FORM 4 MIDTERM 1 EXAMS

ALL SUBJECTS

Compilation of Standard set of Mid-Term 1 Questions for the Current Class.

SUBJECTS TESTED;

Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, Geography, History, Business Studies, Agriculture, Home Science & Computer Studies.

SERIES 1

For Marking Schemes

Mr Isaboke 0746 222 000 / 0742 999 000

MWALIMU CONSULTANCY

FORM 4 MIDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

231/2

BIOLOGY

PAPER 1
(THEORY)
TIME; 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- Write your **name** and **index number** in the spaces provided above.
- **Sign** and write the **date** of examination in the spaces provided above.
- Check to ascertain that all pages are printed and that no questions are missing.

FOR EXAMINER'S USE ONLY:

	Maximum Score	Candidate's Score
Total Score	**80**	

QUESTIONS

1. State the functions of the followings apparatus in collecting and observing specimens. **(3mks)**

a) Pooter:

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b) A bait trap:

……

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c) Pit fall trap:

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……

2. Name two kingdoms whose members reproduce by means of spores. **(2 marks)**

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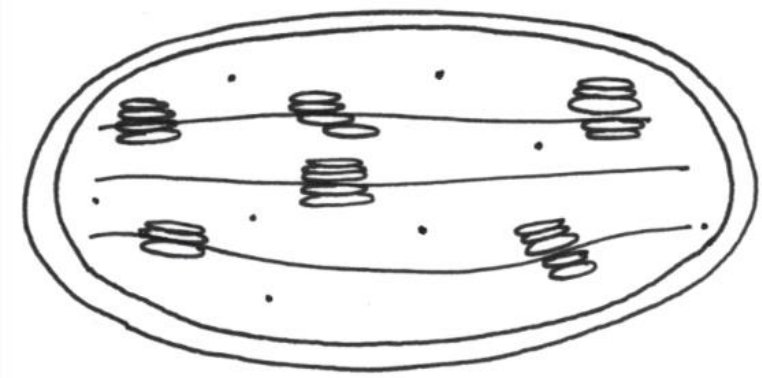
3. How does nutrition as a characteristic of living organisms differ in plants and animals? **(2 mks)**

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……

4.Use the following figure to answer the questions that follow:



a) State the role of the organelle. **(1mk)**

……

b) Give **two** ways in which the organelle is adapted to its functions. **(2mks)**

……

……

5. Explain the role of the following features in xerophytes.

i. Succulent stem and leaves. **2mks)**

……

……

ii. Short life cycle

……

……

6. State **three** control measures of bilharzia. **(3 Marks)**

……

……

7. State the role of the following in a nitrogen cycle:

a) Nitrogen fixing bacteria. **(1mk)**

……

b) Nitrifying bacteria. **(1mk)**

……

8. State **three** characteristics that make alveolus and buccal cavity suitable for gaseous exchange.

(3 Marks)

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……

9. State the changes that take place during inhalation in mammals in the following structures.

a) Rib Cage **(1mk)**

……

……

b) Diaphragm. **(1mk)**

……

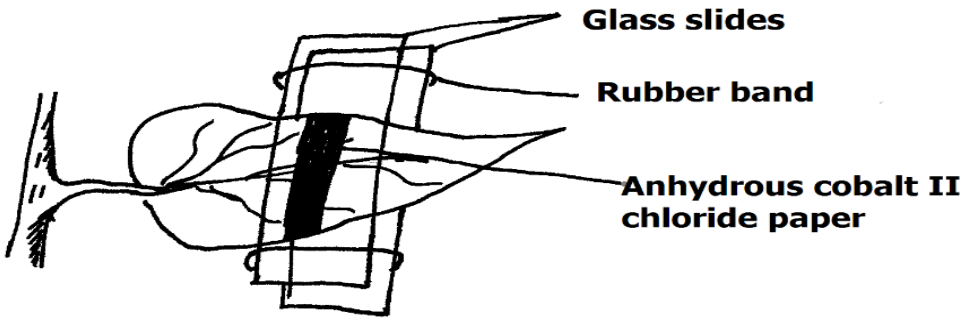
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10. Name two types of valves in the heart. **(2 mks)**

……

……

11. A teacher set-up the apparatus below to investigate a certain phenomenon. The cobalt (II) chloride paper was placed on the upper and lower surfaces of the leaf as shown.



i) What was the aim of the experiment? **(1mk)**

……

ii) What observations were made after 2hrs? **(2mks)**

……

……

12.a) Explain **two** roles of diffusion in human beings. **(2mks)**

……

……

……

(b) What is meant by each of the following terms?

(i) Crenated cell. **(1mk)**

……

……

(ii) Flaccid cell. **(1mk)**

……

……

13.(a) Define seed dormancy. **(1mk)**

……

……

b) Name a growth inhibitor in seed. **(1mk)**

……

……

c) Differentiate between hypogeal and epigeal germination in seeds **(1mk)**

epigeal	hypogeal

(d) State **one** cause of seed dormancy. **(1mks)**

……

……

14. (a) State **two** characteristics of living organisms that are specific to **plants.** **(2mks)**

……

……

(b) State the name given to the study of;

1) Structure of tissues. **(1mk)**

……

2) Internal structure of living organism **(1mk)**

……

15. Why is a change in dry mass of an organism the best indicator of growth? **(2mks)**

……

……

16. (a) State **two** advantages of complete metamorphosis to the life cycle of an insect**.** **(2mks)**

……

……

17(a) What is meant by the term wilting? **(1mk)**

……

……

(b) Explain how an increase in temperature affects the rate of active transport**.** **(2mks)**

……

……

18. The diagram below represents a certain organism collected by a student at the seashore.



(a) Name the class to which the organism belongs**.** **(1mks)**

……

(b) Give three reasons for your answer in (a) above **(3mks)**

……

……

……

19. Differentiate between primary and secondary growth. **(2mks)**

……

……

……

20.A form four student was walking around the school compound and saw leaves from Nandi flame tree on the ground.

(a) Name the hormone responsible for this phenomenon. **(1mk)**

……

(b) State the significance of the above phenomenon to the tree. **(2mks)**

……

……

21. a) Guard cells are specialized epidermal cells. State two structural features that suit them to their functions. **(2mks)**

……

……

b) Apart from gaseous exchange, give one other function of the stomata**.** **(1mk)**

……

22. (i) Distinguish between excretion and **egestion** **(2mks)**

……

……

(ii) Name any one substance in animals that may be secreted by either a cell or gland **(1mk)**

……

23(a) Outline three main functions of the mammalian **skin** **(3mks)**

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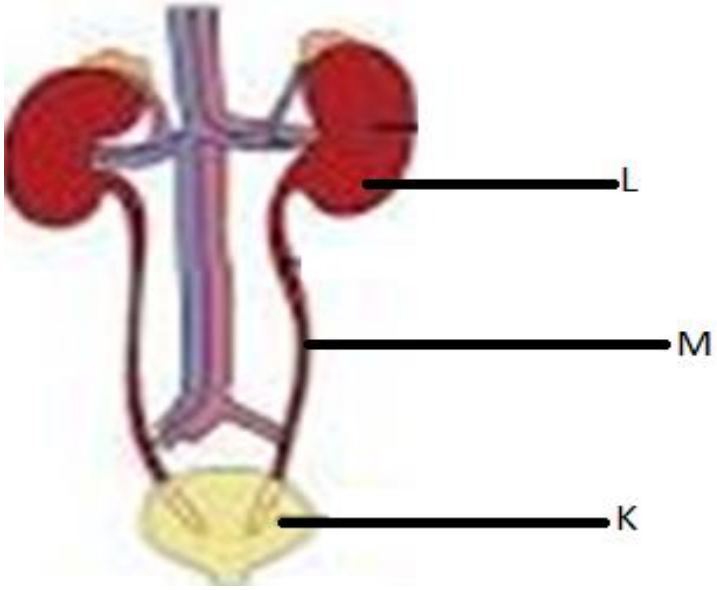
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(b) Which layer of human skin would be thickest from a person working in a quarry**?** **(1mk)**

……

……

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



(a) Label the parts labelled **(2mk)**

K

L

(b) Name any two components of the fluid passing through tube M in healthy human being. **(2mks)**

25. List down two processes through which plants excrete their wastes and for each give one example of waste excreted**.** **(4mks)**

process	Waste excreted

26.(a) Why should a microscope not be cleaned using a wet cloth? **(1mk)**

……

……

(b)What's the other alternative name/s of a cell membrane? **(1mk)**

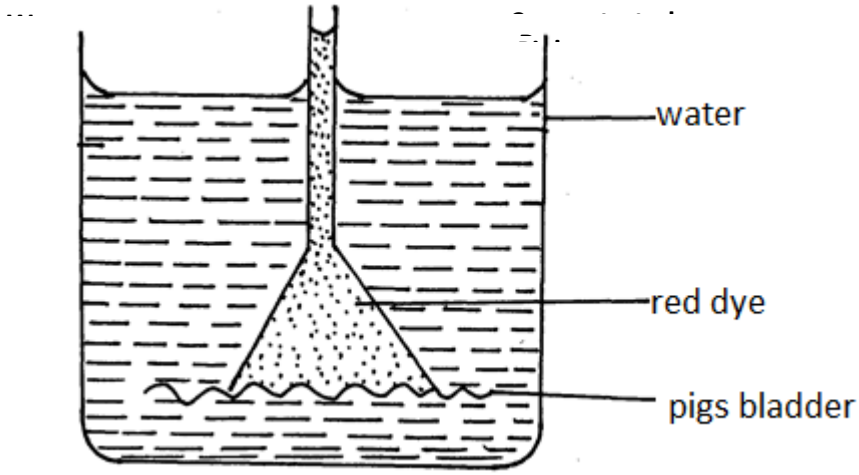
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(c) Name two processes that lead to multiplication of cells. **(2mks)**

……

……

27. The diagram below represents an experimental set up. The set up was left for two hours.The level of the solution in the funnel increased while the red dye was seen in the beaker.



a. Identify the process that led to;

i. Increase in the solution level in the funnel. **(lmk)**

……

ii. Appearance of red dye in the beaker. **(lmk)**

……

b. State the role of the pig's bladder. **(lmk)**

……

……

c) Name

i) A synthetic material that can be used in place of pig's bladder **(lmk)**

……

……

ii) A structure in plant cell that is semipermeable. **(lmk)**

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FORM 4 MIDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign** and write the **date** of examination in the spaces provided above.*
- *This paper consists of **Two** Sections; **A** and **B**.*
- *Answer all the questions in Section **A** in the spaces provided.*
- *Answer question **6** in Section **B (Compulsory)** and either question*

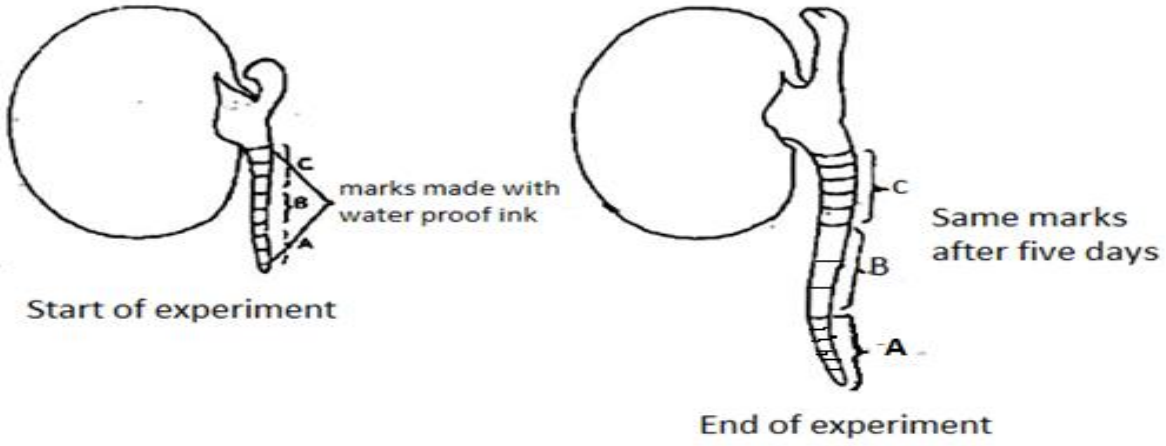
*7 or **8** in the spaces provided after question **8**.*

- *Check to ascertain that all pages are printed and that no questions are missing.*

FOR EXAMINER'S USE ONLY:

Section	Question	Maximum Score	Candidate's Score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
Total Score		80	

1. The diagram below shows the results obtained in an experiment on growth of a bean seedling.



a) Suggest the aim of the experiment. **(1 mk)**

……

b) State the processes that occur in each of the regions marked A, B and C. **(3mks)**

A

B

C

c) Account for the observations made in the regions A and C. **(4 marks)**

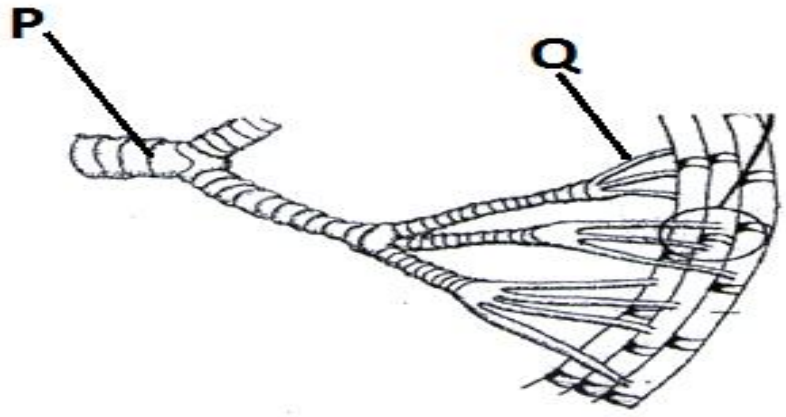
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2. The diagram below represents part of a gaseous system in a grasshopper.



a) Name the structures labeled P and **Q.**

P **1 Mark)**

Q **(1 Mark)**

b) State the function of the part labeled P. **(1 Mark)**

……

……

c) Describe the path taken by Carbon (IV) Oxide from the tissues of the insects to the atmosphere. **(3 Mks)**

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……

……

d) How is part labelled Q adapted to its functions? **(2mks)**

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……

3. The relative rates of photosynthesis in a certain plant were determined at different temperature. The results are shown below.

Temperature ºC	**Relative rate of photosynthesis mg/hr**
25	26
30	37
35	45
40	25

a) Account for the rate of photosynthesis at;

i) 35ºC **(2 Marks)**

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……

ii) 40ºC **(2 Marks)**

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b) Explain what happens during dark reaction in photosynthesis. **(2 Marks)**

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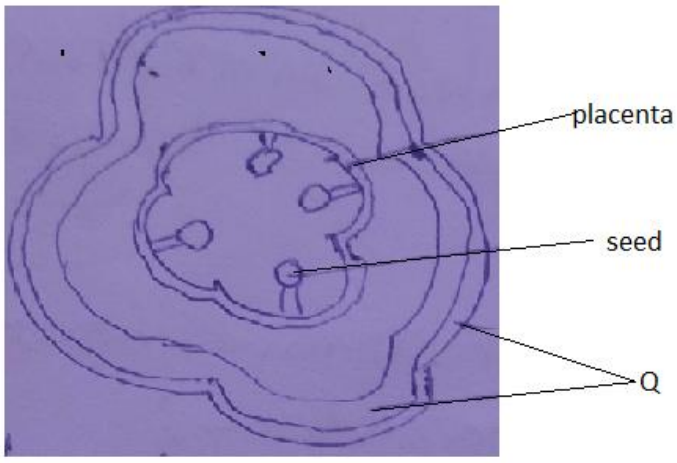
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c) In an experiment to show that Oxygen gas is a by-product of photosynthesis a water plant is used. Give **two** reasons why a terrestrial plant is not used. **(2mks)**

……

……

4. The diagram below represents a transverse section of a fruit.



(a)(i) Name the two layers that comprise part labelled Q **(2mks)**

……

……

(ii) Name the type of placentation**.** **(1mk)**

……

(b) State two characteristics of fruits dispersed by animals. **(2mks)**

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(c) State one immediate product from double fertilization **(1mk)**

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……

(d) State one function of amniotic **fluid** **(1mk)**

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(e) List down one effect of Testosterone hormone **(1mk)**

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5. (a) Explain the roles of sweat produced by the human skin **(2mks)**

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(b) A person was found to have traces of glucose in the urine after visiting a hospital laboratory. Name the

(i) Disease the person was suffering **from** **(1mk)**

……

(ii) Hormone that was deficient in the **body** **(1mk)**

……

(c) Caffeine is a waste product in coffee plant. Through which process is that waste product excreted by the plant. **(1mk)**

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d)(i) What is homeostasis? **(1mk)**

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(ii) Name any two diseases of the liver **(2mks)**

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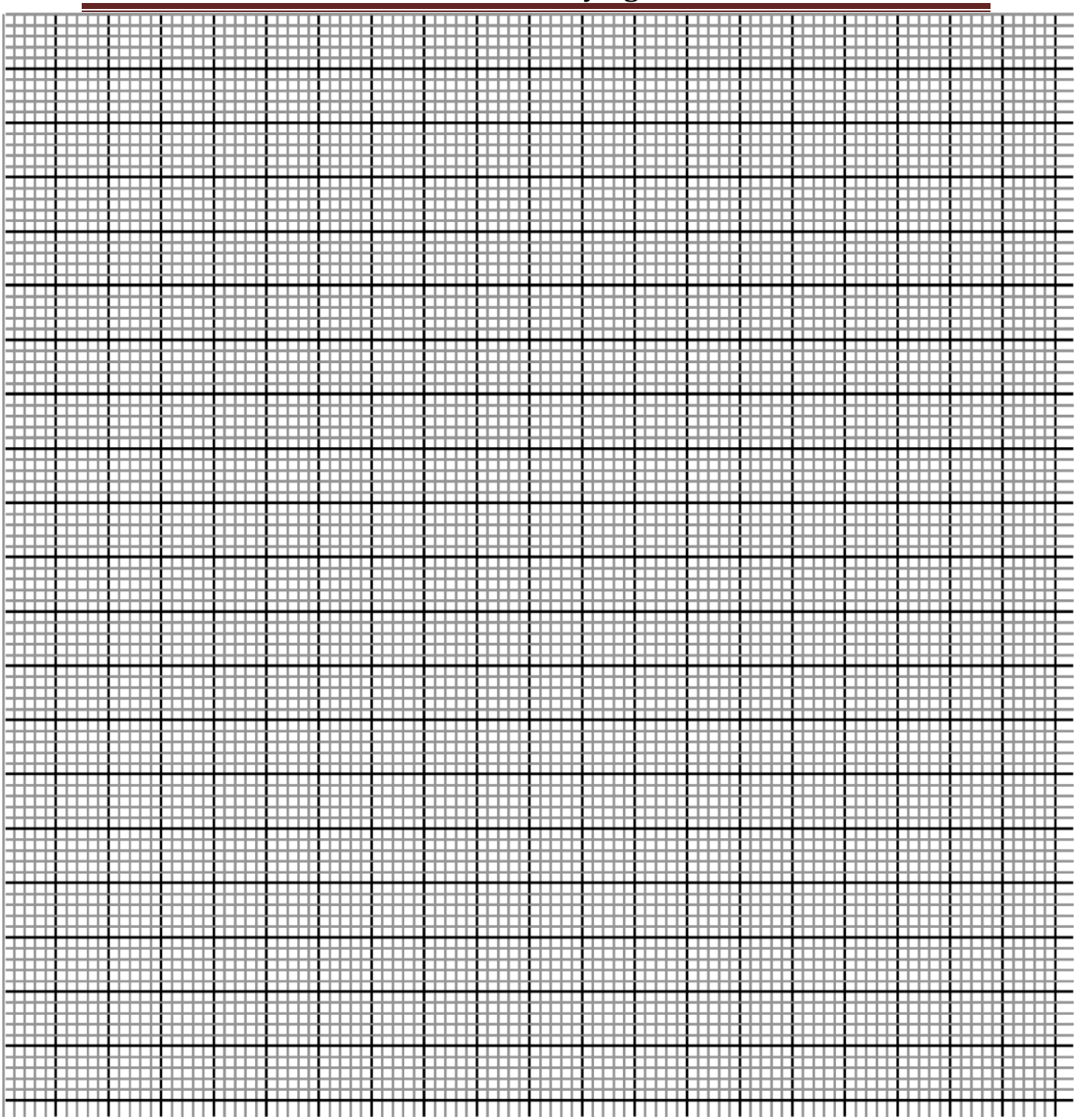
SECTION B (40 MARKS)

Answer question 6 (compulsory) in the spaces provided and either question 7 or 8 in the spaces provided after question 8.

6. The following data represents the development in dry mass of germinating seedlings within 18 weeks:

Time in weeks	0	1	2	4	6	10	13	15	16	18
Dry mass in grams	1	2	3	10	18	32	44	45	44	38

(a) Using suitable scale plot a graph of dry mass against time **(6mks)**



(b) With reference to the graph, explain the changes in dry mass between:-

(i) Week 0 to 2 **(4mks)**

(ii) Week 5 to 13 **(3mks)**

(iii) Week 16 - 18 **(3mks)**

(c) (i) What is the significance of time zero? **(1mk)**

(ii) What difference would be expected from the above results if the experiment started with the seeds? Give a reason for your answer. **(2mks)**

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……

(d) Name the phase of growth curve represented by the curve between 2nd and 13th week**.(1mk)**

7. How are xerophytes adapted to their habitats? **(20MKS)**

8(a) Define the term poikilotherm. **(1 mk)**

(b) Describe the role of mammalian skin in thermoregulation**.** **(19mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

BIOLOGY

CONFIDENTIAL

PAPER 3 PRACTICAL

TIME: $1\frac{3}{4}$ Hours

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

In addition to the apparatus commonly found in the school laboratory, each candidate should be supplied with the following

(i) *4 test tubes in test tube rack.*

(ii) *1 boiling tube*

(iii) *Test tube holder*

(iv) *Adequate distilled water*

(v) *Benedict solution– supplied with a dropper*

(vi) *Means of heating*

(vii) *10% Sodium Hydroxide– supplied with a dropper*

(viii) *1% Copper (II) Sulphate– supplied with a dropper*

(ix) *DCPIP– supplied with a dropper*

(x) *10cm^3 of solution W in a boiling tube labeled as* ***solution W***

NB: Measure 30gms of glucose and 15gms of egg albumen in a 500ml beaker, add 200cm^3 of distilled water and stir to dissolve. Top up with distilled water to make 500cm^{3}solution. Label this solution as solution **W**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 3

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

- *Write your **name, Admission number** and **name of your school** in the spaces provided above*
- ***Sign** and write the **date** of examination in the spaces provided.*
- *This paper consists of three questions*
- *Answer **all** the questions in the spaces provided.*
- *You are required to spend the first 15 minutes of the $1^{3}/_{4}$ Hours allowed for this paper reading through all the questions before commencing your work.*
- *This paper consists of 5 printed pages.*
- *Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.*

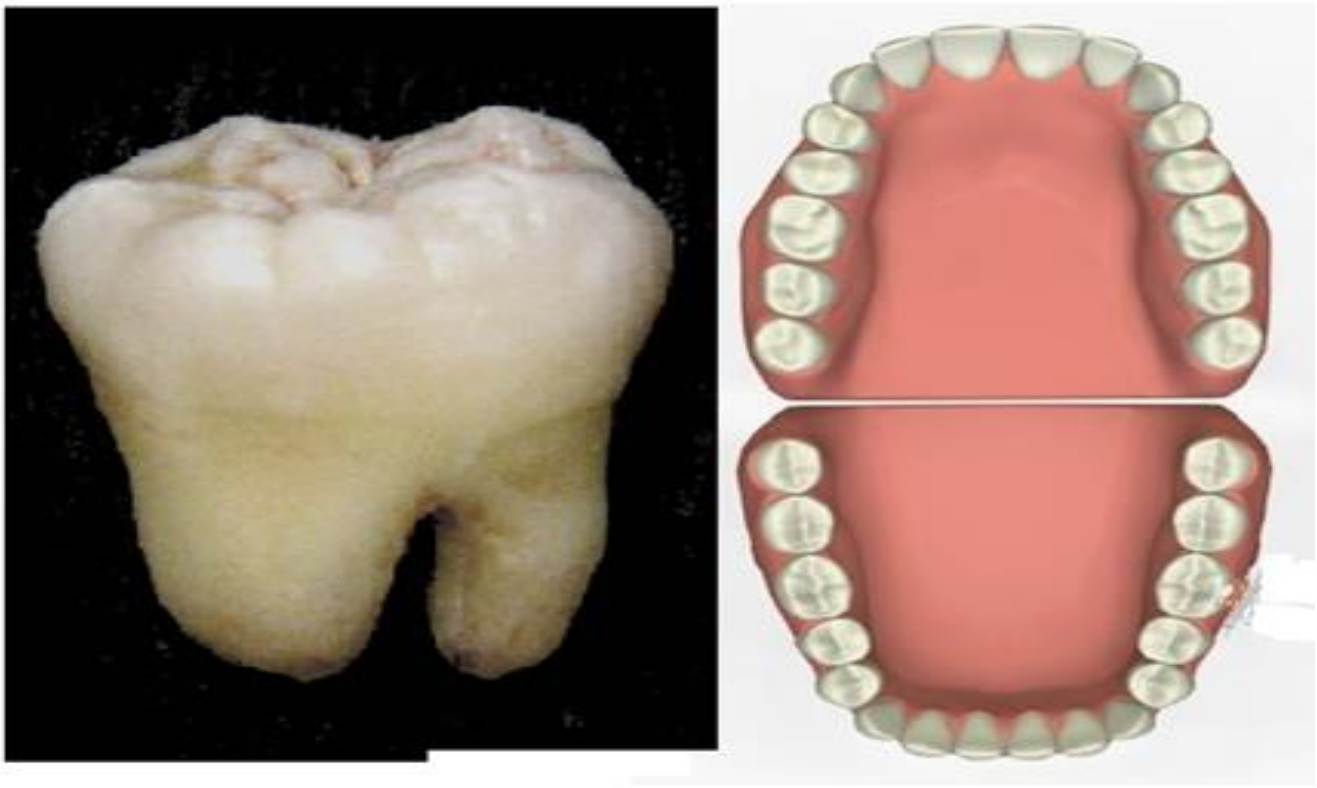
For Examiners Use Only

Question	Maximum score	Candidate's score
1	17	
2	10	
3	13	
Total Score	40	

1. a)You are provided with solution W in a boiling tube. Using the provided reagents, carry out possible food tests to identify food substances present in solution W. **(12mks)**

Food substance	**Procedure**	**Observation**	**Conclusion**

b) Study the photographs below showing a certain type of tooth and teeth arrangement in man.



S T

(i) Label any **TWO** parts of the tooth in photograph **S** **(2mks)**

……

……

(ii) Give **two** observable adaptations of the tooth to its function **(2mks)**

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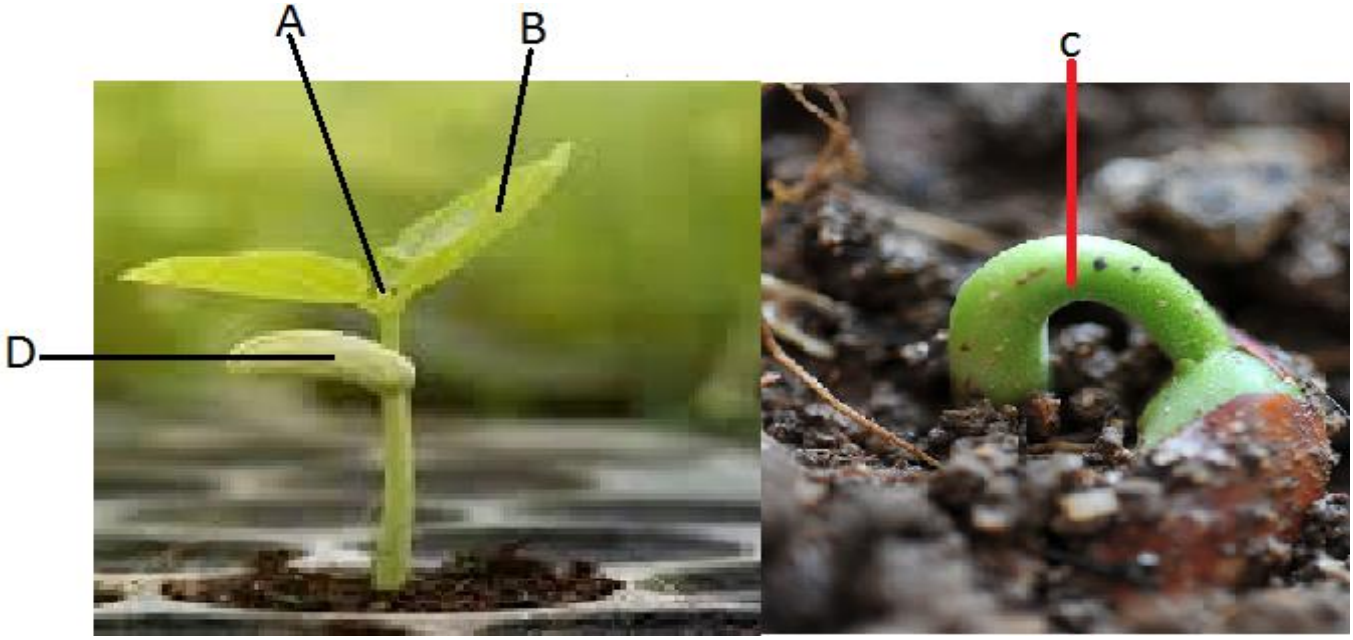
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(iii) Write the **dental formula** for the teeth arrangement in photograph **T** **(1mk)**

……

……

2. Examine the photographs I and II of seedling specimen shown below and answer the questions that follows;



a) Name the parts labelled A, C and D. **(3 mks)**

A –

C -

D -

b) (i) Name the class to which the specimen belongs. **(l mark)**

……

(ii) Give two reasons, using observable features to support your answer in (b) (i) above **(2 mks)**

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……

(c) Give two functions of the structure labeled D. **(2 mks)**

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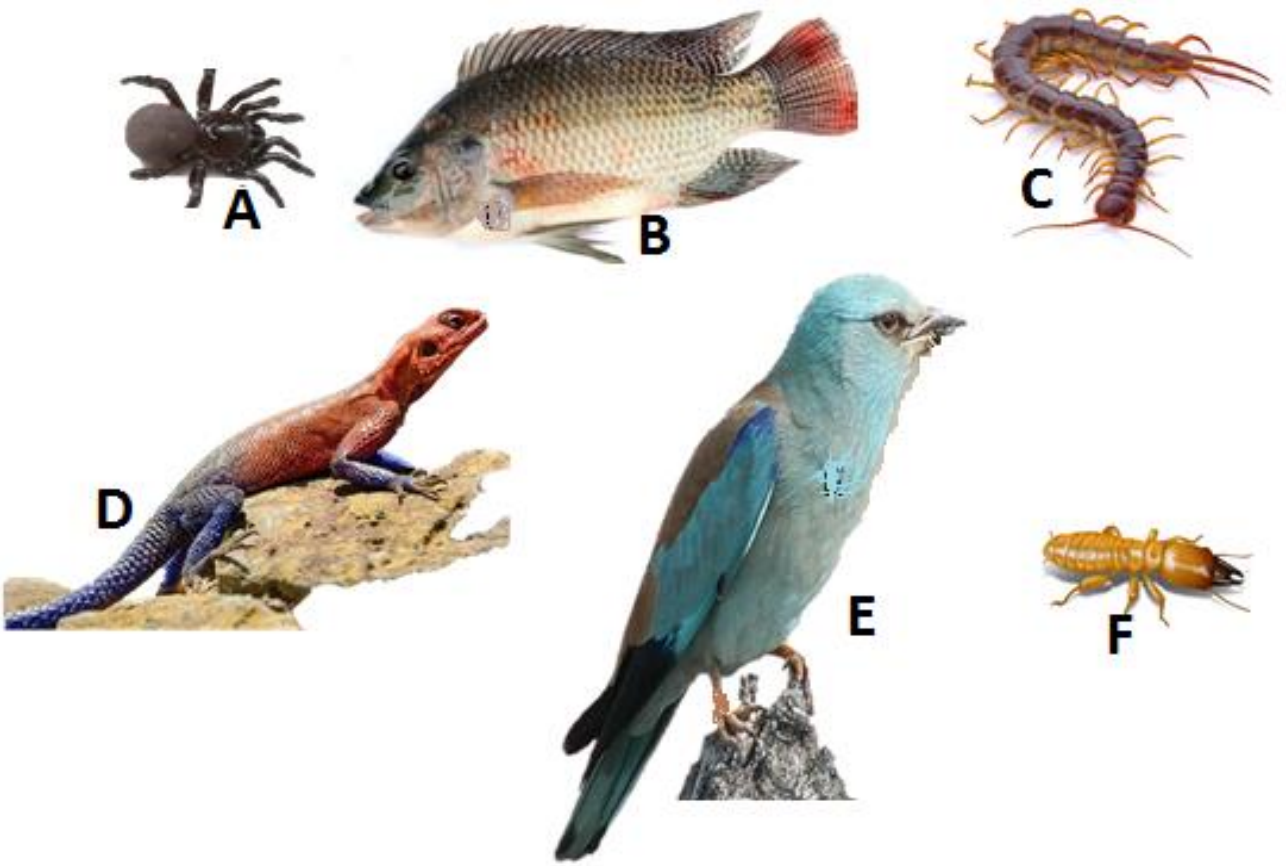
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d) Name the type of germination exhibited by the seedlings. Give a reason for your answer.

