FORM 3 END OF TERM II

HOLIDAY HOMEWORK

KENYA EDUCATORS CONSULTANCY ASSESMENTS

A Compilation of Assessment & Revision Questions Covering the syllabus upto the End of term 2 as per the curriculum design

ALL SUBJECTS TESTED

All the learners should attempt the questions at the back of their exercise books and revise the questions by the use of the marking schemes provided during the August 2023 Holidays!

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AGRICULTURE FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1) (Questions)

SECTION A: 30 MARKS

ANSWER *ALL* QUESTIONS IN THIS SECTION.

1. State **four** characteristics of extensive farming systems. (2 marks)

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   _____

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2. Give **four** reasons why burning of land as a method of land preparation is discouraged. (2 marks)

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3. State **four** physical factors in soil formation. (2 marks)

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4. Give the meaning of the following terms as used in crop production.
   a. Crop rotation (3 marks)

      _____

      _____

   b. Pruning

      _____

      _____

   c. Rogueing

      _____

      _____

5. State **four** factors that determine the depth of planting. (2 marks)

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6. Name **one** crop that is propagated by each of the following.
   a. Stem tuber (½ mark)

      _____

   b. Split (½ mark)

      _____

   c. Slip (½ mark)

      _____

   d. Bulbil (½ mark)

      _____

7. Name **four** light breeds of chicken in poultry rearing. (2 marks)

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8. State **four** harmful affects ticks on livestock. (2 marks)

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9. Differentiate between cropping and harvesting in fish farming. (2 marks)

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10. List **three** maintenance practices carried out on a fish pond. (1 ½ marks)

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11. State **three** functions of vitamins in an animal's body. (1 ½ marks)

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12. Give **four** reasons why farmers invest in Agriculture. (2 marks)

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13. Distinguish between the following pair of terms as used in crop production.
    a. Seed dressing and seed inoculation. (1 mark)

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_____
_____
_____

    b. Under sowing and over sowing. (1 mark)

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14. State **four** factors considered while sitting an apiary. (2 marks)

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15. Give **two** reasons for each of the following.
    a. Nitrogenous fertilisers should not be used during planting. (1 mark)

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b. Too much nitrogenous fertilisers should not be applied when growing tomatoes. (1 mark)

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SECTION B: (20 MARKS)

ANSWER ALL **QUESTIONS FROM THIS SECTION.**

16. The diagram below shows a farm record. Use it to answer questions that follow.

Daily feeding record for the month of ……..

Enterprise …….

Type of feed……..

Date	No of animals	Amount received (kg)	Amount used	Balance in stock	Remarks

a. Identify the type of farm record above. (1 mark)

_____

_____

b. On 16th June 2021, Kocho farm received 120kgs of Layers mash. 40kg of the feed was given to 20 layers on the same day. Use this information to fill in the above table. (3 marks)

c. Name any other type of farm records. (1 mark)

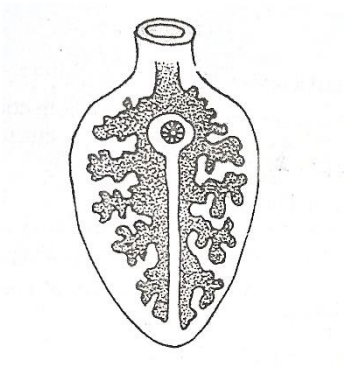
_____

_____

_____

17. A poultry farmer has maize containing 8% DCP and Soya beans containing 43% DCP. If the farmer wants to make 100kg of a feed, using the Pearson's square method, calculate the proportions in which the two ingredients would have to be mixed to make a feedstuff containing 15% DCP. (show your working) (5 marks)

18. Below is an illustration of an internal parasite in livestock. Study it and use it to answer questions that follow.



a. Identify the parasite. (1 mark)

_____

_____

b. Name **one** intermediate host and one final host for the parasite above (2 marks)

Intermediate host

_____

Final host

_____

c. Outline **two** control measures for the above parasite. (2 mark)

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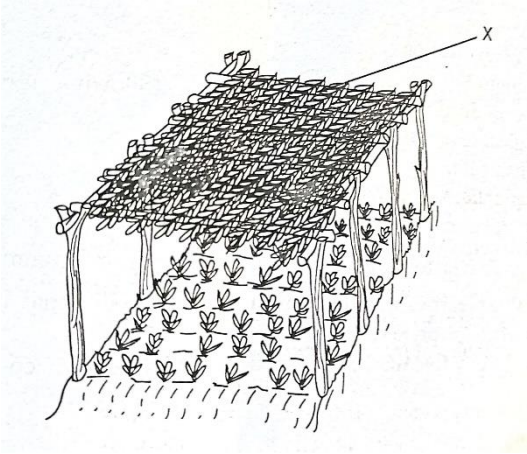
19. The following is an illustration of a structure used in crop propagation. Study it and use it to answer questions that follow.



a. Identify the structure. (1 mark)

_____

_____

b. What is the function of part labelled X on the above structure. (1 mark)

_____

_____

c. Why is it recommended to remove part labelled X one week before transplanting. (1 mark)

_____

_____

d. State **two** advantages of using the structure illustrated above. (2 marks)

_____

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_____

SECTION C: 40 MARKS.

ANSWER ANY TWO QUESTIONS FROM THIS SECTION.

20.

a. Outline precautions that should be taken into account when using workshop tools. (6 marks)

b. Discuss **six** reasons for carrying out minimum tillage. (6 marks)

c. Explain **four** ways in which soil losses fertility. (8 marks)

21.

a. Describe **seven** field management practices in tomato production. (7 marks)

b. Outline **five** factors that determine water requirements in an animal's body. (5 marks)
c. Describe the transplanting of tree seedlings. (8 marks)

22.

a. Outline **six** reasons why bees swarm beehive. (6 marks)
b. Explain **six** signs that will indicate a sow is on heat. (6 marks)
c. Discuss **eight** factors considered when selecting a breeding stock. (8 marks)

BIOLOGY FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1) (Questions)

SECTION A 40 MARKS

1. (i) What biological knowledge or study is required in dealing with locusts that infest a maize crop. (1 mark)

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(ii) State the functions of the following cell structures. (2 marks)

(a) Sap vacuole.

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(b) Nucleolus.

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2. Which **two** classes of phylum arthropoda that have their head fused with the thorax? (2 marks)

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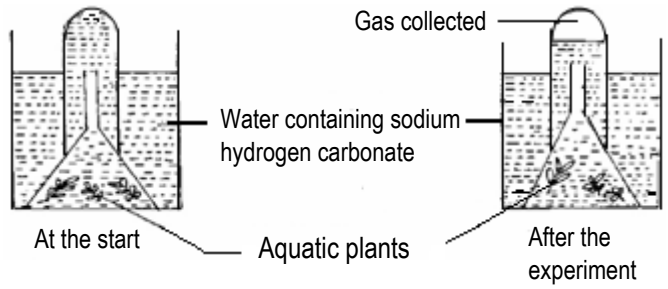
3. The set up shows an experiment to investigate photosynthesis.



(a) What gas was collected in the test tube? (1 mark)

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(b) What was the role of sodium hydrogen carbonate in the experiment? (2 marks)

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4. State **three** adaptations of the phloem tissue. (3 marks)

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5. Name **three** properties of the cell membrane. (3 marks)

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6. Name **two** enzymes and **one** metal ion that are needed in the blood clotting process.(3 marks)

   Enzymes.

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   Metal ion

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7. Study the diagrams below carefully and use them to answer questions that follow

(i) To which phylum does organisms x,y and z belong to. (1 mark)

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(ii) Name the classes to which X, Y and Z belongs to. (3 marks)

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(iii) Give two important economic roles of specimen Y. (2 marks)

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(iv) Give two harmful effects of specimen X to animals. (2 marks)

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8. What happens when respiration exceeds photosynthesis in the guard cells of terrestrial plants? (3 marks)

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9. State three features that a grasshopper, a crab, a spider and a millipede have in common.

(3 mark)

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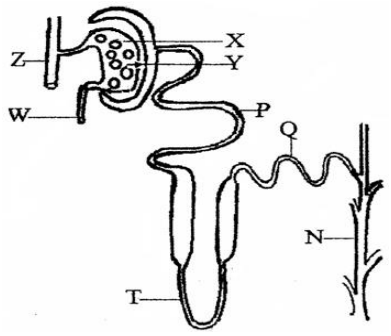
10. The figure shown below represents a kidney nephron. Use it to answer the questions that follow.



(a) (i) What structural difference exist between **W** and **Z**? (1 mark)

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(ii) State the significance of the difference stated in (a) (ii) above. (1 mark)

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(b) State **three** adaptations that enable **P** to perform its function. (3 marks)

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11. $5C_{51}H_{98}0_6 + 145\ O_2 \longrightarrow$ Energy + $102\ CO_2 + 98\ H_2O$

The above equation shows an oxidation reaction of food substances.

a) What do you understand by the term respiratory quotient?

(1 mark)

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b) Determine respiratory quotient of the oxidation of food substances. (2 marks)

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c) Identify the food substances. (1 mark)

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SECTION B:(40 MARKS)

ANSWER QUESTION **12 (COMPULSORY)** AND **EITHER** QUESTION **13** OR **14** IN THE SPACES PROVIDED AFTER QUESTION **14**.

12. An experiment was carried out in which red blood cells were put in salt solutions of different concentrations. The table below shows the percentage of cells which were destroyed by haemolysis in different salt concentration.

Salt concentration (g/dm^3)	% of RBC destroyed By haemolysis
0	100
1	100
2	100
2.5	100
3.0	100
3.5	96
3.7	80
4.0	60
4.5	16
4.7	0
5.0	0
6.0	0

(a) Draw a graph of percentage of red blood cells haemolysed against salt concentration. (6 marks)

(b) Explain haemolysis of red blood cells. (3 marks)

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(c) From the graph, state:

(i) the salt concentration at which 50% red blood cells were haemolysed. (1 mark)

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(ii) the highest salt concentration when the largest number of red blood cells were haemolysed. (1 mark)

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(d) (i) Suggest the normal salt concentration in the blood of the mammal from which the red blood cells were obtained. (2 marks)

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

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(iii)What term is used to describe the solution with equal solute concentration as that of the cells? (1 mark)

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…

(e) Name the process in the human body that ensures that haemolysis of red blood cells is prevented. (1 mark)

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(f) State the role of osmosis in organisms. (4 marks)

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13. Explain the adaptation of the small intestine to their functions. (20marks)

14. Describe the

(i) Process of inhalation in mammals (10 marks)

(ii) Mechanism of opening and closing of stomata (10 marks)

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BUSINESS STUDIES FORM 3
HOLIDAY ASSIGNMENT BOOKLET
(Volume 1)(Questions)

SECTION A: *answer all question in this section*

1. State whether each of the following activities would satisfy basic or secondary wants.

(4 marks)

	Activities	Basic	Secondary
(a)	Buying clothes for the family.		
(b)	Transporting milk.		
(c)	Providing food for school children.		
(d)	Entertaining the President.		

