FORM 4 MIDTERM 1 EXAMS

ALL SUBJECTS

SERIES 2

SUBJECTS COMPILED:

Maths,English,Kiswahili,Biology,Chemistry,Physics,History,CRE,Geography,Agriculture &Business Studies.

A Collection of well-organized standard updated End of Term Three Test Examinations for our KCSE Candidates in all Schools in Kenya.

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MWALIMU CONSULTANCY

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BIOLOGY

PAPER 1
TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Kenya Certificate Of Secondary Education (KCSE)

231/1

BIOLOGY

PAPER 1

2 HOURS

INSTRUCTIONS TO CANDIDATES

1. *Write your name, admission number, school and stream in the spaces provided above.*
2. *Answer all the questions in the spaces provided.*

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORES	CANDIDATE'S SCORE
1 – 26	80	

QUESTIONS

1. **a)**Lietego school biology student used a microscope with X40 objective lens and X5 eye piece lens which had 2mm radius. Calculate the area of the field of view in micrometers. **(2mks)**

……

……

b) What is the average size of the cell in micrometers if there were 5 cells on the field of view **(2mks)**

……

……

2. State **three** differences between osmosis and active transport. **(3mks)**

Osmosis	Active transport

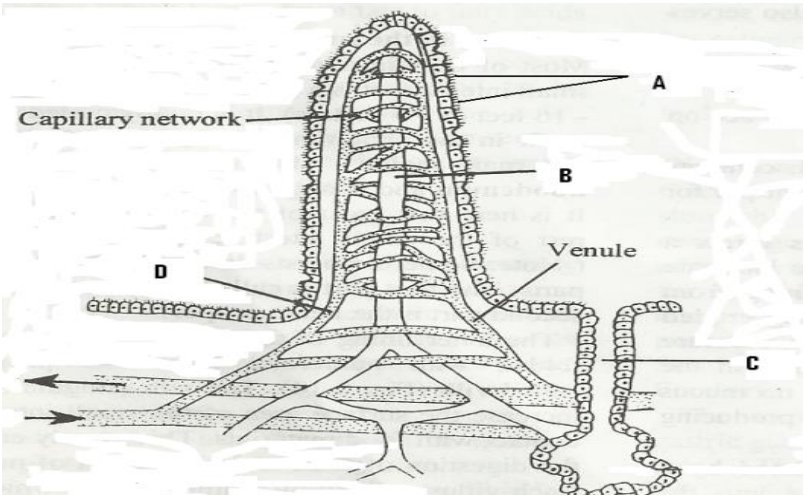
3. The lungs and ileum are adapted for absorption .State **three** features they have in common which facilitate absorption. **(3mks)**

……

……

……

3. The figure below represents a structure obtained from the ileum of a mammal.



a) Give the identity of the structure. **(1mk)**

…….

b) What is the importance of the structure named in (a) above**?** **(1 mk)**

……

c) Name the parts labeled A, B and D. **(3mks)**

A..... B.....

D.....

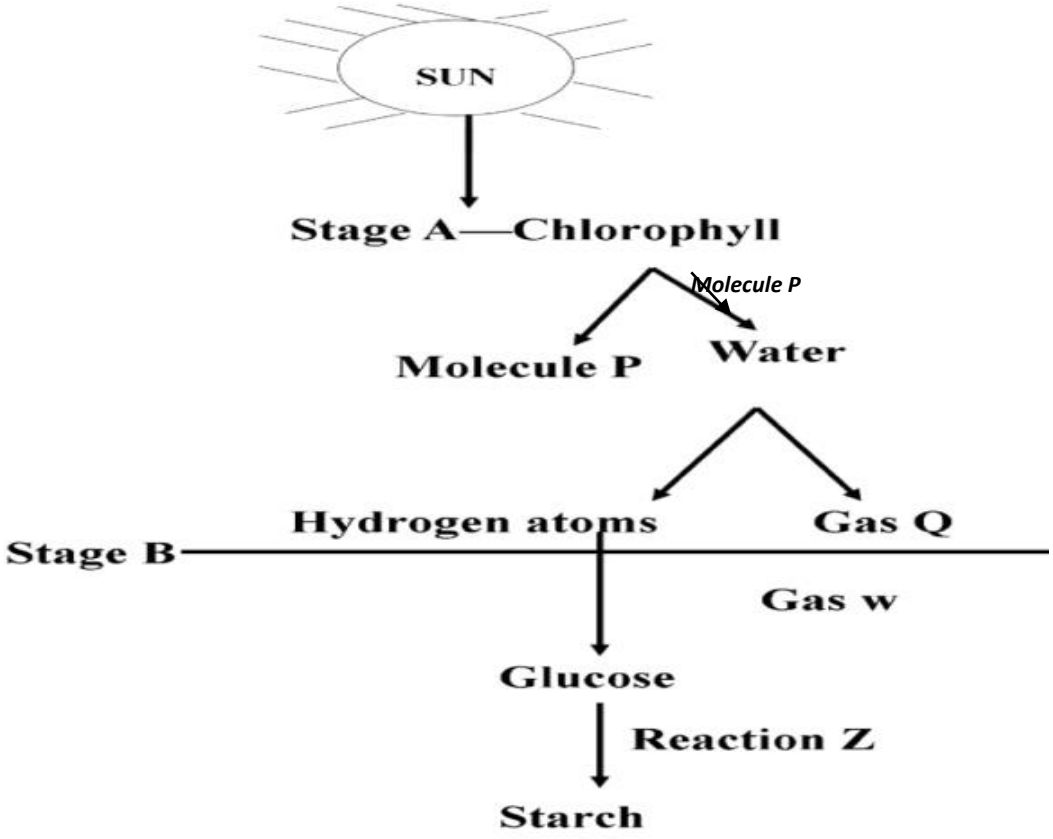
d) i) Name the juice secreted by the part labeled **C..... (1mk)**

ii) List **two** enzymes present in the juice named in d (i) above. **(2mks)**

……

……

5. Below is a diagrammatic summary of the main biochemical events in photosynthesis. Study it carefully and answer the questions that follow.



a) Suggest the identify of molecule P. **(1mk)**

.....

b) Name the gases represented by the letters **(2mks)**

Q.....

W.....

c) Name the specific site for the reactions in stage B **(1mk)**

.....

d) Name reaction Z. **(1mk)**

Z .....

6. (a) What is the importance of the following substances in blood clotting process in man?

(i) Vitamin K: **……..…** **(1mk)**

(ii) Thrombin: **……..…** **(1mk)**

(b) Comment on:

(i) Disadvantage of having blood group O. **(1mk)**

…….

(ii) Advantage of having blood group AB. **(1mk)**

…….....……

7. (a) State the reasons for the following adaptations of the xylem vessels. **(2mks)**

(i) Narrow lumen: **……**

(ii) Lack of cross walls:

……

……

(b) State **two** distinguishing features of the phloem sieve tubes. **(2mks)**

……

……

8. (a) State **two** functional differences between arteries and veins in mammals. **(2mks)**

……

……

9. a) List down **three** respiratory diseases in human beings **(3mks)**

……

……

……

b) State the **three** theories that explain the mechanisms of opening and closing the stomata **(3mks)**

……

……

……

10. Name the nitrogenous wastes excreted by a fresh water fish **(1mk)**

……

11. State the function of septum in the heart **(1mk)**

……

……

12. The equation below represents a metabolic process that occurs in the mammalian liver.

Amino Acids ⟶ Organic **compound** **+ Urea**

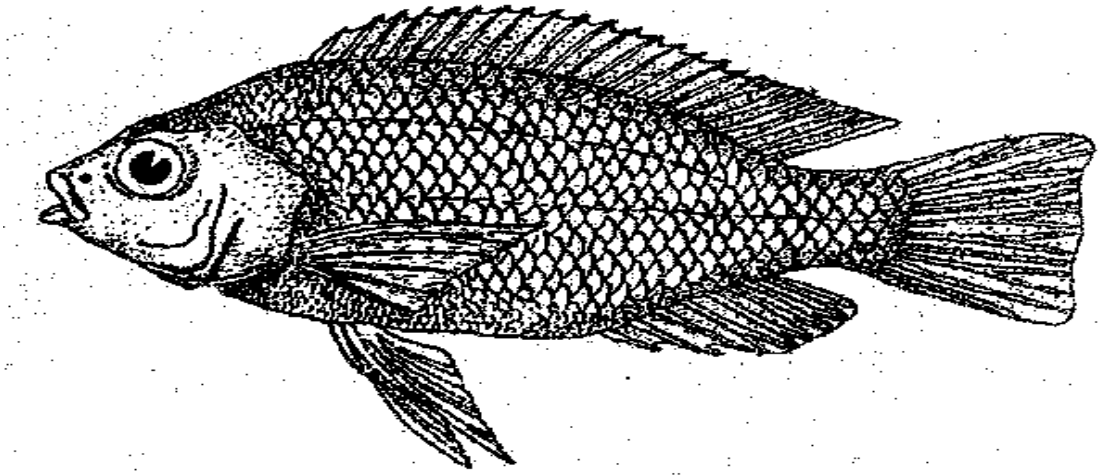
(a) Name the process**.....(1mk)**

(b) What is the importance of the process to the mammal? **(2mks)**

……

……

13. Below is a diagram of an organism



i) State the class which the organism belongs to **(1mk)**

.....

ii) State two observable characteristics used to classify the organism in the class you have mentioned in (i) above **(2mks)**

.....

.....

b) Name **two** classes of phylum arthropoda with cephalothorax. **(2mks)**

.....

.....

14. In mitosis in animals chromatids failed to separate and move to opposite poles

a) Name the organelle that the cell was lacking **(1mk)**

.....

b) Name **two** regions in plants where cells actively undergo mitosis **(2mks**

.....

.....

15. a) What is the meaning of the following terms **(2mks)**

i) Autecology

.....

.....

ii) Synecology

.....

.....

b)The number and distribution of stomata on three different leaves are shown in the table below.

Leaf	**Number of stomata**	
	Upper epidermis	**Lower epidermis**
A	**450**	**0**
B	**185**	**270**
C	**03**	**15**

Suggest the possible habitats of the plants from which the leaves were obtained **(3mks)**

A……

B……

C……

c) Apart from predation, state **two** other biotic factors that will influence the distribution of an organism in an ecosystem. **(2mks)**

……

……

16. What is the function of the following structures in the human reproductive organs?

a) Prostate gland **(1mk)**

……

b) Uterus **(1mk)**

……

c) Epididymis **(1mk)**

……

17. Define the term **oxygen debt** as used in biology **(1mks)**

……

……

18. a) Differentiate between incomplete and complete metamorphosis. Give example in each case. **(4mks)**

……

……

……

……

19. State **two** adaptations of a seed to its functions. **(2mk)**

……

……

20. Name the causative agent of cholera **(1mk)**

……

21. Define the term resolution power as used in microscopy **(1mk)**

……

22. What is haemolysis **(1mk)**

……

……

23. a) Name the compound that stores energy released during oxidation of glucose, **(1mk)**

……

……

b) A goat weighing 15.2kg requires 216KJ while a rat weighing 50g requires 2736KJ per day. Explain. **(2mks)**

……

……

24. Explain why plants do not require complex excretory organs. **(3mks)**

……

……

……

25. Name the instrument used in measuring wind velocity **(1mk)**

……

……

26. What is ecdysis **(1mk)**

……

……

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BIOLOGY

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

231/2

BIOLOGY

PAPER 2

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

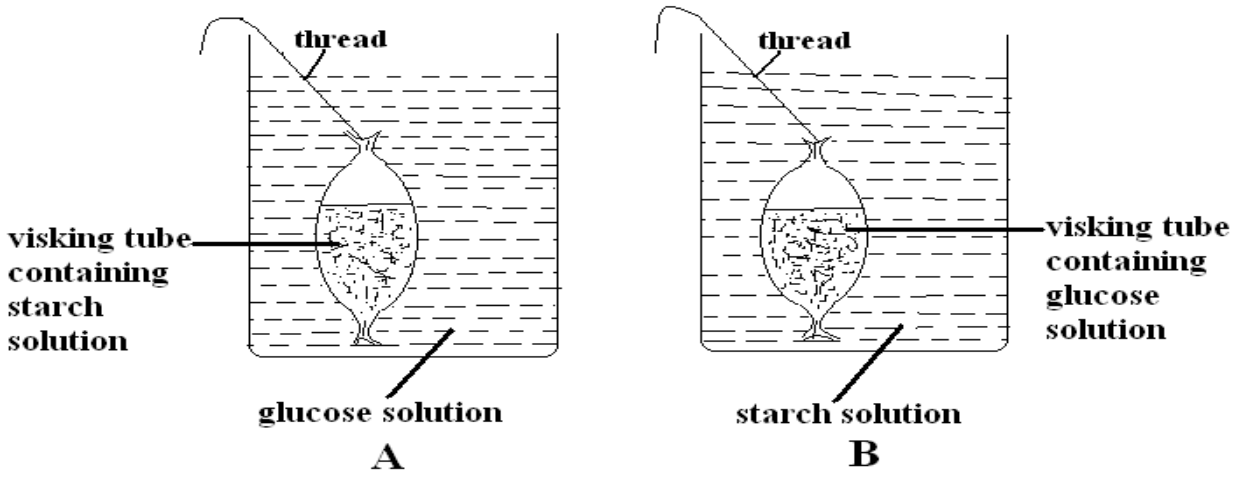
- ***a)*** *This Paper consists 2 sections A and B.*
- ***b)*** *Answer all questions in section A in the spaces provided*
- ***c)*** *In section B, answer questions 6 (compulsory) and either questions 7 or 8 in the spaces after questions 8..*

FOR EXAMINERS USE ONLY

SECTION	Questions	Maximum Score	Candidates Score
A	1	**8**	
	2	**8**	
	3	**8**	
	4	**8**	
	5	**8**	
B	6	**20**	
	7	**20**	
	8	**20**	
	TOTAL SCORE	**80**	

QUESTIONS

1. A form one class set up the following experiment. After an hour, the contents of the visking tubing and the beaker were tested using iodine solution and benedict's solution.