Type **(2mks)**

Reason -

3. Below are photographs showing some observable features of animals



a. Complete and use the key below to identify the organism. 2mks

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

1b. _____ …… go to 3

2a. Has scales on the body…… go to 4

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

3a. Has cephalothorax ……..…… Arachnida.

3b. Has no cephalothorax…….……go to 5

4a. _____..... Pisces

4b. Has no fins ……..…….. go to 7

5a. Has three pairs of legs ……..…… Insects.

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

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

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

7a. Has feathers ……..…… Aves

7b. Has no feathers ……..……go to 8

8a. Has a tail.……Reptilia

8b. Has no tail.……..……Amphibia.

b). Identify the organisms above using the completed key above. **6mks**

Specimen	Steps followed	identity
A		
B		
C		
D		
E		
F		

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

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

……

……

……

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

……

……

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

Name:…….Adm. No……..

School……

233/1

CHEMISTRY

PAPER 1

FORM 4

Instructions to Candidates

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

b) *Answer all the questions in the spaces provided.*

c) *Mathematical table and electronic calculator may be used.*

d) *All working must be clearly shown where necessary.*

e) *Students should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

1.The table below shows a homologous series of organic compounds. Study it and answer the questions that follows.

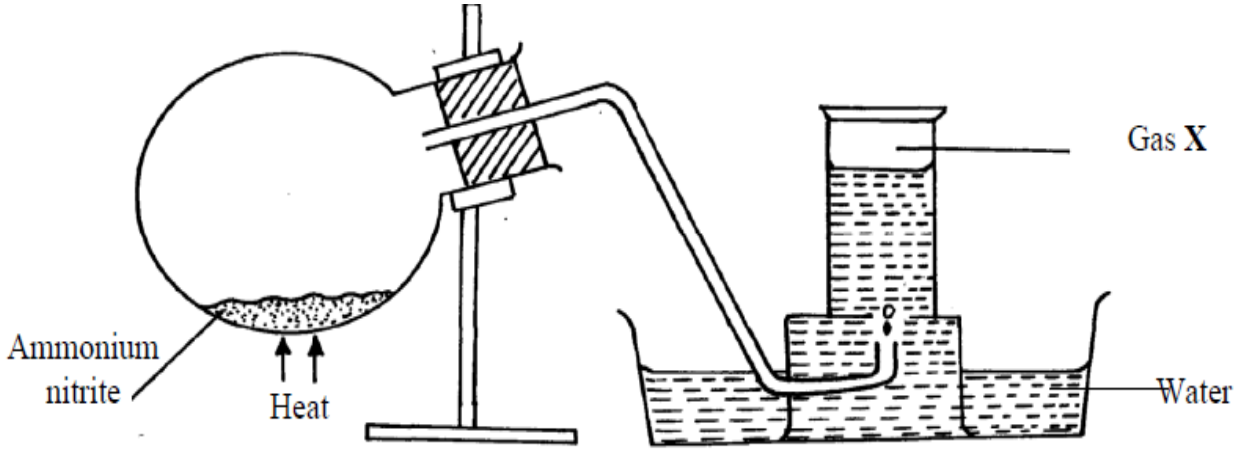
formula	BOILING POINT (^{0}C)
1. C_2H_4	-104
2. C_3H_6	-47.7
3. C_4H_8	-62
4. C_5H_{10}	30

i) Write the general formula of the above homologous series**.** **(1mk)**

ii) Write the formula for the 7th member of the series **(1mk)**

iii) State any two uses of members of the homologous series above **(1mk).**

2. The diagram below is used in preparation of gas X in the laboratory. Answer the questions that follow;



(a) Name gas **X** **(1mk)**

(b) State **one** physical property which makes it possible for the gas to be collected as shown **(1mk)**

(c) State one commercial use of gas X **(1mk)**

3. In an experiment magnesium ribbon was heated in air. The product formed was found to be heavier than the original ribbon. Potassium manganate (VII) was on the other hand, heated in air and product formed was found to be lighter. Explain the differences on the observation made **(2mks)**

4. In a titration experiment 25cm^3 of a solution of Sodium Hydroxide containing 8g per litre was required for complete neutralization of 0.245g of a dibasic acid. Calculate the relative molecular mass of the acid (Na = 23.0, O = 16, H= 1**)** **(3mks)**

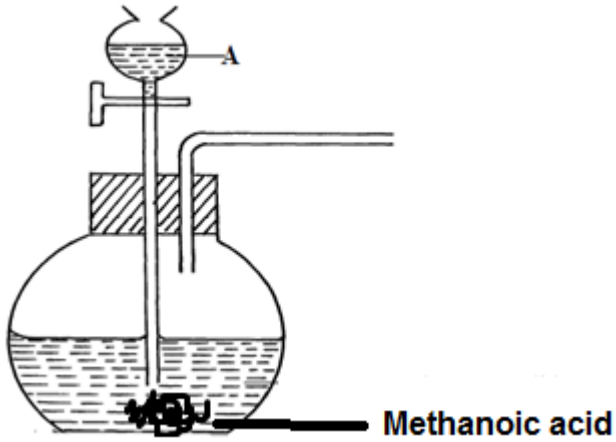
5. (a) State Graham's law of diffusion **(1mk)**

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……

(b) 30cm^3 of hydrogen chloride gas diffuses through a porous pot in 20seconds. How long would it take 42cm^3 of sulphur(IV) oxide gas to diffuse through the same pot under the same conditions (H =1 Cl = 35.5 S = 32 O =16**)** **(3mks)**

6.The set-up below was used to prepare a carbon (II) oxide gas.



(a) Give the name of substance **A** **(1mk)**

(b) Complete the diagram to show how the gas can be collected **(2mks)**

(c) Write the equation for the reaction **(1mk)**

7. Starting with lead (II) oxide, describe how you would prepare a solid sample of lead (II) Carbonate. **(3mks)**

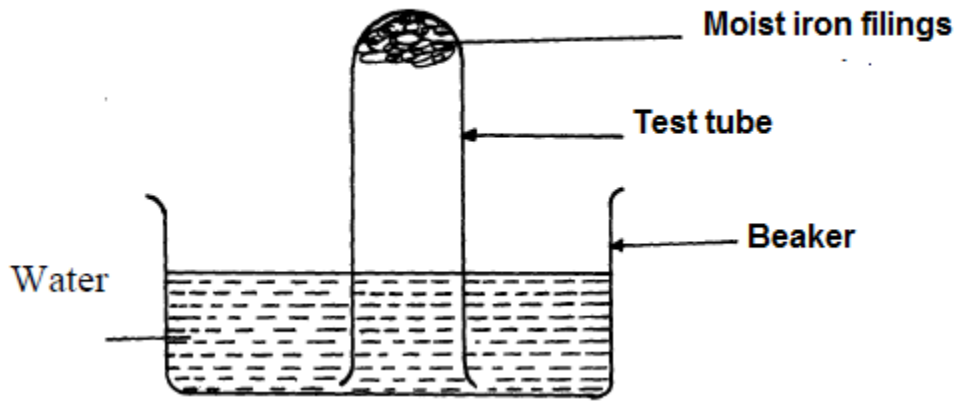
8. The following data gives the **pH** values of some solutions;

Solution	pH
P	14.0
Q	6.8
R	2.5

(a) What colour change would occur in solution **P** on addition of two drops of phenolphthalein indicator? **(1mk)**

(b) State the pH value of a resulting solution when equal moles of solution **P** and **R** react.Explain. **(2mks)**

9.The set-up below was used to study some properties of air.



(a) Why was iron filings moistened? **(1mk)**

(b) State and explain **two** observations that would be made at the end of the experiment**(2mks)**

……

……

……

10. The electron arrangement of ions Q^{2+} and R^{3-} are as 2, 8, 8, and 2,8 respectively.

(a) Write the electron arrangement of the elements Q and R **(1marks)**

……

……

(b) Write the formula of the compound that would be formed between Q and **R** **(1mark)**

……

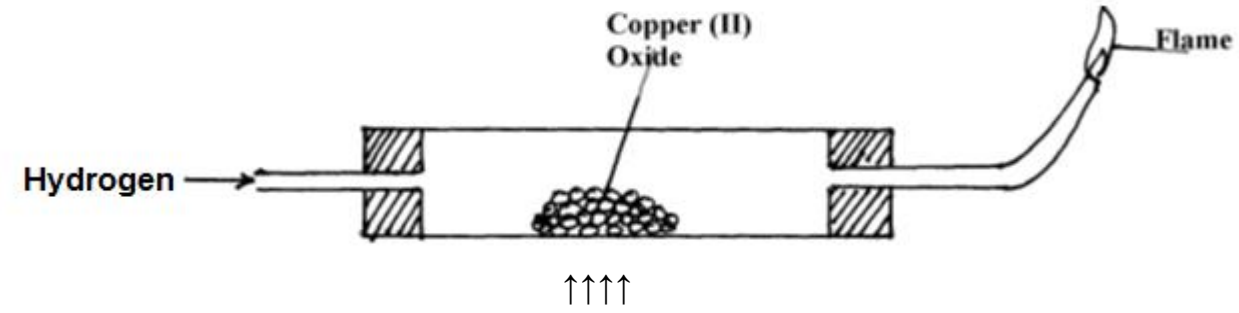
……

What type of a structure would have been formed if R reacted with oxygen**?** **(1mk)**

……

……

11. a) The set-up below is used to investigate the properties of hydrogen. Use it to answer the questions that follows.



↑↑↑↑

(i) Hydrogen gas was allowed to pass through the tube for some time before it is lit. Explain **(2mks)**

……

……

……

(ii) State and explain one observation made in the combustion tube. **(1mks)**

……

……

(iii) State any two metal oxides that can be used in place of copper(ii)oxide**.** **(1mk)**

……

……

12. The grid below shows a part of the periodic table. The letters do not represent the actual Symbols. Use it to answer the questions that follow:-

C								T
	K					U		
X	Y		M			Q	W	
J								Z

(a) How do the atomic radius of element X and Y compare **(1mk)**

(b) (ii) State the period and the group to which element Q belong **(1mk)**

(c) (i) The ionic configuration of element G is 2.8. G forms an ion of the type G^{-1}.
Indicate on the grid, the position of element G**.** **(1mk)**

(iii) State one use of element **U** **(½)**

(iv) What is the nature of the compound formed between K and **U** **(1mk)**

13.(i) Distinguish between a covalent and dative bond **(1mk)**

(ii) Draw a dot (.) and cross (**x**) diagram to show bonding in:- **(2mks)**
Ammonium ion ($NH4^+$) (N = 7.0, H= 1)

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

Substance		**A**	**B**	**C**	**D**	**E**	**F**
Melting Point (°C)		801	113 119	-39	5	-101	1356
Boiling point (°C)		1410	445	457	54	-36	2860
Electrical Conductivity	Solid	Poor	Poor	Good	Poor	Poor	Poor
	liquid	Good	Poor	Good	Poor	Poor	Poor

Identify with reasons the substances that:

(i) Have a metallic **structure** **(1mk)**

(ii) Have a molecular structure and exist in the liquid state at room temperature and pressure **(1mk)**

(iii) Suggest a reason why substance B has two melting points **(1mk)**

(iv) Substances A and C conduct electric current in the liquid state. State how the two substances differ as conductors of electric current. **(1mk)**

15.The table below shows the decomposition of metal nitrates through heating.

Name of Metal	Products on heating
M	Metal Oxide, Nitrogen (iv) Oxide, Oxygen gas
N	Metal nitrite, oxygen
P	Metal, nitrogen (iv) Oxide, Oxygen

(a) Arrange the three metals in order of their reactivity starting with the least reactive. **(2mks)**

……

……

(b) Suggest an element that is likely to be metal N. **(1mk)**

……

16. 5.1g of sodium sulphite was reacted with excess dilute hydrochloric acid. Calculate the Volume of the gas collected at room temperature and pressure (M.G.V = 24000cm^3**) (3mks)**

17. Below is a set up of apparatus used to prepare a sample of chlorine gas.

(a) Name liquid T **(½mk)**

(b) Why was water used in the set up? **(1mk)**

(c) State and explain the effect of Chlorine on a wet blue litmus paper. **(2 mks)**

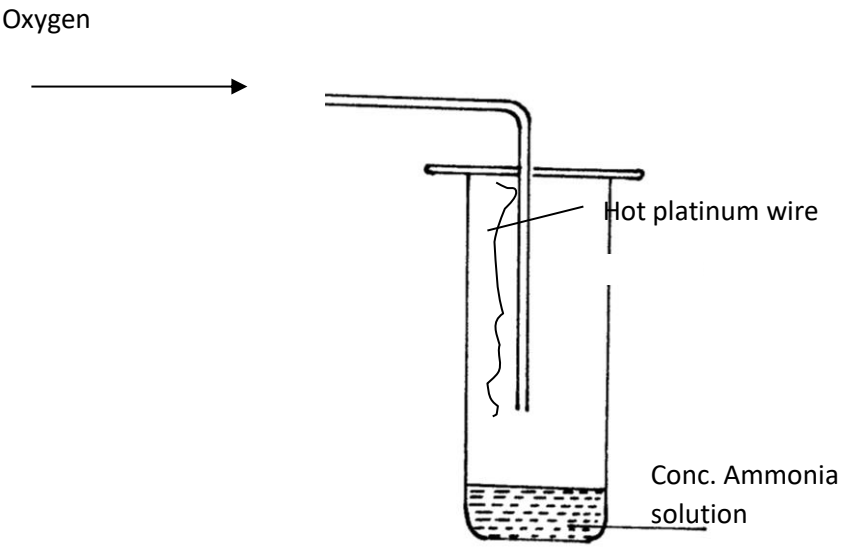
18. A hydrocarbon Q was found to decolourise potassium manganate (VII) solution. When 2 moles of Q are burnt completely, 6 moles of Carbon (iv) Oxide and 6 moles of water were formed.

(a) Draw the structure of compound Q **(1mk)**

(b) Name the homologous series to which Q belongs. **(1mk)**

(c) Name the industrial source of Q. **(1mk)**

19. Oxygen was bubbled into concentrated ammonia solution as shown below.

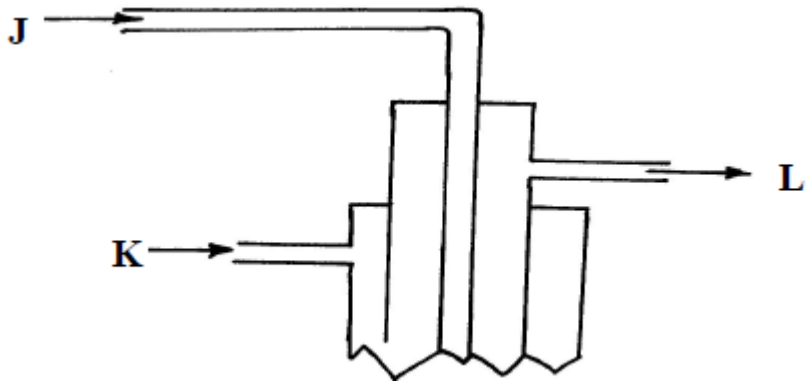


(a) Explain why the platinum wire remained red-hot even though it was no longer being heated.

(1mk)

(b) Brown fumes were observed in the boiling tube. Using chemical equations, explain this observation. **(2mks)**

20. Sulphur is extracted from underground deposits by a process in which three concentric pipes are sunk down to the deposits as shown below



(a) What is passed through pipes J,K **and** L? **(1½ mks)**

(b) In the manufacture of sulphuric acid, sulphur (IV) oxide is oxidized to sulphur (VI) oxide.**(½ m)**

i) Name the catalyst used

ii) Write the equation representing the conversion of sulphur (IV) oxide to sulphur(VI)**oxide (1mk)**

iii) State and explain the observation made concentrated sulphuric acid is added to sugar. **(1mk)**

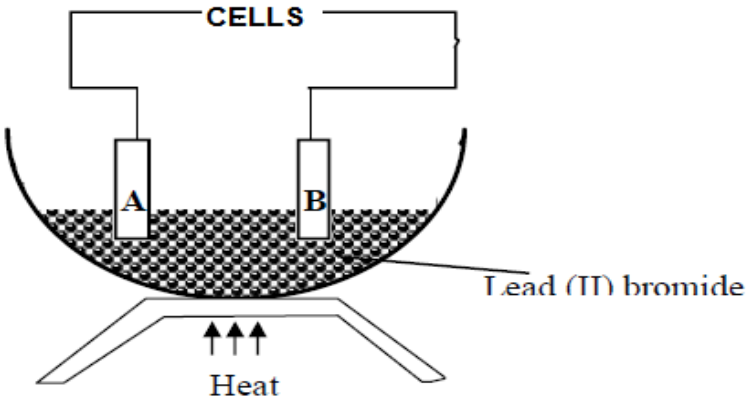
21. Briefly describe how a sample of oil can be obtained from macadamia nuts**.** **(2mks)**

……

……

……

22. The set up below was used in electrolysis of molten lead(ii) bromide.



A grey solid was observed at electrode B as electrolysis continued.

(a) Name the grey solid**.** **(½ mk)**

(b) Identify the anode. **(½ mk)**

(c) Write an equation for the reaction at the anode**.** **(1mk)**

23. 8. Study the information in the table below and answer the questions that follow.

(The letters do not represent the actual symbols of the elements)

Element	Electronic configuration	Ionization energy Kj/mol)
P	2.2	1800
Q	2.8.2	1450
R	2.8.8.2	1150

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

(b) Explain why P has the highest ionization energy **(1mk)**

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

24. Name the process which takes place when: **(3mks)**

a) Solid Carbon (IV) oxide (dry ice) changes directly into gas.

b) A moist red litmus paper turns white when dropped into jar of chlorine gas.

c) Crystals of calcium chloride form a solution on long exposure to air.

25. When solid R was heated, it produced a black solid Q, a brown gas and a colourless gas that rekindled a glowing splint. A glass rod dipped in solution of R turns a non-luminous fame blue.

(a) write the formula of cation and anion present in solid R:

Cation**……** **(½)**

Anion……. **(½)**

(b) Name the brown gas. **(1mk)**

(c) Identify solid Q**.** **(1mk)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

233/2

CHEMISTRY

PAPER 2

FORM 4

Instructions to Candidates

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

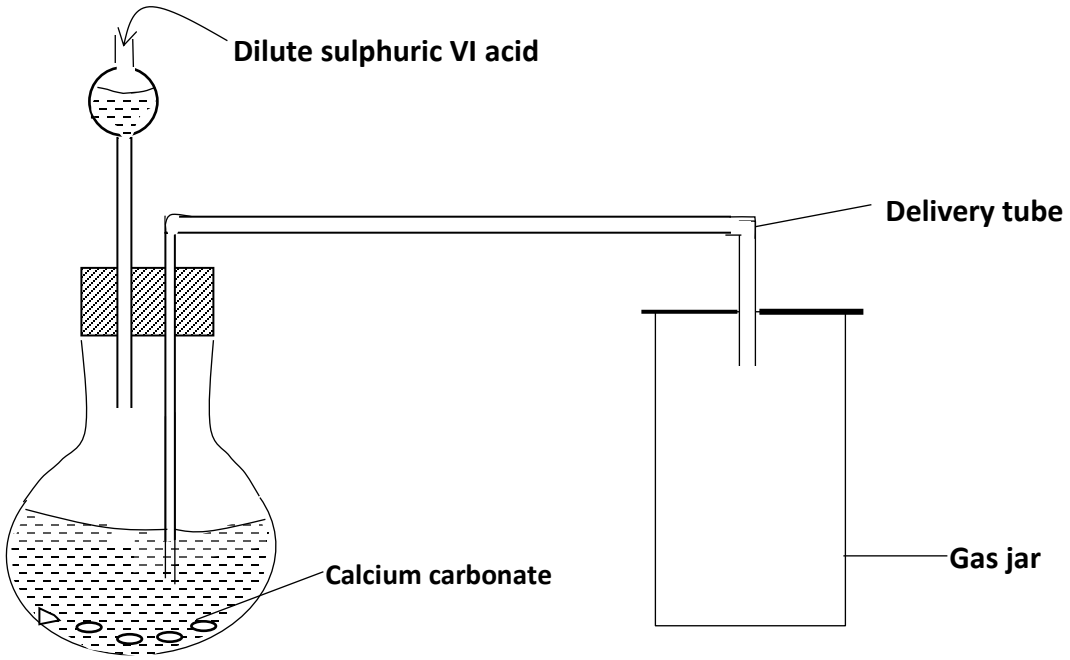
b) Answer all the questions in the spaces provided.

c) Mathematical table and electronic calculator may be used.

d) All working must be clearly shown where necessary.

e) Students should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1. a) A Form KCSE Candidate student set up apparatus as shown below to prepare carbon iv oxide gas.



(i) Write a chemical equation for the reaction taking place in the flask **(1mk)**

……

……

(ii) Identify two errors in the arrangement of the setup above **(2mks)**

……

……

(iii) The reaction started and then stopped immediately, explain this observation. **(2mk)**

……

……

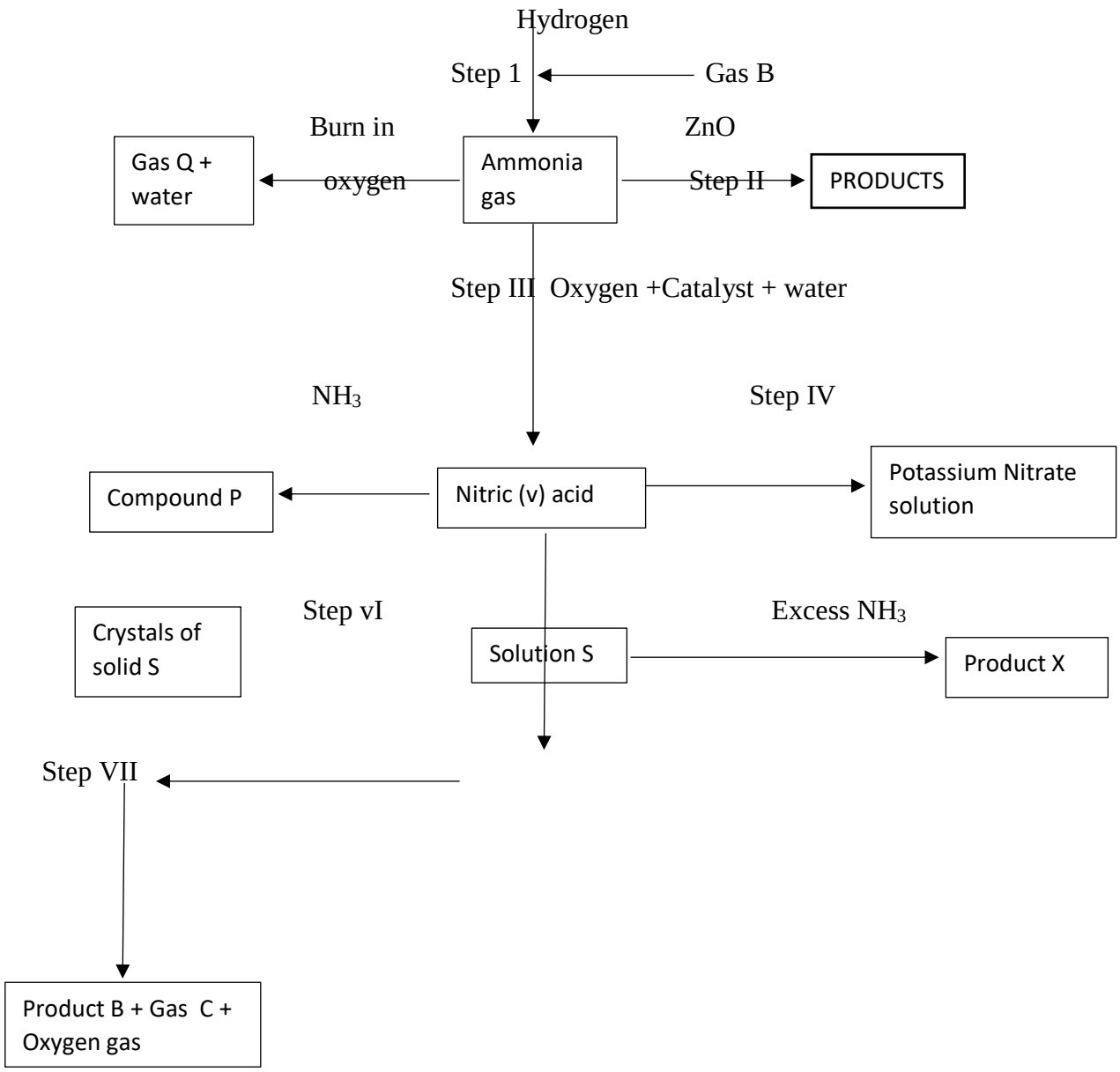
……

iv) State any **two** uses of carbon iv Oxide apart from fire extinguisher **(1mks)**

……

……

b) Study the flow chart below and answer the question that follow



I) State **one** source of gas B **(1 mark)**

II) Name the catalysts used in; **(2 marks)**

i)Step I

ii)Step III

III) Write balanced chemical equations for the reactions that took place in the following steps;

II 1mk

V II 1mk

IV) State the observation made in the step where ammonia is added to solution S **dropwise till in excess** to form product **X** **(1mk)**

V) What name is given to the reactions taking place in the following steps; **(3mks)**

II -

IV-

VI-

2. The grid below shows a part of the periodic table. The letters do not represent the actual Symbols. Use it to answer the questions that follow: -

C								T
	K					U		
X	Y		M			Q	W	
J							D	Z

(a) **Compare** the atomic radius of element M and W (2mks)

(b) (i) Draw the structure of the **ion** of Q and show its nuclear composition (**Q=32)** **(2mk)**

(ii) The oxide of element Y and the oxide of element Q were separately dissolved in water. State and explain the effect the solutions would have on blue and red litmus papers. **(2mk)**

(c) (i) The ionic configuration of element G is 2.8. G forms an ion of the type $G^{-1.}$ Indicate on the grid, the position of element G. **(1mk)**

(ii) The melting point of element D is higher than that of element W, explain this observation. **(1mk)**

(iii) State two industrial uses of element U **(1mk)**

d) 0.92 grams of element X were reacted with excess dilute sulphuric vi acid and the gas evolved collected. If the reaction took place at room temperature and pressure, calculate the volume of the gas produced. (MGV=24dm^3, X= 23**).** **(3mk)**

3.a)The table below shows the PH values of some solutions;

solution	PH
Y	9
G	2
F	6.5
R	7
V	14

a) Choose a solution that is likely to be;

i) Aluminium chloride solution - **(½ mk)**

ii) Sodium Chloride solution - **(½ mk)**

iii) Potassium hydroxide solution- **(½ mk)**

b) What color would solution Y show with phenolphthalein indicator**.** **(½ mk)**

c) Describe how a pure and dry sample of lead sulphate can be prepared given the following reagents; dilute nitric (v) acid, solid potassium sulphate, lead carbonate and distilled water and other laboratory apparatus. **(3mk)**

……

……

……

……

……

d) A student from Ushindi high school found two unlabelled beakers containing magnesium nitrate and magnesium carbonate solids. Describe an experiment the student would have carried out in order to label the two beakers appropriately. **(2mk)**

……

……

……

……

e) A sample of a green solid was strongly heated in a boiling tube. A colorless gas that formed a white precipitate with calcium hydroxide solution was evolved and a black residue was left. When dilute nitric (v) acid was added to the black solid, a blue solution was formed.

i) Write the formulae of the anion present in the green solid. **(1mk)**

……

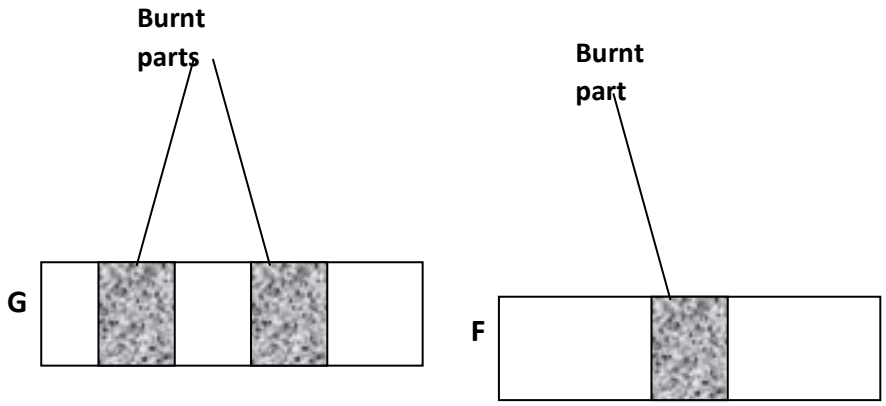
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ii) Write a balanced chemical equation for the reaction that took place between the black solid and dilute nitric (v) acid. **(1mk)**

……

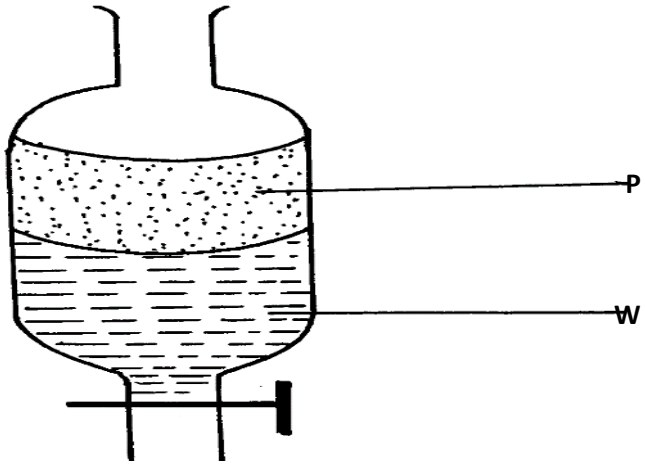
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4. a) Wooden splints **F** and **G** were placed in different zones of the non-luminous of a Bunsen burner . The diagram below gives the observations that were made.