2. Outline **four** reasons why a new business may fail. (4 marks)

(a) _____
__

(b) _____
__

(c) _____
__

(d) _____
__

3. Outline **four** advantages a consumer enjoys when he/she buys directly from a manufacturer. (4 marks)

(a) _____
__

(b) _____
__

(c) _____

(d) _____

4. Highlight **four** reasons for the continued existence of small scale businesses in an economy.

(4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

_____

5. Boda boda/motorcycles have become popular in Kenya today. Outline **four** demerits of this mode of transport. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

6. Highlight **four** circumstances under which deferred payment is acceptable to a trader.

(4 marks)

(a) _____
__

(b) _____
__

(c) _____
__

(d) _____
__

7. Outline *four* principles of cooperatives.

(a) _____
__

(b) _____
__

(c) _____
__

(d) _____
__

8. State the best type of machine one would use to perform the following tasks.(4 marks)

Function	Type of machine
a)To trim papers to the required sizes.	
b)To fold documents, put them in envelopes and seal team.	
c)To make exact copies of a certain original document.	
d)To arrange papers in a required order.	

9. Outline **four** factors that may cause the supply curve to shift to the left. (4 marks)

(a) _____
__

(b) _____
__

(c) _____
__

(d) _____
__

10. Outline **four** circumstances for dissolution of a partnership. (4marks)

(a) _____

(b) _____
__

(c) _____
__

(d) _____
__

11. Outline four disadvantages of using television in advertising organization's products.

(4 marks)

(a) _____
__

(b) _____
__

(c) _____
__

(d) _____
__

12. State **four** ways in which, the government of Kenya may reduce the level of unemployment. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

13. State four roles of the Nairobi stock Exchange market (4marks)

a) _____

b) _____

c) _____

d) _____

14. Identify each of the terms given to the following statements as used in insurance. (4marks)

a) Temporary certificate…….

b) Periodic payment by policy holders…….

c) Acquiring rights of the remains of destroying property by the insurer…….

d) Life insurance lasting for a specific period……

15. State **four** factors that influence demand of a product in the market (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

16. Outline **four** circumstances under which insurance companies in Kenya may reinsure. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

17. Highlight four advantages of a bonded warehouse to the government. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

18. State **four** ways in which the utility of a commodity can be increased. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

19. Identify **four** benefits that may accrue from political stability in a country. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

20. List **four** ways in which the government creates an enabling business environment. (4 marks)

(a) _____

(b) _____

(c) _____

(d) _____

Section B ***Answer any two questions in this section***

21. Explain FIVE features of an oligopoly market structure. (10 marks)

22. Explain **five** external factors that may influence the operations of a business negatively.

(10marks)

23. Describe five functions of an office in a business organization (10 marks)

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CHEMISTRY FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

1. An element K has atomic number 20 while element M has atomic number 8.

   a) Write the electronic configuration for K and M

   K

   ……

   ….……($^1/_2$)

   M

   ……

   ……......($^1/_2$)

   b) Write the symbol of the most stable ion of K and M

   K

   ……

   ……($^1/_2$).

   M

   ……

   ……..($^1/_2$)

2. Molten Lead(II) bromide is electrolyzed using carbon electrodes. Write the half cell equation of the reactions that occur at the anode and the cathode.

a) Anode

……..……

(**1mrk)**

b) Cathode

……...…….……

(**1mrk)**

4.

ThreemetaloxidesXO,YO,andZOareheatedwithpowderedmetalY.HotpowderedYwillremove oxygenfromXObutnotfromZO.Arrangethemetalsinorderofreactivity,startingwiththemostreactive.**1mark**

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5.The table below shows the relative atomic masses and the percentage abundance of the isotopes T_1 and $T_2$of element T.

	RAM	% abundance
T_1	62.93	69.09
T_2	64.93	30.91

Calculate the relative atomic mass of element T [3mks]

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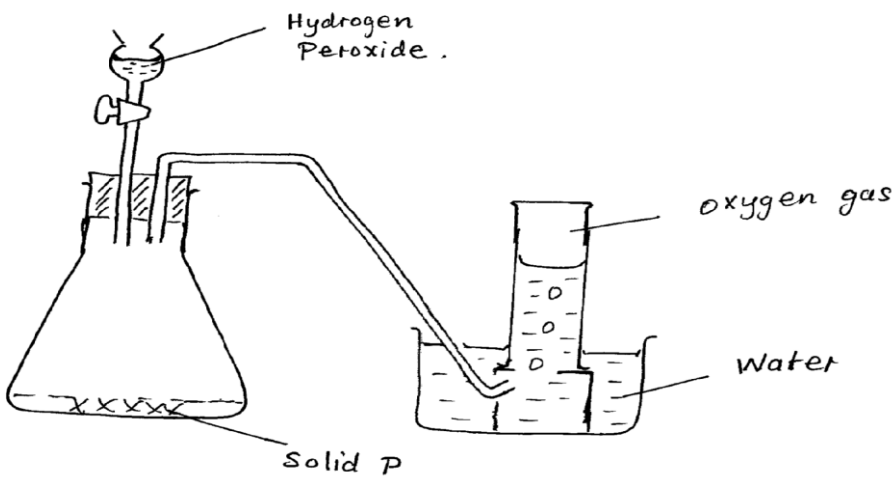
6. The diagram below is a set-up for the laboratory preparation of oxygen gas.



a. Name solid

P……

..……[1 mk]

b. Write a chemical equation for the reaction that takes place in the conical flask

……

…..…[1 mk]

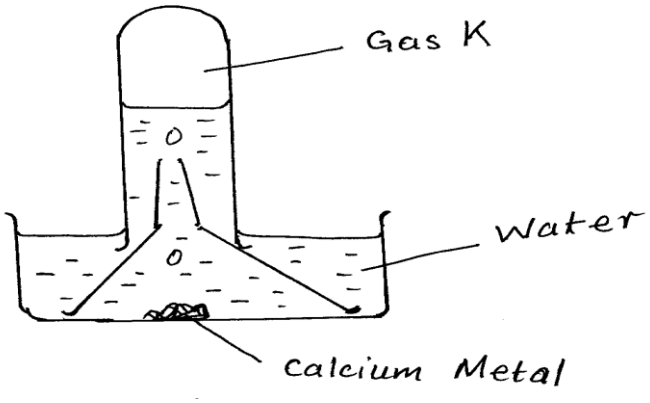
c. Give two commercial uses of oxygen [1 mk]

i. ……

……..……

……..….

7. The figure shows a set-up by a form three student to prepare a certain gas



a) Write a chemical equation for the formation of gas K [1 mk]

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…..……

b) Give one use of gas K in the industries [1 mk]

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…..……

……

c) Give one use of the resulting solution after the metal has reacted (1 mk)

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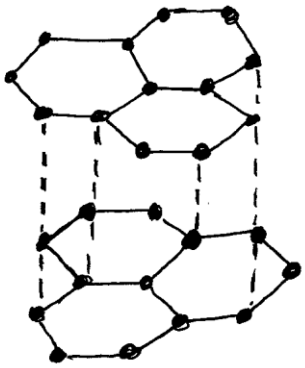
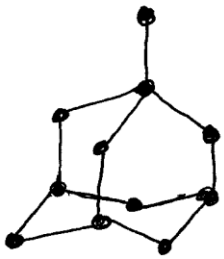
8. The diagram shows the structures of two allotropes of carbon. Study them and answer the questions that follow.



A



B

d. Name allotrope A and B [2 mks]

A……..

B……

e. Give two uses of allotrope B [2 mks]

i. ……

ii. ……

f. Which allotrope conducts electricity? Explain. [2 mks]

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9. State two differences between permanent and temporary changes (2 marks).

Permanent.	Temporary.

10. The table below gives some properties of substances I, J and K. Study it and answer the questions that follow.

Substance.	Melting point (^0C)	Solubility in Water.	Electrical Conductivity in:	
			Solid state.	Molten state.
I	1063	Insoluble	Conducts.	Conducts.
J	113	Insoluble	Doesn't	Doesn't
K	402	Sparingly soluble.	Doesn't	Conducts and it is decomposed.

(a) Suggest the type of structure in:

I .....(1 mark).

K ……(1 mark).

(b) Explain why molten K is decomposed by current but I is not decomposed.

(1 mark).

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11. Solution R, S and T have pH values shown in the table below.

Solution	Ph
R	1.0
S	6.5
T	8.0

(a)What do you deduce about the nature of solution R? (1mark).

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……..

(b)Identify two solutions thatt will react to form a neutral solution.(1mark).

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

							E
A	B		C			D	
	G		I			H	
F							

a) (i)Write down the electronic configuration of element E. (1mk)

……

(ii) Ion formed by element H.

……..(1mk)

(iii)Formula of compound formed when G combines with D.

