kenyaeducators@gmail.com

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

121/1 MATHEMATICS

PAPER ONE

TIME: 2½HRS

For marking schemes call Mr machuki 0795491185

Instruction: Attempt **ALL** Questions in Section **I** and any **FIVE** in section **II**

SECTION 1

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

SECTION 2

17	18	19	20	21	22	23	24		GRAND TOTAL

SECTION I (50Mrks)

Answer ALL the Questions in the section

1. Evaluate: 3mks

$$\frac{2\frac{1}{2} \text{ of } 1\frac{3}{4} - 5\frac{1}{4}}{1\frac{2}{5} + 2(1\frac{1}{4} - 2\frac{3}{4})}$$

2. An electrician made a loss of 30% by selling a multi plug at Sh. 1400. What profit would he have made if he sold the multi plug at sh 2300.
   3mks

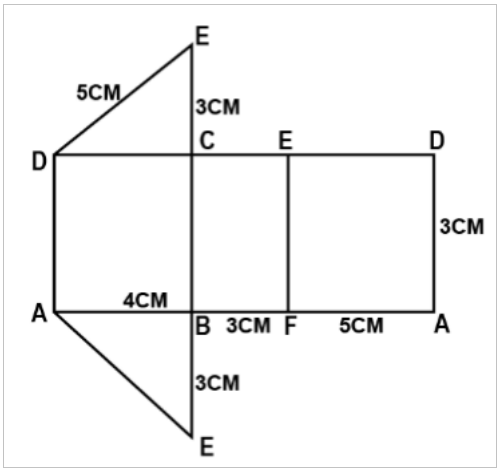
3. Simplify $\sqrt{\frac{12x^4y^{-1}z^5}{3x^{-2}y^{-3}z^3}}$

   2mks

4. Solve the following inequalities and represent the solutions on a number line

   $X + 1 \leq 4x - 5 < 3x + 2$

5. The figure below shows a net of a solid.



   a. Sketch the solid of the net showing the hidden edges with broken lines.

      2mks

b. Find the surface area of the solid.
   2mks

6. Determine the quartile deviation for the following distribution.
   3mks
   3,4,9,5,4,7,6,2,1,6,7,8,9

7. Given that $2^{3/2x} = 4096$, find the value of x
   2mks

8. It would take 15men 8days to dig a trench of 240m long. Find how many days it would take 18men to dig a trench 360meters long working at the

same rate.

3mks

9. Use logarithms to evaluate.

4mks

$$\sqrt[3]{\frac{0.921 \times 0.00739}{0.023}}$$

10. A regular polygon is such that its exterior angle is one eighth the size of interior angle. Find the number of sides of the polygon.

3mks

11. A translation vector $\begin{pmatrix} x-1 \\ 2-y \end{pmatrix}$ maps a point A(4,6) onto $A^{I}(9,12)$. Find the value of

x and y.

3mks

12. A Canadian tourist arrived in Nairobi with Canadian dollars 6200. She converted all his money into Kenya Shillings and then spent a total of Kshs. 100,000. She paid her Kenyan tour guide a commission equivalent to 20% of the remainder. Given that 1 canadian dollar = Ksh. 48.12. calculate

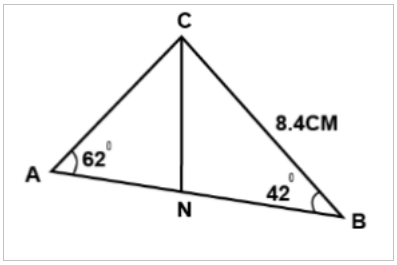
A. How much she got in kenya shillings after converting all her money. 1mk

B. The amount of kenya shillings she was left with at the end.

2mks

13. In the figure below <A=62°, <B = 42°, BC = 8.4cm and CN is a bisector of angle ACB. Calculate to 1dp the length of CN.

3mks



14. A father is now four times as old as his son. Five years ago, he was exactly one year and half times as old as his son will be in ten years from now. Determine the sum of their present ages.

4mks

15. An arc length of 11cm subtends an angle of 140° at the circle. Find the area of the enclosed sector.

4mks

16. Factorize and simplify the expression.

3mks

$$\frac{x^2+6x+9}{x^2-9}$$

SECTION II (50 marks)

Answer any FIVE questions from this section

17. The triangle ABC with coordinates A(2,3), B(4,2) and C(1,1) is mapped onto

triangle $A^1B^1C^1$ by a reflection in the line y + x = 0.

a. (i) Draw triangle ABC and its image $A^1B^1C^1$ on the same plane.
3mks

(ii) Triangle $A^1B^1C^1$ is mapped onto $A^{11}B^{11}C^{11}$ by a transformation represented by the matrix. $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$

Draw triangle $A^{11}B^{11}C^{11}$ and describe fully a single transformation that maps triangle ABC onto triangle $A^{11}B^{11}C^{11}$
4mks

b. Triangle ABC is mapped onto xyz with A being mapped onto x, B onto Y and C onto Z. given that the coordinates of x is (-4,3), Y is (0,2) and Z is (-1,1), find the matrix representing the transformation.
3mks

18. A lorry left town A for B at 6.50pm at an average speed of 60km/h. at 8.35pm, a car left tow A for B at an average speed of 90km/h. if A is 317km from B. determine:

    a. The distance of the lorry from town A when the car took off.
       3mks

    b. The distance the car travelled to catch up with the lorry.
       4mks

    c. What time of the day did the car catch up with the lorry? Give your answer in 24hrs system.
       3mks

19. Three ships X, Y and Z are approaching a habour H. X is 150km from the habour on a bearing of O90°. Y is 130km from the habour on a bearing of 130°E and Z is 180km to the west of Y.

a) Taking a scale of 1cm to represent 20km, make a scale drawing of the routes of the three ships to the habour.
2mks

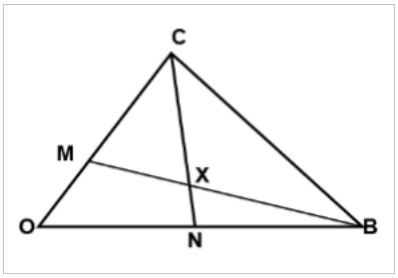
b) What is the distance between ships X and Z?
2mks

c) Find the bearing of H from Z.
2mks

d) If ship Y is travelling at a speed of 50km/h how long will it take to reach the harbor.

2mks

20. The figure below shows a triangle OAB with O as the origin. OA=$\underline{a}$ OB = $\underline{b}$, OM 2/5$\underline{a}$ and ON = 2/3$\underline{b}$.



a) Express in terms of $\underline{a}$ and $\underline{b}$ the vectors

(i) BM 1mk

(ii) AN 1mk

b) Vector OX can be expressed in two ways: OB + KBM or OA + hAN, where K and h are constants.

Express OX in terms of:

i. $\underline{a}$, $\underline{b}$ and k.

2mks

ii. $\underline{a}$, $\underline{b}$ and h.

2mks

c) find the valuesof k and h.
4mks

21. in a certain meeting, there were 95men in attendance. There were 50 more women than men and twice as many children as men.
a. Determine the number of people in attendance.
2mks

b. Find the percentage of children in attendance, correct to 3 significant figures.
2mks

c. A hall for the meeting was fitted with benches that could accommodate eighher 10 children or 7 adults per bench.
Find the number of benches
i. Used by the children
2mks

ii. Completely filled by the adults.
2mks

iii. Adults who would fill the unoccupied space.
2mks

22.a) The point A(-2, 4) and B(3,-6) lies on a straight line AB, find

(i) the equation of the line perpendicular to AB and passing through A
3mks

(ii) The equation of the line parallel to AB and passing through the point. (3,-1).
3mks

b) The points A and B are translated by a vector

M = $\begin{pmatrix} 2 \\ -1 \end{pmatrix}$. Find

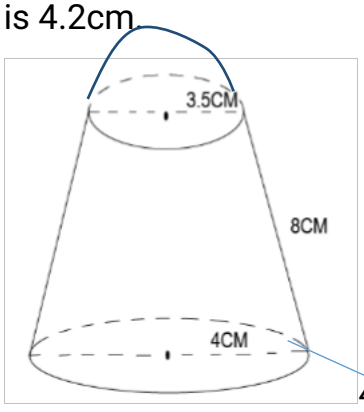
(i) the images of A and B.

2mks

(ii) the equation of the line passing through A^1 and B^1 the images of A and B respectively.

2mks

23.the figure below represents a solid made up of a conical frustum and a hemispherical top. The slant height of the frustum is 8cm and its base radius is 4.2cm.



If the radius of the hemispherical top is 3.5cm

a. Find the area of:

i. The circular base

2mks

ii. The curved surface area of frustum.
4mks

iii. The hemispherical surface
2mks

b. A similar solid has a total surface area of 81.5cm2. determine the radius of the base.
2mks

24. Using a ruler and a pair of compasses, construct parallelogram ABCD such that AB = 8cm, diagonal AC = 12cm and angle BAC = 22.5°
4mks

a) Measure (i) The diagonal BD

1mk

(ii) The angle ABC 1mk

b) Draw the circumference of triangle ABC
2mks

c) Calculate the area of the circle drawn
2mks

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KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

121/2 MATHEMATICS

PAPER TWO

TIME: 2½HRS

For marking schemes call Mr machuki 0795491185

Instruction: Attempt **ALL** Questions in Section **I** and any **FIVE** in section **II**

INSTRUCTIONS

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

SECTION I (50Mks)

Attempt ALL Questions from this section

1. Make x the subject of the formula

   3mks

   $$P = \sqrt{\frac{x + 2w}{4x + 3R}}$$

2. P varies partly as the square of v and partly as the cube of v. when V=2, P = -20 and when v = -3, P=135. Find the relationship between P and v.

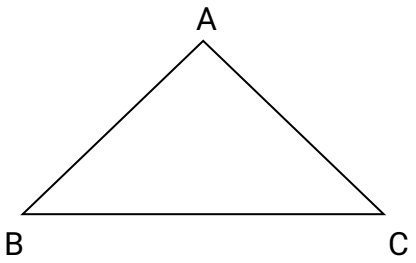
   3mks

3. Expand $(1 + 2x)^7$ up to x^3, hence use the expansion to estimate the value of $(1.02)^7$ correct to four decimal places.
   3mks

4. Simplify the following by rationalizing the denominator.
   3mks

$$\frac{\sqrt{2} - 1}{4\sqrt{2} - 3}$$

5. The diagram below represents a field ABC.



(a) Draw the locus of points equidistant from sides AB and AC
2mks

(b) Draw the locus of points equidistant from points A and C. 2mks

C) A coin is lost within a region which is nearer to point A than to point C and closer to side AC than to side AB. Shade the region where the coin can be located.

2mks

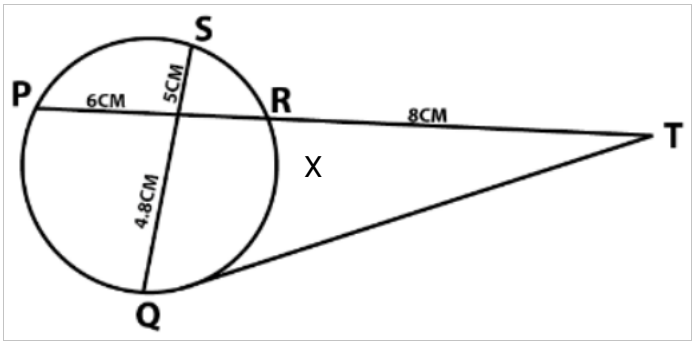
6. Given x = 13.4cm and y=4.3cm. calculate the percentage error in $^{x}/_{y}$ correct to 4 d.p

3mks

7. If matrix A = $\begin{pmatrix} 1 & 2 \\ 4 & 3 \end{pmatrix}$ Find B given that $A^2 = (A + B)$. 3mks

8. In the figure below QT is a tangent to a circle at Q. PXRT and QXS are straight

lines. PX = 6cm, RT = 8cm, QX= 4.8CM



Find the length of

a. XR 2mks

b. QT 2mks

9. A circle whose equation is $(x-1)^2 + (y-k)^2 = 10$ passed through point (2,5). Find the coordinates of the two possible centresof the circle.
3mks

10. A blender mixes two brands of juice A and B to obtain 70mls of the mixture worth Ksh. 165 per litre. If brand A is valued at Kshs. 168 per litre and brand B at Ksh. 153 per litre bottle, calculate the ration in which the brands A and B are mixed. (2mks)

11. Without using logarithm tables solve the equation log $(5x - 4) = \log(x + 2) + {}^{1}/_{3} \log 27$. 3mks

12. a) Use reciprocal tables to find the value of = $^{1}/_{0.325}$ 1mk

b) Hence, evaluate $\frac{\sqrt[3]{0.000125}}{0.325}$

1mk

13. The G.C.D of three numbers is 45 and the LCM is 18900. Two of the numbers are 675 and 540. Find the other possible numbers.

3mks

14. solve for θ given that θ is acute and sin (3θ - 50º) – Cos (20 + 10º) = 0

3mks

15. A container of height 90cm has a capacity of 4.5L. What is the height of a similar container of volume 9cm³. 3mks

16. A point R divides a line PQ internally in the ration 3:4. Another point S, divides the line PR externally in the ratio 5:2. Given that PQ = 8cm, calculate the length of RS, correct to 2 decimal places.
    3mks

SECTION II (50mrks)

Attempt any FIVE questions from this section

17. Complete the table below for the function
    (a) $y=x^2 + {}^{12}/_{x} - 15$ for $0.5 \leq x \leq 4$

X	0.5	1	1.5	2	2.5	3	3.5	4
y	9.25			-5	-4			

(b) Draw the graph of $y=x^2 + {}^{12}/_{x} - 15$ for $0.5 \leq x \leq 4$. using a scale of 2cm rep 1 unit on the x – axis and 2cm for 5 units on the y – axis. 3mks

(c) (i) from your graph, state the range of values of x for which $y=x^2 + {}^{12}/_{x} \leq 18$ 3mks

(ii) By adding a suitable straight line to your graph, solve the equation $y = x^2 + {}^{12}/_{x} - 5x + 20$ 3mks

18. The product of the first three terms of a geometric progression is 64. If the first term is a and the common ratio is r.

(a) Express r in terms of a 3mks

(b) Given that the sum of the three terms is 14,

(i) Calculate the values of a and r and hence write down two possible sequences each up to the 4^{th} term. 5mks

(ii) Find the product of the 50^{th} terms of the two sequences 2mks

19. The table below shows income tax rates for certain year.

Monthly income in Kenya Shillings	Tax rate in each shillings

(Kshs)	
0 – 10164	10%
10165 – 19740	15%
19740 – 29316	20%
29317 – 38892	25%
Over 38892	30%

A tax relief of Kshs. 1162 per month was allowed. In a certain month of the year, an employee's taxable income in the fifth band was Ksh. 2108.

(a) Calculate

i) Employees total income in that month

2mks

ii) The tax payable by the employee in that month. 5mks

(b) The employee's income includes a house allowance of Ksh. 15,000 per month. The employees contributed 5% basic salary to a cooperative. Calculate the employee net pay for that month. 3mks

20. The following table shows the distribution of marks obtained by 50 students in a test.

Marks	45-49	50-54	55-59	60-64	65-69	70-74	75-79
No. of Students	3	9	13	15	5	4	1

By using an assumed mean of 62, calculate

a) The mean 5mks

b) The variance 3mks

c) The standard deviation 2mks

21. A red and black dice are rolled and the events x, y and z are defined as follows.

    X = the red die shows a 4

    Y = the sum of the scores of the two dice is 6

    Z = the black dice shows a 3

    a. Find the probability of event x 2mks

    b. The probability of events x and y 3mks

    c. Which event is mutually exclusive to x
    1mk

    d. Which event is independent of x 2mks

    e. The probability of event Y 2mks

22. a) Complete the table below

2mks

X	0	30º	60º	90º	120º	150º	180º	210º	240º	270º	300º	330º	360º
- Cos x	-1		-0.5		0.5	0.87		0.87			-0.5	0.87	
Sin(x-30º)		0.0	0.5			0.87	0.5		-0.5			-0.87	-0.5

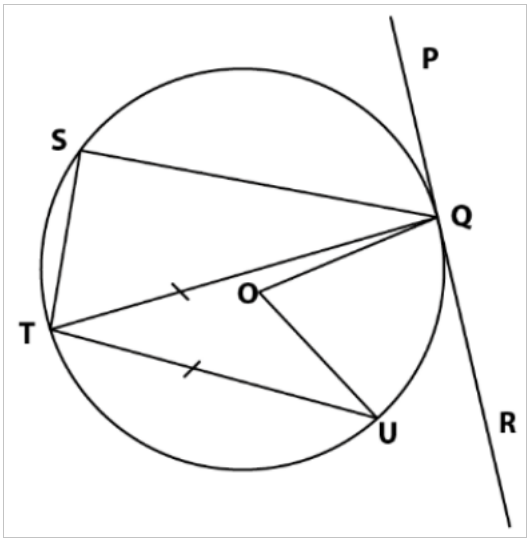
b) Draw the graphs of y=sin(x-30) and y=-Cos x on the same axes, for $0^º \leq x \leq 360^º$

(5mks

Grid square

c) Use your graph to solve the equation $\sin(x - 30^º) + \cos x = 0$ (3mks)

23. in the figure below, O is the centre of the circle, PQR is the tangent to the circle at Q, Angle PQS=28º, angle UTV = 54º and UT = TQ



Giving reasons, determine the size of

a) Angle STR

2mks

b) Angle TQU 2mks

c) Reflex angle TQS

2mks

d) Reflex angle UOQ

2mks

e) Angle TQR 2mks

24. The cost c of producing n items varies directly as n and partly as the inverse of n to produce two items it costs Ksh. 135 and to produce three items it costs Ksh. 140. Calculate

a) The constant of proportionality and hence write the equation connecting c and n.

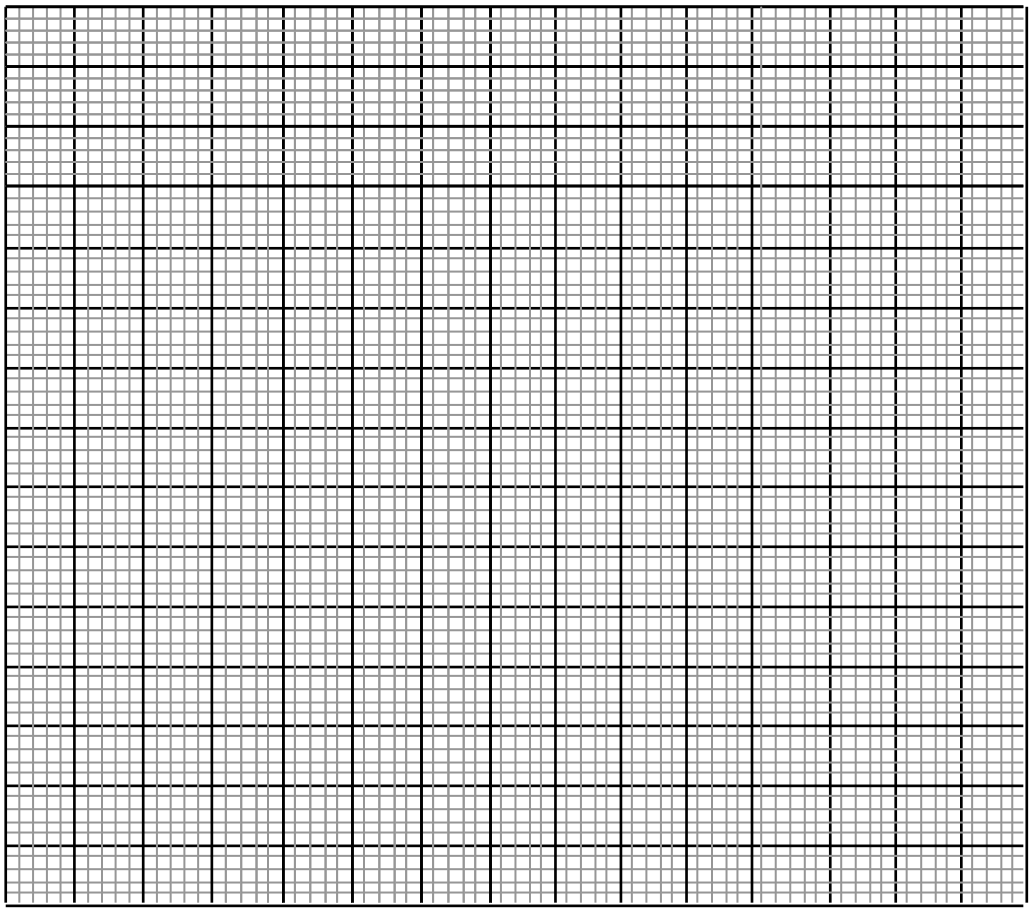
5mks

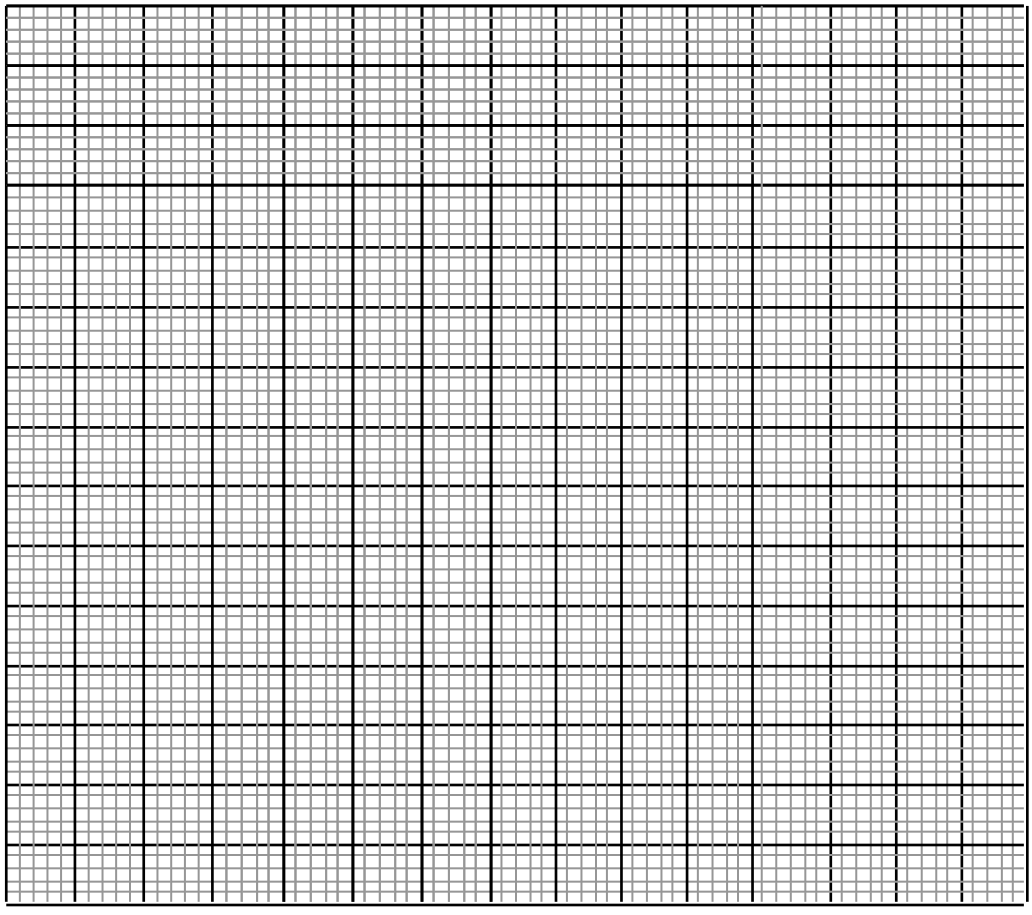
b) The cost of producing 10 items

2mks

c) The number of items produced at a cost of Ksh. 756.

3mks





KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

232/1 PHYSICS (Theory)

PAPER ONE

TIME: 2HRS

Instruction to candidates

- This paper consist of two sections **A** and **B**
- Answer all questions in section **A** and **B** in the spaces provided
- All workings **must** be clearly shown, and Use the **CONSTANTS** given.