Explain the difference between **F** and **G** **(2marks).**

b)A mixture of oil and water was shaken and left to separate as shown in the diagram below:



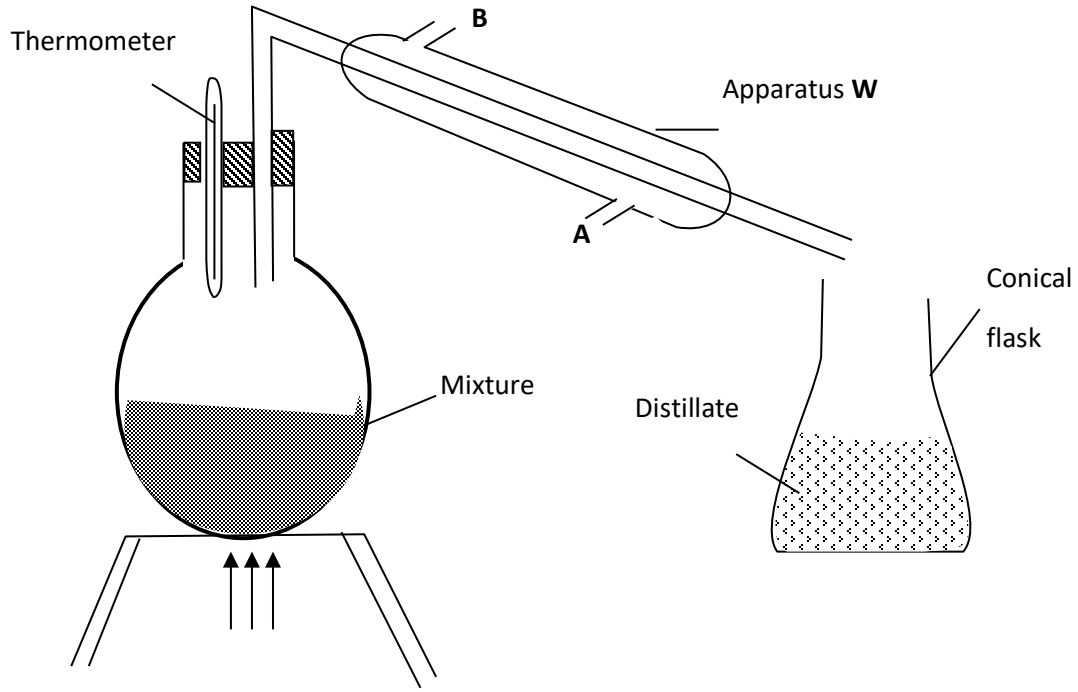
i)State the identity of; **(1mk)**

P

W

ii) State two properties of the above liquids that helped them to get separated. **(2mk)**

c) A student left some crushed fruit mixture with water for some days. He found the mixture had fermented. He concluded that the mixture was contaminated with water and ethanol with boiling point of 100^{o}C and 78^{o}C respectively. The set-up of apparatus below is used to separate the mixture.



i. Name the piece of apparatus labelled **W** **(½ mk)**

ii. What is the purpose of the thermometer in the set-up? **(½ Mk)**

iii. At which end of the apparatus **W** should tap water entry be connected**?** **(½ mk)**

iv. Which liquid was collected as the first distillate? Explain. **(1mk)**

v. What is the name given to the above method of separating mixture? **(½ mk)**

vi. State **two** applications of the above method of separating mixtures**.** **(1mk)**

d)During the extraction of Sulphur from underground deposits, three concentric pipes are dipped into the ground.

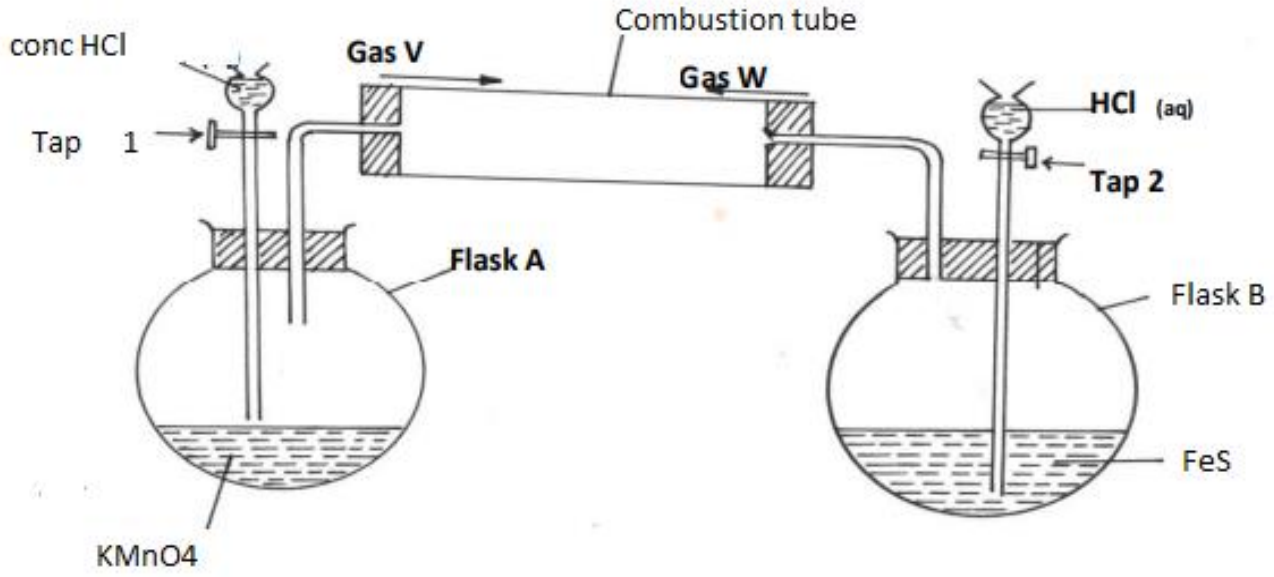
i) State two properties of sulphur that makes it possible to be extracted sulphur using this method. **(2mk)**

ii) Give a reason why the super-heated water is placed through the outermost pipe**.** **(1mk)**

iii) What is the function of the hot air placed in the inner most pipe. **(1mk)**

5 .A student in Magondo High School set up the following arrangement to prepare and react gases V and W. Use it to answer the questions that follow.(H=1, S=32, Cl=35.5)

Tap 1 and 2 were opened at the same time.



a) Write a balanced equation for the chemical reaction that took place in the flask A. **(1mk)**

……

……

b) State and explain the observations that were made in flask B and combustion tube.

Flask B **(1 ½ mk)**

Combustion tube **(1 ½ mk)**

c) Mark on the diagram, the approximate position where reaction occurred in the combustion tube. Explain your answer. **(2mks)**

……

……

……

d) State one possible objective of this experiment other than testing whether gas V reacts with W. **(1mk)**

……

……

e) State one precaution which should be taken when carrying out the experiment**.** **(1mk)**

……

……

f) Apart from KMnO4 list any other two that could have been used with hydrochloric acid in flask **A.** **(2MK)**

……

……

6. a) $120cm^3$ of oxygen gas takes 75 seconds to diffuse through a hole. Calculate the relative molecular mass of gas Q whose $120cm^3$ takes 50 seconds to diffuse through the same hole. (O=16) **(2mk)**

b)i) Draw a graph representation of Boyles Law**.** **(1mk)**

ii) A certain gas occupies 45cm^3 at a pressure of 790mmHg and a temperature of 27^{0}c. What volume would the gas occupy if the temperature was doubled and the pressure is changed to 650mmHg? **(2mk)**

c) State Gay Lussac's Law. **(1mk)**

……

……

d) . A hydrocarbon gas Y in which the percentage of hydrogen by mass is 14.3% and the rest carbon occupies a volume of 4.48dm3 at s.t.p and weighs 14g (MGV=22.4dm^3)

(i) Determine the empirical formula of y. (C= 12,H=10 **)** **(2mks)**

(ii) Give the molecular formula of Y. **(2 mk)**

iii) To which homologous series does Y belong**?** **(1mk)**

7. a) Draw the structure of the following compounds. **(2mk)**

i) Pent-2-ene

ii) 2, 4-dichloro-2, 3-dimethylpentane

b) Describe a simple experiment to show how ethane and ethane can be differentiated in the laboratory**.** **(2mk)**

c)i) Define the term isomerism. **(1mk)**

i)Draw and name all possible isomers of C_4H_{10} **(3mk)**

d) Ethane gas was reacted with one mole of chlorine gas and two products were formed;

i) What condition must be present for the above reaction to take **place** **(1mk)**

ii) What name is given to such a reaction **(1mk)**

iii) Draw the compound formed in the above reaction. **(1mk)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 3

TIME: 2 HOURS

CONFIDENTIAL

Requirements for the student

In addition to the apparatus and fittings found in a chemistry laboratory, each candidate will require the following:

1. *About 200 cm^3 of solution **T**.*
2. *About 150 cm^3 of solution **R**.*
3. *Three conical flasks.*
4. *Six clean dry test tubes.*
5. *One boiling tube.*
6. *A clean dry spatula.*
7. *1.0g of solid **V** measured accurately and supplied in a stoppered container.*
8. *About 0.5g of solid F supplied in a stoppered container.*
9. *About 0.5g of solid H supplied in a stoppered container.*
10. *About 0.3g of sodium hydrogen carbonate supplied in a stoppered container.*
11. *A 50ml burette.*
12. *A 25ml pipette.*
13. *A pipette filler.*
14. *A means of labelling.*
15. *100ml measuring cylinder.*
16. *10ml measuring cylinder.*
17. *Blue and red litmus papers.*
18. *Distilled water.*
19. *Test tube holder*
20. *filter funnel*
21. *clamp and stand*
22. *white tile*

Access to:

1. Acidified potassium manganate (VII) supplied with a dropper.
2. 2M Ammonia solution supplied with a dropper.
3. Universal indicator and pH chart.
4. Hydrogen peroxide (20v/v) supplied with a dropper.
5. A source of heat.
6. Methyl orange indicator supplied with a dropper.

Notes:

1. Solution **T** is a 0.2M hydrochloric acid solution.
2. Solution **R** is 0.2M sodium hydroxide solution.
3. Solid V is a mixture of 0.5g calcium carbonate and 0.5g sodium chloride both measured accurately.
4. Solid H is ascorbic acid.
5. Solid F is hydrated ammonium iron ii sulphate.
6. Acidified $KMnO_4$ prepared by dissolving 3.16g of $KMnO_4$ in 400cm3 of 2M H_2SO_4 and topping up to 1litre with distilled water.

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 3

TIME: 2 ¼ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

233/3

CHEMISTRY

PAPER 3

INSTRUCTIONS TO CANDIDATES

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

b) *Answer all the questions in the spaces provided.*

c) *Mathematical table and electronic calculator may be used.*

d) *All working must be clearly shown where necessary.*

e) *Students should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

QUESTION	MARKS	STUDENT SCORE
1	26	
2	6	
3	8	
TOTAL	40	

You are provided with:

1. -1.0g of solid **V** - impure calcium carbonate.

-Solution **T,** dilute hydrochloric acid.

-Solution **R,** 0.2M sodium hydroxide solution.

You are required to determine:

-Concentration of dilute hydrochloric acid.

-The percentage of calcium carbonate in the mixture solid **V.**

Procedure I

Fill the burette with dilute hydrochloric acid, solution T .Pipette 25.0 cm^3 of **solution R** into a conical flask. Add 3 drops of methyl orange indicator. Titrate with dilute hydrochloric acid, **solution T** from the burette until the indicator just turns pink. Record the results in the table I below. Repeat the titration two more times to complete the table.

Table 1

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

[4 marks]

(a) Calculate the:

(i) Average volume of solution **T** used. **[1 mark]**

(ii) the number of moles of sodium hydroxide, solution **R** contained in 25.0 cm^3 of 0.2M sodium hydroxide. **[2 marks]**

(iii) Write the equation of reaction between sodium hydroxide and the hydrochloric acid. **[1 mark]**

(iv) Calculate the number of moles of hydrochloric acid, solution **T** contained in the volume used. **[1 mark]**

(iv) Calculate the molarity of hydrochloric acid solution **T.** **[1 mark]**

Procedure II

Put all the mixture **V** provided into a clean conical flask. Using a 100 cm^3 measuring cylinder , measure 100 cm^3 of the dilute hydrochloric acid, solution **T** and add it to mixture V in the conical flask. Swirl the contents of the flask until effervescence stops. Label this solution as **M**.

Rinse the burette with distilled water and fill it with sodium hydroxide solution R. Using a clean pipette, transfer 25.0 cm^3 of solution **M** into a clean conical flask. Add 3 drops of methyl orange indicator and titrate with the 0.2M sodium hydroxide, solution **R** from the burette until

the indicator just turns from pink to yellow. Repeat the titration two more times to complete the table II below.

Table 2

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

[4 marks]

(b) Calculate the:

(i) Average volume of sodium hydroxide used. [1 mark]

(ii) number of moles of sodium hydroxide present in the average volume of the Solution. [2 marks]

(iii) Number of moles of hydrochloric acid in the 25.0cm^3 of solution **M** used. [1 mk]

(iv) number of moles of hydrochloric acid contained in 100 cm^3 of solution **M**. [1 mk]

(v) number of moles of hydrochloric acid contained in 100 cm^3 of solution **T**. [1 mk]

(vi) number of moles of hydrochloric acid that reacts with calcium carbonate present in solid V**.** [1 mark]

(vii) Write an equation for the reaction between calcium carbonate and hydrochloric acid [1 mark]

(viii) Number of moles of calcium carbonate that reacted with the acid. [2 mark]

(ix) Mass of calcium carbonate present in 1.0g of the mixture (Ca = 40; O = 16, C= 12). [1 marks]

(x) Determine the percentage of Calcium Carbonate present in the mixture. [1 mark

2. You are provided with solid **F**. Carry out the tests below and record your observations and inferences in the spaces provided.

(a) Place about a **third** of the solid **F** in a test tube and heat. Test any gases produced using moist blue and red litmus papers.

Observations	**Inferences**
[1 mark]	**[1 mark]**

(b) Put the entire remaining solid **F** into a boiling tube and add about 5.0 cm^3 of distilled water and shake well to dissolve. Divide the solution into two equal portions.

(i) To the first portion, add ammonia solution drop-wise until in excess.

Observations	**Inferences**
[1 mark]	**[1 mark]**

(ii) To the second portion add 5 drops of hydrogen peroxide and warm. Then add ammonia solution drop-wise until in excess.

Observations	**Inferences**
[1 mark]	[1 mark]

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

(a) Put **a third** of the solid **H** on a spatula and ignite it in a non-luminous flame.

Observations	**Inferences**
[1 mark]	[1 mark]

(b) Put all the remaining solid **H** into a boiling tube and add about $10cm^3$ of distilled water and shake well to dissolve. Divide the solution into three equal portions.

(i) Put the rest of the solid in a boiling tube. Add about $6cm^3$ of distilled water and shake. Note down the observations and inferences in the spaces provided. Divide the resulting solution into three portions

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

(ii) To the first portion, add 3 drops of acidified potassium manganate (VII) and warm.

Observations	**Inferences**
[1 mark]	[1 mark]

(iii) To the 2nd portion, add all the sodium hydrogen carbonate provided.

Observations	**Inferences**
[1/2 mark]	**[1/2 mark]**

(iv) Test the pH of the 4th portion using universal indicator solution provided

Observations	**Inferences**
[1/2 mark]	**[1/2 mark]**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:-

- *Write your name, Admission number and class in the spaces provided above.*
- *This paper consists of two sections; A and B*
- *Answer all the questions in section A and B in the spaces provided*
- *All working must be clearly shown.*
- *Mathematical tables and electronic calculators may be used*
- *Candidates should answer the questions in English.*
- *Take g=10N/kg*

FOR EXAMINER'S USE ONLY:

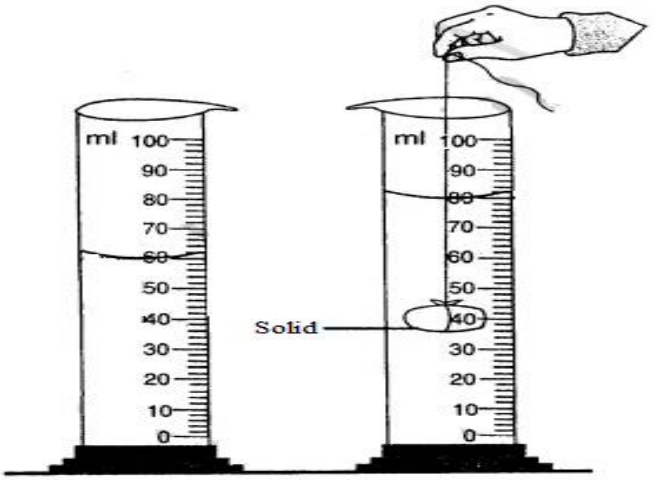
Section	Question	Maximum Score	Candidate's Score
A	1 – 12	25	
	13	8	
	14	10	
B	15	11	
	16	13	
	17	13	
Total Score		80	

SECTION I (25 MKS)

1. Name the instrument that would be most suitable for measuring the thickness of one sheet of this question paper **.** **(1mk):**

……

2. Figure below shows a measuring cylinder which contains water initially. A solid of mass 10g is immersed in water, the level rises to a new level as shown.



Determine

i) Volume of solid in **cm^3** **(1mk)**

……

……

ii) Density of the solid in SI unit (give your answer to 1 decimal place) **(2mks)**

……

……

3. Water is known to boil at 100^0C. A student heated some water and noticed that it boiled at 101^0C. State one possible reasons for this observation. **(1mk)**

……

……

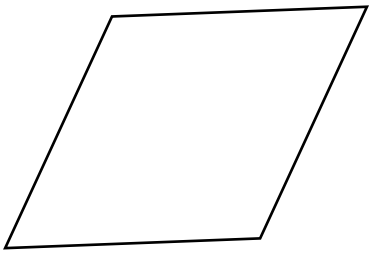
4. A steel needle when placed when place carefully on water can be made to float. When a detergent is added to the water it sinks. Explain this observation**.** **(2mks)**

……

……

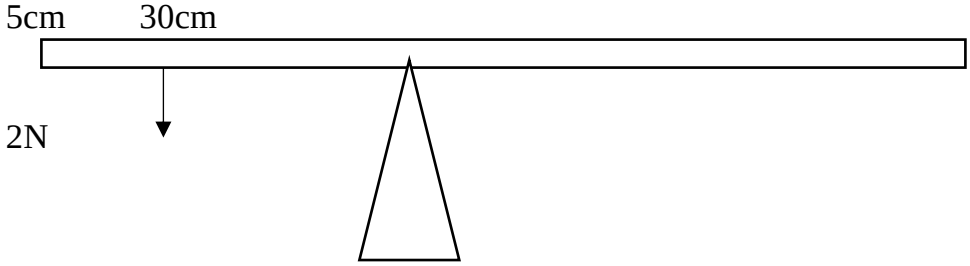
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5. Figure below shows a uniform cardboard in the shape of a parallelogram.



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

6. Figure below shows a uniform metre rule pivoted at 30cm mark. It is balanced horizontally by a weight of 2N suspended at the 5cm mark.



Determine the weight of the metre rule. **(2mks) .**

……

……

……

7. A bottle containing a smelling gas is opened at the front bench of a classroom. State the reason why the gas is detected throughout the room. **(1mk)**

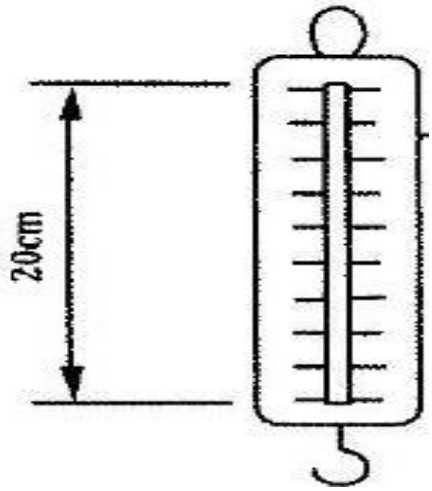
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8. Figure below shows a spring balance . Its spring constant is 125N/m. The scale spreads over a distance of 20cm.



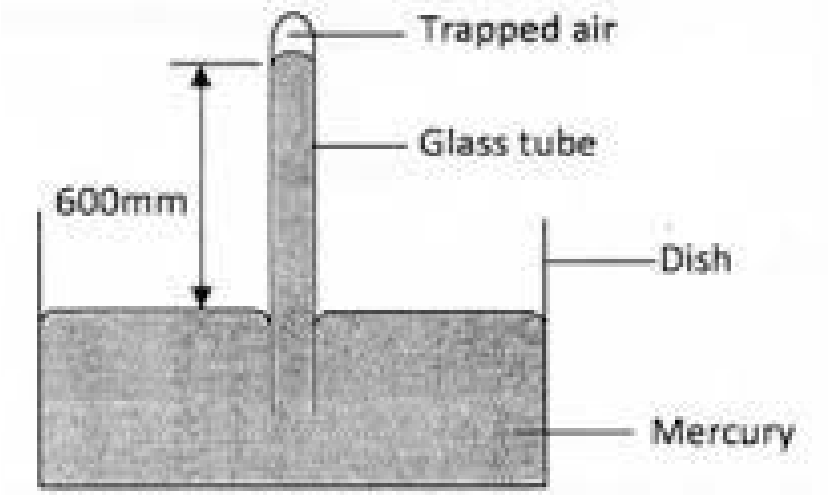
Determine the maximum weight that can be measured using this spring**.** **(3mks)**

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9. Figure below shows some air trapped by mercury in a glass tube. The tube is inverted in a dish containing mercury.



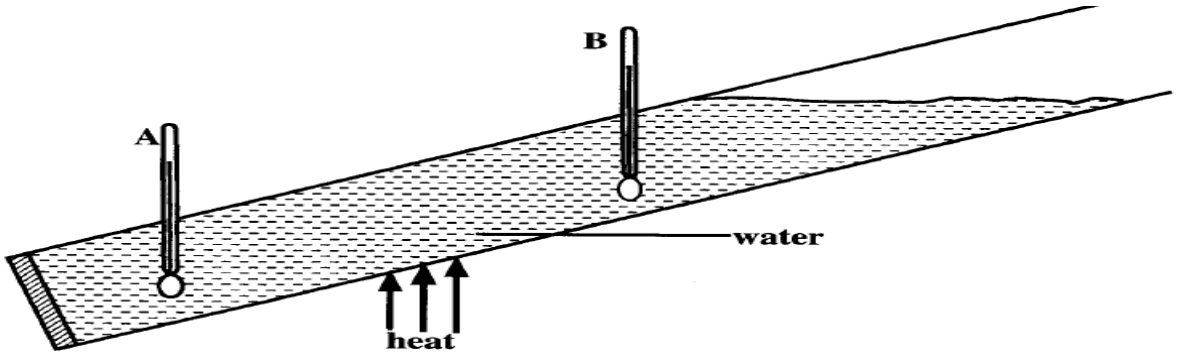
Given that the atmospheric pressure is 760mHg and the height of mercury column in the tube is 600mm, determine the pressure of the air trapped in the tube in mmHg. **(2mks)**

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……

10. Figure below shows a glass tube with water fitted with two identical thermometers A and B. it is heated as shown.



a) State which of the two thermometers shows higher temperature. **(1mk)**

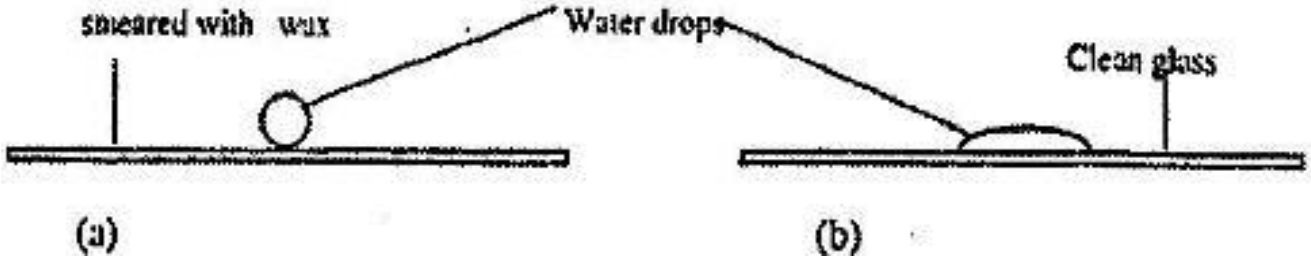
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b) Give a reason for your answer in (a). **(2mks)**

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……

11. Figure below shows water drops on two surfaces. In (a) the glass surface is smeared with wax while in (b) the glass surface is clean.



Explain the difference in the shapes of the drops. **(2mks)**

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12. A pipe of radius 6mm is connected to another pipe of radius 9mm. if water flows in the water pipe at the speed of 2m/s what is the speed in the narrower pipe. **(3mks)**

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SECTION B(55MKS)

13. a) In an experiment to determine the size of oil molecule. Oil drop is placed on the surface of water after sprinkling lycopodium powder on it.

i) State one reason why oil is **used** **(1mk)**

……

……

(ii) State the function of lycopodium powder. **(1mk)**

……

……

(iii) State two assumptions that are made in this experiment **(2mk)**

……

……

(iv) Explain why oil spread on the surface of water . **(1mk)**

……

……

b) The following data was obtained from an experiment to determine the size of an oil molecule.

- Volume of 100 drops = $15mm^3$
- Area of the patch = 8×10^4 mm^2

i) Determine the volume of one drop. **(1mk)**

……

……

……

ii) Determine the thickness of oil molecule **.** **(3mks)**

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14 a) Define the term efficiency as used in machines **(1mk).**

……

……

b) A block and tackle system has 3 pulleys in the upper fixed block and 2 in the lower movable block. The system is used to lift a load L using effort E.

Draw a well labeled diagram to show the arrangement of system where the effort E is used to lift load L**.** **(3mks)**

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(ii) Determine the velocity ratio of the system**.** **(1mk)**

……

……

c) A machine of velocity ratio 4.5 overcome a load of 4.5×10^3 N. When on effort of 135N is applied. Determine.

i) Mechanical advantage of the machine. **(2mks)**

……

……

……

ii) Efficiency of the machine**.** **(2mks) .**

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……

……

iii) Percentage of work that goes to waste. **(1mk)**

……

……

15. a) State two quantities that must be kept constant in order to verify Boyles Law. **(2mks)**

……

……

b) An air bubble at the bottom of a container full of water becomes larger as it rises to the surface. State reasons why:

i) The bubble rises to the surface**.** **(1mk)**

……

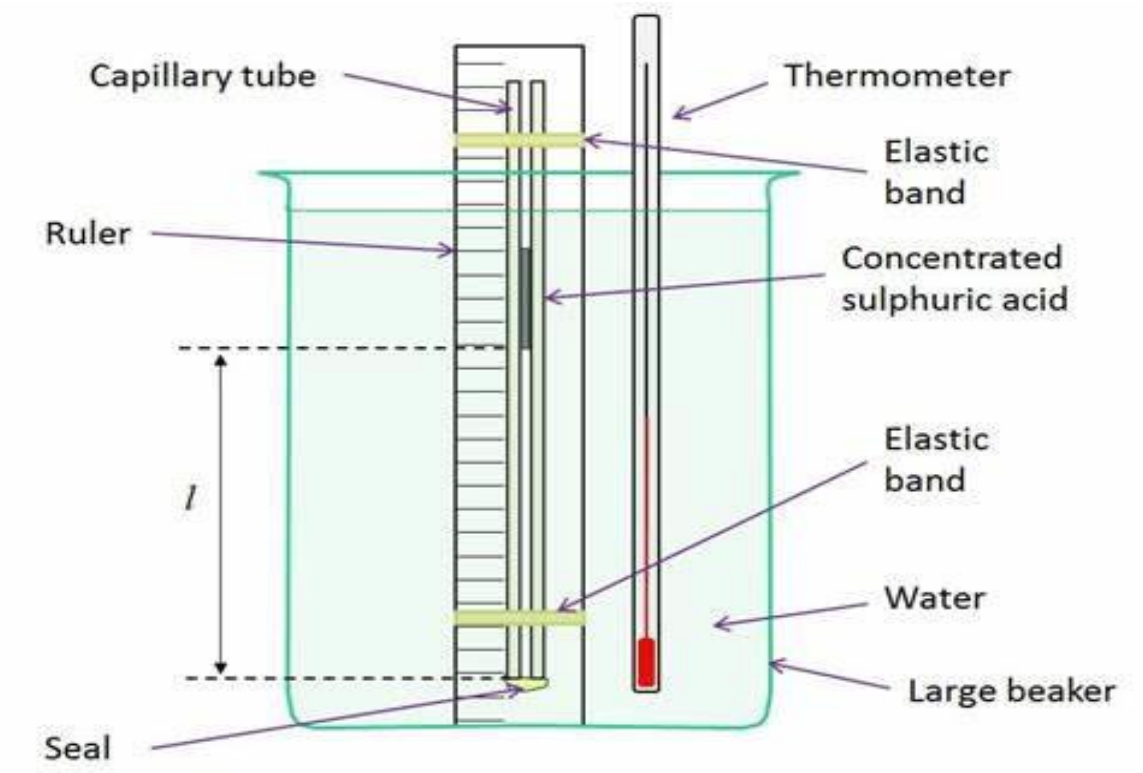
……

ii) The bubble comes larger as it rises . **(1mk).**

……

……

c) The diagram below shows an experiment to investigate the relationship between volume and temperature of a fixed mass of a gas at constant pressure.



i) Explain the function of concentrated sulphuric acid. **(2mks) .**

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ii) State two measurements taken in the above experiment. **(2mks)**

……

……

d) A mass of air of volume 750cm^3 is heated at constant pressure from 10^0 C to 100^0 C. determine the final volume of the air. **(3mks)**

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16. a) Distinguish between the terms heat capacity and specific heat capacity**.** **(2mks).**

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b) The diagram below shows a set up used to determine the specific heat capacity of a metal block.

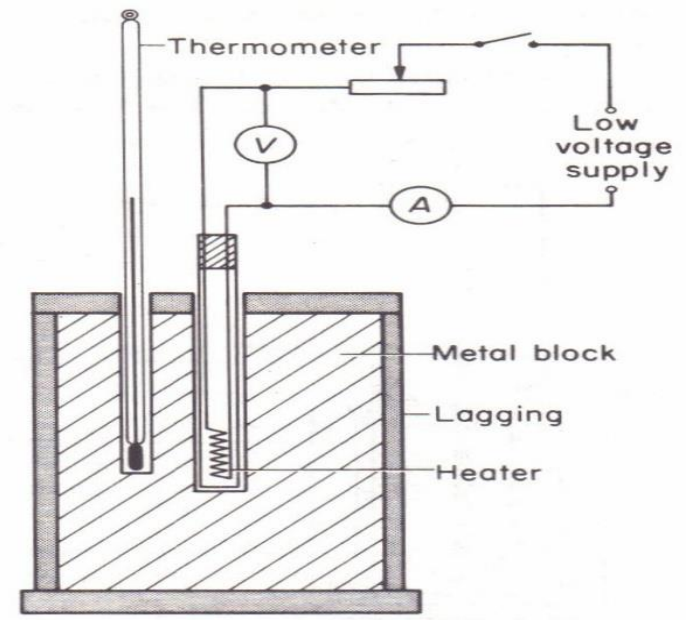


Fig. 42.1. Simple solid block calorimeter

i) State 2 measurements that should be taken in the experiment to determine specific heat capacity of the block**.** **(2mks)**

……

……

ii) Indicate on the diagram where oil should be put and state the purpose of oil in the set up. **(2mks) .**

……

……

c) A metal block of mass 2.0kg is heated electrically. The voltmeter read 12 volts and ammeter 4.0A. temperature of the metal block increased from 25^0C to 75^0C in 10 minutes. Assuming no heat loss to the surrounding. Determine:

i) Heat supplied by the heater**.** **(2mks)**

……

……

……

ii) Heat gained by the metal cylinder **(1mk) .**

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……

iii) Specific heat capacity of the metal block**.** **(2mks)**

……

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d) State 2 factors that affect the rate of evaporation of a liquid**.** **(2mk)**

……

……

17.a) i) State the newton first law of motion . **(1mk)**

……

……

ii) a vehicle of mass 2 tonnes travelling at a velocity Vm/s has a momentum of 7.2×10^4 Kg m/s determine its velocity V**.** **(3mks)**

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……

b) Two bodies of masses 10 kg and 16 kg moving in the same direction with velocities 20 m/s and 15m/s respectively collide in elastically. Determine the common velocity of the bodies after collision**.** **(3 marks)**

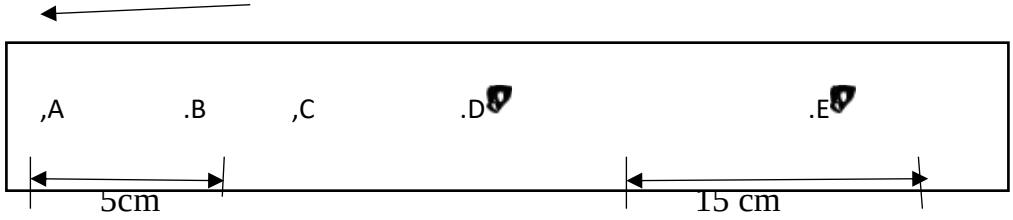
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c) The figure below shows a section of Tape after passing through a ticker timer operated at a frequency of 50 Hz.The tape is attached to a trolley moving in the direction shown**.**



Determine

time taken for one tick **interval** **(1 mk).**

……

……

ii) velocities between points AB and DE. **(2mks)**

……

……

……

iii) Acceleration of the body over interval AE **(2 mks)**

……

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……

FORM 4 MIDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:-

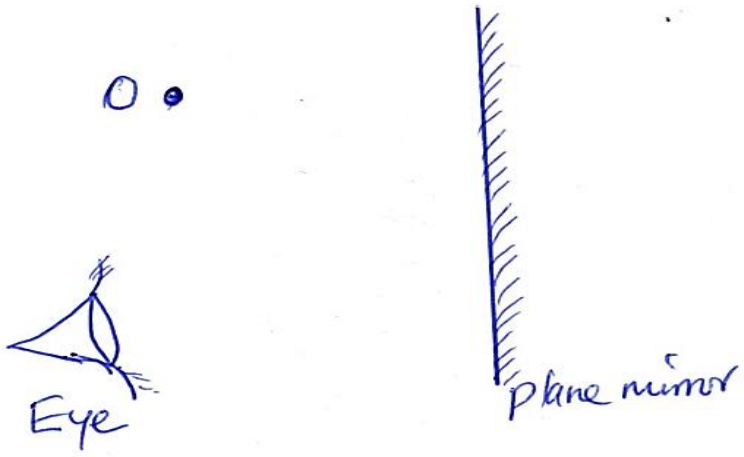
- *Write your name, Admission number and class in the spaces provided above.*
- *This paper consists of two sections; A and B*
- *Answer all the questions in section A and B in the spaces provided*
- *All working must be clearly shown.*
- *Mathematical tables and electronic calculators may be used*
- *Candidates should answer the questions in English.*
- *Take g=10N/kg*

FOR EXAMINER'S USE ONLY:

Section	Question	Maximum Score	Candidate's Score
A	1 – 11	25	
	12	12	
	13	11	
B	14	12	
	15	9	
	16	11	
Total Score		80	

SECTION A (25 MARKS)

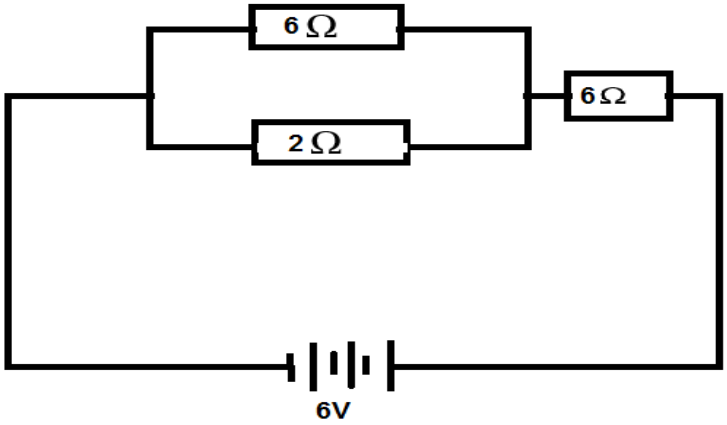
1. The diagram below shows an object O placed in front of a plane mirror.