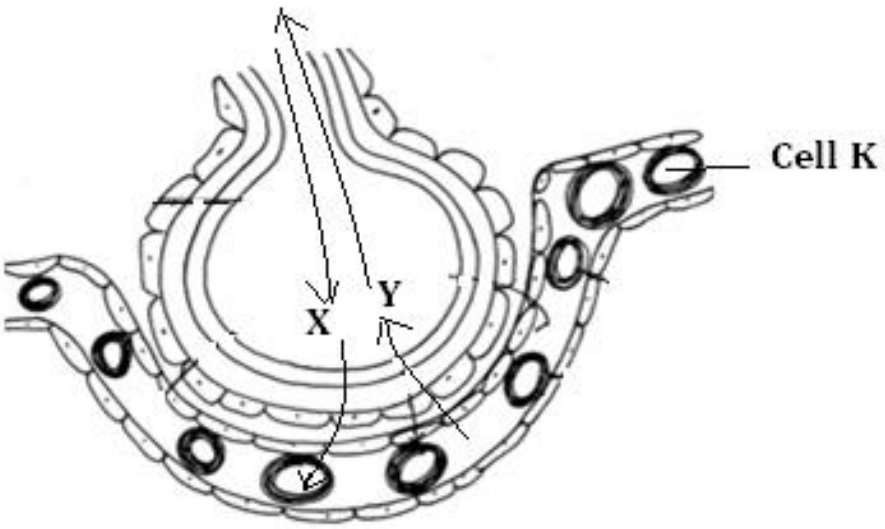


Record in the table below the expected observations after the contents in set up A and B were tested using iodine solution and benedict's solution. **[8 marks]**

	Visking tubing		**Beaker**	
Set up	**Iodine solution**	**Benedicts solution**	**Iodine solution**	**Benedict's solution**
A				

B				

2. The diagram below shows the association between the alveolus and a blood capillary. Study it and answer the questions that follow.



8. State the physiological process by which the gas labeled X enters the cell labeled K. **(1mk)**

……

9. Identify gases represented by letter X and Y

X**……(1mk)**

Y **……(1mk)**

10. Give **two** adaptations of cell K to its functions. **(2mks)**

……

……

11. State **three** characteristics of respiratory surfaces. **(3mks)**

……

……

……

3. a) Define the following terms as used in animal nutrition

i) Dentition **(1mk)**

……

……

ii) Homodont and heterodont teeth **(2mks)**

……

……

b) State **two** functions of ileum **(2mks)**

……

……

(c) Explain the importance of the following in the process of photosynthesis; **(2mks)**

(i) Chlorophyll

……

……

(ii) Light

……

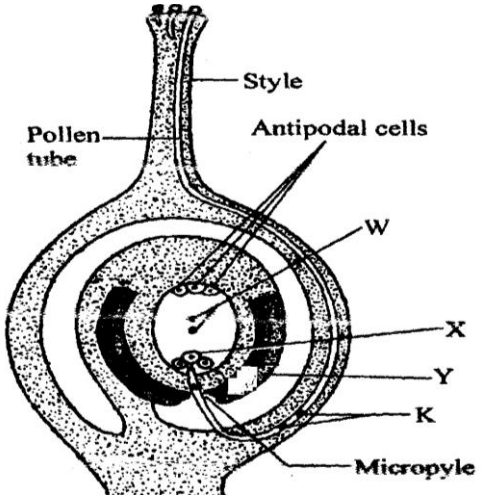
……

(d) State **one** use of Potassium in (K^+) ion the body **(1mk)**

……

……

4. The diagram below shows a cross section through the female part of a flower.



(**a)** Name the structures labelled W,X, and Y. **(3mks)**

X .....

Y .....

Z .....

b) State two functions of the pollen tube. **(2mks)**

.....

.....

c) What happens to antipodal cells after fertilization. **(1mk)**

.....

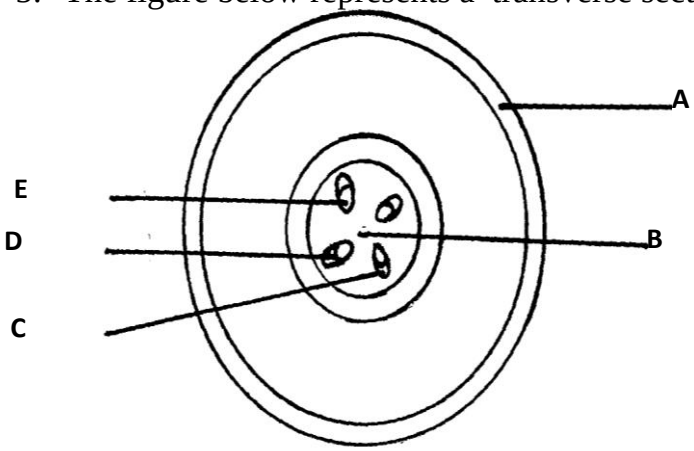
.....

d) Name the structure labelled K and state their role. **(2mks)**

.....

.....

5. The figure below represents a transverse section of a young stem.



a) Name the parts labelled **A** and **B** on the diagram. **(2mks)**

A.....

B.....

b)State the functions of the parts labelled **C, D** and **E.(3mk)**

C.....

D.....

E.....

c) List **three** differences between the section shown above and one that would be obtained from the root of the same plant. **(3mks)**

.....

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.....

.....

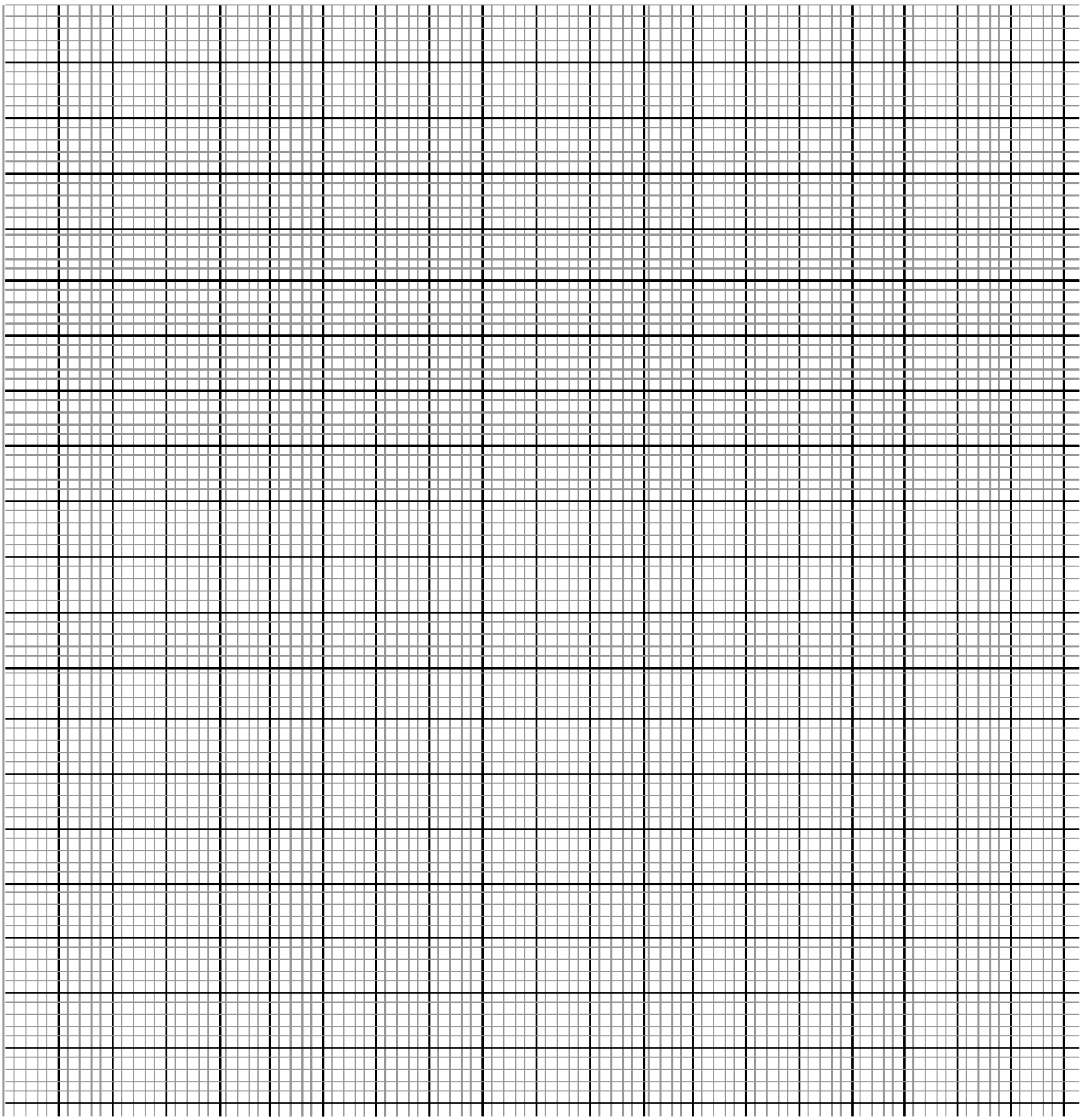
SECTION B(40 MARKS)

Answer questions 6 (compulsory)and either questions 7 or 8 in the spaces provided questions 8

6. The glucose level in mg per $100cm^3$ of blood was determined in two person Y and Z. Both had stayed for six hours without taking food. They were fed on equal amount of glucose at the start of the experiment .The amount of glucose in their blood was determined at intervals .The results are shown in the table below.

Times in minutes	**Glucose level in blood in mg /$100cm^3$**	**Glucose level in blood in mg /$100cm^3$**
	Y	**Z**
0	85	78
20	105	110
30	105	110
45	130	170
60	100	195
80	93	190
100	90	140
120	90	130
140	88	120

a) On the grid provided, plot graphs of glucose levels in blood against time on the same axes. **(7mks)**



b) What was the concentration of glucose in the blood of Y and Z at the 50th minute? **(2mks)**

Y .....