……. (1mk)

b) Identify the type of bond formed in a(iii)above? Give a reason.(2mks)

……

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……....

c) Explain the differences in the melting points of A and B. (2mks)

……

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……..

d) Compare the reactivity of element D andH. (2mks)

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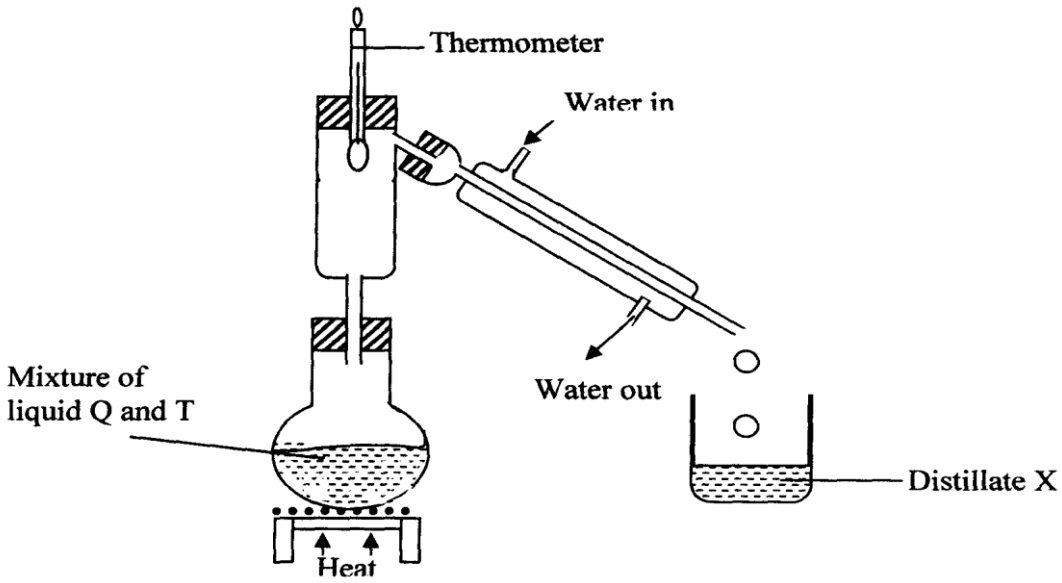
13.The set up below was used to separate two miscibleliquids

QandT (Bolingpoints;Q=98°C,T=78°C)



(a)Identify the mistakes in the setup above(2mks)

……

……

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(b)Identify Distillate X (1mk)

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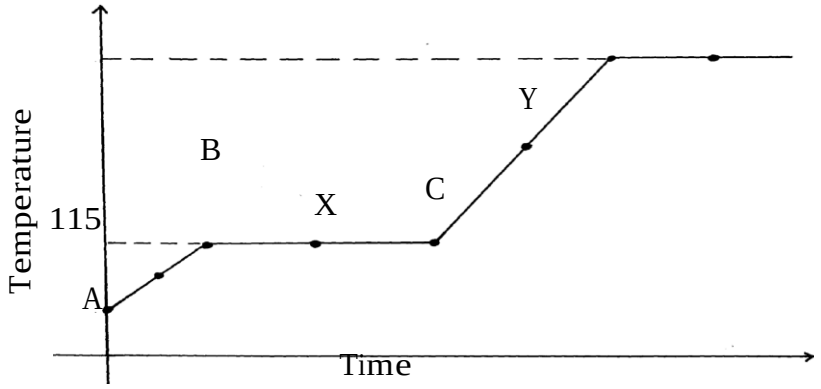
14.The diagram below show the heating curve of a substance .Study it and answer the questions that follow:

444 D Z



(a)What is the melting and boiling point of the substance?(1mk)

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……

(b)Explain what happens to the melting point when sodium chloride is added to this substance. (2mks)

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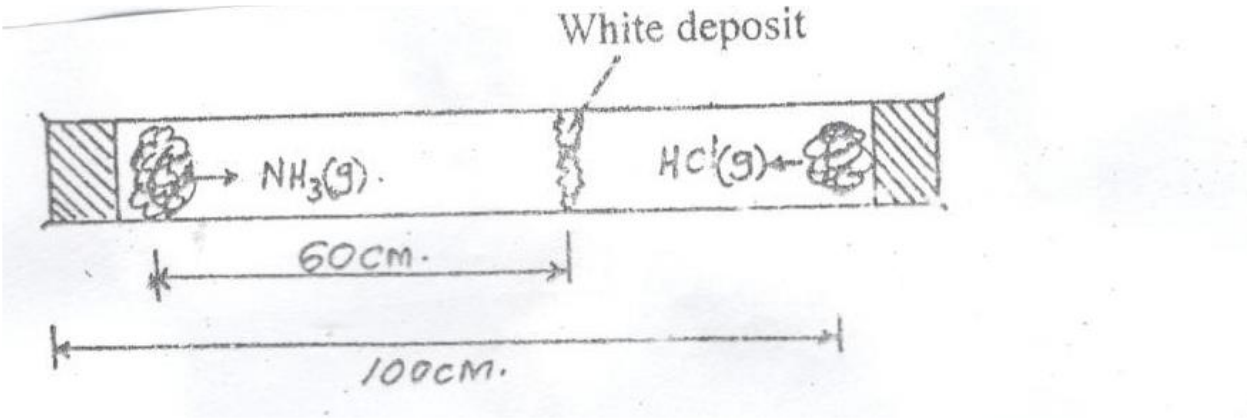
15. Two pieces of cotton wool were separately soaked in concentrated Ammonia and Hydrochloric acid solution respectively. Then, were simultaneously placed at the end of an open-ended tube.



a) Name the white deposit. (1 mark).

……

b) Workout the relative rates at which Ammonia (NH_3) and Hydrogen chloride (HCl) gas diffuse.

(N=14, H=1 ,Cl=35.5) (2mark).

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……..…

c) Name the gas law that explains the difference in the rate of diffusion. (1 mark)

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16. a)What is allotropy? (1mk)

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……....

b)A burning magnesium continues to burn inside agas jar full of carbon(IV)oxide.Explain.

(2mks)

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17. Calculate the number of moles present in:

a)12g of sulphur (S=32) (2mks)

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b) 9.8g of sulphuric acid (S=32,O=16,H=1) (2mks)

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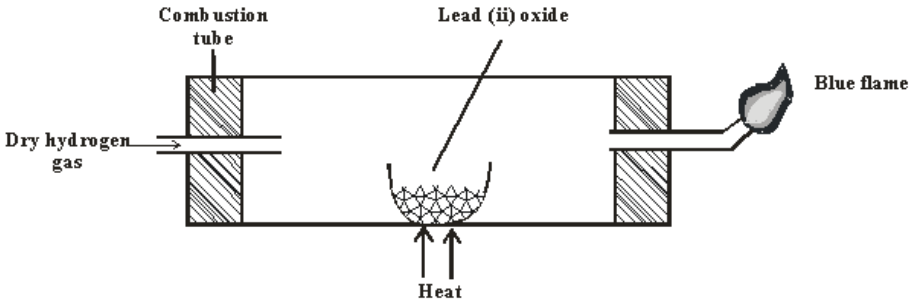
18. When dry hydrogen gas passed over heated Lead (II)oxide in combustion tube, agrey solid was formed.



a) Identify the grey solid. (1mk)

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b) Write the equation of the reaction taking place in the combustion tube. (1mk)

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c) W r i t e the equation involving the blue flame. (2mks)

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19. a) State Charles' law (1mk)

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b) The volume of a sample of nitrogen gas at temperature of 298kand 600mmHgpressure was0.048m^3,

calculate the temperature at which the volume of the gas wouldbe0.032m^3 if pressure remains the same. (2mks)

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20. Some sodium chloride was found to be contaminated with copper(II)oxide. Describe how asample of sodium chloride can be separated from the mixture. (**2marks**

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……

21. Laboratory results showed the composition of acompound to be 58.81% barium,13.72%,sulphur and 27.47% Oxygen. Calculate the empirical formula of the compound. Ba=137, S= 32,O= 16. (2mks)

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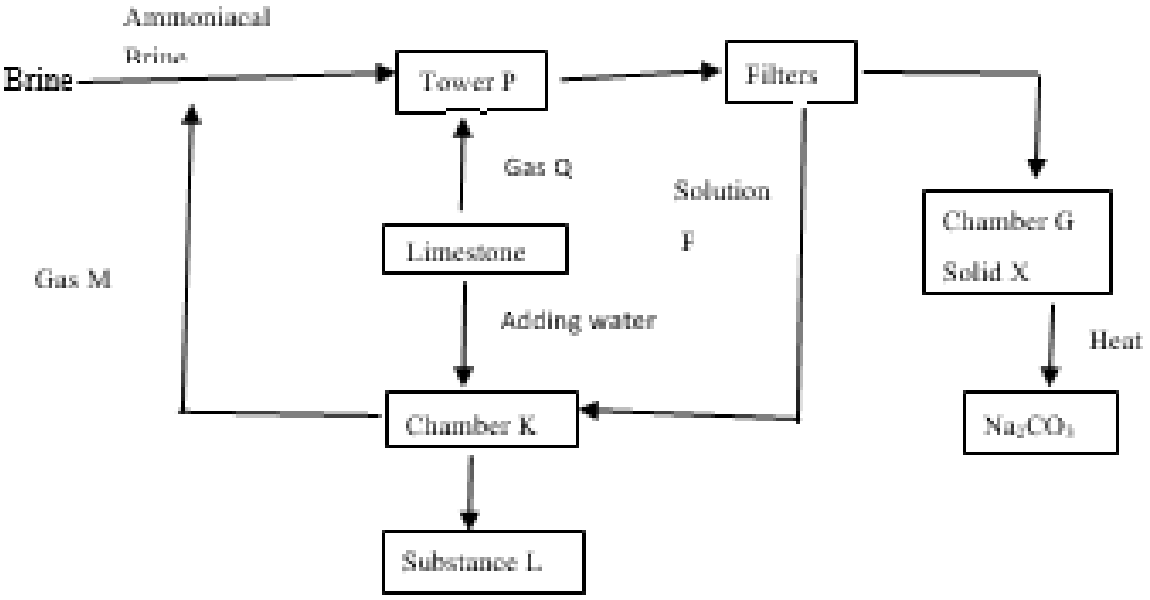
22. The flow chart below shows industrial manufacture of sodium carbonate by Solvay process. Study it and answer the questions that follow.



i) Name

I. Gas Q…… (½mark) II.

Gas M…… (½mark) III.

Solution F……..…… (½mark)

IV. Substance L…… (½mark)

ii) Write a chemical equation for the reaction that occurred; (1mark)

I. Chamber K

……

……..……

II. Heating solid X (1mark)

……

iii) Give two use of sodium carbonate. (2mks)

……

……....

23. 20cm^{3}of Hydrochloric acid requires 25cm^3 of 0.2M Sodium hydroxide.

(i) Calculate the moles of Sodium hydroxide solution in the reaction. (2mks)

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(ii) Calculate the Molarity of Hydrochloric acid. (2mks)

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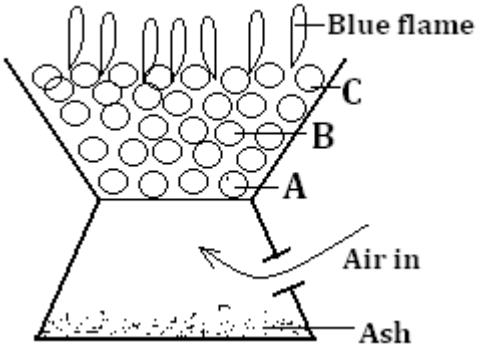
24. The diagram below represents a burning jiko.



a) Write down the equation for the reactions taking place at; (2marks)

B

……

……

C

……

……

b) Why is it dangerous to use a jiko in a closed room? (1mark)

……

……....