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CAND SCORE
A	1 – 13	35	
B	14	08	
	15	12	
	16	08	
	17	09	
	18	09	
TOTAL		80	

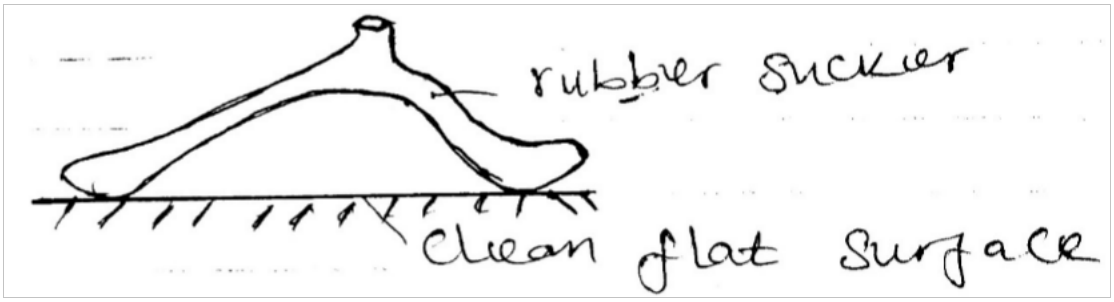
SECTION A (35 Marks)

(Answer all questions in this section)

1. A micrometer screw gauge has a zero error of -0.03mm. It is used to measure the diameter of a wire. If the actual diameter of the wire is 0.30mm, draw the micrometer screw gauge showing the measured diameter of the wire.
(3 marks)

2. The figure (1) below shows a rubber sucker, explain why the sucker sticks on a clean flat

   Surface. (1 mark)



……

……

3. You are provided with a test – tube, thread and a meter ruler. Outline the steps you would use to measure the circumference and hence the diameter of the test – tube. (4marks)

4. A car weighs 12 000N.

i. What is the force acting on one tyre if the weight is evenly distributed amongst thetyres? (1 mark)

ii. If the area of contact of tyre is 80cm^2.Calculate the pressure of the air in the tyre. (3 marks)

5. Why are gases easily compressible while liquids and solids are almost incompressible?(1 mark)

……

……

6. Name three properties of a clinical thermometer that make it suitable for measuring body temperature
(3 marks)

……

……

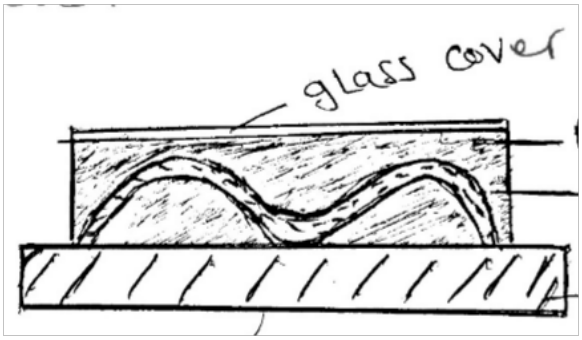
……

7. How does the volume of a given mass of water change as;

   i) The water is cooled from 10^0 C to 0^0C? (1 mark)

   ii) The water is frozen to ice at 0^0C?
   (1mark)

8. The figure (2) below shows a section of a solar heater



Blackened copper collector

Coiled copper pie with water

Insulator

Explain;

i) Why the pipeline is fixed to a dark coloured collector plate (1 mark)

……

……

ii) Why is pipe coloured several times (1 mark)

……

……

iii) Why is pipe made of copper (1 mark)

……

……

iv) Why is the collector plate fixed to an insulator? (1 mark)

……

……

v) Why the panel front covered with glass (1 mark)

……

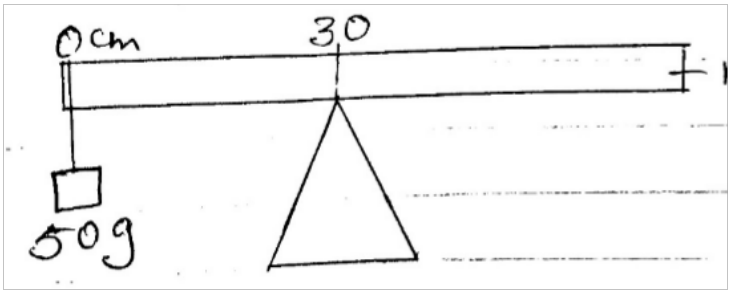
……

9. (a) Define moments of a force (1 mark)

……

……

(b) The figure (3) below shows a uniform meter rule balanced at the 20 cm mark when a mass of 50g is hanging from its zero cm mark



Meter rule

Calculate the weight of the rule (3 marks)

10. State two practical applications of stability (2

marks)

……

……

11. Explain how loose clothing may affect safety in the laboratory (2 marks)

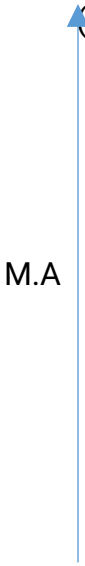
……

……

……

12. Water flows steadily along a horizontal pipe at a volume rate of $8.0\times10^{-3}m^3/s$.If the cross-section area of the pipe is $20cm^2$.Calculate the velocity of the fluid. (3 marks)

13. On the axis provided sketch a graph of mechanical advantage (MA) against load for a pulley system
(1 mark)

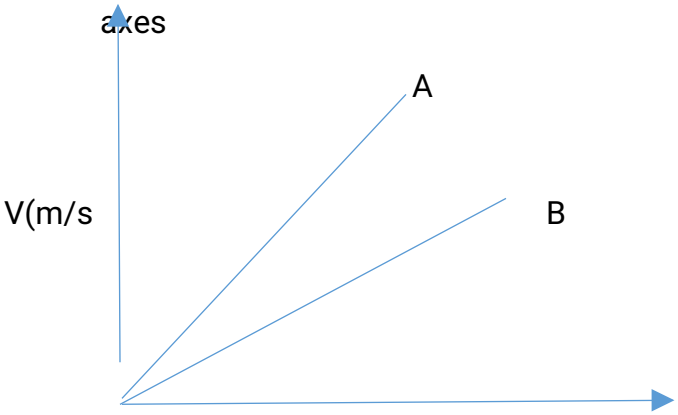


Load

SECTION B :(45 marks)

(Answer all the questions in this section)

14. The figure below shows velocity-time graphs of two objects A and B drawn on same axes



The two objects are of equal masses. The same size of force is applied against each object. State with a reason which of the two objects stops in a shorter distance.
(2 marks)

……

……

(b) An object moving at 30 m/s starts to accelerate at $5m/s^2$ so that its velocity becomes 50 m/s.

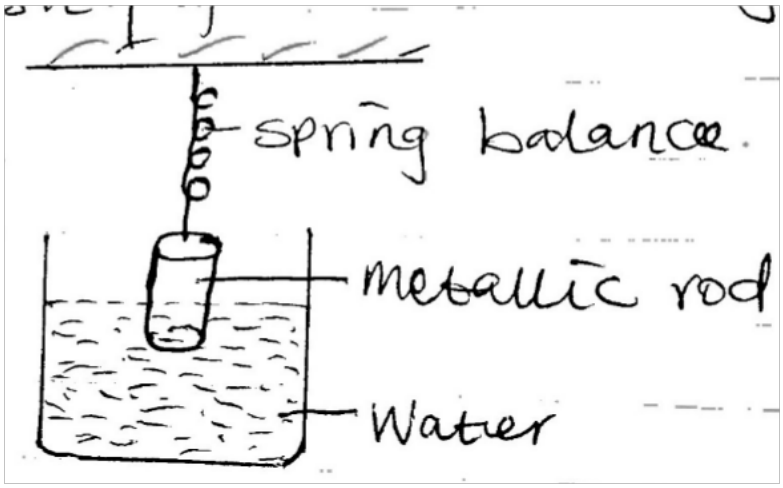
i) Find the distance moved during this acceleration (3 marks)

ii) The object is now braked so that it comes to rest in a time of 5 seconds. Find the braking force if its mass was 2700g.
(3 marks)

15. State the law of floatation (1 mark)

……..

(b)The figure (5) below shows a metallic rod of length 10cm and uniform cross-sectional area 4cm^2 suspended from spring balance with 7.5 cm of its length immersed in water. The density of the material is 1.5g/cm^3.The density of water is 1 g/cm$^{3.}$



Determine:

i) The mass of the rod (3marks)

ii) The upthrust acting on the rod (3marks)

iii) The reading 0f the spring balance (2marks)

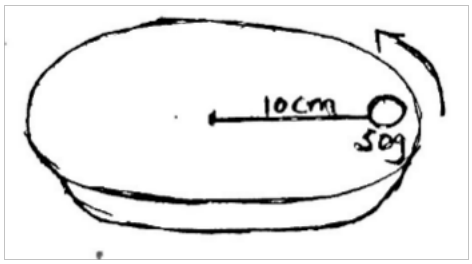
iv) The reading of the spring balance when the rod is wholly immersed in water (3marks)

16. (a)State what provides centripetal force for an electron moving round the nucleus (1mark)

……

……

(b)The figure (6) below shows a turntableon which a mass of 50g is placed 10cm from the centre



Frictional force between the 50g mass and the turntable is 0.4 N.When the turntable is made to rotate with angular velocity of W rad/sec, the mass starts to slide off.

i) Determine the:

I. Angular velocity W
(3marks)

II. Time taken to make one complete revolution
(3marks)

ii) On the figure, draw a path that would be taken by the 50g mass if the turntable suddenly came to stop (1

mark)

17. (a) An object of the mass 150kg moving at 20m/s collides with a stationary object of mass 90kg.They couple after collision .Determine the :

(i) Total momentum before collision (2 marks)

(ii) Total momentum after collision (1 mark)

(iii) Their common velocity after collision (2 marks)

(b)A piece of wire of length 12m is stretched through 2.5cm by a mass of 5 kg. assuming that the wire obeys the Hookes law, what force will stretch it through 4.0 cm.(2marks)

……

……

……

……

18. (a)Explain why an air bubble increase in volume as it rises from the bottom of a lake to the surface (2 marks)

……

……

……

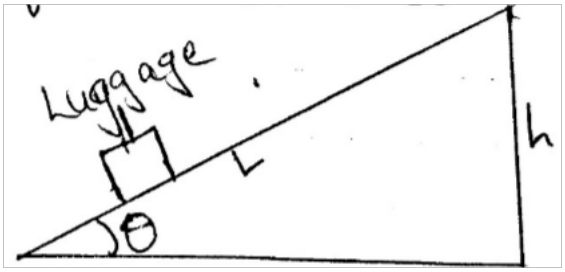
(b)An immersion heater rated 2.5Kw is immersed into a plastic jug containing 21kg of water and switched on for four minutes .Determine:

i) The quantity of heat gained by water (2 marks)

ii) The temperature change for water.(specific heat capacity of water=$4.2\times10^{3}Jkg^{-1}k^{-1}$

(3 marks)

(c) The figure (7) below shows an inclined plane used to load heavy luggage's onto a lorry. The length of the plane is L metres and the height is h metres



Show that the velocity ratio is given by $\frac{1}{\sin \theta}$

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232/2 PHYSICS (Theory)

PAPER TWO

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

- This paper consist of two sections: A and B
- Answer all questions in section A and B in the spaces provided
- All workings must be clearly shown. Mathematical tables &electronic calculators may be used

FOR EXAMINERS USE ONLY

PART	QUESTION	MAX SCORE	STUDENT'SSCORE
A	1 - 11	25	
B	12	11	
	13	07	
	14	10	
	15	11	
	16	11	
	TOTAL	80	

SECTION A (25 MARKS)

ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED

1. Figure 1 below shows two plane mirrors inclined at an angle x from each other. A viewer counts a total of seven images by looking directly from the object O. Determine value of angel x.
(2mks)

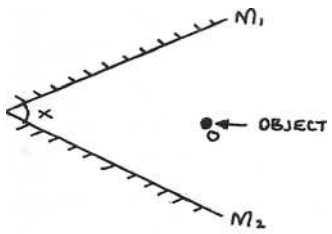
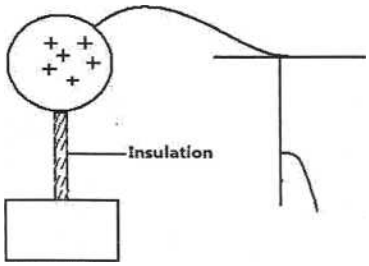


Figure 1

2. A charged metal sphere is connected to an uncharged electroscope as shown in the figure 2 below. State and explain the observations made. (2mks)



……

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……

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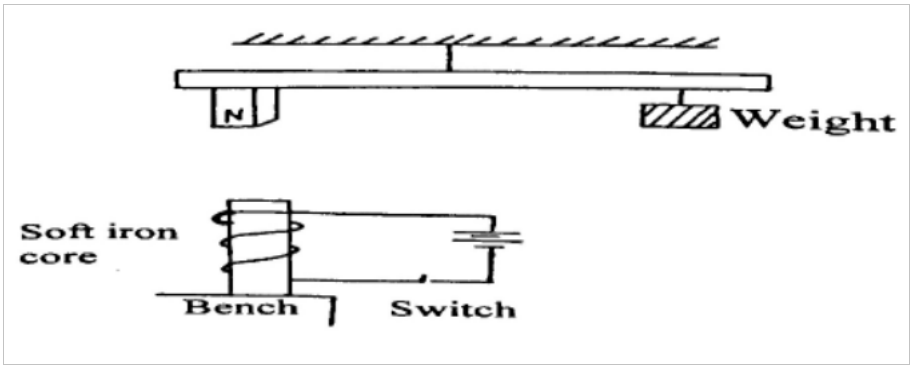
3. A metre rule is suspended by a thread such that it in equilibrium balanced by a permanent magnet attached to the metre rule and some weight as shown in figure 3 below.



If the soft iron is fixed to the bench, state and explain the effect on the metre rule when the switch is close.
(2mks)

……

……

……

……..

4. a) Explain why convex mirrors are preferred to plane mirrors as vehicle side mirrors.

(1mk)

……

……

b) A part from images being formed behind the mirror, state any other two similarities of images formed by a plane mirror and a convex mirror. (2mks)

……

……

……

5. i) Differentiate between polarization and local action in a simple cell (2mks)

……

……

……..

ii) State the use of manganese IV oxide in a dry cell (1mk)

……..

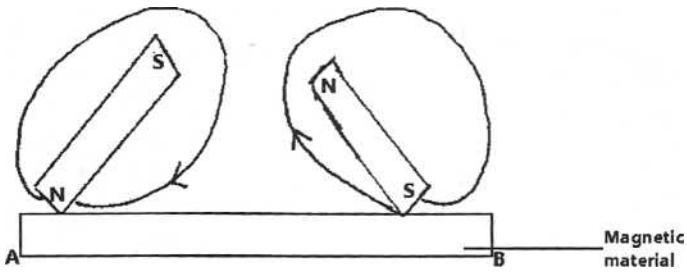
6. Other than progressive waves travelling in opposite direction at the same speed, state any other two conditions necessary for the formation of stationary (2mks)

……

……

7. A gun is fired and an echo heard at the same place 0.6s later. How far is the barrier, which reflected the sound from the gun? (Speed of sound in air=330ms^{-1} (3mks)

8. In an attempt to make a magnet, a student used the double stroke method as figure 4 shown below. (2mks)



State the polarities at the ends A and B

A……

B……

9. a) The figure 5 below shows an electromagnetic relay.

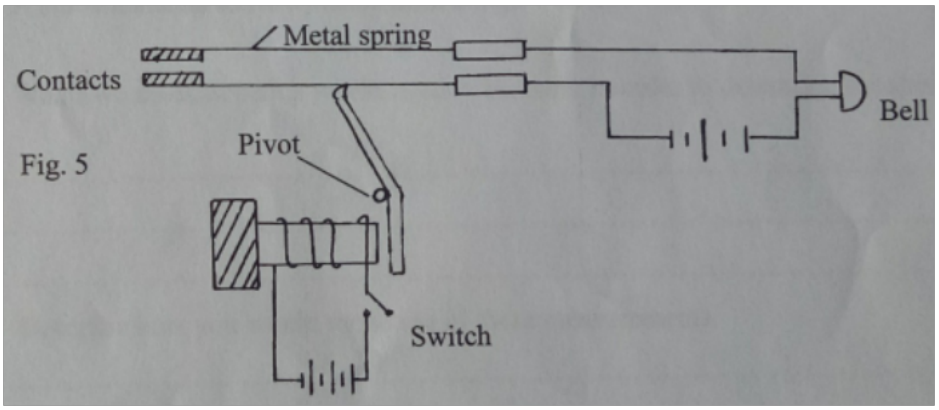


Fig. 5

Explain what happens when the switch is closed. (2mks)

……

……

……

10. A current of 12A flows through a circuit for 2.5 minutes. How much charge passes through the circuit. (2mks)

11. a) Define term light (1mk)

……

……

b) Other than the image being real, state any other characteristics of the images formed by pin-hole camera
(1mk)

……

SECTION B(55MARKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

12. a) A student stands some distance from a high wall and claps his hands

i) What two measurements would need to be made in order to determine the speed of sound?
(2mks)

……

……

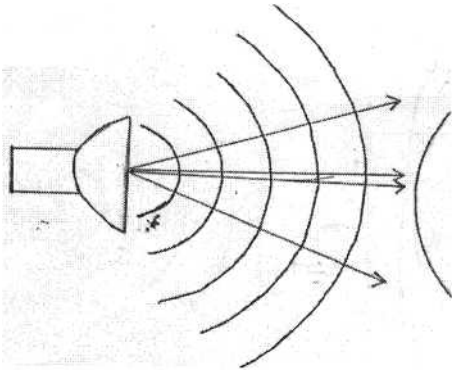
ii) Describe how you would make use of these measurements
(2mks)

……
……
……
……

iii) The speed of sound in air is 330m/s. How far from the wall would you stand? Choose an answer from the following distances 10m, 200m,500m. Give reasons why you did not choose each of the other two distances.
(2mks)

……
……
……

b) The balloon filled with carbon dioxide can act like a lens and focus sound from a loud speaker. On to the microphone, Figure 6 show waves produced by loud speaker moving toward the balloon.



i) Complete the diagram to show what happens to the sound waves when they have passed through the balloon and moves towards the microphone.
(2mks)

ii) The loud speaker is now moved toward the balloon. This results in less sound at

the microphone. Explain why there is less sound at the microphone
(1mk)

……

……

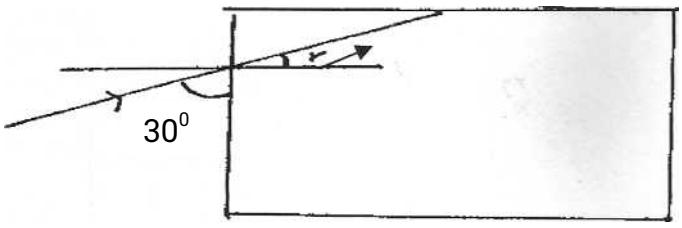
iii) The frequency of the sound emitted by the loud speaker is 1020Hz. Calculate the wavelength of the sound wave in air where its velocity is 340m/s
(2mks)

13. a) Define critical angel (1mk)

……

……

b) Figure 7 below shows a ray of light incident on the face of a cube made of glass reflactive index 1.50



Calculate

i) The angle r: (2mks)

ii) The critical angle for the glass air interface (2mks)

c) The figure 8 below shows a ray of light incident on a glass prism. Given that the critical angle for the grass is 39°, sketch on the diagram the path of the ray through the prism. (2mks)

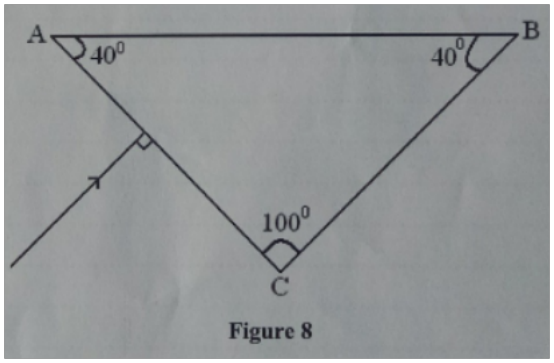


Figure 8

14. a) i) Definecapacitance of a capacitor and state its S.I unit (2mks)

……

……

……

ii)State any two factors that affect the capacitance of a capacitor

……

……

iii) The figure 9 below shows three capacitors connected between two points A and B. (3mks)

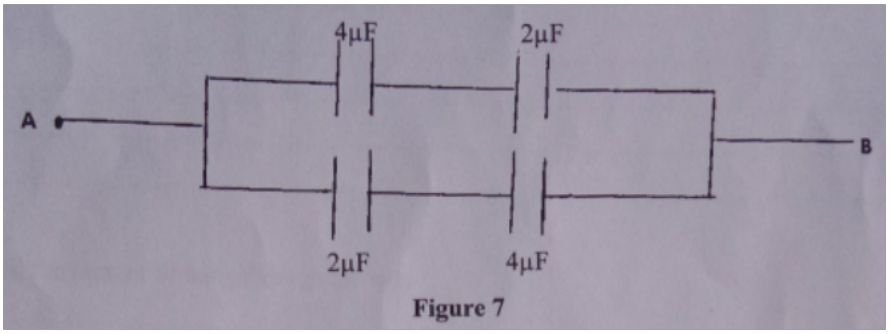


Figure 7

Determine the capacitance across AB

iv) Sketch a simple diagram that contains a capacitor, a two way switch, and a load resistor that can be used for charging and discharging a capacitor.
(3mks)

15. a) State Ohm's law (1mk)

……

……

b) A wire was connected to a battery and was found that the energy converted to heat was 30J when 20C of charge flowed through the wire in 5 seconds. Calculate;

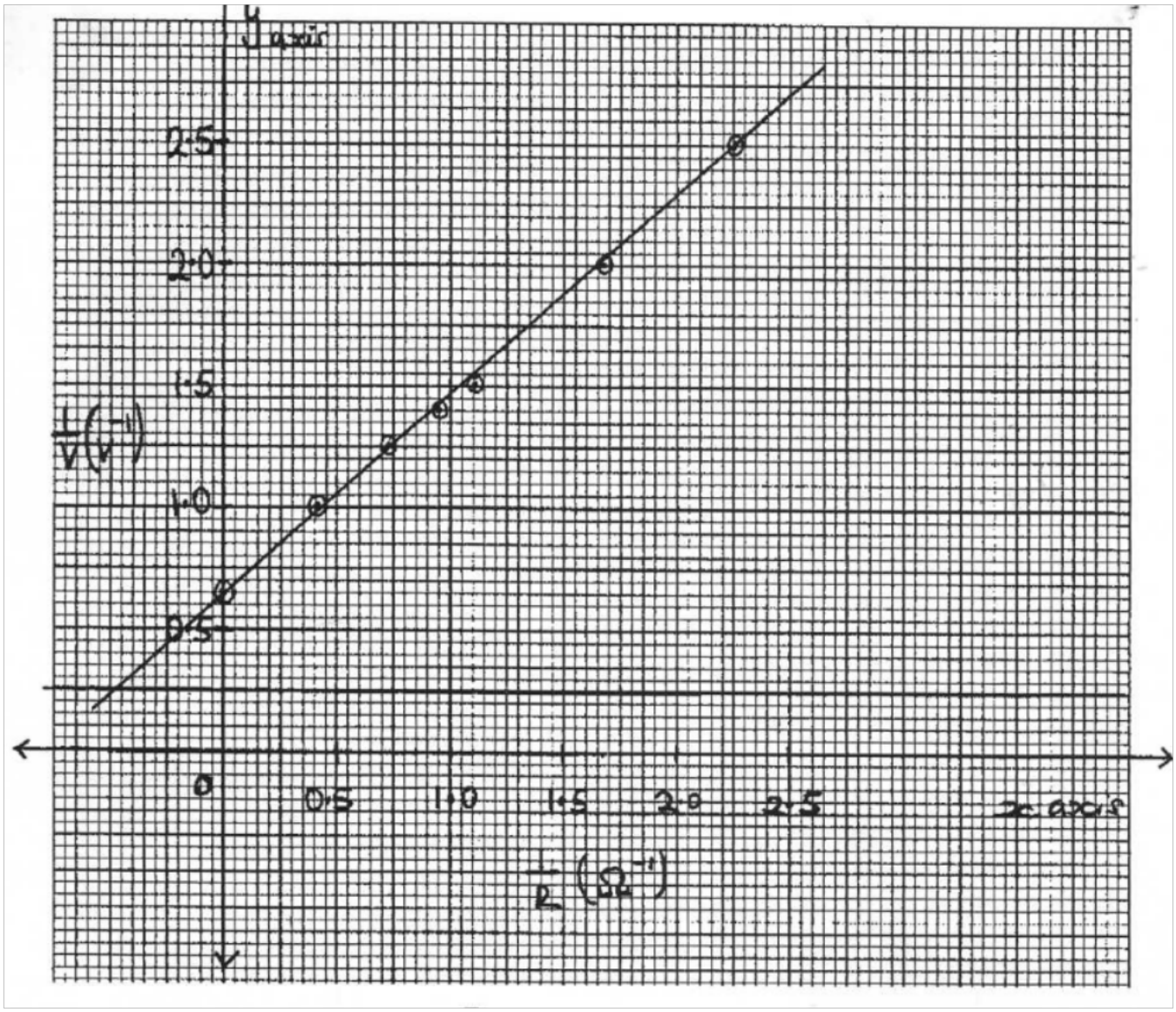
i) The p.d between the ends of the wire (2mks)

ii) The current flowing through the wire (1mk)

iii)The resistance of the wire (2mks)

iv)The average power development in the wire (2mks)

c) The graph below shows results obtained in an experiment the emf (E) and the internal resistance, r, of a cell. Given that the equation of the graph is E = r + 1



Given that the equation of the graph is $\frac{E}{V} = \frac{r}{R} + 1$

Use the graph to determine the values of:=

(i) E (2mks)

(ii) R

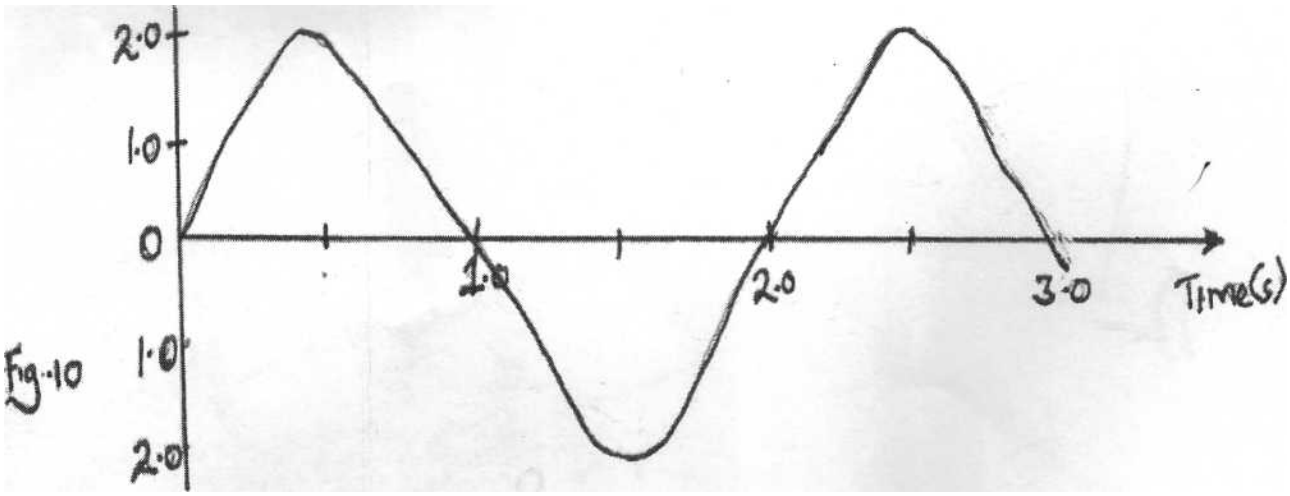
16. a) Distinguish between stationery waves and progressive waves. In terms of their propagation (2mks)

……

……

……..

b) The figure 10 represents an oscillation taking place at a particular point while a wave in a gas passes the point. The vertical axis is labeled displacement.