Z .....

c) Account for the level of glucose in person Y

i) During the first 45 minutes. **(2mks)**

……

……

……

……

ii) After 45^{th} minute to the end of the experiment. **(4mks)**

……

……

……

……

d) Account for the decrease in glucose level person Z after 60 minutes. **(2mks)**

……

……

……

……

e) Low blood sugar level in harmful to the body .Explain. **(3mks)**

……

……

……

……

7.a) State the various causes of seed dormancy . **(8mks)**

b) Describe various factors that affect the process of seed germination. **(12mks)**

8. Discuss the adaptations of the mammalian skin to its functions. **(20mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BIOLOGY

PAPER 3
TIME: 2 HOURS

BIOLOGY PRACTICAL
(confidential)
TIME: 1HR 45 MIN
40MKS

1. *F – starch solution*
2. *Solution G1- unboiled diastase enzyme*
3. *G2 – Boiled diastase enzyme*
4. *Thermometer*
5. *250ml beaker labeled warm water bath*
6. *Benedict's solution*
7. *Iodine solution*
8. *Means of timing*
9. *6 test tubes*
10. *Test tube rack*
11. *Means of heating*
12. *Tripod stand*

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BIOLOGY

PAPER 3

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

231/3

BIOLOGY

Paper 3

(Practical)

1 3/4 Hours

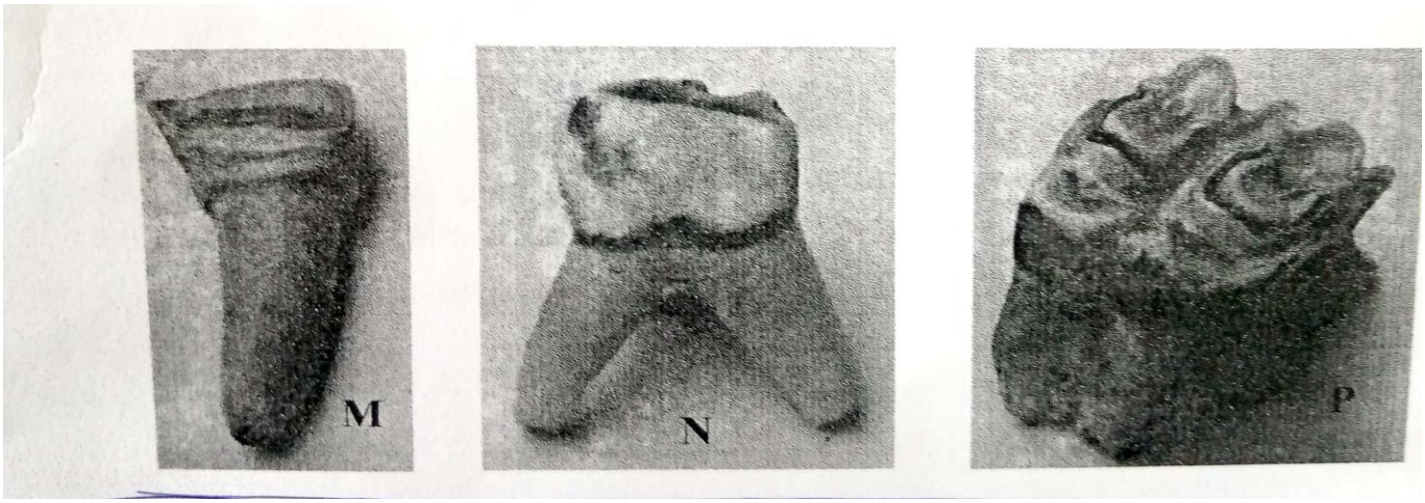
- *Write your name, Admission Number in the spaces provided above*
- *Write the date of examination in the space provided above*
- *Answer ALL the questions*

FOR EXAMINER'S USE ONLY

QUESTION	SCORE	CANDIDATES SCORE
1	9	
2	19	
3	12	
TOTAL	40	

QUESTIONS

1. You are provided with photographs of specimens labeled M,N and P which were obtained from an animal. Study them.



i. Identify specimens: **(3mks)**

M

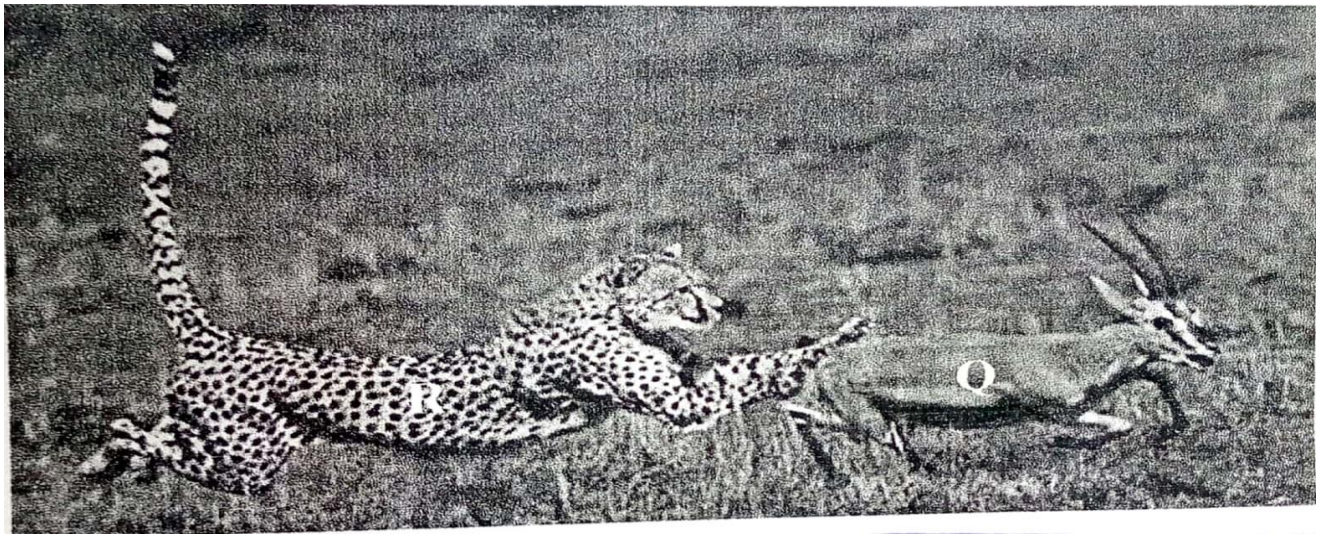
N

P

ii. For each specimen, name, observe features and state how each feature adapts the specimen to it functions. **(6mks)**

Specimen	Feature	Adaptation and function
M		
N		
P		

2. Below is a photograph depicting interaction of organisms in a certain ecosystem?



a. Write down a possible food chain involving three organisms found in the photograph above.

(1mk)

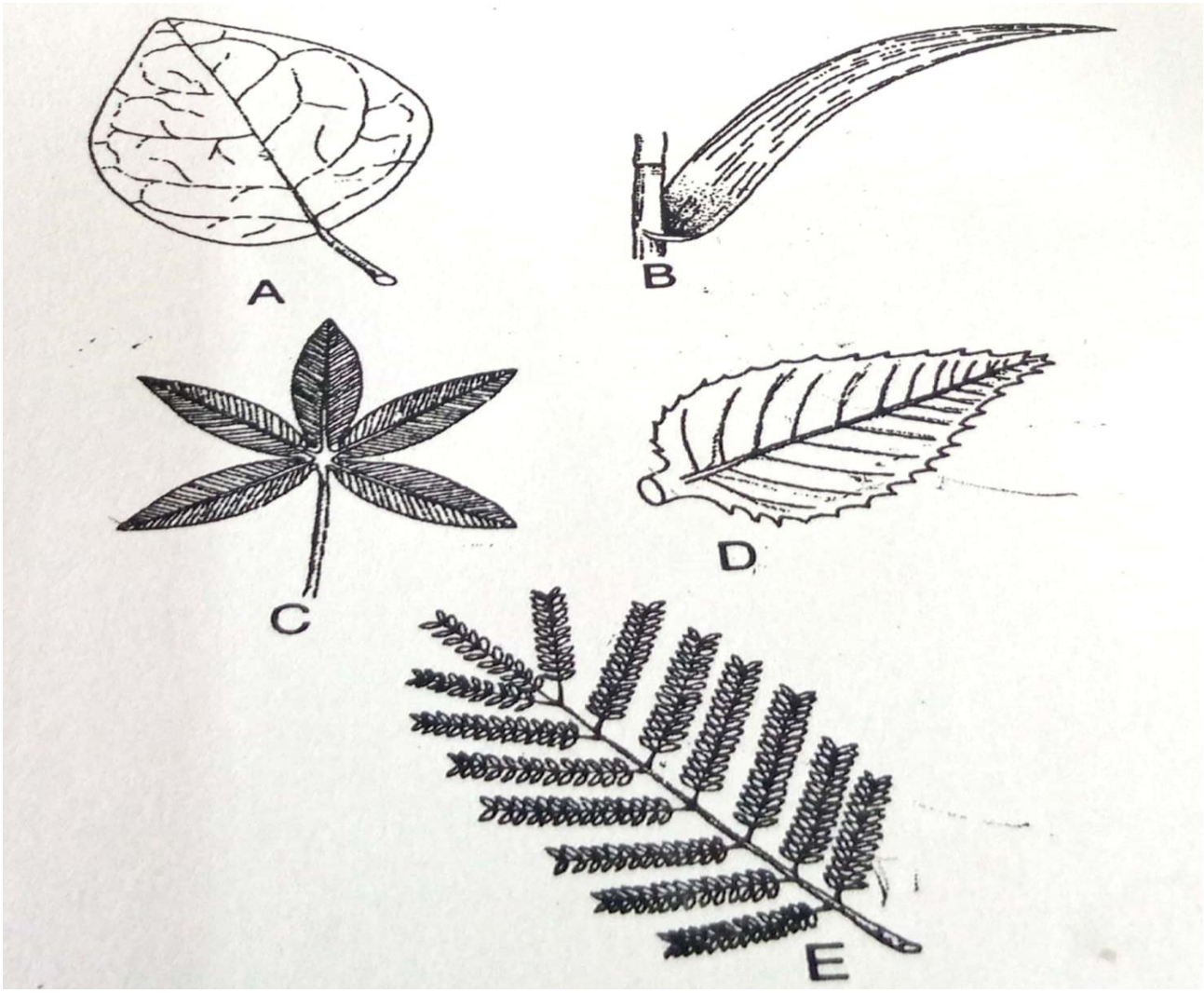
b. Draw a well labeled pyramid of biomass using the food chain in (a) above. **(3mks)**

What feeding relationships are exhibited by the animals shown in the photographs? **(2mks)**

c. Give the adaptations of animal R regarding its feeding relationship mentioned in b (ii) above.

(3mks)

d. A number of leaves are represented by leaves A, B, C, D and. Use the dichotomous key made using leaves A, B, C, D and E below.



1a. Leaf veins network……go to 2

b. Leaf veins parallel…… B (maize)

2a. Leaf simple…… go to 3

b. Leaf compound ……go to 4

3a. Leaf margin smooth……. A (Bougainvillae)

b. Leaf margin serrated…….. D (Hibiscus)

4a. Leaf with five leaflets……. C (Bombax)

b. Leaf with many leaflets…….E (Acacia)

e. Using the above dichotomous key show the steps and identify at the leaves shown above.

(10mks)

Leaf	Steps	Identity
A	1a, 2a, 3a	Bougainvillae
B	1b	Maize
C	1a, 2b, 4a	Bombax
D	1a,2a,3b	Hibiscus
E	1a,2b,4b	Acacia

3. You are provided with three unknown solutions labeled F, G1 and G2. G1 is the same as G2 except that G2 has been boiled. You are also provided with iodine solution, Benedict's solution, means of heating 250ml beaker labeled for a warm water bath, thermometer, tripod stand, means of timing, test-tubes, test tube holder and test tube rack.

a. Place 2ml of solution F in a test tube and add an equal volume of Benedict's solution.

i. Shake to mix and then heat to boil and write down your observation. **(1mk)**

ii. What conclusion do you make from your observation in a (i) above? **(1mk)**

b. Place 2ml of solution F in a test tube. Add 3 drops of iodine solution and shake to mix and write down your observation. **(1mk)**

iii. What conclusion do you make from your observation in b(i) above? **(1mk)**

c. Place 4ml of solution F in a test tube and add 10 drops of solution G1 and mix. Allow the mixtures to stand in a warm water bath between $35^{O}C$ – $38^{O}C$ for 10 minutes. Divide the resulting mixture into two portions.

i. To one portion in a test tube add 3 drops of iodine solution and shake to mix and write your observation. **(1mk)**

ii. What conclusion can you make from your observation in c (i) above? **(1mk)**

iii. To the second portion in a test tube add 2ml of Benedict's solution, shake to mix and heat to boil and write your observation. **(1mk)**

iv. What conclusion can you make from your observation in c (iii) above? **(1mk)**

d. To about 4ml of solution F in a test tube add 10 drops of G2 and mix, allow the mixture to stand in a warm water bath between $35^{O}C$ – $38^{O}C$ for 10minutes. Divide the resulting mixture into two, carry out iodine test and Benedict's test as described in (c) above and complete the table below. **(4mks)**

Test	Observations	Conclusion
Iodine test		
Benedict's test		

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

AGRICULTURE

PAPER 1
TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS:

Answer ALL Questions in section A, B and any TWO Questions in section C.