25. Draw and name the apparatus that can be used to separate a mixture of water and kerosene. (2mks)

26. Describe how you can prepare a dry sample of lead (II) sulphate using the following reagents. (2mks)

- Dilute nitric(v)acid
- Solid lead(II)oxide
- Solid sodium sulphate

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COMPUTER STUDIES FORM 3
HOLIDAY ASSIGNMENT BOOKLET
(Volume 1)(Questions)

1. Classify computers according to functionality. (6 Marks)

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.....

2. a) State four data types used in MS Excel. (4 Marks)

i. .....
ii. .....
iii. .....
iv. .....

b) State any five examples of spreadsheet software. (5 Marks)

i. .....
ii. .....
iii. .....
iv. .....
v. .....

3. Outline two functions of a UPS. (2 Marks)

i. .....
.....
ii. .....
.....

4. Explain the functions of the following keyboard keys. (6 Marks)

a) Caps lock key

……

……

b) Enter key

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c) Tab key

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……

5. State three application areas of spreadsheet software . (3 Marks)

i. ……

ii. ……

iii. ……

6. Give any five rules to be observed so as to avoid accidental loss of data or information held in storage media. (5 Marks)

i. ……

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ii. ……

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iii. ……

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iv. ……

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v. ……

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7. a) What is **line spacing** as used in Microsoft Word? (2 Marks)

……

……

.

b) State any three line spacing specifications used in Microsoft Word. (3 Marks)

i. ……
ii. ……
iii. ……

8. (a) What are computer scanning devices? (2 marks)

……
……

(b) Name the type of scanner used:

(i) To capture prices of goods at points of sale terminals in supermarkets and superstores. (1 Mark)

……

(ii) To grade multiple choice examination. (1 Mark)

……

9. Explain the following terms as used in word processing:

i) Formatting (2 Marks)

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ii) Thesaurus (2 Marks)

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iii) Mail merging (2 Marks)

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10. (a) What is a Drive? (2 Marks)

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(b) State any two types of computer drives (2 Marks)

i. ……
ii. ……

11. State any three sources of images in word processors. (3 Marks)

i. ……
ii. ……
iii. ……

12. Explain what happens when the following keyboard keys are pressed when using word processors: (4 Marks)

i) CTRL + B ……..

ii) CTRL +A ……

iii) CTRL + V ……..

iv) CTRL+ U ……

13. Why is it necessary to specify the correct paper size before printing? (2 Marks)

……

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14. Name three special purpose memories found either inside or outside the microprocessor. (3 Marks)

i. ……
ii. ……
iii. ……

15. (a) One of the functions of an operating system is job scheduling. Explain what is meant by Job scheduling. (2mks)

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(b) Explain three types of user interfaces. (6mks)

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16. (c) Describe the following categories of software. (4mks)

(i) Firmware.

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(ii) Proprietary software.

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……

17 State four factors to be considered when preparing a computer laboratory. (4 Marks)

i. ……

ii. ……
iii. ……
iv. ……

18. Study the spreadsheet below and answer the questions that follow:

a) Write a **function** in cell G2 to compute TOTAL score for Brenda. (4 Marks)

……

b) Write a **function** in cell H2 to compute MEAN score for Brenda. (4 Marks)

……

	A	B	C	D	E	F	G	H	I
1	**NAME**	**ENG**	**KIS**	**MATH**	**BIO**	**COMP**	**TOTAL**	**AVERAGE**	**GRADE**
2	Brenda	88	90	95	68	70			
3	Margaret	65	78	70	65	90			
4	Paul	86	82	80	95	75			
5	Ryan	75	70	80	88	85			
6	Lee	80	90	92	85	90			

19. Outline any five characteristics of the First Generation Computers: (5 mks)

i. ……
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ii. ……
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iii. ……
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iv. ……
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v. ……
……

20. For each of the following devices, state three examples. (9 mks)

a) Pointing devices

i. ……
ii. ……
iii. ……

b) Softcopy output devices

i. ……
ii. ……
iii. ……

c) Optical scanning devices

i. ……
ii. ……
iii. ……

- END -

CHRISTIAN RELIGIOUS EDUCATION FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

1. a) List down six of the Pauline letters (6mks)

   b) Identify eight activities performed by God in the second account of creation Gen 2:4-25 (8mks)
   c) How has man failed to take up their responsibility as outlined in the Biblical creation accounts? (6mks)

2. a) Discuss ways in which God rewarded Abraham's faith (7mks)

   b) What conditions did God expect the Israelites to fulfill during the renewal of the] covenant? (8mks)
   c) State five ways in which Christians show their commitments to God today (5mks)

3. a) State the factors which led to schism after the death of Solomon. (7mks)
   b) Outline the forms of punishment prophesied to Ahab and queen jezebel (8mks)

   c) Why are church leaders rejected today? (5mks)

4. a) Mention seven ways in which the old testament prophets communicated their messages (7mks)

   b) What message of hope does prophet Amos give to Israel if they turned back to God?

   (7mks)
   c) State six ways in which modern Christian may invite Gods punishment on them (6mks)

5. a) Identify Seven factors that promote harmony and social responsibility in traditional African Communitie(7 MS)

   b) Mention Seven factors that influence the naming of children in African Traditional Society (7MKS)

   c) Show how modern trends have affected burial rites in African Traditional Society. (6MKS)

6 a) Give reasons why sacrifices are made in traditional African Society (7mks)

b) Outline practices which show belief in life after death in traditional African society

(8mks)

c) What are the factors that have promoted changes on African community? (5mks)

ENGLISH FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

FUNCTIONAL WRITING –20 MARKS

You were invited to your cousin's wedding at **Amukura parish** but you can't travel from Nairobi due to lockdown because of covid-19. Write a suitable reply declining the invitation.

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CLOZE TEST – 10 MARKS

Fill the blank spaces in the passage below with the most appropriate word. 10 marks

Working from home due to the covid-19 pandemic has slowed **1**……..many activities more-so the education sector here in Kenya. Most sectors have been **2** .....…….. to embrace digitization. The shift to online classes in the institutions of higher learning was **3**.....…….. But it is not **4** .....for, especially, the older people as they don't have the **5**.....…to use digital gadgets such as smart phones and laptops **6**……..……..those who have them are frustrated by the emerging apps and software. **7** ……..….. have embraced digitization and are eager to learn. But the lecturers have problems. **8** .....….. have phones with poor cameras as they are alright with just calling and receiving texts. You'll find a lecturer asking if the students can **9** .....…….. him or her. They mute the mic unknowingly and can't mute **10**…….guided, which waste a lot of time.

ORAL SKILLS (30 MARKS)

Read the following narrative and answer the questions after:

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

the track."

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

"You?" exclaimed Hare astonished.

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

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

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

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

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

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

She was victorious!

"Eat my dust Bunny Boy!" said Tortoise

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

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

i) State two ways in which you can begin telling this story during a live performance.
(2marks)

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

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……..

ii) Explain how you would say the statement "You can eat your smart words for dinner,

too."(2 marks).

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

i) suite……

ii) Liar ……

iii) Quay ……

iv) Lessen……

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

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

ii) w**ea**pon, w**e**d, w**ee**d……..……..

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

d) Read the genre below and answer the questions that follow. (4 marks)

A flea and a fly flew up in a flue. Said the flea, "Let us fly!" Said the fly, "Let us flee."

So they flew through a flaw in the flue.

i) Identify the genre above. (1 mark)

.....

.....

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

.....

..

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

.....
.....
..... ……

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

i) Which school does Allan teach?.....……

ii) Did you buy the items?.....…….

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

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

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g) Read the dialogue below and answer the questions that follow. (5marks)

Tout: You woman! Give me the fare.

Passenger: I was the first one to give you the money please.

Tout: Do you think I am mad? I know what I am talking about. Give me the money.

Passenger: (shocked and trembling) Excuse me, has the fare to Nanyuki gone up? I gave you one hundred shillings and in fact I was expecting some balance.

Tout: You woman! I will throw you out of the vehicle if you don't give me the money. The fare is still fifty shillings.

Passenger: Then I ... (rudely interrupted by the tout)

Tout: Shut up. You want to teach me how to work.

i) Identify any two instances of politeness in the dialogue above. (2 marks)

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.....

ii) In what way above does the tout lack conversational etiquette
(3marks)

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iii)How would you say the first two statements by the tout politely? (2marks)

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POETRY – 20 MARKS

Read the poem below and then answer the questions that follow. (20 marks)

A TAXI DRIVER ON DEATH BED. *(By Timothy Wangusa)*

When with prophetic eye
I peer in to the future
I see that I shall perish upon this road
Driving men that I do not know
This metallic monster that I now dictate,
This docile elaborate horse,
That in silence seems to simmer and strain
Shall surely revolt some tempting day.
Thus you shall die: not that I care
For any man's journey Nor for proprietors gain
Not yet for the love of my own.
Not for these do I attempt the forbidden limits.

For those deft the traffic - man and the cold cell,

Risking everything for the little little more.

They shall say, I know, who pick up my bones

Poor chap, another victim to the ruthless machine"

concealing my blood under the metal.

Questions

a) What is the poem talking about? (2marks)

.....

.....

.....

b) What is the attitude of the persona toward his fate? (3 marks)

.....

.....

.....

c) With illustration identify the persona in the poem. (2 marks)

.....

.....

d) What is the irony in the poem? (3 marks)

....

.....

e) With illustrations identify and comment on any other two stylistic devices used in the poem(6 marks)

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f) Comment on the following line.

poor chap, another victim to the ruthless machine? (2 marks)

.....

.....

g) How will the persona‟s death come about? (1 marks)

.....

.....

h) Give the poem another title. (1 mark)

.....

...

GRAMMAR – 20 MARKS

a) Rewrite the following sentences according to the instructions given after each. Do not change the meaning. (3 marks)

(i) If we do not keep the environment clean, the health officer will close our school.

Begin :The health officer will not…….....

……

….

(ii) He is proud, but he must still obey the order: (Begin: proud……..)

…….....

.....