Fig·10

i) Explain what is meant by displacement in this context. (1mk)

……

……

ii) From the figure determine

I) The period (1mk)

II) The frequency (1mk)

c) Calculate the wavelength of the sound wave in the figure. Take the velocity of sound in the gas to be 340m/s
(3mks)

d) State two factors that can increase the speed of sound in solids (2mks)

……

……

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232/3 PHYSICS (Practicals)

PAPER THREE

TIME: 2½HRS

INSTRUCTIONS TO CANDIDATES

- This paper consist of two questions and Answer ALL questions in the spaces provided
- All workings MUST be clearly shown.

FOR EXAMINERS USE ONLY

PART	QUESTION	MAX SCORE	CAND SCORE
I	11	19	
II	A	16	
	B	5	
		40 MKS	

You are provided with the following

- Water in a beaker

- Complete retort stand
- Two clamps
- 100ml measuring cylinder
- Boiling tube
- Cotton thread
- Meter rule
- Beam balance(can be shared)
- Vernier calipers (can be shared
-

Proceed as follows

i) a) Using the vernier calipers, measure the internal diameter of the boiling tube

D=……. (1mk)

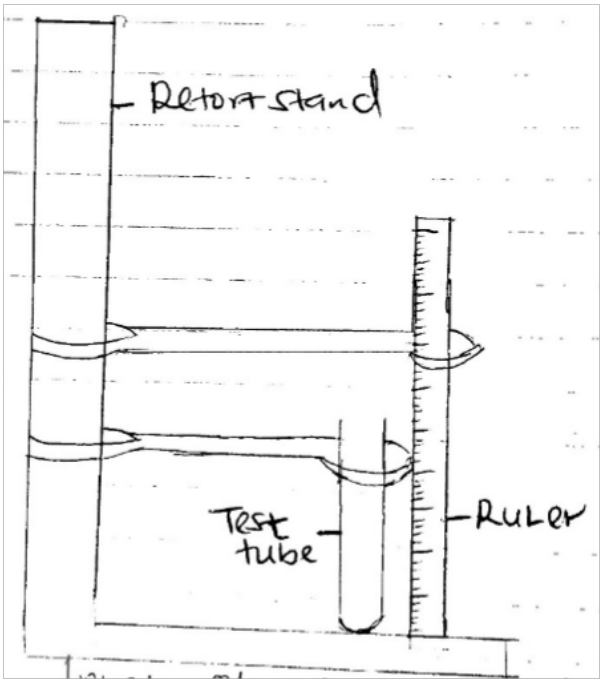
b) Measure the length H, of the boiling tube

H=…….cm (1mk)

ii) Measure the mass of the boiling tube using the beam balance

M=……g (1mk)

iii) Clamp the boiling tube vertically with its base resting on a flat surface as shown, Use the second clamp to clamp the meter rule beside the boiling tube.



iv) Measure 10ml of water and pour into the boiling tube. Measure the height h, of the water. Keep adding water in small amounts in the boiling tube and complete the table below

VOLUME IN CM^3/ML	HEIGHT H(CM)
10	
20	
35	

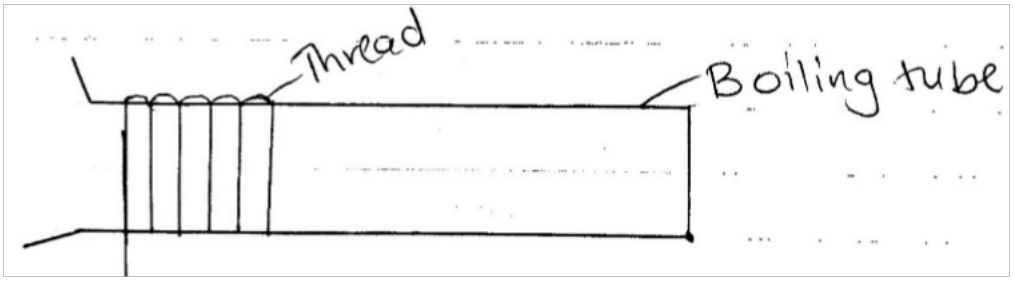
45	
50	
65	

(3MKS)

v) On the grid provided, plot a graph of volume V(cm^3) of water (y-axis) against height h(cm)
(5mks)

vi) From the graph determine the slope, (3mks)

vii) Wind the cotton thread ten times round the boiling tube, pushing the windings very close together, the turns should not overlap on each other.



Unwind the thread and measure the length L of the thread.

L……(cm) (1mk)

viii) Calculate the volume V,of the glass material which the boiling tube is made of, given that

$$V=h\left[\frac{2L^2}{2500}-5\right]$$

V= ……. (2mks)

ix) Calculate the density d, of the glass material of the boiling tube

d=…….. (2mks)

QUESTION 2

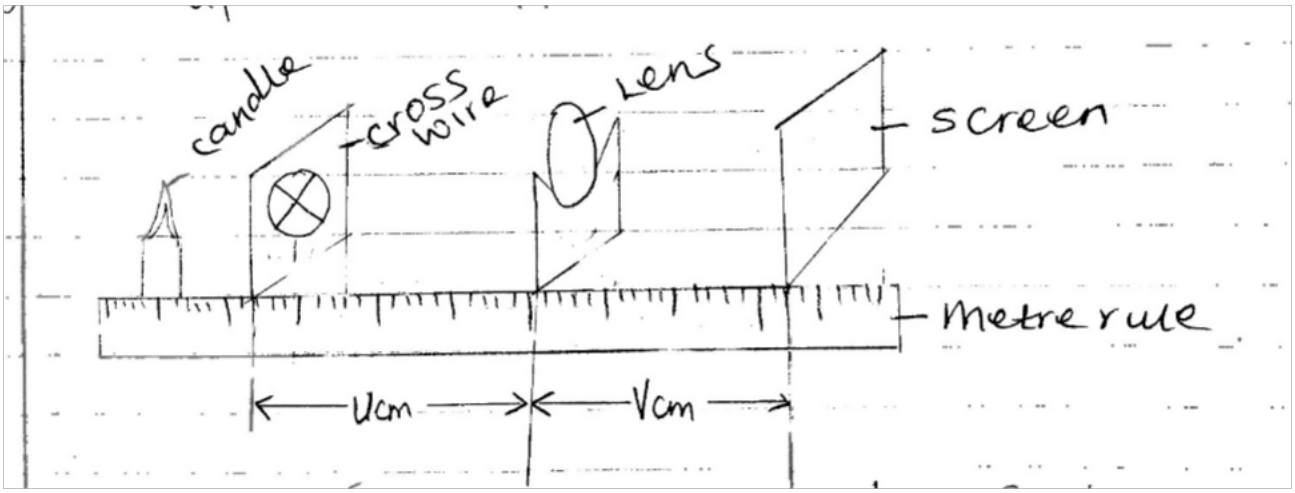
PART A

You are provided with the following

- A meter rule
- Convex lens
- A candle
- Len's holder
- Cross wither mounted on a cardboard
- A white screen

Proceed as follows:-

i) Set up the apparatus as shown



ii) Starting with U=30cm vary the position of the screen S until a sharp image of the cross wire is observed on the screen. Measure and record the value of

the image distance V.

iii) Repeat the experiment above for other values of U, and complete the table below

(6mks)

U(cm)	30	35	40	45	50	55
V(cm)						
$M = \frac{V}{U}$						

iv) Plot a graph of M against V (5mks)

v) Determine the slope of the graph (3mk)

vi) The equation of the graph is given by $M = \frac{v}{f} - 1$. Use your graph to obtain the value

of f (2mks)

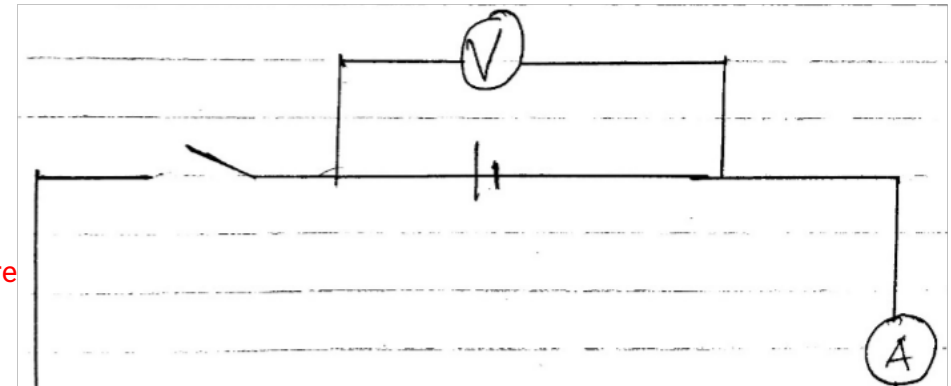
PART B

You are provided with the following apparatus:

- One cell and a cell holder
- Six connecting wires, two with crocodile clips
- A switch
- A 10 carbon resistor labledded R
- An Ammeter
- A voltmeter

Proceed as follows

i) Set up the apparatus as shown below.



Record the reading E of the voltmeter E…….. volts (1mk)

ii) Close the switch and record the reading, V, of the voltmeter and I the reading of the ammeter

V= ……..volts (1mk

I= …….amperes (1mk)

iii) Given that E = v + V + 1r, determine the value of r

r…….. volts (2mks)

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233/1 CHEMISTRY (Theory)

PAPER ONE

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided above
2. Sign and write the date of examination in the spaces provided
3. Electronic calculators may be used.
4. All working must be clearly shown where necessary

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
	81-280	

1. The table below shows pH values of solutions ABC and D

Solution	A	B	C	D
pH value	1	7	10	13

a) Give solution that is;

i) Acidic (1mk)

……

ii) Weak base (1mk)

……

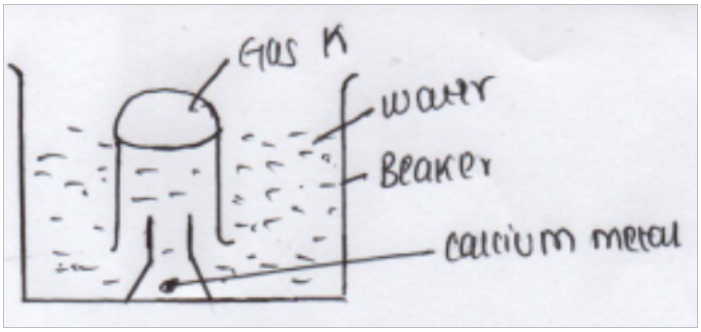
iii) Neutral (1mk)

……

b) Give the product formed when solution A react with a carbonate salt (1mk)

……

2. The set up below was used to collect gas K produced by the reaction between water and calcium metal



a) Name gas K (1mk)

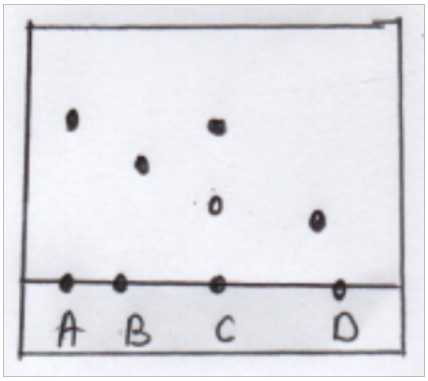
……

3. An organic compound P contains 64.9% carbon, 13.5 Hydrogen and the rest of the % is oxygen.

a) Determine empirical formula of the compound (3mks)

b) Determine the molecular formula given that the relative formula mass of P is 74 (1mk)

4. The diagram below shows spots of pure substances A, B and D on a chromatography paper. Spot C is that of the mixture.



a) On the diagram show the following
   i) Baseline (½mk)
   ii) Solvent front (½mk)

b) Which substances are present in C
(2mks)

……

……

5. In a reaction $20cm^3$ of 0.1m sodium carbonate completely reacted with $13cm^3$ of dilute sulphuric (V) acid. Find h concentration of suphuric acid in moles per litres (3mks)

6. Using dots (·) and crosses (X) draw the structure of hydroxonium ion (H_3O^+) (2mks)

7. Study the information below and answer the questions that follows. Letters do not represent the actual symbol of element.

Element	Atomic No	Ionization energy kJmol
P	4	1800
Q	12	1450

R	20	1150

a) What is the general name given to the group in which element P, Q and R belong? (1mk)

……

b) Explain why P has highest ionization energy (2mks)

……

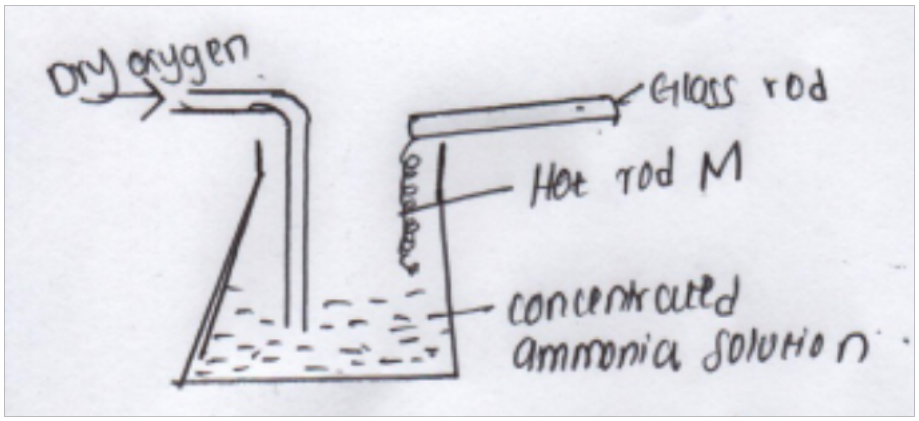
……

……

c) Write a balanced chemical equation for the reaction between element Q and water (1mk)

……

8. The diagram below shows catalytic oxidation of ammonia gas. Use it to answer the questions that follows.



a) Name metal M (1mk)

……

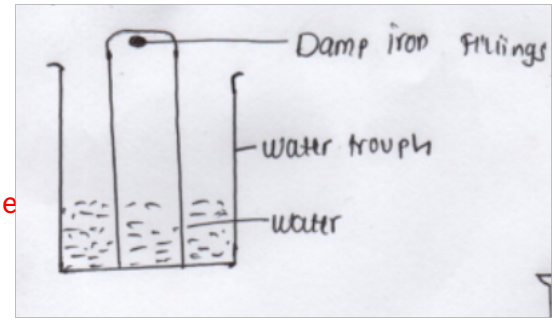
b) State and explain two observations made inside the flask (2mks)

……

……

……

9. In an experiment a gas jar containing some damp iron fillings was inverted in a trough containing some water and the set up was left for 3 days.



a) Why was iron fillings moistened (1mk)

……

b) State and explain observation made after 3 days
(2mks)

……

……

……

10. a) Distinguish between hygroscopy and efflorescence (2mks)

……

……

……

b) Starting with lead (II) oxide, describe how you would prepare lead (II) sulphute (3mks)

……

……

……

……

11. a) Define the term isotope (1mk)

……

……

b) Chlorine gas has a mass of 35.5. It is made up of two isotope $^{35}_{17}$Cland$^{37}_{17}$Cl . Determine the relative abundance of each isotope in the chlorine gas.
(2mks)

12. Explain the reason why Aluminium is used for making utensils like sufuria (1mk)

……

……

13. Describe a chemical test to differentiate between carbon (IV) oxide and carbon (II) oxide gas
(2mks)

……

……

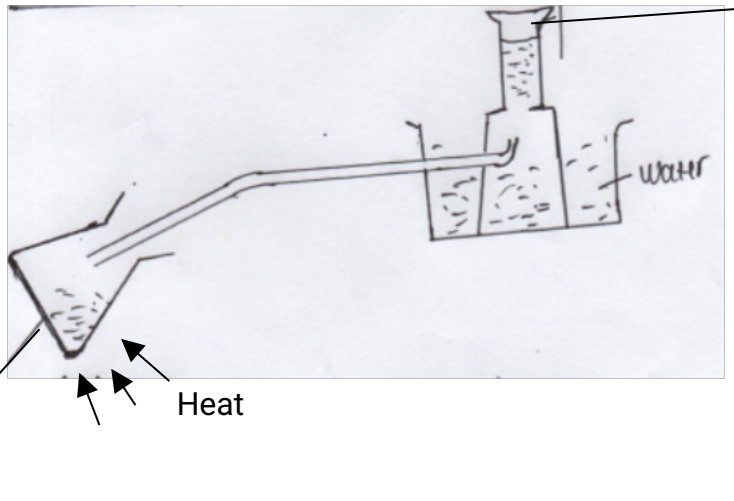
……

14. i) State Graham's law of diffusion (1mk)

……

ii) 120cm^3 of methane gas takes 30 seconds to diffuse through a certain membrane. Determine the rate of diffusion of surphure (IV) oxide gas through the same membrane (C=12, H=1, S=32, O=16) (3mks)

15. Study the set up below and answer the questions that follow



i) Name gas Q (1mk)

……

ii) Identify solid K (1mk)

……

iii) What is the purpose of calcium oxide in the experiment (1mk)

……

……

16. Both ions Y^{2-} and Z^{2+} have an electron configuration of 2.8.8

a) Write the electron arrangement for:

Y ……. (½mk)

Z ……. (½mk)

b) What is the mass number of atom Z given that it has 20 neutrons (1mk)

17. Magnesium ribbon was burnt in air;

a) State the observation made

(1mk)

……

……

b) Write the equations for the reaction (2mks)

……

18. a) Distinguish between a weak acid and a dilute acid

(2mks)

……

……

……

b) Giving a reason, identify an acid in the reverse reaction below (2mks)

$H_3O^+_{(aq)} + NH_{3(g)} \rightleftharpoons NH_4^+ + H_2O_{(l)}$

Acid ……. (½mk)

Reason …… (½mk)

19. What causes water hardness (1mk)

……

……

20. a)Using ionic equation, explain how sodium carbonate removes permanent hardness (1mk)

b) State one disadvantage of using hardness in the boilers
(1mk)

……

21. Study the equation below

$CH_3CHClCHClCH_3$

i) Give the structural formula of Q (1mk)

……

ii) Name the type of reaction in the equation above
(1mk)

……

iii) To which family of hydrocarbons does Q belong?
(1mk)

……

22. Consider the scheme below for allotropes of sulphur

Allotrope J $\rightleftharpoons$ Allotrope K

i) What is the significance of temperature 96^0C (1mk)

……

ii) Name allotrope J and K (2mks)

……

……

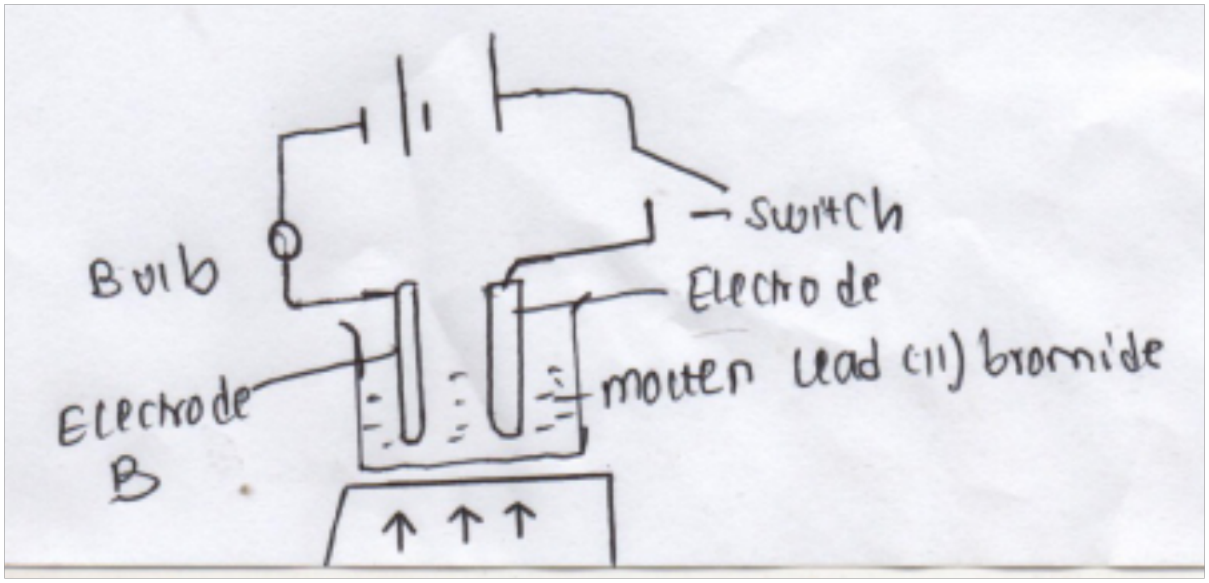
23. In term of structure and bonding explain why Diamond is used in drilling and graphite used as a lubricant
(2mks)

24. The table below gives the bond energies of some compounds.

Bond	Bond energy kJ/mole
H-H	435
Cl-Cl	244
H-Cl	431

Calculate the enthalpy change for the reaction $H2_{(g)} + Cl2_{(g)} \longrightarrow 2HCl_{(g)}$ (3mks)

25.



The diagram above shows the effect of electric current on lead (II) bromide. Study it and use it to answer the questions that follow.

a) On the diagram, Name electrodes A and B
(2mks)

b) State the observations made at electrode A (1mk)

……

……

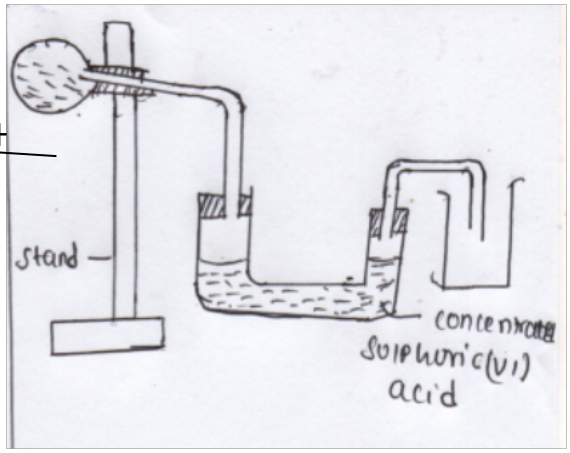
c) Write the equation that takes place at electrode B (1mk)

……

……

26. The diagram below represents the apparatus used to prepare and collect dry ammonia gas.

Ammonia chloride and KOH



a) State two mistakes in the set up of apparatus (2mks)

……

……

b) Write an equation for the reaction apparatus (2mks)

27. The table below gives the solubilities of potassium bromide and potassium sulphate at 0^0C and 40^0C.

Substance	Solubility g/100 water at	
	0^0C	40^0C
Potassium bromide	55	75
Potassium sulphate	10	12

When an aqueous mixture containing 60g of potassium bromide and 7g of potassium

sulphate in 100g of water at 80^0C was cooled to 0^0C, some crystals were formed.

i) Identify the crystals (1mk)

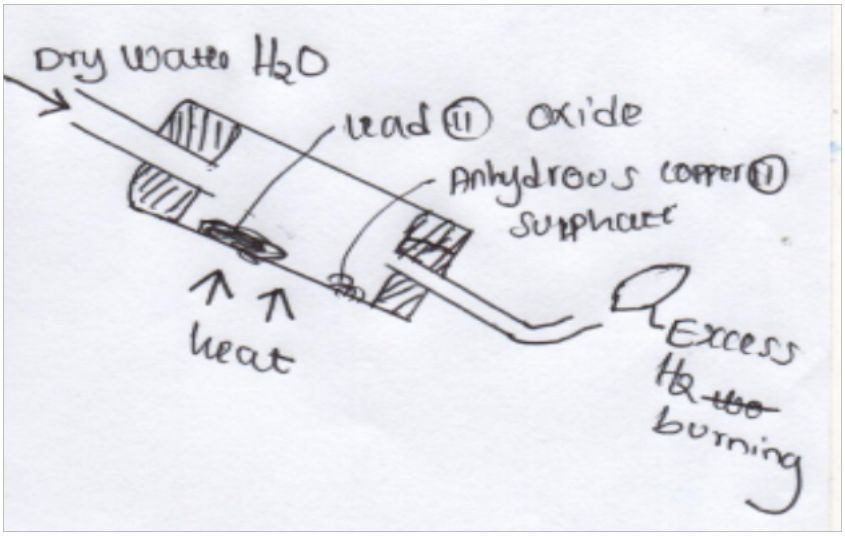
……

ii) Determine the mass of crystals formed (1mk)

iii) Name the method used to obtain the crystals (1mk)

……

28. Study the diagram below



a) What is the observation made on anhydrous copper (II) sulphate (1mk)

……

……

b) Write an aqueous for the reaction ,between hydrogen gas and lead (II) oxide (1mk)

c) What is the property of hydrogen gas being investigated above
(1mk)

……

……

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KCSE PREDICTION 2021

Set 3

NAME: _____ ADM NO:_____

CLASS: _____DATE:_____

SIGN:_____

233/1

CHEMISTRY THEORY

FORM FOUR PAPER 2

TRIAL 2, 2019

TIME: 2HOURS

CHEMISTRY THEORY

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

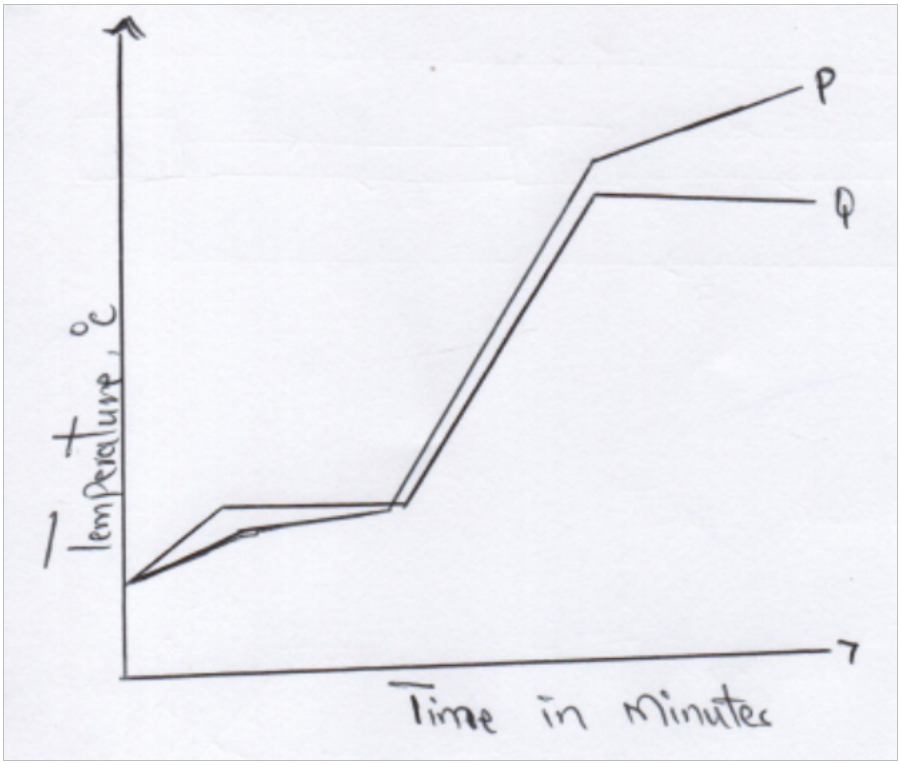
1. Write your name and admission number in the spaces provided above
2. Sign and write the date of examination in the spaces provided
3. Electronic calculators may be used.
4. All working must be clearly shown where necessary

