# ENDTERM 2 ASSIGNMENT <br> <br> FORM 3 ALL SUBJECTS 

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# HAYE A NICE HOLIDAY, STAYSAFE! BYSCHOOL ADMINLSTR ATION 

## ENDTERM HOLIDAY ASSIGNMENT

 FORM 3
## CHEMISTRY

## THEORY <br> PAPER 1

1. Name another gas which is used with oxygen in welding
2. a. write the electronic configuration of calcium (atomic number 20) and magnesium (atomic number 12)

Calcium
........ [1/2 Mk]
Magnesium.
..... [1/2 Mk]
b. Why is calcium more reactive than magnesium?
b. Whis cacium
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
3. The table below shows the relative atomic masses and the percentage abundance of the isotopes $\mathrm{T}_{1}$ and $\mathrm{T}_{2}$ of element T

|  | RAM | \% abundance |
| :--- | :--- | :--- |
| $\mathrm{T}_{1}$ | 62.93 | 69.09 |
| $\mathrm{~T}_{2}$ | 64.93 | 30.91 |

4. The diagram below is a set-up for the laboratory preparation of oxygen gas.

a. Name solid P.
$\ldots . . . . . . .[1 \mathrm{mk}]$
b. Write an equation for the reaction that takes place in the conical flask
............ [1 mk]
c. Give two commercial uses of oxygen
i. $\qquad$
ii.
5. State two reasons why hydrogen is not commonly used as a fuel
i. $\qquad$
$\qquad$
ii. $\qquad$
$\qquad$
6. The figure shows a set-up by a form three student to prepare a certain gas

a. Write an equation for the formation of gas K
b. Give one use of gas K in the industries
$\qquad$
c. Give one use of the resulting solution after the metal has reacted
$\qquad$
7. Draw a dot and cross diagram showing the bonding in a molecule of calcium oxide. Name the type of bond.
[3 mks]
8. When 0.288 g of an oxide of metal M was reduced using suitable reducing agent, 0.256 of pure metal was formed. Determine the empirical formula of the oxide of the metal M . $[\mathrm{M}=64 \quad \mathrm{O}=16]$
$\qquad$
$\qquad$
$\qquad$
9. $\mathrm{X}+$ is an ion with electronic configuration $2,8,8$. Identify element X [1 mk]
$\qquad$
10. 20 g of solid sodium hydroxide were dissolved in distilled water and made to $400 \mathrm{~cm}^{3} .30 \mathrm{~cm}^{3}$ of this solution required $27 \mathrm{~cm}^{3}$ of dilute sulphuric (iv) acid for complete reaction. [ $\left.\mathrm{Na}=23 \mathrm{O}=16 \mathrm{H}=1\right]$

Determine
i. Moles of sodium hydroxide contained in $30 \mathrm{~cm}^{3}$ of solution
$\qquad$
$\qquad$
$\qquad$
$\qquad$
ii. Moles of sulphuric (iv) acid that reacted
[2 mks] $\mathrm{mks}]$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
11. The diagram shows the structures of two allotropes of carbon. Study them and answer the questions that follow.


A


B
a. Name allotrope A and B
[2 mks]
A.
B. $\qquad$
b. Give two uses of allotrope B
[2 mks]
i. $\qquad$
ii.
c. Which allotrope conducts electricity? Explain.
12. An oxide of element F has the formulaF $\mathrm{F}_{2} \mathrm{O}_{5}$
a. Determine the oxidation state of F .
[1 mk]
b. In which group of the periodic table is element F?
[1 mk]
13. Explain how you would obtain solid sodium carbonate from a mixture of lead II carbonate and sodium carbonate. [3 mks]
14. Give two properties of aluminum that makes it very suitable for making cooking utensils [2 mks]
i. $\qquad$
$\qquad$
ii. $\qquad$
$\qquad$
15. Write down an ionic equation for the reaction between dilute hydrochloric acid and calcium carbonate [3 mks]
16. The diagram shows electric current passing through dilute sulphuric (iv)acid

a. On the diagram identify the cathode and the anode
[2 mks]
b. Identify substances X and Y [2 mks]
X
$\qquad$
......[1 mk]
Y
$\qquad$
.[1 mk]
17. State and explain the change in mass that occur when following substances are separately heated in open crucibles [4 mks]
a. Copper
metal.
$\qquad$
b. Copper II nitrate
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
18. The diagram below represents a paper chromatograph for three brands of juices suspected to contain banned food colourings


The result showed presence of banned food colourings in $L$ and $M$ only
a. On the diagram
i. Circle the spots which show the banned colourings
b. On the same diagram indicate and label the baseline
[1 mk]
19. Determine the number of sodium ions contained in $25 \mathrm{~cm}^{3}$ of 0.5 M sodium carbonate solution $\left[a=6.023 \times 10^{23}\right]$ [3 mks]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
20. The graph below shows a curve obtained when water at $20^{\circ} \mathrm{C}$ was heated for 15 mins .

a. What happens to the water molecules between points W and X
$\qquad$
$\qquad$
$\qquad$
b. In which part of the curve does a change of state occur?
[1 mk]
c. Explain why the temperature does not rise between points X and Y
21. Write down the formula of the following compounds
i. Potassium manganate vii...................................................................................................


22. Write balanced equations for the following reactions
a. Reaction between sodium and excess oxygen
b.
[1mk]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
a. Reaction between Zinc and hydrochloric acid [1mk]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
23. The diagram shows PH values for several substances.


Choose the likely PH value for,
i. Dilute Hydrochloric acid. $\qquad$
ii. Calcium hydroxide.
iii. Sodium hydroxide
................................................................................................. 1 mk$]$
iv. Lemon
juice.
24. Briefly outline how you would obtain ethanol from a mixture of ethanol and water. [3mks]
25. (a) What is rust? [ 1 mkl ]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(b) Give two advantages of rusting.
(i)
.[1mk]
(ii).
[1mk]

## ENDTERM HOLIDAY ASSIGNMENT

FORM 3

## CHEMISTRY P2

## INSTRUCTIONS: Answer all questions in the space provided.

Q 1. The diagram below represents part of the periodic table use it to answer the questions that follow.

a) Write the electronic management for the stable ion formed by W
(1mk)
$\qquad$
b) Write the question for the reaction between V and Q
$\qquad$
c) How do we ionization energies of the elements $M$ and $T$ compare. Explain
$\qquad$
$\qquad$
$\qquad$

Q 2. $60 \mathrm{~cm}^{3}$ of oxygen diffuses through a porous pot in 50 seconds. How long would it take $60 \mathrm{~cm}^{3}$ of oxygen gas diffuses through a porous pot in 50 sec . How long would it take $60 \mathrm{~cm}^{3}$ of Sulphur (iv) oxide to diffuse through the same pot under the same conditions? ( 4 mks )
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Q 3. Give 2 reasons why helium is used in weathers ballons
i). $\qquad$ ii) $\qquad$

Q 4. State the types of change that take place in each of the following situations
a)Burning a piece of charcoal
.(1mk)
b) Heating copper (ii) carbonate
strongly. $\qquad$ .(1mk)
c) Heating Zinc oxide strongly .(1mk)

Q 5. In a experiment to determine the percentage of purity of a sample of sodium carbonate, 2.15 g of the sample reached completely with $40 \mathrm{~cm}^{3}$ of 0.5 m sulphuric (iv) acid
i)Calculate the number of moles of Sodium Carbonate that reacted

# ii)Determine the percentage of Sodium Carbonate in the sample ( $\mathrm{Na}=23, \mathrm{C}=12,0=16$ ( 3 MK ) 

$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
iii) Name two industrial uses of Sodium Carbonate
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

A certain mass of gas occupies $0.15 \mathrm{dm}^{3}$ at 20 c and $98,648.5 \mathrm{pa}$, Calculate it volume at 101325 pa and $0^{\circ} \mathrm{c}$ (3mks)

Q 7 a) Explain why aluminum is a better conductor of electricity than Sodium (2mks)
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
b) State one property of aluminum that makes it suitable for power transmission cables ( 1 mk )
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
The diagram below shows set-up for preparing hydrogen gas by a Form 3 Student .

a)Identify three mistakes with the set-up (3mks)
b) On the diagram make suitable modification to solve the mistakes in( a) above (3mks)
c) What is the test for hydrogen gas

Q 9 Carbon Oxide gas was passed over heated iron III Oxide as shown in the diagram below

$\qquad$
$\qquad$
$\qquad$
b) Write the equations for the reaction which take place in the combustion tube
$\qquad$
$\qquad$
c) Which property of carbon II Oxide as demonstrated by the experiment (1mk)
$\qquad$
$\qquad$
Q 10. State and explain the function of tartaric acid in baking powder
$\qquad$
$\qquad$
$\qquad$
$\qquad$
a) State Boyle's Law
(1mk)
$\qquad$
$\qquad$
$\qquad$
$\qquad$
b) $300 \mathrm{~cm}^{3}$ of a gas at 800 mm Hg was compressed to 200 mm Hg pressure at constant temperature.

Determine the new volume (2mks)
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Q 12. Explain why is not suitable to have a
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Which gas is contained in tizzy drinks? 1 mk )

Write an equation for the reactions on the gas contained in dizzy drink and water ( 1 mk )
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Q 13. Air was passed through several reagents as shown in the flow chart below

a) Identify substances removed from chambers A and B then

A

## (1mk)

B
(1mk)
Write an equation for the reaction which take place in the chamber with magnesium powder (1mk)
$\qquad$
$\qquad$
$\qquad$
c)Name one gas which escapes from the chamber containing heated magnesium powder.

Give a reason for your answer (2mks)

Gas
$\qquad$
$\qquad$
Reason
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Q 14. When potassium Nitrate is heated, it produces potassium Nitrate and gas $X$
Identify gas X
b) Name the type of reaction undergone by the potassium Nitrate

Q 15. Write a balanced equation for the reaction between Magnesium and Steam (1mk)
$\qquad$

Q 16. When Chlorine gas was bubbled through water the resulting solution act as a bleaching agent
Explain how the resulting solution act as a bleaching agent
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Using a neat diagram show how chlorine gas is collected in the laboratory
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Q 17. Study the information in the table below and answer the questions that follow: The letters do not represent the actual symbol of the element).

| Element. | Electronic <br> configuration | lonisation <br> energy <br> kJ mol |
| :---: | :---: | :---: |
| $P$ | 2,1 | 519 |
| $Q$ | $2,8,1$ | 494 |
| $R$ | $2,8,8,1$ | 418 |

ement $\mathrm{P}, \mathrm{Q}$ and R belong? (1mk)
b) What is meant by ionisation energy
$\qquad$
$\qquad$
$\qquad$
c) Explain why Element $P$ has the highest ionisation energy
d)When a piece of element Q is placed on water it melts and a hissing sound is produced as it moves on the surface of the water .Explain this observation
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
e) Write an equation for the reaction between elements $Q$ and water
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Q 18 Some moist iron wool was placed in a test tube and the tube inverted and placed in a beaker containing water. The apparatus was left for one week .It was observed that the iron wool had rusted and the water level had raisen.No further change took place when the set-up was left for more days even though not all the iron rusted.

nge
(2mks)

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What would be the effect on the level of the water if a larger piece of iron wool was used ( 2mk)
$\qquad$
$\qquad$
$\qquad$
$\qquad$
State the similarities between rusting and combustion
$\qquad$
$\qquad$

| Element | $G$ | $H$ | $I$ | $J$ |
| :--- | :---: | :---: | :---: | :---: |
| Number of <br> protons | 3 | 17 | 19 | 19 |
| umber of <br> neutrons | 4 | 20 | 18 | 22 |

Which atoms isotopes of the same element? mont G,H,I and J

Which
$\qquad$

Which atoms have the same mass number
( 2mks)
$\qquad$

Write formula of the compound formed between G and H

(1mk)

$\qquad$
$\qquad$
$\qquad$
or radical in the following chemical compounds.