(iii) “Quality products are not an act of generosity but your right,” the supervisor informed the student. (Rewrite in reported speech)

…….....

.....

.....

b) **Use subordinating conjunctions to join the sentences (3 marks)**

(i) I have not seen Akiru. We moved from Simbachai.

…….....

.....

(ii) Amoni ate the food. He was too hungry.

…….....

…….

(iii) Omuse went home. It was raining.

…….....
.....

c) Fill in the blank spaces with appropriate question tags. (3 marks)

(i) You can't be serious about going home this late ……

(ii) Let us go away ……

(iii) There is nothing wrong ……

d) Complete each of the following sentences using the correct one word quantifier.(3 marks)

(i) If there is any tea in that flask, I would like to have .....…

(ii) Since animal proteins are very expensive … ….....…….. people eat them.

(iii) I don't need … … …….money because I'm going to bring my lunch to school.

e) Replace the underlined words with an appropriate gender-sensitive one. (3 marks)

(i) They took to **mothering** like a duck to water.

……

…….....

(ii) The country was drained of its **manpower** and wealth by war.

…….....
.....

(iii) The **air hostess** made sure the presidential suite was cleaned.

…

…….....
..

f) Add appropriate ending to the given words (5marks)

(i) Work hard to avoid(critic).....

(ii) The best (employ)..... will be awarded.

(iii) The industry needs good (leader).....

(iv) Whatever you do, (keen)..... is key.

(v) He became (fame) .....due to his generous work for the needy.

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GEOGRAPHY FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

SECTION A

1. a) What is geography? (1mk)

   b) Name **4** branches of geography. (4mks)

2. Give **5** reasons for studying geography. (5mks)

3. a) Define the term environment. (2mks)

   b) Name **2** types of environment. (2mks)

4. a) What is solar system. (2mks)

   b) Name 5 heavenly bodies found in solar system. (5mks)

5) Outline 3 theories explaining origin of the earth. (3mks)

SECTION B

6. Answer the questions below using the table drawn.

Month	Jan	Feb	March	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Temp	24	24	24	23	23	22	22	22	23	24	24	23
Rainfall (mm)	63	87	159	211	167	88	68	93	78	78	124	97

   a) Draw a combined line graph using the data in the table above. (10mks)
   b) Describe climatic characteristic of the graph. (6mks)
   c) Give 4 advantages of combined line and bar graph. (4mks)
   d) Apart from combined line and bar graph give other 5 methods used to represent statistical data. (5mks)

SECTION C

7. a) Describe dredging as a method of mining. (5mk)

   b) Describe how diamond is processed in South Africa. (6mks)

c) Explain 4 ways in which capital promotes development of mining. (8mks)

d) i. state 3 methods involved in mining of soda ash. (3mks)

ii) List 3 problems students are likely to encounter if they conduct a field study in the area above. (3mks)

8. a) Differentiate the terms weather and climate. (4mks)

b) State 5 characteristics of inter-tropical convergence zone. (5mks)

c) With the aid of a well labelled diagram describe how relief rainfall is formed. (10mks)

d) Outline 5 importance of weather forecasting. (5mks)

9. a) Draw a sketch map of Kenya and on it mark the following.

L. Turkana (1mk)

R. Athi (1mk)

Mt. Kenya (1mk)

Equator (1mk)

b) Describe climatic conditions experienced in Kenya highlands. (5mks)

c) Explain 4 ways in which vegetation in semi-arid condition adapts to the climatic conditions. (8mks)

d) Explain how oceans and lakes influence climatic condition of adjacent areas. (5mks)

10. a) Identify 2 agents of weathering. (2mks)

b) Explain 4 processes of chemical weathering. (8mks)

c) Differentiate mass wasting from weathering. (4mks)

d) Give 3 types of slow mass wasting. (3mks)

e) Give 4 causes of soil creep. (4mks)

f) Outline 4 importance of soils to human beings. (4mks)

HISTORY & GOVERNMENT FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

SECTION A (25 MARKS)

Answer all questions

1. Identify one type of artefact that is likely to be found in an archaeological site. (1mrk)

2. Name one source of information on creation theory. (1 mrk)

3. Give two reasons that led to the success of Agriculture in Mesopotamia. (1 mrk)

4. State the earliest inhabitants of Western Kenya . (2 mrks)

5. Give the name of the council of elders among the Agikuyu. (1 mrks)

6. Outline the effects of Oman Rule on the people of Kenyan coast. (2 mrks)

7. Give circumstances under which the right of movement can be limited in Kenya.

(2mrks)

8. Identify the effects of conflict in the society today. (1 mrks)

9. Give reasons why African slaves were more preferred than other races. (2mrks)

10. Define Human portrage as used under Development of transport. (1 mrk)

11. Name the earliest metal to be used by man in its natural state. (1mrk)

12. State the contribution of Charles Darwin in the field of Medicine. (1 mrk)

13. Give two functions of Bataka among the Baganda in the 19th Century. (2mrks)

14. State the main constitutional change that was done in the constitution of Kenya in 2008.

(1 mrk)

15. Give one aspect of Democracy. (1 mrk)

16. Outline the methods that were used by Europeans to acquire colonies in Africa (2 mrks)

17. State two terms of the Anglo-German agreement of 1886. (2 mrks)

SECTION B (45 MARKS)

Answer any three questions in this section

18.

a) Give five features of Homo Sapiens (5mrks)

b) Discus the culture of man during the middle Paleolithic. (10 mrks)

19.

a) State three disadvantages of open field system of farming in Britain (3 mrks)

b) Explain the changes that occurred during Agrarian Revolution in Britain.

(12mrks)

20.

a) Name three communities that participated in long distance trade. (3mrks)

b) Describe the effect of long distance trade on the people of Kenya. (12 mrks)

21.

a) Outline five causes of Maji Maji uprising (1905-1907). (5mrks)

b) Discus the economic impact of partition of Africa. (10 mrks)

SECTION C (30 MARKS)

Answer any two questions in this section

22.

a) Give five values of a good Citizen. (5 mrks)

b) Discus the economic responsibilities of a Kenyan Citizen. (10 mrks)

23

a) State five benefits that were enjoyed by Assimilated African in Senegal.(5mrks)

b) Explain reasons why the French assimilation policy failed. (10mrks)

24.

a) Give reasons why the Wanga collaborated with the British. (3 mrks)

b) Explain the reasons why the Nandi resisted the British for long. (12 mrks)

KISWAHILI FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

SEHEMU YA A – UFAHAMU (ALAMA 15)

Soma taarifa hii kisha ujibu maswali.

Licha ya kuwa na historia ya kiasi, maisha ya binadamu ni kioja kikubwa. Hebu jiulize jinsi uhai wako wewe mwenyewe ulivyoanza sembuse unavyoweza kupumua na kuishi siku nenda siku rudi.

Dini zimefahamisha kuwa sisi binadamu tumeumbwa na Mwenyezi Muumba. Hata hivyo muumba hutumia mume na mke kutuanzishia maisha yetu humu humu duniani. Uhai wa hapa duniani huanzia katika tumbo la mwanamke muda mfupi tu baada ya mume na mke kushirikiana katika tendo la kujamiana.katika ngono hii yenye ufanisi, mbegu moja ya manii kutoka kwa mwanamume, hudunga na kujiingiza katika yai la mwanamke huku ikilirutubisha. Tangu hapo mtu huwa na mama akawa mjamzito. Hatua ya kwanza ya uhai!

Wanasayansi wametuthibitishia kuwa mbegu katika shahawa kutoka kwa mwanamume ina kromosomu ishirini na tatu (23) nalo yai la mwanamke lina idadi iyo hiyo ya kromosomu. Basi katika hatua ya kwanza ya uhai wake, binadamu ana kromosomu arubaini na sita (46).

Kromosomu hizo zote ndizo humfanya mtu kuwa mkamilifu kwa kukadiria mambo mbalimbali adhimu. Kwa mfano, kukadiria kama kiumbe kitakuwa cha kike au cha kiume, mtu mweupe au mtu mweusi, mwerevu au wa wakia chache, mwenye nywele za singa au za kipilipili, atakuwa na damu ya namna gani, michoro ya vidole vyake itakuwa vipi na hata utu wake utakuwa wa namna gani katika siku za usoni.

Elimu yote anayopata mtu kutoka kwa jamii na mazingira huweza tu kujenga juu ya yaliyokwisha kuanzilishwa na kromosomu katika yai lililorutubishwa tumboni.

Haihalisi kabisa kufikiria kwamba huwa katika hali ya ukupe. La hasha! Yeye hujitegemea kwa vyovyote na ana upekee wake. Hatangamani na mama yake. Roho yake humdunda mwenyewe na damu yake ambayo huenda ikawa tofauti kabisa na ya mama yake, humtembea na kumpiga mishipani mwake. Isitoshe, yeye si mojawapo katika viungo vya mwili wa mama yake vinavyomdhibiti katika himaya yake ndogo.

Amini usiamini, hapana binadamu hata mmoja ambaye amewahi kuwa sawa kimaumbile na mwingine na wala atakuweko. Hata watoto pacha kutoka yai moja la mama hawawi sawa, lazima watofautiane. Si nadra kusikia mtu amepata ajali akahitaji msaada wa damu, na pakakosekana kabisa mtu hata mmoja kutoka jamaa yake wa kumwauni. Basi ukistaajabu ya Musa utaona ya Firauni.

Maswali

1. Ipe taarifa uliosoma anwani mwafaka. (al. 2)

   ---
2. Mwandishi ana maana gani anaposema 'ngono yenye ufanisi'? (al.1)

   ---
3. Uchunguzi wa sayansi umekita mizizi imani gani ya kidini? (al 2)

   ---
4. Taja majukumu yoyote matano yanayotekelezwa na kromosomu. (al.5)

---

5. Katika makala, elimu kutoka kwa jamii na mazingira yaelekea kuwa bure ghali. Kwa nini?
   (al.2)

---

6. Eleza maana ya maneno yafuatayo kama yalivyotumika katika makala (al. 3)
   a. Huwa katika hali ya ukupe

---

   b. Himaya

---

   c. Hatangamani na mama yake.