Draw rays to locate the position of the image as seen by the eye. **(2mks)**

2. The wavelength of a wave in air was 1.33M and 1.0 M in another medium when the wave travelled from air to that medium. Determine the refractive index of that medium **(3mks)**

3. The figures below shows a 6V battery connected to an arrangement of resistors. determine :



i. Effective resistance in the circuit **(2mks)**

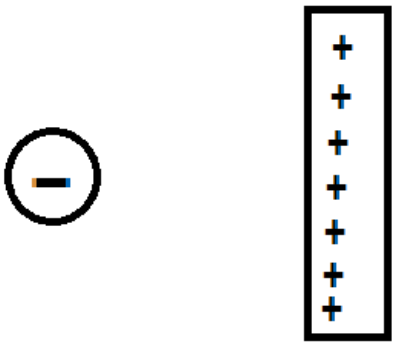
ii. Current flowing through the 2 Ωresistor **(2mks)**

4. Explain how polarization affects the working of a simple cell **(1mk)**

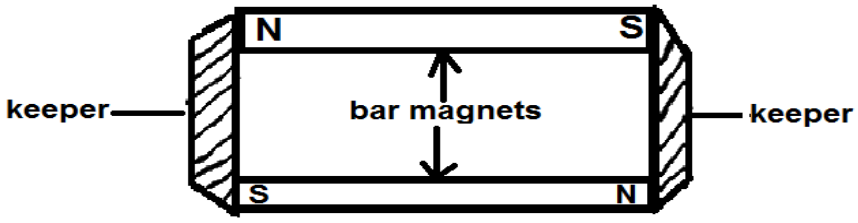
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5. The figure below shows a negative point charge near a positively charged rod. Draw on the figure the resulting electric field pattern **(2mks)**



6. The figure below shows how magnets are stored in pairs with keepers at the end.



(i). Name the most suitable metal used to make the keepers **(1mk)**

(ii). Explain how the metals above help in retaining magnetism longer **(1mk)**

……

……

7. State three (3) uses of electroscope **(3mks)**

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8. A form 2 student rubbed a comb against his dry hair, thereafter he brought the comb closer to small pieces of paper.

(i). State the observation made **(1mk)**

……

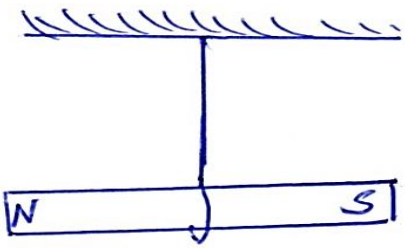
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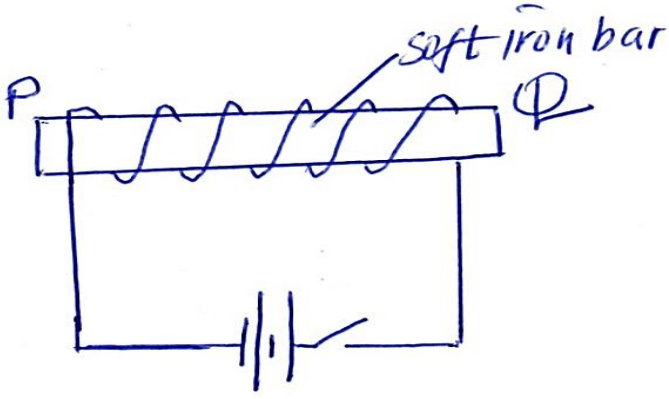
(ii). Explain the above observation **(1mk)**

……

……

9. The figure below shows a soft iron bar PQ placed in a coil near a freely suspended magnet





(i). State what is observed when the switch is **closed** **(1mk)**

……

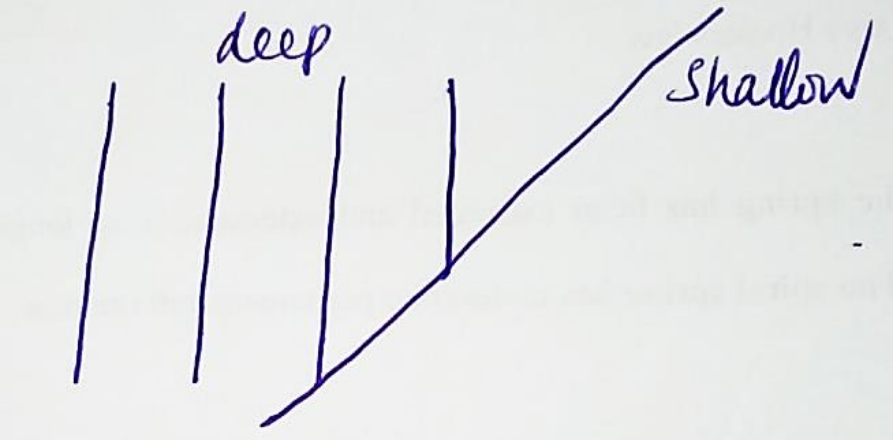
……

(ii). Explain the above observation **(1mk)**

……

……

10. The figure below shows progressive waves coming from a deep to a shallow region.



Draw on the diagram to show how the waves proceed in the shallow region **(2mks)**

11. A form 2 student placed a current – carrying conductor between a north and a south pole of two bar magnets as shown below.



(i). Using an arrow show the direction of motion of the conductor after it experiences a force when the current is switched on. **(1mk)**

(ii). State the rule you have applied to determine the direction of motion of the conductor **(1mk)**

……

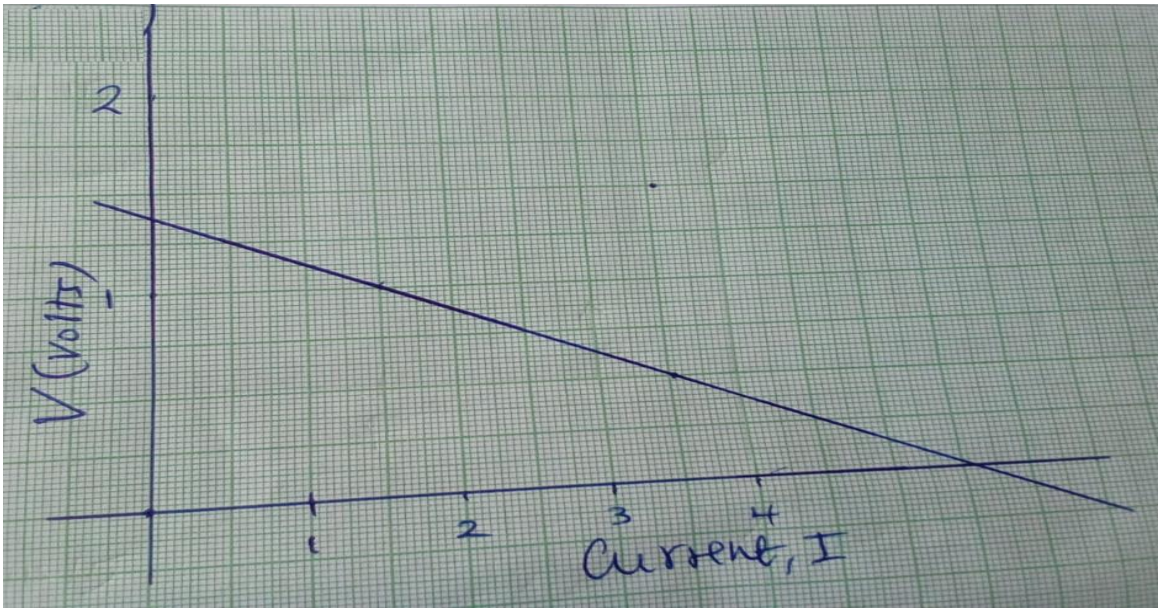
……

12. (a) State ohms law (1mk)

……

……

(b) In an experiment to determine the internal resistance of a cell, a form 3 student drew the following graph after obtaining values of currents, I and their corresponding Terminal voltages, V.



From the graph determine the

a) internal resistance , r of the cell **(3mks)**

b) the EMF of the cell **(1mk)**

(c) State two (2) factors affecting amount of heat energy in an electric heater **(2mks)**

(d) The heating element of an iron box is made of a wire of resistance 28.8 ohms and the power supply is 240v. Determine

i. the power rating of the iron box **(3mks)**

ii. then current flowing in the circuit **(2mks)**

(c) State two(2) factors affecting amount of heat energy in an electric heater **(2mks)**

……

……

13. (a) State snells law **(1mk)**

……

……

(b) A coin is placed beneath a transparent block of thickness 10cm and reflective index 1.56. Calculate the vertical displacement of the coin. **(2mks)**

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(c) (i) Define critical angle **(1mk)**

……

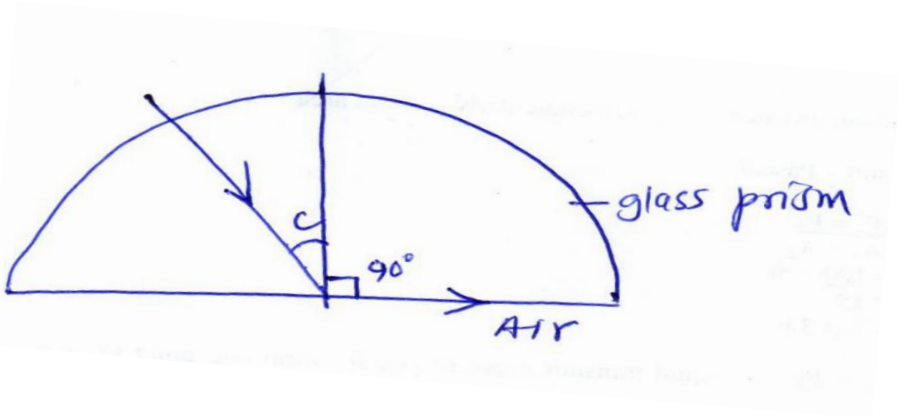
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(ii)State the conditions for total internal reflection to take place**.** **(2mks)**

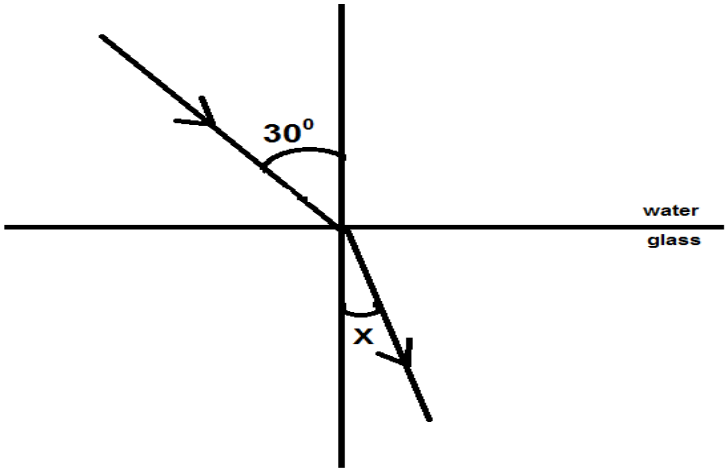
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(d) The diagram shows light travelling from a glass prism to air. If the reflective index of the glass prism is 1.5464, determine the critical angle, C.



(e) The reflective indices of water and glass are 4/3 and 3/2 respectively.



Find value X in the figure below. **(3mks)**

14. (a) State what is meant by the term capacitance **(1mk)**

……

……

(b) Distinguish between a paper Capacitor And An Electrolyte Capacitor **(1mk)**

……

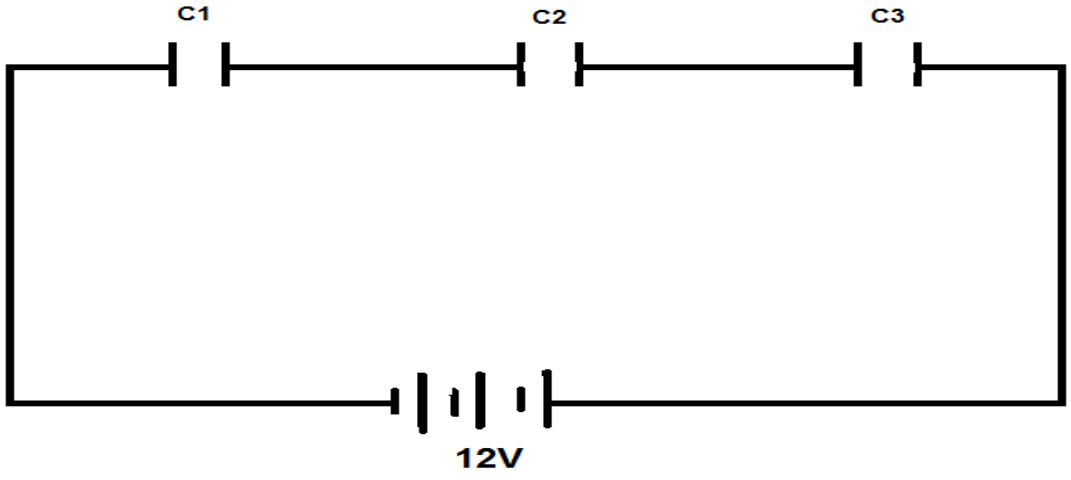
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(c) State two (2) factors that determine capacitance of a parallel plate capacitor **(2mks)**

……

……

(d) The figure below shows a network of capacitors in series



(i). Derivean expression for their effective capacitance ce from the first principles **(3mks)**

……

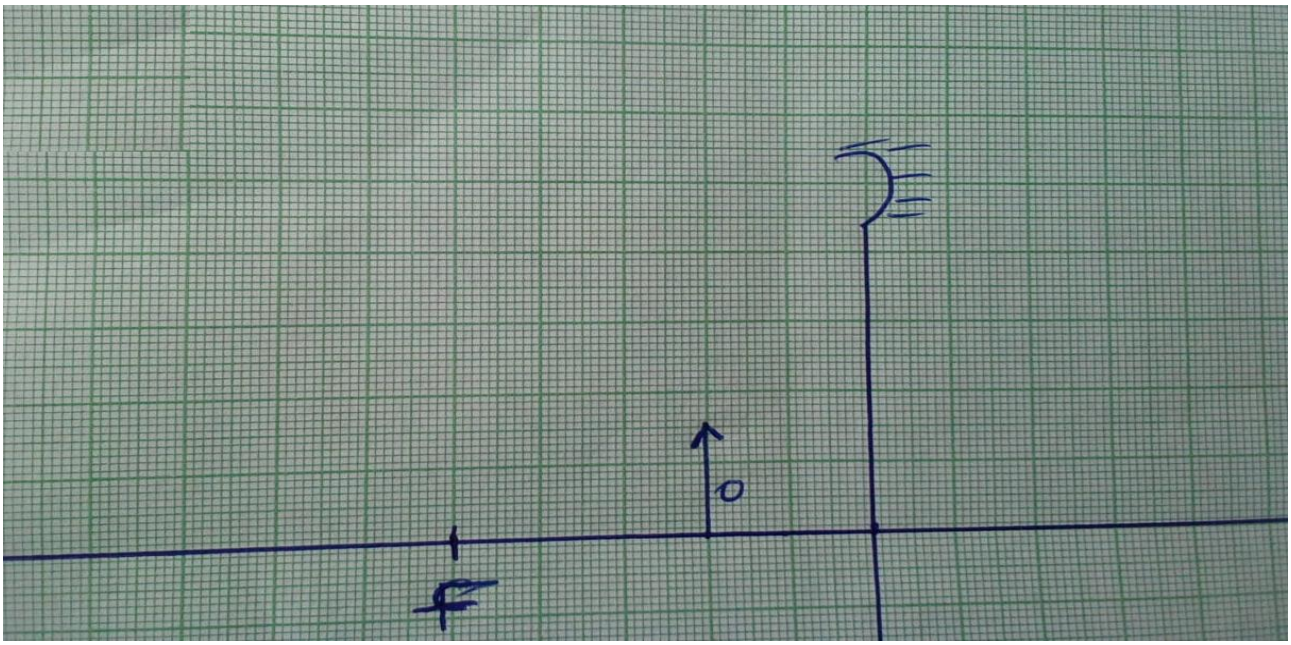
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(ii). Given that c1 = 1.5 mf, c2 = 2mf and c3 = 3mf, calculate the effective capacitance and determine the charge stored on each capacitor **(3mks)**

(iii). State two applications of capacitors **(2mks)**

15. The figure below shows an object placed in front of a concave mirror of focal length 5cm. c is the centre of curvature. (diagram drawn to scale – 1big square represent 1cm x 1cm)



a) On the same diagram draw rays to locate the image **(3mks)**

b) Use the ray diagram you have drawn above to determine the

i. Image distance **(1mk)**

ii. Magnification **(2mks)**

c) A convex mirror of focal length 9cm produces an image on its axis 6cm from the mirror. Determine the position of the object **(3mks)**

16. (a) Distinguish between transverse and longitudinal waves **(1mk)**

……

……

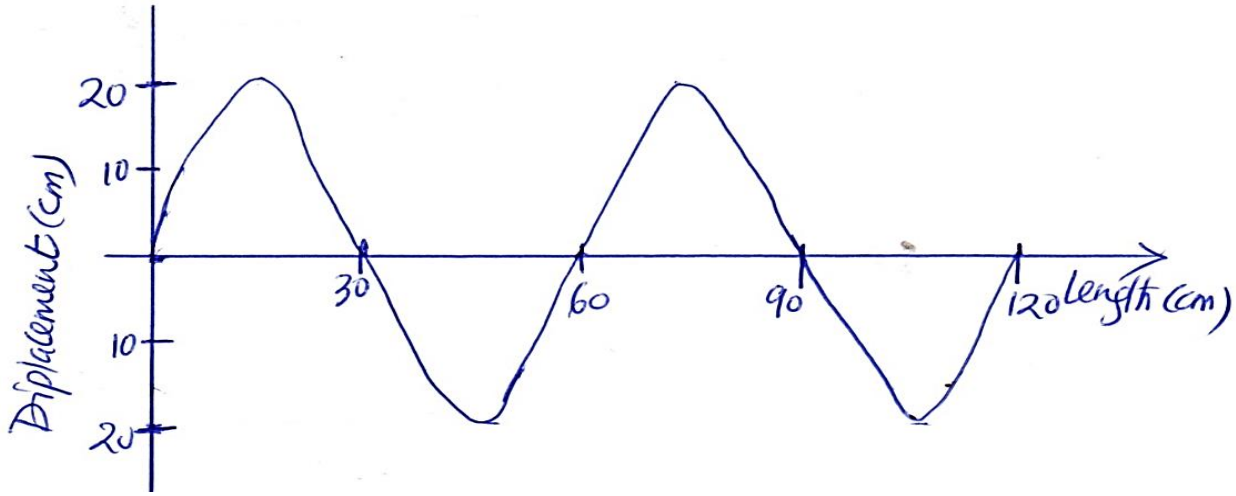
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(b) Water waves are observed as they pass a fixed point at a rate of 30 crests per minute. A particular wave crest takes 2seconds to travel between two fixed points 6m apart. Determine for the wave the:

(i). Frequency **(2mks)**

(ii). Wavelength **(2mks)**

c) The figure below shows a displacement position graph of a slinky spring as it is continuously vibrated at one end.



I. Name the type of wave generated **(1mk)**

II. Determine the amplitude of the wave **(1mk)**

d) Copy the wave in c above and on it draw a wave showing the wave when the frequency is doubled **(2mks)**

e) State two (2) factors affecting velocity of sound in air **(2mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 3

PRACTICAL

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

-The information contained in this paper is to enable the head of school and teacher in charge of Physics to make adequate preparations for this year's Physics joint practical examination. NO ONE ELSE should have access to this paper or acquire knowledge of its contents. Great care must be taken to ensure that the information herein does not reach the candidates either directly or indirectly.

-The Physics teacher is NOT expected to perform the experiments

- The apparatus required by each candidate for the Physics joint practical examination are set out on this page. It is expected that the ordinary apparatus of a Physics laboratory will be available.

- The Physics teacher should note that it is his/her responsibility to ensure that each apparatus acquired, for this examination agrees with specifications on this page.

Question 1

Provide each candidate with the following apparatus.

- *Metre rule*
- *Complete stand*
- *A spring with a pointer of spring constant 10N/m*
- *Three masses (one 100g mass and two 50g mass)*
- *Stop watch*
- *Vernier calipers (to be shared)*
- *Electronic beam balance (to be shared which records to 1dp)*
- *A rubber bung (hard) (D= 25.3 mm, d= 20.0mm and h = 28.1mm) (size of the mouth of boiling tube)*

NB rubber cork can be used and the teacher to come up with marking scheme)

Question2

- *100cm nichrome wire SWG 32mm mounted on millimeter scale*
- *An ammeter 0-3 A*
- *A voltmeter*
- *Two new dry cells*
- *A cell holder*
- *A switch*
- *Six connecting wires (atleast four with crocodile clips at the end)*
- *A torch bulb 2.5v fixed into a lamp holder*
- *A jockey*

FORM 4 MIDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 3

TIME: 2½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

a) *Answer all questions in the spaces provided in the question paper.*

b) *You are supposed to spend the first 15 minutes reading the whole paper carefully before commencing your work.*

c) *Candidates are advised to record their observations as soon as they are made.*

d) *Marks are given for observation actually made, their suitability, accuracy and the use made of them.*

FOR EXAMINER'S USE ONLY

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

QUESTION 1

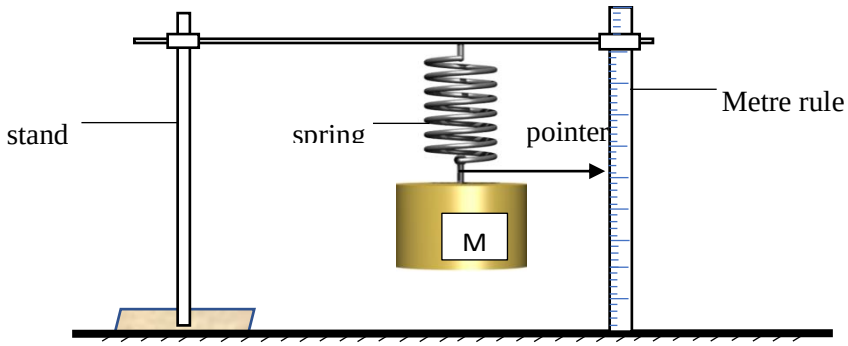
PART A

You are provided with the following;

- Metre rule
- Complete stand
- A spring with a pointer
- Three masses (one 100g mass and two 50g mass)
- Stop watch

Proceed as follows;

a) Set up the apparatus as shown;



b) Hang the unloaded spring and record the pointer readings.

X_0 …….. m (1 mk)

c) i) Load a mass of 150g and determines the extension of the spring

e_1 …… m (1mk)

ii) Displace the 150g mass slightly downwards and release it to oscillate vertically. Time 20 oscillations and obtain t_1.

t_1 …… s (1mk)

iii) find the periodic time T_1.

T_1 …….. s (1mk)

iv) use the equation $T_1 = 2\pi\sqrt{\frac{e}{p}}$ to find the value of P_1. **(2mks)**

……

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……

d) i) Load a mass of 200g and determines the extension of the spring

e_2 …… m (1mk)

ii) Displace the 200g mass slightly downwards and release it to oscillate vertically. Time 20 oscillations and obtain t_2.

t_2 …… s **(1mk)**

iii) find the periodic time T_2.

T_2 …….. s **(1mk)**

iv) use the equation $T_2 = 2\pi\sqrt{\frac{e}{p}}$ to find the value of P_2. **(2mks)**

……

…

e) find the average of p. **(2mks)**

$p_{av} = \frac{p1+p2}{2}$

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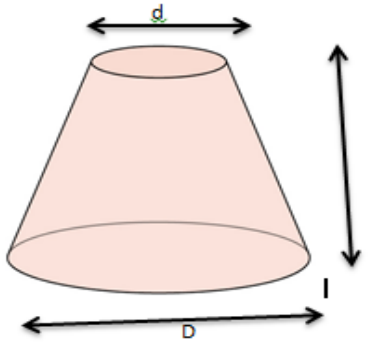
PART B

You are provided with the following;

- A rubber bung
- Vernier calliper
- Beam balance

Proceed as follows

a) Using the Vernier calliper, measure the length D, d and h as shown in the figure.



D……m (1mk)

d……..m (1mk)

h……..m (1mk)

b) Measure the mass M, of the rubber bung using the beam balance.

M = …… Kg (1mk)

c) Given that Q = $\frac{d+D}{4}$, determines the value of Q**. (1mk)**

d) Determines the value of " r " given that **(3mks)**

$\pi rQ^2 = M/h$

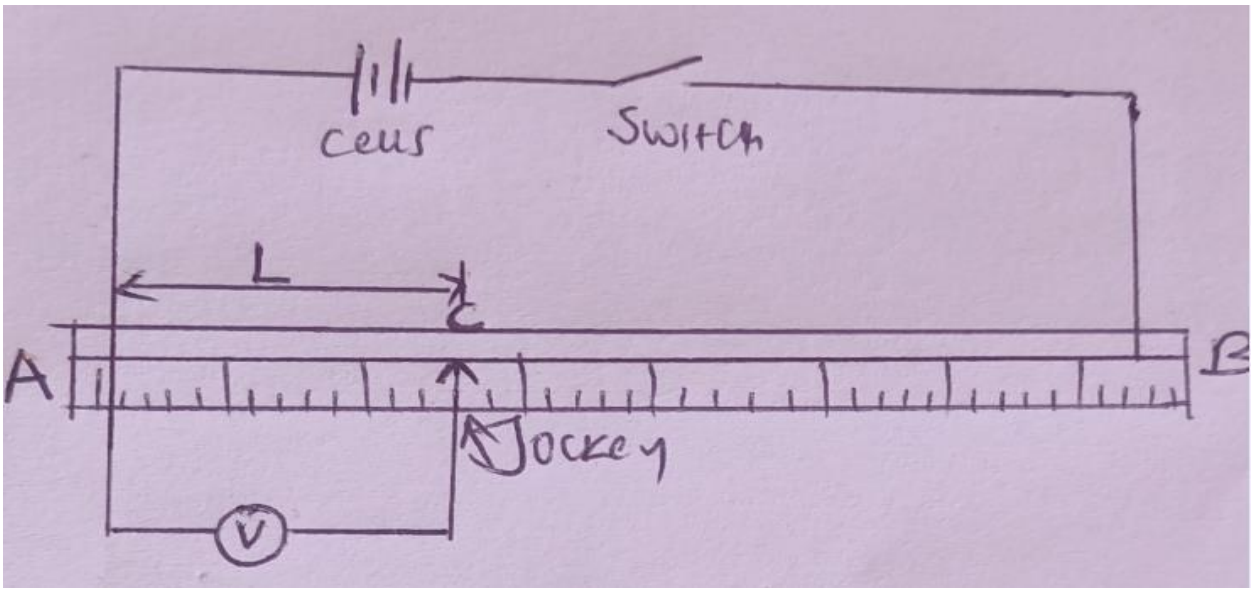
QUESTION 2

You are provided with the following.

- An ammeter (0-3A)
- A voltmeter (0-5V)
- 2 Dry cells
- A resistance wire mounted on mm scale
- 6 c0nnecting wires
- A torch bulb in a bulb holder
- A cell holder
- A switch
- A jockey

Proceed as follows.

a) Connect the apparatus as shown in the diagram below.



b) With AB= 100cm and jockey at C, 10cm from A, close the switch and record the voltmeter reading, V, in the table below.

c) Repeat the experiment in (b) above for the following lengths L= 20cm, 30cm, 40cm, 50cm, 60cm, 70cm, and 80cm. **(4mks)**

Length L (cm)	10	20	30	40	50	60	70	80
Pd V (v)								

d) Plot a graph of Pd v against length L **(5mks)**

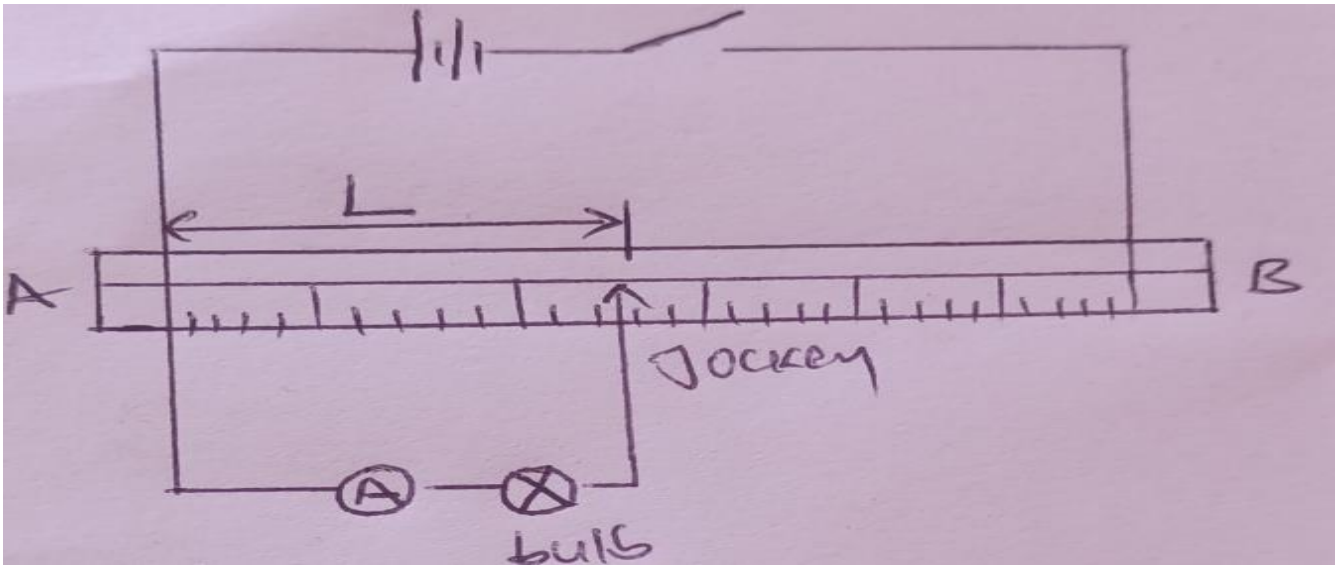
e) Determine the slope S of the graph **(2mks)**

……

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……

Connect the circuit as shown in the circuit diagram below.



f) Close the switch and record the ammeter readings I_1, I_2, and I_3 for the corresponding values of lengths

L_1= 30cm I1=……. (1mk)

L_2= 50cm I2=……. (1mk)

L_3= 70cm I3=……. (1mk)

g) Given that V = LS, where V is the Pd across the length AC of the wire, S is the slope of the graph in (d) above and L is the length of the resistance wire. Determine the potential difference V1, V2, V3 across the length AC of the wire for length LI, L2 and L3in (g) above.