SECTION A: (30 MARKS)

1) State four characteristics of large scale farming system. **(2mks)**

……

……

……

……

2) Outline four factors that can make shifting cultivation practicable. **(2mks)**

……

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……

3) State two effects of high temperature on crop production. **(1mk)**

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……

……

4) State two effects of sub-soiling in land preparation. **(1mk)**

……

……

5) Differentiate between soil texture and soil structure. **(2mks)**

……

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……

……

6) State two reasons why green manure is not commonly used by many farmers. **(1mk)**

……

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……

7) Enumerate four types of farm records kept by farmers. **(2mks)**

……

……

……

……

8) Outline two importance of a title deed in land tenure system. **(1mk)**

……

……

……

9) State reasons why it is difficult to control the following weeds. **(4mks)**

1) Oxalis –

……

2) Couch grass –

……

3) Black jack –

……

4) Nut grass –

……

10) What is the meaning of the following terms as used in pest control?

i) Economic injury level – **(1mk)**

……

……

ii) Integrated pest management – **(1mk)**

……

……

11) State two varieties of beans growth in Kenya. **(2mks)**

……

……

12) List two advantages of a grass-legume pasture over pure stand grass pasture. **(1mk)**

……

……

13) Why is too much air undesirable in silage making? **(1mk)**

……

……

14) State four reasons for staking of tomatoes. **(2mk)**

……

……

……

……

15) Outline two methods of breaking seed dormancy. **(1mk)**

……

……

……

16) List two demerits of using seeds as planting materials. **(1mk)**

……

……

……

17) Give two importance of raising seedlings in polythene sleeves compared to direct establishment on the ground. **(1mk)**

……

……

……

18)(a) State three post harvesting practices carried out in crop production. **(3mks)**

……

……

……

(b) List two limitations of using a traditional granary in crop storage. **(2mks)**

……

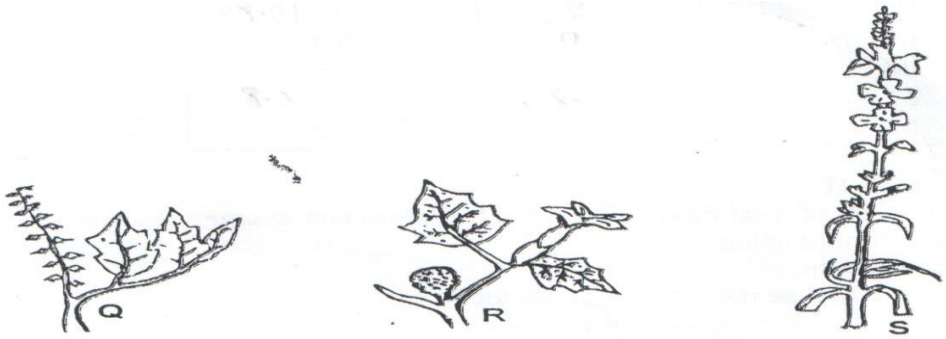
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SECTION B: (20MARKS)

Answer ALL Questions in this section.

19) Below are diagrams of common weeds found in the farm. Use them to answer questions that follow.



a) Identify weeds Q, R and S. **(3mks)**

……

……

……

b) Mention one harmful effect of weed Q and R. **(1mk)**

……

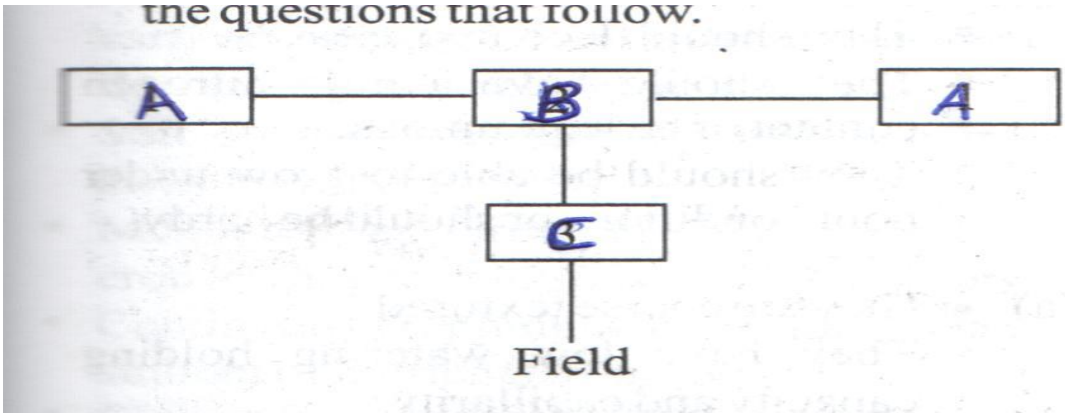
……

c) Give a reason why weed S is referred to as a parasitic weed. **(1mk)**

……

……

20) The diagram below is an illustration of turning a certain type of manure. Use it to answer questions that follow.



a) Name the type of manure that is turned using the above method. **(1mk)**

……

……

b) By use of arrows, show how the manure is turned. **(1mk)**

……

……

c) What is the significance of adding the following during the preparation of compost manure?

(b) Adding well rotten manure. **(1mk)**

(c) Adding garden soil. **(1mk)**

(d) Adding ash. **(1mk)**

21) Below are representations of certain pests that attack crops. Use them to answer questions that follow.



Identify pests P and Q. **(2mks)**

……

……

……

State two effects of pest Q in crop production. **(2mks)**

……

……

Highlight three methods of controlling pest P. **(3mks)**

……

……

……

At what stage do pest P attack crops? **(1mk)**

……

……

……

SECTION C: (40 MARKS)

Answer any TWO Questions.

22)(a) Explain five effects of soil erosion. **(10mks)**

(b) Explain five methods used to control crop diseases. **(10mks)**

23) Describe production of maize under the following:

1. Ecological requirements. **(3mks)**

2. Seed bed preparation. **(4mks)**

3. Planting. **(5mks)**

4. Field management practices. **(5mks)**

5. Harvesting. **(3mks)**

24)(a) Describe ten (10) nursery management practices that are carried out after seed germination. **(10mks)**

(b) Explain five factors to be considered when designing a crop rotational programme. **(10mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

AGRICULTURE

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS:

Answer ALL Questions in section A, B and any TWO Questions in section C.

SECTION A: (30 MARKS)

1) List two biotic factors that affect livestock production in Kenya. **(1mk)**

……

……

2) Outline four reasons that enable camels to live in arid areas. **(2mks)**

……

……

……

……

3) State four reasons for dehorning in livestock. **(2mks)**

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4) State four advantages of using a spray race over a plunge dip. **(2mks)**

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……

……

5) State four reasons for seasoning timber. **(2mks)**

……

……

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……

6) State two types of bees. **(2mks)**

……

……

7) State four reasons for swarming of bees. **(2mks)**

……

……

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……

8) Define the term caponization as used in livestock production**.** **(1mk)**

……

……

9) Outline four uses of water in animals on the farm. **(2mks)**

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10) Differentiate between steaming up and creep feeding. **(2mks)**

……

……

11) State four routes through which pathogens enter the body of an animal. **(2mks)**

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12) Differentiate between carrying capacity and overstocking. **(2mks)**

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13) State four advantages of Zero grazing unit in livestock production. **(2mks)**

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……

14) Name the equipment used alongside each of the following: **(2mks)**

d) Trocar –

e) Bull ring –

f) Elastrator –

g) Syringe –

15) State four reasons that show that a sow is about to furrow. **(2mks)**

……

……

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……

16) State two major systems of breeding in livestock production. **(2mks)**

……

……

SECTION B: (20 MARKS)

Answer ALL questions in this section.

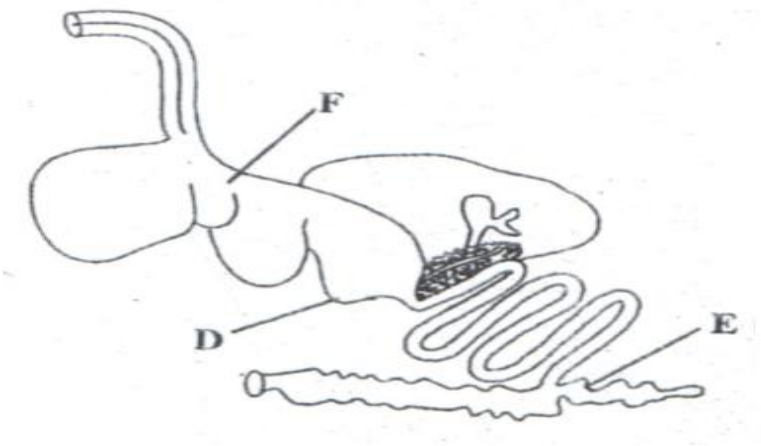
17) Mr. Gatimu asked his daughter to mix feeds for his cows. Mr. Gatimu's daughter decided to use feedstuffs to get 15% DCP. The contents were as shown below

Fish meal 50% DCP.

Cereal meal mixture 12% DCP

How much of the two feedstuffs will Mr. Gatimu's daughter mix to get a 90kg bag? **(4mks)**

6. The diagram below illustrates a type of a digestive system.



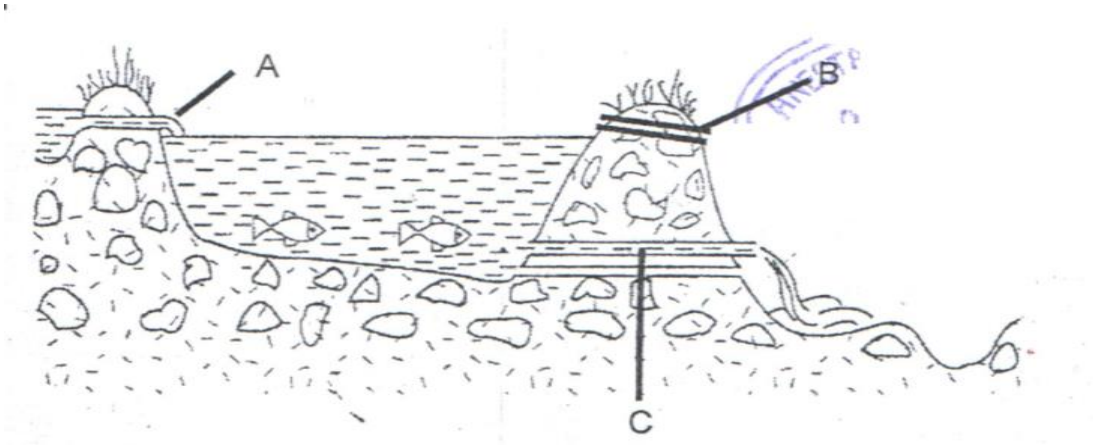
i) Name parts marked **D and E (2mks)**

D…….

E……

ii) State two functions of part F. **(2mks)**

18) The diagram below shows a cross-section through a fish pond. Study it and answer questions that follow.



(e) Name parts A, B and C. **(1 ½ mks)**

(f) What is the function of part labeled B. **(½ mk)**

(g) State four factors that should be considered when siting a fish pond**.(2mks)**

19) State four categories in which diseases in livestock are classified. **(2mks)**

20) Below is an illustration of a livestock parasite. Study it and answer questions that follow.



(a) i)Name the parasite**(½ mk)**

(b) State three symptoms that may be observed in an animal that has been attacked by the above parasite. **(1 ½ mks)**

(c) State the intermediate host of the parasite. **(½ mk)**

(d) Give two control measures of the above parasite. **(2mks)**

21) State two methods of extracting honey from combs. **(2mks)**

SECTION C: (40 MARKS)

Answer any TWO questions from this section.

22)(a) Describe five factors to consider when selecting a breeding stock. **(10mks)**

(b) Describe five control measures of diseases in livestock and give an example of a disease controlled by the measure. **(10mks)**

23) Discuss mastitis disease under the following:-

1. Causal organism. **(1mk)**
2. Symptoms. **(5mks)**
3. Causes. **(4mks)**
4. Control measures. **(5mks)**
5. State five reasons for keeping livestock healthy. **(5mks)**

24)(a) Explain five reasons why fences are important to a farmer. **(10mks)**

(b) Explain five modern technology methods that have helped to improve the quality of livestock products in Kenya. **(10mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHEMISTRY

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

Write your name, class and Admission Number in the spaces provided above.

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

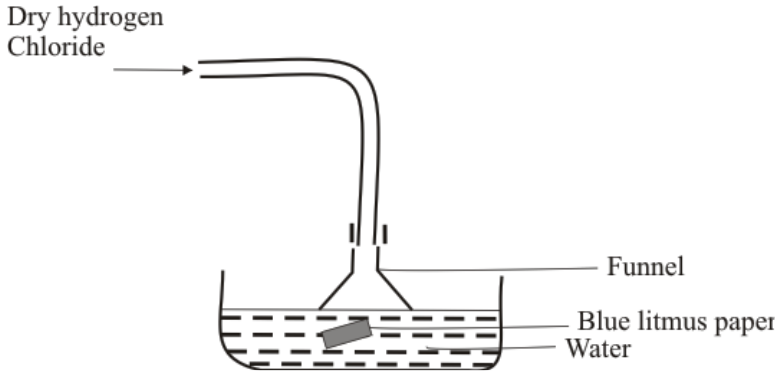
Mathematical tables and electronic calculators may be used.