SEHEMU YA B: UFUPISHO (ALAMA 15)

Je, unajua kuwa ukandaji wa mwili umetumika kama njia mojawapo ya matibabu toka dahari? Watu wanaofahamika kutumia ukandaji kimatibabu toka jadi ni wahindi, wachina, wagiriki, warumi na waafrika.

ukandaji unajulikana kuwa na manufaamakubwa kimatibabu. Mathalani, ukandaji hufungua vitundu vya ngozi.ufunguzi huu huondoa sumu mwilini kupitia kwa utoaji jasho. Pili, ukandaji hupunguza mkazo wa misuli. Misuli ikiwa na mkazo zaidi kwa muda mrefu huleta urundikaji wa asidi. Ukandaji huondoa asidi hii, huufanya mwili kuwa mlegevu, humletea mtu uchangamfu na kuondoa uchovu.

Hali kadhalika ukandaji huimarisha mzunguko wa damu mwilini kwa wepesi. Hali hii huhakikisha kuwa virutubishi vya mwili huweza kufikia viungo vya mwili. Hili nalo huchangia kuzidisha uwezo wa mwili kujikinga na maradhi. Hewa safi ya oksijeni huweza pia kusambaa kote mwilini. Kupitia kwa uimarishaji wa mzunguko wa damu. Aidha, ukandaji wa taratibu na polepole hupunguza mkazo wa nera na kuziliwaza ukandaji wa kasi huchangamsha nera na kuimarisha utendaji kazi wake.

Ukandaji unaweza kufanyiwa kiungo chochote mwilini. Ukandaji huu huweza kuwa na matokeo mbalimbali mwilini.

Mathalan, ukandaji wa njia ya chakula mwilini, hasa tumbo na utumbo, huimarisha usagaji wa chakula na kuchangia uondaji wa uchafu wa sumu mwilini.

Kwa kawaida viganja vya mikono hutumika katika ukandaji. Viungo hivi vinapaswa kuwa na wororo. Wororo huu hupatikana kwa kutumia mafuta. Mafuta ambayo nibora zaidi kwa shughuli za ukandaji ni ya ufuta au simsim. Matumizi ya kitu chochote kama ungaunga kinachoweza kuziba vitundu vya ngozi hayapendekezwi.

Ukandaji wapaswa kutekelezwa kwa njia ifuatayo. Mtu aanzie mikono na miguu. Kisha aingie kukanda kifua, tumbo mgongo na makalio. Hatimaye, akande uso na kumaliza na kichwa. Mtu anaweza kutumia viganja vya mikono kukandia.Kwa njia hii, manufaa huwa marudufu. Kwanza, tunanufaika na ukandaji na wakati huo huo tutakuwa tukifanya mazoezi ya viungo. Wasioweza kujikanda wanaweza kuomba msaada. Ni muhimu ukandaji ufuatiwe na kuoga kwa maji vuguvugu.

Kwa walio na tatizo la shinikizo au mpumko wa damu wanaweza kubadilisha utaratibu wa ukandaji. Waanzie kichwani, kisha waelekee usoni, kifuani, tumboni, mgongoni , makalioni, miguuni na kuhitimisha mikononi.

Hata hivyo; ukandaji haupaswi kufanywa wakati mtu anaugua maradhi yoyote. Wanawake wajawazito nao wanatakiwa kuepuka ukandaji wa tumbo. Hali kadhalika, ukandaji wa tumbo hauruhusiwi wakati mtu anaendesha, ana vidonda vya tumbo au uvimbe tumboni. Hatimaye, ukandaji haupendekezwi iwapo ana maradhi ya ngozi.

MASWALI

a. ukandaji una manufaa gani ukirejelea aya tatu za kwanza. (maneno 65-70) (alama 7 mtiririko 2)

Matayarisho

Jibu

---

b. Eleza utaratibu wa ukandaji. (maneno 55-60) (alama 5 mtiririko 1)

Matayarisho

Jibu.

SEHEMU YA C. SARUFI (ALAMA 40)

1. Bainisha sifa inayotofautisha sauti / e / na / i / (al. 2)

   ---
2. a. Eleza maana ya kiambishi.
   (al. 1)

---

b. Onyesha majukumu ya viambishi katika neno walifika. (al. 2

3. a. Kirai ni nini? (al. 1)

---

b. Andika kwa wastani . (al.1)

Magoma haya yatachezwa wanjani

---

4. i) Eleza maana ya kiimbo. (al. 1)

---

ii) Bainisha matumizi yafuatayo ya kiimbo. (al. 2)

a) Kumbe! Wewe ni mwizi!

_____

_____

____

b) Ondoka hapa!

---

5. Eleza maana mbili zinazojitokeza katika sentensi hii
   Tuliitwa na mwalimu (al.2)

---

6. Tofautisha matumizi ya ‘vizuri’ katika sentensi hii.
   Mwalimu alivaa vizuri alivyofunga vizuri (al. 2)

---

7. i. Andika kinyume cha sentensi ifuatayo (al. 2)

   Wavulana watatu wanaingia darasani kwa haraka

---

   ii.Kwa kutoa mifano onyesha matumizi mawili ya kistari kifupi (al. 2)

---

8. Andika ngeli za nomino zifuatazo
   (al. 2)

   i. Bawabu ----------

   ii. Nyasi ----------

9. Tunga sentensi yenye muundo ufuatao (al. 2)

   N + V + V + T

---

10. a. Tunda halitaoshwa vyema. Tunda halitalika.(unganisha kuwa sentensi moja kwa kutumia ‘po’) (al. 2)

---

b. Kengewa alitoa ahadi. Wengi waliiamini ahadi hiyo (unganisha kuwa sentensi moja inayoanza kwa: ahadi). (al. 2)

_____

_____

____

11. Tambua aina ya vitenzi katika sentensi zifuatazo (al. 3)

i. Mjomba alikuwa uwanjani

---

ii. Mjukuu wake ataweza kulima

---

12. Kanusha sentensi ifuatayo katika wingi. (al. 2)

Ningalikuwa na pesa ningalinunua gari

---

13. Andika sentensi ifuatayo katika wakati ujao hali timilifu. (al. 2)

Mbunge alitawazwa kabla ya mpinzani wake kufika

---

14. Andika katika wingi karibu (al. 2)

Mtu yuyo huyo aliubeba mzigo uo huo licha ya kukanywa.

---

15. Andika kwa usemi wa taarifa. (al. 3)

" Mama, utaniletea zawadi kesho?" Kadogo aliuliza

---

16. Taja vipashio vyovyote vinne vya lugha. (al. 2)

SEHEMU YA D. ISIMUJAMII (ALAMA 10)

1. a. Isimujamii ni nini? (al. 2)

---

b. Fafanua kaida nne za lugha. (al. 8)

MATHEMATICS FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

SECTION 1 (50MKS)
Answer all the questions in the section in the provided

1. Express as a fraction in its simplified form
   $0.45^{\circ}2^{\circ}$ (3mks)

2. Evaluate using tables of squares, square roots and reciprocals (4mks
   $\frac{1}{\sqrt{0.3278}} + 56.3^2$ correct of 4 s.f

3. A straight line L1 passing through T (-2,1) is perpendicular to another line L2 whose equation is 2x – 3y +4 = 0
   Find the equation of L1 in the form y= mx + c (3mks)

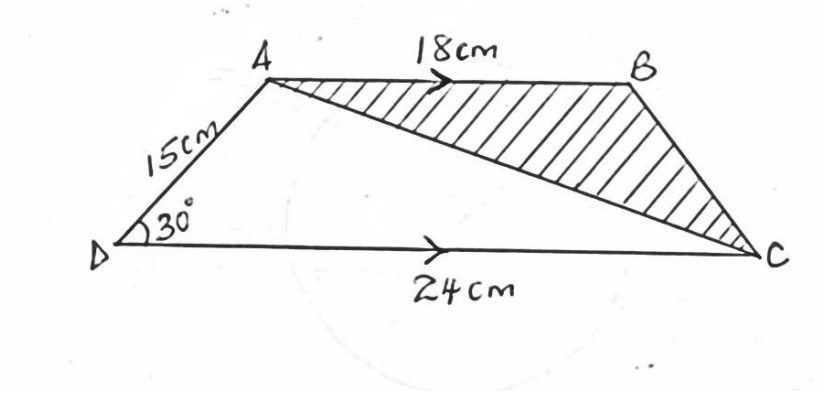
4. Solve for x
   $27^{\frac{1}{3}x+1} \times \frac{1}{3} = 243^{x}$ (3mks)

5. The interior angles of an irregular polygon are 120^o, 140^o, 136^o and the rest are 108^o each. Determine the sides of the polygon (3mks)

6. Simplify $\frac{2x^2 - 2}{3x^2 - x - 2}$ (3mks)

7. In the figure ABCD, side AB is parallel to side DC Angle ADC = 30^o, AB = 18 cm, AD = 15 cm and DC = 24 cm

18cm



Find the area of the shaded region (4mks)

8. Given that x is an a cute angle solve for x
   Sin $(3x + 10^o)$ = Cos 2x
   Hence find tan ½ x correct to 3 d.p (3mks)

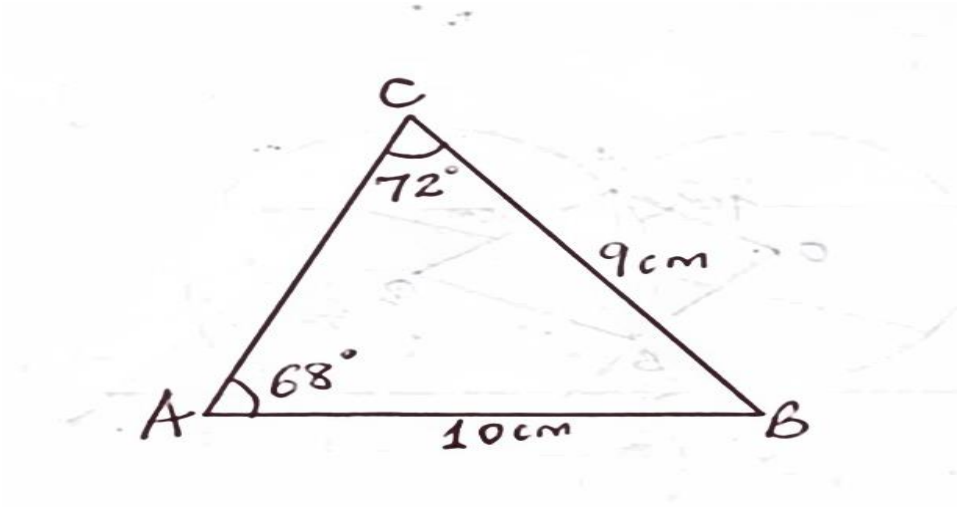
9. A hemispherical solid has a surface area of 441cm^2 (use $\pi = \frac{22}{7}$). Calculate its volume correct to 2d.p (4mks)

