FORM 3 END TERM 3 EXAM

ALL SUBJECTS

CLASS OF KCSE DECEMBER 2022

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All Subjects for the Level have been tested in the set

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END YEAR EXAM 2022

MATHEMATICS

FORM 3 PAPER 1

Time: 2 Hours 30 mins

Name……..Adm.No……Class……..
.

INSTRUCTION TO STUDENTS:

1. *Write your **name**, **admission number** and **class** in the spaces provided above.*
2. *Write the **date** of examination in spaces provided.*
3. *This paper consists of **two** Sections; Section **I** and Section **II**.*
4. *Answer **ALL** the questions in Section **I** and only **five** questions from Section **II**.*
5. *All answers and working must be written on the question paper in the spaces provided below each question.*
6. *Show all the steps in your calculation, giving your answer at each stage in the spaces provided **below** each question.*
7. *Marks may be given for correct working even if the answer is wrong.*
8. *KNEC Mathematical tables **may be** used, except where stated otherwise.*
9. *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
10. ***Candidates should answer the questions in English.***

FOR EXAMINER'S USE ONLY:

SECTION I

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

17	18	19	20	21	22	23	24	TOTAL

SECTION II

GRAND TOTAL

Ensure that all the pages are printed and no question(s) are missing

SECTION 1 (50 marks)

1. Without using a calculator, evaluate. (3mrks)

$$\frac{-8+(-5)\times(-8)-(-6)}{-3+(-8)\div 2\times 4}$$

2. Evaluate without using a calculator (2mrks)

$$\frac{\left(2\frac{3}{7}-1\frac{5}{6}\right)\div\frac{5}{6}}{\frac{2}{3}\ of\ 2\frac{1}{4}-1\frac{1}{7}}$$

3. In fourteen years time, a mother will be twice as old as her son. Four years ago, the sum of their ages was 30 years. Find how old the mother was, when the son was born. (4 mks)

4. A Kenya bank buys and sells foreign currencies as shown below

	Buying (In Kenyan shillings)	Selling (In Kenyan shillings)
1 Hong Kong dollar	9.74	9.77
1 South African rand	12.03	12.11

A tourist arrived in Kenya with 105000 Hong Kong dollars and changed the whole amountto Kenyan shillings. While in Kenya, she spent Kshs. 403,897 and changed the balance to South Africa rand before leaving for South Africa. Calculate the amount, in South African rand that she received. (3 mrks)

5. a) Using a ruler and a pair of compasses only, construct a quadrilateral PQRS in which PQ= 5cm, PS = 3cm, QR = 4cm,$<$PQR = 135°and $<$SPQ is a right angle. (2mrks)

b) The quadrilateral PQRS represents a plot of land drawn to a scale of 1:4000. Determine the actual length of RS in meters. (2mrks)

6. The ratio of goats to cows in a farm is 2:5 while the ratio ofsheeps to cows is 3:4. If there are 15 sheep, how many animals are there in farm farm. (2mrks)

7. Mr.Maina who deals in electronics sells a radio to a customer at Ksh. 1440 after giving a discount 0f 10% but find that he makes a 20% profit. Find the profit Mr. Maina would make if he does not give a discount. (3mrks)

8. use the reciprocal and square table to evaluate to four significant figure, the expression.(3mrks)

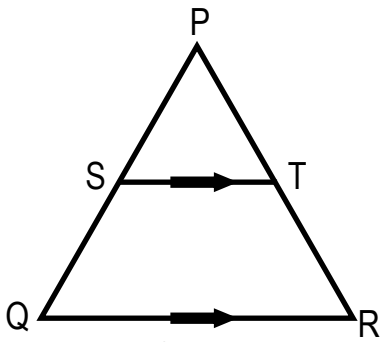
$\frac{1}{0.03654} - 4.151^2$

9. Simplify the following expression completely. (3mrks)

$$\frac{12a^2 - 3b^2}{2a^2 - ab - b^2}$$

10. Given that sin $(x + 60)°$ = Cos $(2x)°$, find tan $(x + 60)°$. (3mrks)

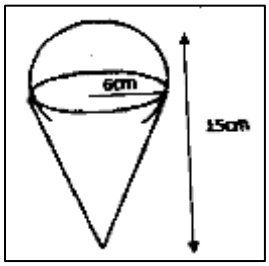
11. The figure below shows triangle PQR in which PR = 12 cm, T is a point on PR such that TR = 4cm. line ST is Parallel to QR



If the area of triangle PQR is 336 cm^2, find the area of the quadrilateral QRTS. (3mrks)

12. A square brass plate is 2 mm thick and has a mass of 1.05 kg. The density of the brass is 8.4 g/cm^3. Calculate the length of the plate in centimeters (3 mks)

13. The diagram below represent a solid made up of a hemisphere mounted on a cone. The common radius is 6 cm and the height of the solid is 15cm.



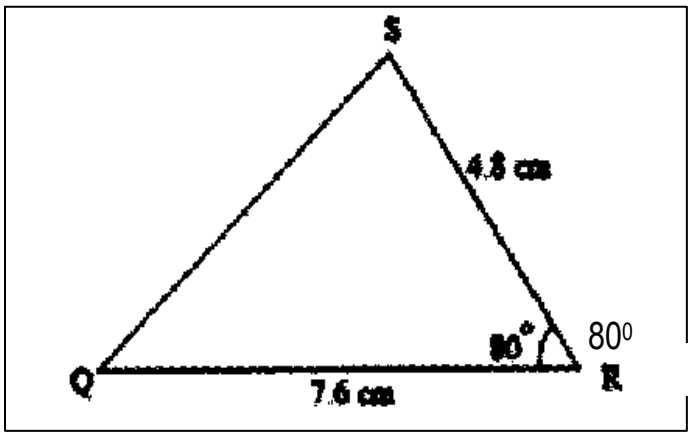
Calculate the external surface of the solid
(4 Mrks)

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

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

15. A construction company employs technicians and artisans. On a certain 3 technicians and 2 artisans were hired and paid a total of Ksh9000.

On another day the firm hired 4 technicians and one artisan and paid a total of Ksh 9500. Calculate the cost of hiring two technicians and 5 artisans in a day



16. The figure below is not drawn to scale.

Find correct to 1 decimal place;

(a) Length PQ. (2 mark).

(b) Angle ABC (2 mark)

SECTION II(50 marks)

CHOOSE ANY FIVE QUESTIONS IN THIS SECTION

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

(a) Find the coordinates of A. (3 Mrks)

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

(c) Another L_4 is parallel to L_1 and passes through (-1, 3). Find the x and y intercepts of L_4.
(4 mark)

18. Town B is 180km on a bearing 050^0 from town A. Another town C is on a bearing of 110° from town A and on a bearing of 150° from town B. A fourth town D is 240 km on a bearing of 320° from A.Using scale drawing, such that 1cm rep 30km,

(a) Show the relative position of the towns (4 mks)

(b) Using the diagram, find
(i) Distance AC (2 mrks)

(ii) Distance CD (2 mrks)

(iii) Compass bearing of C from D (2 mrks)

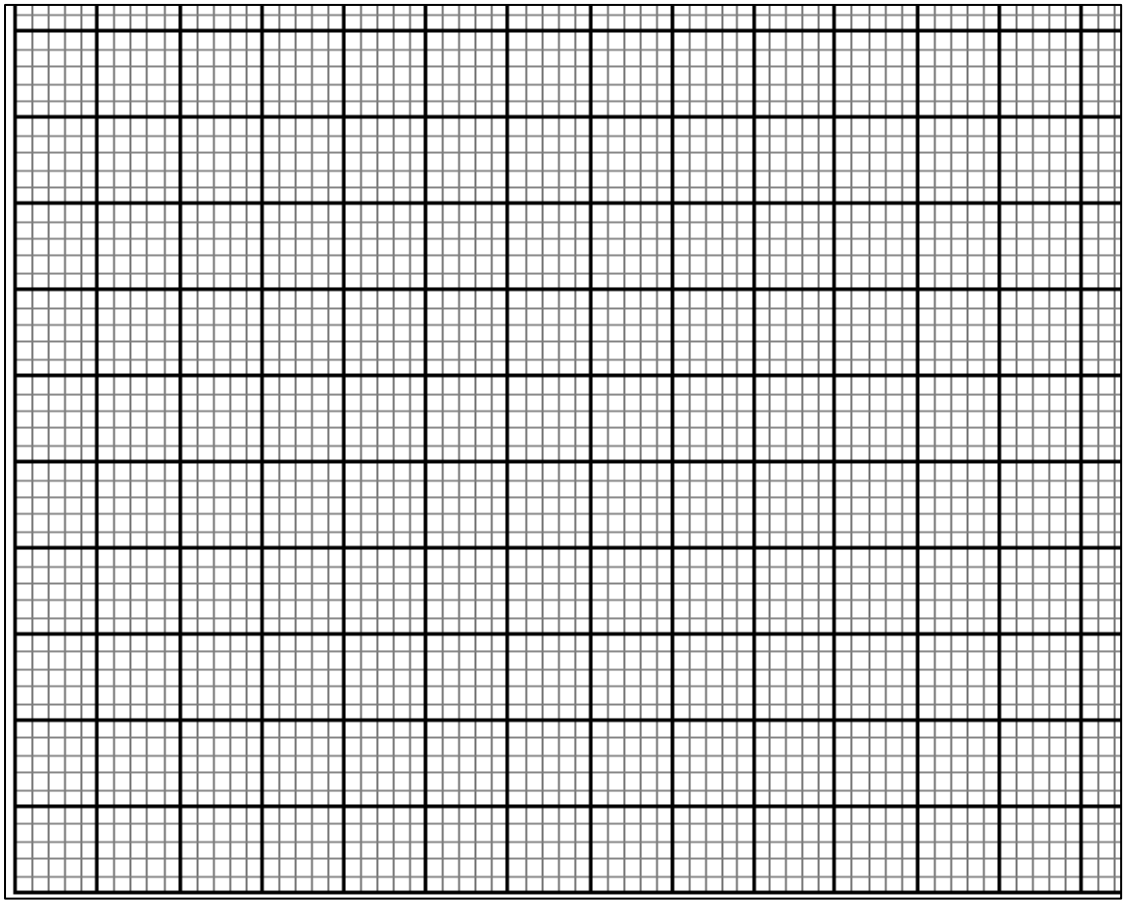
19. The table shows the marks obtained by 40 candidates in an examination

ɛncy					

a) Find the value of X (1mk)

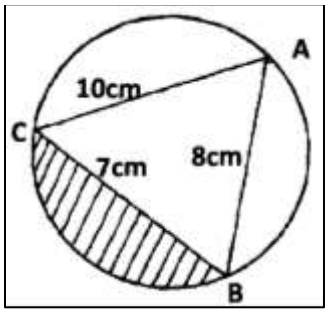
b) Calculate the mean mark (2mrks)

c) On the grid provided below draw a histogram to represent the data (4mrks)



d) drawing a straight line on the graph above determine the median mark (3mrks)

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

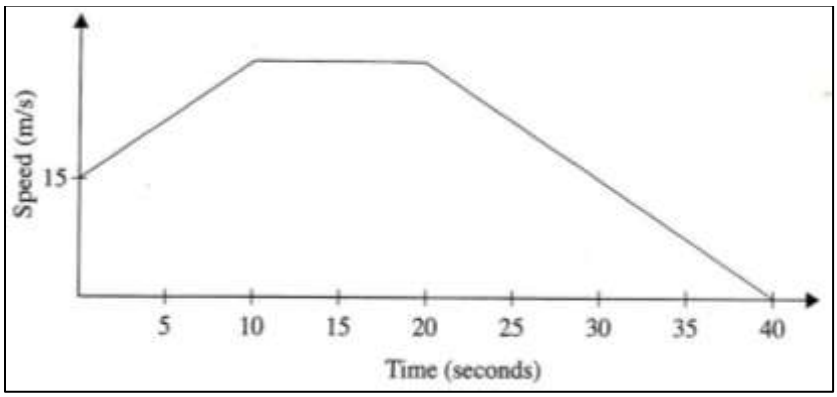


(a) Find the size of angle **BAC**. (3 Mks)

(b) Find the radius of the circle. (2 Mks)

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

21. The figure below represents a speed time graph for a cheetah which covered 825m in 40 seconds.



(a) State the speed of the cheetah when recording of its motion started (1 mk)

(b) Calculate the maximum speed attained by the cheetah (3mks)

(c) Calculate the acceleration of the cheetah in:

(i) The first 10 seconds (2mks)

(ii) The last 20 seconds (1mk)

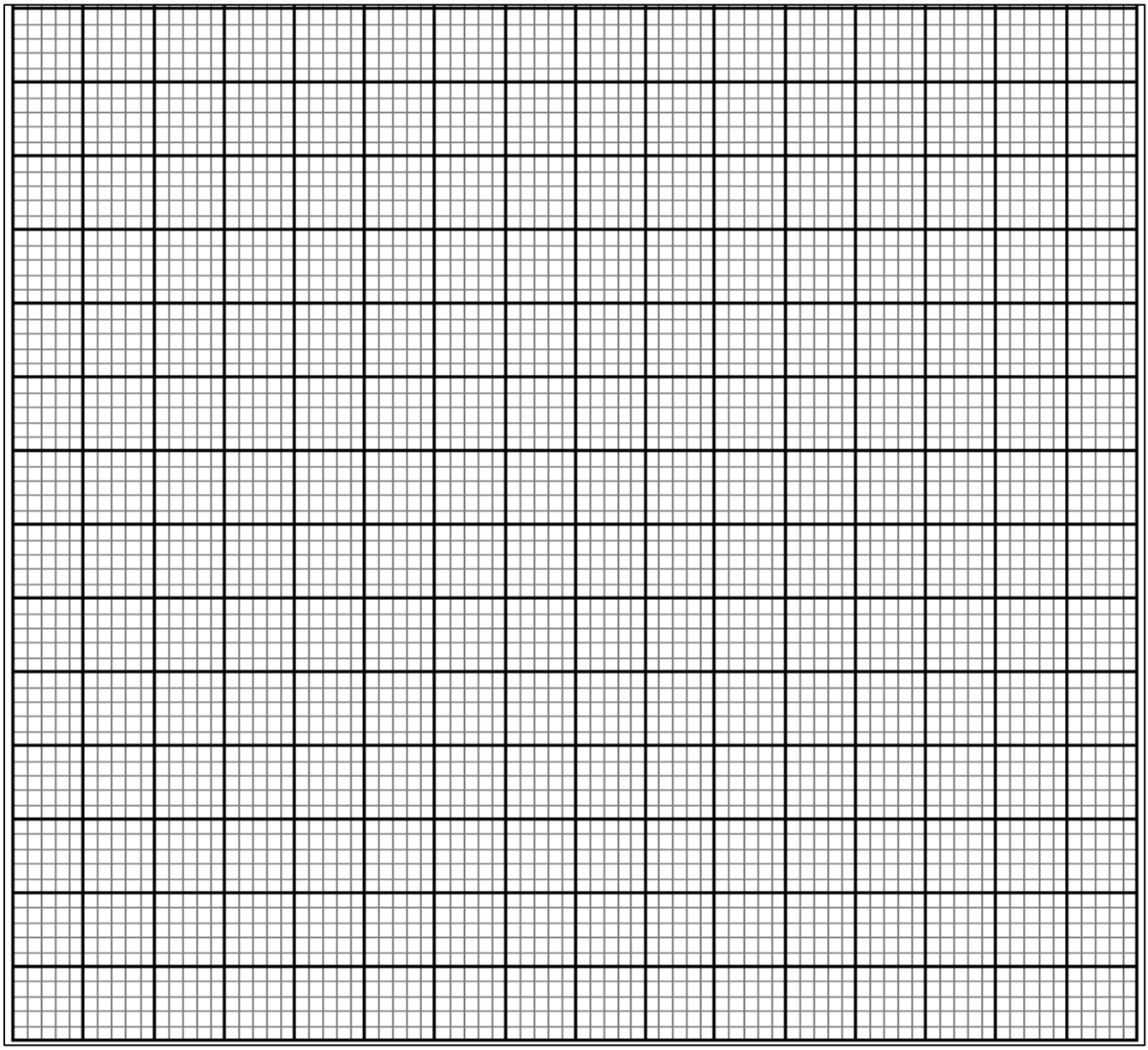
(d) Calculate the average speed of the cheetah in first 20 seconds (3mks)

22. Given the quadratic function $y=3x^2 + 4x - 1$

a) Complete the table below for values of x ranging $-4 \leq x \leq 3$. (2mks)

b) Using the grid provided draw the graph of $y = 3x^2 + 4x - 2$ for $-4 \leq x \leq 3$ (3mks)

c)



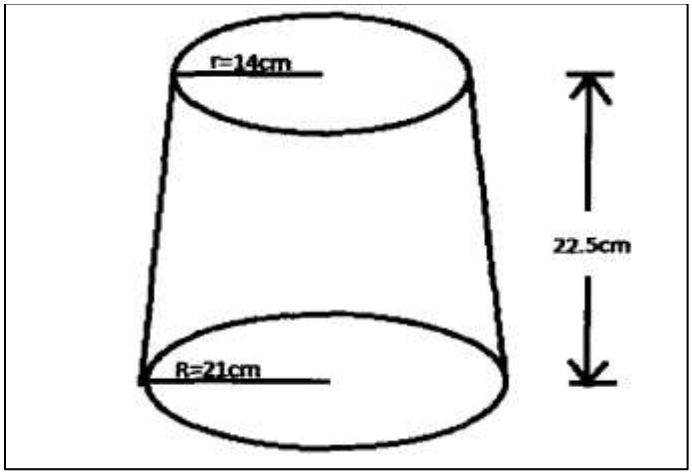
Using the graph, find the solution to the equations.

i) $3x^2+4x-2=0$ (2mks)

ii) $3x^2+7x+2=0$ (3mks)

23. The diagram represents a solid frustum with base radius 21cm and top radius 14cm. The frustum is 22.5cm high and is made of a metal whose density is 3 g/cm3.

(Take $\pi=\frac{22}{7}$)



a) Calculate

(i) The volume of the metal in the frustum. (5 marks)

(ii) The mass of the frustum in kg. (2 marks)

b) The frustum is melted down and recast into a solid cube. In the process 20% of the metal is lost. Calculate to 2 decimal places the length of each side of the cube.

(3 marks)

24. A saleswoman is paid a commission of 2% on goods sold worth over Ksh 100,000. She is also paid a monthly salary of Ksh 12,000.In a certain month, she sold 360 handbags at Ksh 500 each.

a) Calculate the saleswoman's earnings that month. (3 mks)

b) The following month, the saleswoman's monthly salary was increased by 10%. Her total earnings that month were Ksh 17,600.

Calculate:

i) The total amount of money received from the sales of handbags that month.

(5 mks)

ii) The number of handbags sold that month. (2 Mks)

END YEAR EXAM 2022

MATHEMATICS

FORM 3 PAPER 2

Time: 2 Hours 30 mins

Name …… **Class** …….

Instructions to candidates

1. Write your name, admission number and class in the spaces provided above.
2. The paper contains two sections: **Section I** and **Section II**.Answer **all** the questions in **Section I** and **ANY FIVE** questions from **Section II**.
3. All working and answers must be written on the question paper in the spaces provided below each question.
4. Marks may be awarded for correct working even if the answer is wrong.
5. Negligent and slovenly work will be penalized.
6. Non-programmable silent electronic calculators and mathematical tables are allowed for use.

For Examiner's use only Section I

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

17	18	19	20	21	22	23	24	Total

Grand Total %

This booklet contains 16 printed pages. Please confirm that all the pages exist and are properly printed before starting the exam.

Section I (50 marks)

Answer all the questions in this section

1. Use logarithms to evaluate correct to 4 significant figures

$$\left(\frac{\sin 54.5}{Tan\,24.8\times\cos 78}\right)^{1/2}$$

(4marks)

2. A blend of juice is made from pineapple and passion. The cost of two litres of pineapple is Kshs 120 and three litres of passion is Kshs 270. In what ratio should the juices be mixed such that by selling the mixture at Kshs 84 per lime a profit of 20% is realized?

(3 marks)

3. A ball allowed to drop from a height of 16m on to a floor rebounds to ¾ of its previous height. Find the total heights the ball will have rose when it hits the ground for the tenth time correct to four significant figures 1. **(2 marks)**

4. Solve the equation

$$\sqrt{y} = \frac{2}{\sqrt{y}} + 1.$$ **(3 marks)**

5. Use completing the square method to solve for x in the equation: $3x^2 + 18x + 15 = 0$.

(3 marks)

6. A shamba is in the shape of a parallelogram with the lengths of the adjacent sides being 12cm and 15cm.If the area of the parallelogram is 72cm^2, find the angle between these two sides. **(3 marks)**

7. A quantity y varies partly as x^2 and partly as x. When y = 6, x = 1 when y = 30, x = 3. Find y when x = - 3. **(3 marks)**

8. Two taps A and B together, can fill a water tank in 6 minutes. Tap A alone takes 5 minutes longer to fill the tank than tap B alone. How many minutes does it take tap B alone to fill the tank? **(3 marks)**

9. Hisabati originally worked out the mean mark of her forty pupils to be forty one. After confirmation of the marks with her pupils, she added some marks to Tim, Chob and Chel in the ratio 5:2:3 respectively. If the new mean mark for the class increased by 1.5, find how many marks Chel was added than Chob. **(3 marks)**

10. (a) Write down the first five terms of the expansion of $\left(1-\frac{x}{3}\right)^5$. **(2 marks)**

b) Using the first three terms of the expansion. Find the values of $(1.01)^5$ to 4 decimal places. **(2marks)**

11. A school bus was valued at shs 6,000,000 in January 2010. It depreciated by 12.5% of its value at the beginning of the year. Find the value of the bus in January 2015, giving your answer correct to 4 significant figures. **(3 marks)**

12. The shadow of a vertical pole is observed on level ground to be 20m long when the angle of elevation of the sun is 30°. Calculate the reduction in the length of the shadow of the pole when the angle of elevation the sun becomes 80°. **(3 marks)**

13. A rectangle measures 8.6 cm and 4.8 cm. Find the limits within which the area of the rectangle lies hence find the percentage error in the area. **(3 marks)**

14. Solve the equation: $\log_2(2+3x)+3\log_2 2 = 2+\log_2(2x+6)$. **(3 marks)**

15. The points with coordinates (5, 5) and (-3, 1) are the ends of the diameter of a circle centre A.

Determine:

(a) The coordinates of A. **(1mark)**

(b) The equation of the circle, expressing it in form $x^2 + y^2 + ax + by + c = 0$ Where a, b, and c are constants. **(3 marks)**

16. Make p the subject of the formula: $x = \left(\frac{1}{mp^3} - A^2 \right) B$. **(3 marks)**

SECTION B: (50 MARKS)

Answer any FIVE questions from this section

17. The table below shows income tax rates for the year 2014.

Income in Kenya pounds per month	Rate in Kshs per pound
1 – 484	2
485 – 940	3
941 – 1396	4
1397 – 1852	5
Over 1852	6

In the year of income 2014, the tax on Bushuru's monthly taxable income was Kshs 10,880.50. Bushuru was entitled to a tax relief of Kshs 1,156.

Find

i) Bushuru's gross monthly tax. **(2marks)**

ii) Bushuru's taxable income per month in shillings. **(6marks)**

b) Apart from basic salary, Bushuru earned a house allowance of Kshs 12,000 a medical allowance of Kshs 3,060 and a hardship allowance of Kshs 4,635. Find his basic salary per month. **(2marks)**

18. A number is selected at random from 2, 3, 5, 7, 9, and 11 and paired with another number selected from 4, 6, 8, 10, 12, and 14.

(a) Construct a table showing how the numbers are paired. **(2 marks)**

(b) Find the probability that the sum of the selected numbers is even. **(2 marks)**

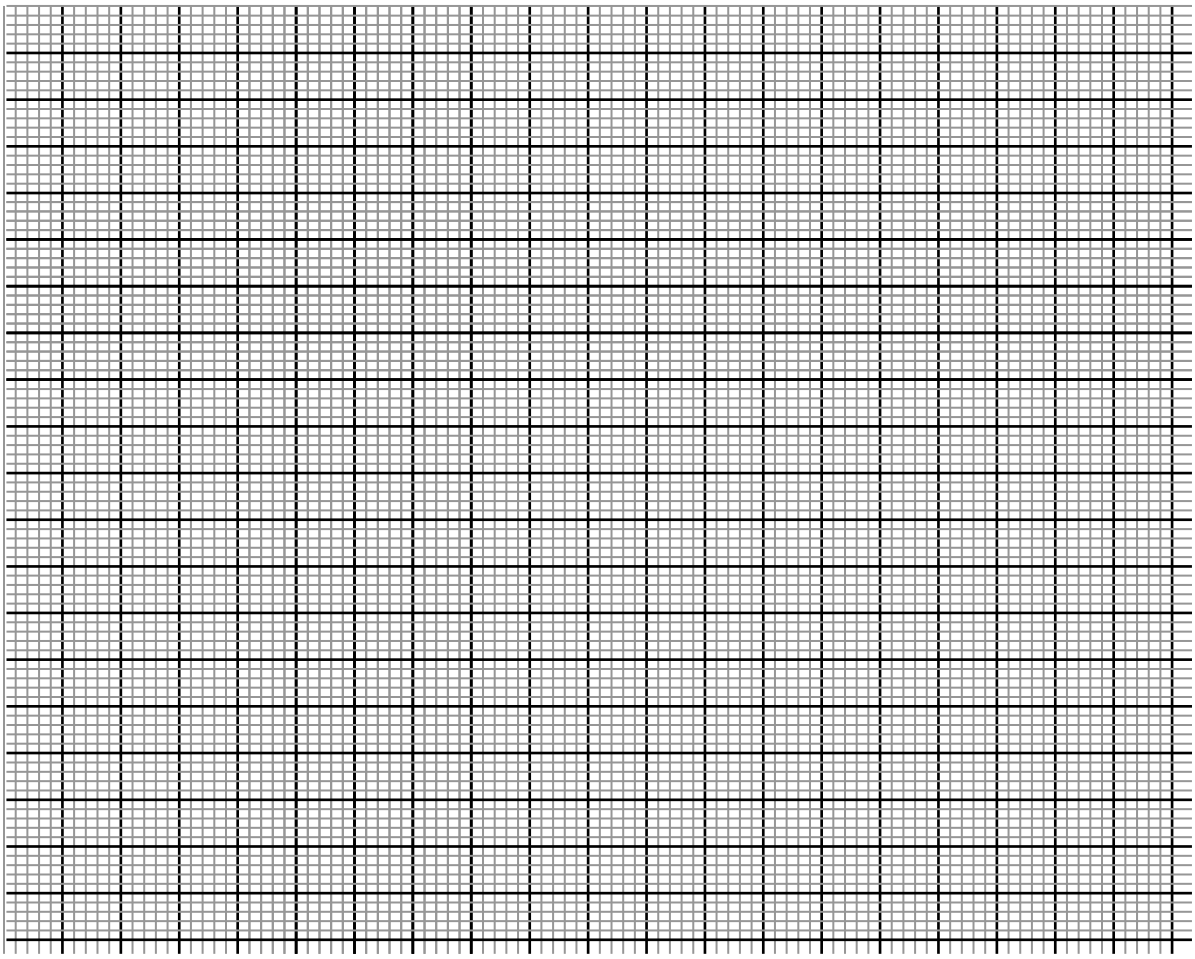
(c) Find the probability that the sum is odd and prime. **(3 marks)**

(d) Find the probability that the sum is greater than the greatest number that can be selected. **(3 marks)**

19. Two variables A and B are believed to be related by a law of the form $A=mn^B + 1.1$ where m and n are constants. The table below shows corresponding values of A and B as obtained from an experiment.