*All workings **MUST** be clearly shown where necessary.*

1) Explain why burning magnesium continues to burn in a gas jar full of sulphur (IV) oxide while a burning splint would be extinguished. **(3 marks)**

2) Draw structural formulae and name two positional isomers with molecular formula C_4H_8.**(2 marks)**

3) Dry Hydrogen chloride gas was made to dissolve in water using the set of apparatus shown below



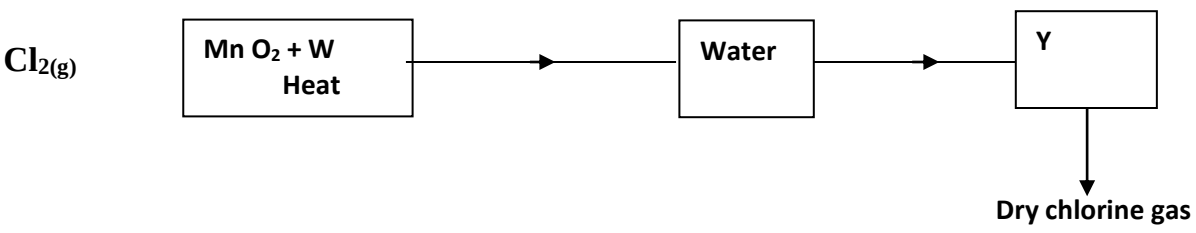
(a) What is the use of the inverted funnel? **(1 mark)**

(b) State and explain the observations made on the litmus paper **(2 mark)**

(c) State and explain the observation made on the litmus paper if methylbenzene is used instead of water in the above set up. **(2 mark)**

4) Using sodium hydroxide solution, describe a chemical test that can be used to distinguish between copper (II) ions and iron (II) ions **(2 marks)**

5) The flow chart below shows laboratory preparation of chlorine gas. Study it and answer the questions that follow:



(a) Name substances **(2 marks)**

W-…… Y-……

(b) What is the function of water in the above set up? **(1 mark)**

6) An unknown mass of anhydrous potassium carbonate was dissolved in water and the solution made up to $200cm^3$. $25cm^3$ of this solution neutralized $18.0cm^3$ of 0.22M nitric (v) acid. Calculate the unknown mass of potassium carbonate (**K**=39, **C**=12, **O**=1) **(3 marks)**

7) Below is a sample of the periodic table

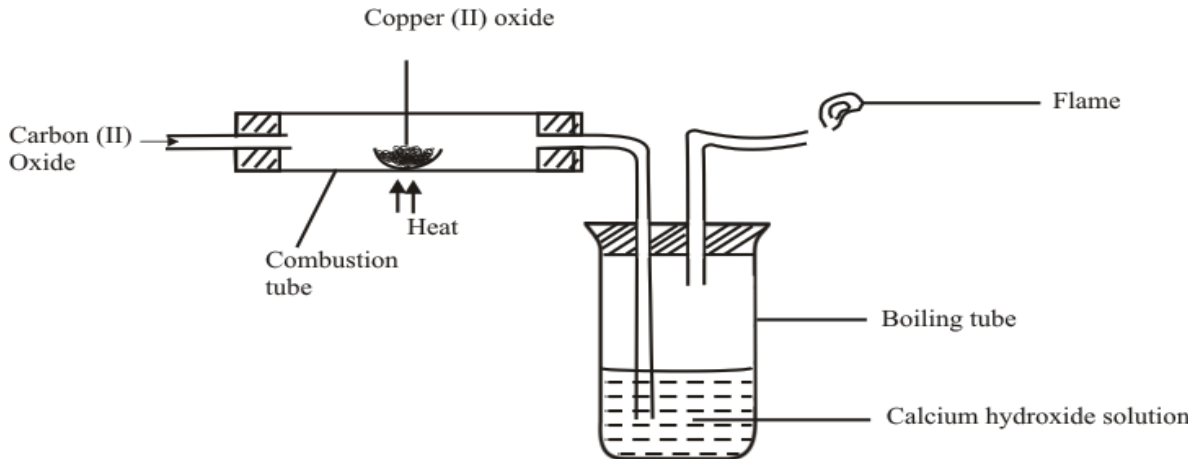
I						Q	M	
	J						N	
K	L		P					

a) Give the family name to which elements **M** and **N** belong **(1 mark)**

(b) Compare the reactivity of elements **I** and **K**. Give a reason **(2 mark)**

(c) Write the formula of the compound formed when **P r**eacts with **Q** **(1 mark)**

8) Study the experimental set up of apparatus shown below.



(i) State two observations made in the set up as the experiment progressed **(2 marks)**

(ii) Using an equation, explain the change that occurred in the boiling tube **(1 mark)**

(iii) Why was the gas burned in the flame? **(1 mark)**

9) Painting, oiling, galvanizing and tin plating are methods of rust prevention.

(a) Explain the similarity of these methods in the way they prevent rusting **(1 mark)**

(b) Explain why galvanized iron objects are better protected even when scratched **(1mark)**

10) The chemical equations below are the main reactions in large scale manufacture of sodium carbonate.

$NH_{3(g)} + CO_{2(g)} + H_2O_{(l)} \longrightarrow NH_4HCO_{3(aq)}$

$NH_4HCO_{3(aq)} + NaCl_{(aq)} \longrightarrow NaHCO_{3(s)} + NH_4Cl_{(aq)}$

(a) Explain how the two products $NaHCO_3$ and NH_4Cl are separated **(1 mark)**

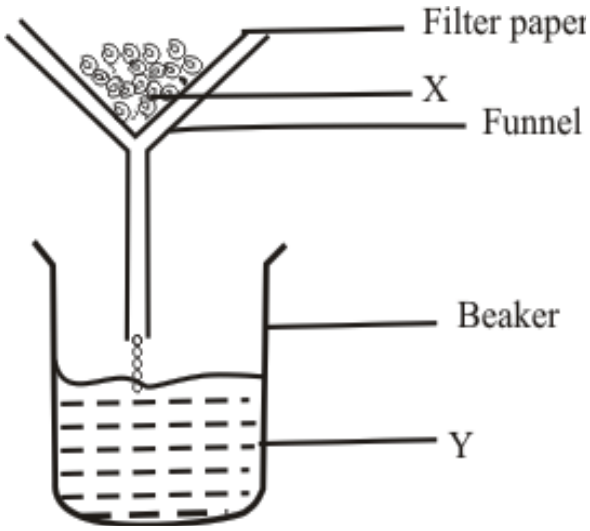
(b) How sodium carbonate is finally obtained from $NaHCO_3$? **(1 mark)**

(c) Explain how ammonia is recovered in this process. **(1 mark)**

11) 80 cm^3 of oxygen gas diffused through a porous hole in 50 seconds. How long will it take 120cm^3 of Nitrogen (IV) oxide to diffuse through the same hole under the same conditions? (N =14, O=16)

(3 marks)

12) Filtration is carried out in the apparatus shown



Name : **(2 marks)**

X …… Y ……

13) Two carbonates **P** and **Q** are weighed before and after heating. The results are given in the table below.

Carbonate	Mass in grams	
	Before heating	After heating
P	15.0	15.0
Q	15.0	10.0

Which one is likely to be sodium carbonate? Explain. **(2 marks)**

14) Describe how you would separate a solid mixture of lead(II) chloride and copper(II) oxide **(3 marks)**

15) The general formula for a homologous series of organic compounds in C_nH_{2n+2}

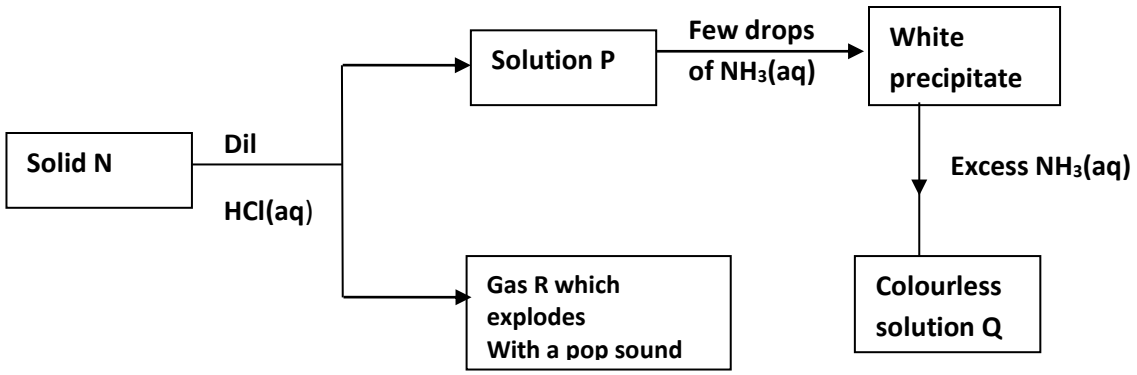
(a) Give the name and structural formula of the fourth member of the series **(2 marks)**

(i) Name ……

(ii) Structural formula

(b) Write an equation for the combustion reaction of the above molecule **(1mark)**

16) The scheme below shows some reactions sequence starting with solid **N**. Study it and answer the questions that follow:



(a) Identify solid N…… **(1 mark)**

b) Write the equation for the formation of the colourless solution Q **(1 mark)**

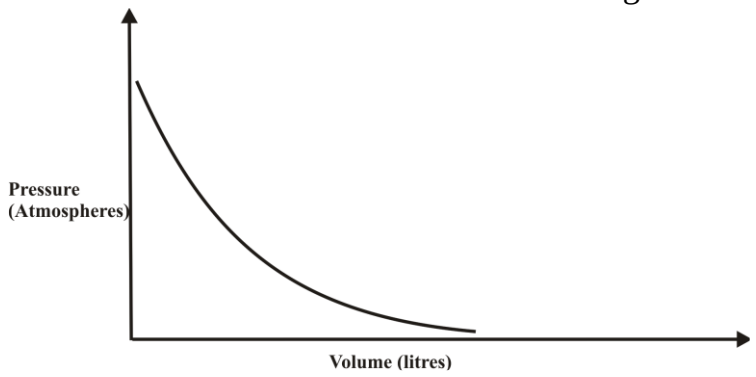
c) Give the identity of gas R **(1 mark)**

17) In an experiment, a gas jar containing moist sulphur (IV) oxide was inverted over another gas jar containing hydrogen sulphide gas.

(a) State and explain the observation that was made **(2 marks)**

(b) State the precautions that should be taken when carrying out this experiment **(1 mark)**

18) The graph below shows the behavior of a fixed mass of a gas at constant temperature



(a) What is the relationship between the volume and pressure of the gas? **(1 mark)**

(b) 3 litres of oxygen gas at one atmosphere pressure were compressed to two atmospheres at constant temperature. Calculate the new volume occupied by the oxygen gas. **(2 marks)**

19) The table below shows the relative atomic masses and percentages abundance of the isotopes $\mathbf{M_1}$ and $\mathbf{M_2}$ of element **M**

	Relative abundance	% abundance
$\mathbf{M_1}$	**60.57**	**59.71**
$\mathbf{M_2}$	**62.83**	**40.29**

Calculate the relative atomic mass of element **M** **(2 marks)**

20) The table below shows the pH values of solutions **A,B,C** and **D**

solution	A	B	C	D
pH	2	7	11	14

(a) Which solution is likely to be that of calcium hydroxide **(1 mark)**

(b) Select the solution in which a sample of aluminum oxide is likely to dissolve. Give a reason for your answer**(1 mark)**

21) Name one property of neon that makes it possible to be used in electric lamps. **(1mark)**

22) Distinguish between ionic bond and covalent bond **(2 marks)**

23) Explain why the boiling point of hexane is higher than that of ethane. (relative molecular mass of ethane is **30** while that of hexane is **86**) **(2 marks)**

24) When a student was stung by a nettle plant, a teacher applied an aqueous solution of ammonia to the affected area of the skin and the student was relieved of pain. Explain **(2 marks*)***