# ENDTERM HOLIDAY ASSIGNMENT FORM 3 

## BIOLOGY PP1

1. Sate two ways in which the rough endoplasmic reticulum is adapted to its function.(2mks)
2. State three characteristics that are used to divide phylum arthropoda into classes. ( 3 mks )
3. Distinguish between diffusion and active transport.( 2 mks )
4. An organism was found to have the dental formula:

I $\frac{1}{1}, \mathrm{C} \frac{0}{0} \mathrm{PM} \frac{3}{2}, \mathrm{~m} \frac{4}{4}$.
i. Calculate the total number of teeth in the organism. ( 1 mk )
ii. Giving a reason, suggest the mode of feeding of the organism.(2mks)
. a)Give a reason for the biconcave shape of the red blood cells. ( 1 mk )
b) Name the enzyme that speeds up loading of carbon (iv) oxide in the red blood cells.(1 1 mk )
6. a. Name the vitamin, an enzyme and a mineral element that are involved in blood clotting. $(11 / 2 \mathrm{mks})$
i. Vitamin
ii.Enzyme;
iii.Mineral element
b.Differenciate between heparin and histamine.(2mks)
7. a.Name the part of the brain that influences breathing rate. ( 1 mk )
b.State two advantages of breathing through the nostrils instead of through the mouth in mammals. (2mks).
8. The diagram below resents a cell organelle.

a. Name the main product of the organelle's activity. $(1 / 2 \mathrm{mk})$
b. Name the parts labeled A,B, C and D. (2mks)

A-
B-
C-
D-
9. a.State the cause of diabetes mellitus. ( 1 mk )
b.How may the disease in (9)(a) above be tested in a School laboratory? (2mks)
10. a.Distinguish between ecological niche and habitat.(2mks)
b. State two reasons why plants are included in a fish pond other than provision of food.( 2 mks )
11. State the functions of the following parts of a light microscope.
a) Diaphragm. $(1 \mathrm{mk})$
b) Objective lenses. $(1 \mathrm{mk})$
12. a.Define the term respiratory quotient.(1mk)
b (i) After respiration of a certain substrate $50 \mathrm{~cm}^{3}$ of carbon (iv) oxide was produced and 70 cm
Oxygen was used .Calculate the respiratory quotient of the substrate.(1mk)
ii.Name the substrate in (12) (c) above. (1mk)
13. (a) If a person who lives at low attitude moves to a higher attitude, changes occurring his blood consumption. Name two of these changes.(2mks)
c. State the importance of these changes. ( 1 mk )
14. How are leaves of submerged plants adapted for photosynthesis? (2mks)
15. Name the causative agents of the diseases below:-
a. Anthrax (1mk)
b.Gonorrhea (1mk)
C. Whooping cough(1mk)
16. Explain why plants in waterlogged soils dry up.(3mks)
17.a) Name the antigens that determine human blood groups( 2 mks )
c) Explain why people who have blood group AB are called universal recipients.( 2 mks )
18. Name three processes in the human body in which homeostasis is involved.(3mks)
19. a) How are root hairs adapted to their function?(2mks)
b) Name the process by which food is transported in plants. ( 1 mk )
20. State the significance of the following adaptations in a leaf.
a. Thinness ( 1 mk )
b.Presence of airspaces( 1 mk )
c.Stomata (1mk)
21. Study the food web below representing a certain ecosystem and use it to answer the questions that follow.

a. State the trophic level occupied by the lion in the food web.(1mk)
b. Write down a food chain in which the vulture is a tertiary consumer ( 1 mk )
c. i.Name the organism with the largest biomass $(1 \mathrm{mk})$
li.Give two reasons for your answer in (c)(i) above.(2mks)
22. Explain how temperature affects an enzyme controlled reaction.(3mks)
23. The diagram below represents a certain plant.

a. What is the likely habitat of the plant? (1mk)
b.Give two reasons for your answer in (a) above.(2mks)
24.The number of stomata on the lower and upper surfaces of two leaves from plant species $x$ and $y$ were counted under the field of view of a light microscope. The results were as shown below.

| Leaf | Number of stomata |  |  |
| :--- | :--- | :--- | :---: |
|  | Upper surface | Lower surface |  |
| x | 4 | 12 |  |
| x | 20 | 23 |  |

a. Which of the two leaves would be expected to have a lower rate of transpiration?(1mk)
b. Give a reason for your answer in (a) above. ( 1mk)
25. Construct a dichotomous key for the animals listed below. Part of the key has already been constructed.Bird,Snake,Lizard,Hyena.(4mks)
a. Animal a mammal, ....... Hyena.
b. Animal not a mammal..... go to R.
26. Other than transport of substances, state two other functions of mammalian blood.(2mks)
27. Some students set-up the apparatus shown below to demonstrate the breeding mechanism in a mammal.

a. What structure in a mammal is represented by each of the following?
i. The glass tube. ( 1 mk )
ii.The ballons.(1mk)

```
iii.The bell jar.(1mk)
```

28.The diagram shown below represents a part of the nephron.Use it to answer the questions tha follow.

a. I) Name the parts labeled A,B,C and D. $(2 \mathrm{mks})$

A-

B-
C-

D-
ii.Name the fluids found in C and D.(2mks)

C-

D-
iii.Name the process by which the fluid found in D is formed ( 1 mk )
iv.Mention one difference in the composition of the fluids in C and D.(1mk)
29. Apart from having many features in common, state another characteristic of members of a Species (1mk)
30.An experimental set-up shown below was used to investigate a certain process.


After 20minutes, a student tested the sample from the boiling tube for starch and glucose and recorded the results as shown in the table below.

|  | Start | After 20 minutes |
| :--- | :--- | :--- |
| Start | Absent | Absent |
| Glucose | Absent | Present |

a. Explain the presence of glucose in the water sample.(2mks)
b. What change occurred in the volume of liquid in :
i. The boiling tube( 1 mk )
ii. The visking tube ( 1 mk )
31.State and explain how respiratory surfaces are adapted for gaseous exchange.(3mks)
32.The equation below shows a process that takes place in mammals.

Amino acids $\longrightarrow$ Organic Compound + Urea
a. Identify the process( 1 mk )
b. State the importance of this process to a mammal.(1mk)
c. In which organ does this process take place? ( 1 mk )

## ENDTERM HOLIDAY ASSIGNMENT

## FORM 3

## BIOLOGY PP2

## SECTION A(60MKS)

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

1. The graph below shows the effect of injecting one unit of insulin into a person. The concentration of glucose in the blood is measured at regular intervals.

a. Give the lowest value of blood glucose observed and the time it was recorded.(1 mk)
b. Explain the fall in blood glucose level. $(2 \mathrm{mks})$
c. Name the mechanism that led to the increase in blood glucose level when it had been falling. ( 1 mk )
d. Name the hormone responsible for the conversion of glycogen to glucose. $(1 / 2 \mathrm{mk})$
e. State the effect of each of the following in human beings.
i. Too much glucose in the blood ( 1 mk )
i. Very little glucosein the blood(1mk)
2. The diagram below shows a smear of blood on a microscope slide.

a. Identify the structures labeled $A, B$ and $C .(11 / 2 m k)$

A-
B-
C-
b. State the importance of the large number of structures A in the blood smear. (1mk)
c. Name the process by which structure $D$ would engulf $C$ and state its importance. ( $11 / 2 \mathrm{mks}$ )
d. State one adaptation of the structure labeled A to its function.( 1 mk )
i. The flow chart below shows a food web in a terrestrial ecosystem.


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a. From the food web, construct a food chain with five organisms. (1 mk)
b. Name the trophic level occupied by:
i. Hawks(1/2mks)
ii. Cane toads $(1 / 2 \mathrm{mk})$
c. What would happen if leopards were introduced into the ecosystem. $(2 \mathrm{mks})$
4. Describe the processes that occurs in the chest cavity during inspiration.( 6 mks )
5. The graph below represents the effect of temperature on the rate of photosynthesis.

a. On the diagram, label the axes( 1 mk )
b. Comment on the general trend of the graph. ( 2 mks )
c. List two other factors that may affect the shape of the graph.(2mks)
6. The graph below shows the relationship between number of herbivores and carnivores in a park.

a. Identify the curve representing the herbivores .Give a reason for your answer. ( $11 / 2 \mathrm{mk}$ )
b. Suggest a reason for the slope of graph x between points A and B.(2mks)
c. I)Name the relationship between the two types of organisms as portrayed by the graph. (1mk)
ii) State the significance of the relationship you have stated in (c)(i) above.(1mk)
d. Describe the long-term effect on the parks ecosystem if the species of the carnivores were to become extinct. ( 2 mks )
7. Use the diagrams of leaves below to construct dichotomous keys. Identify the steps you followed to identify leaves $\mathrm{O}, \mathrm{P}, \mathrm{Q}$ and R.( 12 mks )

8. In an experiment, germinating pea seeds were put in a retort flask which was placed in : beaker containing potassium hydroxide solution as shown in diagram $A$ below. At the $e$ the experiment, the results were as shown in diagram $B$.

a. Suggest the aim of the experiment( 1 mk )
b. State the observable changes that occurred as shown in the diagram . (2mks)
c. Account for the changes noted in (b) above. ( 3mks)
d. Name the chemical process taking place in the peas. ( 1 mk )
e. How would a control for this experiment be set.( 1 mk )
9. A group of students set up an experiment to investigate a certain physiological process as shown in the figure below. After some time, the students observed that the level of the sugar solution had risen.

a. What physiological process was being investigated?(1mk)
b. Account for the rise in the sugar solution in the experiment.( 2 mks )
c. Suggest with a reason the results that the students would obtain if they repeated the experiment using a piece of boiled potato.( 1 mk )
d. Explain why the cells of the potato above, would not burst when immersed in distilled water and left for some time.(2mks)

## SECTION B(20MKS)-Compulsory.

10. Leaves were collected from the plant of a certain species growing in a shaded site and a plant from the same species growing in an open site. The surface area of each leaf was worked out. The results obtained are shown in the table below.

| Surface area of leaves $\left(\mathrm{cm}^{3}\right)$ |  |
| :--- | :--- |
| Shaded site | Open site |
| 21 | 15 |
| 14 | 17 |
| 16 | 18 |
| 18 | 17 |
| 19 | 17 |
| 21 | 19 |
| 19 | 13 |
| 22 | 14 |
| 18 | 21 |
| 16 | 13 |
| 13 | 16 |
| 22 | 13 |
| 21 | 16 |
| 23 | 12 |
| 19 | 14 |
| 18 | 22 |
| 15 | 20 |
| Mean surface area $=\mathrm{x}_{1}$ |  |

a. Calculate the mean score $\mathrm{x}_{1}$ and $\mathrm{x}_{2}(2 \mathrm{mks})$
b. Suggest one reason for the differences in the mean surface areas between the leaves from the two sites. Explain your answer.(2mks)
c. Briefly state the adaptations of plant leaves to a desert habitat.(6mks)
d. The leaves of a plant exposed directly to sunlight are often thicker than leaves found in the shade. Suggest two reasons for this observation.(2mks)
e. How does the observation in (d) improve the efficiency of leaves exposed to direct sunlight? ( 2 mks )
f. Apart from photosynthesis, state two other functions of a leaf.( 2 mks )
g. State how a leaf is adapted for the functions you have stated in (f) above(3mks)
h. Some plants have rolled leaves. Explain the importance of such leaves to the plant.( 1 mk )

## SECTION C(20MKS)

Select and answer only one questions in this section in the spaces provided.
11. a) Explain how the gills of a fish are adapted to the process of gaseous exchange.( 5 mks )
b)Describe the mechanism of gaseous exchange in the gills of a bony fish $(15 \mathrm{mks})$
12. Explain how the mammalian skin is adapted to perform its functions. $(20 \mathrm{mks})$

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## ENGLISH PP1

## ENGLISH PAPER 1

Imagine that it is your first day in a new school. Write an entry in your journal indicating the things that surprised you, those that scared you and those that made you happy. (20 marks)

## Cloze test

The new constitution has bestowed the Supreme Court all , role of arbitrating the $\qquad$ arising out of presidential elections. The court currently
$\qquad$ that it is worth the confidence of Kenyans Kenya's are $\qquad$ with bated breath to see the $\qquad$ making a determination on the
$\qquad$ lodged by the CORD Alliance in an $\qquad$ and completely impartial
manner that will $\qquad$ all the parties. Indeed, the $\qquad$ of Kenyans are varied and either way, the court's $\qquad$ will be interpreted as either a win or loss for jubilee or CORD alliance.

## ORAL SKILLS (30marks)

(a). Read the following poem and answer the questions below:-

I want to Die While You Love Me
I want to die while you love me
While yet you hold me fair
While laughter lies upon my lips
And lights are in my hair
I want to die while you love me
I could not bear to see
The glory of this perfect day
Grows dim- or crease to be
I want to die while you love
Oh! Who would care to live
Till love has nothing more to ask
And nothing more to give.
I want to die while you love me

And bear to that still bed
Your kisses turbulent unspent
To warm me when I'm dead

## Questions

Construct the rhyme scheme of this poem.
Which pair of words rhyme in this poem?
Which words would you stress in the first and second line and why?
What is the effect of repetition in this poem?
How would you perform the first two lines?
How would you say the last stanza.
b) Explain what each of the following non-verbal cues mean in a conversation

Frowning $\qquad$
Pacing up and down $\qquad$
Shrugging shoulders $\qquad$
Winking $\qquad$
Raising both hands up the sky $\qquad$
c) Identify any four pairs of words in the following list that have the same vowel sounds;

Mad eat full lap
Cat it mud bet
Cut look feat if
Love boot fit

| Beat | pool | further |
| :--- | :--- | :--- |
| Lit | father | hut |

d) Explain how you would avoid speaking in monotonous manner to make your listeners attentive. mks )
e) The following words have been misspelt. Rewrite them correctly

The prefect was privileged to have special diet.