A	1.79	2.27	2.48	2.96	3.21	3.79
B	1.0	3.8	5.4	7.0	8.6	9.5

By drawing a suitable straight line graph estimate the values of m and n. **(10 marks)**



20. Matrix **P** is given by $\begin{pmatrix} 4 & 7 \\ 5 & 8 \end{pmatrix}$.

(a) Find $\mathbf{P}^{-1}$ **(2marks)**

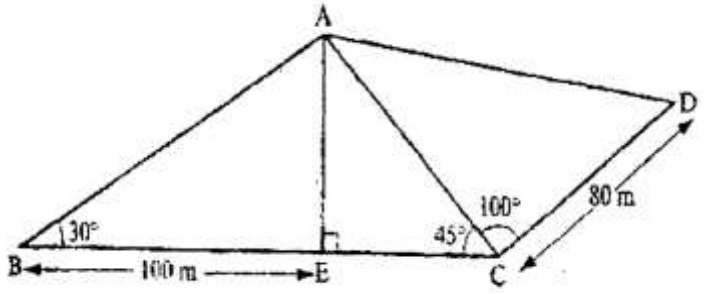
(b) Two traders Mwanzo and Mwisho purchased beans at Kshs x per bag and maize at Kshs y per bag. Mwanzo purchased 8 bags of beans and 14 bags of maize for Kshs 47,600. Mwisho purchased 10 bags of beans and 16 bags of maize for sh. 57,400.

(i) Form a matrix equation to represent the information above. **(2marks)**

(ii) Use the matrix $\mathbf{P}^{-1}$ to find the prices of one bag of each item **(3marks)**

(c) The price of bean later went up by 5% and that of maize remained constant. Mwanzo bought the same quantity of beans but spent the same total amount of money as before on the two items. State the new ratio of beans to maize. **(3marks)**

21. The figure below represents a quadrilateral piece of land ABCD divided into three triangular plots. The lengths **BE** and **CD** are l00m and 80m respectively. Angle <ABE = 30^0<ACE = 45^0 and <ACD =100^0



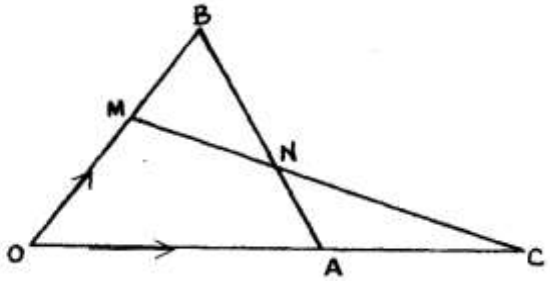
Find to four significant figures:

(a) The length of AE **(3marks)**

(b) The length of AD **(3marks)**

(c) The perimeter of the piece of land **(4marks)**

22. In the triangle OAB below, **OA**= **a**, **OB**= **b**and **OC**= $\frac{3}{2}$ **OA**. M divides OB in the ratio 3:2



a) Express in terms of **a** and **b** only, the vector

i) $\overrightarrow{AB}$ **(1 mark)**

ii) $\overrightarrow{MC}$ **(1 mark)**

b) Given that **MN**=h**MC**and **BN**= k**BA**, express vector **MN** in two different ways and hence, find the value of h and k. **(6 marks)**

c) Show that the points M, N and C are collinear. **(2 marks)**

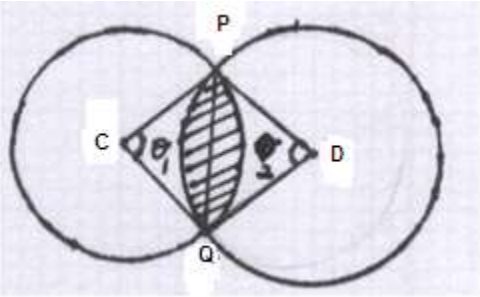
23.(a) The fifth term of an arithmetic progression is 11 and the twenty fifth term is 51. Find the first term and common difference of the progression. **(3 marks)**

b) The second and fifth terms of a geometric progression are 16 and 2 respectively. Determine the common ratio and the first term. **(3marks)**

c) Find the sum of the following GP. **(4 marks)**

2 + 10 + 50 ……..1250

24. The figure below shows two intersecting circles of centres C and D radii 16cm and 20cm respectively. The two circles subtend angles θ_1 *and* θ_2 at their centres respectively and intersect at P and Q as shown.



a) Given that the area of triangle PCQ is 80.14cm^2, calculate the size of

i) The angle marked θ_1 . **(2marks)**

ii) The angle marked θ_1 . **(3marks)**

b) Calculate the area of the shaded region. **(5marks)**

END YEAR EXAM 2022

ENGLISH

FORM 3 PAPER 1

Time: 2 Hours

NAME: _____SCHOOL: _____

INDEX NO: _____ DATE: _____

1. FUNCTIONAL WRITING (20 MARKS)

You are the manager of Bomet Transport Sacco. Of late, you have realized that some of the workers, mainly drivers and conductors are no longer working as before, hence the company has got into loss.

(a) Write an internal memo to the workers, warning them of disciplinary actions if they do not change their behavior and attitude. Some of the areas you wish to address are; punctuality, lack of courtesy, bribery and any other relevant area. (12 marks)

_____

_____

_____

_____

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_____

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_____

_____

(b) Write a congratulatory note to Mr. Mark Otieno, a conductor who has recently been promoted to the post of a driver because of his exemplary performance. (8 marks)

2. CLOZE TEST

Perhaps the best way to _____1_____ reading poetry responsively is not to allow yourself to be intimidated ____2_____ it. Come to it, initially at least, the way you might ____3_____ to a song several times before you ___4_____ it all, before you have a sense of how it works ___5_____ it's going and how it gets there. You don't worry about analyzing a song when you listen to it, even though after ___6_____ experiences with it you know and anticipate a favourite part and know, on some level, why it works for you. __7_____ yourself a chance to respond to poetry. The hardest work has already ___8_____ done by the poet, so all you need to do at the start __9_____ listen for the pleasure produced by ____10_____ poet's arrangement of words.

3. ORAL SKILLS (30 MARKS)

(a) ***Read the following riddling session and then answer the questions that follow.***

Challenger:	Catch a riddle!
Respondent:	I catch it!
Challenger:	My coat changes colour with age and when unclothed, I feed you.
Respondent 1:	A tree
Challenger:	No
Respondent 2:	A coconut?
Challenger:	Still not correct. Try harder.
Respondent 3:	Then we are beaten. Give us the answer.
Challenger:	Only if you give me a reward.
Respondent 1:	We give you Kijiji
Challenger:	No. I will not take Kijiji. The people are as cold and unwelcoming as can be.
Respondent 2:	We give you Mugunda with its entire fertile land and fat cattle.
Challenger:	I went to Mugunda and the people of Mugunda asked me to greet you. Do you receive the greetings?
Respondents:	Yes, we do.
Challenger:	The answer is - - - banana.

(i) Identify the six stages of riddling cycle in this riddling session. (6 marks)

(ii) What non-verbal cues would the challenger use in response to each offer of the prizes? (2 marks)

(iii)How would you say the following statement? The answer is - - - banana (2 marks)

(b) You speak to a group of form ones about an issue of concern and you notice during the talk that many of them are dozing, yawning, fidgeting and sitting carelessly. What would this mean to you? (4 marks)

(c) Who and when would one do the following? (2 marks)

(i) Curtsy

(ii) Bow

(d) Provide another word that is identical in pronunciation to the underlined words in the sentences below. (5 marks)

(i) Why did the idle bridal party groan?

_____

_____

_____

(ii) The bear caught the whale.

_____

_____

(e) Indicate the intonation in the following sentences (3 marks)

(i) Are you going to the meeting?

_____

_____

(ii) Where is your friend?

_____

_____

(iii)I saw him yesterday.

_____

_____

(f) You are a member of a discussion group.

(i) Identify three ways through which you would know that it is your turn to speak. (4 marks)

_____

_____

_____

(ii) How would you encourage the other person to continue talking in a conversation? (2 marks)

_____

_____

_____

END YEAR EXAM 2022

ENGLISH

FORM 3 PAPER 2

Time: 2 Hours 30 mins

NAME _____SCHOOL _____

INDEX NO_____ CANDIDATE'S SIGNATURE _____

DATE _____

INSTRUCTIONS TO THE CANDIDATE

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. Answer **ALL** the questions in this question paper.
4. All your answers **MUST** be written in the spaces provided in the question paper.
5. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
6. Candidates must answer the questions in English.

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidate's Score
1	20	
2	25	
3	20	
4	15	
Total score	**80**	

This paper consists of 10 printed pages. Check to ascertain that all pages are printed.

1. COMPREHENSION

Read the passage below and then answer the questions that follow.

Technology is basically the way we execute the discoveries of science and **blend** it with our own needs. Technology is a general term used to refer to the different tools, machines, and equipment we use in everyday life. These tools and equipment have been invented by man to make the tasks faster, easier and more comfortable.

Since the invention of the wheel and the use of microchips in computers and mobiles, technology has come a long way. Man has reached the moon and explored the outer space just because of the advancement in the aeronautics field. Even in primitive occupations such as agriculture, there have been so many technological advancements with modern tools such as traction engine and steam tractor technology which has helped us make progress.

Although there have been countless examples where technology has changed our lives, there are some which are considered as revolution for mankind. The technology used in the field of robotics is one such fine example. Nowadays robots are being used by people and industries all over the world for various purposes. They are also used in places which are otherwise considered harmful for humans thereby protecting us. One such area is the cleaning and managing of radioactive waste.

Artificial Intelligence (AI) is another field which is a classic example of the technological advancement man has achieved. Who could have imagined that a machine would be capable of thinking like us? That is what AI has been successful in doing. It is an intelligent machine capable of behaving like us. It can do activities such as problem-solving, planning, learning and even reasoning. Today AI is used in all major areas such as warfare, security, healthcare and communication. On top of this, it is far more efficient than us and has a lower rate of error.

Technology has its own importance in our lives. Without technological advancement, our lives would not be simpler and faster. The modernization that the world is witnessing today has all been possible because of the technological developments in different fields. Moreover, it has helped in reducing the risks people had to undertake in many sectors such as mining. With new tools available, the tasks are less risky and are more efficient as well.

Although technological advancements are important for us, it is also true that we seem to be over -dependent on them nowadays. The use of mobiles was meant to be able to keep in touch in difficult times. But now we see kids too much involved in the different applications on mobiles and killing their valuable time. In addition, many crimes have been reported through the misuse of digital technology. Also, it has been seen that many people lack the basic education required to ensure the proper use of the technology available today. In fact, most of them use it for the sake of fashion and hence end up misusing it. People have been so dependent on technology that they no

longer want to do any kind of manual activity. Even for small works that can be done manually, people prefer to do it through technology. This has resulted in making humans mentally as well as physically dormant.

Technology is surely a **boon** for mankind. It is all the more important for the economic growth of a country. Modern technologies have in fact succeeded in reducing the human effort and the risk in doing a lot many things. But, still, it is for us to see how best we make use of the technology available to us.

While on one hand we can make use of technological advancements of nuclear energy to generate electricity and help many villages lighten us, on the other hand the same nuclear energy can be used to create bombs which can cause **mammoth** destruction. Similarly, robots and other technological advancements have served as a good servant to us but the moment it becomes the master it can wipe all humanity from the earth.

Questions

(a) What is technology according to the passage (2marks)

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(b) State two prominent ways in which technology has changed lives according to the passage. (2marks)

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(c) How has technology been important to human beings according to the passage? (3marks)

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(d) How has advancements in the field of aeronautics changed this field? (2marks)

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(e) Make notes on the drawbacks of technology. (4marks)

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(f) Technology is surely a boon for mankind. (1mark)

Begin: Surely……..

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(g) Discuss the writer's mixed thought on technology? (3marks)

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(h) Explain the meaning of the following words and phrases as used in the passage. (3marks)

i) Blend

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ii) Mammoth

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……

iii) Boon

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2. **EXCERPT**

Read the excerpt below and then answer the questions that follow.

"In Nakuru, this was not a subject that concerned us much. But in Nasila it is on every lip."
"Yes, that's very true," Resian said trying to entice her mother to say more. "The other day Taiyo learnt from Joseph Parmuat that female circumcision was initiated by women themselves about two hundred years earlier. And that it was as a result of sexual abuse and harassment by an invading despot called Olarinkoi and his warriors. Is that true *Yeiyo*? I thought it was one of those myths that were created by men to blame women for everything that works against them."
"What Joseph Parmuat told Taiyo is factually correct," her mother told her confidently. "It was the shame and anger that was provoked by Ilarinkon taunts, lewd teasing and provocative posturing that made the women do what they did to **curtail** those desires the worthless predators exploited to prey upon them."
"That may have been true then.' Resian said looking directly into her mother's eyes. "But what is the reason for doing it today? Ilarinkon are no longer with us, or are they?"
"The original Ilarinkon may have gone," her mother said unconvincingly, "but other Ilarinkon are still with us."
"Exactly!" said Resian triumphantly. "Yes, it's the latter day Ilarinkon who are wreaking havoc on us women. Surely, *Yeiyo,* if one discovered a nasty but potent medicine that once taken cured an **ailment**, must they continue to swallow it every day – ten years down the line? I find that absurd. The sensible thing would be to discard the bitter medicine once people are cured. Period! Tell me *Yeiyo*, what use is FGM to today's woman?"
"Are you suggesting that it is men who continue to perpetuate this cultural rite?" her mother asked **perplexed** by her daughter's argument.
"Yes, they are creators of the labyrinth that the women continue to meander around," she said philosophically. "Even if I am reluctantly convinced that it was women and not men who initiated the obnoxious ritual, who provoked the women to do so? The Ilarinkon who were purported to have pushed women into mutilating their sexuality were men. And the ancient Ilarinkon were no different from today's Ilarinkon. The ancient Ilarinkon were sadists and despotic. Today's Ilarinkon are worse. In addition to being despotic, they are oppressive tyrants; 'and one of their ways of oppressing us is to demand that F G M be perpetuated against us forever!"

Questions:

(a) Resian is fond of her sister Taiyo. Why is Taiyo not here at this moment? Explain the significance of her absence. (3marks)

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(b) Discuss **two** themes evident in the excerpt. (4marks)

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(c) In your words rephrase the origin of FGM (3marks)

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(d) Describe **two** character traits of Resian as brought out in the excerpt. (4marks)

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(e) 'The original Ilarinkon may have gone," her mother said unconvincingly, "but other Ilarinkon are still with us."

Change into reported speech (1mark)

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(f) Today's Ilarinkon are worse *(add a question tag)* (1 mark)

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(g) Identify the main style used in this excerpt. State its **two** significances (3marks)

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(h) Describe the events that occur soon after this excerpt. (4marks)

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(i) Give the meaning of the following words as used in the excerpt. (3marks)

i) Curtail…….

ii) Ailment……..…….

iii) Perplexed…….

3. Read the poem below and then answer the questions that follow.

TOUCH BY HUGH LEWIN

When I get out
I'm going to ask someone
Touch me
Very gently please
And slowly,
Touch me
I want
To learn again
How life feels

I've not been touched
For seven years
For seven years
I've been untouched
And I've learned
To know now
The meaning of
Untouchable.
Untouchable – not quite
I can count the things
That have touched me.

One: fists
At the beginning
Fierce mad fists
Beating beating
Till I remember
Screaming
Don't touch me
Please don't touch me

Two: paws
The first four years of paws
Every day
Patting paws, searching
Arms up, shoes off
Legs apart-
Probing paws, systematic
Heavy indifferent

Probing away
All privacy.

I don't want fists and paws
I want
To want be touched
Again
And touch.
I want to feel alive
Again
I want to say
When I get out
Here I am
Please touch me.

(From poets to the people, edit by Barry Feinberg)

Questions

(a) Where do you think the person is? Briefly explain your answer. (3marks)

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(b) What do you the persona means by "touch"? (3marks)

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(c) Using two illustrations, describe the persona's experience during the seven years. (4marks)

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(d) What is the significance of the word 'paws'? (2marks)

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(e) Which device does the poet use to reinforce the theme? (2marks)

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(f) Explain the meaning of the following words as used in the poem. (2marks)

i) Prodding

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……..……..

ii) Indifferent.

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(g) What does the poet use to reveal about human need? (4marks)

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4. GRAMMAR

(a) In the sentences below, use the correct form of the words in brackets. (2marks)

i) You will have to pay for the ……..……. of the house. (maintain)

ii) The support staff decided to wait for the outcome of the ……..…… (deliberate)

(b) Rewrite the sentences according to the instruction given without changing its meaning. (2marks)

i) A good thing about our small town is that the crime rate is low.
Begin:
That……

……

ii) My father would not allow us to attend night parties under any circumstances. *(Begin: Under…..)*

……

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(c) Explain the difference in meaning of each of the following pairs of sentences. (2marks)

i) Even I attend the graduation ceremony

ii) I even attended the graduation ceremony

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(d) Choose the more appropriate pronoun to fill in the blank spaces. (2marks)

i) Chebet thanked her aunt, from ……..she had received the phone. (whom, who)

ii) Either you or ……..will be the leader on the trail. (me, I)

(e) Rewrite by correcting the errors in the sentences. (2marks)

i) Lets decide whom will start the game.

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ii) It's news are not difficult to understand

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(f) Replace the underlined idiomatic expression using a single word. (1mark)

The student complained that her father was <u>close-fisted</u>

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…..……..

(g) Replace the phrasal verbs underlined in the sentences below with one word that means the same. (2marks)

i) It is wrong to <u>look down on</u> students from other schools.

……

……

ii) Bicoty <u>takes after</u> her father.

……

……..……..

(h) Choose the correct order of adjectives in brackets to fill in the gaps. (2marks)

i) My……..……..laptop is very efficient. (small, old, ugly, grey, Samsung)

ii) Oloisudori gave Resian an expensive ring in a ……...……. box. (metal, square, small)

END YEAR EXAM 2022
ENGLISH
FORM 3 PAPER 3
Time: 2 Hours

NAME _____SCHOOL _____

INDEX NO_____ CANDIDATE'S SIGNATURE _____

DATE _____

Instructions to the Candidates

1. Write your details in the spaces provided at the top of this page.
2. Answer **three** questions only.
3. Questions **one** and **two** are **compulsory**.
4. In question **three** choose only **one** of the optional texts you have prepared for.
5. Where a candidate presents work on more than one optional text, only the first one to appear will be marked.
6. Each of your essays must **not** exceed **450** words.
7. Candidates should check to ascertain that no questions are missing.
8. Candidates must answer the questions in English.

For Examiner's Use Only

Question	Maximum score	Candidate's score
1	20	
2	20	
3	20	
Total	**60**	

Answer Three Questions Only

1. **Imaginative composition (compulsory)** **(20 marks)**

   Either
   Write a composition that has the following: explosion, crowd, siren and hospital.

Or

Write a composition explaining what the government of Kenya should do to end the rising number of teenage pregnancies in schools.

2. **The Compulsory Set Text** **(20marks)**
   Henrik Ibsen, *A Doll's House*
   "Women are largely unappreciated for the roles they play in Henrik Ibsen's A Doll's House." With illustrations, discuss the validity of this statement.

3. **The Optional Set Text** **(20marks)**
   *Answer any **one** of the following **three** questions.*

   Either

   a) The Short Story.
   Moran (Ed), *Memories We Lost and Other Stories*
   Basing your answer on Leo Tolstoy's *How Much Land Does One Need?* Show how lack of contentment with what one has leads to destruction.

   Or

   b) Drama
   David Mulwa: *Inheritance*
   "Citizens suffer due to bad leadership". Discuss the truth of this statement basing your arguments on David Mulwa's *Inheritance.*

   Or

   c) The Novel
   John Steinbeck, *The Pearl*
   "Family members always want the best for us". Write an essay to validate this claim basing your illustrations from John Steinbeck's *The Pearl.*

MTHIHANI WA MWISHO WA MWAKA 2022

KISWAHILI

KIDATO CHA 3 KARATASI YA 1

Muda: Saa 1 Dak 40

Jina: _____ Nambari ya Mtahiniwa: _____

Shule: _____ Sahihi: _____

Tarehe: _____

Maagizo

a) Andika jina lako na nambari yako ya mtihani katika 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
h) Insha zote **sharti** ziandikwe kwa kijitabu cha majibu
i) Karatasi hii ina kurasa mbili zilizopigwa chapa.

Kwa matumizi ya matahini pekee

Swali	Upeo	Alama
1	20	
2	20	
Jumla	40	

MASWALI

1. Lazima

Wewe ni mhariri wa Gazeti la mwanzo mpya. Andika Tahariri kuhusu umuhimu wa vyama vya wanafunzi shuleni. (alama 20)

2. Uhuru unaopewa Vijana leo katika nchi yetu una hasara nyingi kuliko faida. Jadili. (alama 20)

3. Andika insha itakayodhihirisha maana ya methali ifuatayo: Adhihakiye kovu hajaona jeraha. (alama 20)
4. Andika kisa kitakachoanza kwa maneno haya: Nilisimama kama ilivyotuamuru sauti nzito ya kutisha,huku nikijikuta na kujawa mawazo tete ya kuhamia sehemu nisiyoifahamu…..(alama 20)

MTHIHANI WA MWISHO WA MWAKA

KISWAHILI

KIDATO CHA 3 KARATASI YA 2

Muda: Saa 2 Dak 30

Jina: _____Nambari ya Mtahiniwa: _____

Shule: _____Sahihi: _____

Tarehe: _____

Maagizo

i. Andika jina lako na Nambari yako katika nafasi ulizoachiwa hapo juu.
ii. Weka sahihi yako kisha tarehe ya mtihani katika nafasi ulizoachiwa
iii. Jibu maswali yote.
iv. Majibu yaandikwe katika nafasi zilizoachwa wazi katika kijitabu hiki cha maswali

Kwa Matumizi ya Mtahini Pekee

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

Kitabu hiki cha maswali kina kurasa 10 zilizopigwa chapa. Watahiniwa ni lazima wahakikishe kuwa kurasa zote za karatasi ya mtihani zimepigwa chapa sawasawa na kuwa maswali yote yamo

1. **UFAHAMU: (Alama 15)**

Soma kifungu kifuatacho kisha ujibu maswali.

Gari lake kuukuu lilikuwa linapambana na barabara yenye mashimo yaliyoshiba na kutapika maji ya mvua ambayo sasa ilikuwa inaanza kupusa. Japo daima alipambana na usukani kunako mashimo haya barabara iliyosakafishwa nayo ikahitimu? Magurudumu haya yaliyong'ara kama upara wa shaibu aliyekula chumvii hadi ikamwogopa yangetii uelekezi wake? Mara ngapi gari hili limetaka kumwasi barabarani? Haya yalikuwa baadhi ya maswali yaliyompitikia akilini. Hakujitakilifu kutaka **kuyapa mji** maana mara ile mawazo yake yalitekwa na kubwagwa katika nchi ya mbali – nchi ambayo sasa aliiona kama sinema akilini mwake.

Alipofika nyumbani aliliegesha gari lake na kufululiza ndani. Siku mbili zilikuwa zimepita akiwa pale kazini. Madaktari kama yeye hawakuwa wengi. Alikuwa miongoni mwa madaktari wenye ujuzi katika hospitali hii ya kitaifa. Wenzake wengi walikuwa wamehamia ughaibuni walikokwenda kutafuta maisha. Mshahara wao wa mkia wa mbuzi uliwasukuma na kuwatema nje ya nchi yao. Wengi wa waliohamia ng'ambo waliona vigumu kubaki katika ajira ambayo kivuno chake kilishindwa kumvusha mtu hata nusu ya kwanza ya mwezi. Malalamishi ya kulilia ujira wa heshima yaligonga kwenye masikio yaliyotiwa zege. Na kweli wanavyosema, mwenye macho haambiwi tazama. Basi walitazama hapana pale wakaona penye mianya ya matumaini,nao wakaiandama.

Hadi leo hii hamna la mno lililofanyika. Ndiyo maana Daktari Tabibu anarudi nyumbani tangu kuingia kazini hiyo juzi alfajiri. Hafanyi kwa kuwa katosheka,maana pia yeye an dukuduku. Ana shaka ya mustakabali wake ikiwa mazingira ni haya kumsoza,maana umri nao unazidi kumla. Japo anatia na kutoa,mizani ya hesabu yake imeasi ulinganifu.

Daktari Tabibu ni mfungwa. Ametekwa na kuzuiwa kwenye kipenda na kuchukia mambo. Ni kama mti uliodumaa. Anatami barabara nzuri lami. Anatamani mshabara wa kumwezesha kukidhi mahitaji yake ya kutimiza majukumu yake ya kimsingi. Jana amesema na rafiki yake aliye ng'ambo kwa simu ambayo sasa imetulia mkabala naye. Ingawa mwenzake huyu alikuwa mchangamfu na kumdokolea hali ya maisha ya kuridhisha kule ugenini kama vile wanataaluma kuenziwa,yapo vilevile yaliyomtia unyonge moyoni. Upweke ndio ulimtia **fukuto** kuu. Licha ya hela zote hizo za kupigiwa mfano,watu hawana muda wa kutembeleana nakujuliana hali au hata kukutana tu mkahawani wakashiriki mlo. Eti ni kila mtu na hamsini zake. Halafu ipo changamoto ya hali ya hewa. Baridi ya ng'ambo haifanyi mzaha katika kumtafuna mtu. Ni hali tofauti na ile aliyoizoea.

Daktari Tabibu alizitia kauli za rafiki yake kwenye mizani ya moyo wake. Akawaza ikiwa kweli si bora kulemazwa na mzizio ugenini badala ya kuishi katika kinamasi cha kuumbuliwa nyubani. Kisha punde lilimjia wazo la marehemu nyanyake na wengine kama yeye waliofadhili masomo yake kupitia kwa serikali ya njia ya kodi. Je si usaliti huu?Vipi aikimbie nchi kabla ya kuihudumia ilhali imemjenga hadi kuwa daktari? Na je wafanyakazi wake wa nyumbani watakwenda wapi? Atawaambiaje kuwa sasa hahitaji huduma zao kwa kuwa anakimbia nchi yake?

Mawazo yake yalikatizwa na simu iliyolia na kumshtua. Alipoitazama aliiona imeng'ara kwa mwangaza ulioweka wazi jina la mpigaji. Alifahamu kuwa leo hii tena dharura nyingine ilikuwa inamwalika hospitalini. Hapo ndipo alipoiinua ile simu tayari kusema na mwenzake upande wa pili.

"Haloo!" sauti nyororo kutoka upande wa pili iliita.

"haloo!"

"Naam!Dharura nyingine tena daktari. Unaombwa kuokoa maisha mengine tena!"

"Haya. Ila mwanzo nitahitaji kujimwagia maji," na pale pale akaikata ile simu.