25) Using dots(.) and crosses (x) show the bonding **(3mks)**

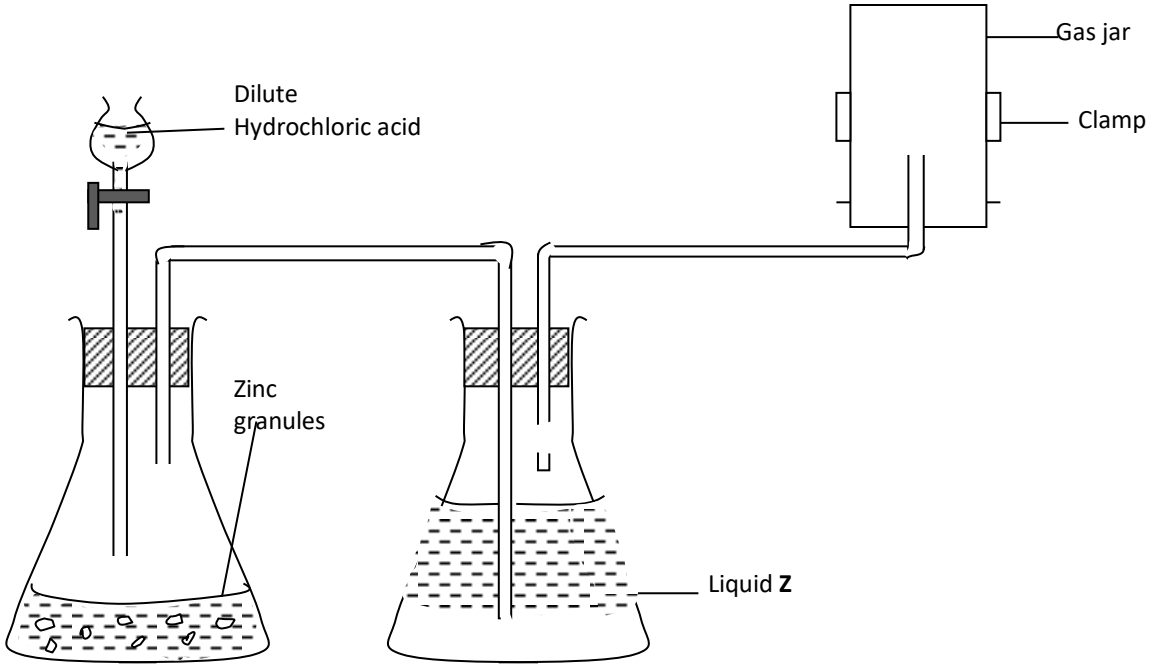
(i) NH_4^+

(ii) Carbon (IV) oxide.

(iii) Potassium chloride

26) On complete combustion of a hydrocarbon gas X, 1.32g of carbon (IV) oxide and 0.54g of water. Calculate the empirical formula of X (C = 12.0, H = 1, O = 16.0) **(3 marks)**

27) Study the diagram below and answer the questions that follow. **(3 marks)**



(a) Write an equation for the reaction between zinc granules and dilute hydrochloric acid. **(1 mark)**

(b) What property of hydrogen is demonstrated by the method of collection shown on the diagram?

(1 mark)

(h) Hydrogen gas passed through liquid **Z**. What is the name of liquid **Z** and what is the purpose of liquid **Z**? **(2 mark)**

(i) Name one industrial use of hydrogen. **(1 mark)**

28) Three liquids were mixed together accidentally and this included lubricating oil, kerosene and water. The table below gives information about the properties of the liquids.

Constituent	Boiling point in ^0C	Solubility in water	Solubility kerosene
Lubricating oil	350 – 400	Insoluble	Soluble
Kerosene oil	175 – 250	Insoluble	
Water	100		Insoluble

Suggest a method you would use to separate the three liquids. **(2 marks)**

29) a) Define the term allotropy **(1mk)**

b) Name the two allotropes of sulphur **(2 mks)**

30) A concentrated solution of Sulphuric (VI) acid contains 70% H_2S0_4 and has a density of 1.8g cm^3. Determine the molarity of Sulphuric (VI) acid solution. (H= I, S=32, 0=16) **(3 mrks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHEMISTRY

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

Write your name, class and Admission Number in the spaces provided above.

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

*Mathematical tables and electronic calculators **MAY** be used*

*All workings **MUST** be clearly shown where necessary*

1) The table below shows the information concerning elements S, T, U, V, and W. the letter are not the actual symbols of the elements. **Study** it and answer the questions that follow.

Element	Period	Formula of oxide
S	2	S_2O
T	3	T_2O_3
U	3	UO_2 or UO_3
V	3	Does not form oxide
W	4	W_2O

(e) Write down:-

(i) The electronic arrangement of the element W…….. **(1mk)**

(ii) The formula of the ion formed by element T…….. **(1mk)**

(f) Two of the oxides, S_2O and UO_3 are apparently dissolved in distilled water. Compare the PH value of the resulting solutions. **(2mks)**

(g) Compare with an explanation the following.

(i) The reactivity of S with that of W. **(2mks)**

(ii) The electrical conductivity of T with that of magnesium. **(2mks)**

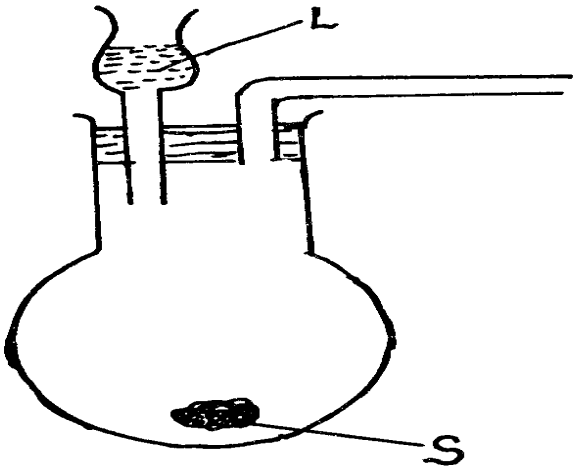
(iii) The melting point of U with that of X which is just below U in the group. **(2mks)**

(h) Write the electronic configuration of V. …….. **(1mk)**

(i) Select two elements which are non – metals. **(1mk)**

(j) Select two elements which belong to the same group. **(1mk)**

2) The set up below is used to prepare and collect dry samples of hydrogen sulphide gas.



a) Name suitable substances for use as **(2mks)**

(i) L ……

(ii) S …….

b) Complete the diagram to show how dry hydrogen sulphide gas is obtained and **collected.** **(3 mks)**

c) Write a balanced equation for the reaction between L and S named in (a) above. **(1mk)**

d) (i) State the effect of hydrogen sulphide gas on litmus. **(1mk)**

(ii) State a chemical test for hydrogen sulphide gas. **(1mk)**

(iii) What do you observe when hydrogen sulphide gas is passed through aqueous zinc chloride **(1mk)**

e) (i) Name the process used to extract sulphur from the ground in Louisiana and Texas. **(½mk)**

(ii) State the uses of the following materials during extraction of sulphur.

I - Super heated water. **(1mk)**

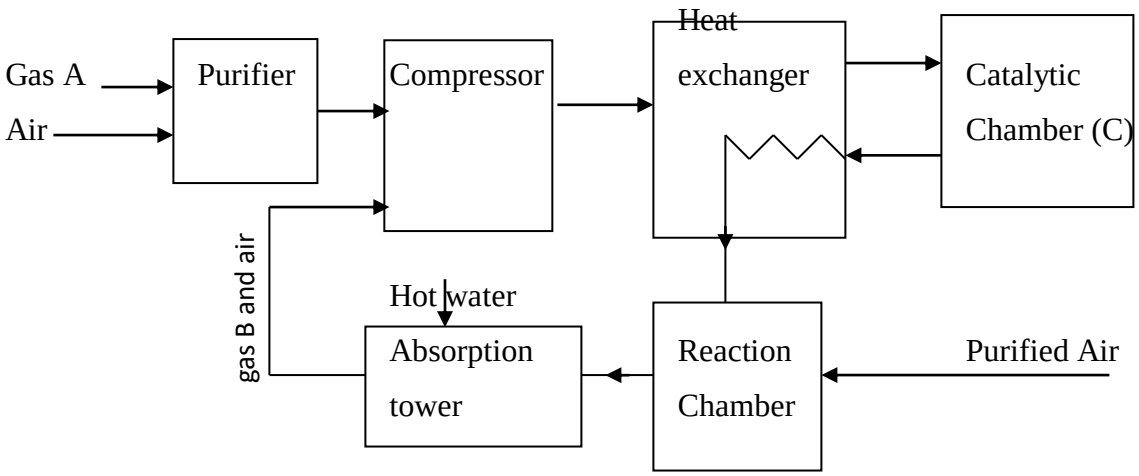
II - Hot compressed air. **(1mk)**

f) (i) Name the process used to manufacture Sulphuric (VI) acid. **(½mk)**

(ii) Calculate the mass of Sulphuric (VI) acid required to react with excess ammonia gas to produce 125.2 tons of ammonium sulphate fertilizer. **(3mks)**

(iii) State the property of Sulphuric (VI) acid that is illustrated by its reaction with sucrose. **(1mk)**

5) The flow chart below shows how nitric (v) acid is produced on a large scale. Study it and answer the questions that follows.



3)

(j) State the functions of:

(i) Purifier **(1mk)**

(ii) Heat exchanger **(1mk)**

(k) Identify

(i) Gas A…… **(½ mk)**

(ii) Gas B ……. **(½ mk)**

(iii) Catalyst C…… **(½ mk)**

(l) Write equations for the reaction that take place.

(i) In catalytic chamber. **(1mk)**

(ii) In absorption tower. **(1mk)**

d) Calculate the molarity of the commercial nitric (v) acid, given that it is 68% pure and has a density of 1.42g/cm^3. (N=14, H=1,)=16) **(2 ½ mks)**

e) (i) Complete the table below to show the observations made when concentrated nitric (v) acid is added to the substances shown and warmed. **(2mk)**

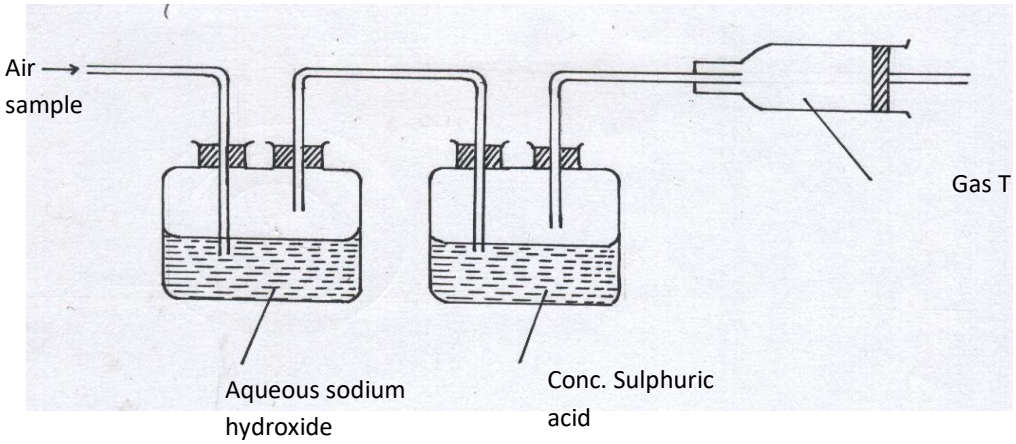
Substance	Observation
Acidified Iron (II) sulphate	
Sulphur powder	

12. Give reasons for the observations made using:

I Acidified iron (II) sulphate. **(1mk)**

II Sulphur powder **(1mk)**

4) In order to find out the proportion by volume of one of the main constituents of air, the following set up was established



a. (i) Name two constituents of gas **T** **(1mk)**

(ii) Suggest a reason for passing air through:

I Aqueous sodium hydroxide **(1mk)**

II Concentrated sulphuric acid **(1mk)**

b) The volume of the gas collected in the syringe was 60cm^3.This was passed repeatedly over hot copper powder in the combustion tube until no further change of volume took place. When cooled to the original temperature, the volume was reduced to 47.4cm^3

(i) What observation was made in the combustion tube? **(1mk)**

(ii) Which constituent of air was removed by copper powder? **(1mk)**

(iii) Calculate the percentage of the gas in (ii) above in the sample of air **(2 mks)**

5)

1) The remaining gas in the syringe was repeatedly passed over hot Magnesium metal in the second combustion tube

(i) Name the main component in 47.4cm^3 of the remaining gas **(1mk)**

(ii) Write an equation for the reaction in the second combustion tube **(1mk)**

(iii)Name two of the gases still in the syringe at the end of the experiment**.** **(2 mks)**

2) Iron roofing sheets are coated with Zinc as a sacrificial metal

(i) What is meant by the term "sacrificial" **(1mk)**

(ii) Give the name given to the process by which iron sheets are coated with Zinc **(1mk)**

(iii) Write the equation of the reaction in which Iron rusts **(1mk)**

Zinc is higher than Iron in the reactivity series yet it does not corrode as fast as Iron. Explain **(1mk)**