The students managed to rescue their colleague's from the burning dormitory.

The professor managed to convince the crowd to vote for him.

The collage will close for one week to allow for repairs.

Lack of proper maintenance on any machine makes it to break down frequently.

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## ENGLISH PP2

## ENGLISH PAPER 2 - FORM 3

## Read the passage below and answer the questions that follow:THE DETOX DEBATE

Detox kits and supplements are recent health feds. But can they really help you lose weight fast? Online weight loss coach Adrew Cate investigates.

We've heard a lot about the need to detox lately. It is the term used to describe a strict program of elimination and supplementation that's meant to rid your body of impurities, cleaning your liver and kidneys, and flushing your bowel. It's suggested that toxins build up from consuming too much fat, sugar, alcohol, caffeine, preservatives, and pollution.

There's no shortage of detox books, kits, and programs claiming to help you shed weight, improve your well being, cause your skin to radiate, and make you feel younger. The kits usually contain a dietary program, which is supplemented with a variety of vitamins, minerals, tonics, digestive aids, and laxatives. They are particularly popular in January as people feel the urge to begin the New Year afresh after overindulging during the festive season.

People will make drastic changes when they go on a detox diet and often feel better for starting a structured regime. However, detox kits made up of herbal laxatives and diuretics are unnecessary and have generally to have no blood of fats, alcohol, and other nasties - all without the help of a fancy box from your local pharmacy. There is no scientific evidence to support specific detox diets, programs, or supplement kits. However, there's no debate about the fact that eating less junk food, cutting out cigarettes and your alcohol intake, etc will benefit your health. For example, drinking more water and cutting out caffeine will improve your hydration levels, while reducing your portion sizes and increasing your vegetable intake will improve bowel function. These changes will enhance your well-being, but there's nothing magical about the detox diet itself. Rather, it's the associated lifestyle changes that benefit your health.

Detox kits that contain laxatives and diuretics to encourage you to fast could, potentially, do more harm than good. Laxatives speed up your bowel motions, but also prevent the absorption of nutrients, while diuretics can result to partial dehydration.

The fasting components of a detox should only be minimal, and not extend beyond a day or two. By eating next to nothing, you are not getting enough nutrients for the essential functions of your body. Supplements are no substitute for real food, and relying solely on them can result in vitamin deficiencies. Fasting is also known to slow down your metabolic rate, which encourages your body to store fat, making it harder to lose body fat in the future.

If you've spent weeks, months or years overindulging drinking and smoking you can't hope to fix yourself in a few days. Detox diets aren't an instant cure to health and wellness. Short-term changes to your diet and lifestyle over the long term, there's no point starting them, as they won't have any serious impact upon your health.

> What is detoxing?

From the information given in the passage, what builds up toxins in the body? (2 mks)

Give the contents of the detox kit.
(2 mks)

When do detox kits sell most?

In about 80 words, summarize the writer's arguments on whether we need to detox or not.
( 5 mks )
Rough copy

Add a question tag to the following statement. (1 mks)
Detox diets aren't an instant cure to health and wellness, $\qquad$

We've heard a lot about the need to detox lately. (Rewrite the sentence as a question without changing the meaning).
( 1 mks )

Explain the meaning of the following words as used in this passage. (3 mks) Laxatives

## Overindulging

## Deficiencies

## Read the story below and then answer the questions that follow;

## KAHURU THE CROW

One day Wamabuku, the rabbit decided to give a party. He invited all the other animals that had invited him before to similar parties. For the party Wamabuku had slaughtered many fat goats and cows. On the day of the party, Wamabuku got all his servants to decorate his house for the fiesta. All the animals arrived in rapid succession - Wamuthige the hyena and his family, Wamacege the porcupine, Kahuru the crow and may others.

The animals ate the meat to their satisfaction. After the meal they began to dance. In the evening, the party was over and animals prepared to leave. Wamuthige the hyena and his family being greedy animals decided to get more meat from Wamabuku was surprised at their greed and decided to teach them a lesson. Wamabuku told the hyena that only the "undesirable" fat meat was remaining. Since hyena love fat meat their mouths became moist with saliva.

Wamabuku then sent his servants to the garden to collect all his young thriving gourds. The gourds were split into halves. The succulent white inside called "mego" was removed. Since it is exceedingly bitter so liquid fat was poured over the 'mego'. The hyenas were shown the melting mego. At the sight, the hyenas became panicky.

Wamuthige, after some thinking, called "Kahuru," he said, please get a thread and needle. Then come and knit out outlets tight so that when we have eaten all this melting meat, we shall not water any. It is so sweet and we can't afford to have delicacies waster."

Kahuru, being a kind-hearted family, went to fetch a needle and thread. Meanwhile the hyenas ate nearly all the mego. When Kahuru returned with the needle and thread he was asked to start his operation on the hyenas.

The mego in the hyenas stomachs had intermingled with the meat and other food. All the hyenas were suffering from flatulence. When Kahuru started, the hyenas started to get stouter and stouter due to the air in their stomachs. The hyenas brought their hindquarters as near to Wakahuru as possible so that Wakahuru did not miss any.

When the hyenas were so swollen up that they could swell not more all their back openings burst with pressure. All the stuff from inside the hyenas liquid and solid, was deposited on him. So much was put there,
that he lay covered all over and helpless. The hyenas left without helping Kahuru from his disgrace. Kahuru did not know what had happened and anyway, he was not to blame.

That night, the rain fell in abundance and drenched the countryside. Kahuru was cleaned. He flew to the nearest tree and perched there. In the morning he found he could see and flew to his home.

A few weeks later Kahuru decided to give a feast especially for the hyenas. He notified Wamuthige, who collected all the hyenas. The party was to be in Kahuru's home. Kahuru was to carry all the hyenas up, since hyenas don't fly. Kahuru chose a spot where the hyenas could assemble, and told them to hold each other by the tail. Then Kahuru would take Wamuthige who would be in the front. Thus all the other hyenas would be pulled behind in along string.

While they were waiting, the hyenas hanced, singing.

## We are going up high to eat fat, fat meat,

And we we say 'fat'

## We mean meat purely white

When Kahuru arrived and picked up the first hyena all others followed still singing happily. When they had flown up many miles, Kahuru shouted at the last hyena, "Can you still see the ground?" "Yes," was the reply. They flew on, still singing until they could see the ground no longer.

Then Kahuru told the hyenas to stop singing and make ready for "white" meat. Then all of a sudden, he let Wamuthige go, and through the air the hyenas dropped. The fall was a great one. Kahuru flew down, and from a safe distance, jeered teasingly at the groaning, fractured cripples. Then he flew happily back to his home.

## QUESTIONS:

Classify this narrative. Give reasons

Identify three features in the narrative and explain the effect of each.

State and explain the character trait of

Kahuru (1 mks)

What do we learn about the socio-economic activities of the people from whom this narrative was taken? ( 4 mks )

What is the function of a song in this narrative.
(4 mks)
(i) Give one moral lesson that we learn from this narrative. (1 mks)
(ii) Suggest a proverb to summarize the lesson you have given.
(2 mks)
(iii) State two performance techniques that would be used to make this narrative enjoyable.
(2 mks)

Explain the character of
The chief- Owour

## Odero

Otieno

Explain the meaning of the underlined words
You will be Owour Kemboi a man of style the famous or who paid up without demur.

Why should these people vip us like this.

A son in law had to comport himself with great dignity. (3mks)

Identify and explain two styles used in the extract.
"All women are not the same". The Chief observed. Explain what happens later in the novel to justify this in the life of the chief

Why is Akoko feeling that her father should give her a piece of land.

Why is the " Mikai" important in this culture"

## GRAMMAR

Use the correct form of words in brackets to complete each of the following sentences (3mks)
Nobody expected the company to make $\qquad$ (lose)

The three $\qquad$ (passer-by) were arrested.

She has spent a lot of time $\qquad$ (beautiful) her compound.

## Correct the errors in the following sentences

It is an important occasion

The cite was lovely

It is embracing to mispronounce words (3mks)

Fill in the blank forming adjectives from the given in brackets.
John was $\qquad$ of his neighbours success (envy)
I felt $\qquad$ about not being able to help (awe)
He took a $\qquad$ leave after the father died (compassion) (3mks)

Fill the blank spaces with the correct preposition
I am indebted $\qquad$ him for the help he gave me.
She has always confided $\qquad$ him.
The ailing man has been in bed $\qquad$ the whole week. (3mrks)

Rewrite the following sentences according to the instructions given. Do not change the meaning.
He threatened us. He was insolent
(Begin: Not only)

You will only succeed if you work hard
(Rewrite using unless)

When the people burst into the councillors office he had not even sat down.
(Begin hardly)

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## ENGLISH PP3

## ENGLISH PAPER 3

Answer 2 questions only
Write a composition beginning with:
"As I said good bye to her, little did I know that, that would be the last time I would be seeing her".

2Write a story to illustrate the saying:
You cannot climb the ladder of success with your hands in the pocket.

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## PHYSICS PP1

## SECTION A 25MKS

## Answer all the questions in this section in the spaces provided.

Figure 1 shows a micrometers screw gauge with negative zero error of 0.02 mm uses to measure the diameter of a ball bearing

```
figure 1
```



Determine the actual diameter of the ball bearing ( 2 mks )

A wooden block resting on a rough surface is pulled by applying a horizontal force F as shown in figure 2 Indicate on the diagram, all the forces acting o the block other than the weight of the block (2mks)


The diameter of cylinder A in figure 3 is double that of cylinder B


Determine the force F necessary to keep the system in equilibrium when a force F is applied as shown ( 3 mks )

State one factor affecting the rate of diffusion of gases (1mk)

Figure 4 shows a simple fire alarm


Explain how the alarm functions ( 1 mk )

Figure 5 shows two identical containers A and B containing equal amounts of water an identical ice blocks


State with reason, which water cools faster, assuming the gauze absorbs negligible heat (2mks)

Figure 6 shows a suspended uniform meter rule in equilibrium when a mass of 50 g is hang at the zero mark


Determine the tension T in the string (3mks)

A Bunsen burner in the laboratory can be tilted over a large angle and still get back to its original position once the tilting force is withdrawn. State two factors that are responsible for this observation (2mks)

Figure 7 show a syringe full of water. The area of the piston is 1.5 cm 3 while the area of the outlet is 1.55 mm 2 The piston is pushed such that it moves from point B in 2 seconds


Determine the velocity of water at the outlet ( 3 mks )

Sketch a velocity time graph for a body that is uniformly accelerated (1mk)

A high jumper loads on saw dust. Explain how the saw dust helps in reducing the force of impact (2mks)

A bullet of mass 20 g moving with a velocity of $30 \mathrm{~m} / \mathrm{s}$ penetrates a sand bag and is brought to rest in 0.05 s . Find the average retarding force of the sand ( 3 mks )

## SECTION B 55 MKS

a) State Hooke's law for a spiral spring (1mk)
b) In an experiment, a spiral spring was hung vertically from a stand and various weights attached in turn to its lower end. The extension of the spring for the various weight was noted. The results were recorded as shown in the following table.

| Load(N) | 0 | 0.2 | 0.4 | 0.6 | 0.8 | 1.0 | 1.1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Extension $(\mathrm{cm})$ | 0 | 0.95 | 1.9 | 2.9 | 3.9 | 5.5 | 7.25 |

Plot the graph of load (y-axis) against the extension of the spring ( 5 mks )
From the graph, determine the elastic limit of the spring (1mk)

From the graph, determine the spring constant within Hooke's law (4mks)

State what is meant by streamline flow. (1mk)
b) The figure below shows the cross section of an aeroplane wing (aerofoil), with the aeroplane moving in the direction shown by the arrow.


Sketch streamlines to show how air flow fast the with as the aeroplane moves (1mk)

Explain how dynamic lift of the aeroplane is caused by the wing. (3mks)
c) A water pipe of diameter 5.2 cm is connected to another pipe of diameter 1.3 cm . The speed of the water in the smaller pipe is $3 \mathrm{~ms}-1$. What is the speed of the water in the larger pipe? ( 3 mks )
a) Explain how a person is able to draw milk from a glass using a straw ( 2 mks )
b) The following diagram shows a simplified hydraulic braking system of a car.