L_1= 30cm V1 =……. (1mk)

…….

…….

L_2= 50cm V2 =……. (1mk)

…….

…….

L_3= 70cm V3 =……. (1mk)

……

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h) Using the values V1, V2 and V3 and the corresponding currents I1, I2 and I3, calculate the corresponding resistance R1, R2 and R3.

L_1= 30cm R1=……. (1mk)

L_2= 50cm R2=……. (1mk)

L_3= 70cm R3=……. (1mk)

i) Compute the average value of the resistance R of the bulb. **(2mks)**

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FORM 4 MIDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

101/1

ENGLISH

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your Name and Admission Number in the spaces provided above.
- Answer **ALL** the questions in this question paper
- All your answers **MUST** be written in the spaces provided in this question paper.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
Q1	20	
Q2	10	
Q3	30	
Total Score	**60**	

1. FUNCTIONAL WRITING **20MKS)**

You are the manager in **Fresha Fruit Company.** You sadly learn that one of the employees in your company has passed on in a fatal accident.

(a) Write a memo to inform all the other employees of the news and remind them to contribute funds towards giving the deceased a good send off. **(10mks)**

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(b) Write a condolence note to the spouse of the deceased **(10mks)**

2. CLOZE TEST (10 MKS)

In order to pass examinations well, one needs to lay a good foundation from the 1_____. Revising well for examinations requires you to actually 2_____ and understand your facts rather than memorizing them. One of the main problems that many students 3 _____ is anxiety.

Excess anxiety may come from not understanding the 4_____ points in a topic before moving on to the next topic. 5_____ students simply gloss over facts, they fail to understand them. A lot of the time students get overconfident 6_____ of their ability to recognize facts rather than understanding them. The habit of making notes 7_____ reading and later reviewing them can help students determine exactly what 8_____ know and do not know. This can help them plan their revision 9_____ well. This means 10_____ adequate time for each subject.

QUESTION 3: ORAL SKILLS (30 MKS)

a) Read the following oral narrative and answer the questions that follow. (10mks)

There lived two men who were good friends. One of them was very wise and the other very foolish. One day, they argued between themselves and one said, "I am the wisest man in this country." The other said, "No, I am the wisest.' As there was no way of measuring wisdom, the two men did not know who was wiser than the other. One day they were discussing the ill-behaviour of their wives and one of them said," If we want them to behave well, we must beat them up. Women are like children, beat them up and they will behave well." The other said, "No! If you beat your wife, she will become worse." After arguing for a long time, they kept quiet and went home. On reaching his house, the man who was in favour of beating wives began to beat ox-skin vigorously. When the other heard this, he thought the sound came from his friend beating his wife. He took a stick and beat his wife severely until she fell sick and later died. When the two men met, it was now clear who between the two was wiser than the other.

QUESTIONS

i) Suppose you were to narrate this story, mention two things you would do to capture the attention of the audience before starting to narrate it**.** **(2mks)**

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ii) Explain how you would perform the speech: ‘ No! I am the wisest.” **(2mks)**

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iii) How would you make this story interesting**?** **(4mks)**

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iv) Give two indicators you would notice in the audience to show they are attentive. **(2mks)**

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b) Supply words pronounced the same as the following: **(4mks)**

i) ate

ii) seed

iii) prophet

iv) aunt

c) **<u>Underline the silent letters in the following words:</u>** **(3mks)**

i) seven

ii) Wednesday

iii) Guilt

d) ***<u>Read the following conversation and answer the questions that follow.</u>*** **(6mks)**

DAVID: Hi Mercy.

MERCY: (*watching a movie without even looking up*) Hi there whoever you are.

DAVID: (*trying to switch off the TV*) Please Mercy, why are you not looking up to see…

MERCY: Oh! Shut up. Can’t you see I’m watching?

DAVID: I came to inform you that…

MERCY: Get lost! You are getting on my nerves.

DAVID: Alright (*as he is walking away*)

i) Giving illustrations for your answer, identify the shortcomings in Mercy's conversational skills. **(3mks)**

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ii) What are the strengths evident in the above conversation**?** **(3mks)**

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iii) Imagine you are taking part in a debate in your school.

a) Explain what you would do before the debate to ensure success. **(4mks)**

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b) What would you do during the debate for you to be an effective debater? **(3mks)**

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FORM 4 MIDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS

1. *Answer all the questions*
2. *All the questions should be written in the spaces provided.*

FOR EXAMINER'S USE ONLY

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

QN 1.READING COMPREHENSION (20 MKS)

Read the following passage and answer the questions based on it. (20mks)

A lot of students think that learning is only in class. If students use two extra steps, most students will not forget what they learned in class. To achieve effective learning, students need to follow two extra steps in the three strategies learning processes.

The key to success is by following these three strategies. Review is essential to students' success. Unless content is reviewed by students shortly after it is learned, it will soon be forgotten. To avoid forgetting what you learned, it is recommended to review daily. It is also recommended to reduce large volumes of notes into point form and to paraphrase what you have learned. Other helpful tips include creating concept maps and diagrams; creating fact, concept or vocabulary cards and using visualization to better connect what you learned. These are all important tools to helping students to better understand and memorize lesson content.

The key to achieving academic success cannot be directly **correlated t**o one specific area. Rather it requires students to be all rounded in many different aspects. This includes attending class regularly to keep pace with the class. Falling behind in studies and homework can be **detrimenta**l to academic success and can induce stress onto the students.

Participating in class activities and discussions are also vital parts of learning and applying concepts learned. On the other hand, taking good, concise notes will always help in the long run when reviewing for tests and exams. To sum it all up, strategic learning is the password for many academic achievements.

Being exposed to knowledge is the first step in the journey. The fact that young people can learn and be part of history is a phenomenal step in **furthering** their search for success. Reviewing notes, in the way the young individual wishes, by him/herself, or with a good friend, will help him/her to understand what has been learned in the way he/she understands. Lastly, practice is a great way to memorize what has been learned. When practice achieves its full potential, the individual will not only be entitled to a good mark, but also will have a way to review, understand and think of things. Those three attributes will help scholars become more successful, but its important to one as it is to the other, and each and every person should find the learning strategies effective for him/herself, and in extremely **exceptional** occasions even invent new strategies.

QUESTIONS

1. What does the writer fault in the students' thinking according to the first paragraph? **(2mks)**

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2. Mention the three strategies that are key to success and for each, mention one benefit of using the strategy. **(6mks)**

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3. Which attributes, according to the passage, help a student to become a successful learner? Bring out two aspects of the attribute **(3mks)**

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4. What do you think is the writer's overall purpose of writing the passage**?** **(3mks)**

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5. A lot of students think that learning is only in class. (Add a question tag) **1mk**

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6. Participating in class activities and discussions are also vital parts of learning and applying concepts learned. (Change into an interrogative.) **1mk**

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7. Explain the meaning of the following expressions as used in the passage. (4mks)

i) detrimental

ii) correlated

iii) furthering

iv) exceptional

QN 2. EXTRACT QUESTION: A DOLL'S HOUSE 25 MKS

Read the following extract and answer the questions that follow.

NORA: Hide the Christmas tree carefully, Helen. Be sure the children do not see it until this evening, when it is dressed. (*to porter, taking out her purse)* How much?

PORTER: Sixpence.

NORA: There is a shilling. No, keep the change. (*The porter thanks her, and goes out. Nora shuts the door. She is laughing to herself, as she takes off her hat and coat. She takes a packet of macaroons from her pocket and eats one or two; then goes cautiously to her husband's door and listens*.) Yes, he is in. (*still humming, she goes to the table on the right.)*

HELMER: (*calls out from his room*) Is that my little lark twittering out there?

NORA: (*busy opening some of the parcels*) Yes, it is.

HELMER: Is it my little squirrel bustling about?

NORA: Yes.

HELMER: When did my squirrel come home?

NORA: Just now. (*puts a bag of macaroons into her pocket and wipes her mouth*) Come in here Torvald, and see what I have bought.

HELMER: Don't disturb me. *(A little later, he opens the door and looks into the room, pen in Hand.*) Bought, did you say? Has my little spendthrift been wasting money again?

NORA: Yes, but, Torvald, this year we really can let ourselves go a little. This is the first Christmas that we have not needed to economize.

HELMER: Still, you know, we can't spend money recklessly.

NORA: Yes, Torvald, we may be a wee bit more reckless now, mayn't we? Just a tiny wee bit!

You are going to have a big salary and earn lots and lots of money.

HELMER: Yes, after the New Year; but then it will be a whole quarter before the salary is due.

NORA: Pooh! We can borrow until then.

HELMER: Nora! (*goes up to her and takes her playfully by the ear)* The same little featherhead! Suppose, now, that I borrowed fifty pounds today, and you spent it all in the Christmas week, and then on New Year's Eve a slate fell on my head and killed me, and_

NORA: (*putting her hand over her mouth*) Oh! Don't say such horrid things.

HELMER: Still, suppose that happened, _what then?

NORA: If it were to happen, I don't suppose I should care whether I owed money or not.

HELMER: Yes, but what about the people who lent it?

NORA: They? Who would bother about them? I should not know who they were.

HELMER: That is like a woman! But seriously, Nora you know what I think about that. No debt, no borrowing. There can be no freedom or beauty about a home life that depends on borrowing and debt. We two have kept bravely on the straight road so far, and we will go the same way for the short time longer that there need be any struggle.

NORA: (*moving towards the stove)* As you please, Torvald.

QUESTIONS

1. Mention four pet names by which Helmer refers to Nora**.** **(4mks)**

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2. What do the pet names reveal about Nora in relation to her relationship with her husband? **(2mks)**

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3. "You are going to have a big salary and earn lots and lots of money." Explain this statement by Nora in reference to the other parts of the story**.** **(2mks)**

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4. Explain the meaning of the following expressions**;** **(2mks)**

a) …this year we really can let ourselves go a little…

b) We two have kept bravely on the straight road so far…

5. Describe the character of the following as portrayed in the extract: **(4mks)**

a) Nora

b) Helmer

6. Identify and illustrate two themes brought out in the extract**.** **(4mks)**

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7. What happens immediately after this extract. **(2mks)**

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8. You are going to have a big salary. **(** Add a question tag**)** **1mk**

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9. Who would bother them? (Change into passive voice)

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10. Explain the meaning of the following words as used in the extract:

Twittering

Spendthrift

Recklessly

QN 3. ORAL LITERATURE (20 MKS)

Read the following oral poem and answer the questions that follow.

Blood, iron and trumpets

Blood, iron and trumpets
Forward we march
(others fall on the way)
Blood, iron and trumpets
We shall hack, kill and curse
Blood, iron and trumpets
Singers of the Datsun blue
Forward we drive breaking the records
Blood, iron and trumpets
Let bullets find their targets and the earth be softened
Blood, iron and trumpets
Let the dogs of war rejoice
And the carrion dogs feed
We are reducing population explosion

Blood, iron and trumpets
The uniformed machines are around
Put on your iron helmet and vest
Blood, iron and trumpets
Only through fire can we be baptized to mean business
So once again
Blood iron and trumpets

We shall always march along
Blood, iron and trumpets
Blood, iron and trumpets
Blood alone

QUESTIONS

1. Giving reasons, classify the above oral poem. **(2mks)**

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2. Mention two functions of the above oral poem. **(2mks)**

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3. Identify and illustrate two oral features evident in the poem. **(4mks)**

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4. Cite two themes portrayed in the poem, giving an illustration for each**.** **(4mks)**

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5. Discuss two character traits of the "we" in the poem**.** **(4mks)**

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6. Give one social and one economic activity of the community that owns the above poem. **(2mks)**

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7. Who would be the most suitable audience of the above poem? Give reasons for your answer. **(2mks)**

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QN 4. GRAMMAR (15 MKS)

1. Re-write the following sentences according to the instructions given after each. **(3mks)**

a) I will clean the room if he asks me to. (Re-write using the word "unless".)

b) The principal is addressing parents. (Re-write to end with…. Principal.)

c) I like tea more than coffee. (Re-write using the words …prefer.)

2. Complete each of the following sentences using the correct phrasal verb formed from the word given in brackets. (**3mks)**

a) The fact that you have quarreled with your sister does not mean you cannot work together. You should …….. (Make) and continue collaborating.

b) The meeting has been …….. (Put) till next week. At first I had thought it had been ……. (Call) altogether.

3. Change the following sentences from direct to indirect speech**.** **(3mks)**

a) "You must clean your clothes," the lady told her daughter.

b) "Have you taken breakfast?" Tom asked his son.

c) "We will be travelling tomorrow," Kim informed his wife.

4. Join the following pairs of sentences using appropriate correlative conjunctions formed from the words given in brackets. **(3mks)**

a) The farmers got high yields from their farms. They got ready market for their produce. (…not only…)

b) The man stepped out of the house. The rain started pouring. (…no sooner…)

c) The man does not attend wedding ceremonies. His sons too do not attend wedding ceremonies. (…neither…)

5. Fill in each of the blank spaces in the following sentences with the correct preposition. **(3mks)**

a) Susan has been accused…….. Stealing Kamau's bananas.

b) Many students are ignorant……. the dangers of drug abuse.

c) The accident resulted …….the death of two people.

FORM 4 MIDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 3

TIME: 2½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:-

a) *Write your* ***name and index number*** *in the spaces provided above.*
b) ***Sign*** *and write the* ***date*** *of examination in the spaces provided above.*
c) *Answer any* ***THREE*** *questions* ***ONLY.***
d) *Each of your essay must not exceed* ***450*** *words.*
e) *ALL answers must be written in Blue ink.*

FOR EXAMINER'S USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	**20**	
2	**20**	
3	**20**	
TOTAL	**60**	

1) Write a story beginning with the sentence: **(20 marks)**

As he walked in through the door, I noticed he was not one of the usual customers…

OR

Write a composition explaining how modern communication has negatively affected the youth in Kenya**.** **(20 marks)**

COMPULSORY

2) Basing your argument on **Blossoms of the Savannah** by H.R Ole Kulet, explain challenges facing African women. **(20 marks)**

OPTIONAL TEXT

3) People living on the streets apply wisdom in order to survive the difficult conditions. Write an essay to qualify this statement citing illustrations from Rem'y Ngamije's **The Neighbourhood Watch in A Silent Songs and Other Stories.** **(20 marks)**

This is the last printed page

FORM 4 MIDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

Maagizo

a. Andika jina lako na nambari ya usajili katika nafasi ulizoachiwa hapo juu

b. Tia sahihi yako kisha uandike tarehe

c. Andika insha mbili. Insha ya kwanza ni ya **lazima**

d. Kisha chagua insha nyingine moja kati ya hizo zilizobakia

e. Kila insha isipungue maneno 400

f. Kila insha ina alama 20

g. Kila insha lazima iandikwe kwa lugha ya Kiswahili.

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	20	
	20	
	40	

MASWALI

1. Wewe ni katibu wa Shirika la Utunzaji Mazingira linaloitwa "Mazingira Yalindwe". Shirika hili limekuwa na mkutano wa kuzungumzia kuhusu jinsi ya kulinda mazingira. Andika kumbukumbu za mkutano huo.

2. "Serikali ya Kenya imepiga hatua kubwa katika kupigana na unyanyasaji wa jinsia ya kike". Jadili.

3. Andika insha itakayodhihirisha maana ya methali ifuatayo:

Kidole kimoja hakivunji chawa.

4. Tunga kisa kitakachomalizika kwa maneno yafuatayo.

…Hapo ndipo nilipogundua kuwa umdhaniaye ndiye siye. Sahibu niliyemuenzi na kumtambua kuwa wa kufaana kwa heri na shari alinisaliti.

FORM 4 MIDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 2

TIME: 2 ½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

102/2

KISWAHILI

KARATASI LA PILI

MUDA SAA 2 ½

MAAGIZO

Jibu maswali yote.

Kwa matumizi ya mtahini pekee.

SEHEMU	SWALI	UPEO	ALAMA
1	UFAHAMU	15	
2	UFUPISHO	15	
3	MATUMIZI YA LUGHA	40	
4	ISIMUJAMII	10	
	JUMLA	80	

1. UFAHAMU ALAMA 15

Soma kifungu hiki kisha ujibu maswali uliyopewa.

Dunia inakumbwa na mustakabali finyu sana kuhusu hali yake ya kimazingira. Mabadiliko ya ghafla ya hali ya hewa ambayo tumekuwa tukishuhudia mara kwa mara, yanaashiria hali ya hatari ambayo inakikabili kizazi cha sasa na vile vijavyo.

Kwa miaka kadhaa iliyopita, hali ya anga ingetabirika. Kwa mfano, nyanyangu angeeleza kwa urahisi kuwa msimu wa upanzi ulikuwa kati ya mwezi Machi na Mei. Kwa kauli yake, ni wakati huo ambapo "Miungu walitiririsha machozi ya furaha kwa jamii. Sasa? Mambo ni tofauti sana.

Kwanza, ghadhabu ya mwanadamu dhidi ya mazingira asilia ndicho kiini kikuu cha madhila tunayoshuhudia. Kasumba dhaifu na tamaa ya 'maendeleo' ilifanya kuvamia chemchemi za maji na kukata miti.

Kinyume cha mwanadamu wa sasa na yule wa zamani ni kwamba, wale wa 'zamani' waliyajali mazingira. Hata ikiwa walikata miti, waliikata na kupanda mingine. Zaidi ya hayo, kuna miti ambayo haingekatwa, kwani ilichukuliwa kwa uzito mkubwa kama chemchemi ya baraka kwa jamii. Hilo lilihakikisha kwamba, hata ikiwa kulikuwa na ukataji miti, chemchemi muhimu za maji hazikukauka.

Zaidi ya hayo, msukumo wa mwanadamu wa sasa ni tamaa tupu. Hajali wala habali! Kasumba na dhana za kibepari zimemfanya kujipenda, kiasi cha kutoyajali mazingira kwa vyovyote vile.

Mfano halisi ni uvamizi ambao umefanywa katika misitu muhimu nchini. Katika msitu wa Mau, kuna madai kwamba kundi la wanasiasa " maarufu" waliuvamia na hata kujenga kiwanda cha majani chai. Wengine walitengeneza viwanda vya kusagia mbao za ujenzi.

Hali hii ni sawa na misitu ya Abedares na Mlima Kenya, ambayo imegeuka kuwa kama falme za wakataji miti. Unapopita karibu na misitu hiyo, kitakachokukaribisha ni sauti za mashine za kukata miti, iwe usiku ama mchana. Hawaogopi lolote.

Kwao lengo kuu huwa ni kutimiza "maagizo ya wakubwa" wao. Kinaya cha haya yote ni kuwa, baadhi ya watu ambao wamekuwa wakinufaika kwa biashara hii haramu ni wale walio serikalini ambao sauti hazikosi kusikika zikihimiza athari za kukosa kuhifadhi mazingira. Hivyo, ukweli mtupu uliopo ni kwamba, tumekuwa tukiogelea katika bahari ya hadaa tupu; tunajiumiza sisi wenyewe! Ni kama chachandu anayejipalilia makaa.

Ni dhahiri kwamba suluhisho la majanga haya yote ya kimazingira ni rahisi kuondoa unafiki na tamaa. Tulinde mazingira kutoka kwa nafsi zetu.

MASWALI.

(a) Yape makala haya anwani mwafaka. **(alama 1)**

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(b) Taja ishara ya hatari inayokikabili kizazi kipya. **(alama 1)**

……

(c) Eleza tofauti za mwanadamu wa sasa na wa hapo awali. **(alama 2)**

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(d) Ni hatua zipi ambazo mwanadamu wa hapo awali alizichukua ili kuhifadhi mazingira? **(alama 2)**

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(e) Binadamu amekuwa ni kama chachandu anayejipalia makaa. Thibitisha kutoka kwa kifungu. **(alama 2)**

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(f) Mwanadamu wa sasa ana tamaa. Toa mifano **mitatu** kudhibitisha haya. **(alama 3)**

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(g) Ni suluhisho lipi linalopendekezwa la kumaliza majanga ya kimazingira? **(alama 1)**

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(h) Eleza maana ya msamiati ufuatao kama ulivyotumika katika kifungu. **(alama 3)**

(i) Haramu

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……

(ii) Anayejipalia makaa

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(iii) Ghadhabu

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2. UFUPISHO ALAMA 15

Mataifa mengi katika bara la Afrika hukumbwa na baa la njaa kila mara. Kenya ikiwemo miongoni mwa mataifa hayo. Je, ni mambo gani yanayomweka mkenya katika hali hii ya kujipata akikosa chakula kila wakati? Ni jambo la muhimu kuelewa kuwa Kenya ni mojawapo wa mataifa yaliyobarikiwa na Maulana kuwa na hali ya hewa inayoweza kwa urahisi sana kuruhusu shughuli za kilimo. Hii ndio sababu ya taifa la Kenya kuwa katika msururu wa kwanza wa mataifa ambayo uchumi wake huegemea kilimo.

Ukame unaoshuhudiwa maeneo mengi nchini utachangia pakubwa umaskini kuzikumba jamii nyingi haswa zile zinazofuga idadi kubwa ya mifugo. Wakazi wa kaunti za Tana River, Garissa, Mandera, Kajiado, Machakos, Kitui, Makueni na Pwani wameathirika pakubwa. Sio mifugo peke yao walioathirika mbali watu wameathirika na ukosefu wa lishe.

Watoto wanakumbwa na utapiamlo kutokana na uhaba wa chakula. Changamoto kubwa kwa serikali iliyopo ni kutafuta suluhu ya kudumu kuhakikisha watu wamepata lishe. Kiangazi ndicho kinachochangia uhaba huu wa chakula kwa binadamu na mifugo humu nchini.

Wacha niseme kuwa hali inayokumba taifa letu ni kejeli. Itakuwaje taifa linalotegemea kilimo katika uchumi haliwezi kuwalisha watu wake? Imekuwa mara nyingi wimbo huu wa watu kukosa chakula baada ya miaka tano. Sadfa iliyopo ni kuwa kila baada ya miaka hii mitano uchaguzi hufuata. Inawezekana tuseme kuwa kuna baadhi ya watu ambao husababisha hali hii kila uchaguzi unapokaribia ili kuweza kuwarai wananchi kuwapa kura kama njia ya ‘kuwarudishia mkono’ kwa kujishughulisha na kujibidiisha kuwa kila mkenya ana chakula?

Tukitazama wakati huu, kuna hofu mno miongoni mwa wakulima kwani hali ya hewa imekuwa ya kutamausha. Vilevile, wadudu wa ajabu wameweza kuvamia mashamba ya mahindi, katika maeneo ya bonde la ufa tunapopata mazao mengi ya mahindi. Ni muhimu kuwa serikali lazima ichukue

hatua za dharura kukabiliana na hali iliyo sasa kwani dalili ya mvua ni mawingu. Pasi na kufanya hivyo mwaka ujao wimbo utakuwa ule ule.

Kutokana na dalili tunazoona serikali lazima iwahushe wataalamu wa kilimo ili waweze kuwasaidia wakulima. Wakulima wasiposaidiwa sasa hivi basi lazima kila mmoja wetu ajiandae kuhisi athari za hali iliyopo sasa. Waziri wa kilimo na kundi lake lote hawana budi kupiga teke blanketi zao na wachangamkie hali hii inayotukodolea macho. Wacha wasiwaache wakulima kuteseka na kuhangaika wakiwa wameketi kitako.

Ni jambo la soni kuona wakulima ambao hawajasomea taaluma yoyote ile wakijishughulisha kutafuta dawa za kuangamiza wadudu waharabifu wanaoharibu mazao yao shambani huku tukiwa na taasisi kadhalika zenye wasomi na weledi wa maswala haya.

MASWALI

a) Bila kupoteza maana fupisha aya nne za kwanza. (Maneno 95-100) (alama 9, 1 ya mtiririko)

MATAYARISHO

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b) Kwa maneno 55-60, eleza jinsi serikali inafaa kufanya ili kupambana na baa la njaa. **(alama 6, 1 ya mtiririko)**

MATAYARISHO

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JIBU

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3. MATUMIZI YA LUGHA (ALAMA 40)

a) Tunga neno lenye mpangilio wa sauti ufuatao. **(alama 1)**

Vokali ya mbele juu, nazali ya ufizi, kikwamizo si ghuna cha kaakaagumu, irabu ya kati chini.

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b) Bainisha mofimu katika fungu tenzi hili. **(alama 3)**

Hawakulilima

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c) Yakinisha kwa umoja. **(alama 2)**

Magavana wasipojenga madarasa shuleni hawatatuzwa.

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d) Andika sentensi ifuatayo upya katika udogo wingi. **(alama 2)**

Juso lake limefura kabisa baada ya kuumwa na jibwa.

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e) Tunga sentensi moja kudhihirisha matumizi ya neno **<u>hadi</u>** kama kihusishi cha:
(alama 2)

i) Wakati

ii) Mahali

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f) Bainisha shamirisho katika sentensi ifuatayo. **(alama 2)**

Nyimbo zilizoimbiwa rais mteule zilipendeza.

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g) Changanua sentensi ifuatayo kwa kielelezo cha jedwali. **(alama 4)**

Wote hodari walimshangilia kiongozi alipowasili.

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h) Nyambua vitenzi vifuatavyo katika hali ulizopewa kwenye mabano. (alama 2)

Suka (kutendata)

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Funga (kutendama)

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i) Kwa kutoa mifano, onyesha matumizi mawili ya mkwaju. **(alama 2)**

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j) Ainisha vishazi katika sentensi hii. **(alama 2)**

Angekimbia asubuhi, angeishinda mechi hiyo.

……

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k) Bainisha virai vinne katika sentensi ifuatayo. **(alama 2)**

Mwalimu kijana aliyenunua lori juzi ametembelewa na wenzake.

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l) Tunga sentensi katika wakati ujao hali timilifu. **(alama 2)**

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m) Andika kwa usemi wa taarifa. **(alama 3)**

Neema: Njoo nikutume kwa mzee Busara.

Riziki: Lo! Kwa Mzee Busara ni wapi?

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n) Fafanua miundo miwili ya maneno katika ya ngeli ya LI- YA. **(alama 2)**

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o) Andika upya sentensi zifuatazo kwa kufuata maagizo uliyopewa.

i) Ndovu ambaye aliripotiwa kuwa ametoroka amepatikana katika mbuga la wanyama. (anza: Katika mbuga…) **(alama 2)**

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ii) Walimu wanawajibika kuwafunza wanafunzi wao vyema. (Geuza kitenzi kilichopigiwa mstari kuwa nomino) **(alama 2)**

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p) Eleza matumizi ya "ni" katika sentensi ifuatayo. **(alama 2)**

Ingieni darasani mara moja ili niwape zoezi ambalo ni rahisi.

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q) Andika sentensi hii upya bila kutumia 'amba' ili kuleta hali ya mazoea. **(alama 2)**

Mtu ambaye ameugua atahitaji daktari.

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r) Taja nahau zingine mbili zenye maana sawa na 'enda ahera' **(alama 1)**

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4. ISIMUJAMII **(ALAMA 10)**

Soma makala yafuatayo kisha ujibu maswali yafuatayo.

Wewe ni mtaalamu wa afya. Umepewa fursa kuhutubia warsha itakayojumuisha Waziri wa Afya, madaktari na wauguzi kutoka magatuzi mbalimbali kuhusu jukumu lao katika kuendeleza afya bora kwa wananchi.

a) Taja sajili itakayoafiki mazungumzo yako. **(alama 2)**

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b) Eleza sifa nane za lugha utakazotumia ili kupitisha ujumbe kwa hadhira. **(alama 8)**

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FORM 4 MIDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 3

TIME: 2 ½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

MAAGIZO

1. *Jibu maswali manne pekee*

2. *Andika majibu yako kwa lugha ya Kiswahili.*

3. *Swali la kwanza ni la lazima*

4*. Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani:-* ***Tamthilia, Riwaya, Hadithi fupi na Fasihi Simulizi***

5. *Usijibu maswali mawili kutoka sehemu moja*

Kwa Matumizi Ya Mtahini Pekee

SWALI	UPEO	TUZO
1	20	
2	20	
3	20	
4	20	
Jumla	80	

1. SEHEMU A: USHAIRI (LAZIMA)

Soma shairi lifuatalo kisha ujibu maswali yatakayofuata.

SIKATE TAMAA

Umeanguka, inuka, simama kama mnazi
Umechunika, inuka, tia dawa kwa ujuzi
sasa inuka, inuka, kijana ianze kazi
Sikate tamaa

Usife tamaa, nyanyuka, ni muweza wa kutenda
Kuna hadaa, nyanyuka, anza tena kujipinda
Dunia baa, nyanyuka, anza tena kujiunda
Sikate tamaa

Sivunjwe moyo, dunia, hivyo itakunyanyasa
Futa kiliyo, dunia, hiyo idhibiti sasa
Ipe kamiyo, dunia, kamwe, siache kufusa
Sikate tamaa

Una nguvu, simama, wewe upambane nao
Una werevu, simama, uzepuke njama zao
Usiche kovu, simama, ujifunze vumilio
Sikate tamaa

MASWALI

a) Hili ni shairi la aina gani? **(al. 1)**

b)Onyesha mbinu mbili za lugha katika shairi hili. **(al. 4)**

c) Eleza muundo wa shairi hili. **(al. 4)**

d) Tambua idhini ya mshairi. **(al. 3)**

e) Eleza maudhui ya utungo huu. **(al. 2)**

f) Andika ubeti wa nne katika lugha ya nathari. **(al. 4)**

g) Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi. **(al. 2)**

i)baa

ii) kovu

TAMTHILIA: BEMBEA YA MAISHA- TIMOTHY AREGE

Jibu swali la 2 au la 3

2. Ninasikia jiji lina watu wengi, magari mengi, barabara nyingi, majengo makubwamakubwa tena mengi… Wanasema ukiwa mgeni ni kama msafiri jangwani.

a) Weka dondoo hili katika muktadha wake **(al. 4)**

b) Kwa kutoa mifano, eleza mbinu za lugha zinazojitokeza hapa. **(al. 4)**

c) Kwa hoja sita, jadili maovu yanayotokea katika jumuiya ya tamthilia Bembea ya Maisha.**(al. 12)**

3. Lakini maskini mwanangu hatuonani! Ninamwona tu akiwa usingizini. Sisemi naye, sili naye, sichezi naye… Uzazi gani huu sasa?

a) Weka dondoo hili katka muktadha wake **(al. 4)**

b) Kwa kutoa mifano, eleza mbinu za lugha zinazopatikana kwenye dondoo hili. **(al. 4)**

c) Maisha ya mwanadamu yamejaa matatizo. Jadili ukirejelea jumuiya ya Tamthilia ya Bembea ya Maisha. **(al. 12)**

RIWAYA: CHOZI LA HERI-ASSUMPTA MATEI

Jibu swali la nne au la tano.