6) In an experiment to determine the percentage of impurity in Sodium carbonate, 1.8g of impure Sodium carbonate was reacted with excess 2M Hydrochloric acid. 340cm^3 of dry Carbon (IV) oxide gas was collected during the experiment at room temperature and pressure. (Na=23, 0=16, C=12; Molar gas volume at r.t.p=24dm^3)

Why was excess 2M Hydrochloric acid used in the experiment? **(1mk)**

Write an equation for the reaction that produced Carbon (IV) oxide **(1mk)**

Calculate

i) The number of moles of Carbon (IV) oxide produced **(2mks)**

ii) The number of moles of Sodium carbonate that reacted with the acid **(2mks)**

iii) The mass of Sodium carbonate that reacted with the acid **(2mks)**

iv) The percentage of impurities in the sample of Sodium carbonate **(2mks)**

7) a)Write down the structural formula of the following compounds

(i) 2, 2 – Dimethypropane **(1 mk)**

(ii) 2 – Chloropropene **(1 mk)**

iii) Tetrachloro methane **(1 mk)**

b. A,B,C are three homologous series of organic compounds

Series	General formula
A	C_nH_{2n-2}
B	C_nH_{2n}
C	C_nH_{2n+2}

(i) What is the name given to series C **(1 mk)**

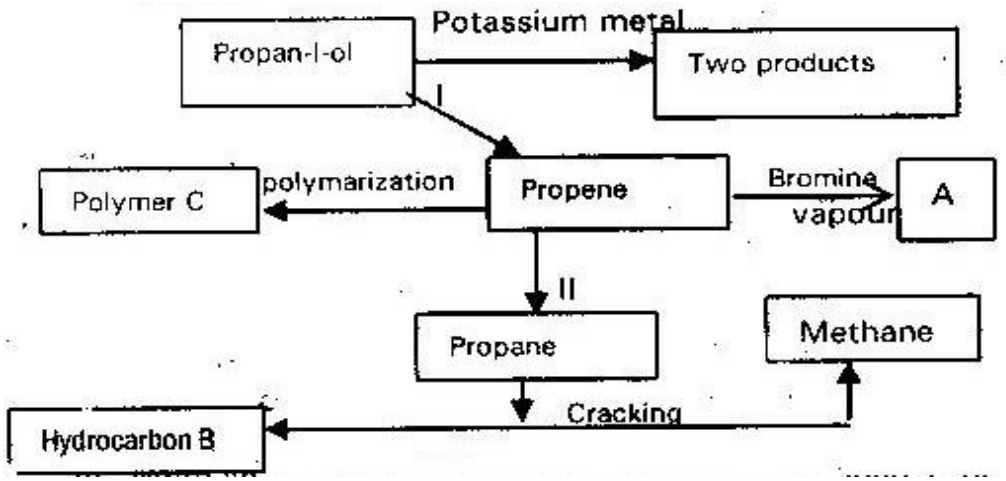
(ii) Write down the name and structural formula of the third member of series "B" **(2mks)**

Name: **……..**

Structure:

(iii) Write down an equation and name the products of reaction between HBr with second member of series "B" **(2 mks)**

c) Study the scheme given and answer the questions that follow



Write an equation for the reaction in process II **(1mk)**

Name process I and II **(2 mks)**

I……. II…….

Identify the products "A" and "B" **(2 mks)**

A…… B……..

Name ONE catalyst used in process II **(1 mk)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHEMISTRY

PAPER 3

CONFIDENTIAL

REQUIREMENT FOR CANDIDATES

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

- $30cm^3$ of solution P
- $100cm^3$ of solution Q
- $200cm^3$ of solution R
- A burette
- A $25cm^3$ pipette
- A Pipette filler
- 2 conical flasks
- A stand and a clamp
- 10 cm^3 of measuring cylinder
- $100cm^3$ of measuring cylinder.
- One 250 cm^3 beaker (plastic or glass)
- A label.
- Filter funnel.
- $500cm^3$ of distilled water in a wash bottle
- 2 filter papers
- A spatula
- About 1g of solid A.
- A boiling tube.
- 6 test-tubes in a rack.
- Phenolphthalein indicator supplied with a dropper.

ACCESS TO:

_ 2M Ammonia solution
_ 2M Hydrochloric acid.
_ 0.5 M Lead (II) nitrate solution
_ 0.5M Barium Chloride.
_ 1M Nitric acid.
_ 0.5M Potassium Iodide solution

} Each supplied with a dropper

NOTES

1. Solid A is a mixture of Zinc sulphate and Lead (II) Carbonate in the ratio 1:2.
2. Solution R is prepared by dissolving 4g of Sodium hydroxide in $600cm^3$ of distilled water and diluting it upto one litre of solution.
3. Solution Q is prepared by dissolving 6.3g of oxalic acid ($H_2C_2O_4.2H_2O$) in $500cm^3$ of distilled water and diluting it upto one litre of solution .
4. Solution P is prepared by dissolving 86 cm^3 of concentrated hydrochloric acid(specific gravity 1.18) to $500cm^3$ of distilled water and diluting it upto one litre of solution.

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHEMISTRY

PAPER 3

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

CHEMISTRY

PAPER 3

PRACTICAL

TIME: 2¼ HOURS.

INSTRUCTIONS TO CANDIDATES.

- *Write your name and index number in the spaces provided above.*
- *Sign and write the date of exam in the spaces above.*
- *Answer **ALL** the questions in the spaces provided.*
- *You are not allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed time for the paper.*
- *Use the 15 minutes to read through the question paper and make sure that you have all the chemicals and apparatus that you may require.*
- *Mathematical tables and electronic calculators may be used.*
- *All working **MUST** be clearly shown where necessary.*

FOR EXAMINER'S USE ONLY.

Question	Maximum score	Candidate's score
1	24	
2	16	
Total score	40	

1. (24 Marks)

- You are provided with:-
- Aqueous hydrochloric acid solution P in a beaker.
- A solution Q containing 6.3 g of dibasic acid $H_2C_2O_4.2H_2O$ per litre.
- Aqueous sodium hydroxide solution R.
- You are required to:

i) Standardize the sodium hydroxide solution R.

ii) Use the standardized solution R to determine the concentration of solution P in moles per litre.

PROCEDURE I

Fill the burette with solution Q. Pipette 25.0 cm^3 of solution R into a conical flask and 3 drops of phenolphthalein indicator. Titrate this solution with solution Q until the pink colour just disappears .Record your results in table I below .Repeat this procedure two more times and complete table 1.

TABLE 1

	1	2	3
Final burette reading(cm^3)			
Initial burette reading(cm^3)			
Volume of solution Q used(cm^3)			

(4 marks)

(i) Calculate the average volume of solution Q used. **(1 mark)**

(ii) Calculate the concentration of the dibasic acid solution Q in moles per litre. **(2 marks)**

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

(iii) Calculate the number of moles of the dibasic acid solution Q used. **(1 mark)**

(iv) Calculate the number of moles of sodium hydroxide in $25cm^3$ of solution R.
(2 marks)

(v) Calculate the concentration of sodium hydroxide solution R in moles per litre .**(2 marks)**

PROCEDURE II

Using a $100cm^3$measuring cylinder, measure $90cm^3$of distilled water and transfer it into a $250cm^3$ beaker. Dry the measuring cylinder and use it to measure $10cm^3$ of solution P and add it to the 90 cm^3 of distilled in the beaker. Mix the solution well and label it solution T.

Fill the burette with solution T and pipette $25cm^3$ of solution R into a clean conical flask. Add 3 drops of phenolphthalein indicator. Titrate this solution with solution T until the pink colour just disappears .Record your results in table II below .Repeat this procedure two more times to complete table II.

Table II

	1	2	3
Final burette reading(cm^3)			
Initial burette readings(cm^3)			
Volume of solution T used (cm^3)			

(i) Calculate the average volume of solution T used. **(1 mark)**

(ii) Calculate the number of moles of solution R used. **(1 mark)**

(iii)Calculate the number of moles of hydrochloric acid in solution T that reacted completely with 25cm^3 of Sodium hydroxide solution R. **(2 marks)**

(iv) Calculate the number of moles of hydrochloric acid in 100cm^3 of solution T .**(2 marks)**

(v) Determine the concentration of the original hydrochloric acid solution P in moles per litre.
(2 marks)

2. (16 MARKS)

You are provided with solid A, which is a mixture of two compounds .Carry out the experiment s below .Record your observations and inferences in the table and identify any gas (es) evolved.

(a) Transfer a spatula end-full of solid A in a boiling tube and add 20$cm^3$of distilled water. Shake thoroughly and filter .Rinse the residue with distilled water and keep both the filtrate and the residue.

Observations	**Inferences**

1 mark **1mark**

(b) Divide the filtrate into three portions, each of $2cm^3$.

(i) To portion one, add ammonia solution dropwise until in excess.

Observations	**Inferences**

(1 mark) **(1 mark)**

(ii) To portion two, add 4 drops of 0.5M Lead (II) nitrate solution.

Observations	**Inferences**

(1 mark) **(1 mark)**

(iii) To portion three, add 4 drops of Barium chloride solutions, followed by 5 cm^3 of nitric (v) acid.

Observations	**Inferences**

1 mark **1mark**

(c)Scrap the residue from the filter paper (a) above using a spatula and transfer it into a boiling tube. Add to it 1M Nitric acid until it dissolves .Keep the resulting solution for use in part(d) below.

Observations	**Inferences**

(1 mark) **(1 mark)**

(d) Divide the solution into 3 parts.

(i) To part two, add ammonia solution dropwise.

Observations	**Inferences**

1mark **(1mark)**

(ii) To part two, add 4 drops of 1M hydrochloric acid solution.

Observations	**Inferences**

1mark **1mark**

(iii) To part three, add 4 drops of potassium Iodide solution.

Observations	Inferences

1mark **1mark**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Answer all the question in the spaces provided after each

1. Outline four circumstances under which a business person would allow a customer to acquire goods on credit. **(4mks)**

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2 State any four errors that will not affect the balancing of a trial balance. **(4mks)**

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3. Highlight four demerits of using machines in carrying out office activities. **(4mks)**

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4. Name the factor that each of the following resources relate to **4mks)**

Resource	Factor of production
(a) Manager	
(b) Water	
(c) Owner	
(d) Vehicle	

5. Outline four ways in which warehousing promotes trade in Kenya. **(4 marks)**

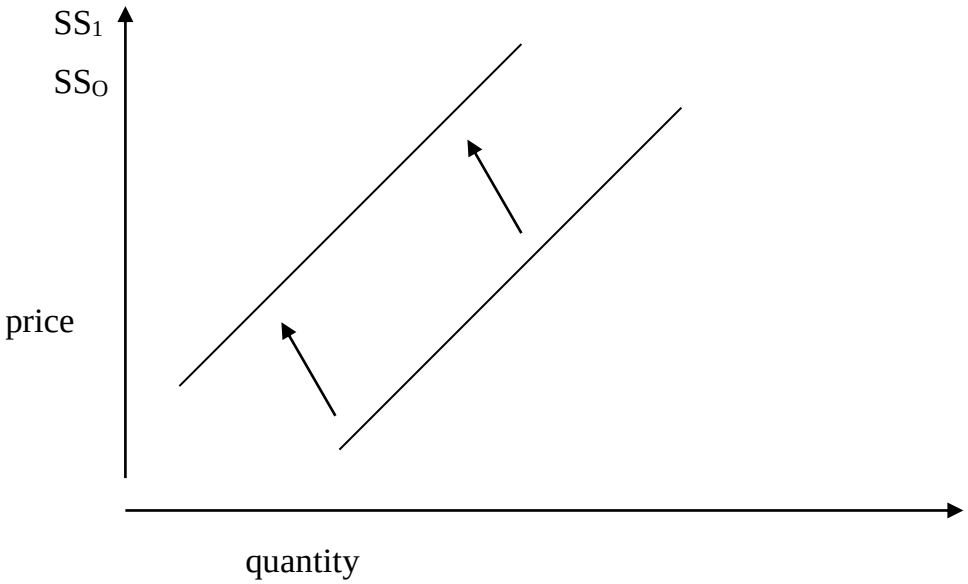
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1. The diagram below shows a shift in supply curve from S_0S_0 to $S_I\ S_1$



Identify four factors that have made the supply curve to shift from S_0S_0 to $S_I\ S_1$ **(4mks)**

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8) State the type of advertising that each of the following statements relate to **(4mks)**

	Statement	Type of advertising
	Persuade consumers to buy a product	
	Promotes a particular brand of a product	
	Create awareness about a product	
	Promotes the name of the manufacturer	