Daktari Tabibu aliingia hamamuni huku kajifunga taulo kiunoni tayari kuoga. Aliyafungulia maji lakini ule mfereji uligoma kutapika maji. Ulikuwa umekauka kabisa. Daktari Tabibu aliduwaa pale. Aliufunga ule mfereji kabla ya kuiaga bafu.

Maswali

(a). Eleza sababu nne zinazowafanya wataalamu kuhamia nchi za nje. (Alama 4)

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(b). "Hakuna masika yasiyokuwa na mbu" Thibitisha kauli hii kwa kurejelea hali ya waliohamia ng;ambo. (Alama 3)

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c). Fafanua athari tatu zinazoikumba nchi ya msimulizi kutokana na uhamiaji ng'ambo wa wataalamu (alama3).

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(d). Eleza mchango wa teknolojia kwa kurejelea kifungu. (Alama 3)

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(e).Eleza maana za msamiati ufuato kulingan na taarifa. (Alama 2)

(i). Kuyapa mji

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……

(ii). Fukuto

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2. **UFUPISHO (Alama 15)**

Wakenya walipolipata katiba mpya waliidhinisha mfumo wa ugatuzi. Katika mfumo huu,mamlaka ya serikali kuu katika uongozi,usimamizi na utumiaji wa rasilimali za nchi hupunguzwa. Kiasi Fulani cha mamlaka hutwaliwa na maeneo ya ugatuzi. Suala hili halikuzingatiwa katika katiba ya awali ambapo mamlaka yote yalikuwa mikononi mwa serikali kuu. Kutokana na upana na wingi wa maeneo,iliiwia vigumu serikali kuu kuhakikisha kwamba kulikuwa na usawa wa kimaendeleo katika sehemu nchini.

Kwa mujibu wa katiba mpya,serikali kuu haina budi kuyasidia maeneo yote ya ugatuzi ili yaweze kujinyanyua kiuchumi na kuboresha hali za maisha za wakazi wake. Vilevile ni jukumu la kila eneo la ugatuzi kuweka mikakati madhubuti ili kuchunguza na kubainisha rasilimali zote katika maeneo husika. Hili litasaidia kufumba rasilimali ambazo zinaweza kuchangia katika ustawishaji wa maeneo haya. Maeneo haya pia yanatakiwa kutafuta mbinu zitakazofanikisha uzalishaji na utumiaji wa rasilimali hizi kwa njia endelevu. Mojawapo ya mbinu hizi ni uongezaji thamani katika rasilimali yoyote inayozalisha kwenye eneo mahususi.
Maeneo mengi ya ugatuzi nchini humu yanategemea kilimo cha ufugaji kama mhimili wa uchumi. Licha wenyeji kikamilifu. Aghalabu kuwa nguzo,kilimo hiki hakijawahi kupigiwa darubini vizuri kwa lengo la kukiimarisha ili kiwanufaishe wenjeji kikamilifu. Aghalabu wafugaji wengi huandama mbinu za jadi za ufugaji ambazo haziwahakikishii ongezeko la mapato. Isitoshe,wafugaji hawa wanakabiliwa na tatizo katika soko la mifugo ambapo wengi hupunjwa na matapeli. Pamoja na haya,baadhi ya wakazi huuza mifugo nje ya nchi wakiwa wazimawazima bila kuwazia matokeo ya kitendo hiki. Si ajabu kuwaona ng'ombe, ngamia,mbuzi, na kondoo wakipakiwa kwenye malori na kusafirishwa nje ya nchi. Ukweli ni kwamba jambo hili ni hatari sana,si kwa uchumi wa maeneo husika tu,bali pia kwa Kenya kwa jumla . Hii ni kwa kuwa walionunua mifugo wazimawazima wanaweza kuhiari kutowachinja na badala yake kuwatumia kama mbegu kwani baada ya muda huenda wanaonunu mifugo wakijitosheleza na kukosa kununua mifugo wengine. Hali ikiwa hivyo, maeneo yaliyotegemea soko hili huenda yakalipoteza taratibu,na bila shaka kupoteza natija inayotokana na soko lenyewe

Ili kudhibitisha hali hii,itakuwa bora ikiwa viwanda vya kuchinjia mifugo na kupakia nyama vitajengwa katika maeneo haya ya ugatuzi. Hili litawawezesha wakazi kuuza nyama badala ya kuuza mifugo wazimawazima. Fauka ya hayo maeneo haya yatajikinga dhidi ya kupoteza bidhaa zinazotokana na mifugo. Hizi ni kama vile ngozi, kwato na pembe ambazo bila shaka zina natija kuu. Ngozi kwa mfano,ni bidhaa muhimu sana katika sekta ya utengenezaji wa mavazi na mifuko. Viwanda vinavyotumia ngozi kama malighafi vikijengwa katika maeneo haya,wakazi wake watanufaika si haba. Madhalani,viwanda vya kutengenezea viatu,mishipi,mifuko na nguo vikianzishwa,wawekezaji watalazimika kuanzisha viwanda vingine tegemezi. Kathalika,ni dhahiri kwamba bidhaa zinazotokana na ngozi huhitaji kutiwa nakshi. Kuanzishwa kwa viwanda hivi basi kutazua haja ya kuanzishwa kwa viwanda vingine vya kutengeneza rangi,pamoja na maduka ya kuuza bidhaa zenyewe. Isitoshe,gundi ya kugandisha bidhaa hizi itahitajika,hivyo kusababisha haja ya kuanzishwa kwa kiwanda cha gundi. Matokeo ya shughuli hizi zote ni kuzalishwa kwa nafasi anuwaiza kazi kwa wakazi. Hili litakuwa na matokeo zaidi chanya,hususan kwa vijana. Badala ya kushiriki ulevi na burudani zinazowahatarisha, wataweza kumjitafutia riziki katika viwanda hivi.

Juu ya hayo,mfumo wa ugatuzi utayaweza maeneo husika kuongeza thamani,utoaji wa huduma za kijamii na kuitawala kulingana na mahitaji ya maeneo haya. Ni muhimu hata hivyo kuzingatia kwamba kila eneo laugatuzi lina upekee wake,navyo vipaumbele hutofautiana kulingana na maeneo. Kuna yale ambayo yatasisitiza usalama, mengine ujezi na uimirishaji wa miundomusingi kama vile barabara,vituo vya afya na hata taasizi za elimu. La muhimu ni wakazi wa maeneo husika kubainisha ni lipi litatekelezwa kwanza.

Kinga na kinga ndipo moto uwakapo. Kufanikiwa kwa mfumo wa ugatuzi kutategemea juhudi za kila mkazi wa eneo husika. Ni muhimu kila mkazi kujiona kuwa mmiliki wa eneo zima la ugatuzi na kuwajibika katika kuliendeleza kwa hali na mali. Uwajibikaji huu unajumuisha uteuzi wa viongozi wenye muono mzuri na mabao utawawezesha kuyafikia malengo yao ya kimaendeleo. Hakika,mustakabali na uwepo wa eneo la ugatuzi utakuwa zao la mamuzi ya wanaeneo. Vilevile ufanisi wa maeneo ya ugatuzi utakuwa msingi wa ufanisi wa taifa kwa jumla.

(a). Fupisha ujumbe wa aya tatu za mwanzo kwa maneno 85-90 (alama 8,1 mtiririko Mtayarisho)

Matayarisho

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Jibu

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a) Kwa kutumia maneno 75-80, bainisha masuala ambayo mwandishi anaibua katika aya tatu za mwisho. (alama 7,1 mtiririko) (Alama 8)

Matayarisho

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Jibu

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3. MATUMIZI YA LUGHA(Alama 40)

a. Andika sifa mbili mbili za sauti zifuatazo. (alama 2)
(i). /e/

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(ii). /ch/

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b). Unda maneno yenye muundo ufuatao wa sauti. (Alama 2)
KIKIKI……..

IKKI……

c). Onyesha miundo miwili ya nomino katika ngeli ya U-ZI (alama 2)

……

……..

d). Tunga sentensi moja moja kuonyesha matumizi ya viakifishi vifuatavyo. (alama.2)
i). Vifungo ……

ii). Kibainishi ……..

e). Bainisha aina za virai vilivyopigiwa mstari (alama 2)
Mhadhara huo tata ulitolewa jana jioni.

……

f). Andika sentensi ifuatayo katika ukubwa. (Alama 2)

Ndege hao wana manyoya mengi

……

……

g). Andika visawe vya maneno yafuatayo. (Alama 2)

i). Doa

……

ii). Omba

……

(h) Tunga sentensi moja kutofautisha maana ya riti na ridhi (Alama 2)

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i). Bainisha silabi katika neno (Alama 1)
Wanyweshavyo

……

j). Bainisha kiima na chagizo katika sentensi ifuatayo (alama.2)

Mwenyewe alikipenda kwa dhati

……

……

……

k). Tumia kielezi cha kiasi badala ya kile kilichopigiwa mstari. (alama.2)

Msichana yule alizungumza <u>kitausi.</u>

……

……

l). Geuza sentensi ifuatayo katika usemi halisi (alama.2)

safina alimwambia Asha kuwa angetembelea wazazi wao siku hiyo jioni.

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m). Changanua sentensi ifuatayo kwa kielelezo cha matawi (Alama 3)
Mvua kubwa inayonyesha itasababisha mafuriko.

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n). Kanusha sentensi ifuatayo kwa wakati ujao hali ya kuendelea (Alama 2)
Walimu wanafunza

……

……

o). Andika upya setensi ifuatayo wa kuzingatia kauli iliyowekwa katika mabano (Alama 2)
yeye ni bahili itakuwa vigumu kumkopesha pesa. (kutendesheka)

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(p) Tunga sentensi mbili kuonyesha matumizi mawili tofauti ya ‘na’ (alama 2)

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q). Andika sentensi ifuatayo upya ukianzia yambwa tendewa (alama.2)
kirwa alimjengea mama huyo nyumba kwa mawe

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r). Ainisha vishazi katika sentesi ifuatayo. (alama 2)
ingawa alitia bidi masomoni,alifeli mtihani.

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s). Andika sentensi upya ukitumia vinyume vya maneno yaliyopigiwa mstari. (Alama 2)

Mama <u>alijitwika</u> kikapu mgongoni baada ya <u>kuinjika</u> chungu mekoni.

……

……

t). Andika sentensi zifuatazo upya kwa kufuata maagizo uliyopewa.

i). umekuja (alama 2)

ii) Tumefurahi sana (unganisha sentensi hizi kwa kuanza na kuja…….)

……

……

……

<u>ISIMU JAMII (Alama 10)</u>

“Mwite mhandisi aukarabati mtambo huo”

(a). Taja sajili inayorejelewa hapo juu. (Alama 2)

……

……

(b). Fafanua sifa zozote nne za sajili uliyoichagua (Alama 8)

……

……

MTHIHANI WA MWISHO WA MWAKA
KISWAHILI
KIDATO CHA 3 KARATASI YA 3
Muda: Saa 2 Dak 30

JINA_____ Nambari: _____
Sahihi: _____
Tarehe: _____

MAAGIZO:
1.Jibu maswali MANNE Pekee.
2.Swali la kwanza ni la lazima.
3.Maswali mengine yachaguliwe kutoka sehemu zilizobaki.
4.Usijibu maswali mawili kutoka sehemu moja.
5.Kila swali lina alama ishirini

1.SEHEMU A: USHAIRI (LAZIMA)

Eti
Mimi niondoke hapa
Niondoke hapa kwangu
Nimesaki, licha ya risasi
Vitisho na mauaji, siondoki

Mimi

Siondoki
Siondoki siondoki
Niondoke hapa kwangu!
Kwa mateke hata na mikuki
Marungu na bunduki, siondoki

Hapa
Siondoki
Mimi ni Pahame!
Niondoke hapa kwangu!
Fujo na ghasia zikizuka
Na kani ya waporaji, siondoki

Haki
Siondoki
Kwangu siondoki
Niondoke hapa kwangu!
Nawaje; waje wanaokuja
Mabepari wadhalimu, siondoki

Kamwe
Siondoki
Ng'oo hapa kwangu!
Katizame chini mti ule!
Walizikwa babu zangu, siondoki

Sendi
Nende wapi?
Si hapa kitovu changu
Niondoke hapa kwangu
Wangawa na vijikaratasi
Si kwamba hapa si kwangu, siondoki

Katu
Siondoki
Sihitaji karatasi
Niondoke hapa kwangu
Yangu mimi ni ardhi hii
Wala si makaratasi, siondoki

Maswali

a) Shairi hili ni la aina gani? Kwa nini (alama 2)

b) Taja masaibu anayopitia mzungumzaji (alama 4)

c) Eleza toni ya shairi hili (alama 2)

d) Eleza muundo wa shairi hili (alama 3)

e) Tambua matumizi ya mbinu ya usambamba (alama 2)

f) Andika ubeti wa tano kwa lugha nathari (alama 4)
g) Tambua idhini moja ya mtunzi (alama 1)
h) Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi (alama 3)
(i) Karatasi
(ii) Nimesaki
(iii)kitovu

2SEHEMU B TAMTHILIA YA KIGOGO

2.Uliona nini kwa huyo zebe wako ? Eti mapenzi!
a. Eleza muktadha wa dondoo. (al. 4)
b. Andika mbinu za lugha zinazojitokeza kwenye dondoo hili (al. 4)
c. Taja hulka za mnenaji unajitokeza katika dondoo. (al. 2)
d. Mwanamke ni kiumbe wa kukandamizwa. Thibitisha kauli hii ukirekjelea tamthilia. (al. 10)

3.wa kurejelea tamthlia ya 'Kigogo ya Pauline Kea, onyesha jinsi ambavyo viongozi wengi katika nchi za kiafrika wamejawa na tamaa. (alama 20)

SEHEMUC.RIWAYA YA CHOZI LA HERI(ASSUMPTA MATEI)

4.“ Kwa kweli ni hali ngumu hii”
Weka dondoo katika muktadha wake. (alama4)
Ni hali gani yamsemewa inayorejelewa kwenye dondoo. (alama16)

5) Ukabila ni tatizo sugu katika nchi nyingi za Kiafrika. Tetea kauli hii ukilejelea Chozi la Heri
(al. 20)

Alifa Chokocho na Dumu Kayanda: Tumbo Lisiloshiba na Hadithi nyingine
jibu swali la 6 au la 7

6.Ukirejelea hadithi zifuatazo, eleza jinsi maudhui ya mapenzi na asasi ya ndoa yanavyojitokeza.
(alama20

a) Mapenzi ya kifaurongo
b) Masharti ya kisasa
c) Ndoto ya Mashaka
d) Mtihani wa maisha
Au

Shibe inatumaliza : Salma Omar Hamad

7.“Hiyo ni dharau ndugu yangu. Kwa nini kila siku tunakula sisi kwa niaba ya wengine ?”
a) Eleza muktadha wa dondoo hili. (alama 4)
b)Eleza sifa za msemaji. (alama 6)
c) Eleza jinsi viongozi wanavyokuwa wabadhirifu. (alama 10)

SEHEMU YA E: FASIHI SIMULIZI

8a) Fafanua mchakato/fomula ya uwasilishaji wa vitendawili. (alama4)

b) Linganisha naulinganue vitendawili na methali. (alama10)

c) Toa sababu sita za kudidimia kwa fasihi simulizi. (alama6)

END YEAR EXAM 2022

BIOLOGY

FORM 3 PAPER 1

Time: 2 Hours

NAME……ADM NO. ……

CLASS……..……DATE……

Instructions to candidates

(a) Write your name and index number in the spaces provided above
(b) Sign and write the date of examination in the spaces provided above
(c) Answer **ALL** the questions in the spaces provided
(d) This paper consists of 9 printed pages.
(e) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

For Examiner's Use Only

Questions	Maximum Score	Candidates Score
1-26	80	

1. a)State two characteristics that are specific to plants (2mks)

.....

.....

b) Name **three** mechanisms that ensure cross pollination takes place in flowering plants. (3mks)

……

……

……..

2. a) State **two** differences between complete and incomplete metamorphosis. (2mks)

……

……

b) State the importance of moulting to an insect. (2mks)

.....

.....

3. A student collected an organism and observed the following features: simple eyes, four pairs of legs and two body parts.
   a) State the class to which the organism belongs. (1 mark)

   ……..

   b) Give an example of an organism in this class. (1 mark)

   …….

   c) Name the kingdom to which plasmodium belongs (1 mark)

   …….

4. Name the **three** end products of anaerobic respiration in plants. (3 marks)

……

……

…….

5. State **two** reasons why accumulation of lactic acid leads to an increase in heart beat. (2 marks)

……

……

6. Name the flower parts that produces gametes. (2 marks)

……

……

7. What is meant by the following terms? (2 marks)

(a) Ecology

……

……

(b) Carrying capacity

……

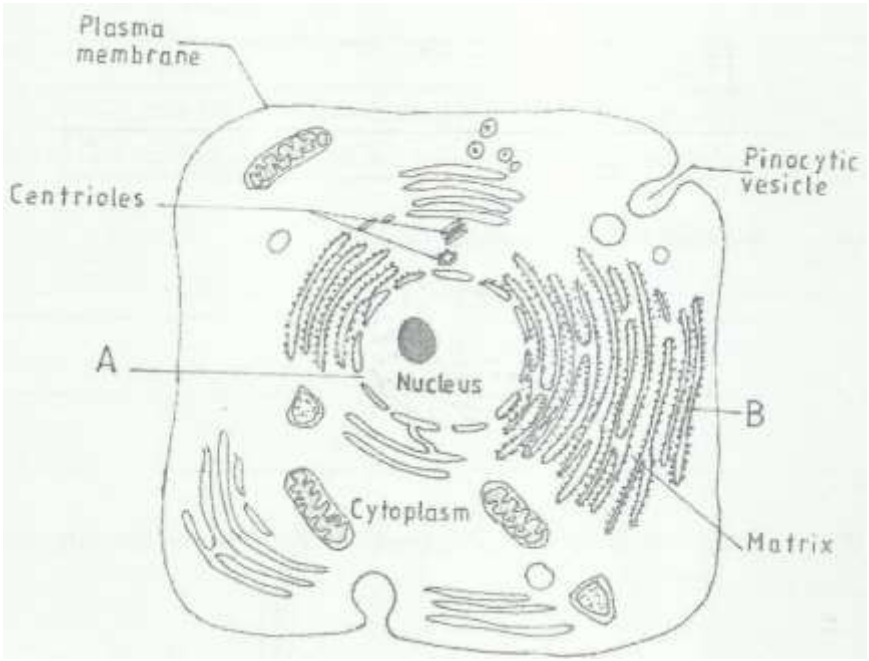
……

8. How is the human sperm cell structurally adapted? (2 marks)

……

……

9. The figure below is a fine structure of a generalized animal cell as seen under an electron microscope.



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

A……

B……

(b) How is the structure labeled B adapted to its function? (2 marks)

……

……..

10. What name is given to a group of hormones that controls the development of secondary sexual characteristics in a human male? (1 mark)

……

11. Name two substances that leave the foetal blood through the placenta (2 marks)

……

……

12. Name two nutrients that are absorbed without being digested by enzymes in humans.(2 marks)

……

……...

13. State one use for each of the following apparatus in the study of living organisms. (2 marks)

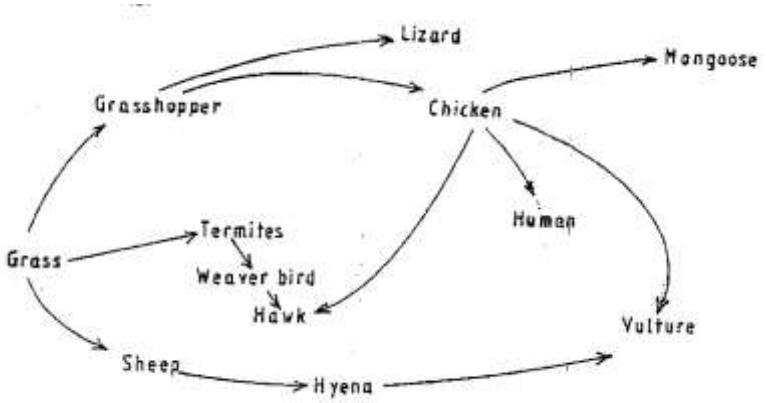
(a) Pooter

……

(b) Pitfall trap

……..

14. The figure below illustrates a food web in a certain ecosystem.



From the food web:

(a) Draw the shortest food chain; (2 marks)

(b) Identify the organisms with the highest

(i) Number of predators (1 mark)

……

(ii) Biomass (1 mark)

……..

15. State two functions of the following parts of a light microscope.

a) Fine adjustment knob (2 marks)

……

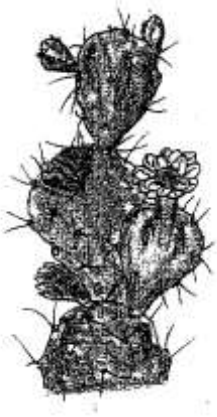
……

b) Stage (2 marks)

……

……..

16. The diagram below represents a certain plant.



(a) What is the likely habitant of the plant? (1 mark)

……

(b) Give two reasons for your answer in (a) above. (2 marks)

……

……

17. The number of stomata on the lower and upper surface of two leaves from plant **X** and **Y** were counted under the field of view of a light microscope. The results were as shown in the table below.

Leaf	Number of stomata	
	Upper surface	Lower surface
X	4	12
Y	20	23

(a) Which of the leaves would be expected to have a lower rate of transpiration? (1 mark)

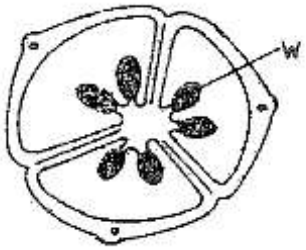
……

(b) Given a reason for your answer in (a) above (2 marks)

……

……

18. The diagram below represents a transverse section of an ovary from a certain flower.



(a) (i) Name the structure labeled W (1 mark)

……

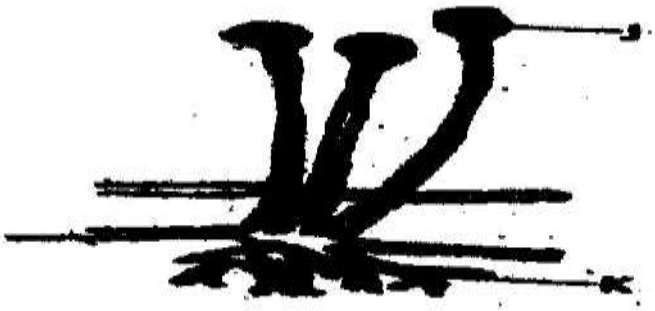
(ii) Name the type of placentation illustrated in this diagram. (1 mark)

……..

(b) Give an example of a fruit that show the type of placentation illustrated in this diagram. (1 mark)

……

19. The diagram below illustrates the structure of bread mould.



a) Name the part labeled **J** (1 mark)

……

b) State the function of the structure labeled **K** (2 marks)

……

……

20. What is meant by the following term?

a) Habitat; (1 mark)

……

b) Ecosystem (1 mark)

……

21. State two ways by which acquired Immune deficiency syndrome (A.I.D.S) Virus is transmitted.
(2 mks)

……

……..

22. Figures 1 and 2 below represent reproductive organ of plants and an animal respectively.

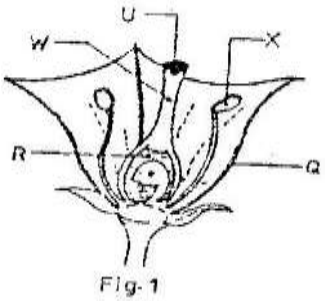


Fig. 1

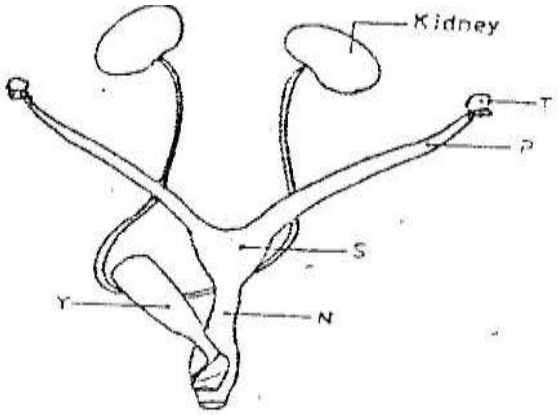


Fig 2

(a) Which letters in figures 1 and 2 represents the organs that produce female gametes? (2mks)

Figure 1…….

Figure 2……

(b) What is the function of the structure labeled S? (2mks)

……

……

(c) Name the structure labeled W (1mk)

……

(d) Which letters in figures 1 and 2 represents the structures where fertilization takes place (2mks)

.....

.....

(e) Which letter in figure 1 represents the structure where male gametes are produced (1mk)

.....

23. What is the function of the following structures in the human reproductive organ?
a) Fallopian tubes. (2 mark)

……

……

b) Epididymis (1 mark)

……

……

c) Scrotal sac (2 mark)

……

……

24. State any **three** fruit and seed dispersal mechanisms (3mks)

……

……

……

25. A student observing a leg of an insect under a hand lens made a drawing of the leg whose length was 4cm a width magnification of X2.what was the actual length of the leg? (3mks)

……

……

……..

26. Give two reasons why mitosis is important to organisms. (2mks)

……

……

……

END YEAR EXAM 2022
BIOLOGY
FORM 3 PAPER 2
Time: 2 Hours

Name:……. Index Number:….. …….……..……

Adm. No…….. Class: …….. Candidate's Signature: …….

Date: ……..

Instructions To Candidates

- *Write **your name** and **Index number** in the spaces provided above.*
- ***Sign** and write the **date** of the examination the spaces provided above.*
- *This paper consists of **two** sections: A and B.*
- *Answer **ALL** the 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 after question 8.*

FOR EXAMINER'S USE ONLY

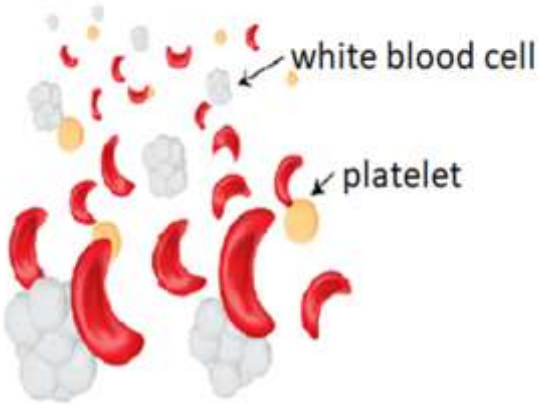
Section	Question	Maximum score	Candidate's score
A	1		
	2		
	3		
	4		
	5		
B	6		
	7	20	
	8	20	
TOTAL SCORE		**80**	

SECTION A: (40 MARKS)

Answer all questions in the spaces provided.