4. Woga huweza kumtia mtu upofu wa muda! Hatimaye moyo wa shauku uliyashurutisha macho kukisoma kile ambacho kilichosomeka kama ujumbe wa mauti.

a) Eleza muktadha wa dondoo hili. **(al. 4)**

b) Taja na utoe mifano ya mbinu mbili za kimtindo zinazojitokeza katika dondoo hili. **(al. 4)**

c) Fafanua sifa zozote nne za msemaji. **(al. 4)**

d) Kwa kurejelea riwaya nzima, eleza jinsi tatizo la ukabila/kimbari lilivyoathiri maisha ya wahusika mbalimbali. **(al. 8)**

5. Hakuna msiba usiokuwa na mwenziwe. Jadili ukweli wa methali hii kwa kurejelea riwaya ya Chozi la Heri.

(al. 20)

HADITHI FUPI

MAPAMBAZUKO YA MACHWEO NA HADITHI NYINGINE

6. Ucha Mungu si kilemba cheupe. Kwa kurejelea hadithi ya Fadhila za Punda, jadili ukweli wa kauli hii. **(al. 20)**

7. FASIHI SIMULIZI

Soma kifungu kifuatacho kisha ujibu maswali.

Mimi ni mkulima anayesifika
kutoka jimbo hadi jimbo
nishikapo jembe langu
udongo unatetemeka
nipandapo mbegu zangu
huchipuka kwa nguvu za ajabu
mimea yangu kipalilia kwa ustadi usio mfano
wakati wa kuvuna
maghala yangu hufurika
kwa juhudi zangu
mimi ni bingwa wa ukulima
mimi ni shujaa wa ukulima
mimi ndiye mkulima asiye mfano

i)

a) Tambua kipera hiki cha fasihi simulizi. **(al. 2)**

b) Eleza sifa nne za kipera ulichotaja. **(al. 4)**

c) Taja tamathali mbili za usemi zilizotumika katika kifungu hiki**.** **(al. 4)**

ii)

a) Miviga ni nini? **(al. 2)**

b) Eleza dhima ya miviga. **(al. 4)**

c) Eleza hasara za miviga. **(al. 4)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2 ½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

a) *Write your **Name** and **Index** no in the spaces provided*

b) *Answer **Any five (5)of the given** questions* in the material provided

c) ***All answers must be written in English***

FOR EXAMINER'S USE ONLY

QUESTION	1	2	3	4	5	6
MARKS						
TOTAL						

QUESTIONS

1. a) State seven similarities found in both Biblical and Traditional African views on creation. **(7mks)**

b) Identify seven literary forms used in the writing of the Bible. **(7 marks)**

c) Outline six ways in which Christians in Kenya use the Bible. **(6 marks)**

2. a)Give seven reasons why God called Abraham **.** **(7marks)**

b) Describe the sealing of the Sinai Covenant. **(8marks)**

c) State the importance of the Ten Commandments to Christians. **(5 marks)**

3. a) Identify eight activities in the life of King David that showed that he had faith in God **(8mks)**

b) List seven effects of idolatry in Israel **(7mks)**

c) Give five life skills that Christians need to have in order to fight corruption in Kenya today **(5mks)**

4. a)State seven differences between Old Testament prophets and prophets in Traditional African society **(7mks)**

b) Explain prophets Amos' teachings on hypocritical religion in Israel **(7MKS)**

c) Highlight six factors that hinder Christians from practicing their faith **(6mks)**

5. a) Give seven reasons why Nehemiah carried out religious reforms in Israel.**(7marks)**

b) State seven similarities between the Sinai Covenant and the New Covenant foreseen by Jeremiah**.** **(7marks)**

c)What lessons can Christian learn from prophet Jeremiah's teaching on the New Covenant**(6 mks)**

6. a) Give seven responsibilities of the living towards ancestors in Traditional African Communities. **(7marks)**

b) What changes have taken place in the rite of initiation in Kenya today **(6marks)**

c) List seven moral values that are promoted during funeral ceremonies. **(7marks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2 ½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

a) *Write your **Name** and **Index** no in the spaces provided*

b) *Answer **Any five (5)of the given** questions* in the material provided

c) ***All answers must be written in English***

FOR EXAMINER'S USE ONLY

QUESTION	1	2	3	4	5	6
MARKS						
TOTAL						

QUESTIONS

1a) With reference to St. Luke Gospel, how did Jesus fulfill the Old Testament prophecies about the Messiah. **(7 mks)**

b) Outline the activities that took place during the presentation of Jesus in the Temple. **(7mks)**

c) Give six ways in which Christians show respect to places of worship in Kenya today. **(6mks)**

2a) Describe the incidence in which Jesus forgave the sinful woman in (Luke 7:36-50). **(8mks)**

b) Give six reasons why Jesus faced opposition from the Pharisees in Galilee. (Luke 5:12-6:11). **(6mks)**

c) State six ways in which church leaders can respond to those who oppose them in their work. **(6mks)**

3a) Outline Jesus' teaching on watchfulness and readiness (Luke 12:35-48) **(7mks)**

b) Narrate the parable of the widow and unjust judge. (**Luke 18:1-8)** **(7mks)**

c) Give six reasons why Christians should have faith. **(6mks)**

4a) Outline the events that took place on Mt Olives before the arrest of Jesus.(**Lk 22:39-63)(7mks**

b) Give seven reasons why Judas Iscariot betrayed Jesus **(7mks)**

c) State six ways in which Christians are persecuted today. **(6mks)**

5a) Explain how the unity of believers is expressed in the image of the bride (**Rev 2:1-2)** **(8mks)**

b) Outline six leadership qualities demonstrated by Peter on the day of Pentecost**.** **(6mks)**

c) Mention six ways in which the gifts of the Holy Spirit are abused in the church today**. (6mks)**

6a) State seven fruits of the Holy Spirit (**Galatians 5:22-23)** **(7mks)**

b) Outline the characteristics of people of God as taught by Peter in 1 Peter 2:9-**10** **(7mks)**

c) What is the importance of the Holy Spirit to Christians today**?** **(6mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

GEOGRAPHY

PAPER 1

TIME: 2 ¾ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

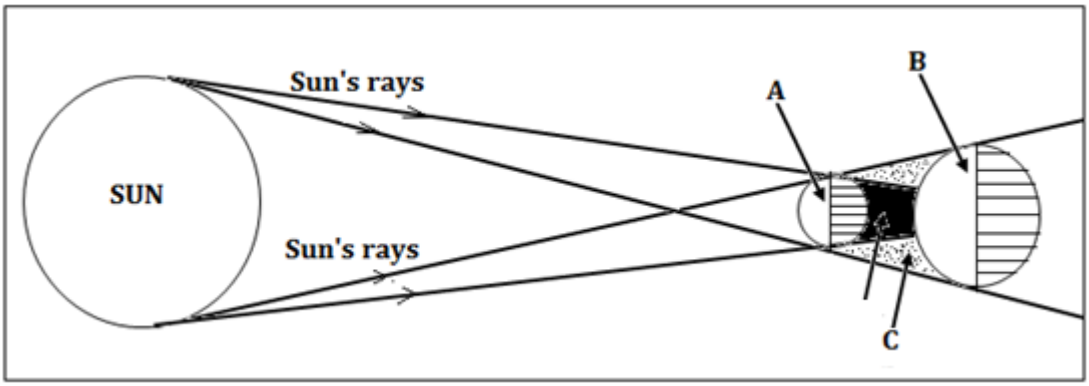
- *This paper has **two** sections: **A** and **B***
- *Answer **ALL** the questions in **section A.***
- *In section **B,** answer **questions 6** and any other **TWO** questions.*
- *Candidates must answer the questions **in English**.*

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 5	25	
B	6	25	
		25	
		25	
TOTAL SCORE			

SECTION A

1. The diagram below shows a type of an eclipse.



(a) Name the parts marked A, B, and C. **(3 marks)**

(b) Apart from the occurrence of eclipses, state **three** other effects of the movement of the earth round the sun. **(3 marks)**

2.(a) What are metamorphic rocks? **(2 marks)**

(b) Give **two** examples of organically formed sedimentary rocks. **(2 marks)**

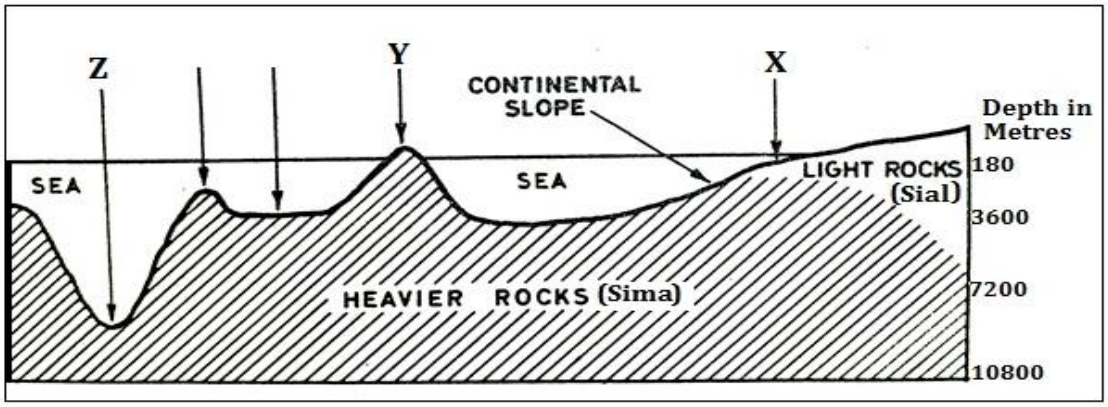
3.(a) List **three** landmasses that formed from Gondwanaland according to continental drift theory. **(3 marks)**

(b) Give **two** types of tectonic plate boundaries. **(2 marks)**

4.(a) What is an earthquake? **(2 marks)**

(b) State **three** natural causes of earthquakes. **(3 marks)**

5. The diagram below shows some features that form ocean relief.



(a) Identify the features marked X, Y and Z. **(3 marks)**

(b) List **two** main forms of horizontal movements of ocean water. **(2 marks)**

SECTION B

*Answer question **6** and any other **TWO** questions in this section.*

6. Study the map of **Nyeri 1:50,000** (sheet 120/4) provided and answer the following questions.

(a)(i) Give the ***six figure*** grid reference of the forest Guard Post in Nyeri forest. **(2 marks)**

(ii) Name the adjoining sheet to the south East of the map **(1 marks)**

(iii) What is the general direction of the flow of river Chanya? **(1 mark)**

(b) **(i)** Using a vertical scale of ***1cm*** to represents ***50m;*** draw a cross section along Northing 64 from Easting 68 to Easting 78. On it mark and label the following.

- All weather road
- A hill.
- River Amboni (Honi). **(8 marks)**

(ii) Calculate the vertical exaggeration of the cross section**.** **(2 marks)**

(iii) Determine the intervisibility of the cross section. **(1 mark)**

(c) Describe the distribution of natural vegetation in the area covered by the map. **(6 marks)**

(d) Explain ***two*** ways relief has influenced the distribution of settlement in the area covered by the map. **(4 marks)**

7.(a)(i) Differentiate between weather and weather climate. **(2 marks)**

(ii) Give **three** types of rainfall. **(3 marks)**

(b) Explain how the following factors affect the climate of a place:

(i) Cold ocean currents. **(4 marks)**

(ii) Inter Tropical Convergence Zone. **(2 marks)**

(c) With the aid of a well labelled diagram, describe how sea breeze occurs**.** **(8 marks)**

(d) Suppose you were to carry out a field study at a weather station:

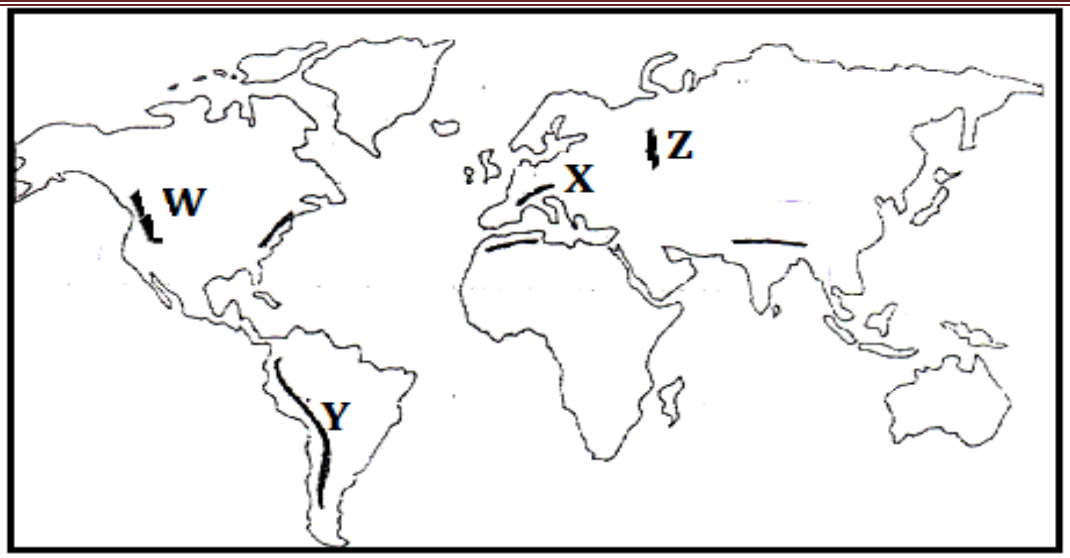
(i) Give **three** methods that they would use to collect data **(3 marks)**

(ii) State **three** follow up activities for the field study. **(3 marks)**

8. (a)(i) Define the term folding. **(2 marks)**

(ii) Name **three** types of folds. **(3 marks)**

(b) The world map below shows the distribution of some fold mountains. Use it to answer question (i)



(i) Identify the fold mountains marked W, X, Y and Z **(4 marks)**
(ii) With the aid of well labelled diagrams, how Fold Mountains were formed. **(10 marks)**
(c) Explain **three** negative effects of Fold Mountains **(6 marks)**

9.(a) **(i)**What is a karst scenery? **(2 marks)**
(ii) State **five** characteristics of karst landscapes. **(5 marks)**
(b) Give **four** sources of ground water. **(4 marks)**
(c) Explain how the following factors influence the occurrence of ground water:
(i) Nature of rocks. **(2 marks)**
(ii) Slope of land. **(2 marks)**
(iii) Vegetation cover. **(2 marks)**
(d) Explain **four** conditions that favour the development of an artesian well**.** **(8 marks)**

10.(a)(i) What is glaciation? **(2 marks)**
(ii) Outline **four** factors which determine the rate at which ice moves**.** **(4 marks)**
(b) Apart from a cirque, name **four** other glacial erosional features. **(4 marks)**
(c) Using well-labelled diagrams, describe how a cirque is formed. **(8 marks)**

(d) Students of Nanyuki High School carried out a field study on glaciation on Mt. Kenya
(i) Give **three** reasons why they conducted a reconnaissance. **(3 marks)**
(ii) State **two** factors they must have considered when selecting the data collection methods. **(2 marks)**
(iii) Give **two** activities they may have been involved in during the study. **(2 marks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

GEOGRAPHY

PAPER 2

TIME: 2 ¾ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

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

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 5	25	
B	6	25	
		25	
		25	
TOTAL SCORE			

Section A: Answer All Questions In This Section

1.a) What is Human Environment? **(2Marks)**

(b) Areas of study under Human Environment. **(3 Marks)**

2(a) Give two reasons why pastoralists keep large herds of animals. **(2 Marks)**

b) Give three ways in which the government of Kenya assist nomadic pastoralists **(3 Marks)**

3(a) What is a derelict land? **(2 Marks)**

(b) State three causes of land dereliction. **(3 Marks)**

4(a) State three problems facing coffee in Kenya**.** **(3 Marks)**

(b) Outline two benefits of coffee farming in **Brazil** **(2 Marks**

5. (a) A photograph is divided into three main parts. Name them. **(3 Marks)**

(b) State two limitations of using photographs. **(3 Marks)**

SECTION B: Answer question 6 and any other two questions in this section

6. The table below shows the prices of sugar in Kenya shillings per ton in some countries in Africa. Use it to answer questions (a)

YEAR	KENYA	SOUTH AFRICA	TANZANIA	ZAMBIA
2014	95,400	61,927	68,702	84,447
2015	111,713	67,462	66,985	93,798
2016	110,878	65,173	90,649	86,832

a)(i) Draw a divided rectangle 16cm long to represent the prices of sugar in the year 2016 **(8Marks)**

(ii) State **two** advantages of using divide rectangle to present statistical data **(2Marks)**

(b) Give **three** physical factors that influence the growing of sugar cane in Kenya **(3 Marks)**

(c). Describe the stages involved in processing of sugarcane at the factory (**7Mark**s)

d). State five challenges facing sugar farming in Kenya **(5 Marks)**

7(a) (i) Distinguish between a forest and forestry. **(2Marks)**

(ii) Name **two** indigenous softwood trees species found in Kenya **(2Marks)**

(b)(i) Characteristics of planted forests **(3Marks)**

(ii) Name **two** forest reserves in West of the Rift valley of Kenya **(2 Marks)**

b) (i) State **four** characteristics of temperate hardwood forests. **(4Marks)**

(ii) Explain any **three** problems which have limited exploitation of tropical hardwood forests in Africa **(6Marks)**

c) Give the difference between exploitation of softwood forests in Kenya and Canada under the following headings:

i) Trees species **(2Marks**

(ii) Mode of exploitation **(2Marks)**

(iii) Marketing of products **(2Marks)**

8.a) Define the term mineral **(2Marks)**

b) i) Name **two** areas in South Africa where diamond is mined **(2Marks**)

ii) Give **four** ways in which minerals occur **(4Marks)**

c) i) Explain **Three** negative effects of mining on the environment **(6Marks)**

ii) Identify any **two** main methods of mining **(2Marks)**

iii) Name a port through which minerals in East Africa are exported **(I Mark)**

d. Explain **four** ways in which soda ash contributes to the economy of Kenya) **(8Marks**)

9. (a) i. Name **three** exotic breeds of cattle reared in commercial ranches in Kenya. **(3Marks)**

(ii). Explain **three** problems facing commercial beef farming in Kenya**.** **(6 Marks)**

(**b). State four** physical factors that favour dairy farming in the Kenya highlands **(4Marks)**

c.(i). Apart from fresh milk name three other dairy **products** **(3 Marks)**

(ii) Explain **four** ways in which dairy farming in Kenya is different from dairy farming in Denmark. **(8Marks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

HISTORY &GOVERNMENT

PAPER 1

TIME: 2 ½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

- *This paper consists of three sections A, B and C.*
- *Answer **all** the questions in section **A**, **three** questions from section **B** and **two** questions from section **C**.*
- *Answers to all questions **MUST** be written in the answer booklet provided.*

FOR EXAMINER'S USE ONLY

	QUESTION	SCORE
SECTION A	1 - 17	
SECTION B	18	
	19	
	20	
	21	
SECTION C	22	
	23	
	24	
TOTAL SCORE		

SECTION A (25 MARKS)

Answer All Questions In This Section

1.Identify the main source of information on History and government of Kenyan communities during the pre –colonial period. **(1 mk)**

2.Name two Sub- groups of the Miji Kenda community. **(2mks)**

3.State two functions of Fort Jesus during the Portuguese rule. **(2 mks)**

4.Give the main reason why the Sultan of Malindi welcomed the Portuguese. **(1mk)**

5.Give two disadvantages of dual citizenship. **(2 mks)**

6.. Give two ways in which direct democracy is exercised in Kenya. **(2 mks)**

7.Identify the constitutional amendment that was repealed to revert to a Multi-party state in Kenya in 1991. **(1mk)**

8.Identify the treaty that finalized the partition of East Africa. **(1 mk)**

9.Give the main reason why native reserves were created during the colonial period. **(1 mk)**

10. State two contributions of the Independent School during Colonial period. **(2 mks)**

11. Name the Europeans Missionary who represented African grievances in the Legco before 1944. **(1 mk)**

12.A part from the Nandi , name two other communities that resisted the establishment of colonial rule in Kenya. **(2 mks)**

13.Name two African leaders who represented Kenya African National Union (KANU) at the second Lancaster House Conference talks. **(2mks)**

14.Identify the main reason why Professor.Wangari Maathai was awarded the Nobel prize in 2004. **(1mk**

15. Give the main function of the correctional service department in Kenya. **(1mk)**

16. State two ways in which one can become a member of the National Assembly in Kenya. **(2mks)**

17.Identify one challenge facing secondary Schools in Kenya as a result of the introduction of 100% transition. **(1 mk)**

SECTION B: (45 MARKS)

Answer any THREE questions from this section

18.a) Name three cyclic age grades among the Nandi. **(3 mks)**

b) Explain six effects of the migration and settlement of the Eastern Cushites into their present homeland.. **(12 mks)**

19.a) State five factors which encouraged the Akamba to participate in the long distance trade.**(5mk**

b) Explain five results of Christian Missionary activities on Africans. **(10 mks)**

20.a)Give five grievances by Africans in 1923 that led to the documentation of the Devonshire white paper. **(5mks)**

b)Explain five factors which undermined African nationalist's activities in Kenya during the colonial period. **(10 mks)**

21.a) Identify three recommendations of the Lyttletion Constitution of 1954. **(3 mks)**

b)Describe the roles played by Tom Mboya in the struggle for Kenya's Independence. **(12 mks)**

SECTION C (30 MARKS)

Answer any TWO questions from this section.

22.a) List down three effects of conflicts on Kenya societies . **(3mks)**

b)Explain six factors that undermine national unity in Kenya. **(12 mks)**

23.a) State five factors that may interfere with free and fair elections in Kenya. **(2 mks)**

b) Explain five functions of the speaker of the National Assembly. **(10 mks)**

24.a) List down three rights of an arrested person in Kenya. **(3 mks)**

b)Explain five factors that undermine the operations of the National police service. **(10 mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

HISTORY &GOVERNMENT

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

- *This paper consists of three sections A, B and C.*
- *Answer **all** the questions in section **A**, **three** questions from section **B** and **two** questions from section **C**.*
- *Answers to all questions **MUST** be written in the answer booklet provided.*

FOR EXAMINER'S USE ONLY

	QUESTION	SCORE
SECTION A	**1 - 17**	
SECTION B	**18**	
	19	
	20	
	21	
SECTION C	**22**	
	23	
	24	
TOTAL SCORE		

SECTION A: 25 MARKS

Answer All questions in this section.

1. Name **two** types of dwelling used by the early man during the early stone Age period. **(2mks)**

2. Identify **two** ways through which early Agriculture spread in Africa. **(2mks)**

3. Identify **one** type of trade. **(1mk)**

4. State **two** roles that were played by the middlemen during the Trans-Atlantic Trade. **(2mks)**

5. State **two** means of water transport used during the ancient times**.** **(2mks)**

6. State the **main** advantage of using air transport. **(1mk)**

7. State **one** advantage of horn blowing as a means of communication during the pre-colonial period. **(1mk)**

8. State **two** limitations of using a messager to pass on information. **(2mks)**

9. State the main contribution of the discovery of chloroform in the field of medicine. **(1mk)**

10. State the **main** factor that led to the growth of the ancient town of Kilwa. **(1mk)**

11. Give **two** functions of the Saza chiefs among the Buganda in the 19th Century. **(2mks)**

12. Which was the **main** factor that unified the communities of the Shona kingdom during the pre-colonial period. **(1mk)**

13. State how humanitarian factors influenced the scramble for Africa**.** **(1mk)**

14. Identify the **two** Europeans powers that acquired colonies in East Africa. **(2mks)**

15. State **two** social factors that caused the Maji Maji rebellion. **(2mks)**

16. Name the chartered company that administered Zimbabwe during the process of colonization. **(1mk)**

17. Name **one** political party that fought for independence in Ghana**.** **(1mk)**

SECTION B: 45 MARKS

Answer any three questions in this section.

18. (a) Identify **five** physical changes which occurred in early human beings as they evolved from ape-like creatures to modern people. **(5mks)**

(b) Explain **six** benefits of settling in villages during the Late stone Age. **(12mks)**

19. (a) Identify **three** uses of coal during the industrial Revolution in Europe. **(3mks)**

(b) Explain **six** positive impacts of scientific inventions on medicine**.** **(12mks)**

20. (a) Give **three** reasons why Samori Toure resisted the French colonization in West Africa. **(3mks)**

(b) Explain **six** effects of the Mandinka resistance against the French invasion in the late 19th Century. **(12mks)**

21. (a) State **three** ways used by nationalists in Ghana to fight for independence. **(3mks)**

(b)Explain **six** factors that contributed to the success of the liberation front of Mozambique (FRELIMO) in the struggle for independence in Mozambique. **(12mks)**

SECTION C: 30 MARKS

Answer any two questions from this section.

22. (a) Give **three** ways through which trade contributed to the rise of the Asante Kingdom in the 18th century. **(3mks)**

(b)Discuss **six** factors that led to the growth of the Asante Empire by the 19th century. **(12mks)**

23. (a) Give five reasons why the British used indirect rule to administer Northern Nigeria. **(5mks)**

(b)Explain the effects of the use of indirect rule by the British in Northern Nigeria. **(10mks)**

24. (a)Name three communes which were established by the French in Senegal during the colonial period. **(3mks)**

(b)Explain six reasons why the French system of administration failed in the areas outside the communes. **(12mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

443/1

AGRICULTURE

PAPER 1

TIME : 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. *This paper consists of three sections; A, B and C*
2. *Answer ALL the questions in sections A and B*
3. *Answer any TWO questions in section C*
4. *All answers to be written in English*

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAX. SCORE	CANDIDATE SCORE
A	1 – 17	30	
B	18 – 21	20	
C	22 – 24	40	
	TOTAL	90	

SECTION A (30 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. Name three forms of horticulture practiced in Kenya**.** **(1 ½ mks)**

……

……

……

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

……

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……

3. State three advantages of adding organic matter to sandy soil. **(1 ½ mks)**

……

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……

4. State four farming practices that destroy soil structure **(2 mks)**

……

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5. Give four factors that influence the number of secondary cultivation in seed bed preparation. **(2mks)**

……

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……

……

6. List four methods used to drain farmland **(2 mks)**

……

……

……

……

7. Give four methods for treating water for use on the farm**.** **(2 mks)**

……

……

……

……

8. List four ways of applying fertilizers in crops. **(2 mks)**

……

……

……

……

……

9. Give four reasons for testing soil **(2 mks)**

……

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……

……

10. Outline four qualities of a mother plant from which vegetative propagation materials should be obtained. **(2 mks)**

……

……

……

……

11. State four disadvantages of mono – cropping in crop production **(2 mks)**

……

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12. Outline two ways of controlling damping off disease on vegetable seedlings in a nursery **(1 mk)**

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……

13. List four methods of harvesting water in a farm. **(2 mks)**

……

……

……

……

14. Give four harmful effects of weeds on crop production **(2 mks)**

……

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……

15. State four causes of land fragmentation. **(2 mks)**

……

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16. List four post – harvesting practices that are carried out in maize production (**2 mks)**

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17. Differentiate between settlement and resettlement as used in agriculture economics **(1 mk)**

……

……

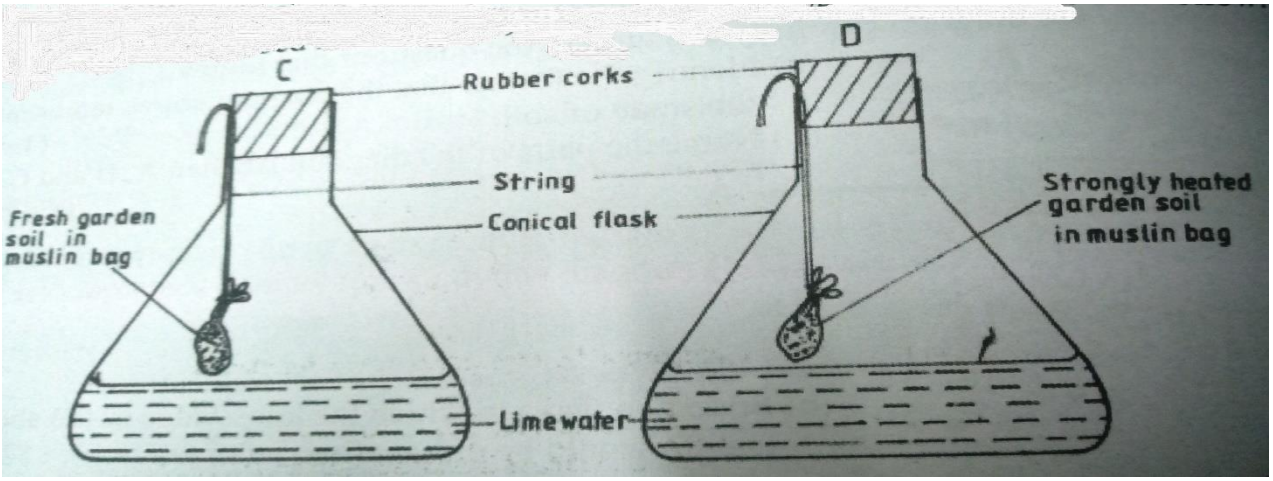
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SECTION B (20 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

18. The diagram below shows a set up of an experiment to study an aspect of soil. The set up was left undisturbed for five hours. Study it and answer the questions that follow.



a). What was the aim of the experiment? **(1 mk)**

……

……

b). State one observation that was made in each of the flasks labeled C and D **(2 mks)**

C

……

……

D

……

……

c). Give a reason for each of your answer in (b) above. **(2 mks)**

C

……

……

D

……

……

19. The table below shows a farm record for Mwamuzi farm

RECEIPTS			**ISSUES**			
DATE	COMMODITY/ITEM	QUANTITY	DATE	ISSUED TO	QUANTITY	BALANCE IN STOCK

a). Identify the farm record **(1 mk)**

……

……

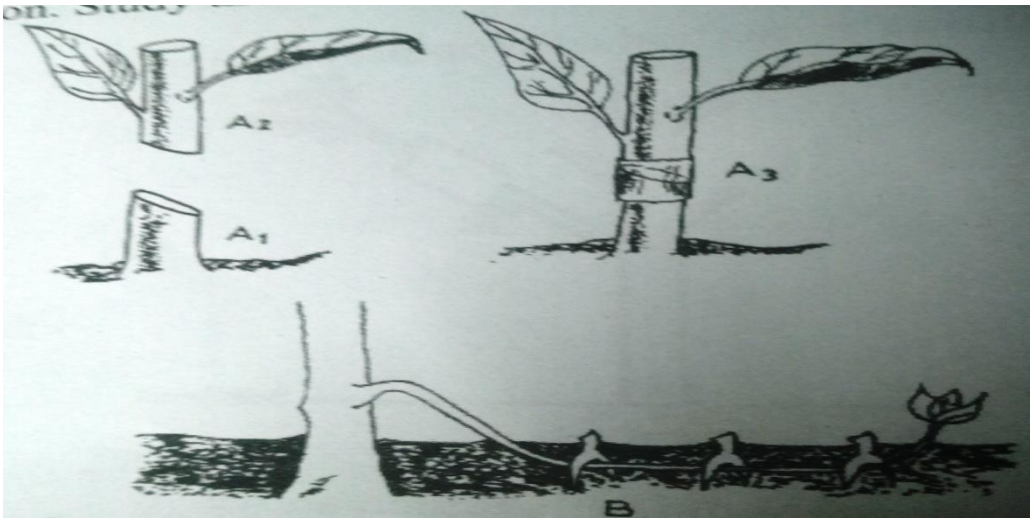
b). The farm received 20 bags of DAP fertilizer from Milimani Agrovet on 07/07/2018 and another 20 bags on 21/07/2018. On 28/07/2018, a gardener took eight bags of DAP and used it to plant potatoes on the farm. Enter this information in the farm record above. **(3 mks)**

c). Give one reason for keeping the farm record illustrated above in the farm accounting. **(1 mk)**

