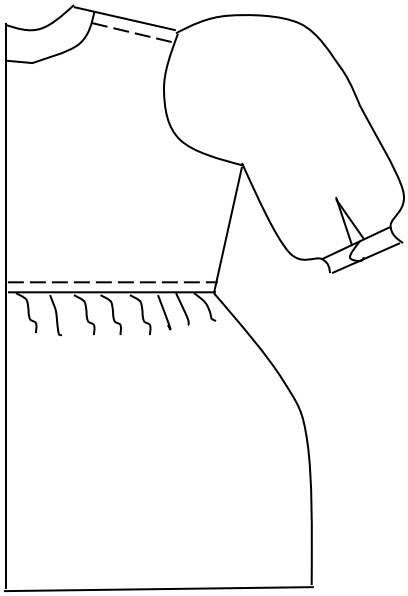


VIEW

FRONT VIEW



BACK VIEW



PREDICTION 4

441/3
HOME SCIENCE (FOODS AND NUTRITION)
Paper 3
PRACTICAL
1 ¾ hours

KCSE PREDICTION 4

THE KENYA NATIONAL EXAMINATIONS COUNCIL
Kenya Certificate of Secondary Education
HOME SCIENCE (FOODS AND NUTRITION)
Paper 441/3
PRACTICAL
1 ¾ hours

PLANNING SESSION: 30 minutes

PRACTICAL TEST SESSION: 1¾ hours

Instructions to candidates

(a) Read the test carefully.
(b) Write your name and index number on every sheet of paper used.
(c) Text books and recipe books may be used during the planning session as reference materials.
(d) You will be expected to keep to your order of work during the practical session.
(e) You are only allowed to take away your reference materials at the end of the planning session.
(f) You are NOT allowed to bring additional notes to the practical session.

This paper consists of 2 printed pages
Candidates should check to ensure that both pages are printed pages

THE TEST

During the holiday your elderly aunt visited your home with a sick nephew who is suffering from Goiter . They will spend the evening in your home then leave for the hospital in the morning. As you prepare the meal, remember your nephew is feeding on liquids only. Using the ingredients listed below prepare cook and serve:

(i) A one-course dinner for two, include a stimulating drink.

(ii) Prepare a suitable food item for your nephew

Ingredients
Pumpkin
Maize meal
Liver
Spinach
Milk
Tea leaves
Onions
Tomatoes
Green pepper
Dhania
Cooking oil/fat
Salt
Sugar

PLANNING SESSION – 30 MINUTES

Use separate sheets of paper for each task listed below and a carbon paper to make duplicate copies.

Then proceed as follows.

1. Identify the food items and write down their recipes.
2. Write down your order of work

3. Make a list of food stuffs, materials and equipment you will require