1. The diagrams below show samples of blood obtained from two different persons A and B.

PERSON A



PERSON B

a) What genetic disorder is person B suffering from? (1 mark)

……

……

b) State **one** advantage and **one** disadvantage of the disorder exhibited in person A (2 mark)

……

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……

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c) Work out the genotypes and phenotypes of the resulting offsprings of a marriage between person A and person B (5 marks)

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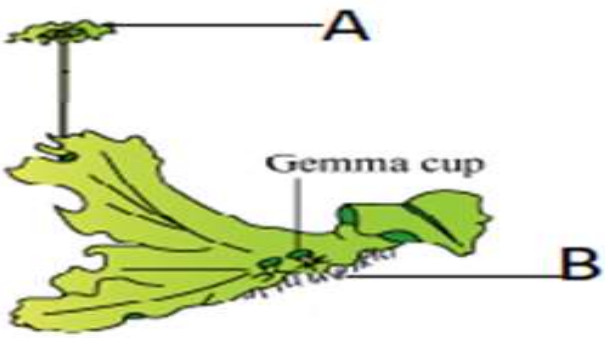
2. Study the diagram below and answer the questions that follow.



a) Name the division to which the organism belongs giving two reasons for your answer (3 marks)

Division: ……

……

Reasons...……

……

b) Name the function of the parts labelled

A …… (1 mark)

B …… (1 mark)

c) State **three** differences between the process of fertilization in the above named division and in a flowering plant. (3 marks)

……

……

……

……

……

3. A biologist carried out a study to investigate the growth of a certain species of herbivorous fish and the factors influencing plant and animal life in four lakes A, B, C and D. The lakes were located in the same geographical area.
Two of the lakes A and B were found to contain hard water due to the presence of high content of calcium salts. The mean body length of 2 year old fish, amount of plant life and invertebrates biomass in each lake were determined. The data was as shown in the table below.

Lakes	Means of body length (cm)	Type of water	Amount of plant life	Invertebrate biomas g/cm^3			
				Insects	Snails	Crabs	Worms
A	31.2	Hard	1050	11	300	10	180
B	28.6	Hard	950	72	100	9	90
C	18.4	Soft	1.2	79	0	2	20
D	16.3	Soft	0.5	99	0	1	10

a) Describe the procedure that may have been used to determine the mean body length of the fish. (4 marks)

……

……

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b) What are the likely reasons for the difference in mean body length of the fish living in lakes A and D? (2 marks)

……

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c) Explain why primary producers have a higher biomass (2 marks)

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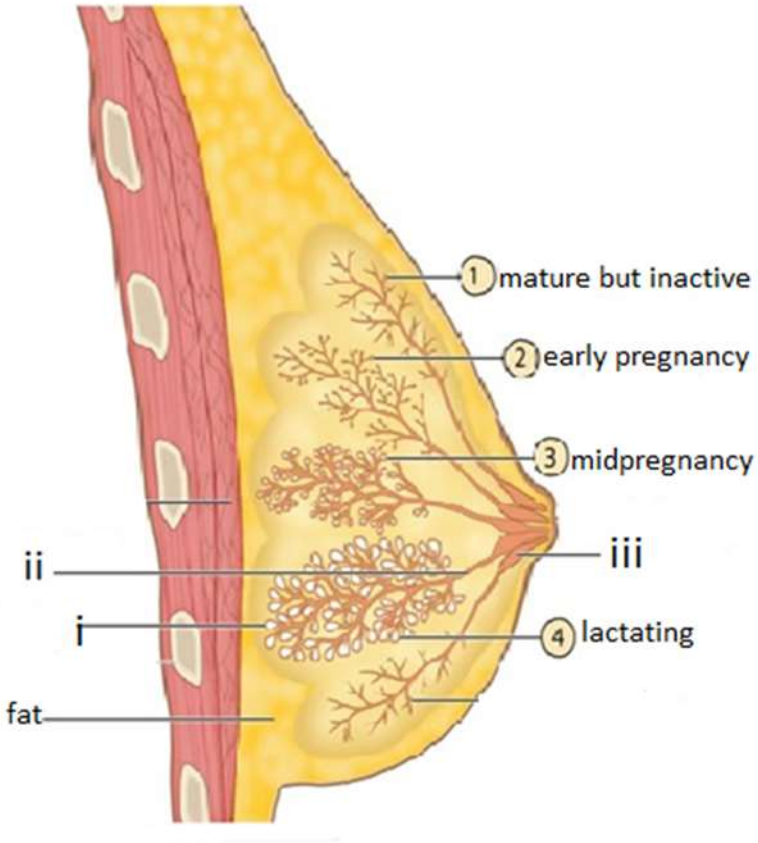
4. The diagram below is a section from the mammalian body. Study and use it to answer the questions that follow.



a) Name the parts labelled;

(i)…… (1 mark)

(ii)…… (1 mark)

(iii)…… (1 mark)

b) Describe the process of milk letdown (5 marks)

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5. (i)In an experiment, food sample A was respired by an organism and the gaseous product was directed into a test tube containing calcium hydroxide solution through a glass capillary tube.
The same experiment was repeated using the same amount of food sample B. It was noted that it takes 15 minutes for the gaseous product of food sample A to turn calcium hydroxide solution white and 50 minutes by gaseous product of food sample B to do the same.

a) Suggest with a reason, the possible identity of food sample A and B (4 marks)

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b) Suggest the possible identity of the gaseous product of food samples A and B. (1 mark)

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ii) Explain how anaerobic respiration has been applied in making of beer and wines. (3 marks)

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SECTION B: (40 MARKS)

Answer question 6 (COMPULSORY) in the spaces provided and either question 7 or 8

6. The table below shows results of an experiment in which small pieces of tradescantia stems were placed in different salt concentrations. After 6 hours they were removed from the solutions, wiped to dry and weighed. The results are as shown below. Study the table and answer the questions that follow.

Salt concentration (mg)	Percentage change in weight
2.5	+11
5.0	+8
7.5	+5
10.0	+3
12.5	+2
15.0	+1
17.5	-2
20.0	-8
22.5	-9.5
25.0	-11

a) i) Draw a graph of the percentage change in weight against salt concentration. (6 marks)

ii) From the graph determine the salt concentration that is equal to the concentration of the tradescantia cell sap. (1 mark)

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b) Account for the following changes in the weight.

(i) Percentage positive change (4marks)

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(ii) Percentage negative change (3 marks)

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c) Briefly describe how the above physiological process brings about upright posture in seedlings (3 marks)

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d)i) Define the physiological process in (c) above (1 mark)

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ii) State any **two** differences between the physiological process above and the physiological process that root hairs use to absorb mineral salts from a soil solution that is hypertonic to their cell saps (2 marks)

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7. a) Explain the biological importance of abiotic factors in seed germination. (12 marks)
b) Explain the following evidences of organic evolution.
(i) Comparative anatomy (5 marks)
(ii) Geographical distribution (3 marks)

8. In terms of homeostatic balance in the body, describe the function of the following body systems in regulation of blood sugar level. (20 marks)
a) Digestive system
b) Circulatory system
c) Respiratory system
d) Nervous system
e) Hormonal system

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END YEAR EXAM 2022

BIOLOGY FORM 3 PAPER 3

CONFIDENTIAL

Confidential BIO FM 4 PP3

1. A mature pea pod.
2. Mortar and pestle
3. Distilled water
4. A small beaker
5. 3 test tubes
6. Test tube holder
7. Benedict's solution
8. Iodine solution
9. 1% copper (II) Sulphate
10. 10% Sodium Hydroxide
11. Means of heating

END YEAR EXAM 2022

BIOLOGY

FORM 3 PAPER 3

Time: 1 Hour 45 Mins

NAME ……ADM. NO ……CLASS:……..

DATE……..

Instruction to Candidates

- Write your Name, Adm. No., Class and Date in the spaces provided
- Answer all the questions
- You are required to spend the first 15 minutes of the $1^{3}/_{4}$Hrs allowed for this paper reading the whole paper carefully before commencing your work
- Answers must be written in the spaces provided in the question paper. Additional Pages must not be inserted.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 2 3	16 8 16	
TOTAL SCORE	**40**	

1. You are provided with specimen labelled F. Examine the specimen.
   a) With reasons state the type of fruit specimen F is. (1mk)

Reason (1mk)

b) Carefully open specimen F to expose it's contents

i) State the type of placentation in the specimen. (1mk)

ii) Draw and label the opened specimen. (5mks)

iii) Work out your magnification. (2mks)

c) Remove the seeds and crush them using a mortar and pestle to make a paste. Add alittle water to make about 10ml solution of the paste.

Using the reagents provided test for the food substances present in the juice. Record the food substances being tested, procedures, observation and conclusion in the table below. (6marks)

SUBSTANCE BEING TESTED	EDURE	RVATION	LUSION

2.Identify the specimens in the photograph using the key and outline the steps followed to identify each specimen. (8mks)

A

B

C

D

E

F

G

H

1. (a) Animals with a backbone ……. Go to 2
(b) Animals without a backbone ……. Go to 5
2. (a) Animals with wings…….……..... Eagle
(b) Animals without wings …… go to 3

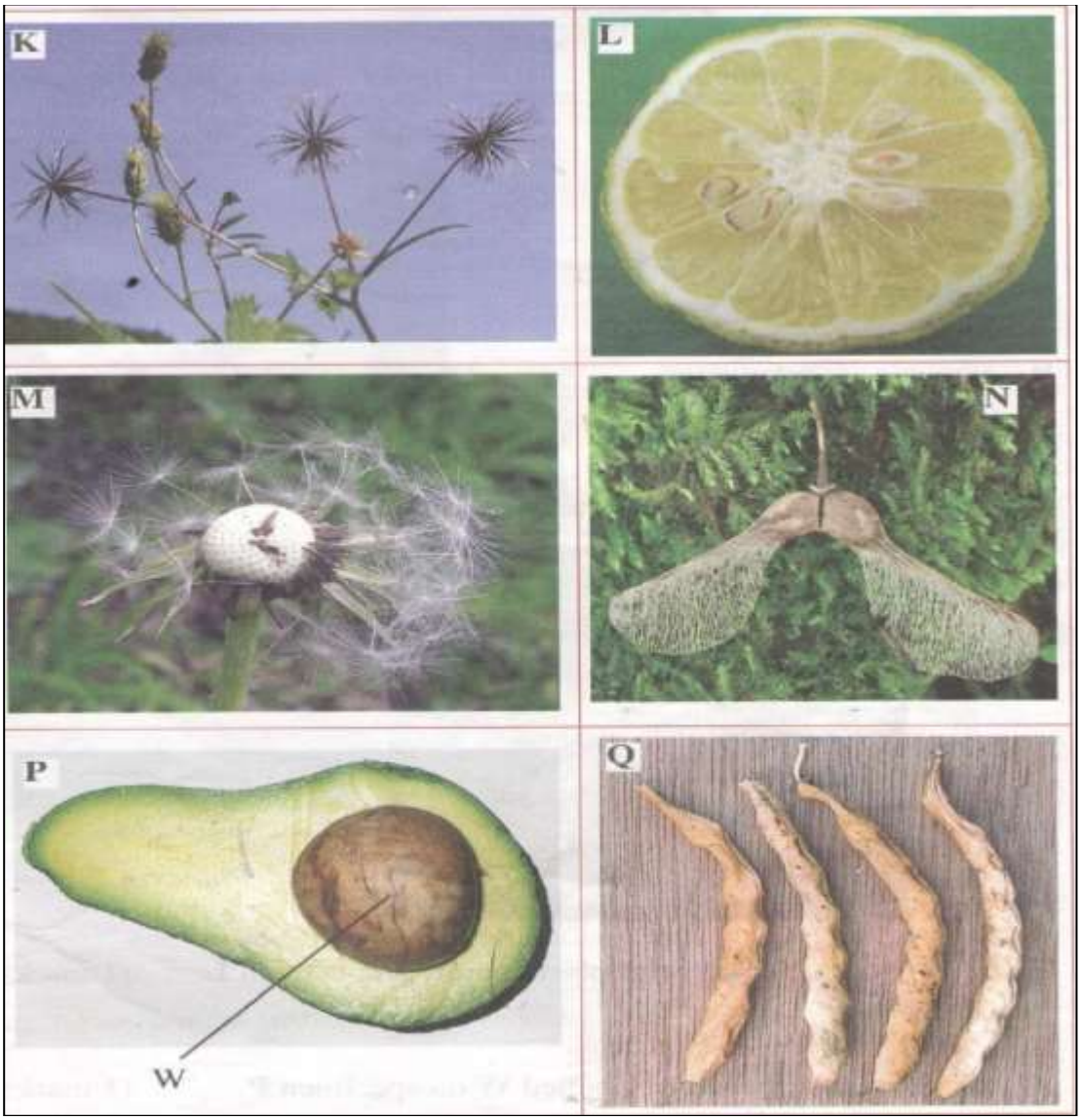
3. (a) Animals which live in water all the time…… go to 4

(b) Animals which live in water some time…….. Frog

4. (a) Animals with fins …… Fish
   (b) Animals without fins …….. Turtle
5. (a) Animals with legs ……. Go to 6
   (b) Animals without legs …… go to 7
6. (a) Animals with six legs ……... Butterfly
   (b) Animals with eight legs ……. Spider
7. (a) Animals with a shell……. Snail
   (b) Animals without a shell…….. go to 8
8. (a) Animals with a jelly-like body …… go to 9
   (b) Animals without a jelly-like body ……... Starfish
9. (a) Animals with a segmented body …….. Earthworm
   (b) Animals without a segmented body ……. Octopus

SPECIMEN	STEP FOLLOWED	IDENTIFY
A		
B		
C		
D		
E		
F		
G		
H		

3. Below are photographs of specimens obtained from plants. Examine the photographs.



a) In the table below name the mode of dispersal and the features that adapt the specimens(s) to that mode of dispersal. (12marks)

Specimen	Mode of dispersal	Adaptive feature
K		
L		
M		
N		
P		
Q		

b) i) Label any two parts on specimen (L (on the diagram) (2mks)
ii) State the type of placentation in specimen L. (1mk)

c. Name the structure labelled W on specimen P. (1mark)

END YEAR EXAM 2022

CHEMISTRY

FORM 3 PAPER 1

Time: 2 Hours

NAME_____**ADM.NO.**_____

Instructions to Candidates

a) Write your name and admission number in the spaces provided.

b) Answer ALL the questions in the spaces provided.

c) Mathematical tables and silent electronic calculators may be used.

d) All working MUST be clearly shown where necessary.

e) All questions should be answered in English.

For Examiner's Use only

Question	Maximum Score	Candidate's Score
1 – 28	80	

1. a) What role do the following parts play during fractional distillation of water and ethanol?
   i) The fractionating column. (1mark)

   ii) The glass beads (1mark)

b)State one application of fractional distillation. (1mark)

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

Ion	Electron Arrangement
R^{2+}	2.8.8
S^{2-}	2.8

a) Write the electron arrangement of each atom.
R ……..……. (½ mark)

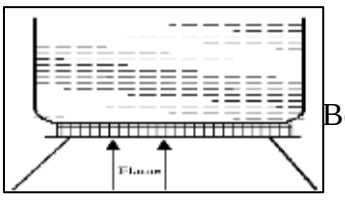
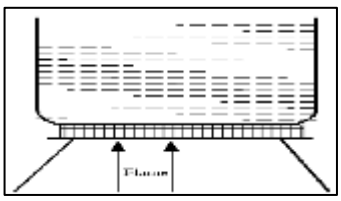
S …… (½ mark)

b) Write the formula of the oxide of R and Chloride of S
Oxide of R (1mark)

Chloride of S (1mark)

3. When 5.35g of Sodium Nitrate were heated in an open crucible, the mass of oxygen produced was 0.83g. given that the equation for the reaction is:-
$2NaNO_{3(s)} \longrightarrow 2NaNO_{2(s)} + O_{2(g)}$
Calculate the percentage of Sodium Nitrate that was converted to sodium nitrite. (3marks)
(Na=23, O=16, N = 14)

4. Equal volumes of water put in $100cm^3$ glass beaker and heated for 5 minutes using Bunsen flames. It was observed that water in beaker A registered higher temperature than beaker B.

Beaker A  Beaker B 

a) Name the kind of flame used in beaker; A (1mark)

b) State the condition under which flame that heated B was produced. (1mark)

5. Silver chloride can be prepared in the laboratory by the reaction between potassium chloride and silver nitrate.

a) What name is given to this method of reaction? (1mark)

b) Write an ionic equation for the reaction that occurs. (1mark)

6. During heating of hydrated copper (II) sulphate crystals, the following readings were obtained:-
Mass of evaporating dish = 300g
Mass of evaporating dish + hydrated salt = 305g
Mass of evaporating dish + dehydrated salt = 303.2g
Calculate the empirical formula of hydrated copper (II) sulphate.
(Cu = 64.5, S = 32.0, O= 16.0, H = 1) (3marks)

7. A seed catalogue that the preferred soil pH range for the growth of different varieties of a crop are as shown in the table.

Type of plant	Preferred pH
A	4.5 – 6.0
B	5.0 – 7.5
C	5.5 – 6.5
D	6.0 – 6.5

a) Which seed variety will grow over the largest pH range. (1mark)

b) What soil pH range will a gardener be able to grow all these crops (1mark)

c) The soil in a garden has a pH of 4.5, which substance can be added to the soil in order to grow plant type D? explain (2marks)

8. Using dot (.) and cross (x) diagram, show bonding in the compound Ammonium ion (NH^{+}_{4}).

(N= 14, H = 1) (2marks)

9.

a) State Graham's Law of diffusion. (1mark)

b) 200cm^3 of oxygen gas take 250seconds to diffuse through a porous plug. Under similar conditions, an equal volume of an unknown gas take 277 seconds to diffuse through the same porous plug. Calculate the relative molecular mass of the unknown gas. (3marks)

c) Give two products formed when a candle burns.
(1mark)

d) From the above products; which elements make up a candle?
(1mark)

10. Explain how the following substances conduct an electric current.

a) Magnesium metal. (1mark)

b) Molten magnesium chloride (1mark)

11. The molar mass of a gaseous compound XO_2 is 64 $gmol^{-1}$. A sample of this gas occupied 11.2dm^3 at s.t.p.molar gas volume =22.4dm^3.find

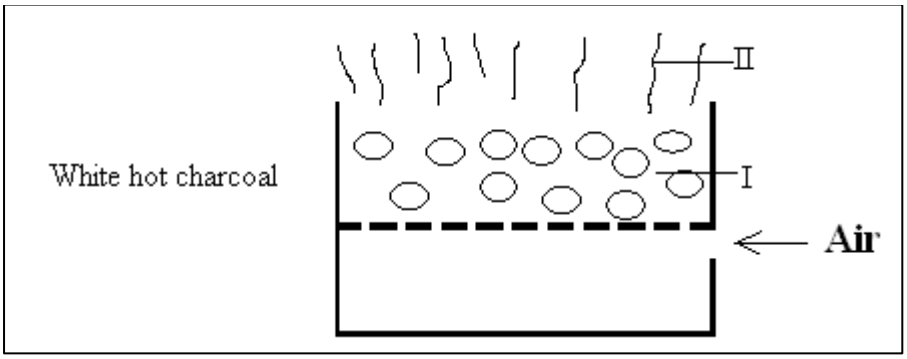
a) The number of moles of this gas. (2marks)

b) The amount in grams that occupied the above volume. (2marks)

12. Classify the following processes as either chemical or physical. (3marks)

a) Heating copper (II) sulphate crystals	
b) Obtaining kerosene from crude oil	
c) Souring of milk	

13. The diagram below represents a charcoal burner. Study it and answer the questions that follow;



Write equations for the reactions taking place in part I and II.

I (1mark)

II (1mark)

14. When a mixture of iron filings and sulphur are heated, a red glow spreads through the mixture and a dark grey solid was formed.

a) Identify the dark grey solid formed. (1mark)

b) Write a chemical equation in which the dark grey solid is formed. (1mark)

c) What observation can be made when dark grey solid reacts with dilute hydrochloric acid. (1mark)

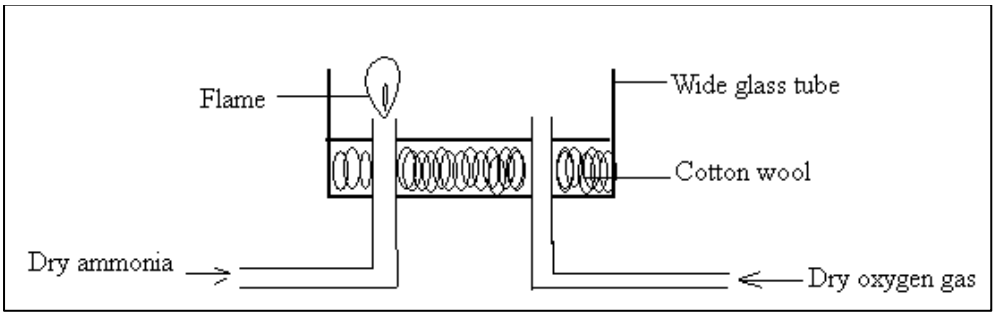
15. The table below shows isotopes and their percentage abundances.

Isotope	A	B	C
Isotope mass	54	56	57
Percentage abundances	6.0	92.0	2.0

Calculate the relative atomic mass of the element with the above isotopes. (3marks)

16. Metal R does not react with an oxide of metal S. Metal T reacts with an oxide of metal S. metal Q reacts with an oxide of T. Arrange the metals in increasing order of reactivity. (2marks)

17. An experiment was set up as shown below.



a) A student passed dry ammonia gas into the glass tube and tried to ignite the gas before allowing oxygen gas. What observation was made? (1mark)

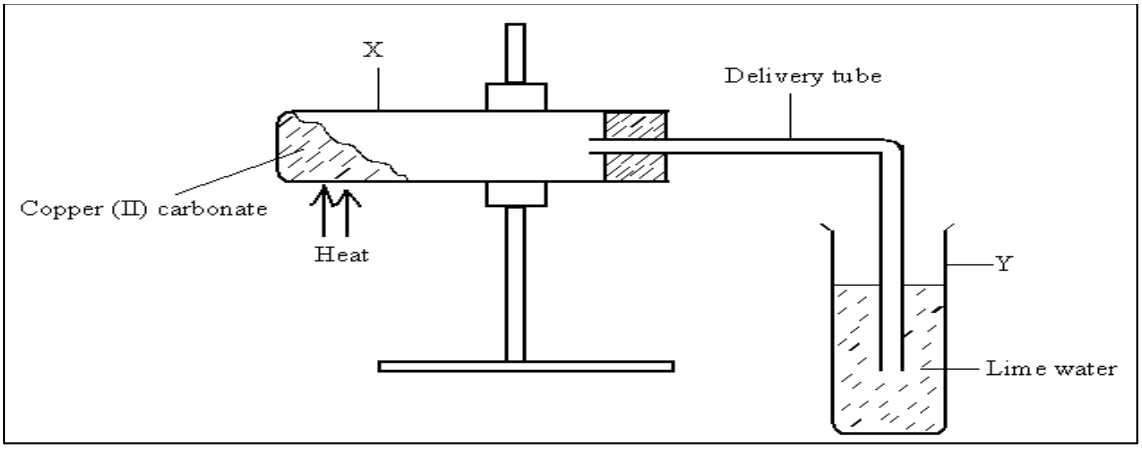
b) Write the equation for the reaction above (1mark)

18. (a) Complete the table below to show pairs of substances used to prepare oxygen. (2marks)

Hydrogen peroxide	
ii)	Sodium peroxide

(b)State the importance of oxygen in cutting metals. (1mark)

19. The diagram below illustrates an experiment set up to investigate the effect of heat on copper (II) carbonate. Study it and answer the questions that follow.



i) Give the expected observation in each test tube.

X ..... (1mark)

Y ..... (1mark)

ii) Write an equation for the change that occurs in tube X (1mark)

20.

a) State one way in which the strength of a base or an acid can be determined in the laboratory. (1mark)

b) Give the basicity of the following acids:-

i) Sulphuric (VI) acid. (1mark)

ii) Phosphoric acid (1mark)

21. An element X is represented as $1840X$ (X = is not the actual symbol of the element)

a) What is the composition of the nucleus for this element? (2marks)

b) Give the electronic arrangement of the element. (1mark)

22. Chlorine gas was bubbled through a solution of potassium iodide in boiling tube.

a) State the observation made. (1mark)

b) Name the oxidizing agent in this reaction. Explain. (2marks)

23. Name the process which take place when:-

a) Iodine changes directly from solid to gas (1mark)

b) Fe^{2+} changes to Fe^{3+} (1mark)

c) White sugar changes to black solid when mixed with excess concentrated sulphuric acid. (1mark)

24. GSTRU and P belong to the same period in the periodic table. The ions formed by the atoms are as below:-
Q^{2+}, U^{-}, T^{2-}, R^{3+}, P^{+}, S^{3-}

i) Arrange the elements in order of decreasing atomic size. (1mark)

ii) Suggest a reason why elements P and Q cannot react with each to form a compound. (1mark)

25. A piece of burning magnesium ribbon was plunged into a gas jar containing sulphur (IV) oxide.

a) What observation was made? (1mark)

b) Write an equation for the reaction taking place. (1mark)

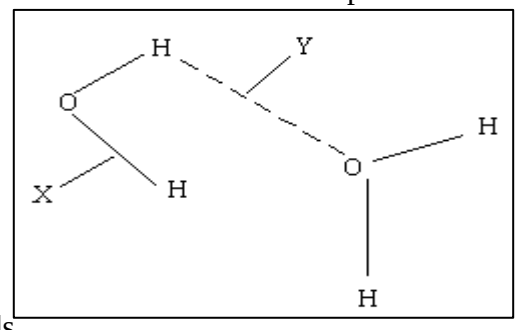
c) What property of sulphur (IV) oxide is investigated above. (1mark)

26.

a) What is paper chromatography? (1mark)

b) Give two applications of chromatography? (2marks)

27. The structure of two molecules of water can be represented as shown below.



Name the type of bonds X and Y

(2marks)

X ……..

Y ……..

28. In an experiment 3.36g of iron fillings were added to excess copper (II) sulphate. Calculate the mass of copper that was deposited. (CU= 63.5, Fe = 56) (3mks)

END YEAR EXAM 2022

CHEMISTRY

FORM 3 PAPER 2

Time: 2 Hours

NAME: _____ ADM NO:_____

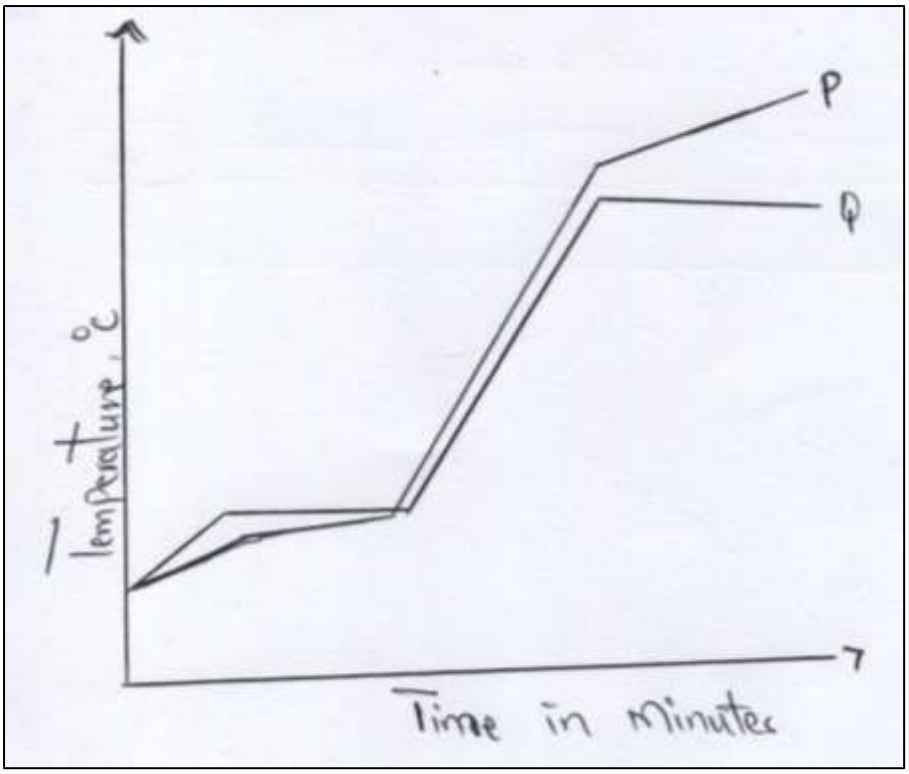
INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided above
2. Electronic calculators may be used.
3. All working must be clearly shown where necessary
4. Answer ALL the questions.