……

……

20. The diagram labeled A1, A2, A3 and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



a). Name the parts labeled A1 and A2 **(2 mks)**

A1

……

A2

……

b). Name the methods of propagation illustrated in diagrams A3 and B **(2 mks)**

A3

……

B

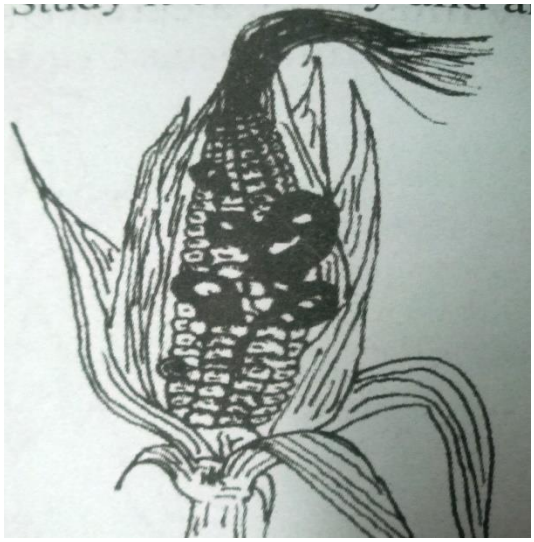
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c). Name one crop propagated using method labeled A3. **(1 mk)**

……

……

21. Below is a diagram showing a crop disease. Study it carefully and answer the questions that follow



a). Identify the crop disease **(1 mk)**

……

……

b). State three control measures for the crop disease **(3 kms)**

……

……

……

c). Name the category in which the crop disease is classified. **(1 mk)**

……

……

SECTION C (40 MKS)

Answer Any Two Questions in This Section in The Spaces Provided

22. A). State and explain four factors influencing crop rotation **(8 mks)**

b). Describe the effects of Covid – 19 / poor health on agriculture. **(5 mks)**

c). Describe seven management practices that should be carried out on a vegetable nursery after sowing seeds until seedlings are ready for transplanting. **(7 mks)**

23. A). Describe production of dry beans under the following subheadings:

i). Land preparation **(3 mks)**

ii). Selection and preparation of planting materials **(3 mks)**

iii). Planting **(4 mks)**

iv). Weeding **(3 mks)**

b). State three causes of blossom – end – rot disease in tomatoes **(3 mks)**

c). Describe four characteristics of a fertile soil **(4 mks)**

24. A). Describe five factors that determine the type of irrigation chosen by a farmer **(5mks)**

b). Describe the cultural methods of controlling soil erosion **(6 mks)**

c). Give four reasons for early land preparation **(4 mks)**

d). Give five advantages of mixed grass – legume pasture over pure grass pasture **(5 mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

AGRICULTURE

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

443/2

AGRICULTURE

PAPER 2

TIME : 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. *This paper consists of three sections; A, B and C*
2. *Answer ALL the questions in sections A and B*
3. *Answer any TWO questions in section C*
4. *All answers to be written in English*

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAX. SCORE	CANDIDATE SCORE
A	1 – 16	30	
B	17 – 20	20	
C	21 – 24	40	
	TOTAL	90	

SECTION A (30 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. State four reasons for maintaining farm tools and equipment **(2 mks)**

……

……

……

……

2. Give four reasons why camels are suited to living in arid areas **(2 mks)**

……

……

……

……

3. Name four rabbit breeds reared in Kenya **(2 mks)**

……

……

……

……

4. Distinguish between the following terms as used in livestock health.

a). Isolation and quarantine **(1 mk)**

……

……

b). Curative drugs and prophylactic drugs **(1 mk)**

……

……

5. State four methods of controlling round worms (Ascaris ssp) in livestock. **(2 mks)**

……

……

……

……

6. Name four mineral deficiency livestock disorders. **(2 mks)**

……

……

……

……

7. Differentiate between mothering ability and prolificacy in livestock breeding. **(1 mk)**

……

……

8. State four methods of dehorning in cattle management. **(2 mks)**

……

……

……

……

9. State four signs of heat in cattle **(2mks)**

……

……

……

……

10. State four management practices in fish rearing. **(2 mks)**

……

……

……

……

11. A). What is steaming up as used in dairy cattle production? **(1 mk)**

……

……

b). Give two reasons for steaming up in dairy cattle management. **(1mk)**

……

……

12. State four signs that indicate that a doe is about to kindle**.** **(2mks)**

……

……

……

……

13. State four qualities of a good grain store. **(2 mks)**

……

……

……

……

14. Apart from the roof, name four other parts of a building that can be constructed using wood. **(2mks)**

……

……

……

……

15. State two maintenance practices of a green house. **(1mk)**

……

……

16. Give four symptoms of respiratory disorders in a sick cow. **(4X ½ = 2mks)**

……

……

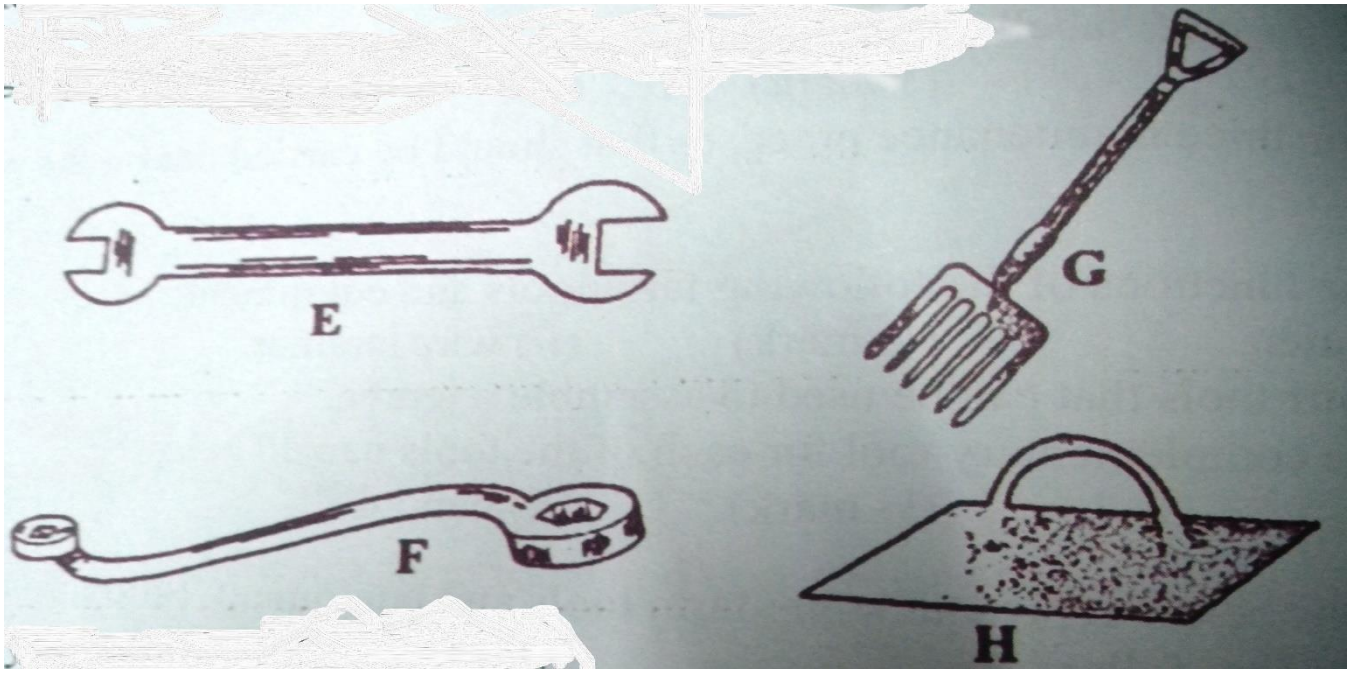
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SECTION B (20 MKS)

ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

17. The diagram below represents farm tools and equipment.



a). Identify the tools labeled E and F **(2 mks)**

- E
- F

b). State one advantage of tool labeled F has over **E.** **(1mk)**

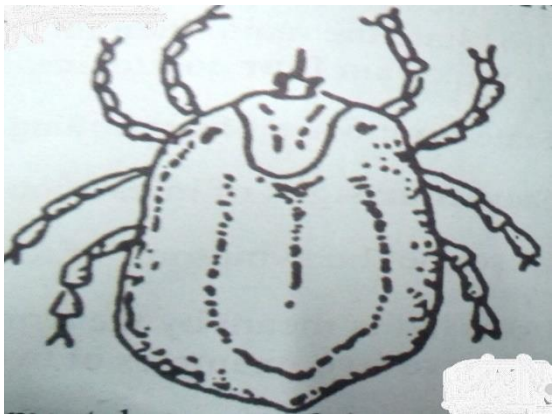
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c). State one use of each of the tool labeled F and G. **(2mks)**

F: ……

G: ……

18. The diagram below illustrates an external parasite of livestock.



a). Identify the parasite **(1 mk)**

……

b). Apart from eggs and adults, name two other developmental stages of the parasite illustrated above. **(1 mk)**

……

……

c). Name two livestock diseases transmitted by the illustrated parasite **(1 mk)**

……

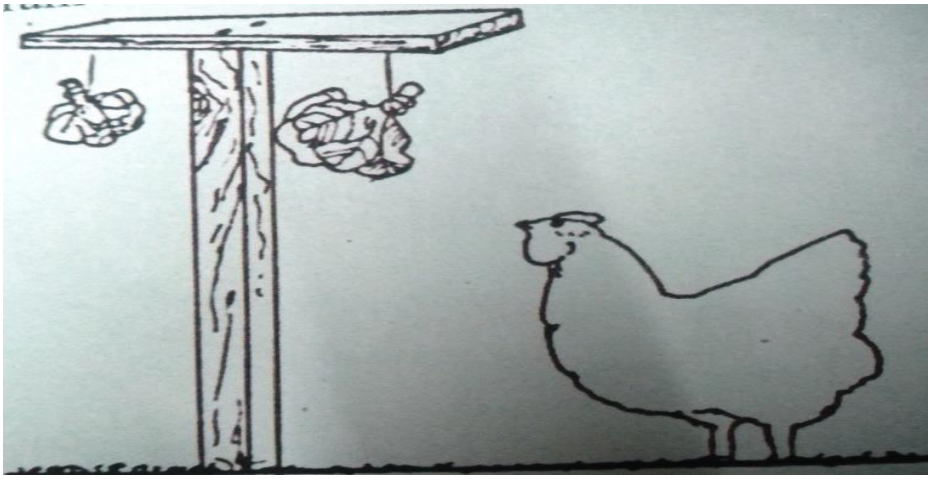
……

d). Explain two ways in which the environment is altered to control the parasite illustrated above **(2 mks)**

……

……

19. The diagram above illustrates a method of providing feed stuff to chicken in a chicken house. Study the diagram and answer the questions that follow.



i. Give the type of feed stuff illustrated in the diagram above. **(1mk)**

……

ii. Give one reason why the feed stuff should be suspended above the height of the chicken. **(1 mk)**

……

iii. Give two reasons for including the feed stuff illustrated in the diagram in the diet of layers. **(2 mks)**

……

……

……

iv. Name one function of the crop in the digestive system of chicken. **(1 mk)**

……

20. Below is a diagram of a farm structure

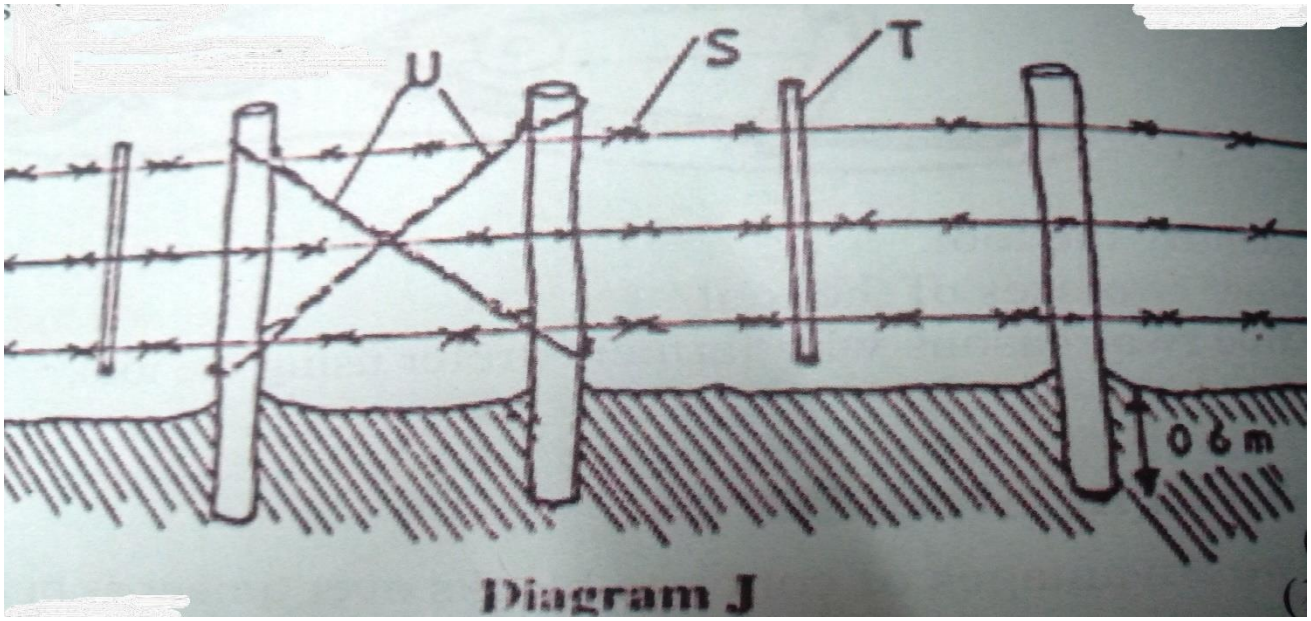


Diagram J

a). Identify the:

i. **Structure J**

……

ii. Parts labeled **S, T & U** **(3 mks)**

S……

T……

U……

b). State the functions of the parts labeled T and U. **(1 mk)**

T ……

U ……

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

21. A). Describe ten signs of ill health in livestock **(10 mks)**

b). Describe the body conformation features of a dairy heifer **(5mks)**

c). Explain five factors that a farmer should consider when sitting a beehive to prevent swarming of bees. **(5 mks)**

22. A). Give reasons why embryo transfer use should be encouraged in dairy cattle breeding **(7 mks**)

b). Describe the use of various hand tools required for the construction of a wooden rabbit hutch. **(8 mks)**

c). State five microbial activities that occur in the rumen. **(5mks)**

23. A). Using the following features, distinguish between good layers and poor layers in poultry. **(8 mks)**

Feature	Good layers	Poor layers
Beak		
Vent		

Plumage		
Abdomen		

b). Describe the life cycle of a one – host tick **(5 mks)**

c). Make brief notes on mastitis using the following headings:

i. Causative organism **(1 mk)**

ii. Animals attacked **(3 mks)**

iii. Symptoms **(3 mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS:

ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED

EXAMINER'S USE

QUESTIONS	TOTAL MARKS	SCORE

QUESTIONS

1. State the term given to each of the following statements. **(4mks)**

a) Activities carried out with an aim of making profit ……

b) Increasing the usefulness of a good or a service …….

c) Movement of goods from producers to consumers …….

d) A person who uses a good or service ……..

2. State four essentials of a warehouse**.** **(4mks)**

a) **……..**

b) **…….**

c) **…….**

d) **…….**

3. State four types of business activities**.** **(4mks)**

a) **…….**

b) **…….**

c) **…….**

d) **…….**

4. Highlight four methods of determining price of a commodity in a market. **(4mks)**

a) **…….**

b) **……**

c) **……**

d) **……**

5. The following information relates to Ochieng traders as at 31st December 2021.

Details	Shs.
Total drawings	40,000
Added investments	80,000
Capital on 31st December 2021	700,000
Profit	310,000

Calculate Ochieng's initial capital. **(4mks)**

6. Outline four characteristics of labor as a factor of production. **(4mks)**

a) **……**

b) **……**

c) **……**

d) **……**

7. State four causes of declining population. (**4mks)**

a) **……..**

b) **……..**

c) **……..**

d) **……..**

8. Highlight four advantages of government involvement in business activities. (4mks)

a) ……..

b) ……..

c) ……..

d) ……..

9. Highlight four functions of a pro-forma invoice. (4mks)

a) ……..

b) ……..

c) ……..

d) ……..

10. State four reasons why a communication process can suffer a break down. **(4mks)**

a) **…….**

b) **…….**

c) **…….**

d) **…….**

11. The following is a format of a debit side of a three -column cash book.

Date		**V**	**W**	**X**	**Y**

Name the columns labelled V, W, X and Y. **(4mks)**

a) **V is ……..**

b) **W is …….**

c) **X is ……..**

d) **Y is ……..**

12. State four disadvantages of rail transport. **(4mks)**

a) **……..**

b) **…….**

c) **…….**

d) **…….**

13. Outline four ways in which a developing country like Kenya may benefit from entrepreneurship**.** **(4mks)**

a) **……..**

b) **…….**

c) **…….**

d) **……..**

14. State four roles played by intermediaries in a chain of distribution. **(4mks)**

a) ……..

b) ……

c) ……

d) ……..

15. State four benefits of advertising to a consumer. **(4mks)**

a) ……..

b) ……..

c) ……..

d) ……..

16. Classify the following staff as either a subordinate, junior or management. **(4mks)**

a) Office cleaner ……

b) Executive officer ……

c) Office messenger ……

d) Director ……

17. Outline four problems associated with the output approach in measurement of national income. **(4mks)**

a) ……..

b) ……..

c) ……..

d) ……..

18. Outline four characteristics of a state-owned corporation**.** **(4mks)**

a) ……..

b) ……..

c) ……..

d) ……

19. Highlight four characteristics of economic resources**.** **(4mks)**

a) ……..

b) ……..

c) ……..

d) ……..

20. On 1st January 2017, Mr Nyachae started a business with Sh.10,000 in cash. The following transactions took place during the first week.

2nd January-deposited Sh. 5000 in the bank.

3rd January- purchased stationary worth Sh.1000 in cash

4th January- bought goods worth 2000 by cheque.

Record the transactions in the relevant ledger accounts**.** **(4mks)**

21. Outline four risks against which a shopkeeper may insure. **(4mks)**

a) ……

b) ……

c) ……

d) ……

22. State four external diseconomies of scale. **(4mks)**

a) ……

b) ……

c) ……

d) ……

23. Highlight four demographic factors that a manufacturer may consider before setting up a business**.** **(4mks)**

a) ……

b) ……

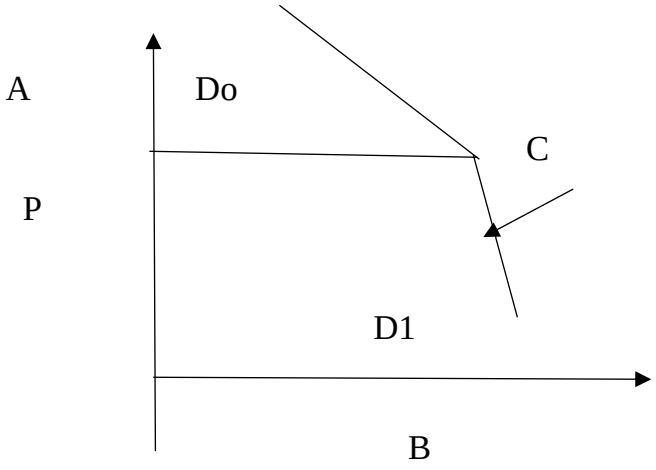
c) ……

d) ……

24. In the spaces provided, state whether each of the following transactions will increase, decrease or have no effect on capital**.** **(4mks)**

Transaction	**Effect on capital**
a) Owner invested more money into the business	
b) Owner withdrew stock for personal use.	
c) Paid outstanding wages by cheque	
d) Bough stock on credit.	

25. Identify the product market represented by the diagram below and label the parts indicated. **(4mks)**



a) **Name –**

b) **A-**

c) **B-**

d) **C-**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

BUSINESS STUDIES

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS:

ANSWER ANY FIVE QUESTIONS IN THE SPACES PROVIDED

EXAMINER'S USE

QUESTIONS	1	2	3	4	5	6	TOTAL
MARKS							

QUESTIONS

1. **a)** Explain five measures that can be taken by office to safeguard the property of an organisation**.** **(10mks)**

b) Explain five characteristics of property insurance. **(10mks)**

2. **a**) Explain five features of cooperative societies**.** **(10mks)**

b) Explain five solutions to the unemployment problem in Kenya. **(10mks)**

3. **a)** Mrs. Aura started a business on 1st April 2022 with sh. 100,000 in cash and sh. 80,000 in bank. During the month, the following transactions took place:

April 2nd -bought in her own furniture worth sh.20,000 for business use

April 4th -bought stock worth sh.70,000 by cheque

April 9th -deposited cash sh. 50,000 in bank

April 10th -sold goods worth sh.10,000 for sh. 8,000 on credit

April 13th -bought stock worth sh. 10,000 on credit

April 20th – one of her debtors paid sh.5,000 cash

April 25th – took sh.2,000 cash from the business for private use

April 27th – paid creditors sh. 6,000 by cheque

Required: Prepare a balance sheet as at 27th April 2022. **(10mks)**

b) Explain five different forms of utility**.** **(10mks)**

4. **a)** Explain five circumstances under which a producer would eliminate intermediaries from the chain of distribution for a product**.** **(10mks**

b). Explain five disadvantages/demerits associated with water transport. **(10mks)**

5. **a) Explain** five factors that would lead to an increase in the supply of a product in the market. **(10mks)**

b) Explain five reasons that would make a producer to build his own warehouse rather than rely on a public one. **(10mks)**

6. **a**) On 1st March 2022 Makau traders had the following balances.

Bank	sh.35,000
Cash	sh.12,000

The following transactions took place during the month of March 2022.

March 2nd -sold furniture for sh. 8,000 in cash

March 3rd – sold goods sh. 10,000 receiving the money by cheque

March 4th – deposited in the business bank account sh. 18,000 from cash in hand

March 7th – the proprietor took sh. 1,500 in cash for personal use

March 10th – withdrew sh. 5,000 from the business bank account for official use

March 15th -bought goods for sh. 25,000 paying by cheque sh. 20,000 and in cash sh. 5,000

March 20th – withdrew from the bank sh. 1,500 for personal use

March 25th -purchased stationery sh. 500 in cash

March 26th -received sh. 4,000 in cash from Joan

March 28th -received a cheque of sh. 6000 from Buyuka

March 31st -paid rent by cheque sh. 1,200

Required: Prepare Makau traders two column cash-book for the month of March 2022. **(10mks)**

b) Explain five features of human wants**.** **(10mks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

MATHEMATICS

PAPER 1

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

MATHEMATICS

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1. *Write your name, index number and class in the spaces provided.*
2. *Sign and write DATE of the of the examination in the spaces provided.*
3. *The paper contains two sections: Section I and II*
4. *Answer ALL questions in section I and 2 **STRICTLY FIVE** questions from section II.*

FOR EXAMINER'S USE ONLY

SECTION 1

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

GRAND TOTAL

SECTION II

17	18	19	20	21	22	23	24	**25**	**TOTAL**

SECTION I-(answer all the 16 question in this section-50MARKS)

1. Use tables of square roots and reciprocals tables to evaluate to 3 decimal places the problem below.

$$\frac{10}{\sqrt{0.625}} + \frac{4}{\sqrt{164}}$$ **(3marks)**

2. The heights of two similar pails are 12cm and 8cm. The larger pail can hold 2 litres. What is the capacity of the smaller pail? **(3 marks)**

3.Find the equation of the perpendicular bisector of the line AB where A is (3, 9) and B is (7, 5) giving your answer in the form ax + by + c = 0. **(3 marks)**

4. Mr. Ochuodho who deals in electronics sells a radio to a customer at Kshs. 1,440 after giving him a discount of 10% but finds that he still makes a 20% profit. Find the profit Mr. Ochuodho would make if he does not give a discount. **(3mks)**

5. Simplify the expression

$$\frac{9t^2 - 25a^2}{6t^2 + 19at + 15a^2}$$ **(3marks)**

6. Solve for x in $\left(\frac{4}{9}\right)^x \times (8)^{1-x} = 486$ **(4marks)**

7. The length and width of a rectangle are stated as 18.5cm and 12.4cm respectively. Both measurements are given to the nearest 0.1cm.

a) Determine the lower and upper limit of each measurement. **(1 mark)**

b) Calculate the percentage error in the area of the rectangle. **(3 marks)**

8. In a regular polygon, each interior angle is x^o and each exterior angle is $\left(\frac{x-36}{3}\right)^o$

a) Find angle X^o **(1mk)**

b) Find the number of sides of the polygon **(2mks)**

9.Find the integral values of x which satisfy the following inequalities;

$2x + 3 > 5x - 3 > -8$ **(3mks)**

10. Two boys and a girl shared some money. The younger boy got $\frac{5}{18}$ of it; the elder boy got $\frac{7}{12}$ of the remainder and the girl got the rest. Find the percentage share of the younger boy to the girl's share. **(3mks)**

11. Simplify the expression below leaving your answer in rationalized surd form of $a + b\sqrt{c}$

$$\frac{1+\tan 120^o}{1+Cos\ 330^o}$$ **(3mks)**

12. Mutua bought 8 pairs of trousers and six shirts at Sh. 4160.if Had he bought twice as many shirts and half as many trousers, he would have saved Sh. 160. Find the cost of each item**(3 marks)**

13.A solid block in the shape of a cylinder has a height of 14cm and weighs 22kg. If it is made of material of density 5g/cm^3, find the radius of the cylinder. Take $\pi = \frac{22}{7}$ **(3mks)**

14. The number 5.81 contains an integral part and a recurring decimal. Convert the number into an improper fraction and hence a mixed fraction. **(3 Marks)**

15. Using a pair of compasses and a ruler only construct a triangle ABC such that AB= 4cm, BC = 6cm and angle ABC = 135°. **(3mks)**

16. The curved surface area of a cylindrical container is 1980cm2. If the radius of the container is 21cm, calculate to one decimal place the capacity of the container in litres **(3 mks)**

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

SECTION II ANSWER ANY FIVE QUESTIONS

17(a) Train A leaves a station 45 minutes before train B. Both trains travel in the same direction and their speeds are 36km/h and 48km/h respectively.

i) How long will it take train B to catch up with train A? **(3 marks)**

ii) How far from the start were the two trains when they met**.** **(2 marks)**

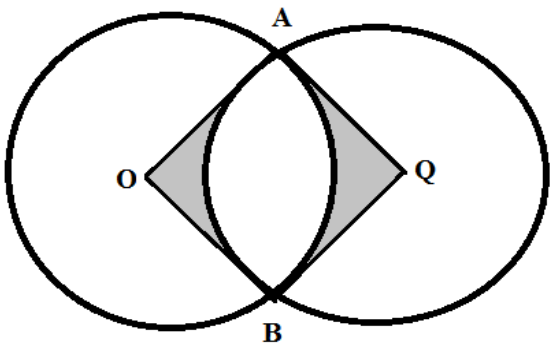
b) A car accelerated from rest to a velocity of 10m/s in 10 seconds. It travelled at this velocity for 20 seconds and then came to a stop in 5 seconds. Find;

i) The initial acceleration. **(2 marks)**

ii) The distance travelled. **(2 marks)**

iii) The average velocity**.** **(1 mark)**

18. Two circles with centres O and Q and radii 8cm intersect at points A and B as shown below.



Given that the distance between O and Q is 12cm and that the line AB meets OQ at X, find:

(a) the length of the chord AB. **(3marks)**

(b) the reflex angle AOB. **(3marks)**

(c) the area of the shaded region. $\pi = 3.142$ **(4marks**

19.A triangle whose vertices are A(1,4) B(2,1) and C(5,2) is given the following transformations.

a) A reflection along the line y = x to $A^1B^1C^1$

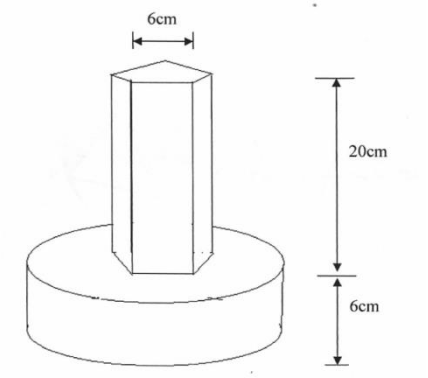
b) $A^1B^1C^1$ is given a rotation of a positive quarter turn about the origin $A^{11}B^{11}C^{11}$

c) $A^{11}B^{11}C^{11}$ is given an enlargement of linear scale factor -2 about (1,2) to $A^{111}B^{111}C^{111}$

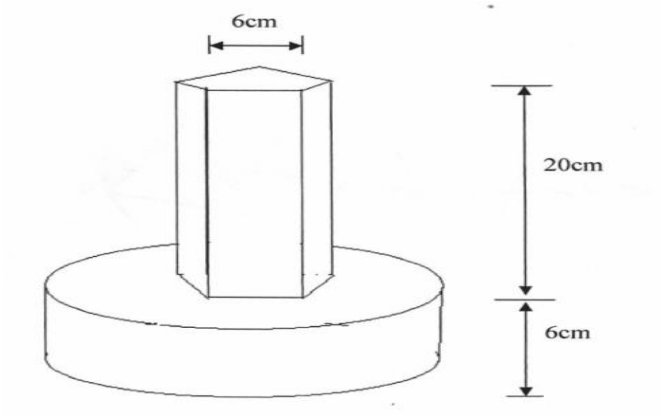
a) Using the grid provided, plot the triangle ABC and its image $A^1B^1C^1$ **(3mks)**

b) Locate the image $A^{11}B^{11}C^{11}$ from the grid hence state its co-ordinates. **(3mks)**

c) Find the co-ordinates of $A^{111}B^{111}C^{111}$ hence plot it on the grid **(4mks)**



20.The figure below shows a prism whose cross section is a regular pentagon of side 6cm and whose length is 20cm joined to a cylinder of radius 14cm and height 6cm to form a the model of a solid



(a) Calculate the cross section area of the pentagon **(3mks)**

(b) Calculate the total volume of the solid **(4mks)**

(c) The model represents a pillar of total height 5.2m, calculate the volume of the actual solid in m^3 **(3mks)**

21. An expedition has 5 sections AB, BC, CD, DE and EA. B is 200m on a bearing of 050^0 from A. C is 500m from B. The bearing of B from C is 300^0. D is 400m on a bearing 230^0 from C. E is 250m on a bearing 025^0 from D.

(a) Sketch the route **(1 Mark)**

(b) Use the scale of 1cm to 50m to draw the accurate diagram representing the route**.(5 Marks)**

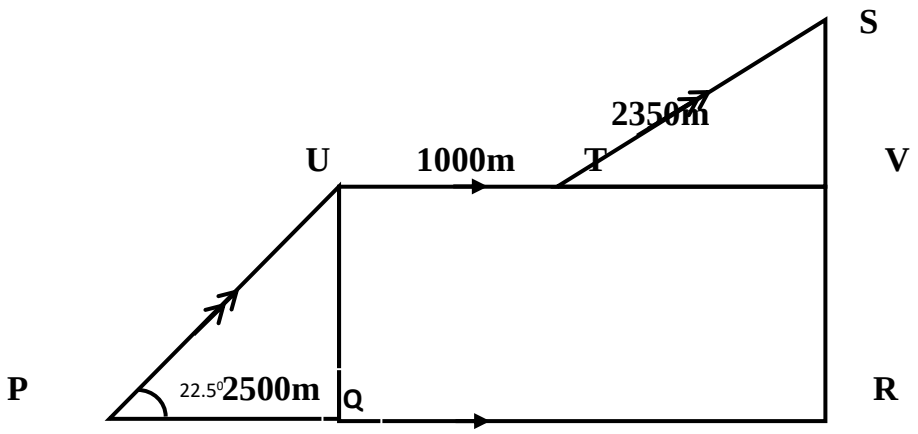
SKETCH **TO SCALE**

(c) Use your diagram to determine

(i) Distance in metres of A from E **(2 Marks)**

(ii) Bearing of E from A **(2MKS)**

22. In the figure below PQ = 2500m, U T= 1000m and TS =2350m. PQR is a straight line. Parallel to UT and angle UPQ =22.5°.



Calculate to the nearest meter

(a) (i) U Q **(2marks)**

(ii) T V **(2marks)**

(iii) V S **(2marks)**

(iv) P U **(2marks)**

(b) Find the perimeter of the figure. **(2marks)**

23. A circular lawn is surrounded by a path of uniform width of 7m. The area of the path is 21% that of the lawn.

(a) Calculate the radius of the lawn. **(4 mks)**

(b) Given further that the path surrounding the lawn is fenced on both sides by barbed wire on posts at intervals of 10 metres and 11 metres on the inner and outer sides respectively.