State the property of the liquid (oil) that makes it more suitable for use as a brake fluid than a gas ( 1 mk )

Explain how the system works, starting from when the driver presses the foot pedal ( 4 mks )

Why would the system not function properly if air leak into the cylinder? (1mk)
a) In an experiment to demonstrate Brownian motion, smoke was placed in an air cell and observed under a microscope, Smoke particles were observed to move randomly in the cell.
Explain the observation ( 1 mk )
Give a reason for those of smoke in this experiment ( 1 mk )

What would be the most likely observation if the temperature in the smoke cell was raised? (1mk)
b) An oil drop of average diameter 0.7 mm spreads out into a circular patch of diameter 75 cm on the surface of water in trough.
Calculate the average thickness of a molecule of oil ( 4 mks )

State two assumptions made in (i) above when calculating the thickness of the oil molecule (2mks)

The figure below shows path of ray of yellow light through a glass prism. The speed of yellow light in the prism is $1.88 \times 108 \mathrm{~m} / \mathrm{s}$.


Determine the refractive index of the prism material for the light (speed of light in vacuum $=3.0 \times 10^{8} \mathrm{~m} / \mathrm{s}$ (3mks)
i) Show on the diagram the critical angle ( 1 mk )

On the same diagram sketch the path of the light after striking the prism if the prism was replaced by another of similar shape but lower refractive index (use dotted line for your answer ) ( 2 mks )

The figure below shows a wave profile


Determine
The period of the wave ( $1 / 2 \mathrm{mk}$ )

The amplitude of the wave ( $1 / 2 \mathrm{mk}$ )

If the velocity of the wave is $4 \mathrm{~m} / \mathrm{s}$, calculate the wavelength of the wav ( 2 mks )

## ENDTERM HOLIDAY ASSIGNMENT

## FORM 3

## PHYSICS PP2

## SECTION A 25MARKS

The block of wood on the balance in the figure below is a cube of side 20 cm Determine its density in $\mathrm{kgm}^{-3}$ (3mks)


The diagram below shows a pith ball in a flask. When a jet of air is blown over the mouth of the flask, the pith ball is found to rise from the bottom. Explain this observation (2mks)


It is observed that a smelly gas released at the back of the laboratory spreads faster on a hot day than on a cold day. Explain (1mk)

The diagram below shows a rod made of wood on one end and metal on the other end suspended freely with a piece of thread so that it is in equilibrium


The side mad of the metal is now heated with a Bunsen flame. State with reason the side to which the rod is likely to fit (2mks)

When a piece of metal is place in water it sinks. But when the same piece of metal is placed on a block of wood it floats explain the observation ( 2 mks )

A bullet traveling at a speed of $100 \mathrm{~ms}^{-1}$ strikes a wall and penetrates 2 cm . How long does the bullet take to stop after striking the wall? (3mks)

A balloon of volume $1.5 \mathrm{~cm}^{3}$ containing helium gas at a pressure of $3.0 \times 106 \mathrm{pa}$ is released from the ground when the temperature is $20^{\circ} \mathrm{C}$. What will be the pressure when it reaches a point where the volume becomes 3.0 m and the temperature $5^{\circ} \mathrm{C}(3 \mathrm{mks})$

Explain why mercury forms a convex meniscus and water a concave meniscus in a tube ( 2 mks )

A force of 3500 N acts on a stationary body of mass 20 kg for 0.02 seconds. Calculate the velocity attained by the body ( 2 mks )

The diagram below shows two identical iron rods, one is placed on a wooden block and the other on a metal block. The ends of the rods are heated as shown.


State with reason the piece of wax that melts first ( 2 mks )

A stone is tied to a string and whirled in a horizontal circle at a constant speed. In which direction is the stone being accelerated at each point of its path? (1mk)

A force of 2.0 N compresses a spring by 1.0 mm . Determine the energy stored in the spring

## SECTION B 55MKS

a) Define the term 'velocity'. (1mk)
b) The following figure shows velocity -time graph for the journey of a car in 100minutes.


Determine the acceleration of the car between A and B and between C and D (4mks)

Determine the distance covered by the car during the journey ( 3 mks )

Determine the average velocity of the car ( 2 mks )
c) A ball rolls off a platform of height 1.8 m at a horizontal speed of $15 \mathrm{~ms}^{-1}$. How far off the edge of the platform does it land? ( 4 mks )

A car of mass 2000 kg travelling at $5 \mathrm{~ms}^{-1}$ collides with a minibus of mass 5000 kg travelling in the opposite direction at $7 \mathrm{~ms}^{-1}$. The vehicles stick and move together after collision. If the collision lasts for 0.1 seconds;

Determine the velocity of the system after collision of 3 decimal places. (3mks)

Calculate the impulsive force on the minibus (3mks)

Calculate the change in kinetic energy of the system (3mks)

Explain the change in kinetic energy of the system (1mk)
a) What is the difference between longitudinal and transverse waves? ( 2 mks )
b) The following figure shows a transverse wave travelling along the $x$-axis.


Determine the wave length and the amplitude of the wave. (2mks)

If the time taken by the wave to move from O to A is 0.04 seconds, determine the frequency and the speed of the wav ( 4 mks )
c) A person stands between two vertical cliffs 400 m from the nearer cliff. The cliffs are x distance apart.

Every time the person strikes the rock once, two echoes are heard, the first one after 2.5 s and the second one 2.0 s later. Calculate
the speed of the sound in air (3mks)
a) The following figue shows an object, $\mathrm{O}, 3 \mathrm{~cm}$ high placed in front of a concave mirror. C is the centre of curvature mirror. C is the centre of curvature of the mirror.


By constructing a ray diagram, determine the size and the position of the image formed. (3mks)
b) The table shws the object distance, $u$, and the corresponding image distance $v$, for an object placed in front of a concave mirror.

| $\mathrm{u}(\mathrm{cm})$ | 20 | 25 | 30 | 40 | 50 | 70 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathrm{v}(\mathrm{cm})$ | 20 | 16.7 | 15 | 13.3 | 12.5 | 11.6 |
| $\left(\mathrm{~cm}^{-1}\right)$ |  |  |  |  |  |  |
| $\left(\mathrm{cm}^{-1}\right)$ |  |  |  |  |  |  |

Complete the table by filling in the values of and ( 2 mks
plot a graph of ( y -axis) against ( 5 mks )
From the graph, determine the focal length of the mirror. (3mks)

The figure 6 shows a transverse wave travelling along the horizontal axis

determine
Wave length of the wave in metres ( 2 mks )

Amplitude of the wave (1mk)

If the time take by the wave to move from O to A IS 0.02 seconds Determine frequency of the wave ( 3 mks )

# ENDTERM HOLIDAY ASSIGNMENT 

FORM 3

## BUSINESS PP1

## ANSWER ALL THE QUESTIONS

Name the discipline described below that is part of the subject Business Studies (4mks)

The diagram below shows a shift of the demand give of a commodity from dodo to d1d1. Outline any four factors that could have led to the shift ( 4 mks )

$$
\mathrm{d}_{1} \quad \mathrm{~d}_{\mathrm{o}} \quad \text { so }
$$

price (sh)

$$
\begin{aligned}
& 9 \\
& \text { so } \quad \mathrm{d}_{1} \mathrm{~d}_{0} \\
& \text { quantity }
\end{aligned}
$$



Highlight four factors that may make communication in an organization to be ineffective (4mks)

Give four circumstances under which a cooperative society may be dissolved ( 4 mks )

Outline any four characteristics of an imperfect competition market (4mks)

Write down the meaning of the following terms as used in business ( 4 mks )

Give four benefits of electronic filing in an office ( 4 mks )

Give four reasons why business firms advertise their products (4mks)

Mr Kigen is the managing director of Mbau furniture ltd. Which has a large, well equipped workshop with expensive machines. The company handles large sums of money. Outline four insurance policies that the company may have ( 4 mks )

Outline four benefits to a firm that uses modern technology in its production activities(4mks)

Highlight four benefits to a retailer who uses a public warehouse to store goods ( 4 mks )

A business wishes to communicate the arrival of much waited stock of goods to its customers. Give four reasons why it might describe to write a short text message(sms) to the customers instead of a business letter (4mks)

Outline any four advantages of using intermediaries in the chain of distribution ( 4 mks )

## List down four assumptions of the circular flow of income in a two sector economy ( 4 mks )

Give any four challenges faced by human beings in their endevour to satisfy human wants ( 4 mks )

Highlight any four benefits that the recently launched standard gauge railway from Mombasa to Kisumu would bring to Kenya's economy ( 4 mks )

Name any four occupations that are found at the extractive level of production (4mks)

Outline any four advantages of small-scale retailers over large-scale retailers ( 4 mks )

Highlight any four methods used to determine prices of goods and services in the economy ( 4 mks )

Outline any four challenges that entrepreneurs face in Kenya (4mks)

Highlight four characteristics of free resources ( 4 mks )

Give four advantages of self employment (4mks)

Outline any four duties of an office receptionist (4mks)

Name the types of advertising that are described below (4mks)
Brand name and other features of the brand features more prominently -

Advertising that aims at popularizing a new product -

Advertising that popularizes the business organization -

Used by organization that deals with similar products to convince potential customers to buy their products and not the other -
Highlight any characteristics of subsistence production in Kenya (4mks)

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## BUSINESS PP2

a) Outline any five differences between a public limited company and a public corporation (10mks)
b) Explain five factors that influence the location of business enterprises (10mks)
a) The diagram below shows the equilibrium price and quantity of commodity A which is produced jointly with commodity B.

> do do-demand curve so so - supply curve PE -Equilibrium point QE -Equilibrium quantity


QE
On the diagram show the effect of a decrease of tax charged on commodity B on the equi8librium price and quantity of commodity A ( 4 mks )
Explain the effect of a decrease of tax charged on commodity B on the equilibrium price and quantity of commodity A ( 6 mks )
b) Bidco Kenya Ltd. is a manufacturer of soap and edible oil products. Highlight five reasons why the company chooses to distribute its products through wholesalers rather than selling directly to consumers ( 10 mks )
a) Explain any four ways in which the Kenya government involves itself in government activities in the country ( 10 mks )
b) Discuss five ways which county governments in Kenya can use to attract entrepreneurs in their areas. (10mks)
a) Kenya association of manufactures (KMA) brings Kenyan manufacturers together to solve problems faced by the manufacturers as well as consumers. Discuss five measures taken by the manufacturers to protect consumers ( 10 mks )
b) Discuss five importances of natural resources in a country ( 10 mks )
a) A recent economic survey showed a very big gap between the rich and the poor in Kenya Explain any five factors that could have led to this disparity in income distribution among individuals in Kenya (10mks)
b) Highlight any five reasons why there are so many small-scale business firms in Kenya despite the economies of scale enjoyed by large firms (10mks)
a) Discuss any five circumstances under which an insurer may not compensate the insured in the event of occurrence of a loss ( 10 mks )
b) Explain any five functions of marketing boards in Kenya (10mks)

## ENDTERM HOLIDAY ASSIGNMENT

## FORM 3

## KIS PP1

Wewe ni katibu wa chama cha waandishi habari chipukizi shuleni mwako. Andika kumbukumbu za mkutano uliofanyika mnamo MACHI 7, 2014.

Fahali wawili wapiganapo ziumiazo ni nyasi.

Anza kisa kwa maneno haya:

Mtoto aliletwa mbele yangu akiwa anatiririkwa damu usoni. Singeweza kumtambua hadi pale. $\qquad$
$\qquad$
$\qquad$
$\qquad$

Mvua husababisha madhara mengi. Jadili

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## KIS PP2

## Soma taarifa ifuatayo kisha ujibu maswali.

Habari kuwa watoto chini ya miaka mitatu 'huwindwa' kitandani na kuraushwa na wazazi wao waende shuleni mwendo wa saa kumi na moja asubuhi ni za kusikitisha.

Kwa mujibu wa ripoti za wataalamu wa elimu ya watoto wachanga (ECD), watoto hao hutakikana kuwa darasani kabla ya saa kumi na mbili asubuhi.

Wanapowasili wao huanza kufukuza ratiba ya masomo ambayo huwapatia muda mfupi mno wa kula, kucheza, kupumzika na hata kuchunguza afya na usalama wao.

Badala ya kuondoka mapema kuelekea nyumbani, wengi wao hufika saa za usiku pamoja na wazazi wao wakitoka kazini. Wanapowasili nyumbani wanapaswa kuoga na kupata chakula cha jioni kwa pupa ili wafanye mazoezi waliyopewa na walimu wao.

Mazoezi hayo huwa ya masomo yote matano huku kila somo likiwa na zaidi ya maswali thelathini. Badala ya kupumzika mwishoni mwa juma, watoto hao huhitjika kuhudhuria shule siku nzima ya Jumamosi. Jumapili wanatakiwa Kanisani na hali hii hujirudia mpaka muhula umalizike. Ikiwa ulidhani watapewa nafasi ya kupumzika wakati wa likizo , umekosea kwa sababu watoto hao huhitajika kuhudhuria shule. Hili limekuwa likiendelea hata baada ya Wizara ya Elimu kupiga marufuku kusomesha wakati wa likizo.