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
1 2	8 10	

3 4 5 6 7 8	10 12 10 10 09 11	
	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 (1/2 mk)

……

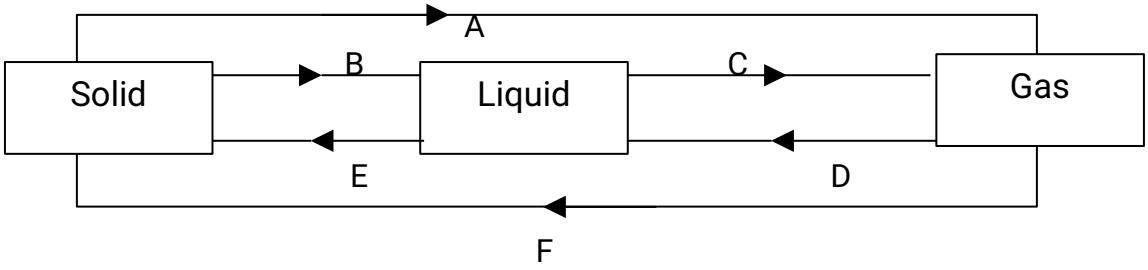
……

II. Boilling points (1/2 mk)

……

……

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



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)

……

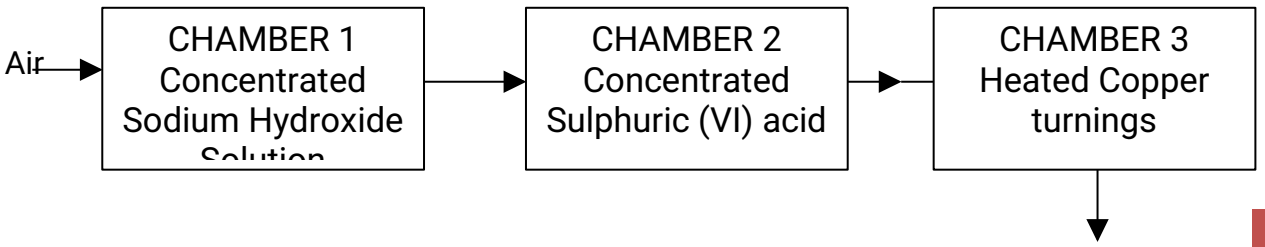
……

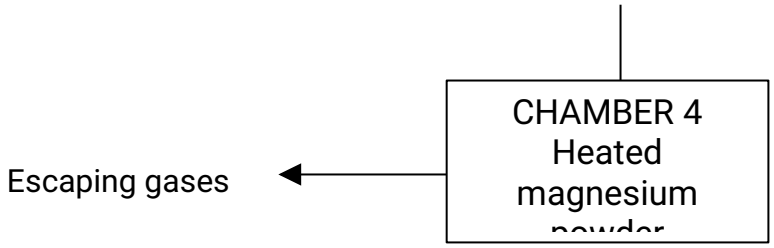
iv) Is the process E exothermic or endothermic? Explain (1mk)

……

……

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 (1v) 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)

……

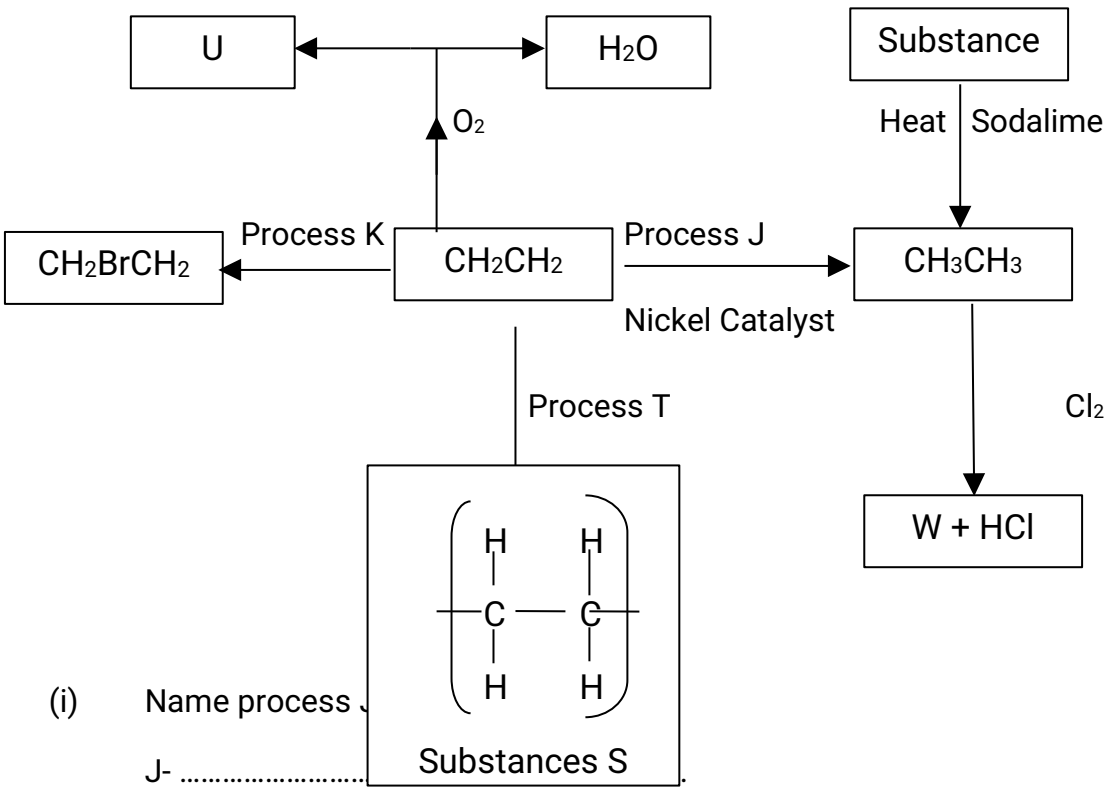
……

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

……

3. (a) Draw and name two isomers of Pentane (2mks)

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



(i) Name process J (3mks)

J- ……

K- ……

T- ……

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

……

(iii) Name substances U, W, S and Y (2mks)

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

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 W (1mk)

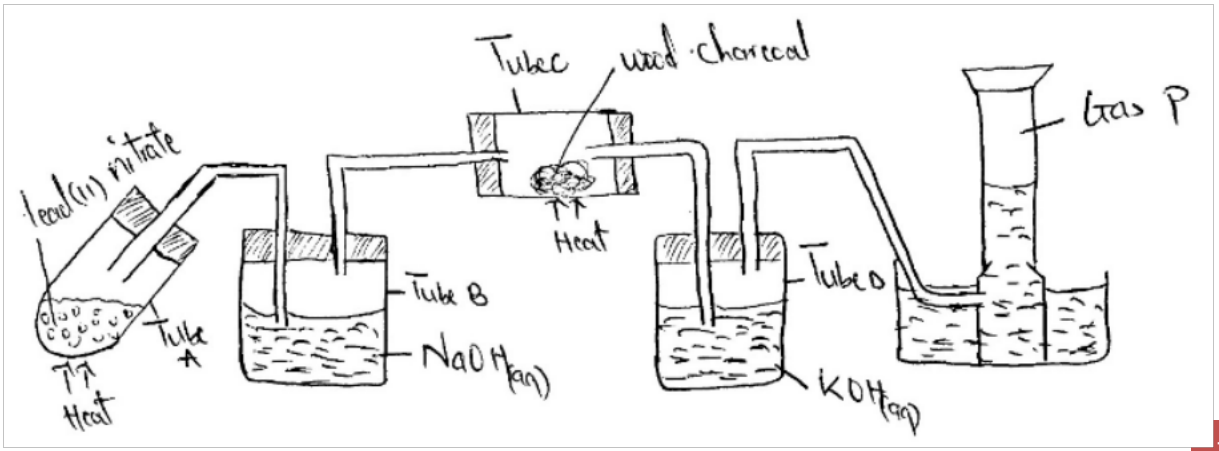
……

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)

……
……
……..

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)

……

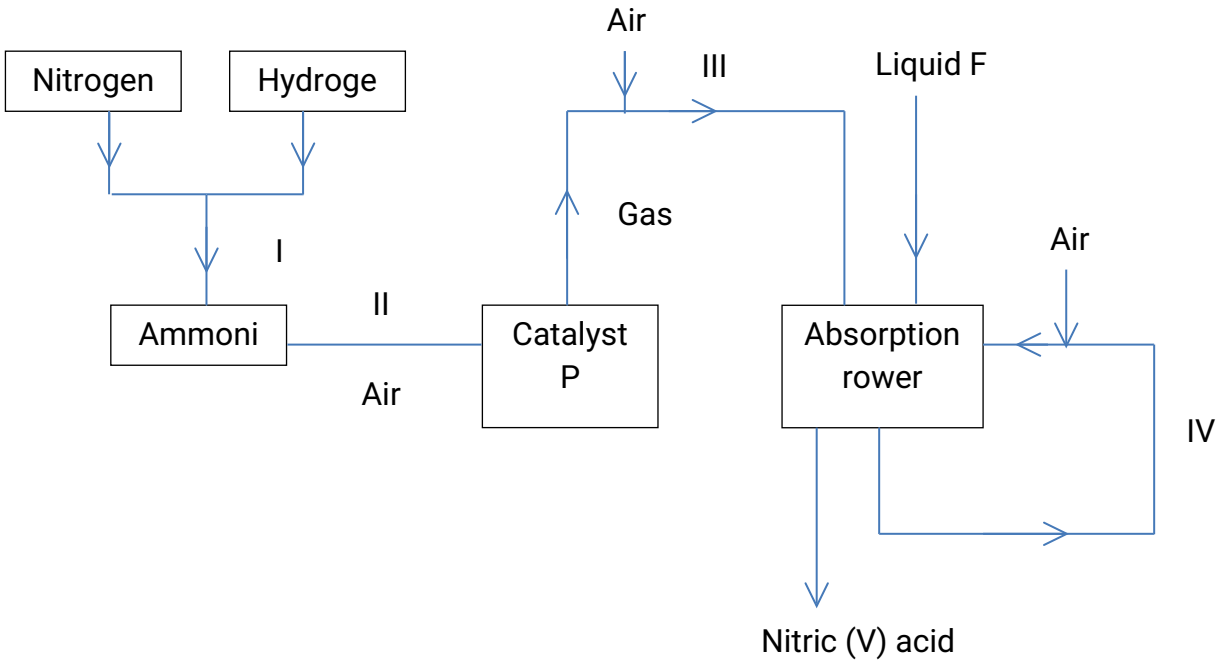
iv) What is the purpose of potassium hydroxide in tube D. (1mk)

……

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 (½mk)

……

b) Hydrogen gas (½mk)

……..

ii) Name the following substances;

a) Catalyst P (½ mk)

……..

b) Gas M (½ mk)

……

c) Liquid F (½mk)

……..

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

……

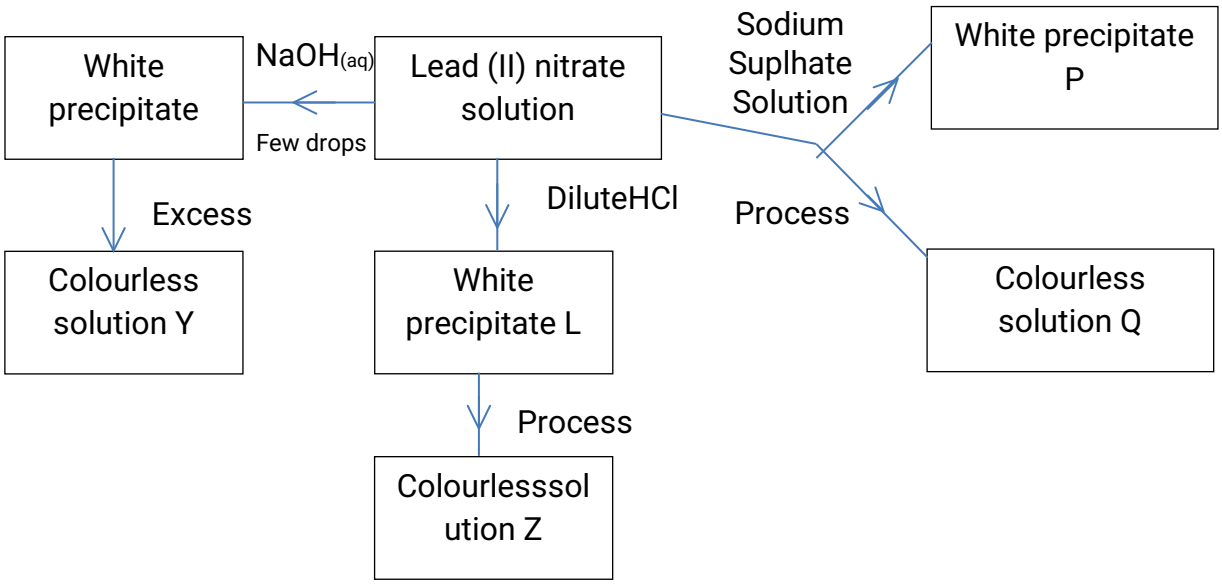
The reaction in the absorption tower (1mk)

……

iv) State one use of nitric (v) acid (½mk)

……..

6. Study the reaction scheme below and answer the questions that follow



a) Write the chemical formular of compounds P and Q

i) P …….

ii) Q …… (2mks)

b) Write an ionic equation for the process that produces white precipitate P (1mk)

……

C) Name process 2 (1mk)

……

d) Name the process that separated P and Q (1mk)

P ……..

Q ……

e) Write a balanced chemical equation for the formation of white precipitate L. (1mk)

……

f) State the condition required for process 3 (1mk)

……

g) What physical process is exhibited in process 3 (1mk)

……

h) Name the anion present in colourless solution Z (1mk)

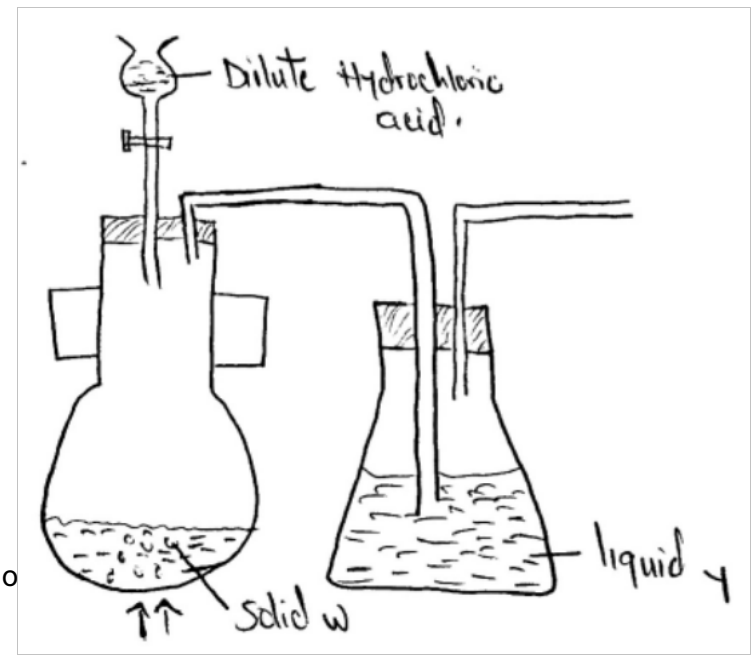
……

i) Write the formula of the complex ion present in colourless solution Y (1mk)

……

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

For mo



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)

……

……

……

8. In an experiment, 40cm^3 of 0.1 M sodium hydroxide solution was placed in a suitable apparatus and 5.0cm^3 portions of hydrochloric acid were added. The resulting mixture was stirred with a thermometer and the temperature taken after each addition. Both solutions were initially at 20^{0}c

Volume of HCL (cm^3)	5	10	15	20	25	30	35	40	45
Temperature (^{o}c)	21.5	22.5	24.0	25.0	26.0	27.0	27.5	27.5	27.0

a) i. Plot a graph of temperature against volume of the acid added
(4mks)

ii) Use the graph to determine the concentration in moles per litre of the hydrochloric acid (2mks)

b) i) Calculate the heat change for the reaction (1½mk)

ii) Molar enthalpy of neutralization of hydrochloric acid by sodium hyndroxide solution (density of solution 1g/cm^3 specific heat capacity 4.2 kj/kg)
(1½mks)

c) Write the thermochemical equation for the reaction (1mks)

……

……

d) Draw an energy level diagram for the reaction (1mk)

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KCSE PREDICTION 2021

Set 3

NAME: _____ ADM NO.:_____

SCHOOL: _____ SIGNATURE: _____

FORM 4

PAPER 3 (233/3)

CHEMISTRY (PRACTICAL)

TRIAL 2, 2019

TIE: 2¼HRS

INSTRUCTIONS

a) Write your name and index number in the spaces provided above.
b) Sign and write the data of the examination.
c) Answer all the questions in the spaces provided.
d) You are not supposed to start working with the apparatus for the first 15 minutes of 2¼ hours allowed for this paper. This time is meant to read through the paper and ensure you have all the chemicals and apparatus require.
e) All working must be clearly shown
f) KNEC mathematical tables and silent electronic calculations may be used.

g) All questions should be answered in English

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM	CANDIDATE'S SCORE
1	21	
2	11	
3	08	
TOTAL SCORE	40	

QUESTION 1

You are provided with:

- Solid A 5.0g $(COOH)_2 \cdot \times H_2O$
- Solution B 0.13M $KMnO_4$

Task

a) You are supposed to determine the solubility of A at different temperatures.

b) Determine the number of moles of water of crystallization in solid A.

PROCEDURE 1

a) Using a burette, add 4cm3 of distilled water to solid A in a boiling tube.
   - Head the mixture while stirring with the thermometer to about 80^0C.
   - When the whole solid dissolves, allow the solution to cool while stirring with the thermometer
   - Note the temperature at which crystals first appear and record this temperature in the table 1 below.

b) Using aburrete add $2cm^3$more into the content of the boiling tube and warm until the solid dissolve.
   - Remove from the flame and allow the solution to cool in air while stirring.
   - Record the temperature at which crystal first appear in table 1.
   - Repeat procedure (b) 3 more times and complete table 1 below.
   - Retain the content of the boiling tube for procedure II

Table 1

Volume of water in the boiling tube (cm^3)	Temperature at which crystals of solid A appear (^0C)	Solubility o solid A g/100g of water
4 6 8 10 12		

I. a) Draw a graph of solubility of solid A (vertical axis) against temperature (3mks)

b) From your graph determine the solubility of solid A at 60^0C
(1mk)

PROCEDURE II

a) – Transfer the contents of the boiling tube into a 250ml volumetric flask.
- Add distilled water up to the mark
- Label this solution A

b) – Using a clean pipette and a pipette filler, transfer 25ml of solution A into a conical flask.
- Warm the mixture up to 60^0C
- Fill a burette with solution B
- Titrate B against the hot solution A until a permanent pink colour persist
- Read your results in Table 2 below

c) Repeat (b) 2 more times are record your results in the table 2 below.

TABLE 2

	I	II	III
FINAL BURETTE READING			
INITIAL BURETTE READING			
VOLUME OF SOLUTION B USED (CM^3)			

II) a) Calculate the average volume of solution B used (1mk)

b) Calculate the number of moles of B used (1mk)

c) Given 2 moles of $Kmno_4$ react with 5 moles of A, calculate the number of moles of A in $25cm^3$ (1mk)

d) Calculate the molarity of A (1mk)

e) Determine the molar mass of A (1mk)

f) Determine the value of X (1mk)

(C=12, O=16 H=1)

QUESTION 2

You are provided with solid C. Use it to carry the test below.

Dissolve the whole of C into 10cm3 of water and divide it into five portions.

a) To the 1st portion add sodium sulphate solution.

Observations	Inferences
(1mk)	(1½mks)

b) To the 2nd portion add Ammonia solution dropwise until in Excess.

Observations	Inferences
1mk)	1mk

c) To the 3rd portion add sodium Hydroxide dropwise until in Excess.

Observations	Inferences
(1mk)	(1mk)

d) To the forth portion add Lead (II) Nitrate solution

Observations	Inferences
(½mk)	(2mks)

e)To the last portion add Barium Nitrate solution

Observations	Inferences
(1mk)	(1mk)

QUESTION 3

You are provided with liquid D use it to carry the test below.

Divide liquid D into four equal portions

a) To the 1st portion add sodium hydrogen carbonate

Observations	Inferences

(1mk)	(1mk)

b) To the 2nd portion add acidified potassium manganite (VII) ($KmnO_4$)

Observations	Inferences
(1mk)	(1mk)

c) To the 3rd portion add Bromine water

Observations	Inferences
(1mk)	(1mk)

d) To the last portion add potassium dichromate(VI0 and wrm.

Observations	Inferences
(1mk)	(1mk)

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

231/1 BIOLOGY

PAPER ONE

TIME: 2HRS

INSTRUCTIONS

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

SECTION A

1. A young scientist observed a bird laying her eggs in a nest and later the eggs hatched into chicks. Name three characteristics shown by the chicks that show a chick is a living thing but an egg is not
   (3mks)

   ……

   ……

   ……

2. Which organelles should be abundant in;
   i) Skeletal muscle (1mk)

   ……

   ii) Palisade tissue (1mk)

   ……

3. A form 1 student was preparing temporary slides in the laboratory, in the course of preparation he carried out the following processes;
   i) Sectioning
   ii) Fixation
   iii) Staining

   State the importance of the above processes
   (3mks)

   ……

   ……

   ……

4. Why are lysosomes many in phagocytic cells
   (2mks)

   ……

……

5. Differentiate between guttation and transpiration (2mks)

……

……

……

6. a) Give a reason why xylem vessel should be dead (1mk)

……

b)What is the role of lignin in the wall of the xylem vessel (1mk)

……

7. Name the disease of the blood characterized by,

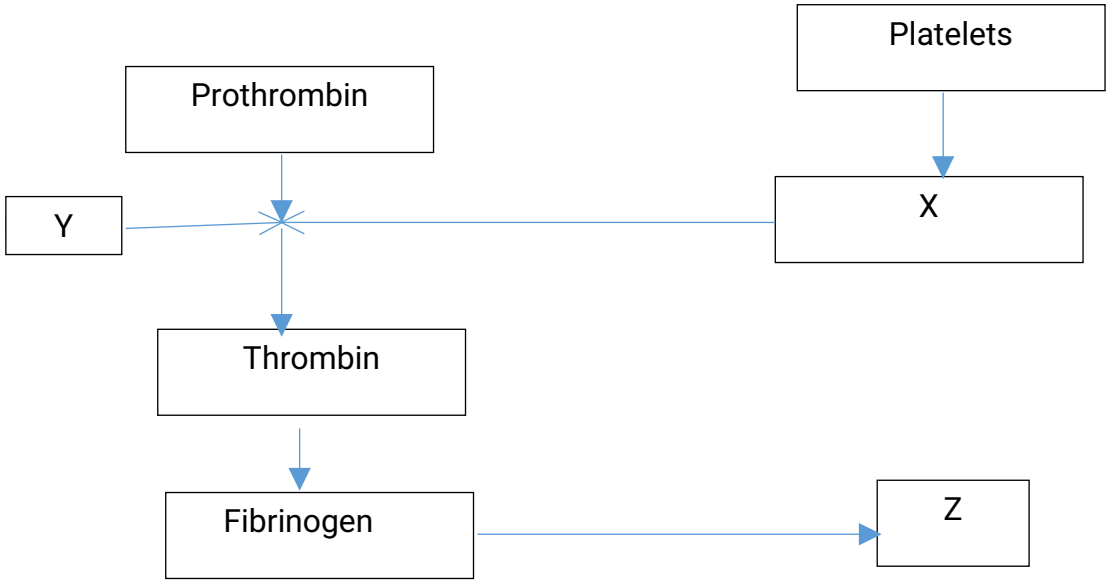
a) Abnormally large number of white blood cells (1mk)

……

b) Cresent –shaped haemoglobin (1mk)

……

8. The chart below is a summary of blood clotting mechanism in a man.



Name;

i) The metal ion represented by Y (1mk)

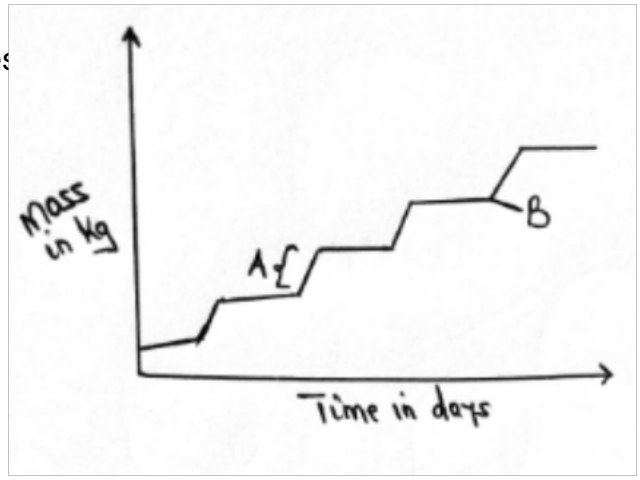
……

ii) The end product of the mechanism represented by Z (1mk)

……

9. The graph below represents the growth of animals in a certain phylum. Study it and

answer the ques



a) Name the type of growth pattern shown on the graph (1mk)

……

b) Identify the process represented by letter B (1mk)

……

c) Name the hormone responsible for the process in (b) above (1mk)

……

10. Explain why a mule is infertile (1mk)

……

……

11. Phylum Arthropoda is the most successful of invertebrates. Explain two characteristics that make them most successful
(2mks)