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1	9	
2	10	
3	12	
4	12	
5	13	
6	11	
7	13	
	80MARKS	

1. (a) The curves below represent the variation of temperature with time when pure and impure samples of a solid were heated separately.



(i) (a)Which curve shows the variation in temperature for the pure solid? Explain. (2mks)

……

……

……..

(ii) State the effect of impurities on the melting and boiling points of a pure substance.

I. Melting points (1 mk)

……

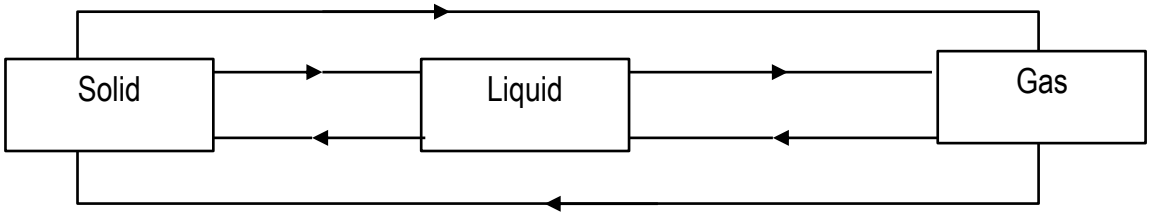
……..

II. Boilling points (1 mk)

……

……..

(b)The diagram below shows the relationship between the physical states of matter.



F

i) Identify the processes B and D. (2mks)

B……

D……..

ii) Name process A (1mk)

……

iii) State two substances in chemistry that undergo the process A (1mk)

……

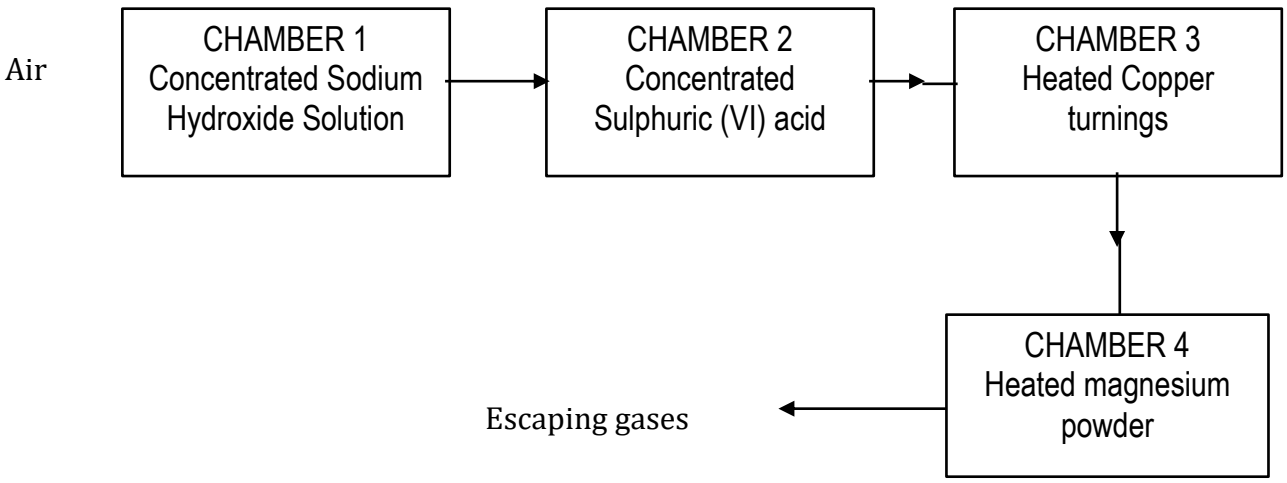
……..

iv) Is the process E exothermic or endothermic? Explain (1mk)

……

……...

2.Air was passed through several reagents as shown below



(a) Name the main inactive component of air (1mk)

……

(b) Name the components of air that are removed in the following chambers (3mks)

I. Chamber 1

……

II. Chamber 3

……

III. Chamber 4

……

C) What is the purpose of passing air through concentrated sulphuric (vi) acid. (1mk)

……

……

d) Write a chemical equation for thereaction which takes place in :-

I. chamber 1 (1mk)

……

II. Chamber4 (1mk)

……

e) State and explain the observation made in chamber 3 during reaction (2mks)

……

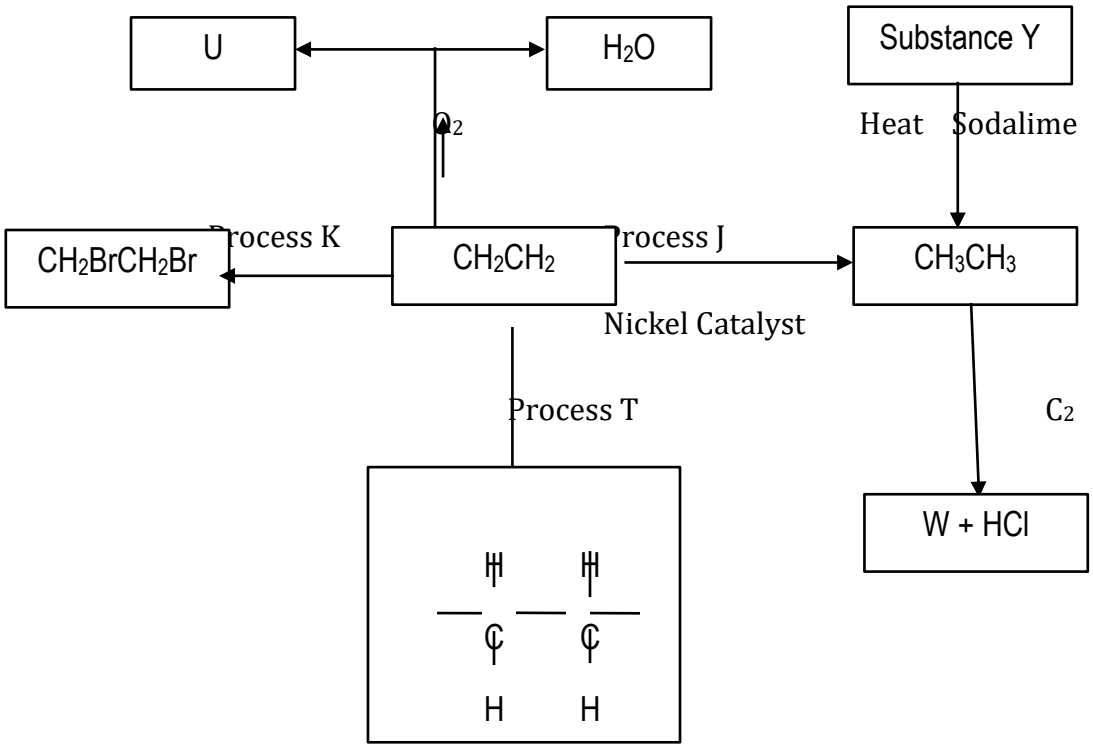
……

f) Name one gas which escapes from the scheme above (1mk)

……

3. (a) Draw and name two isomers of Pentane()

(B) Study the flow diagram below and then answer the questions that follow.



(i) (i) Name process J, K and T (3mks)

J- ……..

K- ……..

T- ……..

(ii) State the reagents necessary for processed J and K (1mk)

(iii)

(iv)

(v)

(vi)

(vii)

……

(viii) Name substances U, W, S and Y (4mks)

U ……..

W ……
S ……
Y ……

C) Describe how burning can distinguish CH_2CH_2 from CH_3CH_3 (2mks)

……
……
……

4. The grid below shows a part of the periodic table. The letters do not represent the actual symbols. Study it and answer the questions that follow.

C								**T**
						U		
X	**K**		**M**			**Q**	**W**	
	Y					**P**		**Z**
J								

a) Identify the elements in period 1 (1mk)

……

b) With a reason, identify the element with the largest atomic radius (2mks)

……
……

c) Draw the atomic structure of element Q (1mks)

d) Write down the electronic configurations of elements Y and W (2mks)

Y- ……
W- ……

e) Element G forms an ion G^{3-} and its ionic configuration 2.8.8. indicate its position on the grid above (1mk)

f) Identify an element whose oxide reacts with both acids and alkalis (1mk)

……

g) i. Write down the chemical formular of the compound formed between elements K and(1mk)

……

ii. Draw the bonding in the compound formed in (g) (i) above using dots (.) and crosses (x) to represent electrons (1mk)

h) Compare the atomic radius elements X and K. Explain (2mks)

……

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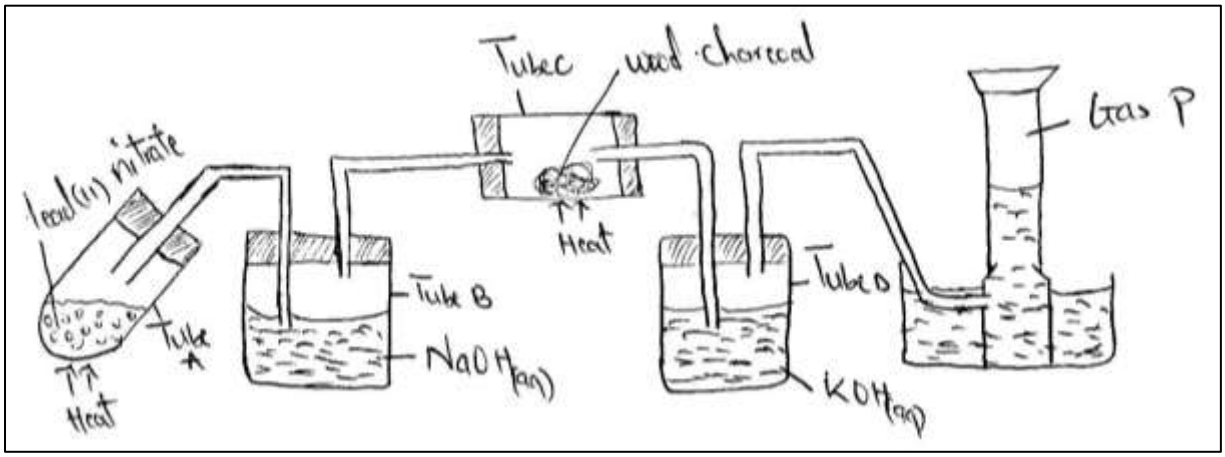
5 (a) Study the diagram below and answer the questions that follow



i) Write a chemical equation for the reaction in tube A (1mk)

……

ii) Name the two salts formed in tube B (1mk)

……

……

iii) State the observation made in tube C (1mk)

……

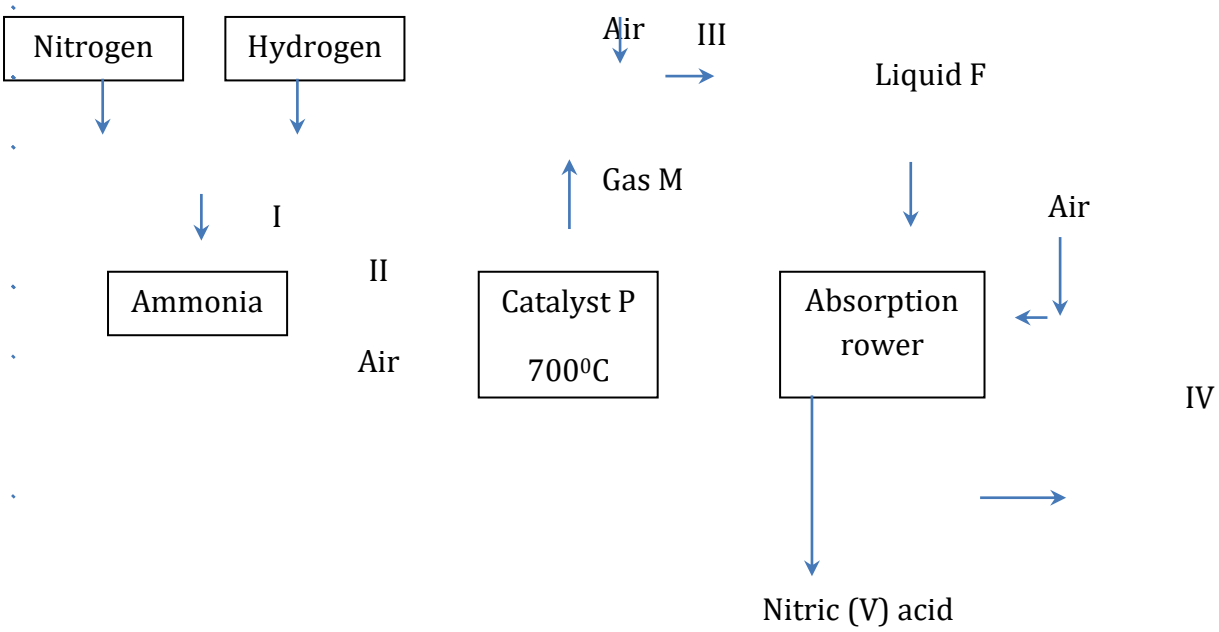
iv) What is the purpose of potassium hydroxide in tube D. (1mk)

……

v) Name gas P (1mk)

……

(b) The flow chart below shows some industrial processes. Use it to answer the questions that follow



(i) Give the source of the following raw materials

a) Nitrogen gas (1mk)

……

b) Hydrogen gas (1 mk)

……

ii) Name the following substances;

a) Catalyst P (1 mk)

……

b) Gas M (1 mk)

……

c) Liquid F (1 mk)

……

iii)Write the chemical equations for; formation of gas M. (1mk)

……

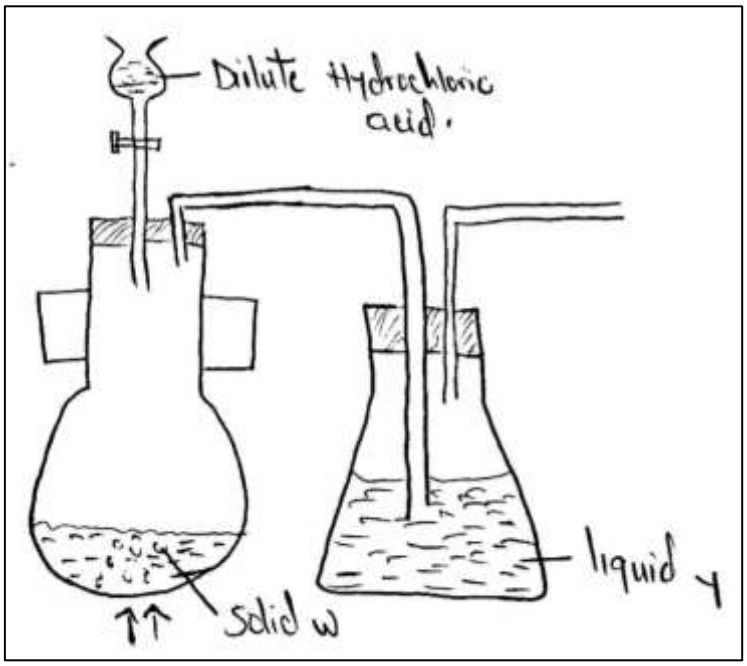
Iv) The reaction in the absorption tower (1mk)

……

v) State one use of nitric (v) acid (1 mk)

……

6. Below is a set of apparatus that was used to obtain a dry sample of sulphur(iv)oxide gas



a) Name;

i) Solid W (1mk)

……

(ii)The apparatus containing dilute hydrochloric acid (1mk)

……

b) State the role of Liquid Y (1mk)

……

C) Complete the diagram to show how the gas could have been collected (1mk)

d) A sample of sulphur(iv)oxide gas was passed through freshly prepared iron(III)sulphate solution. State and explain the observation made (2mks)

……

……

……

e) 50cm^3 of 2M Hydrochloric acid was used during the above experiment. Determine the volume of sulphur(iv)oxide gas produced at r.t.p (molar gas volume = 24dm^3) (3mks)

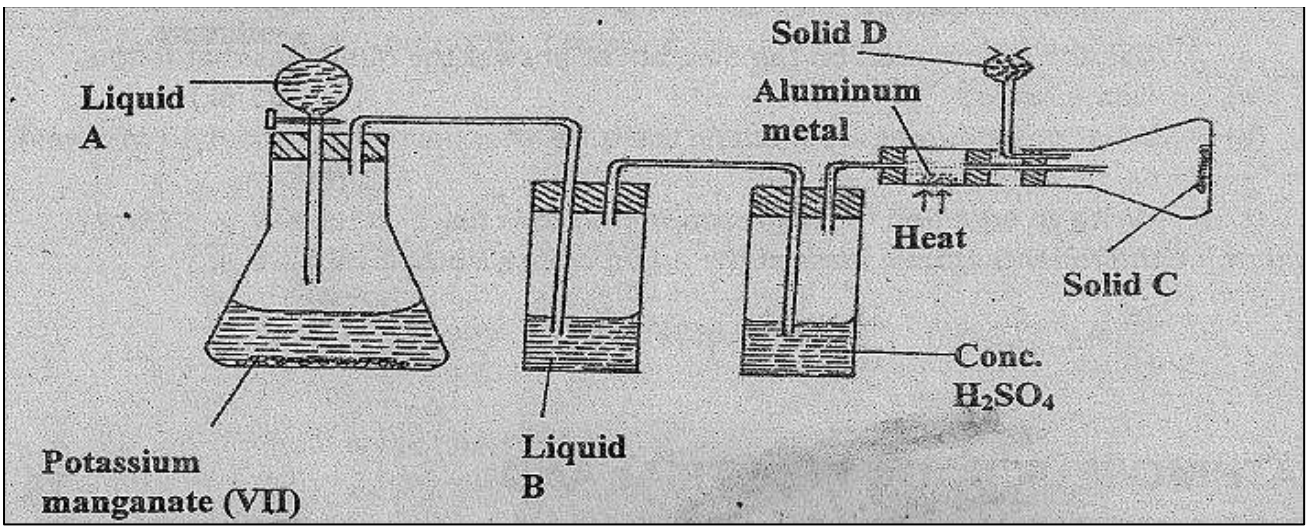
……

……

……

f) Other than manufacture of sulphuric(VI) acid state two other uses of sulphur(IV) oxide. (2mks)

7. Study the diagram below and answer the questions that follow:



(i) Name Liquids A and B

A …… (1mk)

B …… (1mk)

(ii) Solid D can be anhydrous calcium chloride. Suggest another suitable reagent that can be used in place of anhydrous calcium chloride. (1mk)

(iii) State the role of D suggested in (ii) above. (1mk)

(iv) write a balanced equation for the reaction in the conical flask . (1mk)

(v) Explain why solid C collects further away from the heated aluminum metal. (1mk)

(vi) In the combustion tube above 0.675g of aluminum metal reacted completely with 1800cm^3 of chlorine gas at room temperature. Determine the molecular formula of solid C given that its relative formula mass is 267. (Al = 27, Cl = 35.5, Molar gas volume at r.t.p. = 24.0 litres) (3mks)

b) The reaction between hot concentrated sodium hydroxide and chlorine gas produces sodium chlorate (V) as one of the products

(i) give one use of sodium chlorate(V) (1mk)

(ii) Explain the difference between bleaching by chlorine and by sulphur(IV) oxide gas. (1mks)

c) A solution of hydrogen chloride in water reacts with zinc carbonate but a solution of the gas in methylbenzene does not. Explain (2mks)

END YEAR EXAM 2022
FORM 3 CHEMISTRY PAPER 3
CONFIDENTIAL 2021

Each candidate will require the following

1. About 150cm^3 solution H
2. About 100cm^3 solution X
3. About 100cm^3 solution N
4. About 40cm^3 1M sulphuric (VI) acid
5. About 1.0g solid Y
6. About 1.2g solid F
7. One 10ml measuring cylinder
8. One burette
9. One 25ml pipette and pipette filler
10. Two conical flasks
11. Two boiling tubes
12. Four test tubes
13. Glass rod
14. Distilled water

Candidates should have access to the following

1. 2M potassium chloride solution
2. 2M calcium chloride solution
3. 2M Sodium hydroxide solution
4. 2M sodium chloride solution
5. 2M ammonia solution
6. Bromine water
7. Acidified potassium manganate (VII) solution
8. Universal indicator solution
9. PH chart
10. Burner

Supply with droppers

NB: Supply solution 3, 4, 5, 6, 7 and 8 with droppers.

NOTES

1. Solution H is prepared by weighing accurately 1.3g of potassium manganite (VII), dissolve in about 400cm^3 of distilled water and make the solution to 1 litre. The solution should be prepared one day before the practical is taken.
2. Solution N is prepared by dissolving 7.8g of ammonium iron (II) sulphate in 400cm^3 of 1M sulphuric (VI) acid and diluting the solution with distilled water to make 1 litre solution.
3. Solution X is prepared by measuring accurately 5cm^3 of fresh sample of 20 volume hydrogen peroxide, then dilute it with distilled water to make one litre solution.

4. 1M sulphuric (VI0 acid is prepared by measuring accurately 55cm3 of concentrated sulphuric (VI) acid, pour carefully into a beaker containing 400cm3 of distilled water then top up with more distilled water to make 1 litre solution.
5. Solid Y is prepared by mixing equal amounts of aluminium chloride and potassium chloride thoroughly.
6. Solid F is maleic acid.

END YEAR EXAM 2022

CHEMISTRY

FORM 3 PAPER 3

Time: 2 Hours 15 Mins

NAME:……INDEX NO ……..….. DATE ……...…

SCHOOL: ……..…… SIGNATURE……

ADM NO……..…

INSTRUCTIONS TO CANDIDATES

- *Answer all questions in the spaces provided on the question paper*
- *You are not allowed to start working with the apparatus for the 1st fifteen minutes of the time allowed for this paper.This time is to enable you read through the question paper and make sure you have all the chemicals and the apparatus that you may need.*
- *All working must be clearly shown where necessary.*
- *Mathematical tables and electronic calculators may be used*

For Examiners Use Only

Question	Maximum score	Candidate's Score
1	20	
2	11	
3	09	
Total	40	

QUESTION 1 **(20 MARKS)**

You are provided with:

- Solution H which is potassium manganate (VII) solution.
- Solution X which is dilute solution of hydrogen peroxide.
- Solution N which is 0.02M ammonium iron (II) sulphate solution.

You are required to:

i) Standardize solution H using solution N.

ii) Use the standardized solution H to determine the concentration of solution X.

Procedure 1

1. Fill the burette with solution H.
2. Pipette 25cm^3 of solution N and transfer it into a conical flask.
3. Titrate solution N against solution H until a permanent pink colour just appears.
4. Record the results in table 1 below.
5. Repeat the titration two more times to complete the table.

a) Table 1

	I	**II**	**III**
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of solution H used (cm^3)			

(3mks)

b) Determine the average volume of solution H used. (1mk)

c) Calculate;

i) The number of moles of solution N in 25cm^3. (2mks)

ii) The number of moles of solution H that reacted given the equation for the reaction is (2mks)

$MnO_4^-{}_{(aq)} + 5Fe^{2+}{}_{(aq)} + 8H^+{}_{(aq)} \longrightarrow Mn^{2+}{}_{(aq)} + 5\,Fe^{3+}{}_{(aq)} + 4H_2O_{(l)}$

iii) The concentration of H in moles per litre. (2mks)

Procedure II

1. Fill the burette with solution H.
2. Using a clean pipette, place 25cm^3 of solution X into a conical flask.
3. Add 10cm^3 of 1Msulphuric acid and shake well.
4. Titrate using solution H until a permanent pink colour just appears.
5. Record the reading in table II below.
6. Repeat the titration two more times to complete the table.

d) Table II

	I	**II**	**III**
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of solution H used (cm^3)			

(3mks)

e) Determine the average volume of solution H used. (1mk)

f) Calculate;

i) The number of moles of solution H used. (2mks)

ii) The number of moles of solution X in $25cm^3$ if the equation for the reaction is; (2mks)

$$2MnO_4^{2-}{}_{(aq)} + 6H^+{}_{(aq)} + 5H_2O_{2(l)} \longrightarrow 2Mn^{2+}{}_{(aq)} + 8H_2O_{(l)} + 5O_{2(g)}$$

iii) The concentration of solution X in moles per litre. (2mks)

QUESTION 2 **(11 MARKS)**

You are provided with the following;

- Solid Y
- Sodium chloride solution

- Potassium chloride solution
- Calcium chloride solution

You are required to identify the cations present in solid Y.

The following notes will assist in making the correct observations and inferences.

Cations are positively charged ions, majority of which are metal ions. Cations can be tested using one or a combination of the following methods;

a) Flame tests
   - Some cations burn with flames that have distinct colours.

b) Carrying out precipitation reactions using the following;
   i) Sodium hydroxide
   ii) Aqueous ammonia
   iii) Anions such as CO_3^{2-}, SO_4^{2-}, Cl^- and SO_3^{2-}

Precipitates are formed as a result of formation of insoluble salts or metal hydroxides. The colour of the precipitate should be noted down when writing the observations. Incase a white precipitate is expected and not observed, then one should record that there is no white precipitate but NOT no observation.

It is important to note that hydroxide of zinc, lead and aluminium are amphoteric thus can react with sodium hydroxide which is alkaline. Another thing to note is that zinc hydroxide and copper (II) hydroxide dissolve in excess aqueous ammonia due to formation of complex ions.

Procedure

Carry out the tests below and record your observations and inferences in the spaces provided.

a) Place all of the solid Y provided in a boiling tube. Add about $10cm^3$ of distilled water and shake well. Use about $2cm^3$ of the resulting solution to carry out tests (i)to (iii) below. Reserve the remaining portion for test (b).

Observations	**Inferences**
i) To (1mk)	(1mk)

iTo the first portion, add aqueous sodium hydroxide dropwise until in excess.

Observations	**Inferences**
(1mk)	(1mk)

ii) To the second portion, add aqueous ammonia dropwise until in excess.

Observations	**Inferences**
(1mk)	(1mk)

iii) To the third portion, add about $1cm^3$ sodium chloride solution.