10. Solve for x and y (4mks)
    X + y = 4
    Xy = 3

(4mks)

11. In the figure AB = 10 cm, BC = 9 cm

$< ACB = 72°\ and\ \ < BAC = 68°$



Find the area correct to 1 d.p

(2mks)

12. Two years to come a mother will be three times as old as her daughter. Four years ago the mother was 28 years older than the daughter. Determine the present age of the daughter (3mks)

13. Solve for x $\quad x + 6 \angle 3x + 8 \ \leq 2x + 12$.
Hence represent your solution on a number line (3mks)

14. Given that x:y = 3: 2, y: z = 4:1 find the ratio y : z: x in its simplified form (2mks)

15. A cylindrical metal bar 12cm long has a volume of 27 cm^3. Find the length of a similar metal bar whose volume is 64cm^3. (3mks)

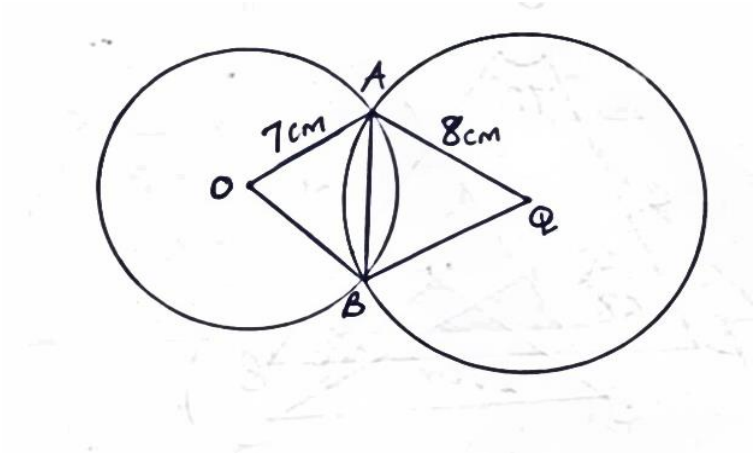
16. Given that $\underset{\sim}{t} = \begin{pmatrix} 2 \\ -4 \end{pmatrix}$ $\underset{\sim}{h} = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ and $\underset{\sim}{k} = \begin{pmatrix} 2 \\ 4 \end{pmatrix}$

Find $\left| ½\,\mathrm{t} - 3h + \mathrm{k} \right|$ (3mks)

SECTION B (50mks)

Answer any five questions in this section in the space provided

17. The figure shows two circles intersecting at points A and B where O and Q are centres. AO = 7cm, BQ = 8cm and AB = 9cm .



a) Determine the size of

i) $\angle AOB$ (2mks)

ii) $\angle BQB$ (2mks)

b) Calculate the area of the shaded region (6mks)

18. A lorry left Kisumu at 7.30am for Nairobi travelling at an average speed of 80km/h. At 8.15am Matatu left Kisumu following the same route towards Nairobi travelling at average speed of 100km/h. Given that the distance from Kisumu to Nairobi is 480km, determine

i. The distance covered by the lorry before the Matatu left Kisumu (2mks)

ii. The relative speed, hence the time taken by the Matatu to catch up with the lorry

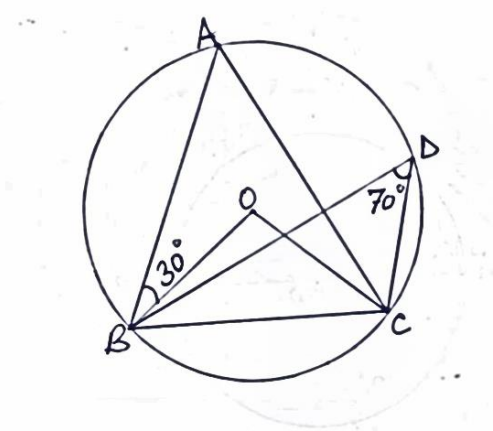
(4mks)

iii. The time of the day the Matatu caught up with the lorry (2mks)

iv. The distance from Kisumu to the point where they caught up with each other

(2mks)

19. In the figure ABC and D are point on the circumference of the circle. Whose centre is O. Angle BDC = 70º and angle ABO = 30º



Giving reasons, find the size of each angle below

a) ∠BOC (2mks)

b) ∠BAD (2mks)

c) ∠ACO (2mks)

d) ∠OBC (2mks)

e) ∠ADC (2mks)

20. A group of members decided to raise sh. 80,000 toward a poultry project, by contributing equally. Fifteen more members joined the group before the contributions were made. Each member therefore ended up contributing sh. 1200 less

a) Write down two expressions showing each members contribution (2mks)

b) Hence find the original number of members in the group (6mks)

c) Find the ratio of final contribution to the original (planned) contribution (2mks)

21. a) Using a ruler and a pair of compasses only construct ABC such that AB = 4cm BC = 8=cm and BAC = 45^{o}. Measure AC (4mks)

b) Drop a perpendicular from C to meet AB proceeded at X. Measure CX and BX

(3mks)

c) Draw a parallelogram BCYX, hence measure angle BXY. (3mks)

22. The table below shows the marks scored by 32 students in an exam

Marks %	20-30	30-40	40-50	50-60	60-70	70-80
Students	2	6	5	9	4	6

a) State (i) The modal class (1mk)

(ii) The modal frequency (1mk)

b) Determine correct to 4s.f

i) The Mean mark (4mks)

ii) Median mark (4mks)

23. A (-3.2), B (-1,3) and C (-1,1) are vertices of triangle ABC. Draw $\Delta A B C$

a) Triangle $A^1B^1C^1$ is reflected in the line y=x obtain triangle $\Delta A^1B^1C^1$

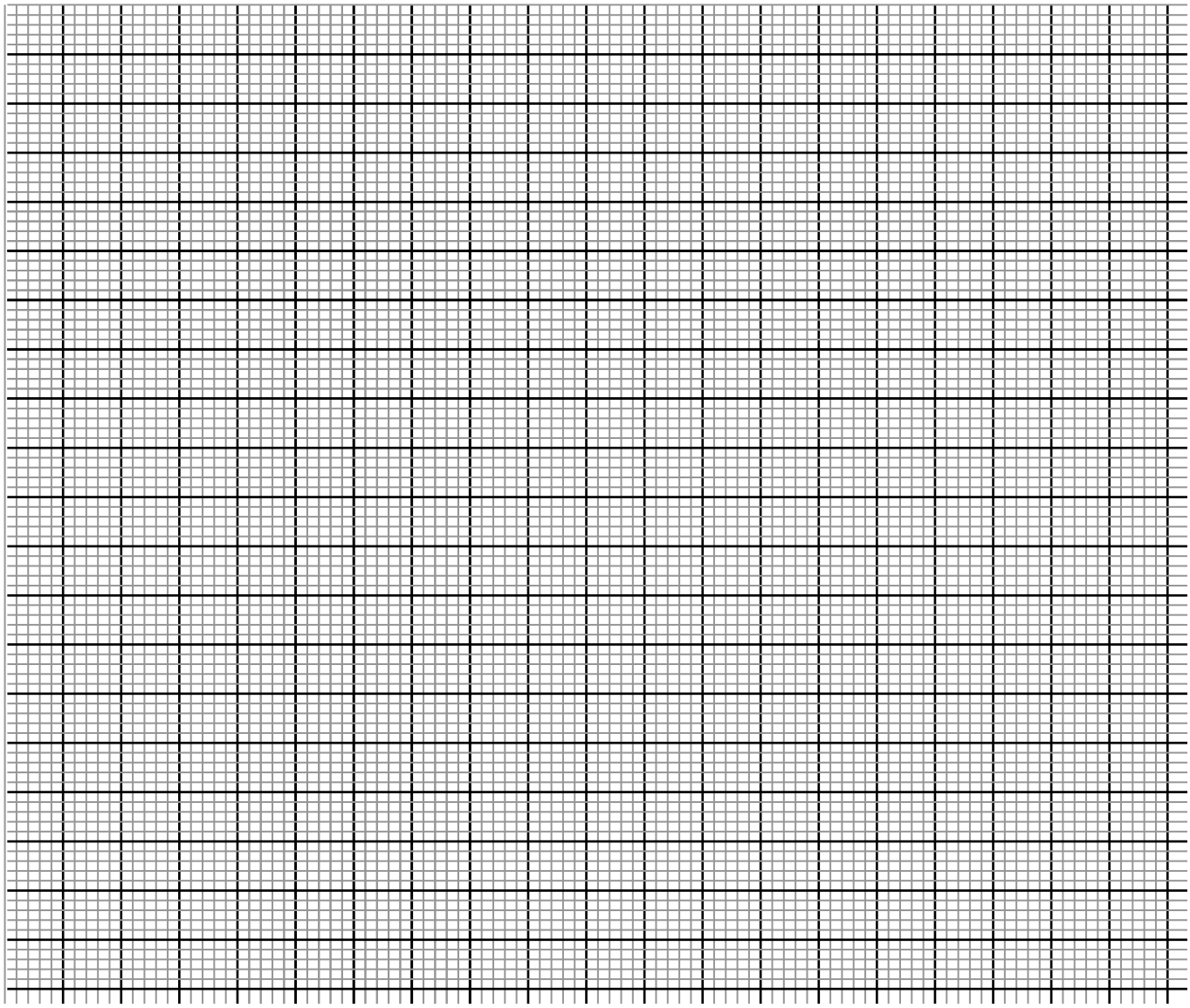
Draw $\Delta A^1B^1C^1$ (4mks)

b) Triangle $A\ ^1B^1C^1$ undergoes a rotation of-90° about the origin obtain triangle $A^{11}B^{11}C^{11}$ · Draw $\Delta A^{11}B^{11}C^{11}$ (3mks)

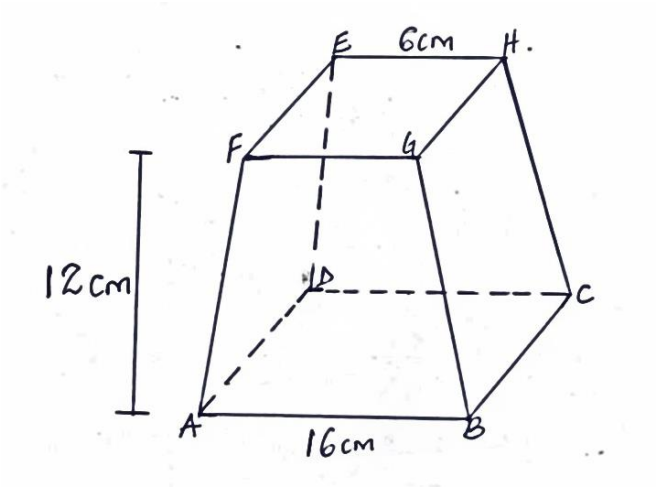
c) Triangle $A^{11}B^{11}C^{11}$ is finally enlarged using a scale factor of -2 with the centre at (0, 0) to obtain $A^{111}B^{111}C^{111}$.