……

……

……

12. Name phylum whose members possess a notochord
(1mk)

……

13. a) Define evolution and homologous structures (2mks)

……

……

……

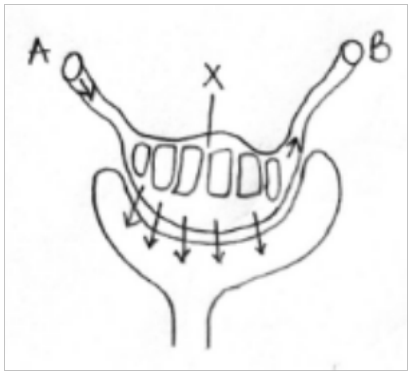
b)State three limitations of using fossil records as an evidence that supports organic evolution (3mks)

……

……

……

14. The following is part of a kidney nephron



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

……

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

(1mk)

……

b) Identify with a reason vessel A (1mk)

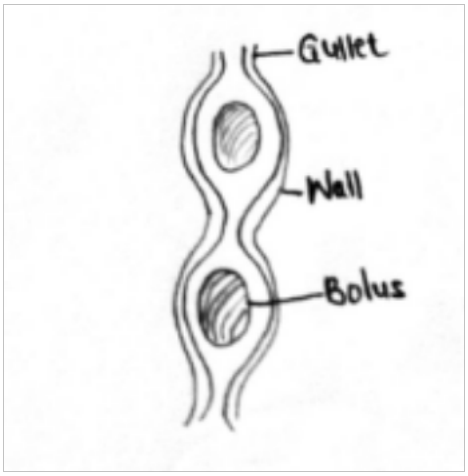
……

c) Name any two blood components that are present in vessel (A) but are absent in vessel B (2mks)

……

……

15. The diagrammatic representation below illustrates one of the process that occurs in mammals during feeding. Carefully study it and answer the following questions



i) Identify the process (1mk)

……

ii) State two structural adaptations of gullet to its functions (2mks)

……

……

iii) Name one enzyme already present in the food bolus within the gullet in man (1mk)

……

b) State two functions of mucus secreted by the intestines (2mks)

……

……

16. Explain each of the following;

a) Variegated plants accumulates less food than non-variegated plants under similar conditions. (2mks)

……

……

……

b) Most leaves are thin with broad leaf surface (2mks)

……

……

……

17. State the economic importance of the following plant excretory products (3mks)

a) Papain

……

b) Caffein

……

c) Colchicine

……

18. a) State two processes which occurs during anaphase of mitosis (2mks)

……

……

b)What is the significance of first meiotic division (1mk)

……

c)State two ways in which HIV/AIDS is transmitted from mother to child (2mks)

……

……

19. State the function of the following during pregnancy (3mks)

a) Amnion

……

b) Amniotic fluid

……

c) Umblical cord

……

20. Name the process by which;

i) Producers convert sunlight energy into chemical energy (1mk)

……

ii) Chemical energy is converted into heat energy by consumers (1mk)

……

21. Students from Mpesa foundation academy wanted to investigate the population of crabs in their school pond. They caught 50 crabs, marked them with white paint on the cephalothorax and then released them back into the pond. After three days, they came back and caught 50 crabs of which 3 had the white mark.

a) Using the data above, calculate the population of crabs in the pond (2mks)

b) Suggest three assumptions the students made during this study (3mks)

……

……

……

22. State any two methods that can be used at home to properly manage domestic effluents (2mks)

……

……

23. a) Explain how the following factors increase the rate of diffusion (3mks)

i) Temperature

……

ii) Diffusion gradient

……

iii) Size of diffusing particles

……

b) Diffusion is a passive process while active transport is an active process. Explain (2mks)

……

……

24. a) Waterlogging in terrestrial plants inhibit uptake of certain mineral ions from the soil by the plants. Explain (3mks)

……

……

……

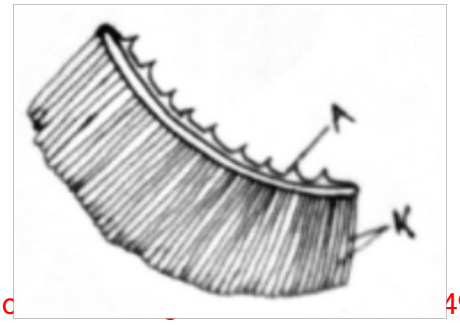
……

b) State two illustrations of Osmosis in plants (2mks)

……

……

25. The diagram below represents a gill of a fish



i) State two ways in which a large surface area is created in structures labelled K
(2mks)

……

……

ii) Name the type of flow system that occurs between water and blood in the capillaries present on structures K
(1mk)

……

iii) Name an organ in human beings that also display the flow system named in (ii) above
(1mk)

……

26. Identical twins were separated after birth and were then raised in different environments. One in Kenya and the other in U.S.A. They rejoined after 18 years and they looked slightly different.

i) Name the type of variation the twins exhibited (1mk)

……

ii) Give two observable differences likely to be noted between the twins
(2mks)

……

……

KCSE PREDICTION 2021

Set 3

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231/3 BIOLOGY

PAPER THREE

TIME: 1¾ HRS

INSTRUCTIONS

1. Answer all questions in spaces provided

Examiner's Use

QUESTIONS	MAX.MARKS	CAND.SCORE
1	9	
2	13	
3	18	
TOTAL	40	

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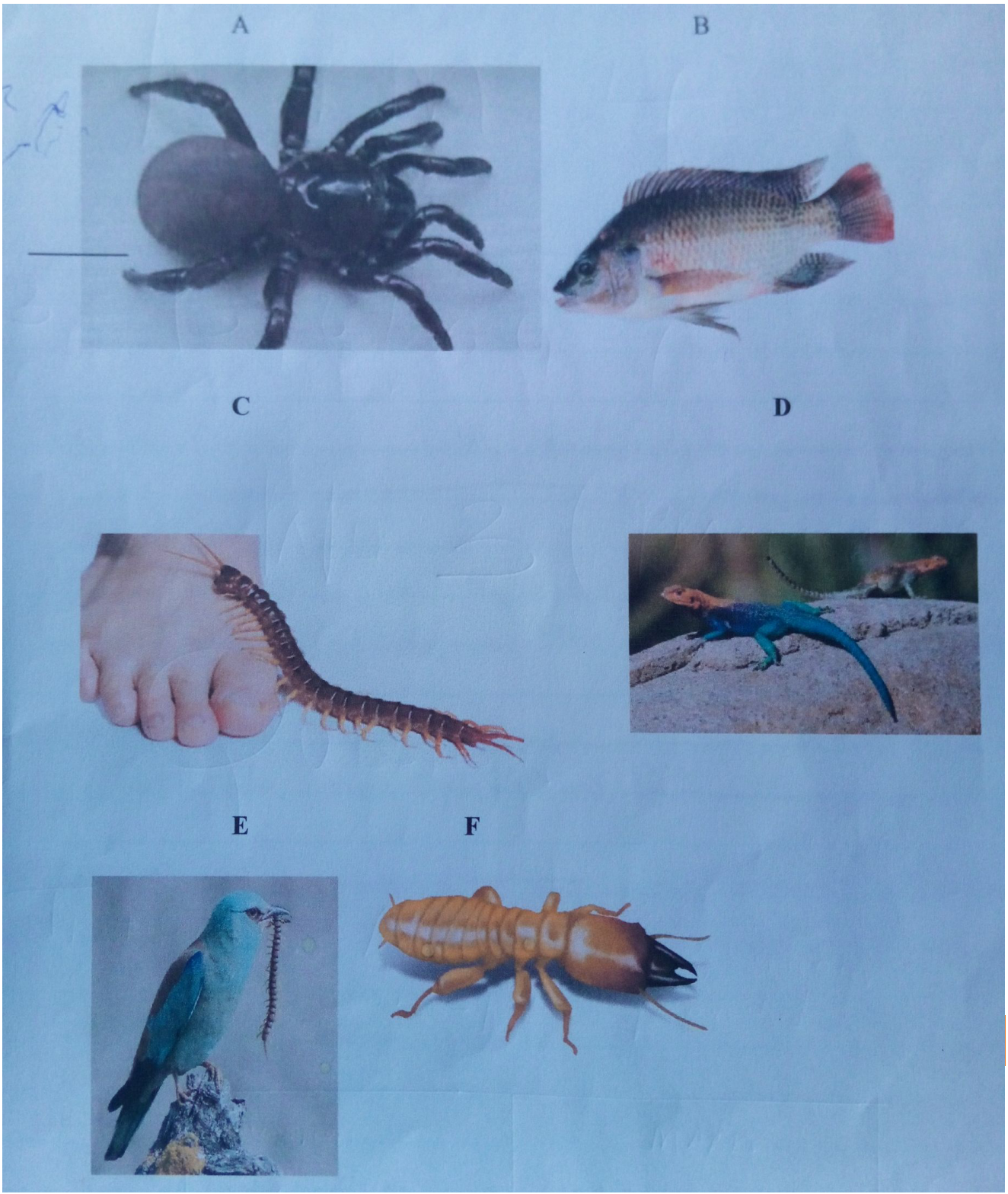
1. Study the organisms below



a) Complete and use the key below to identify the organisms (2mks)

1.a) Organism with endoskeleton ……...go to 2

1. b) _____.....go to 4

2. a) Has scales on the body ……..go to 4

2 b) Has no scales on the body ……mammalian

3a) Has cephalothorax ……...Arachnida

3b) Has no cephalothorax ……..go to 5

4a) _____.....Pisces

4b) Has no fins ……go to 7

5a) Has three pairs of legs ……..Insect

5b) Has more than three pairs of legs ……go to 6

6a) Two pairs of legs per segment ……Diplopoda

6b) One pair of legs per segment ……Chilopoda

7a) Has feathers …… Aves

7b) Has no feathers ……go to 8

8a) Has a tail ……Reptilia

8b) Has no tail ……Amphibia

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

Specimen **Steps followed** **Identity**

A _____

_____

B _____

_____

C _____

_____

D _____

_____

E _____

_____

F _____

_____

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

……

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

……

……

……

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

……

2. You are provided with the following;
   i) Hydrogen peroxide
   ii) Specimen K
   iii) Pestle and mortar
   iv) 4 test tubes
   v) A scalpel
   vi) Source of heat
   vii) Test tube holder

Using a scalpel, obtain three peeled cubed from specimen K measuring about 1cm x 1cm x 1cm. For the first cube, you are required to boil it in water for five minutes. For the

second cube, you are required to crush it into a paste. For the last cube, you are required to use it as it is.

Label three test tubes A, B and C and put 2ml of hydrogen peroxide in each test tube. To test tube A, add the boiled cube and record your observation.
To test tube B. add the crushed paste and record your observation.
To test tube C, add the unboiled cube remaining and record your observation.

a) Complete the table below (3mks)

Test tube	Observation
A	
B	
C	

b) Explain your observation in test tube A (1mk)

……

……

……

c) Between test tubes B and C, in which test tube was the volume of foam produced the highest? Explain (3mks)

……

……

……

……

d) Apart from temperature, state two other factors that affect the rate of enzyme controlled reactions
(2mks)

……

……

……

3. The photographs below shows specimen of different types of fruits. Examine them and answer the questions that follow.

a) State four differences between specimen P and R
(4mks)

……

……

……

……

……

……

b) State the types of gynoecium and placentation of specimen P, S and V (4mks)

i) Specimen P Gynoecium ……..
Placentation …….

ii) Specimen S Gynoecium …….
Placentation……

iii) Specimen V Gynoecium ……..
Placentation ……..

c) In the table below name the mode of dispersal for each specimen and the features that adapt the specimen to its mode of dispersal.
(6mks)

Specimen	Mode of dispersal	Adaptive features
P		
Q		
R		
S		
T		
v		

d) Draw and label a plan diagram of specimen V (4mks)

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

231/1 BIOLOGY

PAPER TWO

TIME: 2HRS

INSTRUCTIONS

1. Answer all questions in section A and question 6 in section B (It is compulsory)
2. Answer either question 7 or 8.

SECTION A (40MKS)

Answer all the questions in these section

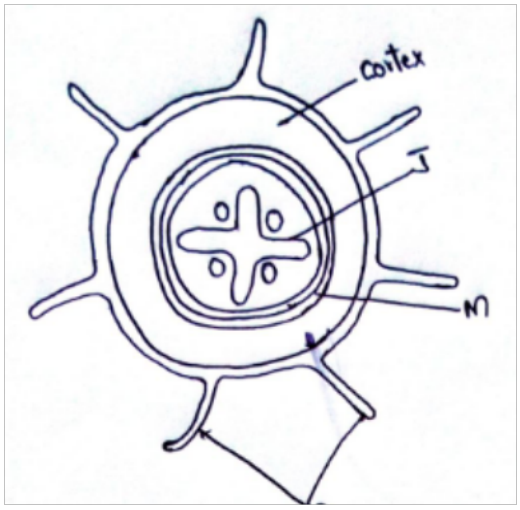
1. Haemophilia is a sex linked characteristic caused by a recessive gene located on one of the sex chromosomes.
   a) Name the chromosome onto which the gene for haemophilia is linked to (1mk)
      ……
   b) A normal man for the condition marries a normal woman for the condition but sadly one of their sons develop this condition from birth.
      i) What are the likely genotypes of this couple?
         (2mks)
         Man
         ……
         Woman
         ……
      ii) Using a punnet square, carry out a cross to show why the couple gave birth to haemophiliac son (4mks)
         Use (H),to represent the gene for normal condition and (h) to represent the gene for haemophilia

iii) Why is this haemophiliac condition very common in males than in female (1mk)

……

……

2. The figure below represents an organ obtained from a section of a plant. Use it to answer questions that follow.



D

a) i) Name the organ from which the above section was obtained. Give a reason for your answer (2mks)

……

……

……

ii) Structure labelled J is described as a mechanical tissue. Explain (1mk)

……

……

b) i) Name the process by which water passes across structure M

(1mk)

……

ii)Explain two ways by which cells with structures Dare adapted to their functions (2mks)

……

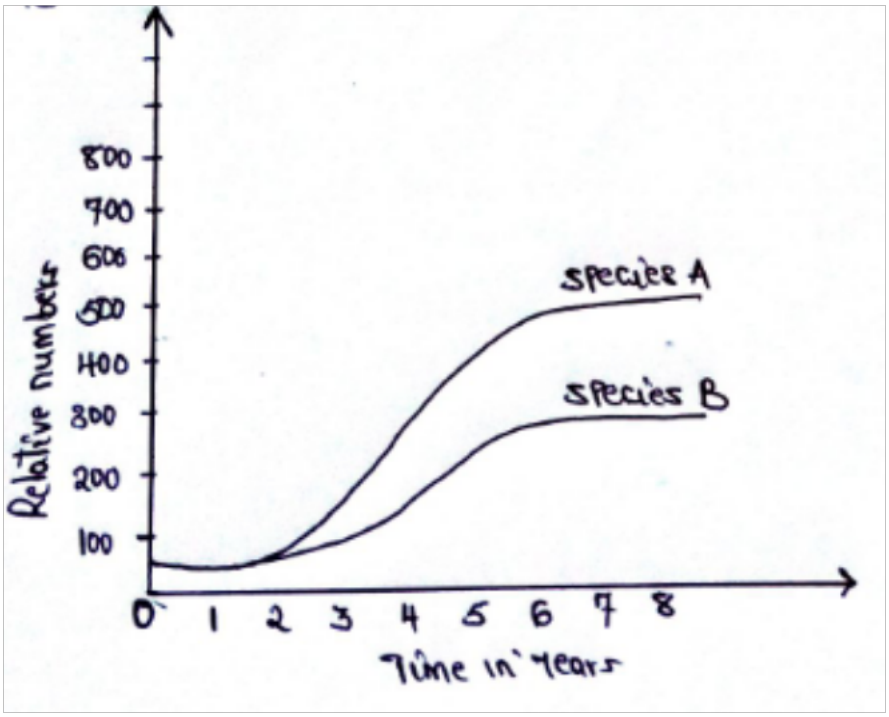
……

c) Name two strengthening materials that strengthen the collenchyma tissue (2mks)

……

……

3. The herbivorous mammalian species were introduced into an ecosystem at the same time and in equal numbers. The graph below represents their populations during the first seven years. Study the graph and answer the questions that follow.



a) i) Which species has a better competitive ability (1mk)

……

ii) Give reason for your answer (1mk)

……

……

b) Account for the shape of the curve of species A between

i) One year and three years (2mks)

……

……

……

ii) Three years and seven years (2mks)

……

……

……

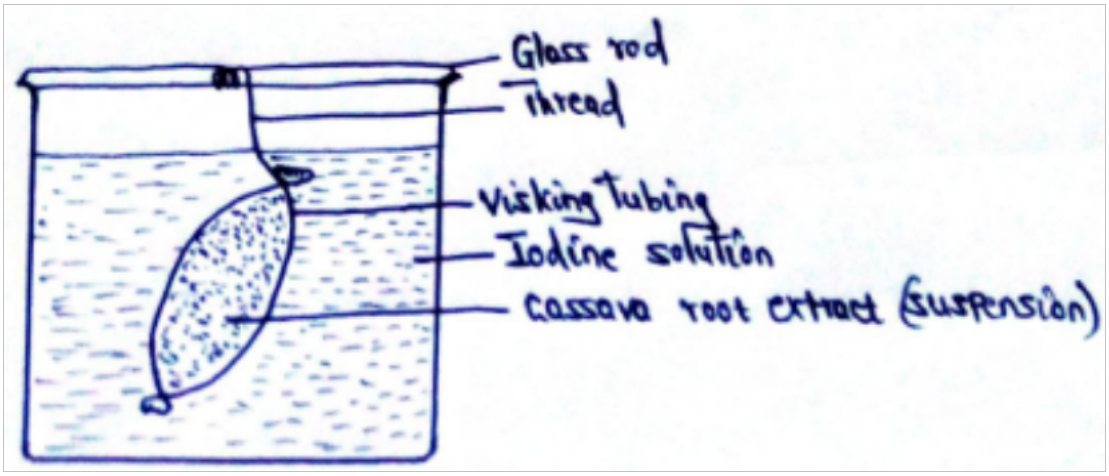
c) A natural predator for species A was introduced into the ecosystem. With a reason state how the population of each species would be affected (2mks)

……

……

……

4. A student from Abogeta secondary set up an experiment as illustrated below.



The visking tubing was left in iodine solution for 4 hours.

a) State the physiological process being investigated (1mk)

……

b) i) What were the expected results in the visking tubing and in the beaker (2mks)

……

……

……

ii)Account for your expected result in visking tubing (2mks)

……

……

……

……

c) Mention three factors that influences the rate of active transport (3mks)

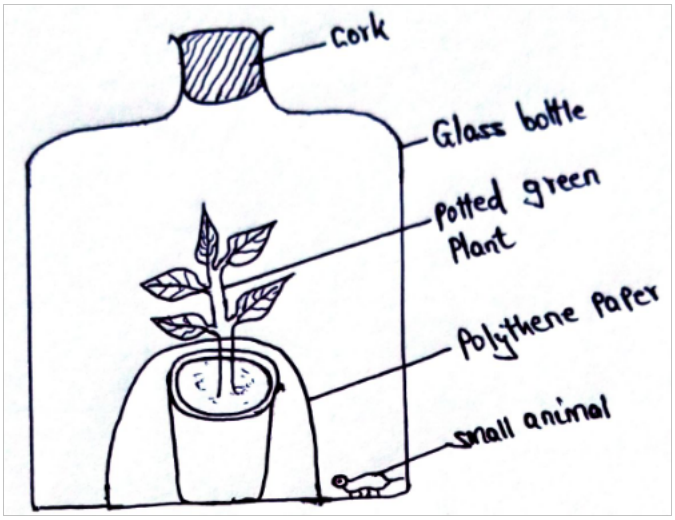
……

……

……

……

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



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

a) Why was it necessary;

i) To apply Vaseline (1mk)

……

ii) To cover the pot with polythene paper (1mk)

……

iii) What was the purpose of including the small animals? Give two reasons. (2mks)

……

……

b) i) What would happen to the small animal if the set up was left over night in darkness (1mk)

……

……

ii)Account for the answer in b (i) above (1mk)

……

……

c) State the respiratory surface of the following organism (2mks)

i) Amoeba

……

ii) Fish

……

SECTION B (40MKS)

Answer question 6 (Compulsory) and choose either question 7 or 8

6. A hungry person had a meal, after which the concentration of glucose and amino acids in the blood were determined. This was measured hourly as the blood passed through the hepatic portal vein and the iliac vein in the leg. The results were as shown in the table below.

Time (Hrs)	Concentration of contents in Hepatic portal vein (Mg/100ml)	Concentration of contents in the iliac vein of the leg (Mg/100ml)

	Glucose	Amino acids	Glucose	Amino acids
0	85	1.0	85	1.0
1	85	1.0	85	1.0
2	140	1.0	125	1.0
3	130	1.5	110	1.5
4	110	1.5	90	3.0
5	90	3.0	90	2.0
6	90	2.0	90	1.0
7	90	1.0	90	1.0

a) Using the same axes draw graphs of concentration of glucose in the hepatic portal vein and the iliac vein in the leg against time
(7mks)

b) Account for the concentration of glucose in the hepatic portal vein from;

i) 0-1 hour (2mks)

……

……

……

……

ii) 1-2 hours (3mks)

……

……

……

……

……

iii) 2-4 hours (3mks)

……

……

……

……

……

iv) 5-7 hours (2mks)

……

……

……

……..

c) Account for the difference in the concentration of glucose in hepatic portal vein and the iliac vein between 2 and 4 hours
(2mks)

……

……

……

d) Using the data provided in the table explain why the concertation of amino acids in the hepatic portal vein took longer to increase (1mk)

……

……

……

Essays

7. a) Describe the opening and closing of the stomata using the photosynthetic theory (10mks)
   b) Describe blood sugar regulations in mammals (10mks)
8. a) Describe the adaptation of the following plants to their habitat;
   i) Xerophytes (15mks)
   ii) Hydrophytes (5mks)

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KCSE PREDICTION 2021

Set 3

KISWAHILI KIDATO CHA NNE

KARATASI YA KWANZA 102/1 (INSHA)

MUDAL SAA 1¾

MAAGIZO

- ✔ Karatasi hii ina maswali manne.
- ✔ Jibu maswali mawili pekee
- ✔ Swali la kwanza ni la lazima.
- ✔ Chagua swali moja kwa yale matatu yaliyobaki.
- ✔ Kila insha isipungue maneno 400.
- ✔ Kila insha ina alama 20.

1. Ndugu yako ameamua kuasi ukapera. Andika ratiba itakayotumiwa siku ya arusi yake.
2. Eleza mikakati ambayo serikali ya Kenya imeweka kukabiliana na mashambulizi ya mara kwa mara ya Kigaidi nchini.
3. Andika insha kuonyesha busara iliyomo katika methali “Mchelea mwana kulia hulia

mwenyewe”.

4. Andika insha itakayomalizika kwa maneno haya:

……Nilikumbuka ushauri niliopewa na mama mazazi mara kwa mara. Uchungu usiomithilika ulinichoma moyoni, laiti ningalijua.

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KCSE PREDICTION 2021

Set 3

Cheti cha Kuhitimu Elimu ya Sekondari Tathmini ya Pili

KISWAHILI KIDATO CHA NNE

KARATASI YA PILI 102/2

MUDA SAA 2½

MAAGIZO

- ✔ Karatasihiiinasehemunne. Ufahamu, Ufupisho, matumaziyalughanaIsimujamii.
- ✔ Jibumaswaliyotekatikanafasiuliziachiwa.

KWA MATUMIZI YA MUTAHINI PEKEE

SWALI	UPEO	ALAMA
UFAHAMU	15	
UFUPISHO	15	
MATUMIZI YA LUGHA	40	
ISIMU JAMII	10	
JUMLA	**80**	

1. **UFAHAMU (ALAMA 15)**

   Soma kifungukifuatachokishaujibumaswaliyanavyofuata

   Wakatiwananchikatikakilapembeyaduniawaliadhimishasikuyawapendanaomaarufukama "Valentine Day," kwamitindombalimbali, halihiyoilikuwatofautikwabaadhiyawanaumenchini Kenya, baadayakulalamikakuhusukunyanyaswana wake zao.

   Kulingananamwenyekitiwachama cha kuteteahakizawanaumenchini, idadiyawanaumewanaopigwana wake

zaoimeongezekamno.Alisemajuzikuwautafitiwachamachakeumeonyeshakuwaharakatizakumpamwanamkeuwezozimeathirimaadilinakusababishakuwadharauwanaume. Mwanaharakatihuyoalidaikuwatatizohilolimechochewazaidinahaliyakuwawanawakewengisasawanakipatokikubwakulikowaumezao.

MwishoniwamwezipolisiwalimtiambaronimwanamkemmojamjiniNyeri, baadayakumshambuliamumewenakumjeruhikwapanga.Mwanammehuyobadoanapatamatibabuhospitalini.Yeyealirudinyumbanikamaamevaamiwanindipoakakatwakatwausoninauchunguzikuhusutukiohilobadounaendelea.

Inadaiwakuwazaidiyawanaume 460,000walinyanyaswana wake zaomwakajananakwambautafitiwashirika la kuwateteawanaumeumeonyeshakuwakesinyingizawanaumekuteswana wake zaozinaripotiwakatikakatimwanchi.

Hatahivyo, baadhiyawanaumekatikaeneohilowameungamkonohatuayawanawakekuwashambuliawaumezao.

Wanasemakuwawanapigwakwasababuwamekosakuwajibikakwafamiliazao.Wanadaikuwawanaumewengihawajulikaninyumbanikwao. Wake zaowanawajuamakasisiambaohujakuwaombeakuhusumatatizoyanyumbanihukumabwanazaowakizamakatikaulevi.WanawakenawaumewaNyeriwametakaserikalikukomesheuuzajinaunywajiwapombeharamuambayoimechangiasanakatikaugomviwanyumbani.