Wazazi-hasa wale wanaofanya kazi mijini- wamekuwa wakiunga mkono mtindo huu kwa sababu unawaondolea mzigo wa malezi na gharama ya kuwaajiri walezi.

Wataalamu wanasema matokeo ya hali hii ni watoto wakembe wenye afya na maadili mabaya kutokana na kuchanganyishwa akili na walimu wanaowataka wajue kila kitu wakiwa na umri mdogo.

Kuwashinikiza watoto wakembe wahudhurie shule na zaidi ya hayo wajue kila kitu kuna madhara mengi. Kwanza kabisa, kuraushwa kwa watoto macheo waende shule kunawanyima fursa ya kulala na kupumzika. Utafiti unaonyesha kuwa watoto wanahitaji kulala na kupumzika kwa zaidi ya saa 12 kwa siku. Hii ina maana kuwa mbali na muda mfupi wanaolala na kupumzika mchana kutwa, watoto wanapaswa kutumia usiku mzima kwa usingizi.

Hii huwasaidia kukua wakiwa na afya nzuri hasa kiakili. Matokeo ya kuwarausha watoto hao waende shule saa hizo huwafanya wakose furaha mbali na kuwafanya wachanganyikiwe kiakili.

Pili, kuwalazimisha watoto wakae darasani kuanzia saa kumi na mbili asubuhi hadi saa kumi na mbili jioni huwa kunawanyima fursa ya kucheza na kutangamana. Wataalamu wa afya ya watoto wanapendekeza kuwa watoto wachanga wanapaswa kucheza ili viungo vya miili yao kama moyo, akili, mapafu na kadhalika vifanye kazi vizuri.

Kinyume na watu wazima ambao hufanya kazi nzito nzito na kuwawezesha kufanya mazoezi, watoto huwa hawafanyi kazi hizo. Wazazi na walimu wanapaswa kufahamu kuwa kazi ya watoto ni mchezo na wana kila haki ya kupewa furaha ya kucheza wakiwa shuleni na hata nyumbani.

Tatu, wazazi wengi ambao hufurahia kuwaachia walimu jukumu la kuwalea watoto wao huku wao wakiwa kazini huwa wanasahau kuwa sio kila mwalimu ana maadili yanayopaswa kuigwa na mwanawe. Ingawa tunawatarajia walimu wawe mifano bora ambayo inaweza kuigwa na kila mtu, ukweli ni kwamba baadhi ya walimu hawajui maana wala hawana maadili. Hatari ni kwamba watoto wakembe husoma kwa kuiga wakubwa wao na ikiwa walimu wanaoshinda nao shule wamepotoka kimaadili, kuna uwezekano mkubwa wa watoto hao kupotoka pia. Hii ndiyo sababu wazazi wengi wamekuwa wakilalamika kuwa wanawao tabia mbaya ambazo hawaelewi zilipotoka.

Kila mzazi anayejali maisha ya mwanawe anapaswa kutekeleza jukumu lake la kumlea na kumwelekeza jinsi anavyotaka akue. Ni kinaya kuwa wanawatarajia wanawao wawe na tabia na maadili kama yao ilhali hawachukui muda wa kukaa nao na kuwaelekeza.

Nne, kuwawinda, kuwaamsha, kuwaosha na kuwalazimisha watoto waende shule kila siku hata ingawa hawataki huwa kunawafanya wawe wategemezi wasioweza kujipangia na kutekeleza mambo kivyao.

## MASWALI.

(a) Ipe taarifa anwani mwafaka. (alama 2)
(b) Mwandishi anatoa maoni gani kuhusu ratiba ya masomo? (alama 2)
(c) Eleza athari za mfumo wa elimu unaoangaziwa hapa. (alama 3)
(e)Taja mbinu zozote mbili za lugha alizotumia mwandishi (alama 2)
(f) Eleza maana ya maneno haya kama yalivyotumiwa katika taarifa. (alama 4)
(i) 'huwindwa' kitandani
(ii) Maadili
(iii) Kuwashinikiza...
(iv) Wakembe...

## Soma taarifa kisha fupisha kwa mujibu wa maswali yafuatayo.

Uwezo wa kuyakumbuka mambo ni hazina kuu kutoka kwa mtu yeyote yule aliye hai. Uwezo huu wa kukumbuka ni mojawapo ya shughuli changamano za ubongo. Ubongo wa mwanadamu hutekeleza shughuli hii kwa namna tatu. Kwanza ubongo hunasa jambo kisha huliihifadhi. Baadaye huanzisha mfumo wa kutoa kilicho hifadhiwa. Ubongo ukiathirika kwa namna yeyote katika moja wapo ya njia hizi, basi uwezo wa kuyakumbuka mambo huvurugika.

Ingawa inaaminika kuwa uwezo wa kukumbuka hurithishwa toka kizazi kimoja hadi kingine, wataalamu wa maswala ya kiakili wanabaini kuwa uwezo huu unaweza kuimarishwa. Uimarishaji huu huhitajika mikakati madhubuti.

Njia mojawapo ya kustawisha uwezo wa kukumbuka ni kupitia kwa lishe. Vyakula vilivyosheheni vitamini B vyenye amino asidi husaidia kuimarisha uwezo wa kukumbuka. Vyakula kama hivi ni mboga, nyama (hasa maini), bidhaaa za soya, matunda, maziwa, ,bidhaa za ngano, samaki, pamoja na mayai. Vyakula vingine muhimu katika ustawishaji huu ni vile vyenye madini ya chuma. Madini haya huwezesha usambazaji wa hewa
katika ubongo kwa wepesi. Vyakula ambavyo vina madina haya ni mboga za kijani, mawele, ndengu, soya, matunda kama maembe, ufuta (simsim) pamoja na nyama, hasa maini na mayai.

Ubongo wa mwanadamu aliye hai hufanya kazi kila wakati awe macho au amelala. Utendaji kazi wake huendeshwa na glukosi mwilini. Kwa hivyo, vyakula vyenye sukari hii ni muhimu kuliwa. Hata hivyo, lazima mtu awe mwangalifu na kuhakikisha kuwa mwili una kiwango cha sukari kisicho hatarisha maisha. Haya yanawezekana kwa kula vyakula vyenye nyuzinyuzi kama vile mboga na matunda.

Njia ya pili ni kupiga marufuku vileo kama pombe na nikotini. Vileo hivi huathiri utaratibu wa kunasa, kuhifadhi na kutoa yaliyo ubongoni.

Iwapo mtu ana tatizo la kuyakumbuka majina ya watu, ni muhimu kufanya mazoezi ya kusikiliza kisha kurudia majina hayo wakati wa mazungumzo. Ni bora kulihusisha jina na sura
ya mtu. Kwa njia hii ubongo utanasa jina na kile kinacholengwa.
Woga na kuvurugika kiakili ni mambo mengine tunayopaswa kuepuka kila wakati. Ni kawaida mtu kupata woga wakati anapokabili jambo asilokuwa na uhakika na matokeo yake kama mtihani au mahojiano. Lakini anapaswa kuwa makini. Woga huo usikiuke mpaka na kumvuruga kiakili. Vurugu hizi huathiri kilichohifadhiwa ubongoni na pia namna ya kukitoa.

Halikadhalika, mwili wenye siha nzuri huhakikisha kuwa ubongo ni timamu. Wataalamu wengi wa siha wanakubali kuwa na mazoezi ya kunyoosha viungo hustawisha ubongo na hivyo kuhakikisha kuweko kwa uwezo wa kukumbuka mambo. Ni muhimu kuwa na taratibu ya kunyoosha viungo kila wakati. Fauka ya hayo, mazoezi ya kiakili, kama vile kusoma makala yanayovutia, kujaza mraba na michezo mingine kama mafumbo, vitenzi ndimi ni muhimu katika kustawisha uwezo wa kukumbuka.

Jamii ya watu wenye uwezo kuyakumbuka mambo ni ya jamii iliyopiga hatua kimaendeleo. Ni jukumu la kila mmoja wetu kuimarisha uwezo wa kukumbuka kila wakati.

## Maswali:

Kwa maneno 60 - 65 fupisha mchango wa chakula katika uimarishaji wa uwezo wa kukumbuka.(alama 6 , mtililiko)

## Matayalisho

## Nakala safi

## FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

## Matayarisho

## Nakala safi

(a) Andika sifa bainifu za sauti.
(alama 2)
(i) e:-
(ii) $\mathrm{n}:-$
(b) Eleza maana ya :-
(alama 2)
(i) Kiimbo.
(ii) Shadda.
(c) Tunga sentensi moja moja kudhihirisha ngeli zifuatazo:-
(alama 2)
(i) U-U
(ii) Pokomo /Pa-ku-mu
(d) Unda kitenzi kimoja kutokana na nomino 'Mtubia"
(alama 2)
(c) Eleza matumizi mawili ya kiambishi 'ku’
(alama 2)
(f) Tunga sentensi ya maneno manne ambayo ina sehemu zifuatazo. Kielezi cha namna,
(g) Yakinisha sentensi ifuatayo;

Mvua haijanyesha vizuri msimu huu.
(h) Onyesha matumizi mawili mawili ya alama zifuatazo:-
(a) Alama ya mshangao
(b) Mshazari
(i) Tunga sentensi sahihi ukitumia -wa- katika kauli ya kutendeana (alama 2)
(j) Andika udogo wa sentensi:-
(alama 2)
Ndama wa ng'ombe yule ameuzwa.
(k) Onyesha tofauti ya vitate vifuatavyo kwakuvitungia sentensi
(alama 2)
(i) Dhamani
(1) Kanusha sentensi ifuatayo katika wingi
(i) Kivumishi
(ii) Kielezi.
(n) Huku ukitumia mifano mwafaka, eleza tofauti ya sentensi sahili na ambatano
(o) Onyesha aina za viambishi katika sentensi hii:

Nitajisomea
(q) Eleza maana mbili ya sentensi:-
(s) Changanua kwa njia ya mishale

Mama analima shambani.

## Soma mzungumzo yafuatayo kisha ujibu maswali :

A: Ohh, dada Naomi
B : Dada Ruth (anamsogea kwa bashasha wanakumbatiana). Ahh Mungu asifiwe!
A: Asifiwe sana
B: Ehh dadangu, miezi ...mingi...sijakuona
A: dada wee...Nilitumwa huko kusini ...Kuwahubiria watu injili (mtuo mdogo)singeweza kukata...
B: Ehh, usiwe kama Yona
A: Habari ya siku nyingi?
B; Nzuri Mungu bado ameendelea kunibariki
A: Amen!
B: Nimeendelea kuiona neema yake
A: Amen! Asifiwe Bwana
B. Halleluya

A: Ni Mungu wa miujiza!
B: Amen. Hata nami nimeona neema yake
Bado niko imara katika wokovu katika siku hizi za mwisho
A : Amen !
B : Ni Mungu wa ajabu kweli !
A : Nilikumbana na matatizo lakini nikategemea sala
Kama Paulo na sila... Na nikashinda (anatua). Sikuweza kumpa
shetani nafasi...maana ameshindwa
B : Ameshindwa kabisa

## Maswali:-

(iii) Taja mambo mawili muhimu yaliyosaidia katika maenezi ya Kiswahili

Afrika mashariki na kati.
[Alama 2]

## ENDTERM HOLIDAY ASSIGNMENT

## FORM 3

KIS PP3

## SEHEMU YA A:USHAIRI

1. Soma shairi na kisha uyajibu maswali yafuatayo:-
2. Ni sumu, sumu hatari

Unahatarisha watoto
Kwa ndoto zako zako leweshi
Za kupanda ngazi
Ndoto motomoto ambazo
Zimejenga ukuta
Baina ya watoto
Na maneno laini
Ya ulimi wa wazazi
2. Ni sumu, sumu hasiri

Unahasiri watoto
Kwa pupa yako hangaishi
Ya kuwa tajiri mtajika
Pupa pumbazi ambayo
Imezaa jangwa bahili
Badala ya chemichemi

Ya mazungumzo na maadili
Baina ya watoto na mzazi
3. Ni sumu, sumu legezi

Unalegeza watoto
Kwa mazoea yako tenganishi
Ya daima kunywa 'moja baridi'
Mazoea mabaya ambayo yanafunga katika klabu
Hadi saa nane usiku
Huku yakijenga kutofahamiana
Baina ya watoto na mzazi
4. Ni sumu, sumu jeruhi

Unajeruhi watoto kwa pesa,
Kwa mapenzi yako hatari
Ya kuwaliwaza watoto kwa pesa
Zinawafikisha kwenye sigara na ulevi
Na kisha kwenye madawa ya giza baridi
Barabara inayofikisha kwenye giza baridi la kaburi la asubuhi

## Maswali

Pendekeza kichwa kwa shairi hili. (alama 1)
(b) Fafanua maudhui ya shairi hili. (alama 2)
(c) Ni kwa njia gani kinachozungumziwa kinajenga ukuta? . (alama 2)
(d) Dondoa tamathali mbili za usemi zilizotumika katika shairi na uzitolee mfano (alama 4)
(e) Eleza umbo la shairi hili. (alama 3)
(f) Uandike ubeti wa nne kwa lugha nathari. (alama 4)
(g) Eleza maana ya vifungu hivi vilivyotumika katika shairi . (alama 4)
(i) Giza baridi
(ii) Yanakufunga katika klabu

## SEHEMU YA B: KIDAGAA KIMEMWOZEA

2. Jadili umuhimu wa mbinu ya majazi kwa kurejelea jina Sokomoko. (alama 20)
3. "alisimama jadidi na kuwatazama hawa watu wawili waliosimama wima kutetemeka kama waliokuwa wamepigwa na dhoruba ya theluji."
a) fafanua muktadha wa dondoo hili (alama 4)
b) taja mbinu mbili za kimtindo zinazojitokeza katika dondoo hii.(alama 4)
c) onyesha umuhimu wa 'anayesimama jadidi' katika kuijenga riwaya hii.(alama 12)

## SEHEMU YA C:MSTAHIKI MEYA

4."..wewe hukubaliani na chochote siku zote. Kauli yako ndiyo waiona kuwa yenye hoja inayoistahili kufuatwa."