Draw triangle $A^{111}B^{111}C^{111}$. (3mks)

(Use the same pair of axes to draw all the triangles)



24. The figure below shows a model of a solid in the shape of a frustum of a square based pyramid.
    The height of the solid is 12cm with the top and bottom measurements of 6cm and 16cm respectively



Determine correct to the nearest whole number

i) The height of the original solid (2mks)

ii) The volume of the solid (4mks)

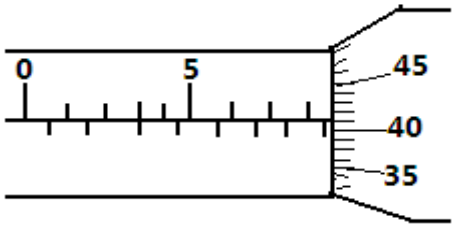
iii) The surface area (4mks)

PHYSICS FORM 3 HOLIDAY ASSIGNMENT BOOKLET (Volume 1)(Questions)

SECTION A (25 MARKS) ***(Answer ALL the questions in the spaces provided)***

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

(1mk)



……

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

……

……

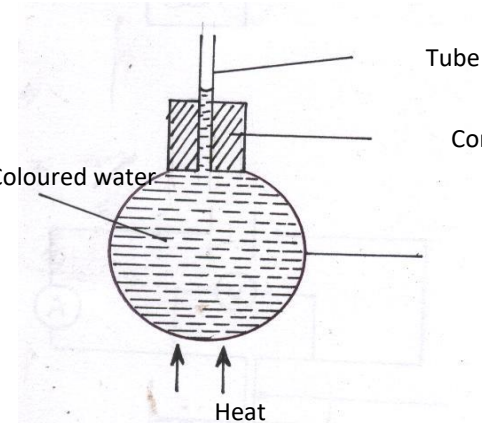
3. In the study of free fall, it is assumed that the force F acting on a given body of mass, m, is gravitational, given by F = ma. State **two** other forces that act on the same body

(1mk)

……

……

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



……

……

……

……

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

……

……

……

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

……

……

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

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

……

……

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

……

……

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

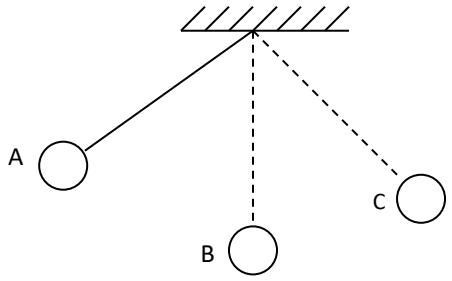
(1mk)

……

……

……

11. The figure below shows a swinging pendulum.



State the energy conservation taking place as the pendulum moves from A to B and B to C

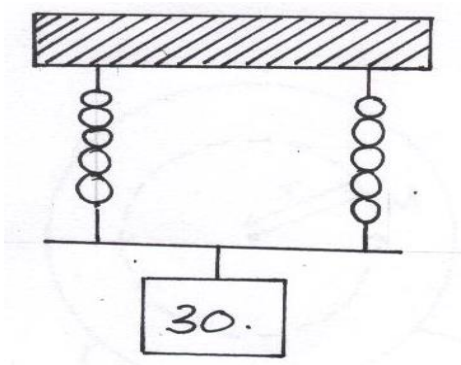
(2mks)

……

……

……

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



Determine the extension on each spring (3mks)

……

……

……

……

……

……

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

……

……

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

……

……

……

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

SECTION B (55 MARKS)

(Answer ALL the questions in the spaces provided)

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

……

……

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

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

……

……

……

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

……

……

……

……

……

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

……

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17.

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

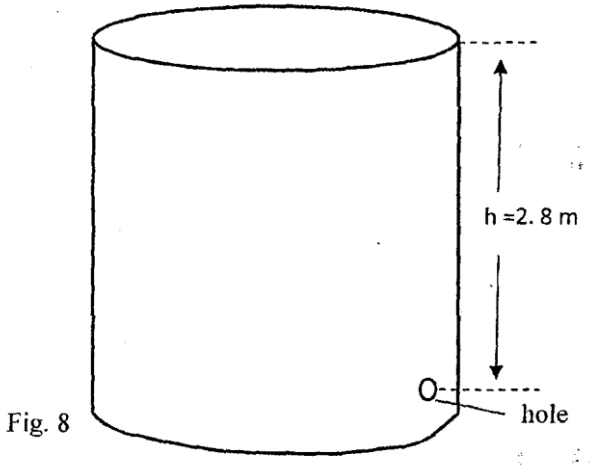


Fig. 8

Determine:

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

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

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

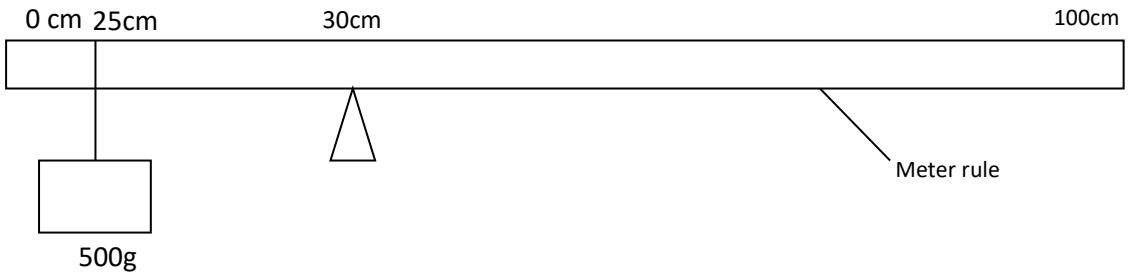
b) State the principle of moments

(1mk)

……

……

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



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

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

18.

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

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

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

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

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

i. Its velocity after 5 seconds

(2mks)

ii. The distance covered in the first 8 seconds

(2mks)

iii. The maximum height reached

(2mks)

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

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

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

19.

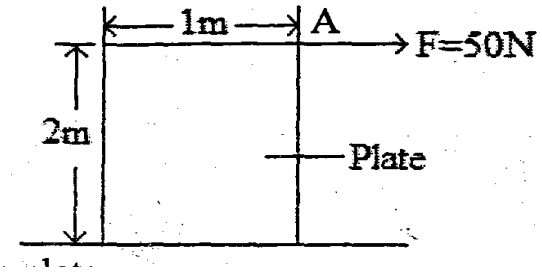
a) State **two** factors affecting stability of body

(2mks)

……

……

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

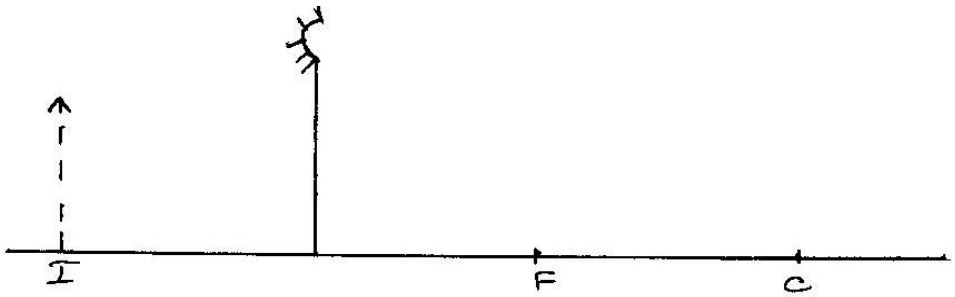


Calculate the weight of the plate.

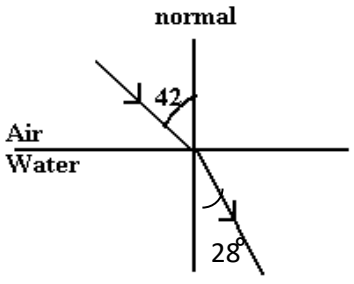
(3mks)

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

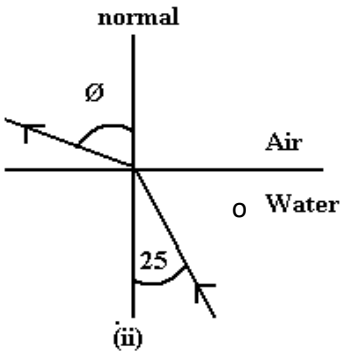
(3mks)



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

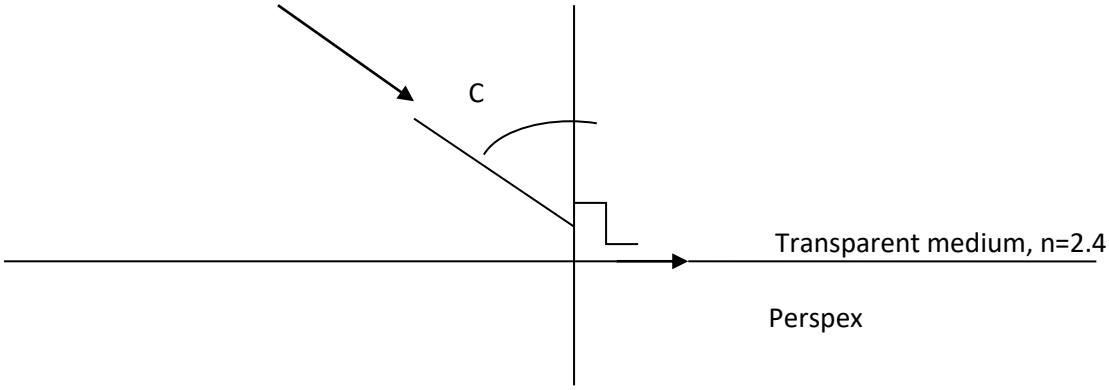


(i) Fig 6.



(ii)

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



Calculate the critical angle (3mks)