Maswali

a) Yapemakalahayaanwaniinayofaa (alama 1)

……

……

b) Elezasababuzawanaumekupigwanawanawakekatikandoa (alama 4)

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……

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……

……

c) Mwandishianamaanishaninianaposemakuwawanaumewenginehawajulikaninyumban

ikwao? (alama 2)

……

……

……

d) Fafanuamajukumuyamakasisikatikajamiikwamujibuwakifunguhiki (alama 2)

……

……

……

e) Ni mabadilikoyepiyametokeakatikaasasiyandoakwamujibuwakifungu? (alama 3)

……

……

……

……

f) Elezamaanayamsamiatikamaulivyotumikakifunguni (alama 3)

i) Mwanaharakati

……

ii) Amevaamiwani

……

iii) Waliadhimisha

……

2. UFUPISHO (ALAMA 15)

Ujambaziwakimataifanitatizolinalowasumbuawalimwengukwamudamrefusana.Serikalin yingizimetumiamapesamengikwamiakamingisanazikijitahidikupambananajangahili.Hata hivyo, fanakahaijapatikana, walahaielekeikuwaitapatikanaleo au karnebaadaye.

Yamkinitatizokubwalililoponikuhusujelezi la dhanaya ”Ujambazi” tena “wakimataifa”. Hilinitatizomojawaponayapomengisana. Tatizo la pilinikibusi. Kuna wale wafubinafsinahasaviongoziwanchikubwakubwanaserikalizaozilizojiaminishakuwaujamb azinibalaakweli, tenabelua, lakinihuoniwahuko, walahauwezikuwagusalichayakuwashtuawao.

Kulingananamaoniyawatakaburihao, ujambaziniwawatuwashenziwasiostarabika, wapatikanaokatikanchizisizoendeleabado.

Ujambaziwapekeewanaouonaunafaakukabiliwanidhidiyambubujikowadawazakulevyailio sababishwanavinyangarikakutokanchihizomaaluniza “ulimwenguwatatu”.

Kulingananawastaarabuwanchizilizoendelea,vinyangarikahivindivyohasaaduimkubwawa ustaarabuulimwengunanishartivifagiliwembalibilahuruma.Baadayakusagwasagwa, ulimwengunimstaarabuutazidikutononokanaahadiyambinguhapaardhiniitakamilika.

Imaniyawatuhawayakuwaujambazi, hatahivyoupo, hauwezikuwashtuawalakuwatingishawaoilikuwakamilinatimamu.Ilikuwakamilinatimamu hadihapomweziSeptembaterehekuminamoja, mwakawa 2001, ndegetatuzaabiriazilizoelekeakatikamajumbamawiliyafahari,yenyeurefuwazaidiyaghorof amiamojanakuyatwangiliambali.Mstukonakimako! Kimakokwakuwakablayasikuhiyo, wamarekanihangewezakudhanikwambaingewezekamataifalolote au mtuyeyotekuthubutukuishambulianchiyao,taifawasifalililojihamibarabaradhidiyaainayoy oteileyauchokozikutokapembeyoyoteyadunia.

Hakunaulimwengumzima, aliyeaminikuwamarekaniingewezakushambuliwa.Kwaajilihiyo, mshtukoulitingishaardhiyotenahuzanikutandakote, kamakwambasayarinzimaimeshambuliwa, walasiomarekanipekee.

Mintarafuhiyo,marekaniilipolipizakisasikwakuwaunguzawaliokuwemonawasiokuwemok wamabomuhatarihuko Afghanistan,idadikubwayawatudunianiilishangilianakusheherekea. Kwabahatimbaya, tafsiriyashambulizi la minara-pachaya New York naileya Pentagon, utiwauwezowaMarekaniilizorota. Kuna wengiwaliodhanihuonimwanzowa vita vyaWaislamudhidiyaWakristonakwamuda, Waislamuwotewakashukiwakimakosakuwanimajambaziwakimataifa.

Maswali.

a) Bilakubadilishamaana, fupishaayaza kwanza.(maneno 65-70) (alama6)

Matayarisho

……

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……

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……

Jibu

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……

b) uKizingatiaayatatuzamwisho, fafanuafikirazawatuna mambo yoteyaliyotendekabaadayaSeptemba 11,2001.(maneno65-70)
(alama 7)

Matayarisho

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……

……

Jibu

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……

3. <u>MATUMIZI YA LUGHA</u> **(alama 40)**

a) Elezasifambilibainifuzasauti /a/ (alama 2)

……

……

b) i) Mofimuninini? (alama 2)

……

……

ii) Ainishamofimukatikakitenzi; (alama 2)

Alimwona

c) Andikakitenzichenyemuundoufuatao; (alama 2)

Kiambishingeli, wakatiuliopita, mzizi, kaulitendwanakiishio.

……

……

d) Tungasentensimbilitofautikudhihirishamatumiziyakiimbo. (alama 2)

……

……

e) Ziandikeupyasentensikulinganamaagizoyaliyobanwa. (alama 4)

i) Kijitabukilekulirushwanakiranja. (Tumiakivumishikisisitizi cha karibu)

……

……

ii) Barabaranyingizimesakafiwa. (Tumiawakatiujaohaliyamazoea)

……

……

f) Andikasentensiifuatayokatikausemihalisi (alama 4)

Cherotichaliwahakikishiawazazi wake kwambaangetiabidiikatikamasomoyakeiliapitemtihani wake

……

……

g) Unganishasentensizifuatazokwakutumiarejeshi-amba (alama 2)

i) Mshukiwaalipelekwamahakamani

……

ii) Mshukiwaalichukuliwahatua

……

h) Changanuasentensiifuatayokwamtindowajedwali (alama 4)
Mtouliofurikamwakajanauliwaua mamba wengi

i) Tambuashamirisho, chagizonakihusishikatikasentensi (alama 3)
Mgonjwaalitibiwanadaktarijanajioni.

j) Tajangelizanominozifuatazo (alama 2)
i) Sandarusi ……
ii) Saa…….

k) Yakinishasentensiifuatayo (alama 2)
MamlakamakubwayaRaishayakwazijuhudizaupinzani

l) Undanominombilikutokananakitenzikifuatacho (alama 2)
La
……
……

m) Tungasentensikudhihirishamaanazavitatevifuatavyo (alama2)
i) Bure
……
ii) Pure
……

n) Andikakatikahaliyaukubwawingi (alama 2)
Msichanamremboameolewanamwanamumehodari.
……
……

o) Kamilishatanakalizasautizifuatazo (alama 2)

i) Majiyalijaa……..

ii) Barabaraimenyooka ……..

p) Elezamaanayamziziwakitenzi (alama 1)

……

……

4. ISUMU JAMII (ALAMA 10)

a) Lugharasmininini? (alama 2)

……

……

b) Elezasababuzozotetatuambazohuendazikamfanyamzungumzajiafanyemakosayakisarufinakimatamshi (alama 3)

……

……

……

……

……

……

c) Hukuukitoamifanomwafakafafanuasifatanozasajiliyabungeni. (alama 5)

……

……

……

……

……

……

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KCSE PREDICTION 2021

Set 3

CHETI CHA KUHITIMU ELIMU YA SEKONDARI

JINA: …….. NAMBANI YAKO:……..

SAHIHI:……. TAREHE:…….

JARIBIO LA PILI 2019

MUDA: SAA 2½

CHETI CHA KUHITIMU ELIMU YA SEKONDARI

KISWAHILI KIDATO CHA NNE

KARATASI YA TATU

MUDAL SAA 2½

MAAGIZO

- Jibumaswalimanne.
- Swali la kwanza ni la lazima
- Chaguamaswalimenginematatukutokakwasehemuzilizosalia: Riwaya, Tamthilia, HadithifupinaUshairi.
- Usijibumaswalimawilikutokasehemumoja.

SEHEMUYA A

1. SWALI LA LAZIMA

a) i) Semi nini? (alama 1)

ii) Fafanuasifannezamisimu (alama4)

b) **Soma wimboufuataokishaujibumaswali**

Ewe kilizi
Ulozoweakujificha
Nyumaya mama kujikinga, dhidiyamilio
Yanadiilojuumbinguni
Juakeshonisikuyasiku
Sikuyakujuambivunambichi
Kutofautishajogoonavipora
Naribatakaposhika, chakekisu
Ndipoutakapojuabayana
Ukoowetusiwakunguru
ikiwahutayari
kisukukidhihaki
sithubutukamwe, wanjanikuingia
sijekuniaibishamiye, amiyonaakrabanzima!

Maswali

i) Huuwimbohuitwaje? (alama1)

ii) Elezamajukumuyoyotemanneyanayotekelezwanawimbohuukatikajamii (alama4)

c) i) Mivighaninini? (alama2)

ii) Elezasifatatuzamivigha (alama 3)

d) Fafanuamatatizomatanoambayoyanaikumbwafasihisimuliziduniani (alama5)

SEHEMU YA B

RIWARA: CHOZI LA HERI: ASUMPTA MATEI

2. "…haifaikuchezanauwezowavijana, waonikamananga. Huwezikuzamishanakuiongeamerikebu."
   a) Elezamuktadhawadondoohili (alama4)
   b) Bainishatamathalimbilizausemizilizotumikakatikadondoo (alama 4)
   c) Kwakurejeleariwayahii, onyeshajinsivijanawamezamishamerikebuyawahafidhina (alama12)
3. Baadayadhikifaraja. Onyesha vile ukweliwamethalihiiunavyodhihirikakwenyeriwaya (alama20)

SEHEMU YA C

TAMTHILIA: KIGOGO: PAULINE KEA

4. "Sitakikuaibishwanamwanamkemimi, siwezi."
   a) Yawekemanenohayakatikamuktadha wake. (alama 4)
   b) Fafanuakwahojananekuwamsemajiwamanenohayaanafaakuaibishwa (alama16)
5. a) Jadilijinsikumiambazokwazomaudhuiyaukatiliyanajitokezakatikatamthiliayakigogo (alama10)
   b) Elezamifanomitatoyamatumiziyakinayakatikatamthiliayakigogo (alama10)

SEHEMU YA D : HADITHI FUPI

TUMBO LISILOSHIBA NA HADITHI NYINGINE

6. Elezanafasiyavijanakatikajamiiukerejeleahadithifupizifuatazo.
   a) Mapenziyakifaurongo (alama 5)
   b) Shogake Dada anaDevu (alama 5)
   c) MameBakari (alama10)
7. Ndotoyamashaka: Ali Abdalla Ali
   "Sasanimechokamja.Nimechokahatanaraduakufakulikokuishi.Hadilinihayamashakayakutengenezwa?Mashakayamashaka!
   a) Elezamuktadhawadondoohili (alama 4)
   b) Tambuambinumbilizalughazilizotumika (alama 4)
   c) Fafanua mambositayanayomfanyamrejelewaaraduekufa. (alama12)

8. SEHEMU YA E: USHAIRI

Soma shairilifuatalokishaujibumaswali

Barabarabadonindefu
Namitayarinimechokatiki
Natamanikuketi
Ni'nyooshemisuli
Nitulizeakili

Lakini

Azmayanisukuma
Mbeleikinihimizakuendelea
Baadayamiinukonakuruba
Sasanaonaunyoofu wake
Unyoofuambaounatishazaidi

Pundenatumbukiakatikashimo
Nahitajisihazaidiilikupandatena
Ghaflanakumbukailivyosema
Ile sautizamanikidogo
"Kuwatayarikupandanakushuka".

Ingawanimechoka
Jambomojadhahiri
Lazimahufuatebarabara
Ingawamachweoyaingia
Nizamenakuibuka
Nipandenakushuka

Jambomojanakumbuka; Mungu
Je nimwombetena?Hadilini?
Labdaamechoshwanaombaombazangu
Nashangaatena!
Kitukimojanakiamini
Lazimaniendeleekujitahidikwakilahatuampya
Nijikokotekuiandamahiibarabarayenyeukungu
Nikinaswanakujinasua
Yumkininitafikamwisho wake
Ikiwawangumwishohaitauwahikabla.

Maswali

a) Tajanauelezeainayashairihili (alama 2)
b) Elezatoniyashairihili (alama 2)
c) Hukuukitoamifanomwafakaelezatamathalitatuzausemiambazozinajitokezakatikashairi (alama 3)
d) Mshairiametumiauhuruwake wautunzi. Elezamifanomitatuhukuukitoleamifano. (alama 3)
e) Fafanuadhamirayamtunziwashairihili (alama 2)
f) Andikakifungu cha mwishokatikalughayanathari. (alama 4)
g) Elezamaanayamsamiatiufuataokamaulivyotumikakatikashairi (alama 4)
    i) Kuruba
    ii) Siha
    iii) Machweo
    iv) Kujinasua

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

101/1 ENGLISH

PAPER ONE

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

1. Write your details in the spaces provided above.
2. Answer all the questions in this paper.
3. Answer the questions in English

EXAMINER'S USE ONLY

QUESTION	MARKS	CANDIDATE'S SCORE
1	20	
2	10	
3	30	
TOTAL	**60**	

1. Students in your school have raised concerns about poor hygiene in the school. In a bid to address these concerns, the principal appoints a four member committee to investigate the health situation and give recommendations. You are the secretary of the committee, write down the report you will present to your principal.

   (20mks)

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2. CLOZE TEST (10MKS)

Fill in the blank spaces with the most appropriate words.

A new research title "Underage drinking in Kenya", has ……1…….that nearly one third of form four students aged below 18 years take alcohol ……2……. As our society ponders this sad ……3……., the urgent message to children who are taking alcohol ……4……. do not drink another sip. Advice to those children is to strongly say "no". ……5……irresponsible behaviour, to alcoholism, there are many……6……effects of alcohol. It is wrong and illegal for children to drinkalcohol.

This report also states that 46 percent of the children received ……7…….first pint from friends and ……8……. Do you offer alcohol to a child? As a parent or guardian, do you nurture ……9…….? How much time do you spend with them?Notably, ……10……of guidance and supervision are stimuli to underage drinking.

3. ORAL SKILLS (30MKS)

Read the poem below and answer the questions that follow

Make me a grave where'er you will,
In a lowly plain, or a lofty hill;
Make it among earth's humblest graves,
But not in a land where men are slaves.

I could not rest if around my grave
I heard the steps of a trembling slave;
His shadow above my silent tomb
Would make it a place of fearful gloom

I could not rest if I heard the tread
Of a coffle going to the shambles led,
And the mother's shriek of wild despair
Rise like a curse on the trembling air
(by Frances Ellen Watkins Harper)

Questions

a) Describe the rhyme scheme of the poem above. (2mks)

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b) Apart from rhyme, mention two other ways they have achieved rhythm? (4mks)

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c) Mention two ways in which you would know that your audience is fully participating during the recitation of the poem above. (2mks)

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d) How would you say the last line of the poem? (2mks)

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e) Indicate whether the following items have a falling or a rising intonation. (4mks)

i) Get out now! ……

ii) The man was accused of theft. ……

iii) How did you find the English exam? ……

iv) Could he have left? ……..

f) Underline the silent letters in the following words. (4mks)

i) Corps

ii) Parliament

iii) Leopard

iv) Fracas

g) Provide a homophone for each of the following words. (4mks)

i) Bury ……..

ii) Claws ……..

iii) Guest ……

iv) Male ……..

h) The underlining indicates the stressed word in the sentences below. Briefly explain what each sentence mean (3mks)

i) The <u>lady</u> in a red dress lost her purse

……

ii) The lady in a <u>red</u> dress lost her purses

……..

iii) The lady in a red dress lost her <u>purse.</u>

……..

i) Identify the odd word out according to the pronunciation of the underlined sound. (2mks)

i) S<u>a</u>id H<u>ea</u>d G<u>a</u>te L<u>e</u>d

……

ii) <u>F</u>ace <u>Ph</u>rase Shep<u>h</u>erd <u>Ph</u>ase

j) Below is a dialogue between Muthomi and James who are candidates. Read it and answer the questions that follow.

Muthomi: James, I'm worried about my performance in English. It's not encouraging.

James: Ah! I'm happy with mine in Biology. I got an A in the last exam.

Muthomi: I really don't know what to do about English, maybe…

James: I don't like History and P.E teacher. He thinks he is the only one who can a pick-up truck. My mum told me she would be buying one soon.

Muthomi: (Trying to bring him back to the topic) Tell me James, how do yourevise English?

James: Oh! Is that Betty? She promised to bring me a movie. (Calling out) Betty! Betty!

(The runs after her)

a) Identify the shortcomings in the dialogue above (3mks)

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KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

101/2 ENGLISH

PAPER ONE

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

1. Write your details in the spaces provided above.
2. Answer all the questions in this paper.
3. Answer the questions in English

EXAMINER'S USE ONLY

QUESTION	MARKS	CANDIDATE'S SCORE
1	20	
2	25	
3	20	
4	20	
5	15	
TOTAL	100	

1. COMPREHENSION

Read the passage below and answer the questions that follow

The process of developing social skills among children at an early age is important. Researchers have cited rejection by peers as the greatest challenge children face in their quest to build meaningful social skills. It has been reported that children who get bullied and snubbed by peers are more likely to have problems in relating with others. In recent

times, researchers have found at least three factors in a child's behaviour that can lead to social rejection. The factors involve a child's inability to pick up on and respond to nonverbal cues from their pals. In the United states 10 to 13 percent of school-going children experience some form of rejection by their peers. In addition to causing mental health problems, bullying and social isolation can increase the likelihood of a child getting poor grades, dropping out of school,, or developing substance abuse problems.

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

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

When children have prolonged struggles with socializing, "a vicious cycle begins," children who are **shunned** by others have few opportunities to practice social skills whereas popular children have more than enough opportunities to perfect theirs. However, having just one or two friends can be enough to give a child the social practice he or she need.
Parents, teachers and other adults in a child's life can help, too. Instead of reacting with anger or embarrassment to a child who, say, asks Aunt Vera if her new hairdo was a mistake, parents should teach social skills with the same tone they use for teaching numeracy skills or proper hygiene.If presented as a learning opportunity, rather than a punishment, children usually appreciate the lesson. It is important to note that most

children are so desperate to have friends that they **just jump on board.**

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

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

Questions

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

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……

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

……

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

……

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

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

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

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g) "How would you feel if Emma was hogging the tyre swing?" Re-write in reported speech. (1mk)

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

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

i. Authority figure

……

ii. Shunned

……

iii. Jump on board

……

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

A Doll's House:

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

Nora: So it seems

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

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

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

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

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

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

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

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

Krogstad: Only disagreeable?

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

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

Nora: If my husband does get to know of it, of course he will at once pay you what is

still owing, and we shall have nothing more to do with you.

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

Questions

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

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

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

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

i. Krogstad

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ii. Nora

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

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

i. Compel

……

ii. Blackguard

……..

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

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

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

There came a time when the cows started dying one after the other. The two friends

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

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

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

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

Hyena went and did as he was told. When he went to Hare's mother his voice was as soft as Hare's. "Mother, mother I have come." And Hare's mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she

screamed but there was nobody near to help. Hyena killed her immediately.

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

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

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

Questions

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

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b) Identify three features of narratives (3mks)

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

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

i. Hare

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ii. Hyena

……

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

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

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

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

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

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

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

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4. GRAMMAR (15MKS)

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

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

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

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

……

……

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"These are juicy mangoes," Ken said.

……

……

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

(Supply a suitable question tag).

……

……

KCSE PREDICTION 2021

Set 3

101/3 ENGLISH

PAPER 3

TRIAL 2,

TIME: 2½HRS

INSTRUCTIONS TO CANDIDATES

1. Write your details in the spaces provided above.
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 on.
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.

1. **IMAGINATIVE COMPOSITION (20MKS)**
   a) Write a composition ending with the following statement.
      ……a final look at her made me realize that choices have consequences.
      OR
   b) Write a composition to illustrate the proverb, “once beaten twice shy”.

2. **COMPULSORY TEXT BLOSSOMS OF THE SAVANNAH H.R OLE KULET (20MKS)**
   Parenting should build an environment of trust and peace in a family. Write an essay that explores how this statement applies to the Ole Kaelo family in Blossoms of the Savannah
3. **OPTIONAL SET BOOKS**
   a) **Drama: David Mulwa: The Inheritance**
      Inheriting a top seat without merit only invites ridicule from subjects. Write an essay showing how satire has been used in The Inheritance by David Mulwa.
   b) **Short stories: Moran (ED) memories we lost.**
      Discuss the major issues highlighted by the writer in the story window seat by Benjamin Branoff.
   c) **John Steinbeck. The Pearl**
      The Pearl potrays humans as beings inherently greedy. Show the validity of this statement with reference to The Pearl.

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

311/1 HISTORY & GOVERNMENT

PAPER ONE

TIME: 2½HRS

For marking schemes call Mr machuki 0795491185

INSTRUCTIONS

1. The paper consist of Three sections A, B and C
2. Answer all the questions in section A.
3. Answer only Three questions in Section B
4. Answer only Two questions from section C.

SECTION A (25MKS)

Answer ALL the questions in this section.

1. Identify one example of the Highland Bantu. (1mk)
2. State the main economic activity of the Cushites during the pre-colonial era. (1mk)
3. State **two** roles played by Seyyid Said in the spread of Christianity in Kenya (2mks)
4. Define the term citizen according to the Kenyan constitution 2010. (1mk)
5. Identify **one** political cause of conflict in Kenya (1mk)]
6. State **two** factors that led to the decline of Kilwa as early urban centre (2mks)
7. Identify **one** factor that determines the form of a constitution a country may adopt (1mk)
8. Name **one** way in which direct democracy is exercised (1mk)
9. State **two** achievements of the Imperial British East Africa Company in colonial Kenya (2mks)
10. State **two** reasons why the British applied indirect rule in administering Kenya (2mks)
11. Identify **two** reasons why Africans were denied right to grow cash crops until 1937 (2mks)
12. State the main reason why the white settlers were disappointed with the Devonshire white paper of 1923 (1mk)
13. Identify the main reason for convening of the second Lancaster House conference of 1962 (1mk)
14. State **two** characteristics of early political organizations (2mks)
15. Name the electoral body that is responsible for conducting elections in Kenya (1mk)
16. State **two** functions of the court of appeal in Kenya (2mks)
17. Identify the main function of the correctional services in Kenya (1mk)

SECTION B (45 MKS)

Answer THREE questions from this section

18. a) State **three** social reasons for the migration of the plain Nilotes (3msk)

    b) Explain the political organization of the Nandi during the pre-colonial period (12mks)

19. a) State the reasons for the success of Portuguese conquest along the East Coast of Africa (5mks)

    b) Explain the effects of the long distance trade (10mks)

20. a) State **five** factors that led to the growth of Nairobi as a modern urban centre (5mks)

    b) Describe the features of the independence constitution (10mks)

21. a) Identify the reasons for the Maasai collaboration in the pre-colonial period (5mks)

    b) Explain **five** reasons why armed resistance failed in Kenya during the colonial period (10mks)

SECTION C (30MKS)

Answer TWO questions in this section

22. a) State **three** circumstances that may lead to revocation of citizenship by registration (3mks)

    b) Explain the importance of national integration (12mks)

23. a) Identify **three** advantages of democracy (3mks)

    b) Explain **six** rights of an arrested person (12mks)

24. a) State the factors that undermine free and fair elections in Kenya (3mks)

    b) Explain **six** functions of the National police service (12mks)

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

101/2 ENGLISH

PAPER ONE

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES

1. Write your details in the spaces provided above.
2. Answer all the questions in this paper.
3. Answer the questions in English

EXAMINER'S USE ONLY

QUESTION	MARKS	CANDIDATE'S SCORE
1	20	
2	25	
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4	20	
5	15	
TOTAL	100	

1. COMPREHENSION

Read the passage below and answer the questions that follow

The process of developing social skills among children at an early age is important. Researchers have cited rejection by peers as the greatest challenge children face in their quest to build meaningful social skills. It has been reported that children who get bullied and snubbed by peers are more likely to have problems in relating with others. In recent

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

When children have prolonged struggles with socializing, "a vicious cycle begins," children who are **shunned** by others have few opportunities to practice social skills whereas popular children have more than enough opportunities to perfect theirs. However, having just one or two friends can be enough to give a child the social practice he or she need.
Parents, teachers and other adults in a child's life can help, too. Instead of reacting with anger or embarrassment to a child who, say, asks Aunt Vera if her new hairdo was a mistake, parents should teach social skills with the same tone they use for teaching numeracy skills or proper hygiene.If presented as a learning opportunity, rather than a punishment, children usually appreciate the lesson. It is important to note that most

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

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

Questions

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

……

……

……

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

……

……

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

……

……

……

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

……

……

……

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

……

……

……

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

……

……

……

g) "How would you feel if Emma was hogging the tyre swing?" Re-write in reported speech. (1mk)

……

……

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

……

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……

……

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

i. Authority figure

……

ii. Shunned

……

iii. Jump on board

……

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

A Doll's House:

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

Nora: So it seems

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

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

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

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

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

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

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

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

Krogstad: Only disagreeable?

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

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

Nora: If my husband does get to know of it, of course he will at once pay you what is

still owing, and we shall have nothing more to do with you.

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

Questions

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

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

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

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

i. Krogstad

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ii. Nora

……

……

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

……

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……

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

i. Compel

……

ii. Blackguard

……..

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

……

……

……

……

……

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

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

There came a time when the cows started dying one after the other. The two friends

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

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

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

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

Hyena went and did as he was told. When he went to Hare's mother his voice was as soft as Hare's. "Mother, mother I have come." And Hare's mother dropped bananas for his him. Then he told her to come and greet him. When she came down and saw it was Hyena she

screamed but there was nobody near to help. Hyena killed her immediately.

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

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

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

Questions

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

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……

……

b) Identify three features of narratives (3mks)

……

……

……

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

……

……

……

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

i. Hare

……

ii. Hyena

……

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

……

……

……

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

……

……

……

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

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

……

……

……

……..

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

……

……

……

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

……

……

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

……

……

……

4. GRAMMAR (15MKS)

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

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

……

……

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

……

……

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

……

……

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"These are juicy mangoes," Ken said.

……

……

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

(Supply a suitable question tag).

……

……

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KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

311/2 HISTORY & GOVERNMEN

PAPER TWO

TIME: 2½HRS

INSTRUCTIONS

1. The paper consist of Three sections A, B and C
2. Answer **all** the questions in section A.
3. Answer only **Three** questions in Section B
4. Answer only **Two** questions from section C.

SECTION A (25MKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION.