Fafanua muktadha wa dondoo hili. (alama 4)
Eleza nyakati zingine ambapo wahusika hawa wawili walitofautiana.(alama16)
5.Taja na ueleze njia anazozitumia Meya katika kuuendeleza uongozi wake. (alama 20)

SEHEMU YA D:DAMU NYEUSI NA HADITHI ZINGINE
6." si udufu kitu gani,mtu aache kutukia nyayo za kweli....."

Eleza muktadha wa dondoo hili
(alama 4)
Jadili hulka na umuhimu wa msemaji (alama 16)
7.Kwa kulejelea hadithi tofauti katika diwani ya Damu nyeusi na hadithi nyingine, jadili maudhui haya:

Ubaguzi
Ndoa
Umaskini

## SEHEMU E:FASIHI SIMULIZI

8. a) Taja na ueleze sifa za mtambaji bora katika fasihi simulizi. (alama 10)
b) Nyimbo zina wajibu gani katika jamii. (alama 4)
c) i) Eleza maana ya vitendawili. (alama 2)
ii) Onyesha sifa za kitendawili. (alama 4)
9. a) Taja na ueleze aina nne kuu za hadithi (alama 8)
b) Eleza mbinu tatu ambazo mtambaji anaweza kutumia kuishirikisha hadhira yake.(alama 6)
c) Fafanua vipera vifuatavyo vya fasihi simulizi. (alama 6)
i) Majigambo
ii) Mivigha
iii)Lakabu

# ENDTERM HOLIDAY ASSIGNMENT <br> FORM 3 AGRIC PP1 

## SECTION A [30 MAKRS]

1.State four practices that make Agriculture to be considered a science [ 2 mks ]
3. Give two advantages of organic farming [ 1 mk ]
4. Give 2 branches of crop farming[ 1 mk ]
5. State 2 negative impacts of high temperature. ( 1 mk )
6. Mention four farming practices that help to improve soil structure[2mks]
7. State three factors that have negative impacts on Agriculture
8.State four aspects of rainfall that affect crop production [ 2 mks ]
9.State 2 properties of the soil that are influenced by the texture [ 1 mk ]
10.Name four human factors that influence efficiency of Agriculture production[2mks
11.State four factors that determine the type of irrigation that can used in a given area ( 2 mks )
12.State four disadvantages of using farmyard manure( 2 mks )
13.Give four disadvantages of minimum tillage( 2 mks )
14. Outline two methods used by farmers to harden off seedlings in a nursery bed (2mks)

15(a)Name two types of inventories used on the farm for the purpose of record keeping(1 mk )
(b) What is the importance of taking farm inventories?(1mk)
16. Give 2 reasons why farmers should establish seedling first in a nursery bed during the growing of cabbages( 1 m )

17(a). What is vegetative propagation?(1m)
(b). State the materials used to propagate;

Sisal

Pineapples

## Irish potatoes

18(a)A farmer was advised to apply a fertilizer labeled 18:47:0 on the sack. What do labeled figures stand for?( $11 / 3 \mathrm{mks}$ )
(b)A farmer was advised to apply 200 kg of C.A.N fertilizer per hectare, which top dressing the bean crop C.A.N contains $21 \%$ nitrogen. Calculate the amount of nitrogen applied per hectare [show your working] $1 \frac{1}{2} \mathrm{mk}$ ]

## SECTION B 20MKS

19 Study the methods of crop propagation F, G, and H illustrated below and answer the questions that follow

2919

[a] Identify the methods of crop propagation illustrated above[ $11 / 2 \mathrm{mks}$ ]
F
G
H
[b]Give 2 conditions under which H is carried out [2mks]
[c] Give 3 advantages of using the method of propagation illustrated in $G$ above[11/2mks]

20 The following diagram shows a method of compost preparations

[a]Identify the method [1mk]
b) Give two factors that should be considered when siting the compost pit. ( 2 mks )
[b] Give 2 factors that determine the time the manure would be ready for use in the field. $(2 \mathrm{mks})$

21 The diagram below shows an experiment that was carried out by a form one class. Study it carefully and answer the questions that follow

.n 17 .......7.1
[a]What was the aim of the experiment [1mk]
[b] What observations did the students make at the end of the experiment in the 2 flasks[2mks] Flask 1

Flask 2
[c] Give the reason for the observations in flask 1.(1mk)
[d]Why did the students heat the garden soil in flask 2 strongly?[1mk]

22 Explain the meaning of the following practices in crop production
1 Chilting[1mk]
2 Seed dressing [1mk]
3 seed inoculation [1mk]
4 Earthing up [1mk]
5 Roguelling [1mk]

## SECTION C 40 MKS

## Answer any two questions in this section

23 [a] State and explain the factors considered when determining spacing of crops in the field [ 10 mks ]
[b] Determine the process of chemical water treatment [ 10 mks ]

24 [a] what are the uses of farm records [10mks]
[b] Explain 8 ways in which soil loses fertility [ 10 mks ]

25Describe the field production of tomatoes under the following sub-headings
[a] Ecological requirements [3mks]
[b] Land preparations [4mks]
[c] Transplanting [5mks]
[d] Field management practicals [5mks]
[e] Marketing [3mks]

## ENDTERM HOLIDAY ASSIGNMENT

## FORM 3 AGRIC PP2

## SECTION A

1. Name a tool recommended for the following practices on the farm.
a. Smoothening a very rough surface of flat wood ( $1 / 2 \mathrm{mk}$ )
b. Making threads on metallic pipes. $(1 / 2 \mathrm{mk})$
c. Breaking stones during construction and ballast in masonry work. ( $1 / 2 \mathrm{mk}$ )
d. Cutting wood along the grains $(1 / 2 \mathrm{mk})$
2. Give four signs that show a rabbit doe is about to give birth. ( 2 mks )
3. Give four reasons for steaming up a dairy cow. ( 2 mks )
4. Sate four reasons for castrating male calves $(2 \mathrm{mks})$
5. Outline two disadvantages of using embryo transplant. ( 1 mk )
6. a.State four reasons for dehorning /disbudding livestock.(2mks)
b. State two chemical methods of disbudding livestock. ( 1 mk )
7. Give three types of feed additives given to livestock. $(11 / 2 \mathrm{mk})$
8. State two features in a gizzard that enable it to carry out its functions ( 1 mk )
9. Sate four economic importance of internal parasites in livestock ( 2 mks )
10. State four problems that may necessitate a farmer calling a qualified stockman during calving down of a cow. $(2 \mathrm{mks})$
11. a.What is Zoonotic disease?(1mk)
b. Whta do you understand by the term quarantines in livestock production. ( 1 mk )
12. Study the table below and fill in the missing words ( 4 mks )

| Desorption | Cattle | Pigs | Poutlry |
| :--- | :--- | :--- | :--- |
| Young form <br> birth/hatching to <br> weaning | a) | b) | Chick |
| Young female <br> before first <br> parturition | c) | Gill | d) |
| Mature for breeding | Bull | e) | f) |
| Mature after first <br> parturition | g) | h) | hen |

13. Sate the gestation of the following animals
i. Pigs
ii. Cattle
iii. Rabbits
14. Sate the difference between a vector and an intermediate host.( 2 mks )
15. State four functions of carbohydrates in animals body.(1mk)

## SECTION B(2OMKS)

16. a.Using Pearson's square method compute a 400 kg ration with $20 \% \mathrm{DCP}$ from wheat containing $15 \%$ DCP and cotton seed cake containing $60 \%$ DCP.Clearly show your working
b.Apart form the method above, state one other method farmer can use to complete a livestock ration.(1mk)
17. Study the diagram below and answer the questions that follow.

a. I)Identify the above digestive system.
18. ii)Name the parts labeled A,B and C.(3mks)
iii)State one function of the part labeled D mentioned in (ii) above.(2mks)
iv) What makes the part labeled C be more effective in its functions.(2mks)
19. a. Below is diagram method of identifying livestock.

i) Name the type of identification method used above.( 1 mk )
ii)Name the identification number on the diagram shown above.( 1 mk )
iii)Using the above system, draw a diagram representing livestock number.(1mk)
20. State 1 use of each of the following farm tools and equipment.( 4 mks )


A

B
C
D

## SECTIONC(40MKS)

Answer any TWO questions in this section.
20. With aid of a fully labeled diagram, describe the processing formation in hen.(20mks)
21. a)Describe the life cycle of a two-host ticks(7mks)
b)Explain the measure used to control external parasites in livestock.(8mks)
c) State five factors that affect digestibility in livestock nutrition.(5mks
22. a.Describe twelve measures of controlling livestock diseases(12mks)
b.Outline eight diseases predisposing factors in livestock production.( 8 mks )

## ENDTERM HOLIDAY ASSIGNMENT FORM 3 CRE PP1

1. a) Outline seven activities performed by God in the second biblical account of creation ( 7 mks )
b) Give six similarities between six in the bible and the Traditional African understanding of the evil (6mks)
c) In what ways is the church fighting evil in the society ( 7 mks )

2a) Explain how Abraham demonstrated his faith in God ( 6 mks )
b) Outline the role played by Moses in the history of the Israelites. ( 8 mks )
c) What do Christians learn about God from the ten plaques. ( 6 mks )

3a) Give reasons against theocratic rule in Israel (7mks)
b) Explain seven challenges faced by King David in Israel.(7mk)
c) Identify six reasons why a leader may be rejected in the society today. ( 6 mks )

4 a) state four reasons why God's true prophets were putting their prophecies into writing. (4mks)
b) Give four characteristics for false prophets as depicted in the Old Testament. ( 6 mks )
c) Write down five differences between the traditional prophets and the Old Testament prophets. (10mks)
5. a) Describe the call of Amos. (6mks)
b) Identify the social injustices condemned by prophet Amos. ( 6 mks )
c) Explain four factors which hinder a Christian from helping the needy ( 8 mks )
6. a) Why are taboos important in traditional African communities. (6mks)
b) List 8 ways in which member of the traditional African communities helped the bereaved families (8mks)
c) Identify 6 steps taken by the church to assist orphans. ( 6 mks )

## ENDTERM HOLIDAY ASSIGNMENT FORM 3 CRE PP2

1. With reference to Luke's gospels, explain eight ways in which Jesus fulfilled the Old Testament prophesies about the Messiah. (8mks)
b) Explain What Zachariah revealed about John the Baptist in the Benedict sin Luke 1:68-80 (6mks)
c) Give reasons why then birth of a child is celebrated in the modern society? ( 6 mks )

2 a) Give reasons why Jesus was rejected in Nazareth (8mks)
b) Describe the healing of the paralytic ( $1 \mathrm{k} 5: 17-26$ ) ( 7 mks )
c) Give reasons why a church leader may be rejected today ( 5 mks )

3 a) Narrate the parable of the widow and the unjust judge ( $1 \mathrm{k} 18: 1-8$ ) ( 6 mks )
b) Explain Jesus teaching on prayer ( 8 mks )
c) Give the importance of prayers in a Christian life today ( 6 mks )

4a) Explain actions taken by Jewish leaders to ensure that Jesus was put to death ( 8 mks )
b) Give evidence to show that Jesus resurrected ( 6 mks )
c) What is the importance of Jesus resurrection to Christian today? ( 6 mks$)_{-}$

5a) Explain the New Testament teaching $s$ on the unity of the believers as expressed in the bride ( 8 mks )
b) Identify causes of disunity in the early church ( 6 mks )
c) Explain how church disciplines those who cause disunity in to church today ( 6 mks )

6 a) Outline seven teachings about Jesus from peters message on the day of Pentecost ( 7 mks )
b) Outline the characteristics of love as taught by St.Paul in 1corinthian 13 ( 7 mks )
c) State activities of the church in Kenya which show that the Holy Spirit is working among them. (6 marks)

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## GEOGRAPHY PP1

## SECTION A:

## ANSWER ALL THE QUESTIONS:

1. a. State three forces that influence the shape of the earth.
b. State three proofs that show that the earth is spherical.
2. a. Distinguish between a rock and a mineral.
b. Give the metarmophic equivalent of the following rocks.