Observations	**Inferences**

(1mk)	(1mk)

b) Procedure

Clean a glass rod and rinse it with distilled water. Dry the glass rod on a Bunsen burner flame. Allow it to cool. Dip it in a little sodium chloride solution and burn it strongly with a non-luminous Bunsen burner flame. Note the colour of the flame and record it in table III below. Clean the spatula thoroughly and repeat the procedure using each of the other solutions and complete table III.

i) Table III

Solution	**Colour of flame**
Sodium chloride	
Potassium chloride	
Calcium chloride	
Solution Y	

(2mks)

ii) From table III, suggest the cation that could be present in solid Y_____ (1mk)

QUESTION 3 **(9 MARKS)**

You are provided with solid F.

Procedure

Carry out the tests below using solid F. write the observations and inferences in the spaces provided.

a) Place all solid F in a dry boiling tube. Add about $15cm^3$ of distilled water and shake thoroughly. Use $2cm^3$ portions of the solution for tests (b) to (e) below.

Observations	**Inferences**
(1/2mk)	(1/2mk)

b) To the first portion add two drops of universal indicator and record the color and PH.

Observations	Inferences
(1mk)	(1mk)

c) To the second portion add a spatula and full of sodium carbonate.

Observations	Inferences
(1mk)	(1mk)

d) To the third portion add two drops of bromine water.

Observations	Inferences
(1mk)	(1mk)

e) To the fourth add three drops of acidified potassium manganate (VII)

Observations	Inferences

(1mk)	(1mk)

END YEAR EXAM 2022

PHYSICS

FORM 3 PAPER 1

Time: 2 Hours

NAME……INDEX NO……

SCHOOL……...…….CANDIDATE'S SIGNATURE……

DATE…….

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided above*
- *Sign and write the date of the examination in the spaces provided*
- *Attempt **ALL** questions in sections A and B.*
- *All your answers must be written in the spaces provided in this question paper.*
- *All working must be clearly shown*
- *Non programmable silent electronic calculators and KNEC mathematics table may be used except where stated otherwise*

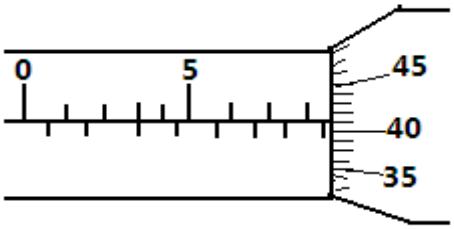
For Examiner's Use Only

Section	Question	Maximum Score	Candidates' Score
A	Q1 – Q13	25	
B	Q16	12	
	Q17	13	
	Q18	16	
	Q19	14	
		80	

This paper consists of 12 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 the spaces provided)***

1. What is the reading on the micrometer screw gauge shown below with an error of +0.5mm?
   (1mk)



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2. In a ball and ring experiment, the ball goes through the rings at room temperature. When it is heated it does not go through the ring, but when left on the ring for some time, it goes through. Explain this observation (2mks)

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3. In the study of free fall, it is assumed that the force F acting on a given body of mass, m, is gravitational, given by F = ma. State **two** other forces that act on the same body (1mk)

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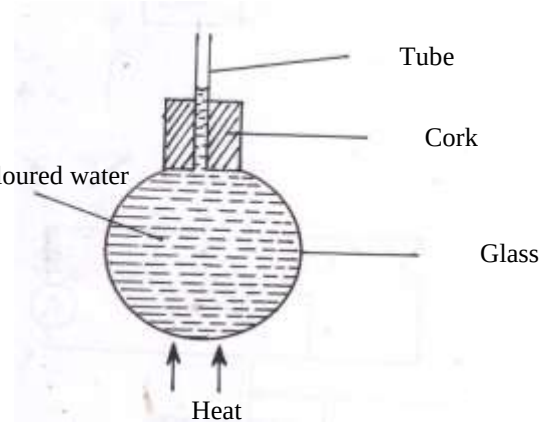
4. In the set up shown below, it is observed that the level of the water initially drops before starting to rise. Explain this observation (2mks)



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5. Distinguish between **speed** and **velocity.** (2mks)

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6. State how the pressure in a moving fluid varies with speed of the fluid. (1mk)

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7. A piece of metal weighs 3N in air and 2N when totally immersed in water. Calculate the volume of the metal (3mks)

8. Explain how a person is able to drink a soda using a drinking straw. (2mks)

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9. Give a reason why air is not commonly used as the fluid in a hydraulic lift. (1mk)

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10. State **one** assumption made when estimating the size of an oil molecule in the oil drop experiment. (1mk)

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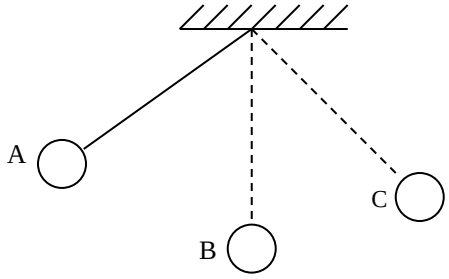
11. The figure below shows a swinging pendulum.



State the energy conservation taking place as the pendulum moves from A to B and B to C (2mks)

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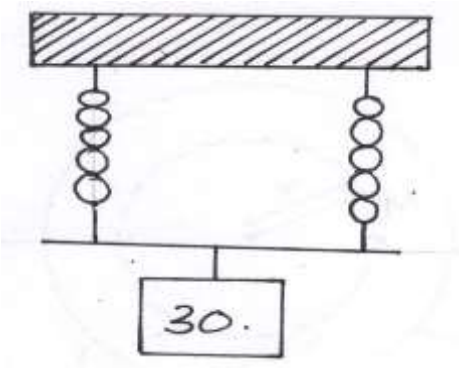
12. The identical springs of spring constant 3N/cm are used to support a load of 30N as shown.



Determine the extension on each spring (3mks)

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13. In a vacuum flask, the walls enclosing the vacuum are silvered on the inside. State the reason for this. (1mk)

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14. State the features that govern the strength of a spiral spring of a given material. (2mks)

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15. Sketch velocity-time graph of a body moving down a viscous fluid. (1mk)

SECTION B (55 MARKS)

(Answer ALL the questions in the spaces provided)

16. (a) State the principle of conservation of linear momentum. (1mk)

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(b) Calculate the recoil velocity of a gun of mass 0.4kg which fires a bullet of mass 0.0045kg at a velocity of $400ms^{-1}$ (3mks)

(i) State **two** factors which affect frictional force of a body (2mks)

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(ii) Suggest **three** ways in which friction can be minimized (3mks)

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(iii) State **three** advantages of friction (3mks)

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17.

a) Fig. 8 shows a cylindrical can filled with a liquid of density 0.8 gcm^{-3}. A hole of diameter 2.0 cm is drilled at a depth of 2.8 m from the top of the can.

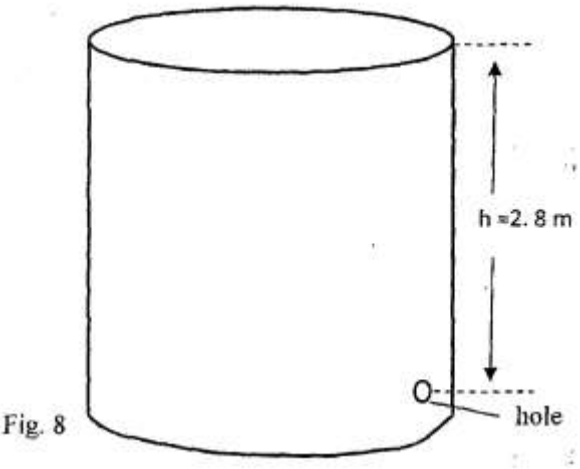

Fig. 8

Determine:

i. The cross-sectional area of the hole. (2mks)

ii. The maximum pressure exerted by the liquid at the hole. (2mks)

iii. The maximum force exerted on a jet of liquid through the hole. (2mks)

b) State the principle of moments (1mk)

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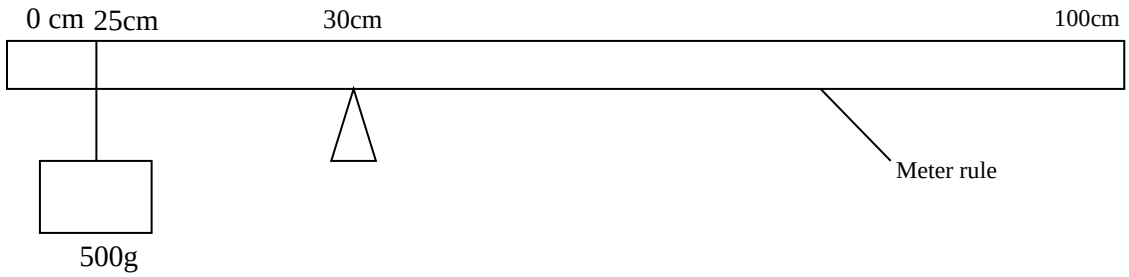
c) A metre rule whose centre of gravity is at the 50cm mark balances at the 35cm mark when a mass of 500g is placed at the 25cm mark as shown in the figure 8 below



i. Determine the mass of the meter rule (3 mks)

ii. With the metre rule remaining on the knife-edge at the 30 cm mark, a mass of 125g is suspended from the 70 cm mark. The mass of 500g is moved until the rule is balanced. Determine the new position of the 500g mass (3 mks)

18.

a) For a body moving with a constant acceleration, a , show that:

i. V = u + at where v and u are the final and initial velocities respectively while t is the time taken (2mks)

ii. $S = ut + \frac{1}{2}at^2$ where S is the distance covered (2mks)

iii. A car of mass 1200kg moving at 90km/h is brought to rest over a distance of 20m. Calculate the breaking force (3mks)

b) An object is projected vertically upwards with a velocity of 200m/s. Calculate:

i. Its velocity after 5 seconds (2mks)

ii. The distance covered in the first 8 seconds (2mks)

iii. The maximum height reached (2mks)

c) The figure below shows a uniform cardboard in the shape of a parallelogram.

Locate the centre of gravity of the cardboard. (1 mk)

d) Two samples of bromine vapour are allowed to diffuse separately under different conditions, one in a vacuum and the other in air. State with reasons the conditions in which bromine diffuse slower. (2 mks)

19.

a) State **two** factors affecting stability of body (2mks)

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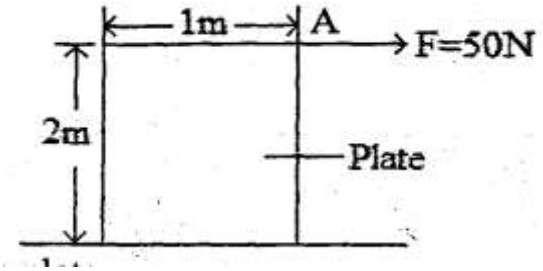
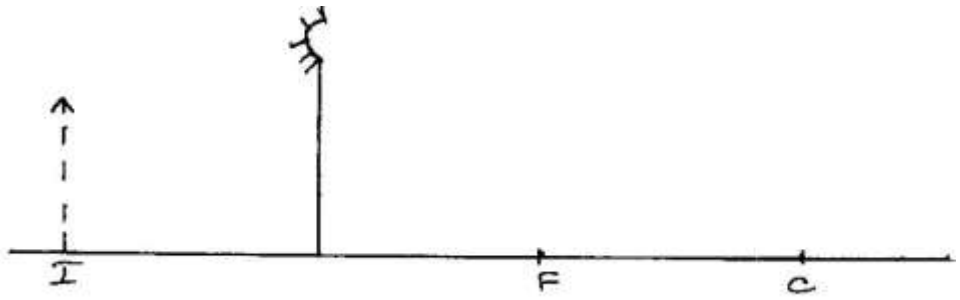
b) The figure below shows a metal plate 2 m long, 1M wide and negligible thickness. A horizontal force of 50 N applied at point 'A' Just makes the plate tilt.

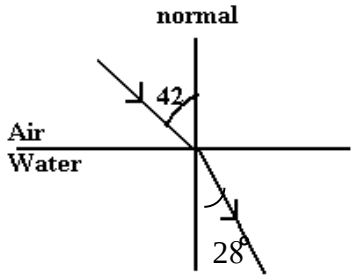


Calculate the weight of the plate. (3mks)

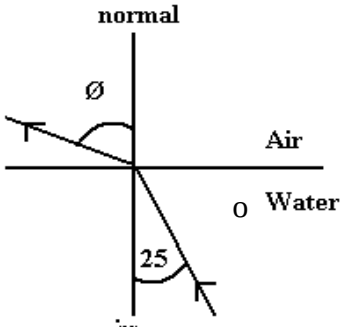
c) Fig 4 shows an image I formed by an object placed in front of a convex mirror. C is the centre of curvature of the mirror. Using ray diagram, locate the object position. (3mks)



d) Fig 6 (i) and (ii) show refraction of light at air-water interface. Determine angle Ø in figure 6(ii) (3mks)

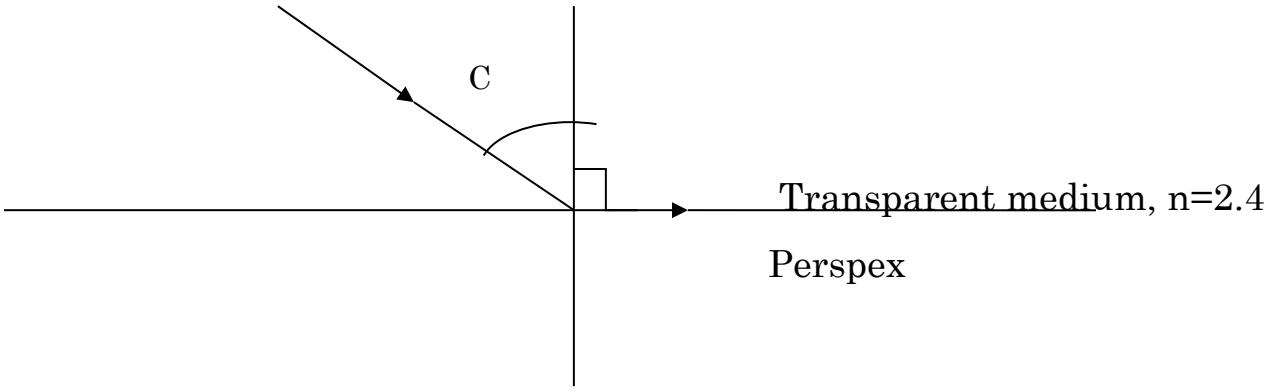


(i) Fig 6.



(ii)

e) A ray of light now travels through a transparent medium into the Perspex as shown in the figure below:



Calculate the critical angle (3mks)

END YEAR EXAM 2022

PHYSICS

FORM 3 PAPER 2

Time: 2 Hours

Name…… Class Register……..……

Instructions to Candidates

(a) Write your name and class register number in the spaces provided above.
(b) Sign and write the date of examination in the spaces provided above.
(c) This paper consists of **TWO** sections: **A** and **B**.
(d) Answer **ALL** the questions in sections **A** and **B** in the spaces provided.
(e) ALL working **MUST** be clearly shown.
(f) Mathematical tables and non programmable silent electronic calculators may be used.
(g) **This paper consists of 10 printed pages**.

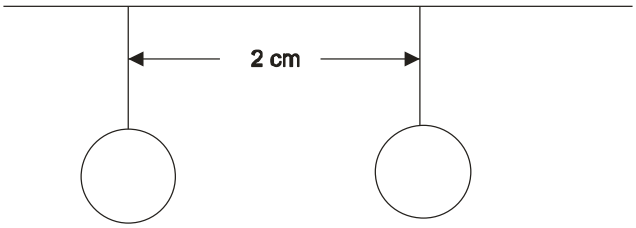
For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 – 11	25	
B	12	5	
	13	15	
	14	11	
	15	14	
	Total Score	**70**	

SECTION I *(25 marks)*

Answer all the questions in this section

1. The figure below shows two identical balloons inflated with air and suspended with a light cotton threads such that the two balloons are 2 cm apart.



Explain what is observed when a plastic ruler is rubbed vigorously against dry hair (human hair) and placed between the two balloons but without touching them. *(2 marks)*

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2. An object dropped into well hits water 3.5seconds after been released. How deep is the well? Take gas 10m/s^2 *(3 marks)*

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3. A car battery requires topping up with distilled water occasionally. Explain why this is necessary and why distilled water instead of tap water? *(1 mark)*

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4. A small object lies at the bottom of a water pond at a depth of 1.2m. given that the refractive index of water is 1.3, determine the apparent depth of the object *(3marks)*

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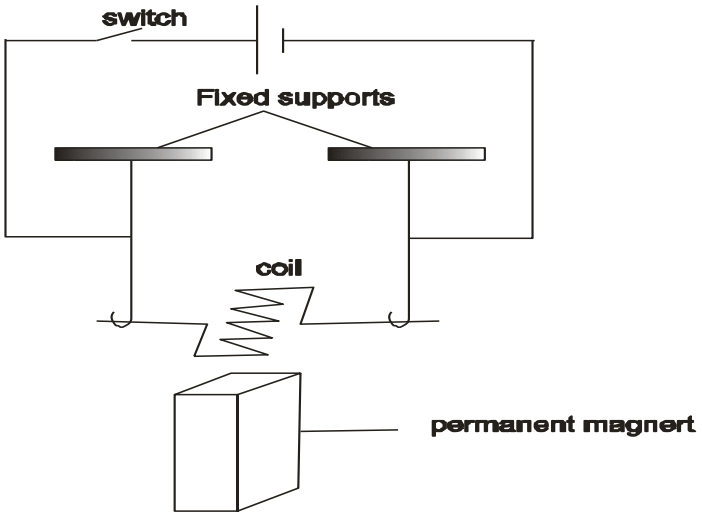
5. The figure below shows a copper kept in a magnetic field and suspended on a frictionless conductor connected with a direct current supply. When the current is switched on, the copper coil rotates on its support. Explain how this motion is caused by the flow of current. *(3 mark)*



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6. Differentiate between transverse and longitudinal waves. *(1 mark)*

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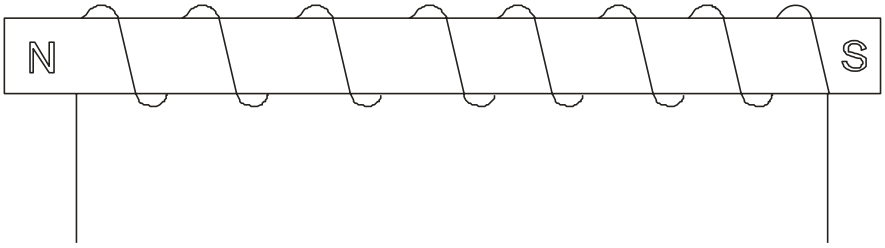
7. The figure below shows a circuit that can be used to magnetize a given bar. Complete the circuit to show the direction of the current around the bar that will result the polarities shown.*(1 mark)*



8. An object is placed 30 cm in front of a concave mirror of focal length 15 cm and another identical object is 30 cm in front of a plane mirror.

(i) Give one similarity between images formed. *(1 mark)*

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(ii) Give one difference between images formed. *(1 mark)*

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9. Suggest a reason why it is not possible to increase the strength of a magnet indefinitely.*(2 mark)*

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10. Resistors of 2Ω and 3Ω are connected in series with a cell and voltmeter connected across the 3Ω resistor reads 1V, but this increases to 1.2V when an extra 2Ω resistor is connected in parallel with the first 2Ω resistor, calculate the e.m.f and the internal resistance of the cell. *(4 marks)*

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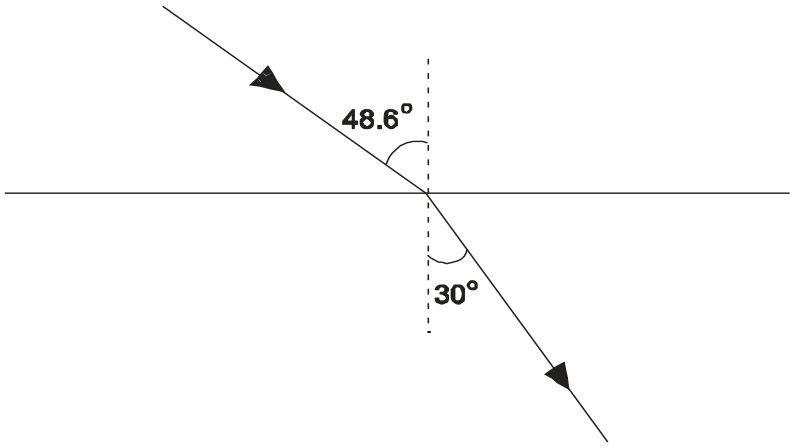
11. The figure below shows a ray of light travelling from air to a liquid. The ray incidents the liquid at 48.6^{o} and is refracted at 30^{o}. Calculate the speed of light in the liquid *(3 marks)*



SECTION II *(45 marks)*

Answer all the questions in this section

12. (a) (i) A pinhole of 1mm diameter is in the middle of a piece of black paper covering one end of a tube 1m long. The end of the tube is covered by a screen of a tracing paper. When the pin hole is directed towards the sun, the diameter of the image is found to be10mm. Draw a ray diagram showing how the images are formed. *(2 marks)*

(ii) The sun is just covered by a disc of 2 cm diameter placed about 2 meters from the eye from the eye. In the length of the diameter of the sun's image formed by a pinhole camera is 0.5 cm, calculate the distance from the pinhole to the screen. *(3 marks)*

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13. a) You are provided with a metre rule, distant object, concave mirror and a white screen. Briefly describe how you can estimate the focal length of the concave mirror. *(3 marks)*

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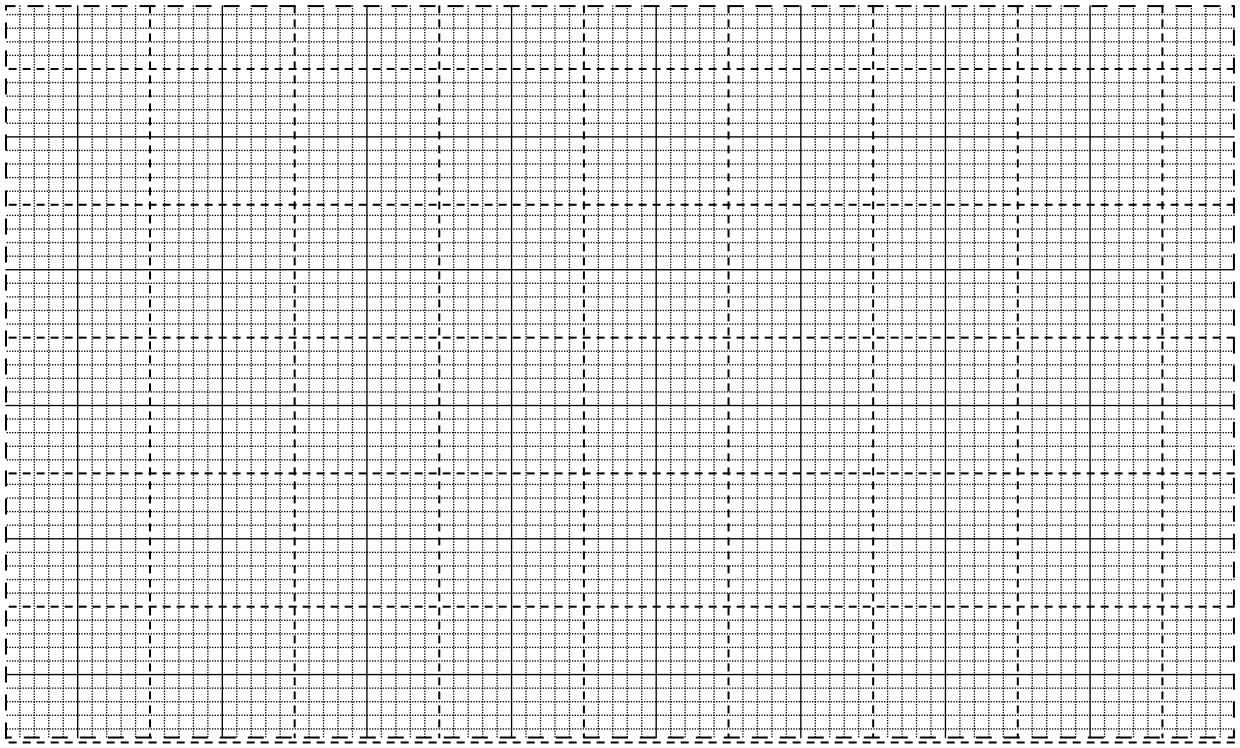
b) In an experiment to determine the focal length of a curved mirror, the results in table below were obtained.

U (cm)	20	25	30	40	50	70
V (cm)	20	16.7	15	13.3	12.5	11.6

(i) Plot a graph of UV (y-axis) against (U + V) (x-axis). *(5marks)*



(ii) From your graph, determine the focal length of the mirror. *(3 marks)*

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c) Explain why a concave mirror is used as a shaving mirror. *(2 mark)*

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d) Give one difference and one similarity between virtual images formed by plane mirrors and concave mirrors. *(2 marks)*

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14. (a) State **two** ways of increasing the strength of an electromagnet. *(2 marks)*

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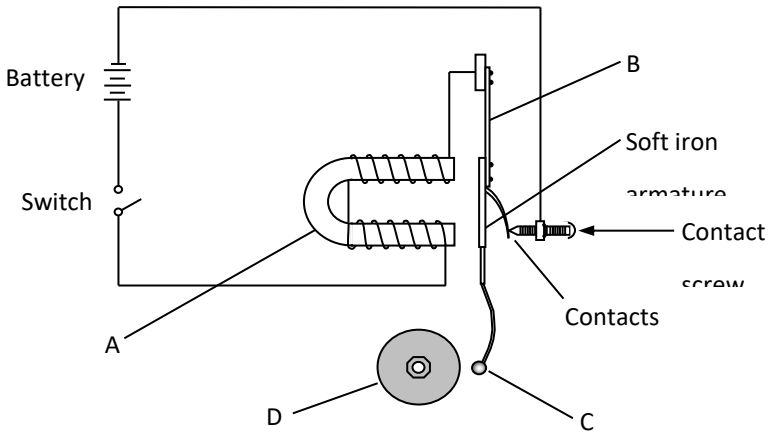
(b) The diagram below shows an electric bell.



(i) Name the parts labeled **A**, **B**, **C** and **D**. *(2 marks)*

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(ii) State and explain what happens to the soft iron armature when the switch is closed**.**

(2 marks)

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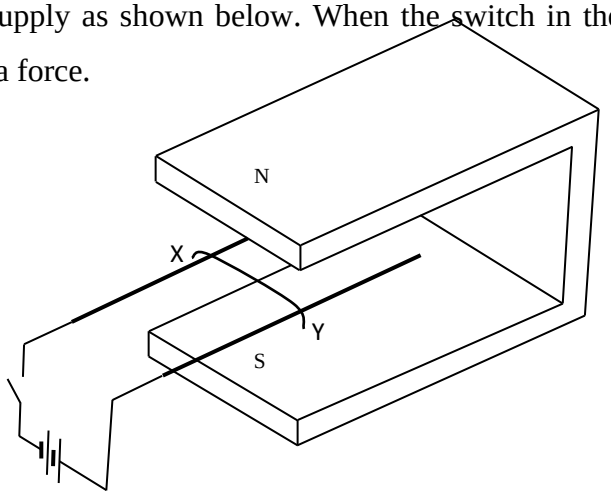
(c) A thin copper wire XY is placed over two parallel thick copper conductors connected to a d.c. power supply as shown below. When the switch in the circuit is closed, the wire XY experiences a force.