1. List down **one** disadvantage of Electronic sources of information of History and Government (1mk)
2. Identify the main difference between humans and other primates (1mk)
3. Name the form of early picture writing invented in Egypt (1mk)
4. State **two** characteristics of Regional trade (2mks)
5. List down **two** negative impact of tele-communication (2mks)
6. State **two** factors that enhanced the spread of iron-working in Africa (2mks)

7. Identify **two** natural factors for the growth Meroe as an early urban centre (2mks)
8. List down **two** symbols of unity among the Asante kingdom (2mks)
9. Identify the main reason for the convening of Berlin conference 1884-1885 (1mk)
10. State **one** reason why British used Direct rule in Zimbabwe (1mk)
11. Name **one** method used by nationalists in South Africa during the struggle for independence (1mk)
12. Identify the immediate cause of the second world war (1mk)
13. State **two** reasons why united States of America delayed in joining the first world war (2mks)
14. Identify the main function of the international court of Justice (1mk)
15. Name the weapons of the cold war (2mks)
16. List **two** founders of pan Africanism (2mks)
17. State **one** failure of the organization of African unity (1mk)

SECTION B (45 MKS)

Answer any THREE questions in the section.

18. a) State **three** characteristics of regional trade (3mks)
    b) Explain **six** reasons for the decline of Trans-Atlantic trade (12mks)
19. a) Identify **five** reasons why Lewanika collaborated with the British (5mks)
    b) Explain **five** reasons why the FRELIMO succeeded in the armed struggle against the Portuguese (10mks)
20. a) State **three** demands put across by Austrian authorities to the Serbian government in relation to the Sarajevo assassinatio (3mks)
    b) Explain **five** political effects of the Second World War (12mks)
21. a) State **five** challenges facing the common wealth (5mks)
    b) Explain **five** objectives of the East African community in the 1967 treaty (10mks)

SECTION C (30MKS)

Answer any TWO questions from this section

22. a) State **three** factors that contributed to the decline of the Buganda kingdom (3mks)
    b) Describe the social organization of the Asante during the 19th century (12mks)
23. a) State **five** factors for the growth of the Shona kingdom in the 19th century (5mks)
    b) Explain **five** reasons why the policy of assimilation failed in Senegal (10mks)
24. a) State **three** duties of Emirs in Northern Nigeria (5mks)
    b) Explain **five** reasons why Ghana got independence earlier than other African countries (10mks)

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

312/1 GEOGRAPHY

PAPER ONE

TIME: 2¾HRS

INSTRUCTIONS

1. This paper consist of **two** section **A** and **B**
2. Answer **ALL** the questions in section **A**
3. Answer question **6** and any other **two** questions from section **B**
4. Candidates should answer the questions in English

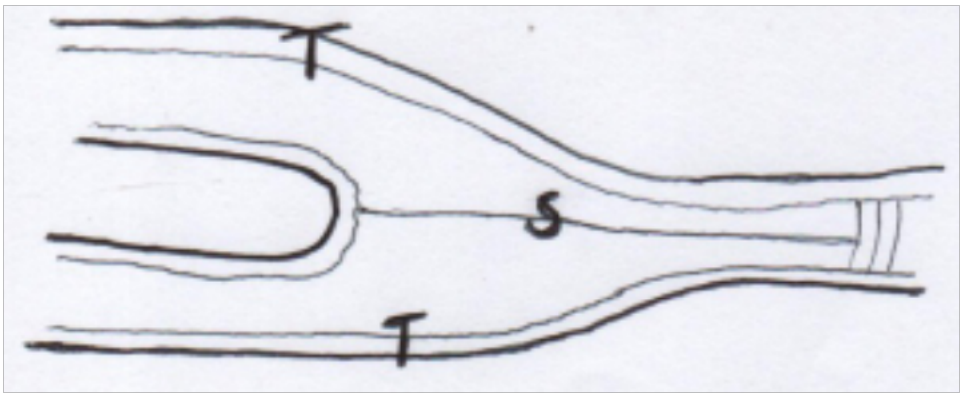
SECTION A (25MKS)

Answer all the questions in this section

1. a) Define the term solar system (2mks)
   b) Give any **three** theories explaining the origin of the solar system (3mks)
2. i) What is faulting (2mks)
   ii) Mention any **three** types of faults (3mks)

3. i) Define a glacier (2mks)

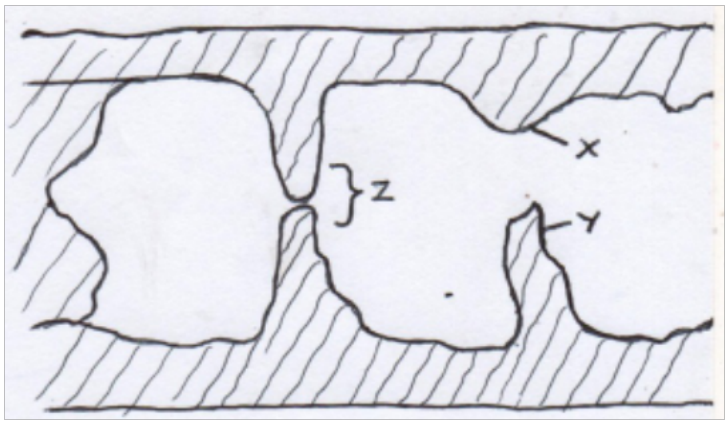
   ii) The diagram below shows types of moraines in a valley glacier (3mks)



V

   Name parts V, T & S

4. State **five** conditions necessary for the formation of a beach (5mks)
5. a) Study the diagram and answer the following questions. (3mks)



   Name parts X, Y &Z

   b) State any **two** conditions necessary for development of Karst scenery (2mks)

SECTION B

Answer question 6 and any other two questions from this section

6. Study the map of Taita Hills 1:50,000 (Sheet 198/4) provided and answer the following

questions.

a) i) Give the **four** figure grid reference of L.R 3880/s (2mks)

ii) What is the general direction of R. Ruhiaa tributary of R. vol (Goshi) (2mks)

b) i) Give the adjoining sheet of Taita Hills on the North Coast part of the map. (2mks)

ii) Measure the length of the Bound surface Road A23 from Mwatake to LC (Level Crossing) (2mks)

iii) Calculate the area of the forest covering Shellemba and Majengo Zones (3mks)

iv) Citing evidence from the map, identify three economic activities carried in the area (6mks)

c) Citing evidence from the map, explain any **four**factors that may have influenced Agricultural activities in the Area (8mks)

7. a) Define the term Vulcanicity? (2mks)

b) Distinguish Extrusive and intrusive vulcanicity (4mks)

c) Give any **three** resultant features due to intrusive vulcanicity (3mks)

d) Describe the continental drift theory (3mks)

e) i) State **two** artificial causes of earth movements (2mks)

ii) Explain any **three** significance of vulcanicity to human activities. (8mks)

8. a) What is climate? (2mks)

b) Explain the factors influencing climate under the following sub-headings:

i. Latitude (5mks)

ii. Altitude (4mks)

iii. Ocean currents (4mks)

c) i) Distinguish Aridity and desertification. (2mks)

ii) State any **four** causes of aridity and desertification together with their possible solutions (8mks)

9. a) Name **two** ways of water movement in Oceans (2mks)

b) List any four types of tides (4mks)

c) State four factors that influence wave transportation (4mks)

d) Yururugirl's school, form 4 Geography class carried out a field study at a wave deposition site at the coast of Mombasa.

i. List any four wave depositional features they might have observed. (4mks)

ii. Explain any two factors influencing the type of coast they might have studied. (4mks)

iii. Give any three benefits they might have enjoyed due to conducting reconnaissance to their place of study (3mks)

iv. List two ways the learners might have used in collecting the data (2mks)

v. Mention any two types of coral reef they might have studied during the period of their study (2mks)

10. a) Name three major deserts found in:

i. Africa (3mks)

ii. Give two processes in which wind erodes the earth's surface (2mks)

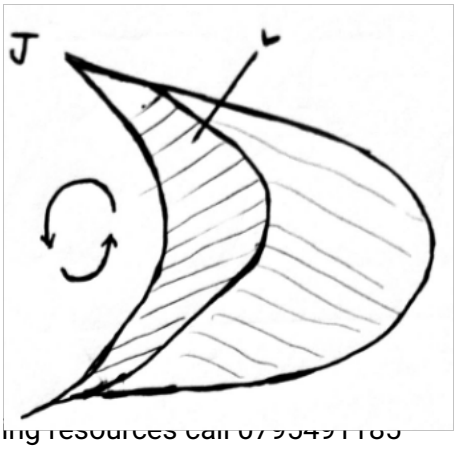
iii. Explain three ways in which wind transport its load (6mks)

b) Using well labeled diagrams, explain how the following desert features are formed.

i. Yardangs (5mks)

ii. Mushroom block (6mks)

c) The diagram below represents features resulting from wind deposition in a desert



Use it to answer questions that follow

i. Name the above feature
(1mk)

ii. Name the parts marked;
(2mks)
J & L

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

312/2 GEOGRAPHY

PAPER TWO

TIME: 2¾HRS

INSTRUCTIONS

1. This paper consist of **two** section **A** and **B**
2. Answer **ALL** the questions in section **A**
3. Answer question **6** and any other **two** questions from section

SECTION A (25MKS)

Answer ALL the questions from this section

1. i) Mention **two** irrigation schemes established in Kisumu County with the aim of land rehabilitation (2mks)
   ii) What is a polder? (1mk)
   iii) Name **three** crops grown in the polder (3mks)
2. i) Distinguish Horticulture and market gardening (2mks)
   ii) State **three** problem facing horticultural farming in Kenya (3mks)
3. i) Define the term mining? (2mks)
   ii) State any **three** negative effects of mining to the environment (3mks)
4. i) Give **two** indigenous soft wood trees grown in Kenya (2mks)
   ii) State **three** problems facing forestry in Canada (3mks)
5. a) Name **three** types of fish (2mks)
   b) State **three** problems facing fishing in JAPAN (2mks)

SECTION B

Answer question 6 and any other two questions

6. a) Study the information provided. Later answer the questions that follows
   Crop production in Kenya between 1998 and 2002 in million bags.
   Use a scale of 1cm represents 5 million bags

CROP/YEAR	1998	CT	1999	CT	2000	CT	2001	CT	2002	CT
Maize	27.30		25.00		25.00		30.00		26.00	
Beans	3.00		4.00		3.70		4.10		4.00	
Sorghum	0.90		1.20		0.90		1.20		0.80	
Millet	0.37		0.66		0.40		0.50		0.60	

- CT refers to the cumulative totals

i. Using a suitable scale, draw a cumulative bar graph based on data provided above.

(10mks)

ii. Calculate the maize percentage decline in production between years 2001 and 2002.

(2mks)

iii. What general conclusion can be made based on crop production between years 2000 and 2001 (2mks)

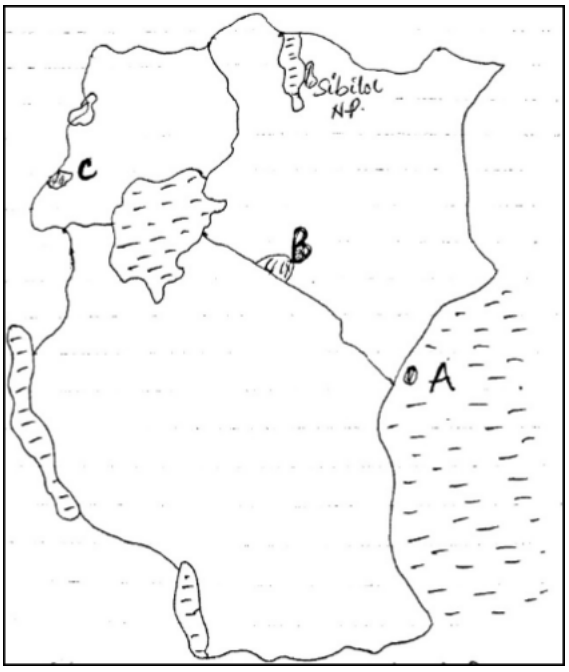
b) i) Apart from tsetse fly control mention five other methods used to reclaim land in Kenya (5mks)

ii) Explain any three control measures applied to eliminate tsetse flies in Kenya. (6mks)

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

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

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



Name National parks marked A, B & c

(3mks)

b) i) Explain four factors showing the future of tourism Industry in Kenya

(8mks)

ii) Explain how the following factors influence wildlife

i. Vegetation (4mks)

ii. Altitude (4mks)

8. a) i) What is fishing (2mks)

ii) Name the two major fishing ground in the Pacific Ocean

(2mks)

iii) Name four fresh water fisheries in Kenya (4mks)

b) i) Explain four reasons why Fresh water fishing is more popular than marine fishing in East Africa. (8mks)

ii) Describe trawling as a method of fishing (7mks)

iii) Distinguish phytoplankton and 200 planktons (2mks)

9. a) i) Name two main types of coffee grown in Kenya

(2mks)

ii) Identify two counties in Kenya where coffee is grown in large scale (2mks)

b) i) State four factors favoring growing of coffee in Kenya

(4mks)

ii) Describe the stages of coffee processing once it's delivered to the factory (9mks)

c) i) Explain two benefits of coffee farming in Kenya

(4mks)

ii)State four problems facing coffee farmers in Brazil (4mks)

10. a) i) Give three by-products of crude oil (3mks)

ii) List four ways through which occurrence of minerals is influenced. (4mks)

b) Explain four contribution of mining Industry to economy (8mks)

c) Name the minerals found in the following areas in East Africa (4mks)

i. Kariandusi

ii. Kerio Valley

iii. Kwale County

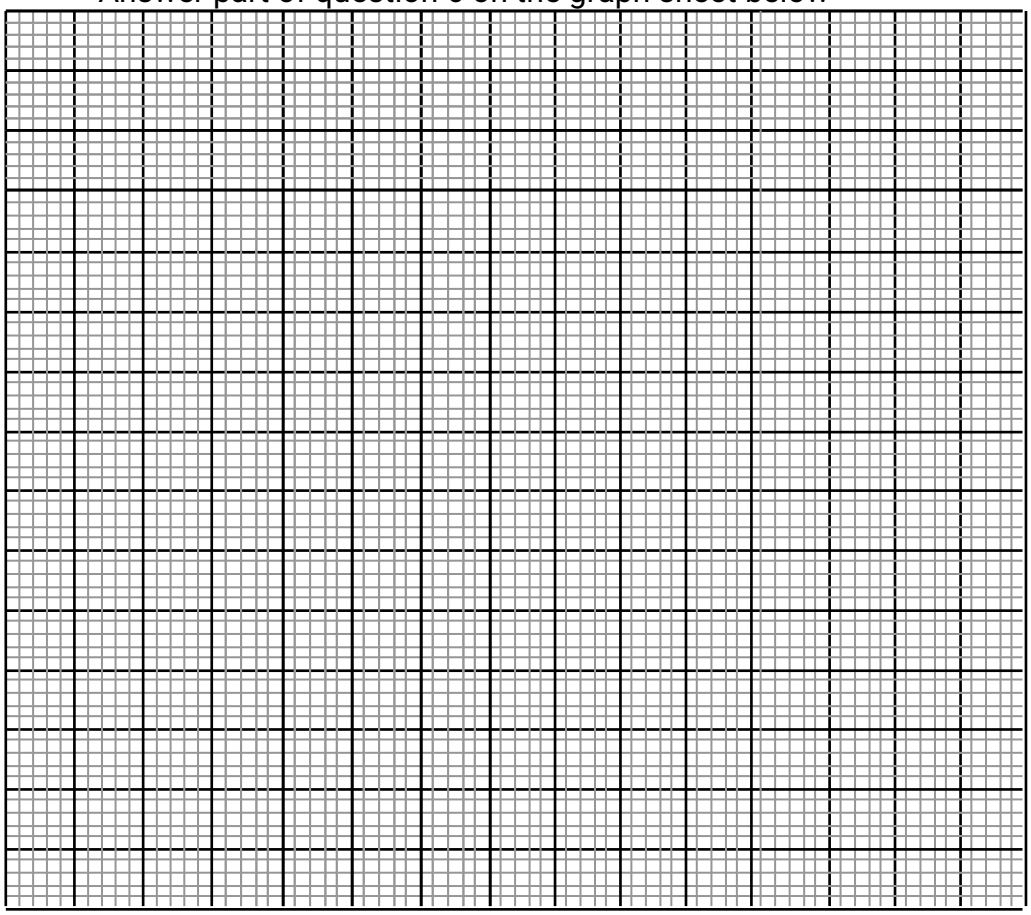
iv. Lake Magadi

d)i) State four factors influencing mineral exploitation (4mks)

ii) Give two uses of Gold

(2mks)

Answer part of question 6 on the graph sheet below



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KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education

565/1 BUSINESS STUIES

PAPER ONE

TIME: 2HRS

INSTRUCTIONS

1. Answer all the questions in the spaces provided

SECTION A

1. State **four** external factors that may positively influence the operations of a business (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

2. Outline **four** circumstances under which producers may prefer to sell goods directly to the consumers. (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

3. Name four ways through which consumers can be cheated in their dealings with traders (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

4. The following information relates to Tamu Traders for the year ended 31st Dec. 2011

	Sh
Fixed Assets	5,000,000
Current Assets	650,000
Net profit	300,000
Current liabilities	650,000
Sales	2,000,000

Closing stock	100,000
Opening stock	200,000
Gross profit margin	20%

Calculate; (4mks)

a) Current ratio

b) Gross profit mark up

c) Rate of stock turn over

d) Capital employed.

5. Outline **four** circumstances under which a credit note may be issued. (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

6. The equation given below relate to quantity demanded and the quantity supplied at equilibrium price.

   Qde = 4P + 50

   Qse = 8P + 30

   Determine the equilibrium price and quantity

   (4mks)

7. Kendi started a shop dealing in ladies clothing but failed after two years. Outline four factors that many have caused this failure (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

8. Name the type of warehouse described below

Statement	Type of warehouse
a) Goods can be stored before payment of custom duties	
b) Individuals can hire storage facilities	
c) Goods are stored from several manufacturers	
d) Specialised goods are stored	

9. State **four** ways in which the nature of goods would influence the choice of transport (4mks)

   i) ……

   ii)……..

   iii)……

   iv)……

10. Outline any **four** circumstances under which human wants may be fully satisfied (4mks)

    i) ……

    ii)……..

    iii)……

    iv)……

11. Highlight **four** ways in which business studies is useful to a community (4mks)

    i) ……

    ii)……..

    iii)……

    iv)……

12. State the books of original entry in which the following documents are used. (4mks)

a) Incoming invoice ……..
b) Incoming receipt ……
c) Outgoing credit note ……
d) Outgoing invoice ……..

13. State the type of ledger into which the following accounts would be found. (4mks)

Account	Relevant ledger
a) Capital	……..
b) Mueni (debtor)	……..
c) Kariuki (supplier)	…….
d) Bank	……

14. Outline any **four** advantages of operating in an open office layout.
(4mks)
i) ……
ii)…….
iii)……
iv)……

15. George operates a petrol station in Nakuru. He insured his stock worth Ksh 2.4 million for ksh 2 million. Later in the year stock worth ksh 600,000 was destroyed by fire. Calculate the amount he was compensated and give a reason.
(4mks)

16. State **four** characteristics of money (4mks)
i) ……

ii)……..

iii)……

iv)……

17. Name the rewards for the following factors of production

(4mks)

Factor of production	Reward
a) Employee	
b) Machine	
c) Minerals	
d) Farmer	

18. Outline **four** challenges that may be experienced by a country whose population is made up of a large proportion of young people

(4mks)

i) ……

ii)……..

iii)……

iv)……

19. Highlight any **four** characteristics of perfect competition type of market structure (4mks)

i) ……

ii)……..

iii)……

iv)……

20. State the line of communication involved in each of the following.

(4mks)

a) The manager of ABC company Ltd talking to the manager of XYZ company Ltd

……

b) A secretary asking for time off from her boss ……..

c) The production manager giving instructions to the secretary of the sales manager

……

d) The store keeper giving explanations to the chief accountant

……

21. State the effect of each of the following transactions on the balance sheet totals by writing increase or decrease or no effect in each case.

(4mks)

Transaction	Effect
a) Bought machinery on credit	
b) Withdrew cash from the bus for personal use	
c) Purchased stock in cash	
d) Paid outstanding loan by cheque	

22. Outline the assumptions that the circular flow of income in a closed economy work under

(4mks)

i) ……

ii)……

iii)……

iv)……

23. The following balances were extracted from the books of Wanji traders for the year ended 30th June 2005.

(4mks)

	Sh	
Debtor	120,000	
Creditor		60,000
Machinery	450,000	
Cash in hand		70,000
Cash at bank		180,000
5 years bank loan		270,000
Stock	60,000	

Prepare a balance sheet of Wanji traders as at 30th June 2005.

24. Outline **four** reasons for maintaining a cash book in a business enterprise. (4mks)

    i) ……

    ii)……..

    iii)……

    iv)……

25. Highlight **four** factors that should be considered when choosing a method of promoting a product.

    (4mks)

    i) ……

    ii)……..

    iii)……

    iv)……

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KCSE PREDICTION 2021

Set 3

Certificate of Secondary Education

565/2 BUSINESS STUIES

PAPER TWO

TIME: 2½HRS

INSTRUCTIONS

1. Answer any **FIVE** questions in the foolscaps provided

1. a) Outline any five differences between private limited liability company and public limited liability company.
   (10mks)
   b) Describe five accounting documents used in home trade.
   (10mks)
2. a) The table below shows the demand and supply schedules for product A in a week.

Price(sh)	Quantity demanded ('000' tonnes)	Quantity supplied ('000' tonnes)
35	5	80
30	10	65
25	20	55
20	25	40
15	30	35
10	40	20
5	55	5

   Use the information in the table above, draw the demand and supply curve showing the market equilibrium for the produce. (10mk)
   b) Explain five benefits that a firm may enjoy by preparing a business plan.
(10mks)
3. a) Traders are required to observe ethical practices when carrying out product

promotion. Explain five reasons for observing such ethical practices
(10mks)

b) Explain five benefits that may be realized by a country as a result of government policy to relocate Industries to rural areas.
(10mks)

4. a) Outline any five factors to consider while locating a ware house.
(10mks)

b) On 1st September 2015, Miriam had sh 55,000 in hand and sh. 250,000 in bank. During the month the following transactions took place.

Sep 2: Cash sales banked sh 35,260

Sep 3: Bought ribbons in cash sh 4,500

Sep 8: Paid Wangila, a creditor sh 94,000 by cheque in full settlement of his account after deduction 6% cash discount.

Sep 12: Received a cheque for sh 58,800 from Wetu after allowing her cash discount of sh 1,200

Sep 15: Paid salaries of sh 34,000 in cash

Sep 25: Withdrew sh 50,000 from bank for office use.

Sep 28: Anyango a debtor paid her account of sh 75,000 by cheque less 10% cash discount.

Sept 30: Deposited all the cash into the bank except sh 13,700

Prepare a three column cash book and balance it off.
(10mks)

5. a) Explain any five uses of National Income Statistics (10mks)

b) The following trial balance related to Tai Traders as at 31st December 2014

TAI TRADERS

TRIAL BALANCE

AS AT 31ST DECEMBER 2014

Details	Dr (Ksh)	Cr(Ksh)
Stock	10,000	
Bank	3,500	
Purchases	15,000	
Sales		28,000
Returns	800	1,100

Rent		580	
Insurance	950		
Creditor		450	
Carriage in	1,200		
Discounts	300	1,620	
	31,750		31,750

Additional information

- Closing stock was valued at Ksh 2,500
- Carriage out was Ksh 1,200

Required: Prepare trading profit and loss account. (10mks

6. a) Explain any five reasons why one would prefer to transport goods on road than rail. (10mks)

   b) On 1st January 1993 Makena started a business with sh 120,000 cash and sh 300,000 in the bank.

   The following transactions were done in the month of January 1993.

   January 3: Bought goods worth sh 60,000 by cheque

   January 10: Sold goods worth sh 35,000 cash

   January 14: Bought goods worth sh 90,000 cash from Odero

   January 18: Paid wages sh 18,000 by cash

   January 20: Withdrew sh 40,000 from bank for office use.

   Required;

   Record the above transactions in the relevant ledger account, balance them off and extract a trial balance.

   (10mks)

KCSE PREDICTION 2021

Set 3

Certificate of Secondary Education Trial 2

443/1 AGRICULTUR

PAPER ONE

TIME: 2HRs

INSTRUCTIONS

This paper consists of three sections A, B and C; Candidate to answer **ALL** questions in section **A** and **B** and answers any **TWO** questions only in section **C**

CANDIDATE SCORE

	QUESTIONS	MAXIMUM SCORE	CAND.SCORE
A	1-20	30	
B	21-25	20	
C	26	20	
	27	20	
	28	20	
	TOTAL	**90**	

SECTION A (30MKS)

Answer all questions in this section on spaces provided.

1. Name two field management that are carried out to obtain optimum plant population in a crop field
   (1mk)
   i)……
   ii)……
2. Give two factors which characterize small scale farming (1mk)
   i)……
   ii)……
3. Give one examples of each of the following categories of water pipes
   a) Metal pipes (½mk)
   ……..
   b) Horse pipes (½mk)
   ……...
4. Name three forms of horticulture practiced in Kenya (1½mk)
   i)……
   ii)……
   iii)……
5. State four disadvantages of growing one type of crop on piece of land continuously(2mks)
   i)……
   ii)……
   iii)……
   iv)……
6. Outline four qualities of a mother plant from which vegetative propagation material should be obtained

(2mks)

i)……

ii)……

iii)……

iv)……

7. State two ways in which crop rotation controls weeds (1mk)

i)……

ii)……

8. Give two reasons for imposing quarantine on imported planting materials (1mk)

i)……

ii)……

9. State two mechanical methods of separating soil particles according to sizes during soil analysis (1mk)

i)……

ii)……

10. Name four settlement schemes that the Kenyan government started as a result of the success of the million Acre scheme (2mks)

i)……

ii)……

iii)……

iv)……

11. State three practices which encourage soil erosion (1½mks)

i)……

ii)……

iii)……

12. State four characteristics of a good vegetable seedling (2mks)

i)……

ii)……

iii)……

iv)……

13. List four pose-harvest practices that are carried out in maize production (2mks)

i)……

ii)……

iii)……

iv)……

14. List four environmental factors that affect crop production in Kenya (2mks)

i)……

ii)……

iii)……

iv)……

15. Give four reasons for seed selection in crop production (2mks)

i)……

ii)……

iii)……

iv)……

16. Give two benefits of top-dressing in management of grass pasture (1mk)

i)……

ii)……

iii)……

iv)……

17. State four disadvantages of communal land tenure system (2mks)

i)……

ii)……

iii)……

iv)……

18. State any two benefits a farmer would get by having correct plant population in the production of annual crops (1mk)

i)……

ii)……

19. Define the term opportunity cost as used in economic (1mk)

……

……..