Original rock
metarmophic
Granite -
Limestone -
Shale -
3. a. What is the longitude of a place M whose local time is 11.00 am . If the local time at longitude
4. a. What is Mass Wasting.
b. State 3 factors which affects the rate of mass wasting.
5. a. Define the term Vulcanicity.
b. Name i. Two Intrusive landforms
ii. Two Extrusive landforms

## SECTION B:

ANSWER QUESTIONS SIX (COMPULSORY) AND ANY OTHER TWO QUESTIONS.
6. Study the map of Karatina $(1: 50,000)$ sheet $121 / 3$ provided and answer the following questions.
a. i. What type of map is Karatina?
(1 mk)
ii. Convert the scale used in the map into a statement scale.
iii. Outline 3 marginal information which you can be able to identify from the map given.
b. i. Citing evidence from the map, use list three social functions of the area covered by the map.
ii. Name 3 human made features from the map.
c. i. Citing evidence from the map explain three economic activities of the area covered by the map.
ii. Describe the drainage of the area covered by the map.
(4 mks)
7.a. i. Name three types of faults.
ii. Apart from compressional force explain two other processes that may cause faulting.
b. With aid of diagrams, describe how compressional forces may have lead to the formation of the Great Rift Valley.
c. Explain five ways in which faulting is of significance to human activities.
8. a. The table below shows Rainfall and Temperature figures of a station in North America.

| Month | J | F | M | A | M | J | J | A | S | O | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Rainfall <br> in mm | 15 | 8 | 8 | 13 | 31 | 51 | 51 | 51 | 28 | 25 | 18 | 20 |
| Temp <br> $\left({ }^{\circ} \mathrm{C}\right)$ | -22 | -19 | -12 | -1 | 4 | 10 | 11 | 11 | 5 | -11 | -18 | -20 |

On the graph paper provided, draw a bar graph to represent the rainfall figures. (Use a vertical scale of 1 cm represent 10 mm )

Give four characteristics of a bar graph you have drawn.
i. Calculate the mean of temperature for the station. Show your working.
ii. State five characteristics of the climate experienced in the station.

You intend to carry out a field study on vegetation around the station with the above climate.
i.. State 3 methods you would use to collect the data.
ii. Highlight 3 methods you are likely to use to record the data.
iii. State 3 problems you are likely to face during the field study.
9. a. Name three types of physical weathering.
b. i. Give three factors that influence the rate of weathering.
ii. Describe two causes of biological weathering.
(3 mks)
(6 mks)
c. i. Give five types of chemical weathering.
ii. Explain four significances of weathering to human activities.
10. a. What is aridity?
b. What is desertification.
c. State five causes of aridity and desertification.
d. i. Explain 5 effects of aridity and desertification.
ii. Suggest 3 possible solutions to aridity and desertification.

# ENDTERM HOLIDAY ASSIGNMENT 

FORM 3

## GEOGRAPHY PP2

## SECTION A:

## ANSWER ALL THE QUESTIONS IN THIS SECTION:

| 1. a. Define the term Geography? |  |
| :--- | :--- |
| b. Outline 4 importances of Geography in the learning process. | $(4 \mathrm{mks})$ |

2. a. State 4 layers of the earth.
b. Name the boundary that separate:-
i. The crust and Mantle.
ii. The mantle and the core.
3. a. State 2 effects of earths rotation.
b. Outline 3 causes of earth movements.
4. a. Give three examples of rapid mass movements.
b. Name 3 fold mountains of Alphine Orogeny.
5. a. What is agro-forestry.

## SECTION B:

## INSTRUCTIONS:

QUESTION 6 IS COMPULSORY AND ANY OTHER TWO:
6. The table below shows temperature and rainfall date of station X .

| Month | J | F | M | A | M | J | J | A | S | O | N | D |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Temp. ${ }^{\circ} \mathrm{C}$ | 12 | 13 | 14 | 17 | 19 | 22 | 24 | 26 | 24 | 20 | 16 | 13 |
| Rainfall <br> in (mm) | 112 | 84 | 74 | 41 | 46 | 15 | 10 | 5 | 41 | 79 | 130 | 137 |

Use the data to calculate
The mean monthly temperature.
(3 mks)
The mean monthly Rainfall. (3 mks)
The median rainfall. ( 2 mks )
The temperature and rainfall range.

Use the rainfall data to draw a simple line graph.
State 3 advantages of using a simple line graph.
(3 mks)

Outline clearly 3 disadvantages of using this technique.
(3 mks)
7. a. Define the term vegetation.
(2 mks)
b. i. State and explain 4 factors which influences the distribution of vegetation.
( 8 mks )
ii. Explain clearly 4 uses of vegetation.
c. i. Give 3 characteristics of Savanna Grasslands.

Temperature grassland Where its found
Prairies
Steppes
Pampas
Veldt
8. a. i. Define the term forest.
ii. Explain five uses of forests and forest products in Kenya.
b. i. Outline any 4 problems facing forestry in Kenya.
ii. Highlight five forest conservation measures commonly used in Kenya.
c. Compare and contrast softwood forestry in Canada and Kenya.
9. a. i. Define the term mining. ..... ( 2 mks )ii. State three ways in which minerals occur.(3 mks)
b. i. State and explain 4 factors that influence the occurrence and exploitation of minerals.( 8 mks )ii. Explain any two methods employed in underground mining.ii. Highlight 4 problems facing mining in Kenya.(4 mks)
10. a. Name the minerals found in the following places in East Africa(3 mks)
i. Ruhuhu valley
ii. Kariandusi
iii. Tororo
b. Describe the stripping method of open cast mining.
c. Study the data below and answer questions that follow:-

Percentage of mineral production.

## COUNTRY A

Lime stone - 10\%
Coal - 20\% Bauxite - 10\%
Iron ore - 50\% Tin - $10 \%$
Trona - $20 \%$

## COUNTRY B

Iron ore - 50\%

Others - $30 \%$
i. Draw a dividend rectangle 10 cm long to show the percentage of minerals mined in country A.
ii. State three advantages of using dividend rectangles to represent geographical data. ( 3 mks )
d. i. Name two areas where diamond is mined in South Africa.
ii. Describe the stages involved in the processing of diamonds.
iii. State 5 economic contributions of diamonds to the economy of South Africa.
(5 mks)

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## HISTORY PP1

## SECTION A: (25mks)

## Answer all questions in this section

Give two branches in the study of History and Government in Kenya (2mks)

Name the pre-historic site in Kenya where the Kenyapithecus fossil was discovered (1mk)

Identify two original inhabitants that the Agikuyu came across in Central Kenya as they settled in the area (2mks)

Give two economic reasons why the Cushites migrated form their original homeland ( 2 mks )

Give two reasons why the Bukusu resisted British invasion (2mks)

## SECTION B (45mks)

## Answer any 3 questions from this section

a) Give the duties of Portuguese captains along the coast (3mks)
b) Explain the impact of Portuguese rule along the coast (12mks)
19. a) Give three ways in which the Luo interacted with the Abagusii in the $19^{\text {th }}$ century ( 3 mks )
b) Describe the social and political organization of the Luo (12mks)
20. a) State the causes of the Nandi resistance to British rule (5mks)
b) Explain the results of Nandi resistance (12mks)
21. a) State reasons why Nabongo Mumia of Wanga kingdom collaborated ( 5 mks )
b) Explain the impact of Wanga collaboration (10mks)

## SECTION C (30mks)

## Answer any two questions

22. a) Give three symbols of National Unity (3mks)
b) Explain six factors which undermine National Unity in Kenya (12mks)
23. a) State three methods used by the British to establish their rule in Kenya (3mks)
b) Describe the organization of the central government in Kenya during the colonial period (12mks)
24. a) Give five political duties of a Kenyan citizen ( 5 mks )
b) Explain five reasons why national integration is important in Kenya (10mks)

# ENDTERM HOLIDAY ASSIGNMENT 

FORM 3

## HISTORY PP2

## SECTION A: (25mks)

Answer all questions in this section

Identify one specific tool invented by Homo Sapiens that greatly improved his way of life (1mk)

Identify the term used to refer to animal and plant remains found by Charles Darwin (1mk)

Identify two sub species of the Homo Sapiens (2mks)

Why is the period of early man referred to as Stone Age? (1mk)

Identify two treaties that Lewanika of the Lozi signed with the British (2mks)

Which European leader was responsible for convening of the Berlin conference $1884-1885$ ? (1mk)

Give two strategies employed by Samori Toure in his war of resistance against the French ( 2 mks )

Apart from river Congo, name the river that was declared free to all Europeans for navigation at the Berlin conference (1mk)

What was the main contribution of religion in the Maji maji uprising against German rule in Tanganyika? (1mk)

Give two reasons why the British adopted the system of indirect rule in Northern Nigeria (2mks)

Define the term the Egyptian question in the scramble and partition of Africa (1mk)

List two communes in Senegal where Assimilation was successfully applied (2mks)

## SECTION B (45mks)

## Answer any three questions

a) What factors led to the development of early agriculture in Mesopotamia? ( 5 mks )
b) Explain five factors that have led to shortage of food in Third World countries ( 10 mks )
20. a) Give three stages of evolution of man (3mks)
b) Describe six ways in which the discovery of fire improved man's way of life ( 12 mks )
21. a) Identify three ways in which water was used in industries during the $18^{\text {th }}$ century ( 3 mks )
b) Explain six social results of the Industrial revolution in Europe during the $18^{\text {th }}$ century ( 12 mks )
22. a) Identify five causes of Maji maji rebellion in 1905 - 1907 (5mks)
b) Why were the African communities defeated by the Germans during maji maji rebellion? (10mks)

## SECTION C (30mks)

## Answer any two questions

23. a) Identify 3 European powers that acquired colonies in Africa. (3mks)
b) Explain six reasons why the Lozi collaborated with the British during colonization (12mks)
24. a) Give three economic activities of the Baganda in the pre-colonial period (3mks)
b) Describe the political organization of the Buganda in the pre-colonial period ( 12 mks )
25. a) Outline five reasons why Samori Toure's second empire was not suitable (5mks)
b) Explain five factors that led to the defeat of Samori Toure by the French (10mks)

# ENDTERM HOLIDAY ASSIGNMENT 

## FORM 3

## MATHEMATICS PP1

## SECTION 1

Answer all questions in this section
1.Find without using tables or a calculator the value of
(3mk|)
2. The ratio of the size of the exterior angle to the interior angle of a regular polygon is $1: 3$. Determine the number of sides of the polygon and name it.
(3mk)
3. Given that $2 x^{2}-k x+18$ is a perfect square, find $k$ and hence solve the equation $2 x^{2}-k x+18=0$ by factorization.
4. Work out using logarithms to 4 s.f
$\sqrt{ }(6.225 \log 1.001)$
$(56.7 \times 0.031)^{3}$
(4mk)
5. Mr. Kanja,Miss Kanene and Mrs Nyaga have to mark a form three math contest for 160 students. They take $5 \mathrm{mins}, 4 \mathrm{mins}$, and 12 mins respectively to mark a script. If they all start to mark at 9.00 am non-stop, what is the shortest time they can take to complete the marking?
(3mk)
6. Jackie takes 5minutes to run a distance of 1 km in a race. Express her speed in
a) $\mathrm{km} / \mathrm{hr}$
b) $\mathrm{m} / \mathrm{s}$
7. Use reciprocal tables to find the value of $f$ given that
8. A man left of his estate in Kerugoya to his wife and to each of his two sons. The remainder was to be shared equally among his six brothers. If the estate was worth sh 3456000 , how much did each of those people get?
9. A distance of 12 km is represented by a length of 4 cm on a map. Given that the scale of the map is $1: \mathrm{n}$, find the
a) value of $n$
b) actual area in hectares of a field on the map with an area of $32 \mathrm{~cm}^{2}$
10. Solve the equation $1 / 3(x+4)-1 / 2(2 x-4)=2$
(2mk)
11. The sides of a right angled triangle measured to the nearest cm are $5 \mathrm{~cm}, 12 \mathrm{~cm}$ and 13 cm Determine the
a) limits within which the measured dimensions lie
b) percentage error in the area of the triangle.
(3mk)
12. Form a quadratic equation in the form $a x^{2}+b x+c=0$ whose roots are $b$ and twice the negative reciprocal of b. (3mk)
13. The coordinates of points $A$ and $B$ are $A(2,3) \cdot B(4,-5)$. $M$ is the midpoint of vector $A B$.