Calculate the total number of posts required for the fence. **(4 mks)**

(c) Calculate the total cost of the posts if one post costs sh 105. **(2 mks)**

24. A surveyor recorded the measurements of a field book using XY=400m as the base line as shown below.

	Y	
To E 200	320	
	210	150 To D
To F 250	170	150 To C
	50	225 To B
	X	100 To A

a) Use a scale of 1cm to represent 50m to draw the map of the field**.** **(5mks)**

b) Find the area of the field in **hectares** **(5mks)** ***(more working space at back page)***

FORM 4 MIDTERM 1 EXAMS

SERIES 1

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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2. *Sign and write DATE of the of the examination in the spaces provided.*
3. *The paper contains two sections: Section I and II*
4. *Answer ALL questions in section I and 2 **STRICTLY FIVE** questions from section II.*

FOR EXAMINER'S USE ONLY

SECTION 1

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

GRAND TOTAL

SECTION II

17	18	19	20	21	22	23	24	**25**	**TOTAL**

SECTION I (50 MARKS)

Answer ALL questions in the spaces provided.

1. Evaluate using mathematical tables only. **(3 marks**

$$\frac{6.373\log 4.948}{\sqrt{0.004636}}$$

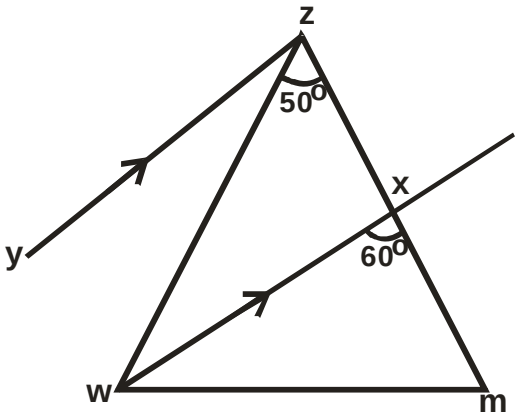
2. Determine the inverse of the matrix $\begin{pmatrix} 4 & 3 \\ 5 & -2 \end{pmatrix}$. Hence find the coordinates of the point at which the two lines $4x - 18 = -3y$ and $5x - 2y = 11$intersect. **(4 marks)**

3. Solve the equation.

$5^{2x+1} - 3(5^{x+1}) + 10 = 0$ **(4 marks)**

4. Solve for x in the equation cos x = sin (3x – 30). Hence determine the value of tan x leaving your answer in surd form. **(3 marks)**

5. In the figure below, YZ is parallel to WX. Angle WZX = 50^o and angle WXM = 60^o. Determine the size of angle YZW. **(2 marks)**



6. Kaula has two types of coffee, costing Ksh.120 and Ksh.200 respectively. He mixed them in the ratio

6: 5 by weight.

c) Determine to the nearest shilling the cost of one kilogramme of the mixture. **(2 marks)**

b) Find the percentage profit on the cost price if the mixture was sold at Ksh. 250.
(Give your answer in 2 d.p). **(2 marks)**

7. Rationalise the denominator and simplify leaving your answer in the form $\sqrt{a} + b$. (**3 marks)**

$$\frac{\sqrt{2} + 2\sqrt{5}}{\sqrt{5} - \sqrt{2}}$$

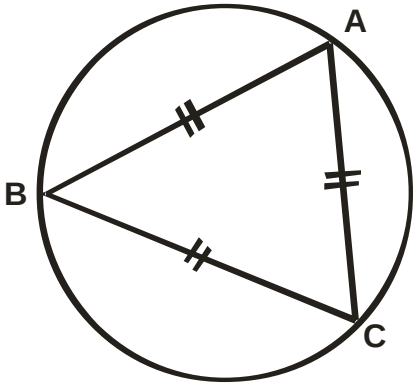
8. Use squares, square roots and reciprocals tables only to evaluate;

$\frac{3}{\sqrt{42.15}} + \frac{4}{(3.152)^2}$ **(4 marks)**

9. Make h the subject of the formula in

m = $\frac{p}{\sqrt{h} + k^2}$ **(3 marks)**

10. The diagram below shows an equilateral triangle ABC inscribed in a circle of radius 9cm. Calculate the length of the sides of the triangle (2 d.p) **(2 marks)**



11. Agotho has a rectangular plot that was measured to the nearest meter and found to be 80m in length and 60m in width. Determine the percentage error in its perimeter. **(3 marks)**

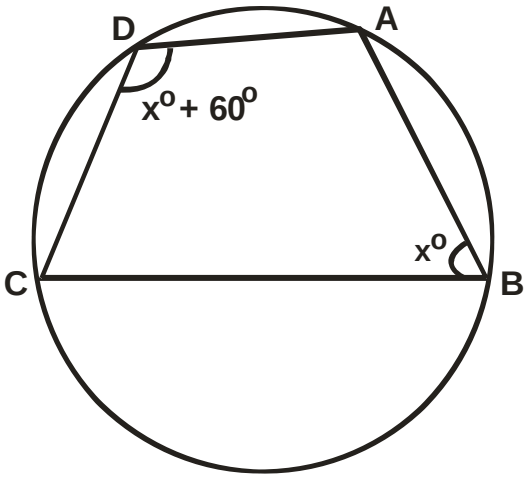
12. A circle of radius 3cm has its centre at (3, –2). Express the equation of the circle in the form $x^2 + y^2 + mx + ny + c = 0$. Where m, n and c are constants. **(3 marks)**

13. Wambua invested Sh. 6400 at 15% per annum compound interest for 3 years. Muinde invested twice that amount at $12\frac{1}{2}$% per annum simple interest for the same period of time. Find whose investment earned more interest and by how much. **(4 Marks)**

14. a) Expand $\left(1-\frac{1}{2}x\right)^5$ **(1 mark)**

b) Use the expansion upto x^3 in (a) above to evaluate $(0.98)^5$ correct to 4 d.p **(2 marks)**

15. The figure below shows a quadrilateral ABCD which is cyclic. Solve for x. **(2 marks)**



16. Solve for x in the equation log (x – 1) = log 12 – log (x – 2) **(3 Marks)**

SECTION II (50 MARKS)

Answer only FIVE questions from this section in the spaces provided.

17. Mr. Kobe is a civil servant who earns a monthly salary of Ksh.21200. He has a house allowance of Ksh.12000 per month, other taxable allowances are commuter Ksh.1100, medical allowance Ksh.2000. He is entitled to a personal relief of Ksh.1240 per month.
Using the income rates below, solve the questions that follow.

Income in Ksh. per month	Rates in Ksh per sh 20
1 – 8,400	2
8401 – 18,000	3
18001 – 30,000	4
30001 – 36,000	5
36001 – 48,000	6
Above 48,000	7

Determine;

i) His monthly taxable income. **(2 marks)**

ii) Net tax (PAYEE) **(5 marks)**

In addition to the PAYEE, the following deductions were made. Ksh.250 for NHIF, Ksh.120 service charges,he repays a loan at sh.4500 and contributes towards savings at sh.1800 every month. Calculate his net salary per month. **(3 marks)**

18. a) From whole numbers 1 to 10, a number is selected at random, find the probability that, the number selected is a prime or a multiple of 3. **(2 marks)**

b) A tetrahedron is thrown and a coin is tossed.

i) List down all the possible events in the probability space. **(1 mark)**

ii) Find the probability of getting at least 2 and a head. **(2 marks)**

c) i) A bag contains 6 white marbles and some brown ones. If the probability of picking a brown marble is 0.6, find the number of marbles in the bag. **(3 marks)**

ii) Two marbles are then picked, one at a time from the bag in c(i) above, with replacement. Find the probability that the marbles picked are of different colours. (**2 marks)**

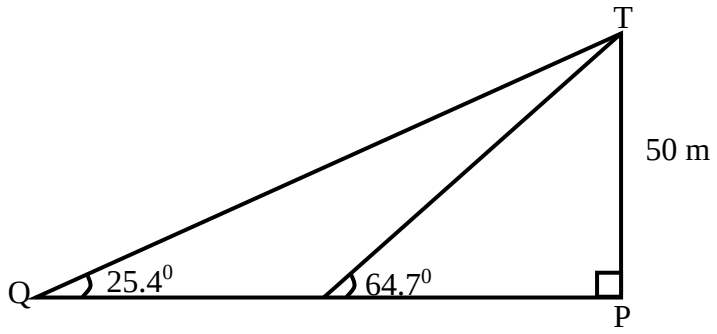
19. Kennedy bought three cows and twenty-five goats spending a total of Sh. 75000. If he had bought two cows and thirty three goats, he would have saved Sh. 5400. Kennedy later sold all his animals at a profit of 40% per cow and 50% per goat.

Determine;

(a) the cost at which he bought each animal. **(5 Marks)**

(b) the total amount of money Kennedy received after selling all the animals. **(5 Marks)**

20. The figure below shows the position of a boat Q which is observed sailing directly towards the pier P at the base of a vertical cliff PT. The angle of elevation of the top of the cliff from Q is 25.4^0. After 14 seconds the boat is at point R, and the angle for elevation of T is now 64.7^0.



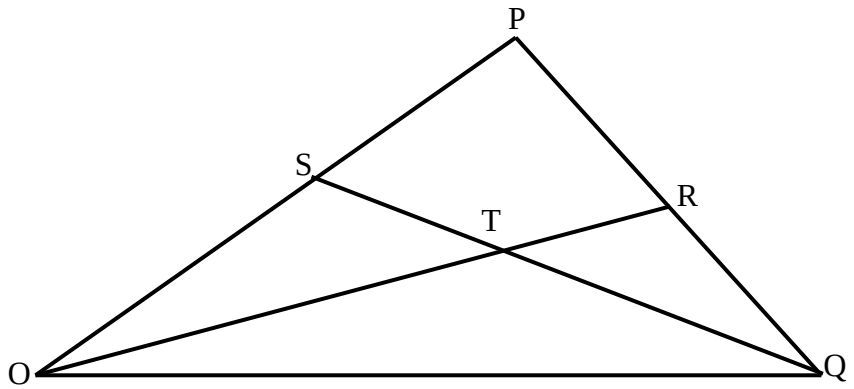
If the cliff is 50m high, calculate

The distance PQ **(2 Marks)**

The distance QR **(4 Marks)**

The speed of the boat in km/h **(4 Marks)**

21.



In the figure above, OPQ is a triangle in which $\underset{\sim}{QS} = \frac{3}{4}\underset{\sim}{QP}$ and $\underset{\sim}{PR}$: $\underset{\sim}{RQ}$ = 2:1

Line OR and SQ meet at T.

(a) Given that $\underset{\sim}{OP} = \underset{\sim}{p}$ and $\underset{\sim}{OQ} = \underset{\sim}{q}$, express the following vectors in terms of $\underset{\sim}{p}$ and $\underset{\sim}{q}$.

(i) $\underset{\sim}{PQ}$ **(1 Mark)**

(ii) $\underset{\sim}{OR}$ **(2 Marks)**

(iii) $\underset{\sim}{SQ}$ **(1 Mark)**

(b) You are further given that ST = mSQ and OT = nOR. Determine the values of m and n. (**6 marks)**

22. Two variables A and B are connected by the equation. $A = kB^n$ Where k and n are constants.

The table below gives values of A and B.

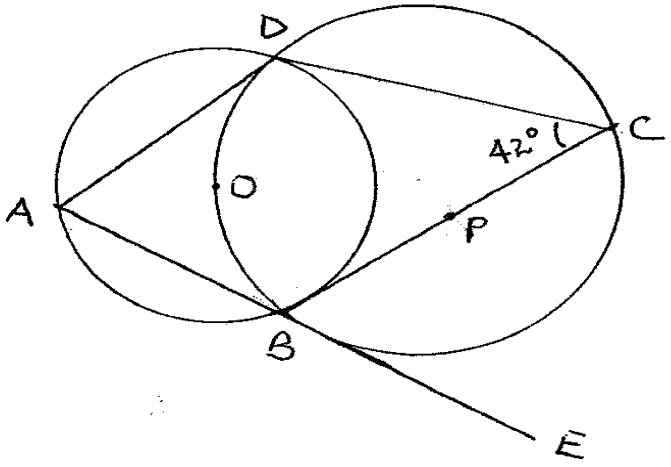
A.	1.5	1.95	2.51	3.20	4.50
B.	1.59	2.51	3.98	6.31	11.5

(a) Find a linear equation connecting A and B **(2 Marks)**

(b) On the graph paper provided draw a suitable straight line graph to represent the relation in (a) above **(5 Marks)**

(c) Use your graph to estimate the values of k and n in to one decimal place. **(3 Marks)**

23. (a)



Giving reasons, determine the size of:

Angle CBD **(2 marks)**

Angle ODB **(2 marks)**

Angle BAD **(2 marks)**

Angle ABC **(2 marks)**

Angle ODA **(2 marks)**

24. (a) Draw the graph of the function below on the grid provided

$y = 2x^2 – 7x – 2$ for the values of $-1 \leq X \leq 6$ **(5 marks)**

(b) From your graph determine the roots of the function. $2x^2 – 7x – 2 = 0$. **(1 marks)**

(c) By drawing a suitable graph of function $y = 2x – 7$ on the same axis, solve the simultaneous equations $y = 2x^2 – 7x – 2$ and $y = 2x – 7$. **(4 marks)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

COMPUTER STUDIES

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

Section A (40 marks)

Instructions: Answer All The Questions On the Space Provided

1. State the meaning of the term computer software. **[2]**

_____

_____

_____

2. State three features of fifth generation computers. **[3]**

_____

_____

_____

3. differentiate between home page and web page as used in the internet. **[2]**

_____

_____

4. State three characteristics of mainframe computers. **[3]**

_____

_____

_____

5. The management of an organisation intends to buy a printer. State three factors that they should consider during the purchase. **[3]**

_____

_____

_____

6. Describe each of following computer cable:

Parallel cable **[2]**

_____

_____

Serial cable **[2]**

_____

_____

7. A computer technician has observed a lot of dust on computers in the laboratory. State three precautions that need to be put in place to avoid this. **[3]**

_____

_____

_____

8. Explain the term proofreading as used in word processing. **[2]**

_____

_____

_____

9. State the function of each of the following computer keyboard when using a word processor.

I. End **[1]**

_____

_____

_____

II. Insert **[1]**

III. Backspace **[1]**

10. Explain two problems associated with the computer hard disk. **[4]**

11. List three electronic data processing modes used in computers. **[3]**

12. State four ways in which a programmer can make program code easy to follow. **[2]**

13. List four examples of utility software. **[2]**

14. List four types of publications that can be designed by using desktop publishing software.**[2]**

_____

_____

_____

15. State two benefits of having the advert uploaded on the Internet. **[2]**

_____

_____

_____

SECTION B (60mks)

Answer question 16 (Compulsory) and any other three questions in this section

16. **a)** State two advantages of using low level programming languages. **[2]**

_____

_____

_____

b) Other than flowcharts, state three tools that can be used to present an algorithm. **[3]**

_____

_____

_____

_____

(c) A form one admission interview consists of four tests; Mathematics, English, Kiswahili and Science. In order to qualify for admission, an applicant must attain a minimum average of 65% in the four tests and not less than 70% in Mathematics. All applicants must sit for the interview. Draw a flowchart that would read the scores for each applicant and determine whether an applicant is successful or not. (10 marks)

17. Describe three arithmetic errors that may occur during data processing. **[6]**

b) Describe three types of validation checks as used in data processing. **[6]**

c) State three ways in which barcode readers may be used in school. **[3]**

18. a) Using two examples, explain the term field properties as used in database design. **[2]**

(b) Below is an extract from a hospital database table.

Patient No	Name	Date Registered	Amount paid	Remarks
LDK/001	Mathew Olang	04/05/08	2500.00	To go for x-ray
LDK/004	Joy Chelimo	07/06/08	1200.00	Medicine to be ordered
LDK/008	John Kamau	09/08/08	3500.00	To be admitted for further check up
LDK/002	Gerald Wasike	02/04/05	800.00	To come back for review

i) State with reasons the most suitable data types for the following fields: **[8]**

Patient No;

_____

_____

Date registered;

_____

_____

Amount paid

_____

_____

Remarks

_____

_____

ii) Which would be the most appropriate primary key for the above table. **[1]**

_____

_____

iii) What is the purpose primary key in database design. **[1]**

_____

_____

iv) Describe how information about patients who registered after 9/08/06 can be extracted from the database. **[3]**

_____

_____

_____

_____

19. **a)** Briefly describe the three main coding schemes. **[6]**

b) Convert the following numbers to binary number.

i) $B2.AA_{16}$ **[3]**

ii) $\frac{13}{64}$ base 10 **[3]**

c) Using 8 bit notation, find the 2's complement of the following operation **[3]**

4+(-7)

20. a) i) Define a system. **[2]**

_____

_____

_____

ii) Explain system entropy. **[2]**

_____

_____

_____

b) State three circumstances that can lead to development of information systems. **[3]**

_____

_____

_____

c) Distinguish parallel changes over from straight change over as used in system implementation. **[2]**

_____

_____

_____

_____

d) Discuss three fact finding methods. **[6]**

_____

_____

_____

_____

_____

_____

FORM 4 MIDTERM 1 EXAMS

SERIES 1

COMPUTER STUDIES

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

TIME: 2 ½ HOURS

Instructions to candidates.

a) Indicate your name and index number at the top right hand corner of each printout.

b) Write your name and index number on the CD provided.

c) Write the name and version of the software used for each question attempted.

d) Answer **all** questions.

e) All questions carry equal marks.

f) Passwords should not be used while saving.

g) Make a print out of the answers on the answer sheet.

h) Hand in all the print out and the CD.

1. The table below shows the admission numbers and names of five students and their scores in six subjects in a mock examination.

ADM. NO.	Name	English	Maths	Biology	Chemistry	Physics	History
2020	Victor Mutiso	77	68	75	35	58	80
2032	Zablon Onyango	44	77	80	42	60	73
2037	Pauline Nafula	68	59	91	39	59	75
2040	Naom Cherop	55	80	89	48	38	66
2044	Jameleck Kioko	69	62	83	43	44	70

a) Enter the above data into a worksheet and save the file as 'mock results' **(11mks)**

b) Using a formula, calculate the; **(4mks)**

i) Total score for each students

ii) Mean score for each student

c) Use a function to obtain the mean for each subject **(3mks)**

d) A student is awarded a 'pass' if their mean score is 60% or more. Use a function to determine the number of students who are awarded 'pass' **(2mks)**

e) Format the worksheet as follows

- Borders : single line
- Subject heading : align 90°
- Marge the cells above all the subjects headings so that the text 'SUBJECT' is above them.
- Mean score: One decimal **place** **(4mks)**

f) Copy the contents of the worksheet to a blank worksheet and insert a blank column after every subject.

Label the new columns as Eng. B, math B, Bio B, Chem B, Phy B, and Hist B respectively. On the inserted columns, compute the grades using IF function based on the following criteria. **(10mks)**

Mean score	Grade
score≥75	A
60 ≤ score <75	B
50 ≤score < 60	C
45 ≤score <50	D
Score < 45	E

g) Hide all the columns containing score values and save the worksheet as "Mock Results **(2mks)**

h) Create a bar chart to compare students mean score and label the chart accordingly**. (10mks)**

i) Print the two worksheets and the bar chart **(4mks)**

2. The tables below, **STUDENT, SUPERVISOR** and **SUPERVISIONS** are extracts of records kept in MOKASA UNIVERSIRY for project supervisions.

Student Number	Name	Gender	Project Fee Paid
C001	Ken	M	32000
C002	Joy	F	27800
C003	Lero	M	18900
C004	Moth	F	42700
C005	Ben	M	45000

Table 1 STUDENTS TABLE

Supervisor Number	Name	Department
L220	Alex	Mechanical
L230	Sakaja	ICT
L240	Roy	Electronics
L250	Mati	Education
L260	Joy	Human Resource

Table 2 SUPERVISOR S' TABLE

Supervision Number	Supervision Date	Student Number	Supervisor Number	Project Title
100	12/03/2015	C001	L220	Java
200	22/03/2015	C003	L230	Website
300	17/03/2015	C004	L240	Robotics
400	02/03/2015	C001	L220	Java
500	18/03/2015	C002	L240	Robotics
600	12/03/2015	C004	L230	Java
700	11/03/2015	C002	L250	Database
800	12/03/2015	C003	L220	Java
900	12/04/2015	C005	L250	Database
1100	12/04/2015	C002	L250	Database

Table 3 SUPERVISIONS TABLE

a) Using a database application software, create a database file named **PROJECT** **(1mk)**

b) Create three tables named **STUDENT, SUPERVISOR** and **SUPERVISIONS** as shown above. **(9mks)**

c) Set the primary key for each table. **(3mks)**

d) Create relationships among the tables. **(2mks)**

e) Enter the data in the table **STUDENT, SUPERVISOR** and **SUPERVISIONS** as shown above. **(9mks)**

f) Create a form for each table above. **(3mks)**

g) Create a query named **BALANCE** to display student name, Gender, project fee balance per student, given that the total project fee is **Ksh.50000**. **(4mks)**

h) Create a query named **BALANCE2** to display students' Names, project title whose fee balance is above **Ksh.20000.** . **(4mks)**

i) Create a bar chart based on question (h) to display students Name and balance. Save as **BALANCE CHART.** **(3mks)**

j) Create a report named SUPERVISION to display Students Names, Project Title, names of supervisor, and supervision Dates. The records in the report should be grouped by students' Name and the number of supervisions by each student should be displayed.

(5mks)

k) Title the report as supervision per lecturer. **(2mks)**

l) Print the following:

- **Tables**: STUDENT, SUPERVISOR and SUPERVISIONS **(2mks)**
- **Queries**: BALANCE and BALANCE2 **(2mks)**

REPORT: SUPERVISIONS **(1mk)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

HOME SCIENCE

PAPER 1

TIME: 2 ½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

441/1

FORM 3

PAPER ONE

HOMESCIENCE THEORY EXAMINATION

TIME: 2 ½ HOURS

Answer all the questions in section A and B and any two questions in section C

SECTION A – (40 MKS)

1.State 3 ways of misusing **medicine** **(3m)**

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2. Give 3 dangers of poor sanitation**.** **(3m)**

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3. Mention 2 ways of useful disposal of household refuse. **(2m)**

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4. Give 2 disadvantages of buying a house . **(2m)**

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5. Suggest 2 ways of preventing infection in a baby through the umbilical cord. **(2m)**

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6. Give 3 reasons why buffet type of meal service is suitable for a large number of guests. **(3m)**

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7. Point out 2 factors that determine the baking time for a cake. **(2m)**

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8. State 2 importances of gluten in flour mixtures. **(2m)**

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9. State 3 points to bear in mind when making openings. **(2m)**

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10. Suggest how each of the following brings about development in a child**.** **(3m**)

(i) physical play:

(ii)Intellectual play: -

(iii) Social play:

11. List down six different methods of disposing fullness during garment construction. **(3m)**

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12. State 2 functions of phosphorous in the body**.** **(2m)**

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13. Highlight 2 factors that may interfere with a family budget**.** **(2mks)**

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14. State 2 characteristics that make hard water unsuitable for laundry**.** **(2mks)**

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15. Give 3 qualities of a well made seam**.** **(3m)**

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16. State two possible causes of large holes in a rubbed in cake mixture. **(2m)**

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17. Name the commonly used types of cotton fabrics**.** **(1m)**

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SECTION B – 20 MARKS (Compulsory).

18. Give the procedure you would follow in carrying out each of the following tasks.

(a) Sweeping an earthen floor**.** **(10m)**

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(b) Laundering a silk scarve with a tear**.** **(10m**)

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SECTION C – 40 MARKS.

Answer only 2 questions in this section.

19(a) List down five factors to bear in mind when preparing meals for a elderly person. **(5m)**

(b) State 5 qualities of a well made round bottom patch pocket**.** **(5m)**

(c) Suggest 5 practices to be observed in preparing and cooking green vegetables for nutrients Conservation**.** **(5m)**

(d) Give 5 ways in which prolonged drought may affect the nutritional status of a community. **(5m)**

20(a) Explain 5 problems related to breastfeeding**.** **(10m)**

(b) Highlight 5 points to consider when selecting fabric for making a cookery apron. (**5m)**

(c) State and indicate the age of five immunizations given to children below five years. (**5m)**

Vaccine Age

21(a) By use of relevant diagrams explain how you would work out a French seam of a skirt. (10m)

(b) Suggest five causes of skipped stitches when machining**.** **(5m)**

(c) Point out 5 danger signs in pregnancy that signal threatened miscarriage. **(5m)**

FORM 4 MIDTERM 1 EXAMS

SERIES 1

HOME SCIENCE

PAPER 2

TIME: 2 ½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

441/2

HOMESCIENCE (CLOTHING CONSTRUCTION)

FORM 4

PAPER 2 (PRACTICAL)

TIME 2 ½ HOURS

A pattern of a girl's skirt is provided. You are advised to study the sketches, instructions and layout carefully before you begin the test.

Materials provided

1. Pattern pieces

A – skirt back

B – skirt front

C – pocket

D – waistband

2. Plain light weight cotton fabric 55x90cm wide
3. Sewing thread to match the fabric
4. One large envelope.

The test

Using the materials provided, cut out and make the RIGHT HALF of the skirt to show the following processes.

a) Making of the back dart

b) Preparation of pleats on the skirt front.

c) Attachment of front pocket to the skirt front and back pocket to the skirt back. Do not trim or neaten the seam.

d) Making the side sea using an open seam. **Neaten below the pocket only.**

e) Joining of the pocket seam. **Do not neaten.**

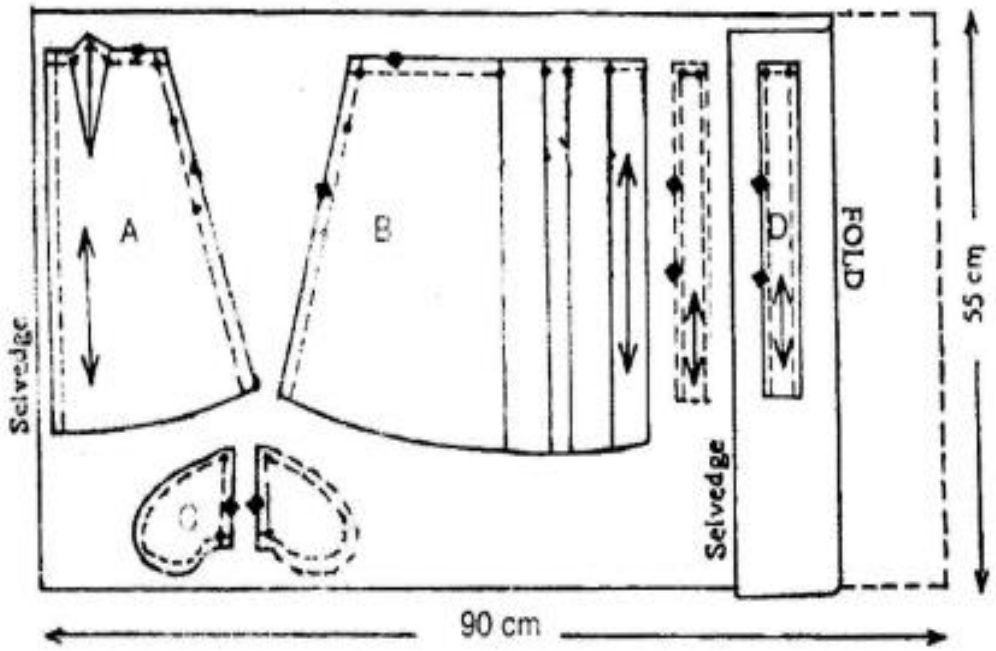
f) Preparation of an interfaced waistband. (6mks)

g) Attachment of the waistband, **slip-hem the back piece only.**

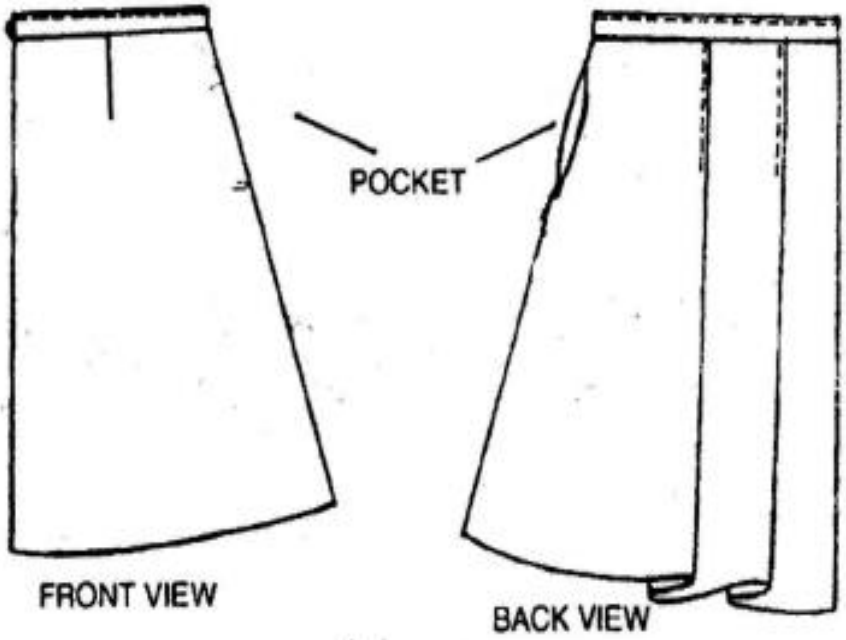
h) Making of the worked loop on the back waistband for a 1cm wide button.

At the end of the examination, firmly sew onto your work, on a single fabric, a label bearing your name and index number. Remove needles and pins from your work, fold your work neatly and place it in the envelope provided. Do not put scraps of fabric in the envelope.

THE LAYOUT (NOT DRAWN TO SCALE)



FRONT AND BACK VIEW



FORM 4 MIDTERM 1 EXAMS

SERIES 1

HOME SCIENCE

PAPER 3

CONFIDENTIAL

PAPER 441/11

Provide the student with the following;

1. Plain light weight cotton fabric 55cm x 90cm wide.

2. Sewing thread to match the fabric.

FORM 4 MIDTERM 1 EXAMS

SERIES 1

HOME SCIENCE

PAPER 3

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

FORM 4

PAPER 441/3

FOOD AND NUTRITION

(PRACTICAL)

1 ¾ HOURS

PLANNING SESSION: 30 MINUTES

INSTRUCTIONS

Read the test carefully

Text books and recipes may be used during the planning session as reference materials.

You will be expected to keep to your order of work during the practical session.

You are allowed to take away only your reference materials at the end of the planning session

You are not allowed to bring additional notes to the practical session

THE TEST

Your sister's friend is visiting your home and your sister has requested you to help prepare a 10.00 o'clock tea. Using the ingredient listed below, prepare, cook and present a beverage and two tea items for the three of you.

INGREDIENTS

-Plain wheat flour/self-raising flour

-Eggs

-Sugar

-Milk

-Tea leaves/cocoa/soya

-Oil/fat

-Salt

-Bread

-Tomatoes

-Blue band

PLANNING SESSION: 30 MINUTES

Use separate sheets of paper for each task listed below and use carbon paper to make duplicate copies then proceed as follows:

1. Identify the beverage and the tea items then write down their recipes.

2. Write down your order of work

3. Make a list of foodstuffs and equipment you will require

THE END

FOR THE FOLLOWING;

- ✓ ONLINE TUITION
- ✓ REVISION NOTES
- ✓ SCHEMES OF WORK
- ✓ SETBOOKS VIDEOS
- ✓ TERMLY EXAMS
- ✓ QUICK REVISION KITS
- ✓ KCSE TOPICALS
- ✓ KCSE PREMOCKS
- ✓ TOP SCHOOLS PREMOCKS
- ✓ JOINT PREMOCKS
- ✓ KCSE MOCKS
- ✓ TOP SCHOOLS MOCKS
- ✓ JOINT MOCKS
- ✓ KCSE POSTMOCKS
- ✓ TOP SCHOOLS PREDICTIONS
- ✓ KCSE PREDICTIONS
- ✓ KCSE REVEALED SETS

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