20. State four pieces of information contained on a land title deed. (2mks)

i)……

ii)……

iii)……

iv)……

SECTION B (20MKS)

Answer all questions in this section

21. The table below shows PH value of different soil samples. Study it and answer the questions that follow.

Soil sample	PH value
S_1	3
S_2	4
S_3	5
S_4	6
S_5	7
S_6	8
S_7	9
S_8	10

a) Which soil sample has the highest acidity
(1mk)

……..

b) Which soil sample has the lowest alkalinity (1mk)

……

c) State two ways in which the PHvalue of sample 3 can be raised (2mks)

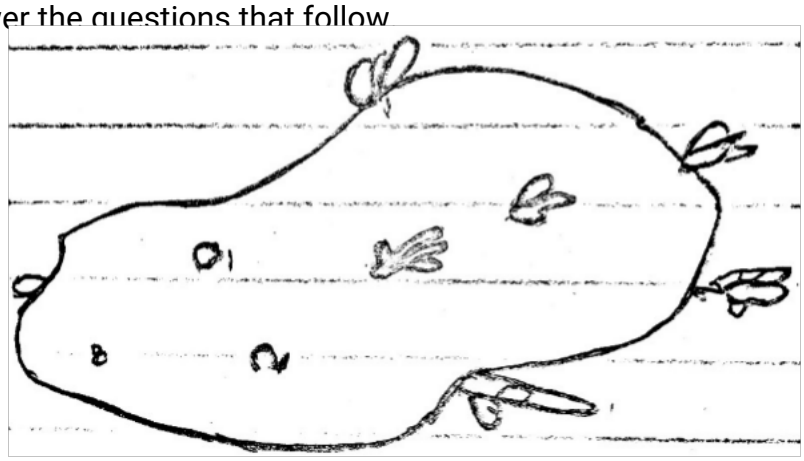
i)……

ii)……

d) Which of the above soil sample is suitable for growing maize (1mk)

……..

22. The diagram below illustrates a seed potato prepared for planting. Study it carefully and answer the questions that follow



a) Name the practice used in preparing the seed potato above for planting (1mk)

……..

b) Describe the procedure followed in preparing seed potatoes for planting. (8mks)

……

……

……

……

……

……

……

……

……

……..

23. Below are diagrams of common weeds found in a crop field, study them carefully and answer questions that follow.

C

a) Identify the weeds (3mks)

Weed A …….

Weed B …….

Weed C …….

b) State one reason why weed A is difficult to control (1mk)

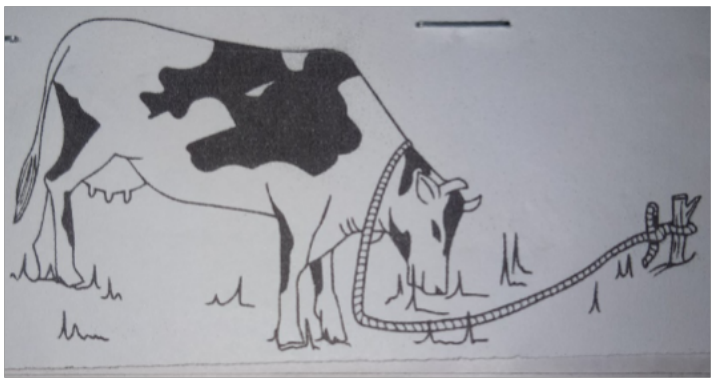
……

c) State one economic use of weed B

(1mk)

……

24. Below is a method used in pasture management. Study it carefully and answer questions that follow.



a) Identify the type of grazing shown above (1mk)

……

b) State two limiting of the practice above (2mks)

i)……

ii)……..

25. Below is a diagram of common pest found in the field. Study it carefully and answer

questions that follows

a) Identify the pest (1mk)

……

b) State the stage at which the pest attack maize (1mk)

……

c) State one effect of the pest on crop production

(1mk)

……

SECTION C (40MKS)

Answer any two questions only from this section

26. a) Explain five ways in which biotic factors influence crop production in Agriculture (10mks)

b) Explain four ways in which Government policy improves agricultural production (4mks)

c) Describes the properties of Nitrogenous fertilizer

(6mks)

27. a) Describe the effects of pests on Beans in the field

(4mks)

b) Describe the production of cabbage under the following seed headings.

i. Seed bed preparation (3mks)

ii. Transplanting of seedlings (4mks)

c) Describe various nursery management practices carried out on cabbage seeding in the nursery

(5mks)

d) Describe how water is treated to remove solid impurities

(4mks)

28. a) Describe five ways in which a grass cover help to conserve soil
(5mks

b) Describe maize production under following sub-headings.

i. Land preparation (3mks)

ii. Planting (6mks)

iii. Field management practices (6mks)

KCSE PREDICTION 2021

Set 3

Kenya Certificate of Secondary Education Trial 2

443/2 AGRICULTURE

PAPER TWO

TIME: 2HRS

INSTRUCTIONS

- This paper consist of three sections A, B and C
- Candidate to answer **all** questions in section **A** and **B**
- Answer any two questions only in section **C** on the booklet provided.

CANDIDATE SCORE

	QUESTIONS	MAXIMUM SCORE	CAND.SCORE
A	1-14	30	
B	15-18	20	
C	19	20	
	20	20	
	21	20	
	TOTAL	**90**	

SECTION A (30MKSl)

Answer all questions in this section on spaces provided.

1. State four non-chemical method used to control ticks (2mks)

   i)……

   ii)……

   iii)……

   iv)……

2. Highlight two management practices carried out on a broody hen (2mks)

   i)……

   ii)……

3. Give four characteristics of a good fish pond (2mks)

   i)……

   ii)……

   iii)……

   iv)……

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

   i)……

   ii)……

   iii)……

   iv)……

5. Give four features of calf pen that help to control calf diseases (2mks)

   i)……

ii)……

iii)……

iv)……

6. a) What is dry cow therapy (1mk)

……

……

b) At what stage of gestation is dry cow therapy practiced

(1mk)

……

7. Name four farm structures used for handling livestock (2mks)

i)……

ii)……

iii)……

iv)……

8. Give four symptoms of respiratory disorder in a sick cow (2mks)

i)……

ii)……

iii)……

iv)……

9. Mention two characteristics of abdomen of a poor layers (2msk)

i)……

ii)……

10. Distinguish between mothering ability and prolificacy (2mks)

……

……

……

11. List two factors that can lead to conception failure after female cow has been served (2mks)

i)……

ii)……

12. Give four factors that may lead to a farmer culling dairy cattle (2mks)

i)……

ii)……

iii)……

iv)……

13. State four reasons for doing Agriculture as a discipline (2mks)

i)……

ii)……

iii)……

iv)……

14. Name four tools that are used when laying concrete blocks during construction of a wall (2mks)

i)……

ii)……

iii)……

iv)……

15. State four features on the animal which may pre-dispose it to livestock diseases (2mks)

i)……

ii)……

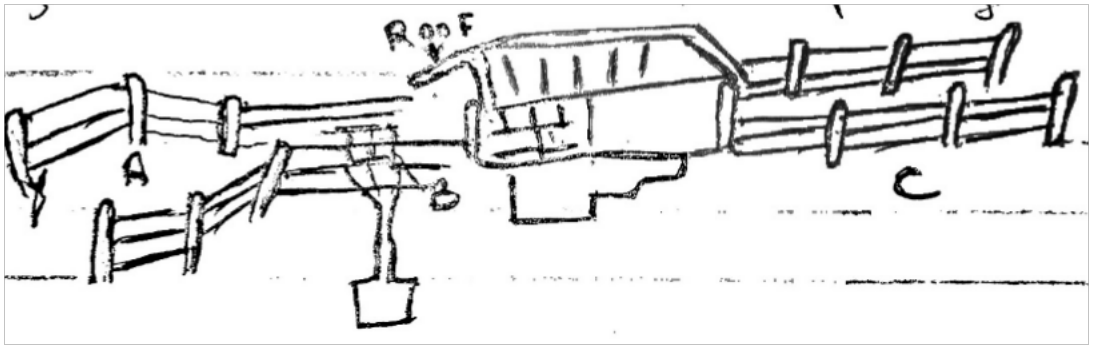
iii)……

iv)……

SECTION B (20MKS)

Answer all the questions from this section.

16. Diagram below show a plunge dip.



a) Using a arrow on the diagram show the movement of cattle (½mk)

b) State one use of parts A, B and C (3mks)

A ……

B ……

C ……

c) State two precautions a farmer should take on dip to ensure effective dipping (2mks)

i)……

ii)……

d) State two uses of the roof of the dip (2mks)

i)……

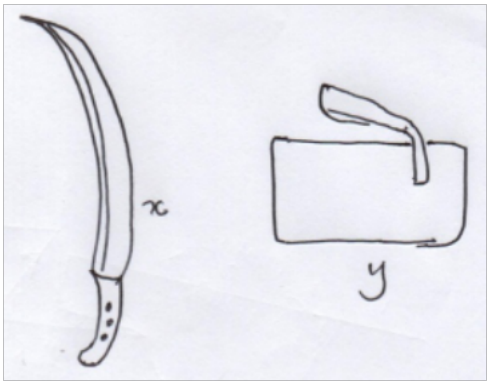
ii)……

b) Apart from use of acaricides explain other methods used to control ticks (3mks)……

……

……

17. a) i) Identify the tools below (1mk)



X ……

Y ……

ii) State the use of tools x and y

(2mks)

X ……

Y ……

iii) Explain two maintenance practices carried on tool X (2mks)

i)……

ii)……

b) Name the tools used in conjuction of following tools (2mks)

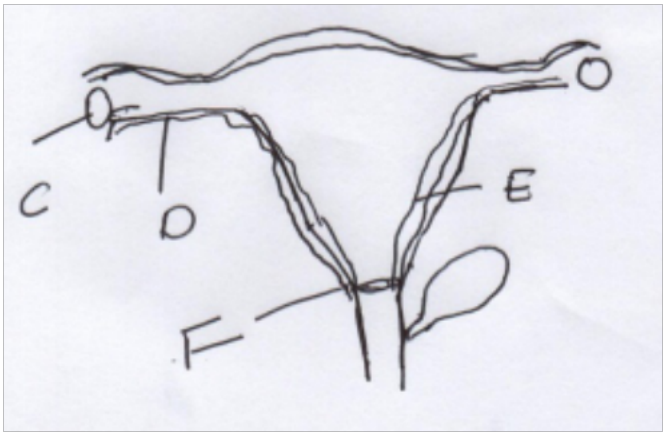
i. Troca ……

ii. Hand drill……

iii. Leading stick ……

iv. Mallet ……

18. a) Diagram below show reproductive system of a female cow



i. Name the part marked (1mk)

D ……

F ……

ii. State the function of parts marked (1mk)

C ……

E ……

b) At what stage should a gilt be mated? (½mk)

……

SECTION C (40MKS)

Answer ONLY TWO questions on answer booklets provided.

19. a) Explain features of ideal calf pen (6mks)

    b) Outline various feeding practices a farmer undertake on calves up to weaning (8mks)

    c) Describe uses of water in the animals body (6mks)

20. a) Describe mastitis disease under the following sub-headings

    i. Causal organism (1mk)

    ii. Disease pre-disposing factors (4mks)

    iii. Symptoms (3mks)

    iv. Control measures (6mks)

    b) Describe factors to consider when culling a female (Cow) breeding stock (6mks)

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

    b) Name three types of fences (3mks)

    c) Explain the procedure of establishing wire fence (7mks)

KCSE PREDICTION 2021
Set 3

Kenya Certificate of Secondary Education

451/1 COMPUTER STUIES

PAPER ONE

TIME: 2½HRS

INSTRUCTIONS TO CANDIDATES

- ✔ This paper consists of two section **A** and **B**
- ✔ Answer all questions in section **A** (40 marks)
- ✔ Answer question 16 **(Compulsory)** and any other **THREE** questions in section **B**.

FOR EXAMINERS USE ONLY

SECTION	QUESTION	SCORE
A	1-15	
B	16	
	17	
	18	
	19	

SECTION A (40 MARKS)

Answer ALL the questions in this section

1. Define the following terms (4mks)
   i) Multiplexing

   ……

   ……

   ii) Baseband signal

   ……

   ……..

2. Explain the difference between digital signal and analog signal in data communication (2mks)

   ……

   ……

   ……

   ……..

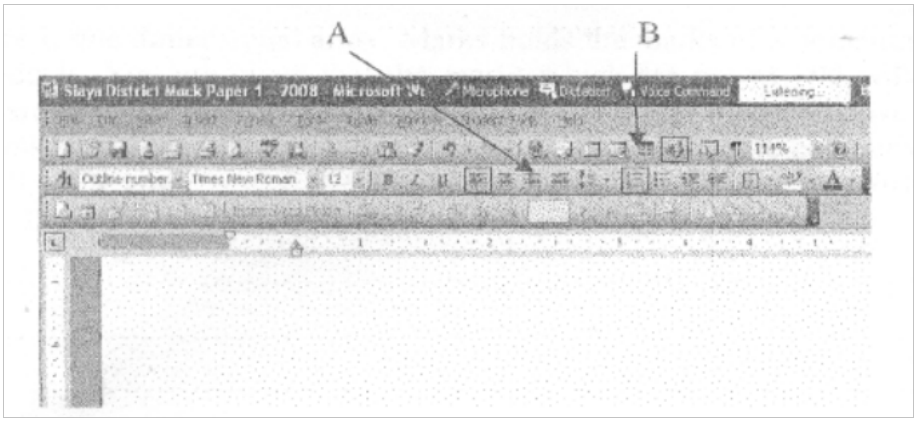
3. List down two types of computer viruses (2mks)

   ……

   ……

4. Below is a graphical representation of a section of a Microsoft words application window.

   Use it to answer the question that follow.



Give the uses of the icons labeled A and B

(2mks)

A …….

B …….

5. Define the following terms as used in disk management

   i) Partitioning (2mks)

   ……

   ……

   ii) Defragmentation (2mks)

   ……

   ……

6. State three ways in which your school librarian can use a computer (3mks)

   ……

   ……

   ……

7. i) Write the acronym UPS in full? (1mk)

   ……

   ii) Explain the uses of UPS? (1mk)

   ……

   ……

8. a) Give two possible ways of fitting the document in one page (2mks)

   ……

   ……

   ……

……

……

b) The shopkeeper one day switched on the computer and experienced a number of problems with windows operating system that he had installed. The problems included failure to load the operating system during the booting. After several trials of switching on the computer booting. It hand so often alongside abnormal restarting. State any two possible causes for the computer's behavior.

(2mks)

……

……

……

……

……

……

9. Differentiate between real time processing and batch processing giving examples where each could be used. (4mks)

……

……

……

……

……

10. In Kenya Tea Packers Company several people are employed as record clerks., typists and messenger. The company intends to introduce a computerized system in all the departments. Suggest three reasons that would make workers unhappy with the new system. (3mks)

……

……

……

11. Give two advantages of an electronic spreadsheet over traditional analysis ledger sheet (2mks)

……

……

12. Explain the following terms as used in information Technology with reference to

software purchase:-

i) User friendliness (1mk)

……

……..

ii) Authenticity (1mk)

……

……..

13. While purchasing computers for his school the principal Musambweni high school decided to consult an expert. As a computer student advised him on four hard ware considerations

(2mks)

……

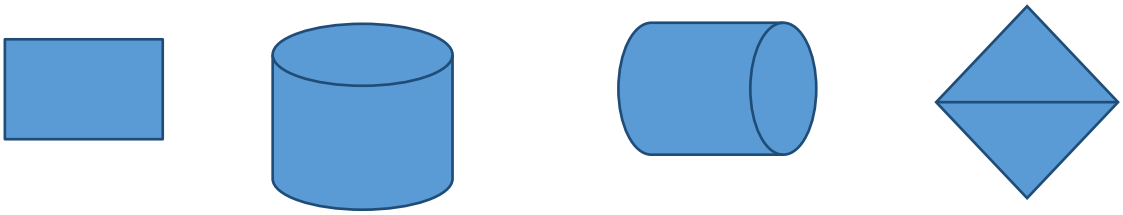
……

……

……

14. Give the names of the following system flowchart symbols

(2mks)



A B C D

A ……

B ……..

C ……

D ……..

15. State any two features of a user friendly program (2mks)

……

……..

SECTION B (60 MARKS)

Answer question 16 and any other three questions from this section

16. a) State three qualities of a good psecudocode? (3mks)

……

……

……

b) i) State the 3 translators used in programming (3mks)

……

……

……

ii) List two examples of;

i. Third generation languages (1mk)

……

……..

ii. Object oriented languages (1mk)

……

…….

c) Draw a flowchart that was used to come up with the following pseud code (7mks)

Start

N=0

X=0

While n < 3

Repeat

X = X + 1

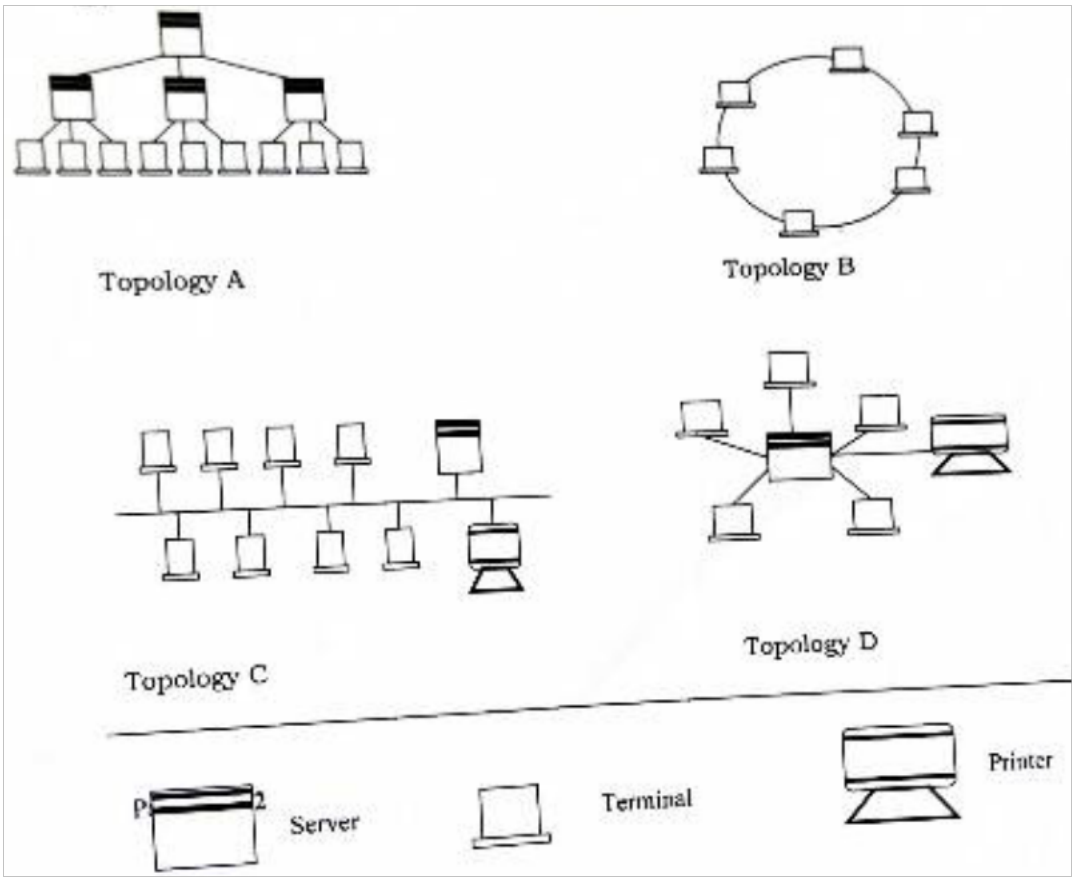
While x < 2

N = N +1

End while

Stop

17. a) The diagram below shows four common network topologies A, B, C and D.



i) Name the network topologies A, B, C and D (4mks)

A ……..

B ……

C …….

D ……..

ii) Explain what happens if server X topology A fails (1mk)

……

……

iii) List two problems associated with network topology B (2mks)

……

……

iv) List two disadvantages associated with network topology D (2mks)

……

……

b) Differentiate between Internet and World Wide Web.

(2mks)

……

……

……..

c) Convert the following binary number, 11001011.001 into decimal form. (4mks)

18. a) Human activity systems are said to be soft systems. Give therereasons why they are said to be so

(3mks)

……

……

……

b) What are hard information systems (2mks)

……

……

……

c) Discuss any five characteristics of a system

(10mks)

……

……

……

……

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……

……

……

19. a) One of the functions of an operating system is job scheduling. Explain what is meant by job scheduling.

(2mks)

……

……

……

b) List and explain three types of user interfaces. (6mks)

……

……

……

……

……

……

c) Describe the following categories of software (4mks)

i) Firmware

……

……

ii) Proprietary software

……

……

d) A new company ABC intends to go into business of desktop publishing. Advice the company on three computer hardware specification features to consider as a measure of enhancing performance. (3mks)

……

……

……

……

……

……..

20. a) Briefly explain the following terms as used in spreadsheet (4mks)

i) Cell

……

ii) Range

……

iii) Value

……

iv) Function

……

b) List three paragraph formatting features of word processors (3mks)

……

……

……

c) Explain the difference between the printing of multiple pages and multiple copies (2mks)

……

……

……

……..

d) Distinguish between a worksheet and a work book (2mks)

……

……

……

e) The following is an excel worksheet showing the performance of students in Tana class.

A	B Adam	C Student name	D Cat 1/50	E Cat 2/50	F Total / 40	G Exam / 60	H Total
1	4321	DollineMbesa	30	28	(a)	45	(b)
2	4333	SelinaMbugua	20	29		55	
3	4330	Winnie Wanjema	25	26		50	
4	4322	MagaretWambari	27	24		43	
5	4324	FaniNjuguna	28	24		42	
6		Maximum	(c)				
7		Minimum	(d)				
8		Average	(e)				
9							

Using the above worksheet write the following formula to calculate the values in cells labeled

(4mks)

……

……

……

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KCSE PREDICTION 2021

Set 3

NAME:…… DATE:……

CLASS:…… ADM NO……..

451/1

COMPUTER STUDIES

FORM FOUR

PAPER 2

PRACTICAL

TIME: $2^{1}/_{2}$ HOURS

INSTRUCTIONS TO CANDIDATES

- ✔ Type your name and admission number at the top right hand corner of each printout.
- ✔ Write the name and version of the software used for each question attempted in the answer sheet.

- ✔ Passwords should not be used while saving in the diskettes.
- ✔ Answer all questions
- ✔ All questions carry equal marks
- ✔ All answers must be saved in your diskette. Make printouts of the answers on the answer sheets provided.
- ✔ Hand in all the printout and the diskette
- ✔ Candidates may be penalized for not following instruction given in this pager
- ✔ Arrange your printout and staple them together.

QUESTION 1

1. Table 1, table 2 and table 3 are extracts of records, kept in a carpentry shop. Use the information to answer the questions that follow;

CAPENTER _ID	CAPENTER NAME
CAP_001	JAMES
CAP_002	JOHN
CAP_003	ALEX
CAP_004	ISAAC
CAP_005	MAURICE

Carpenter Table

CUSTOMER _ID	CUSTOMER NAME
CUST_01	MARY K.
CUST_02	DIANA K.
CUST_03	ALEX N.
CUST_04	MARTHA K.
CUST_05	SARAH W.
CUST_06	JOHNSON G.

Customer Table

Order Table

CARPENTER _ID	CUSTOMER _ID	ORDER _NO	ITEM ORDERED	MONTH	AMOUNT
CAP_001	CUST _01	1721	Bench	January	18,000
CAP_002	CUST _02	1722	Coffee table	January	25,000
CAP_003	CUST _03	1723	Office table	January	10,000
CAP_004	CUST _04	1724	Single bed	January	18,000
CAP_005	CUST _05	1725	Arm chair	January	60,000
CAP_001	CUST _01	1726	Double bed	February	75,000
CAP_002	CUST _04	1727	Dining table	February	85,000

CAP_004	CUST _03	1728	Arm chair	February	60,000
CAP_001	CUST _02	1729	Double decker bed	February	72,000
CAP_002	CUST _06	1730	Kitchen table	February	82,000
CAP_004	CUST _02	1731	Bench	March	18,000
CAP_003	CUST _06	1732	bench	march	18,000

a) i) Using database application package, create a database file named;
CARPENTERINFORMATION (1mk)
ii) Create three tables named **Carpenter Table, Customer Table** and **Order Table that will be used to store the above data.** (10mks)
iii) Set the primary key for the tables (2mks)
iv) Create relationship among the tables (2mks)

b) i) Create a data entry form for each table (3mks)
ii) Enter the data in **Carpenter Table, Customer Table and Order Table** respectively (11mks)

c) i) Create a query named **individual income** to display the amount received from each customer every month. (4mks)
ii) Create a database object that computers Total income for each month. Save the query as **Totalincomenomnthly.**
(6mks)

d) Create a query named **loyalty** to compute the total number of orders made by each customer over the three months.
(3mks)

e) Create a report to display order details, save the report as Order report
(4mks)

f) Print the three tables and the report (4mks)

QUESTION 2

Use a spreadsheet to manipulate data in the table below.

Adm No	Name	Stream	Comp	Art	Bus	Eng	Mat	Student mean	Rank
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		
C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								
	TOTAL	FOR H							
	TOTAL	FOR K							

a) Enter the data in all bordered worksheet and auto fit all column. Save the workbook as **mark 1** (15mks)
b) Find the total marks for each subject (3mks)
c) Find total for each subject per stream using a function (5mks)
d) Find mean mark for each student using a function (5mks)
e) Rank mean student in descending order using the mean (5mks)
f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as **mark 2.** (7mks)
g) Using **mark1,** use subtotals to find the average mark for each subject per stream. Save the workbook as **mark 3**
(7mks)
h) Print **mark 1,mark 2** and the **chart**