Determine the coordinates of point M and the magnitude of vector BM.
14. The equation of line $L$ is $y=3 x-4$ and is perpendicular to line $H$. They cross each other at the $y$-intercept of line L . Find the equation of line H .
15. In a circle radius 10 cm , an arc PQ subtends an angle of radians at the centre of the circle. Calculate the radius of another circle whose circumference is equal to the length of arc PQ
(4mk)

## SECTION 2

Answer any 5 questions in this section
17. Four towns are situated in such a way that town Q is 500 km on a bearing of $120^{\circ}$ from P . Town R is 240 km on a bearing of $210^{\circ}$ from town P , while town S is due north of town Q and due east of town P .
a) Draw a sketch diagram showing the relative positions of $\mathrm{P}, \mathrm{Q}, \mathrm{R}$ and S .
(2mk)
b) Find by calculation
i) the distance QR
(2mk)

## ii)the distance QS

## iii)the angle PRQ

18. a) Represent the following inequalities graphically by shading the unwanted region

$$
x \geq 0, y \geq 0, x+y \geq 5, x+y \leq 10, y \leq 7, x \leq 7
$$

b) write down the coordinates of one point that is inside the wanted region (1mk)
c) Name the figure formed by the unshaded region
19. In the figure below, $O$ is the centre of the circle and $\left\llcorner E A D=40^{\circ},\left\llcorner B C D=118^{\circ}\right.\right.$
A
B
$40^{\circ}$

(2mk)
b) reflex $\llcorner$ EOD
c) $\llcorner\mathrm{EBD}$
d) $\llcorner E A B$
e) $\llcorner\mathrm{DAB}$
20. The marks scored in a form three maths exam were recorded as follows 6970724052602231785328676354574847565562

7538374462645839454865508546475735345864
37414236548248535756725648445578595045
a) Make a grouped frequency table with classes $20-29,30-39,40-49$,etc
(2mk)
b) What is the modal distribution of the test
c) Calculate the mean of the data
d) Calculate the median mark
21. The velocity(v)of a vehicle measured at intervals of time(t) were recorded as follows

| $\mathrm{t}(\mathrm{s})$ | 0 | 2 | 4 | 6 | 8 | 10 | 12 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathrm{v}(\mathrm{m} / \mathrm{s})$ | 0 | 20 | 40 | 40 | 30 | 8 | 0 |

Represent this motion on a graph
(3mk)

Calculate the acceleration
(2mk)
c) Calculate the total distance travelled by the vehicle
(3mk)
d)Calculate the average velocity of the vehicle
(2mk)
22. A wooden stool is in the form of a frustum of a cone with slant edge 40 cm ,top diameter 30 cm and bottom diameter 50 cm .
a) calculate the perpendicular height of the stool
c)calculate the volume of wood used to make the stool in terms of
d)given that the density of the wood used to make the stool is $0.8 \mathrm{~g} / \mathrm{cm}^{3}$, calculate the mass of the stool in kg
(1mk)
23. Using ruler and compasses only,
a) construct triangle ABC in which $\mathrm{AB}=5 \mathrm{~cm}, \mathrm{BC}=6 \mathrm{~cm}$ and angle $\mathrm{ABC}=120^{\circ}$.
b)measure angle ACB
c)drop a perpendicular from C to cut AB produced at P . Measure CP .
d)hence calculate area of triangle ABC to 1 dp
e)calculate the radius of a circle that passes through the vertices of triangle ABC
24. The distance between two towns $A$ and $B$ is 360 km . A minibus left town $A$ at 8.15 a .m and travelled towards B at an average speed of $90 \mathrm{~km} / \mathrm{hr}$. A matatu left town B at $10.35 \mathrm{a} . \mathrm{m}$ on the same day and travelled towards A at an average speed of $110 \mathrm{~km} / \mathrm{hr}$.
a)i)how far from $A$ did they meet?
(4mk)
ii)at what time did the two vehicles meet?
b) A motorist left his home at 10.30a.m on the same day and travelled at an average speed of $100 \mathrm{~km} / \mathrm{hr}$. He arrived at B at the same time as minibus. Calculate the distance from B to his home.

$$
(4 \mathrm{mk})
$$

## ENDTERM HOLIDAY ASSIGNMENT

 FORM 3
## MATHEMATICS PP2

SECTION 1
Answer all the questions in this section
1.Evaluate

$$
\begin{align*}
& 36-8 \times-4-15 \div-3 \\
& -3 \times-3-8(-6+-2) \tag{3mk}
\end{align*}
$$

2.Simplify $\quad \mathrm{a}+\mathrm{b}-2 \mathrm{a}-\mathrm{b}$

23
(3mk)
3.Find the greatest number which divides 181 and 236 and leaves a remainder of 5 in each case
(2mk)
4.A rectangle measures 20 cm by 15 cm .If each dimension is increased by 2.5 cm , by what percentage is a) the perimeter of the rectangle increased
b)the area of the rectangle is increased
5.The angle of elevation of the top of a tree from a point P on horizontal ground is $30^{\circ}$. From another point Q 8 metres from the base of the tree, the angle of elevation of the top of the tree is $48^{\circ}$.
a) Calculate to one decimal place the height of the tree.
(1mk)
b) Calculate the distance between P and Q
6. Given that $\cos \theta=-0.8070$, find $\theta$ for $0 \leq \theta \leq 720$
(3mk)
7.A piece of wire 40 cm is bent to form a right-angled triangle whose hypotenuse is 17 cm long. Find the lengths of the other two sides of the triangle
8. Solve for x in $\log 5-2+\log (2 \mathrm{x}+10)=\log (\mathrm{x}-4)$
9. Solve the quadratic equation by completing of squares giving your answer to 3 sf

$$
11 x^{2}-13 x+3=0
$$

10. Rationalize the denominator and simplify

$$
\begin{aligned}
& 4 \sqrt{ } 5+3 \sqrt{ } 2 \\
& 2 \sqrt{ } 2-\sqrt{ } 5
\end{aligned}
$$

11.Use a calculator to work out
a) (1mk)
b)
12. A tourist from Kenya left for Ethiopia. He exchanged sh 9898 into Ethiopian Birr at the rate of 1 Eth.Birr=ksh7.95. He spent $3 / 4$ of the money he got and converted the balance back to Kenyan money at the rate of 1Eth.Birr=ksh7.98 Calculate what he finally got to $2 \mathrm{dp} \quad(3 \mathrm{mk})$
13. Simplify the expression

$$
\begin{gathered}
9 \mathrm{t}^{2}-25 \mathrm{a}^{2} \\
6 \mathrm{t}^{2}+19 \mathrm{at}+15 \mathrm{a}^{2}
\end{gathered}
$$

14. Three types of tea costing sh203,sh146 and sh197 per kg are blended in the ratio of $2: 5: \mathrm{k}$. Find the value of k,if the blend when sold at sh221 per kg gives $30 \%$ profit
15. A two digit number is such that 4 times the units digit exceeds the tens digit by1. If the digits are reversed, the number formed is decreased by 45 . Find the number.
16. A triangular field has dimensions 21 m by 52 m by 47 m .
a) calculate the area of the field to the nearest $\mathrm{m}^{2}$.
(2mk)
b)calculate the length of a straight ditch dug from the largest angle meeting the opposite side at right angles.
(1mk)

## SECTION 2

Answer any 5 questions in this section
17. A bookseller bought a number of cartons of books at a cost of ksh 57600 from Kagumo bookstore. Had he bought the same books from Kerugoya bookstore, it would have cost him ksh 480 less per carton. This would have enabled him to buy 4 extra cartons of books for the same amount of money. By taking $x$ to be the number of cartons of books he actually bought;
a) write an expression in $x$
i) for the cost of each carton he bought at Kagumo bookstore
ii)for the cost of each carton had he bought from Kerugoya bookstore
b)find the value of $x$
c)the bookseller later sold all the books he had bought each carton at ksh 720 more than he had paid for it. Determine the percentage profit he made
18. A cylindrical metal bar of diameter 14 cm and length 2 m is melted and moulded into spherical balls. In the process, $5 \%$ by volume of metal is lost and what remains makes balls of radius 3.5 cm . a)calculate the volume of metal used to make the balls.
b)find to the nearest whole number the number of balls made
c)find the total surface area of the metal bar
b)use your graph to solve
i) $2 x^{2}-5 x+3=0$
ii) $2 x^{2}=3 x+2$
(3mk)
b)Plot $\mathrm{A}^{\prime} \mathrm{B}^{\prime} \mathrm{C}^{\prime}$ the image of ABC under an enlargement scale factor 2 centre A and write down it's coordinates
c)Plot $\mathrm{A}^{\prime \prime} \mathrm{B}^{\prime \prime} \mathrm{C}^{\prime \prime}$ the image of $\mathrm{A}^{\prime} \mathrm{B}^{\prime} \mathrm{C}^{\prime}$ under a reflection in the line $\mathrm{x}+\mathrm{y}=0$ and write down it's coordinates (3mk)
d) $\mathrm{A}^{\prime \prime} \mathrm{B}^{\prime \prime} \mathrm{C}^{\prime \prime}$ is then reflected in the line $\mathrm{y}=0$ to give $\mathrm{A}^{\prime \prime \prime} \mathrm{B}^{\prime \prime \prime} \mathrm{C}^{\prime \prime \prime}$. Give the coordinates of $\mathrm{A}^{\prime \prime \prime} \mathrm{B}^{\prime \prime \prime} \mathrm{C}^{\prime \prime \prime}$ (2mk)
e)Describe fully a rotation that maps $\mathrm{A}^{\prime \prime \prime} \mathrm{B}^{\prime \prime \prime} \mathrm{C}^{\prime \prime \prime}$ onto $\mathrm{A}^{\prime} \mathrm{B}^{\prime} \mathrm{C}^{\prime}$

21Three businessladies Wanjiku, Muthoni and Njoki decided to buy a lorry. The .marked price of the lorry was 2.8 million shillings. The dealer agreed that the ladies could pay a deposit of $60 \%$ of the marked price and the rest to be paid within a year.The ladies raised the deposit in the ratio of 3:2:5 respectively. At the end of the year the lorry had realized 2.08 million shillings which the three shared in the ratio of their contribution. However, they were required to contribute for the balance of the lorry from these earnings again in the ratio of their original contributions.
a)calculate amount to be paid as deposit
b)how much did each contribute to pay for the deposit?
d)calculate the total amount Muthoni and Njoki contributed to pay for the balance.
(3mk)
e)how much money did Wanjiku remain with after paying her share of the balance?
(2mk)
22.a)Make a table and draw the graph of $y=\sin x-\cos x$ for $x$ in the range 0 , with $y$ values to $2 d p$ and $x$ intervals of 30 ( 6 mk )
b) use the graph to find the value of $y$ when
i) $x=75$
ii) $x=255$
(1mk)
23.The figure below is a segment of a circle centre O radius r units. CM is the perpendicular bisector of AB . B

C

Given that $\mathrm{CM}=1 \mathrm{~cm}$ and $\mathrm{AB}=2 \mathrm{~cm}$,
a)calculate the radius of the circle centry O from which the segment was cut
b)calculate the angle that chord AB subtends at the centre of the circle
(2mk)
c)hence calculate
i)the length of arc ACB
24.A rectangular sheet of metal which measures 120 cm by 0.8 m is 1.5 mm thick and is made of material whose density is $2.2 \mathrm{~g} / \mathrm{cm}^{3}$. From each of the four corners of the rectangle, a square of side 10 cm is cut off and the remaining part folded to form an open cuboid.
a)calculate
i) the capacity of the cuboid in $\mathrm{cm}^{3}$ to the nearest whole number
ii)the mass of the empty cuboid in kg to the nearest whole number
(3mk)
b)the cuboid is filled with a liquid whose density is $0.75 \mathrm{~g} / \mathrm{cm}^{3}$. Calculate the mass in kg of the cuboid when full of the liquid

# HAPPY HOLIDAY STAY SAFE 