(i) Indicate on the diagram direction in which the wire XY experiences the force.

(1 mark)

(ii) Explain how you have determined the direction of the force in (*i*) above. *(2 marks)*

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(iii)When is the force acting on the wire XY greatest? *(1 mark)*

.....

.....

.....

(iv) What is the effect of reversing the direction of flow of the current? *(1 mark)*

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15. (a) State **two** conditions which must be satisfied for total internal reflection to occur.

(2 marks)

.....

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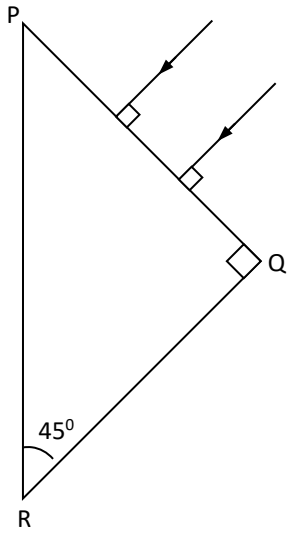
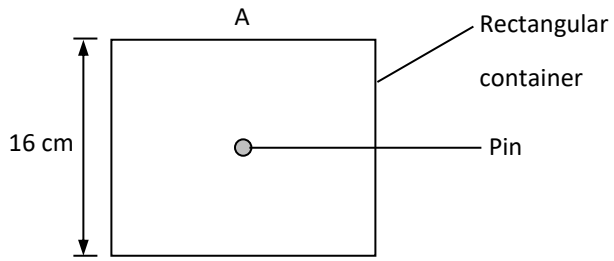
(b) The diagram below shows two rays of light incident normally on face **PQ** of a glass prism, whose critical angle is $\mathbf{42^0}$.



Complete the diagram to show the paths of the two rays as they pass through the prism.

(3 marks)

(c) A pin is fixed horizontally at the centre of a rectangular container with thin transparent walls as shown below.



A transparent liquid is then poured into the container. When viewed from side **A**, the distance of the pin is **6 cm** from the surface of the liquid. Determine the refractive index of the liquid.

(3 marks)

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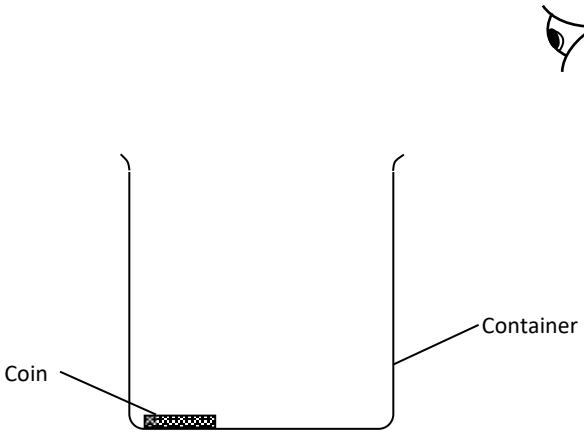
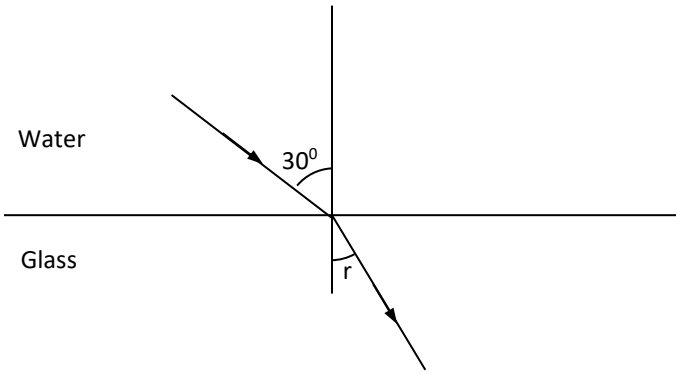
……

(d) The figure below shows a coin placed in a large empty beaker. An observer looking into the beaker from the position shown is unable to see the coin.



Sketch two rays from a point on the coin to show how the observer is able to see the image of the coin after the container if filled with water. *(3 marks)*

(e) A ray of light is incident on a water-glass interface as shown in the diagram below.



Calculate the value of angle, **r**, given that the refractive index of glass and water are **1.5** and **1.33** respectively. *(3 marks)*

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END YEAR EXAM 2022
PHYSICS
CONFIDENTIAL
INSTRUCTIONS TO SCHOOL

QUESTION ONE REQUIREMENTS

- Ammeter
- Voltmeter
- Nichrome wire mounted on a millimeter scale (gauge 28)
- Switch
- A new dry cell
- A micrometer screw gauge
- Connecting wires
- A jockey

QUESTION TWO REQUIREMENTS

- A spiral spring (spring diameter =15mm

  Length= 70mm, diameter of spring wire=1.8mm, number of turns=88)
- A complete stand
- 7 masses of 20g each
- A stopwatch
- 2 small pieces of wood for clamping
- A glass block
- 4 optical pins
- A soft board
- One plain paper

END YEAR EXAM 2022
PHYSICS
FORM 3 PAPER 3
Time: 2 Hours 45 Mins

Name:……...…… **IndexNo**…….

232/3 **Candidate's Signature**……
PHYSICS **Date**……

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 section A and section B.**
- **Attempt all the questions in the spaces provided.**
- **ALL working MUST be clearly shown.**

For Examiners Use

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	18	
2	22	
TOTAL	40	

This paper consists of 6 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

1. **QUESTION 1**
   You are provided with the following apparatus

- Ammeter
- A voltmeter
- A wire mounted on a millimeter scale
- A switch
- A new dry cell
- A micrometer screw gauge
- Connecting wires
- A jockey

Proceed as follows

a) Measure the diameter d of the mounted wire at three different points

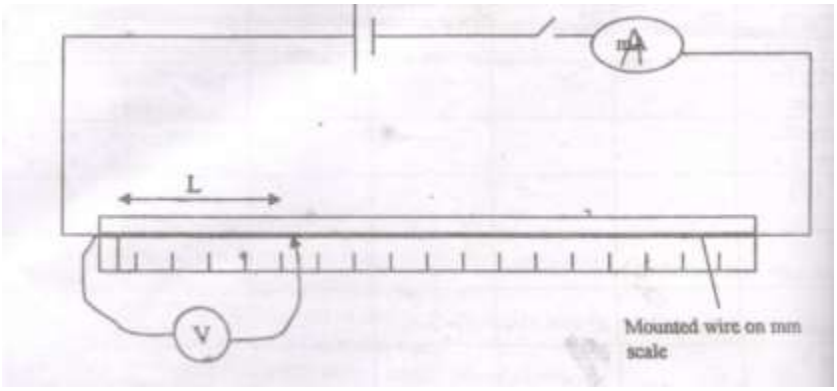
d_1= _____ mm

d_2=_____ mm (½mk)

d_3=_____ mm

Average d = _____ mm (½mk)

b) Set up the apparatus as shown in the circuit diagram.



Close the switch and tap the mounted wire with jockey as shown in the circuit. Ensure that both meters show positive deflection, open the switch.

c) Tap the wire at L= 20cm, close the switch, read and record in the table the ammeter and voltmeter reading.

d) Repeat the procedure in (c) for other values of L shown in the table and complete the table.

L(m)	V(Volts)	I(A)	R=V/I

0.2			
0.3			
0.4			
0.5			
0.6			
0.7			
0.8			

(6mks)

e) Plot a graph of R against L (m). (5mks)

f) Determine the slope of the graph. (3mks)

g) Given that R= p$\frac{L}{A}$ where A is the cross-sectional area of the wire and p is a constant for the material of the wire, determine the value of the constant p. (3mks)

2. **QUESTION 2**

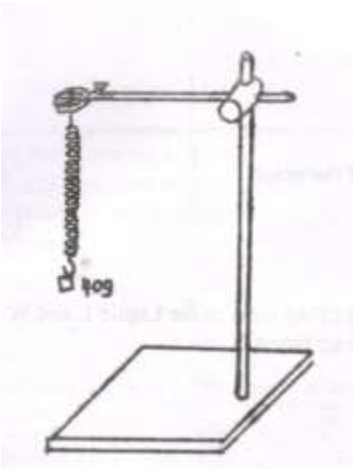
Part 1

You are provided with the following;

- A spiral spring
- A complete stand
- 7 masses of 20g each
- A stop watch
- 2 small pieces of wood for clamping

Proceed as follows

a) Clamp the spiral spring so as to hang from the clamp as shown in the figure below



b) Hang a 40g mass from the spring and displace the mass slightly downwards so that it executes vertical oscillations as shown.

c) Measure and record in the table the time for 10 oscillations.

d) Determine the periodic time T in the table.

e) Repeat the experiment for other values of mass m shown in the table. Complete the table below.

Mass (m)g	**40**	**60**	**80**	**100**	**120**	**140**
Mass m (kg)						
Time for 10 osc(s)						
Period T(s)						
T^2 (s^2)						

(6mks)

f) Plot a graph of T^2 (s^2) against mass m(kg). (5mks)

g) Determine the slope of the graph. (2mks)

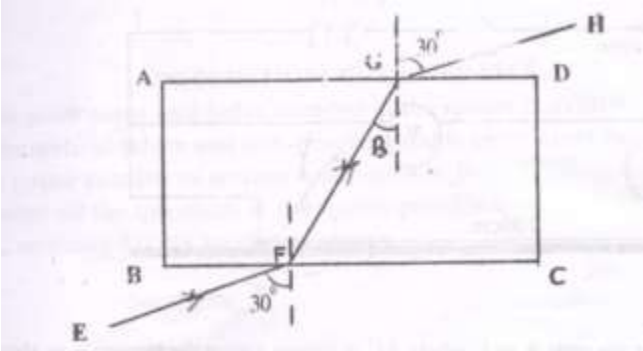
h) Given that the equation of the graph is $T^2=\frac{4\pi^2 m}{K}$
Determine the value of K. (3mks)

Part II

You are provided with a glass block, 4 optical pins, a soft board, one plain paper.

a) Place the rectangular glass block on a sheet of paper fixed on the soft board with one of its longest face uppermost. Mark the outline ABCD as shown in the figure. Remove the glass block and draw a line EF to represent a ray of light making an angle of incidence $i=30^0$ with the longest side BC of the block.

b) Stand pins p1and p2 on this line as far as possible. Replace the block and mark the emergent ray by looking into the side AD of the block and placing pins p3 and p4 in line with images of p1 and p2 as seen through the glass block. Remove the block and the pins and draw ray EFGH as shown in the figure below.



a) Draw the normal at G as shown.

b) Measure angle B (1mk)

B = ……

c) Given that k=$\frac{sin\ 30^0}{\sin B}$

Calculate the value of k. (2mks)

d) The main paper used should be handed over together with this paper (correct use made of the plain paper) (1mk)

END YEAR EXAM 2022

GEOGRAPHY

FORM 3 PAPER 1

Time: 2 Hours 45 Mins

NAME:…… ……ADM.NO:……

SCHOOL:…… …… CLASS: ……

CANDIDATE'S SIGNATURE:…… DATE:……

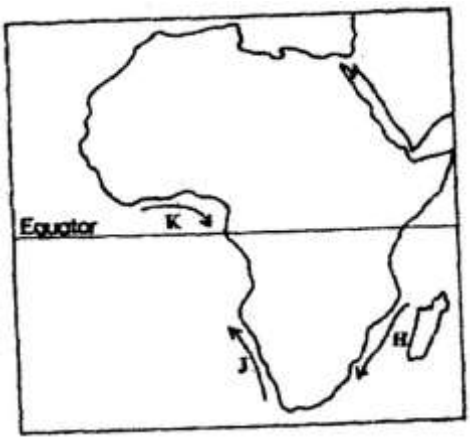
INSTRUCTIONS TO CANDIDATES

- *This paper has **two** sections: **A** and **B***
- *Answer all questions in section **A.***
- *In Section **B** answer Question **6 and** any other **TWO** questions.*
- ***All** answers **must** be written in the official answer sheet provided.*
- *This paper consists of 5 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.*

SECTION A

1. (a) How does a sea breeze occur? (2 mks)

(b) Use the map of Africa below to answer questions



(i) Name the ocean currents marked H,J, and K (3 mks)

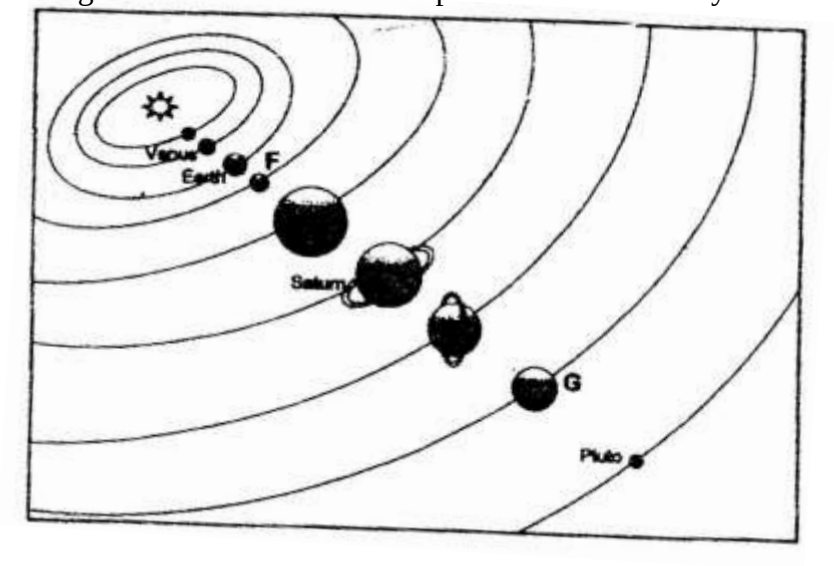
(ii) State two effects of a warm ocean current on the adjacent coastlands (2 mks)

2. Give two processes involved in each of the following types of weathering

(a) Physical weathering (2 mks)

(b) Chemical weathering (2mks)

3. The diagram below shows the composition of the solar system



(a) Name the planets marked F and G (2 mks)

(b) State three effects of the rotation of the earth on its axis (3 mks)

4. (a) Name two scales used to measure the intensity of an earthquake (2 mks)

(b) Give three causes of earthquakes (3 mks)

5. The table below represents rainfall and temperature figures for a town in Africa. Use it to answer the questions that follow

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temp (^{0}C)	27	28	28	28	27	25	25	24	25	26	27	26
Rainfall (mm)	25	38	99	140	277	439	277	69	142	201	71	25

(a) (i) calculate the annual range of temperature for the town (2 mks)

(ii) Calculate the mean annual rainfall for the town (2mks)

SECTION B

6. Study the map of oyugis 1:50,000 (sheets 130/1) provided and answer the following questions

a) i) what type of map is Oyugis extract ? (1mk)

ii) Give two scales that have been used in the map extract. (2mks)

iii) Measure the length of the township boundary shown on the map. Give your answer in kilometers. (2mks)

iv) Calculate the area covered by kodera forest. Give your answer in square kilometers. (2mks)

b) i) Identify the methods that have been used to represent relief of the area covered by the map. (2mks)

ii) Name the physical features found in the grid square 6842. (2mks)

c) Describe the drainage of the area covered by the map. (6mks)

d) (i) Apart from agriculture, name two other economic activities in the area covered by the map. (2mks)

(ii) Citing evidence from the map, give three reasons why the area covered by the map is suitable for agricultural activities. (6mks)

7. (a) (i) Name three types of faults (3 mks)

(ii) Apart from compressional forces, explain two other processes that may cause faulting (4 mks)

(b) With the aid of diagrams, describe how compressional forces may have led to the formation of the great rift valley (8 mks)

(c) Explain five ways in which faulting is of significance to human activities (10 mks)

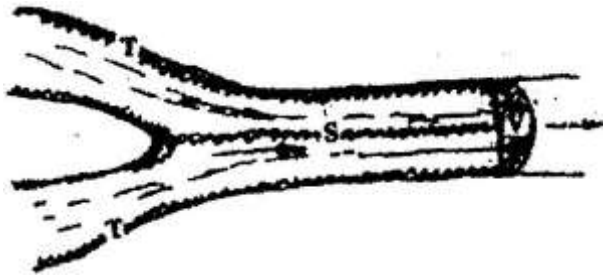
8. (a) (i) What is an ice sheet? (2mks)

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

(iii) Explain three factors that influence the movement of the ice from the place where it has accumulated (6mks)

(b) Describe how an arête is formed (4mks)

(c) The diagram below shows types of moraines in a valley glacier



(i) Name the type of moraines marked S, T and V (3mks)

(ii) Explain four positive effects of glaciation in lowland areas. (8mks)

9. (a) Differentiate between river rejuvenation and river capture. (2 marks)

(b) Give **three** features resulting from;

(i) River rejuvenation; (3 marks)

(ii) River deposition. (3 marks)

(c) Explain the **four** ways through which a river transports its load. (8 marks)

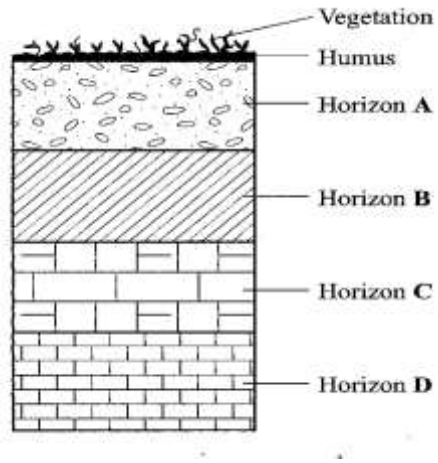
(d) You are planning to carry out a field study on the lower course of a river.

(i) Give **three** reasons why you would require a route map. . (3 marks)

(ii) State three characteristics of a river at the old stage that you are likely to observe during the field study. (3 marks)

(iii)Give **three** follow-up activities you would be involved in after the field study. (3 marks)

10 The diagram below represents a well developed soil profile. Use it to answer question (a).



(a) (i) Describe the characteristics of horizon B. (3 marks)

(ii) Apart from humus, name **three** other components of soil. (3 marks)

(iii) State **three** ways in which humus contributes to the quality of soil. (3 marks)

(b) (i) Differentiate between soil structure and soil texture. (2 marks)

(ii) Explain how the following factors influence the formation of soil;

- Topography; (6 marks)
- Time. (2 marks)

(c) Explain how the following farming practices may lead to loss of soil fertility:

(i) Overgrazing; (2 marks)

(ii) Frequent ploughing; (2 marks)

(iii) Continuous irrigation. (2 marks)

END YEAR EXAM 2022

GEOGRAPHY

FORM 3 PAPER 2

Time: 2 Hours 45 Mins

Name……..Adm No……

INSTRUCTIONS TO STUDENTS

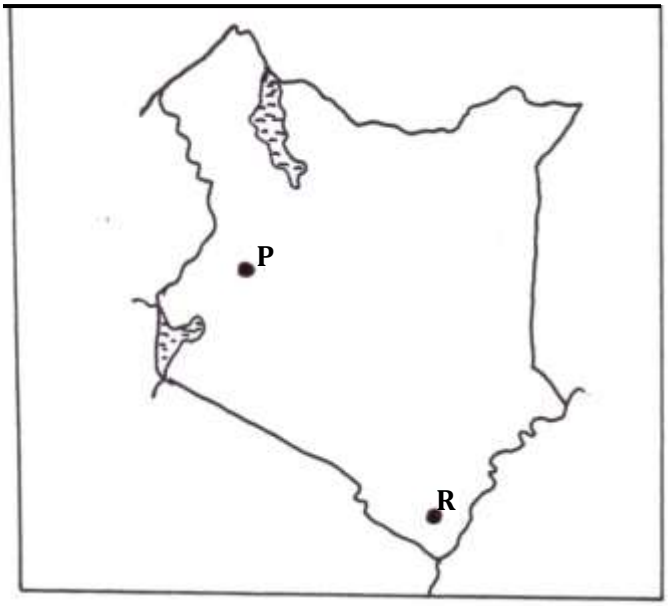
- ***This paper has two sections A and B***
- ***Answer ALL the questions in section A. In section B answer questions 6 and any other TWO questions.***

*Answer **all** the questions in this section.*

1. (a) Name *two* indigenous hardwood tree species in Kenya(2mks)

   (b) State *three* factors that favor the growth of softwood forests in Kenya.(3mks)

2. Use the map of Kenya below to answer question (a).



(a) Name the minerals mined in the areas marked P and R.(2 marks)

b) State*three* benefits of Gold mining to the economy of South Africa. (3 marks)

3. a) Apart from floods, name two other environmental hazards associated with climatic conditions. (2mks)

b) Outline three problems caused by floods. (3mks)

4 a)Identify three environmental conditions which favor commercial beef farming in Kenya(3marks)

b)Give two exotic breeds of cattle reared in commercial ranches in the Kenyan highlands(2marks)

5a)Define the term photogragh(2mark)

b)state two types of aeriel photograph(2marks)

SECTION B

Answer question 6 and two other questions from this section.

6. The table below shows the production of maize in tonnes between 2015 and 2017 in four

divisions ofBaringo County

Division	2015	2016	2017
Bartabwa	3005	3500	4000
Barwesa	6087	6198	7786
Kabartonjo	6753	6547	6698
Kipsaraman	4078	5465	5567

a. i)Calculate the percentage increase of the total maize production in the four divisions between 2016 -2017 (3mks)

ii) What is the difference in kilograms between the highest production and the lowest in three years? (2mks)

b.i) Using a radius of 5cm draw a pie-chart to represent production of 2017.(6mks)

ii) Give three advantages of using a pie-chart in representing information.(3mks)

c) State three climatic conditions favoring the growing of maize.3mks)

d) Explain four problems facing small-scale maize farmers in Kenya. (8mks)

7. a. i) What is forestry? (2mks)

ii) Explain three factors that favour the growth of natural forests on the slopes of Mt. Kenya. (6mks)

b) Name three exotic species of trees planted in Kenya.(3mks)

c) State four ways in which the clearing of the forests has affected the natural environment in Kenya.(4mks)

d) Discuss three challenges experienced in the exploitation of tropical hardwood forests in Kenya. (6mks)

e) Give the differences in the exploitation of softwood forests in Kenya and Canada under the following sub-headings

i) Period of harvesting.(2mks)

ii) Distribution of softwood.(2mks)

8 (a) State three physical conditions that favor tea farming in Kenya. (3mks)

(b) Describe the cultivation of tea (6marks)

(c) Explain five problems facing tea farming in Kenya. (10mks)

(d) Your class visited a sugar factory for a field study on sugar processing.

(i) Outline four stages of tea processing that the class may have observed.(4mks)

(ii)Name two outlets through which KTDA markets tea.(2mks)

9.a. i)What is mining(2marks)

ii)State three effects of opencast mining on the environment(3marks)

b) Describe how deep shaft mining is carried out (4marks)

c) Explain four factors that affect the formation of soda ash(8marks)

d)Explain four problems facing the mining industry in Kenya(8marks)

10. a. i) Differentiate between subsistence farming and commercial farming. (2 mks)

(ii) State four characteristics of plantation farming in Kenya. (4mks)

(b) i) Name one cash crop grown in the Kenyan highlands. (1mks)

ii) State four ways through which Kenya has benefited from farming. (4mks)

iii) state three characteristics of shifting cultivation. (3mks)

iv) state three disadvantages of shifting cultivation (3mks)

c) Explain four factors that influence agriculture.(8mks)

END YEAR EXAM 2022

HISTORY AND GOVERNMENT

FORM 3 PAPER 1

Time: 2 Hours 30 Mins

Name……..Adm No……..

Instructions to Candidates

(a) *This paper consists of **three** sections **A, B** and **C.***

(b) *Answer **all** questions in section **A, three** from Section **B** and **two** from Section **C.***

(c) *Answers to all the questions must be written legibly 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 QUESTIONS IN THIS SECTION.

1. Give **two** unwritten sources of the history of the Kenyan communities during the pre-colonial period.

(2 marks)

2. Name the archaeological site in Kenya where remains of Dryopithecus Africanus were excavated.

(1 mark)

3. State **two** economic activities which the Maasai acquired as a result of interacting with the Agikuyu.

(2 marks)

4. Give **two** effects of the settlement of the Luo in Kenya during the pre-colonial period. **(2 marks)**

5. Give the main reason why initiation ceremonies were carried out in traditional Kenyan societies. **(1 mark)**

6. State **two** functions of the Laibon among the Maasai during the pre-colonial period. **(2 marks)**

7. Give the main reason why most of the early urban centers along the Kenyan coast were built on Islands.

(1 mark)

8. Identify **two** documentary sources of historical evidence about the East African Coast before 7th Century.

(2 marks)

9. State **one** factor that facilitated contact between the Kenyan Coast and the outside world by the end of the 16th Century. **(1 mark)**

10. Give **two** economic benefits of the Omani rule along the Kenyan coast during the 19th Century. **(2 marks)**

11. State **two** duties of the Portuguese captains in administering the Kenyan coast. **(2 marks)**

12. Name the missionary who drew the first map of East Africa. **(1 mark)**

13. Name the main factor that led to the development of plantation farming during the reign of Seyyid Said.

(1 mark)

14. State **two** functions of Fort Jesus during the Portuguese rule. **(2 marks)**

15. What is dual citizenship? **(1 mark)**

16. Give **one** way in which the Kenyan constitution promotes unity. **(1 mark)**

17. Name the treaty which marked the sphere of influence in East Africa in 1886. **(1 mark)**

SECTION B: (45 MARKS)

ANSWER ANY THREE QUESTIONS IN THIS SECTION

18. a) Give **five** reasons for the migration of the Plain Nilotes into Kenya in the pre-colonial period.

(5 marks)

b) Describe the political organization of the Borana during the pre-colonial period. **(10 marks)**

19. a) Give **three** reasons why the Akamba participated in the long distance trade in the 19th century.

(3 marks)

b) Explain **six** consequences of the long distance trade on the people of East Africa. **(12 marks)**

20. a) Give **three** reasons which caused the decline of the coastal city states by the 18th century. **(3 marks)**

b) Explain **six** results of Omani rule along the Kenyan coast. **(12 marks)**

21. a) State **five** causes of the Nandi rebellion. **(5 marks)**

b) Explain **five** factors that enabled the Nandi to resist British invasion for a long period of time.

(10 marks)

SECTION C: (30 MARKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

22. a) State **five** social responsibilities of a Kenyan citizen. **(5 marks)**

b) Explain **five** reasons why national integration is important in Kenya. **(10 marks)**

23. a) State **three** ways in which the constitution of Kenya promotes national unity. **(3 marks)**

b) Describe the stages involved in constitution making process in Kenya. **(12 marks)**

24. a) Give **three** special groups that monitor human rights in Kenya. **(3 marks)**

b) Explain **six** ways in which the Kenyan bill of rights protects the rights of individuals. **(12 marks)**

END YEAR EXAM 2022

HISTORY AND GOVERNMENT

FORM 3 PAPER 2

Time: 2 Hours 30 Mins

Name: ……. Adm. No ……. Class……

Instructions

a) **This paper consists of three sections A, B and C**

b) **Answer All the questions in section A, three questions from section B and two questions from section C .**

c) **Answer to all the questions MUST** be written in the answer booklet provided.

d) Candidates should check the question paper to ascertain that no questions are missing.

e) Candidates should answer the questions in English

SECTION A (25 marks)

Answer ALL the questions in this section

1. Identify two branches of history. (2mks)

2. Name two areas in Africa where the remains of Australopithecus were first discovered. (2mks)

3 State one theory that explains how early agriculture developed. (1mk)

4 Identify two methods of irrigation used in the ancient Egypt. (2mks)

5 Identify the main item from North Africa in Trans-saharan trade. (1mk)

6 Give two features of the Roman roads by 300AD. (2mks)

7 State two disadvantages of horn blowing as a means of communication. (2mks)

8 What is the main advantage of a cell phone. (1mk)

9 Identify the main source of energy used in the early stages of industrial Revolution in Europe. (1mk)

10 Give the name of the scientist who discovered electric magnetic radiation. (1mk)

11 Name two foreign powers that tried to conquer Cairo in the pre-colonial period. (2mks)

12 Identify two social functions of the ancient city of Athens in Greece. (2mks)

13 Identify two European powers that acquired colonies in East Africa. (2mks)

14 Mention one country in Africa that was not colonized by European powers. (1mk)

15 Name the chartered company that administered Zimbabwe during the process of colonization. (1mk)

16 Give one reason why the Burns constitution was rejected by Educated Africans in Ghana. (1mk)

17 Give one political development in south Africa between 1990 and 1994. (1mk)

SECTION B. (45MKS)

Answer three questions from this section

18(a) Give five physical changes which occurred in early human beings as they evolved from ape like creature to modern man. (5mks)

(b) Explain five effects of early agriculture in Mesopotamia. (10mks)

19(a) Give three methods used to acquire slaves from West Africa during the Trans-Atlantic trade.(3mks)

(b) Explain six factors that led to the decline of the Trans-Atlantic trade (12mks)

20(a) Give three developments that have taken place in road transport system since 1750 AD (3mks)

(b) Explain six ways through which the invention of the railway speeded up industrialization in Europe.(12mks)

21(a) State five causes of the chimurenga War of 1896-1897. (5mks)

(b) Explain five results of the Chimurenga War. (10mks)

SECTION C(30MKS)

Answer TWO questions from this section

22(a) Give three social aspects of the Shona during the pre-colonial period. (3mks)

(b) Describe the political organization of Shona kingdom during the pre-colonial period. (12mks)

23(a) State the reasons why the British used direct rule to administer Zimbabwe. (3mks)

(b) Explain six reasons for the failure of direct rule in Southern Nigeria. (12mks)

24(a) Mention five factors that facilitated the growth of nationalism in Ghana. (5mks)

(b) Explain five reasons why FRELIMO succeeded in its armed struggle against the Portuguese. (10mks)

END YEAR EXAM 2022
BUSINESS STUDIES
FORM 3 PAPER 1
Time: 2 Hours

NAME…….ADMISSION NUMBER……

Instructions to candidates.

- Write your name and admission number in the spaces provided.
- Answer all questions in the spaces provided.
- Answer **all** questions
- Answers must be written in English.
- Avoid one word answers

									L						

Answer all the questions in the spaces provided.

1. State four external factors that may adversely affect the efficient operations of a business enterprise.4 mks

   a. ……

   b. ……

   c. ……

   d. ……

2. Likoni traders a newly established firm has constructed an office block. Outline four factors that will be considered when deciding on the type of office layout.4mks

   a. ……

   b. ……

   c. ……

   d. ……

3. State the document used for the following function.4mks

   i. To inform a buyer that his or her account has reduced by a certain amount

……

   ii. To request a supplier to provide a particular service to a customer

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   iii. To determine the credit worthiness of a customer

……

   iv. To show that transport has been hired to deliver specified goods to a particular buyer

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4. Classify each of the following accounts in the table below as either real, nominal, or personal 4mks

nt	ication
ses	
income	
r otieno	

ınt allowed	

5. The demand for oranges doubled even if the price of the oranges remained the same over the same period. State four factors that may account for this.4mks

a. ……

b. ……

c. ……

d. ……

6. Joshua insured his vehicle against theft, later the vehicle was stolen in a packing bay. Outline the procedure he would follow when making insurance claim for his vehicle. 5mks

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7. Highlight four benefits of transporting oil from Turkana to Mombasa by pipeline. 4mks

a) ……

b) ……

c) ……

d) ……

8. List four drawbacks of verbal communication in an organization. 4mks

a. ……

b. ……

c. ……

d. ……

9. Identify four ways through which the government encourages establishment of industries throughout the country.4 mks

a. ……

b. ……

c. ……

d. ……

10. List four factors that adversely affect the functioning of a warehouse. 4mks

a. ……

b. ……

c. ……

d. ……

11. Use the diagram below to answer the questions that follow. 3mks

Price a

b

a

Quantity

a) Identify the market structure to which the diagram above belongs……

b) Curve labeled a-a……..…. ……

c) Name the part labeled b……..……

12. Outline four factors that hinder entrepreneurship in Kenya. 4mks

a. ……

b. ……

c. ……

d. ……

13. Outline four benefits that Kamau would get for being a member of SACCO.4mks

a. ……

b. ……

c. ……

d. ……

14. Kenya is one of the countries experiencing unemployment problems. Identify four causes of the problem.4mks

a. ……

b. ……

c. ……

d. ……

15. Outline four characteristics of direct production4mks

a. ……

b. ……

c. ……

d. ……

16. Highlight four reasons why a firm may choose to remain small.4mks

a. ……

b. ……

c. ……

d. ……

17. Outline four reasons why ethical practices are necessary in product promotion.4mks

a. ……

b. ……

c. ……

d. ……

18. Highlight four factors that may lead to low level of national income.4mks

a. ……

b. ……

c. ……

d. ……

19. Outline four reasons that make it difficult to satisfy all our wants.4mks

a. ……

b. ……

c. ……

d. ……

20. The following information has been extracted from the books of Akili as at 30th june 2001

Land and building	235,000
Machinery	142,000
Motor vehicle	198,000
Debtors	25,000
Capital	330,000
Creditors	50,000
Bank overdraft	200,000
Net profit for the year	62,000

From the information above, calculate Akili's drawings for the year.4mks

21. Nyundo had the following assets and liabilities on 1st march 2006.

Capital	120,000
Machinery	80,000
Creditors	10,000
Debtors	20,000
Stock in trade	25,000
Cash at bank	5,000

On 2nd march he had the following transactions;

Purchased goods for 15,000 on credit.

Received a cheque of 10,000 from a debtor.

Sold machinery for 90,000 in cash.

Prepare his balance sheet on 2nd march, 2006.4mks

22. Mention four purposes of preparing a trial balance.4mks

a. ……

b. ……

c. ……

d. ……

23. Outline four factors that may cause the capital of an ongoing business to change. 4mks

a. ……

b. ……

c. ……

d. ……

24. Yogen had the following transactions with a creditor, Sulem, 2017

June 1 Balance from May 14,000

2 Bought stock from Sulem on credit Kshs. 80,000

4 Returned faulty goods to Sulem Kshs. 2,000

7 Paid Sulem the debt by cash less 2% discount.

Prepare Sulem's account as it would appear in the books of Yogen. 4mks

25. In the two column cash book given below, enter the missing figures.4mks

Waria Traders

Two Column Cash Book

For The Month ofJuly, 2008

	s				**s**		
May 1	ce b/d			May 1	ce b/d		
			)	7	ases		
	rs			0	ors		)
	c’			8	c’		
	nent	)		1	d		
		)	)			)	)

END YEAR EXAM 2022

BUSINESS STUDIES

FORM 3 PAPER 2

Time: 2 Hours 30 Mins

NAME…….ADMISSION NUMBER……

Instructions to candidates.

- Write your name and admission number in the spaces provided.
- Answer all questions in the spaces provided.
- Answer **any five** questions
- Answers must be written in English.
- Avoid one word answers

1. a) Explain five features that differentiate a public company from a public corporation.(10marks)
   b) Jambo Tena enterprises had the following balances in the cash book on 1st November, 2018. Cash at hand shs. 10,000 and bank shs. 150,000
      2. Bought buildings paying by cheque shs. 50,000
      3. Drew shs. 4,000 from Bank for office use.
      4. Took cash shs. 1,000 for his personal use
      5. Credit sales to Jema traders shs. 5,000
      6. Took all the cash to the bank leaving a balance of only shs. 100

   Required: prepare duly balanced a two column cash book.
2. a) Explain **five** emerging issues in office management. (10marks)

   b) Explain five circumstances under which a partnership may be dissolved (10mks)

3. a) Explain five circumstances under which a manufacturer would prefer to sell his products direct to consumers instead of selling through middlemen.(10 marks)
   b) Explain five factors to consider when choosing a method of promoting products.(10 marks)
4. (a) In most secondary schools in Kenya, members of staff are accommodated in one large room. Explain **five** disadvantages associated with this kind of arrangement.(10mks)
   (b)Explain Five benefits of warehousing to consumers (10 marks)
5. a)Explain five uses of National Income Statistics (10mks

   b) i) Explain four insurance policies that the owner of a supermarket may find useful for the business. 8mks

   ii) A farmer's house valued at Ksh. 1,200,000 was insured against fire for ksh. 900,000. Fire occurred and damaged the house causing a loss of ksh. 500,000. Determine the value of compensation due to the farmer. (2mks)
6. a) The accounts of Maneno Traders showed the following balances as at 31st December 20-2. Required: Balance off the accounts and extract a trial balance (10 Mks).

Land and Buildings Account

Dr **Cr**

	ulars		**nt**		**ulars**		**nt**
			)0				

Motor Cars Account

Dr **Cr**

	ulars		**nt**		**ulars**		**nt**

			)0				

Cash Account

Dr **Cr**

	ulars		**nt**		**ulars**		**nt**
	rs		30,000 5,000 3,000		ases ors		)

Creditors Account

Dr **Cr**

	ulars		**nt**		**ulars**		**nt**

Capital Account

Dr **Cr**

	ulars		**nt**		**ulars**		**nt**

							)0

Sales Account

Dr

	ulars		**nt**		**ulars**		**nt**

b) Highlight **five** factors that may lead to rapid increase in population. (10mks)

END YEAR EXAM 2022

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FORM 3 PAPER 1

Time: 2 Hours 30 Mins

NAME…….ADM. NO……

DATE……CLASS……

INSTRUCTIONS TO CANDIDATES

1. ANSWER ANY **FIVE** QUESTIONS IN THE ANSWER SHEETS PROVIDED.
2. ANSWERS **MUST** BE WRITTEN IN ENGLISH LANGUAGE ONLY

ANSWER ONLY FIVE QUESTIONS

1. a) List down six of the Pauline letters (6mks)
   b) Identify eight activities performed by God in the second account of creation Gen2:4-25 (8mks)
   c) How has man failed to take up their responsibility as outlined in the Biblical creation accounts? (6mks)

2. a) Discuss ways in which God rewarded Abraham's faith (7mks)
   b) What conditions did God expect the Israelites to fulfill during the renewal of the covenant? (8mks)
   c) State five ways in which Christians show their commitments to God today (5mks)

3. a) Outline the forms of punishment prophesied to Arab and queen Jezebel. (8mks)
   b) Outline the forms of punishment prophesied to Ahab and queen jezebel (8mks)
   c) Why are church leaders rejected today? (5mks)

4. a) Give eight characteristics of false prophets in the old testament (8mks)
   b) What message of hope does prophet Amos give to Israel if they turned back to God? (7mks)
   c) Give six ways in which Christians prepare themselves for the day of the Lord (5mks)

5. a) Describe the religious life of the Jews in exile (7mks)
   b) Identify seven similarities in the life and experience of Nehemiah and Jesus Christ (7mks)
   c) Give six ways in which Christians assist victims of disasters (6mks)

6. a) Give reasons why sacrifices are made in traditional African Society (7mks)
   b) Outline practices which show belief in life after death in traditional African society (8mks)
   c) What are the factors that have promoted changes on African community? (5mks)

NAME……..ADM. NO……...

DATE…….CLASS…….

INSTRUCTIONS TO CANDIDATES

1. ANSWER ANY **FIVE** QUESTIONS IN THE ANSWER SHEETS PROVIDED.
2. ANSWERS **MUST** BE WRITTEN IN **ENGLISH LANGUAGE** ONLY

ANSWER ONLY FIVE QUESTIONS

1. (a) Outline Jeremiah's Prophecy about the Messiah in reference to (Jeremiah 23: 5-6) (5mks)

(b) . Describe the events that took place after the birth of John the Baptist in (Lk.1:57-67) (8mks)

(c). Identify six ways in which Christians play the role of John the Baptist today (7mks)

2. (a). Describe the call of the first disciples in (Luke 5: 1-11) (8mks)

(b). Outline Jesus' teachings on the qualities of a true disciple. (7mks)

(c). What are the ways in which church leaders communicate God's message to the people today?

(5mks)

3. (a). Narrate the events that took place during the transfiguration of Jesus (7mks)

(b). Discuss the main components of the Lord's Prayer. (8mks)

(c). Give reasons why Christians pray. (5mks)

4. (a). Narrate the parable of the friend at midnight (Lk. 11:5-13) (5mks)

(b). Explain reasons why Jesus used parables. (7mks)

(c). List down the methods the church is using to spread the Gospel. (8mks)

5. (a). Relate Peter's message on the day of Pentecost in Acts 2:1-40 (7mks)

(b). Outline seven characteristics of the fruit of the Holy Spirit. (7mks)

(c). Identify activities of the church that demonstrate that the Holy Spirit is at work among Christians (6mks)

6. (a). Explain how the unity of believers is expressed in the concept of the bride (7mks)

(b). Discuss the causes of disunity in the early church (7mks)

(c). Outline the contribution of women in the church in Kenya today. (6mks)

END YEAR EXAM 2022

AGRICULTURE

FORM 3 PAPER 1

Time: 2 Hours

NAME.....ADMISSION NUMBER.....

INSTRUCTIONS TO CANDIDATES.

- *Write your name and admission number in the spaces provided.*
- *Answer all questions in the spaces provided.*
- *This question paper consists of three sections A, B and C.*
- *Answer all the questions in sections A and B any two questions from section C.*
- *Answers should be written in the spaces provided.*
- *The paper consists of 11 printed pages*

For Examiner's use only

on	tion	mum score	idate's score

Candidates should check the question paper to ascertain that all the pages are printed as indicate and no questions are missing.

SECTION A(30mks)*Attempt all the questions in this section.*

1. Give two conditions under which shifting cultivation can be practiced. 1mk

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2. Differentiate between apiculture and aquaculture. 1mk

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3. Give four government policies which influence Agricultural production… 2mks

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4. State four methods of clearing land. 2mk

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5. State four importance for treating water for domestic use. 2mks

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6. Give four qualities of a fertile soil. 2mks

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7. State four types of farm records… 2mks

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8. Give four role of nitrogen in a plant. 2mks

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9. State four factors which influence the rooting of a cutting . 2mks

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10. Give four reasons for growing seedling in a nursery . 2mks

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11. Name two methods of pruning . 2mks

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12. Give two causes of blossom end rot in tomatoes. 2mks

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……

13. Define the following terms as used in Agriculture.

i. Land sub-division 1mk

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ii. Land consolidation. 1mk

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……

14. State four harmful effects of weed. 2mks

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15. State two categories under which pest can be classified or mode of feeding. 2mks

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16. Name four causes of crop diseases. 2mks

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SECTION B:20mks:Attempt all questions in this section.

17. Below is a diagram of one of the tertially practices that are carried out in land preparation. Study it and answer the questions below

a. Identify the tertially practice shown above. 1mk

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b. Give four reasons for carrying out the above practice. (2mks)

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c. Apart from the above practice name any other two tertiary practices that are carried out in a farm (1mk)

……

18. The table below is one of the record that is kept by livestock farmer in the farm

No		colour	s: sire		
vice	vice	ivice	vice	ks	service
f service	f service	f service	f service		
of service	of service	of service	of service		
	o Breed	o Breed	o Breed		
	Result…….				
ted date of calving					
……..					

t of calf at birth
the calf
calf

a. Identify the type of record. 1mk

……

b. Fill in the blank spaces 3mks

A……

B……

C……

19. A farmer was advised to apply 150 kg of CAN/ha,while top dressing the maize crop.CAN contains 21% N.Calculate the amount of Nitrogen applied per ha. 4mks

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20. Below are various pegging methods of tea. Study them and answer the questions that follows.

a. Identify the pegging methods shown above. $1\frac{1}{2mks}$

A-

B--

C

b. Apart from the above method .Name any other method which is used to bring tea to bearing. 1mk

……

c. Give one advantage of using the method given in b above. 1mk

……..

d. State one reason why the method in (b) above is not commonly used.½mk

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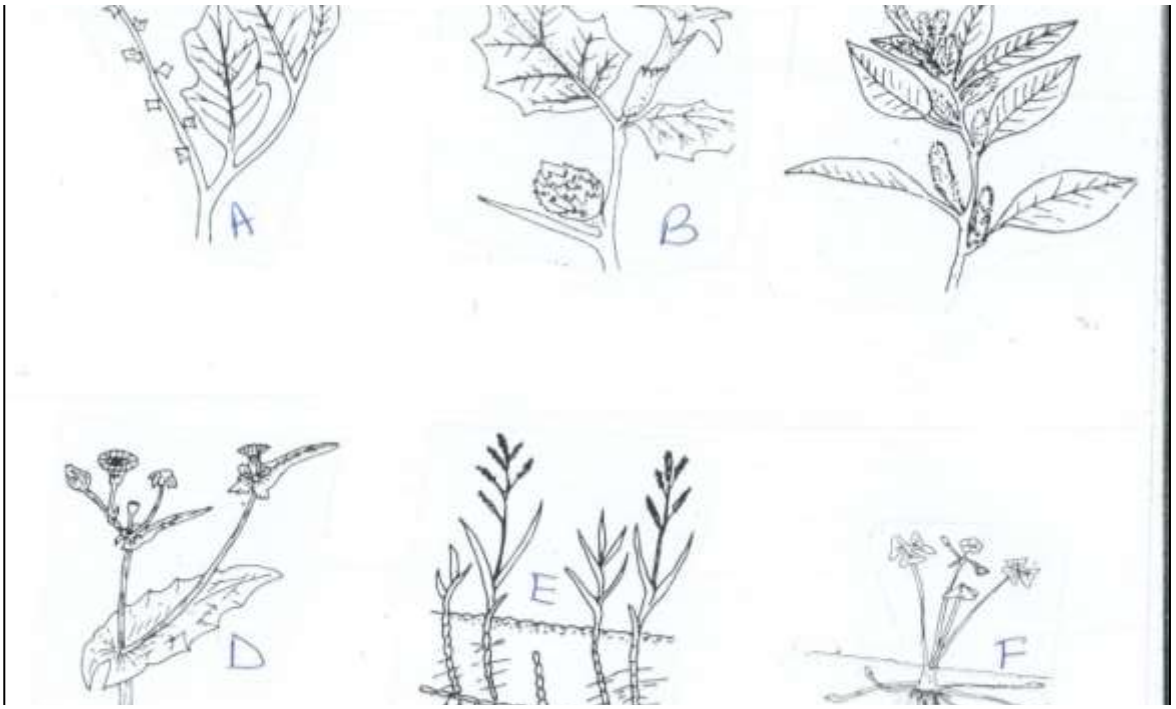
21. Below are some of the common weeds in Kenya. Study them and answer the questions which follow.



a. Identify the weeds A,B,C D. 2MKS

……

b. What contributes to the competitive ability of weed C 1mk

……

c. Why is it difficult to control weed E and weed F. 1mk

……

SECTION C(Attempt two questions in this section.(40mks)

22. (a)Describe the advantages of organic farming in Kenya. 5mks

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(b)Explain the overall effects of HIV/AIDS and ill health on Agricultural production.5mks

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(c)Describe five reasons of carrying out minimum tillage in agriculture production.5mks

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(d)Describe the uses of water in a farm . 5mks

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23. (a)Explain five ways of maintaining soil fertility. 5mks

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(b)Explain the factors which affects the spacing of any crop. 5mks

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(c)Describe five management practices carried out in a nursery bed. 5mks

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(d)Describe the field management practices in tomato production.. 5mks

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24. (a)Describe the effects of land consolidation. 6mks

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(b) Explain cultural methods of controlling pests.14mks

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END YEAR EXAM 2022

AGRICULTURE

FORM 3 PAPER 3

Time: 2 Hours

Name…….Adm. no……

School……..Date……

Class……..

INSTRUCTIONS TO CANDIDATES:

1. This paper consists of sections A,B,andC

2. Answer all questions in sections A and B

3. Answer any two questions in section C

For Examiners use only

SECTION	QUESTON	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
	TOTAL	90	

Section A (30MKS)

1. Name **four** methods of dehorning in cattle
(2mks)

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……..

……..

2. State the function of the following parts of a poultry digestive system(1mk)

Crop-

…….

Gizzard-

……..

3. State **two** functions of protein in animal nutrition (1mk)

……..

……..

4. Name four bacterial diseases 2mks

…….

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5. Name two meat breeds of goat …1mks

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6. Give four characteristics of a large white breed of pig (2mk)

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7. State **four** ways of restraining cattle during routine management
(2mks)

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8. What is meant by the following terms as used in livestock health?

(a) Incubation period
(1mk)

.....

.....

(b) Mortality rate
(1mk)

.....

9. Define the following terms as used in livestock rearing……..2mks

(a)pullet……
……

b.cockrel……
……..

c.piglet……
……

c.sow……
……..

10. What is creep feeding? (1mk)

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……..……

11.State two meat breeds of sheep 2mks

12. Give microbial activities that takes place in the rumen..2mks

13. (a) State 2 functions of cobalt in animal's body 1MKS

(b)Name two classes of feedstuff 1mks

14. Give 4 mechanical method of tick control 2mks

15. State structural requirements of a pig house 2mks

16. State 4 disadvantages of using spray race over cattle dip 2mks

17. Give the uses of the following farm tools and equipments 2mks

i) strip cup

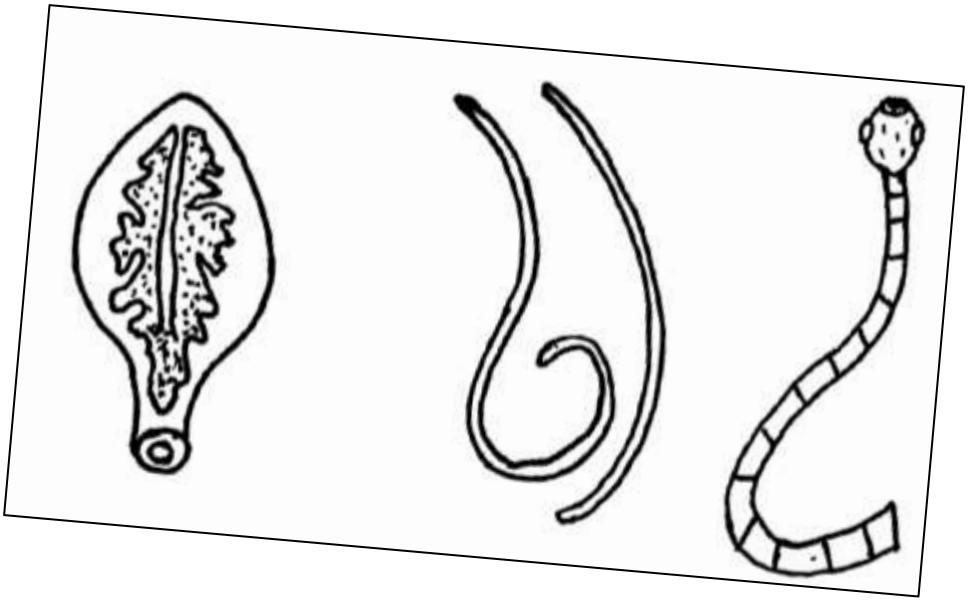
ii) milk strainer

Iii) Hacksaw

iv) Centre punch

Section B 20mks

18. Diagram **G**,**H** and **J** illustrates some livestock parasites



G **H** **J**

(a) Identify parasites **G,H** and **J** (3 mk

G…….

H…….

J……..

(b) Name the parts of the host body where parasites **G** and **J** are found (1mk)

……..

(c) Name the intermediate host of parasites **G** and **J**
(2mk)

G……..

J……..

(d) Outline **four** symptoms of attack in livestock by parasite J (2mks)

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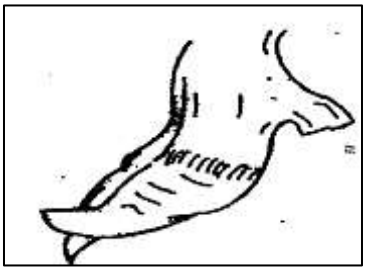
19. The diagram below illustrates a hoof of a sheep. Study it carefully and answer the questions that follow



(a) Name the routine management practice that should be carried out on the hoof illustrated above(1mk)

.....

(b) State **two** reasons for carrying out the management practice in (a) above
(2mks)

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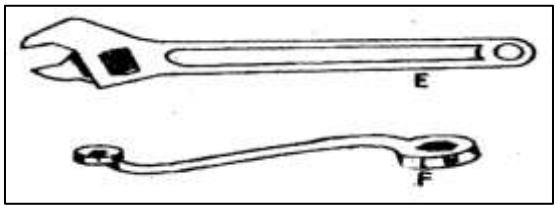
.....

20. Study the diagrams of workshop tools shown below



(a) Identify the tools labeled **E** and **F**
(2mk)

E.....

F.....

(b) What functional advantage does tool **E** have over tool **F?**
(1mk)

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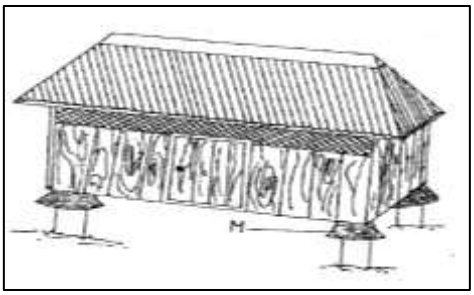
.....

(c) Below is a diagram of a farm structure for storing grains. Study it carefully and answer the question that follows

(i) Identify the farm structure illustrated above

(1mk)



.....

(ii) State the function of the part labeled **M**

(1mk)

.....

(iii) State **two** maintenance practices that should be carried out on the farm structure illustrated above in readiness for grain storage 2mks

21.Give four functions of a worker bee 2mks

Section c (40mks)

Attempt any two questions

22(a) i) Describe seven signs of ill-health in livestock 7mks

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(ii) Outline five uses of a crush in livestock rearing5mks

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(b) (i) Name the causal organism of coccidiosis in poultry. (1mk)

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(ii) Apart from poultry name two other animals affected by the disease above. (2mks)

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(iii) Give five symptoms of the disease in poultry.
(5mks)

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23. (a) Describe the procedure of processing honey wax (8mks

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(b) Outline FOUR harmful effects of lice in livestock **(** 4MKS **)**

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(c) State five advantages of the top bar beehive (5mks)

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d). Give three signs of heat in pigs (3mks)

24. A) Explain six advantages of artificial insemination (A.I) in livestock breeding. (6mks)

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(b) Give 5 categories of farm tools and equipment (5mks)

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c)outline five characteristics corriedale breed of sheep (5mks)

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d)discuss 4 practices carried out on fish before preservations. 4mks

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