9) For each of the following transactions, state the account to be debited and the account to be credited. **(4mks)**

	Transaction	Account to debit	Account to credit
3)	Paid a creditor from private source		
4)	Brought in cash from private source		
5)	Withdrew cash for personal use		
6)	Bought goods and paid by cheque		

10) State four reasons why consumers have to make a choice between competing needs. **(4mks)**

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11) State four limitations of containerization. **(4mks)**

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12) Highlight four ways in which prices of goods and services may be determined in the market other than the forces of demand and supply. **(4mks)**

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13) Outline four uses of balance sheet by a business. **(4mks)**

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14) Outline four reasons why government may find it necessary to protect consumers. **(4mks)**

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15) State four features that distinguish a private company from a public company.(4mks)

Private company	Public company
ii)	
iii)	
iv)	
v)	

16) Highlight four benefits that nay accrue to a customer who buy goods from a manufacturer **(4mks)**

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17) State four circumstances under which a seller would issue a credit note to a buyer **(4mks)**

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18) Outline four roles of an entrepreneur in a business. **(4mks)**

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19) Illustrate with simple diagram, four channels a local farmer would use to distribute his produce**.(4 mks)**

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20) Outline four benefits that will accrue to a firm as a result of increased scale of operation**(4mks)**

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21).Give two examples of products that would face the following types of demand**.** **(4mks)**

i) Derived demand

ii) Joint demand

iii) Composite demand

iv) Competitive demand

22) Outline four roles of filing in an office. **(4mks)**

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23) Outline four effects of an ageing population on an economy. **(4mks)**

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24) Indicate the balance sheet items and show how they would be affected by the following transactions. **(4mks)**

a. Purchase of a motor bicycle by cheque

2. Sale of goods on credit to Baraka

3. A debtor pays his debt in cash

4. The owner converted his personal house into business use

24. The following trial balance was incorrectly prepared

KALWAL TRADERS
TRIAL BALANCE
AS at 31-Dec-2004

	DR	CR
Capital		31000
Cash in hand	11000	
Creditors	14000	
Insurance		12000
Debtors	13000	
Drawings		15000
Bank over draft		6000
Bank loan	18000	
Stock		18000
	56000	56000

Required: Prepare the correct trial balance **(4 marks)**

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25. Outline four differences between a monopoly and a monopolistic competition as product market

(4mks)

Monopoly	Monopolistic competition

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

BUSINESS STUDIES

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Answer any five questions

1) (a) Explain five principles of insurance **(10mks)**

(b)Explain five ways through which containers may be in effective as a way of moving goods **(10mks)**

2) (a) Explain five internal economies of scale that may be experienced by the firm **(10mks)**

(b) Explain five factors to be considered when setting up an office layout for a business organization **(10mks)**

3) (a) Explain five causes of unemployment **(10mks)**

b) Explain five benefits of preparing a business plan to a firm **(10 marks)**

4. (a) Explain five factors that influence choice of product promotion **(10mks)**

b)Explain five roles played by commercial attaches in trade promotion **(10 marks)**

5.(a) Describe five differences between a movement along a demand curve and a shift of a demand curve **(10mks)**

b) The following information relates to Maralal Traders for the month of May 2014.

May 1: Balance brought forward:

Cash Shs. 180,000

Bank Shs. 450,000 (Cr)

3: Received a cheque of 1,500,000 from Mpasha, a debtor

7: Cash sales Shs. 280,000

11: Jolloimat, a creditor of Shs.600, 000 was paid by cheque of sh 400,000 and the balance by cash.
14: Received commission in cash sh. 150,000
17: A debtor, Leteipa, paid his account of 185,000 by cheque less 2% cash discount.
19: Paid the following expenses by cheque:
Rent Shs. 75,000
Electricity Shs. 32,000
Water Shs. 25,000
21: Withdrew Shs. 100,000 from bank for personal use
24: Paid cash Shs 133,280 to Kinai after deducting a cash discount of 2%
25: Received a cheque of sh. 200,000 from Kiyapi, a debtor
28: Paid Salaries Shs. 120,000 by cheque.
31: Banked all cash except sh. 50,000.

Required:

Record the above transactions in a three column cash book**.** **(10marks)**

6. (a) Explain five reasons that may limit use of pipeline transport in a country **(10mks)**

(b) Kavetsa had the following balances on 1st January 2010

	sh
Motor vehicle	210,000
Debtors	20,000
Cash	90,000
Stock	25,000
Creditors	40,000
Cash at Bank	50,000

During the month, the following transactions took place

2010 January 4: paid sh 12,000 to creditors by cheque
'' 13: purchased stock worth sh 18,000 on credit
'' 26 : deposited sh 6,000 into the business bank account from cash till

Record the above transactions in the relevant ledger accounts and balance them off **(10mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Answer any five questions

1) a) Name **six** books that belong to minor prophets. **(6mks)**

b) Give **eight** reasons why the Bible was translated into different languages . **(8mks)**

c) Outline **six** ways in which the teaching of Christian Religious Education enhances national unity. **(6mks)**

2) a) Outline **eight** ways in which Abraham demonstrated his faith in God. **(8mks)**

b) State **six** instructions of God to Abraham regarding circumcision. **(6mks)**

c) Explain **six** factors that have undermined traditional African circumcision **(6mks)**

3) a) State **seven** characteristics of the local Canaanite religion. **(7mks)**

b) Explain **seven** forms of punishment prophesized by Elijah on King Ahab and Jezebel. **(7mks)**

c) Give **six** reasons why killing was condemned in traditional African **communities.** **(6mks)**

4) Explain **five** reasons why God sent prophets in Israel **(10 mks)**

b) State **six** teachings of prophet Amos on hypocritical religion in Israel. **(6mks)**

c) State **four** lessons Christians leant about God from the visions of Prophet Amos. **(4mks)**

5) a) Give **six** reasons why the rebuilding of the wall of Jerusalem was important to Nehemiah's people. **(6mks)**

b) Explain the suffering and lamentations of Jeremiah **(7mks)**

c) Give **seven** reasons why it is difficult to have reforms in Kenya. **(7mks)**

6. a) Explain factors which promote harmony and mutual responsibility in Traditional African Communities. **(8marks)**

b) Identify **six** importance of observing taboos in African traditional Communities**?** **(6 marks)**

c) Identify **six** factors which have led to decline in observance of taboos in Traditional African Communities. **(6 marks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Answer any five Questions

1. (a) With reference to specific incidents in Luke's Gospel, show how Jesus fulfilled the Old Testament prophecies concerning the Messiah. **(8 mks)**

(b) Outline what Simeon and Ann revealed about the life of Jesus when his parents presented Him to the Temple for dedication. **(6 mks)**

(c) Give six reasons why Kenyans are attracted to the church today. **(6 mks)**

2. (a) Relate the transfiguration of Jesus. (Lk 9: 28 – 36) **(8 mks)**

(b) State the importance of transfiguration in Jesus Ministry. **(6 mks)**

(c) State six ways in which Christians show respect to God. **(6 mks)**

3. (a) Narrate the parable of the Good Samaritan in Luke's Gospel. (Lk 10: 25 – 37) **(8 mks)**

(b) Outline the instructions given to the seventy disciples by Jesus. (Lk 10:1 – 24) **(6 mks)**

(c) Identify six activities the church engages in to demonstrate love to others. **(6 mks)**

4. (a) Describe the triumphant entry of Jesus to Jerusalem. (Lk 19: 28-40) **(8 mks)**

(b) What lessons can Christians learn from Jesus triumphant entry to Jerusalem? **(7 mks)**

(c) Explain five possible solutions to the problems facing evangelism today. **(5 mks)**

5. (a) Describe the actions taken by the Jewish leadership to ensure that Jesus was put to death**.(8 mks)**

(b) What was the reaction of the people who witnessed Jesus crucifixion? **(7 mks)**

(c) State five lessons that Christians can learn from the testimony of the repentant thief. **(5 mks)**

6. (a) Explain eight teachings of Jesus on the role of the Holy Spirit. **(8 mks)**

(b) Outline the New Testament teaching of unity of believers as the bride. Revelation 21:1-12, 2 Corinthians 11:2. **(6 mks)**

(c) How can a Christian know that a person is under the influence of the Holy Spirit? **(6 mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

ENGLISH

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

Functional Skills, Cloze Test and Oral Skills

1.FUNCTIONAL WRITING

Imagine that you are organizing secretary of Ruth Kerubo's Graduation Party. Ruth has just graduated with a First Class Honour's from Kenyatta University.

(a)Design an invitation card to be sent to the guests **.(10mks)**

b) Write a congratulatory note to Ruth to be presented that day **(10mks)**

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2.CLOZE TEST (10mks)

Read the passage below and fill in each blank space with the most appropriate word .

Passing National Examination in Kenya has become a matter 1_____ .This is primarily because , more often than not , examination 2_____ the future of the student . From our collective experience this is very clear . A standard eight pupil must 3_____ well secure a place in a good 4_____ school . Similarly , a form four candidate must not just pass , but must also be among the students who score public 5 _____ .The reverse often has painful consequences for the student , 6_____ means falling by the wayside and in a country with limited employment 7 _____ , chances of a decent livelihood become severely compromised .It is precisely because of those stark realities that students find 8_____ under seething pressure to pass 9_____ . On the other hand , parents who know all too well that failing to score good grades could mean that the end of the road of their children's 10_____ are willing to cut all corners to ensure the children pass their exams.

3.ORAL SKILLS (30mks)

(a) Read the narrative below and answer the questions that follow.

THE COCK AND THE KITE

(The setting of the story is in Kibiro , Uganda in the Western Rift Valley near Lake Albert)

A long time ago , there lived cock and his family as well as kite and his family .The former was hard working while the latter was lazy .It happened that the place was hit by a famine .People from far used to travel a long way to go to Kibiro to barter food for salt .It also happened that both families ran out of salt . Cock's wife informed her husband that they had ran out of salt and asked him to take some finger millet to Kibiro .He agreed , went to Kibiro , obtained salt and set upon the return journey .

The other family got wind of this .Mrs.Kite also asked her husband her husband to go to Kibiro and try to get salt since the lazy family did not have anything to take to Kibiro .On the way , he met the cock resting on his way home with the salt behind him .He was standing on one leg having hidden one of his leg in his wing , as cocks do many times when resting .Kite asked cock how he managed to get the salt , where upon cock told kite that the salt miners ad cut off one of his legs in exchange for the salt .Kite accepted the lie and proceeded towards Kibiro ready to do the same .Cock continued on his journey and got home safely .

On arrival at Kibiro, Kite offered his leg for a bundle of salt which the miners readily accepted .His leg was consequently amputated , rendering him immobile , even unable to carry home salt poor kite flew back home, where he was received by his family in much grief , especially when he narrated to them the ordeal he went through . Later , kite's family was to receive the traumatizing news that cock had actually ill-advanced Kite , leading to loss of his leg .

Hence forward , great enmity ensued between the two families with Kite's family swearing to retaliate by hunting Cock's family down and eat them. This goes -+on to date.

(i)The narrator notices signs of in attentiveness among the audience during the story telling session What could be the problem ? **(4mks)**

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(ii) Explain how you would make the narration of the first two paragraphs effective **.** **(3mks)**

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(iii) Mention three ways in which you would know that your audience in this story is fully participating in the performance . **(3mks)**

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(b)Underline the silent letter in the words below **(4mks)**

Pseudo
Subtle
Deign
Damn

(c)Explain the meaning brought out by stressing the underlined word in each of the following sentences . (3mks)

(i) Muriithi spoke to Gatwiri yesterday .

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(ii) Muriithi spoke to Gatwiri yesterday .

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(iii)Muriithi spoke to Gatwiri yesterday.

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(d)Read the following conversation and answer the questions that follow. (7mks)

MBAIRE:hi Mr.Katana , long time no see.

MR .KATANA: hello Mbaire , how have you been for so long ?

MBAIRE:I'm fit as you can see .

MR.KATANA :What a surprise to see you here! Do you live around this area?

MBAIRE:Hi , just popped in to have a glimpse of some associates of mine .And you ?

MR.KATANA : Well , I came to visit a colleague who has been ailing for some time .You remember Mr. Kwach ?

MBAIRE:Yes , the leopard !Who can forget him ? He used to …..

MR.KATANA:Well , I must be going .Goodbye.

MBAIRE:See you.

(i)Identify one short coming in Mbaire's responses**.** **(2mks)**

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(ii)Give four aspects of speech that Mbaire needs to consider so as to communicate effectively and in an appropriate manner**.** **(4mks)**

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(iii)Give two possible reasons for Mr. .Katana's exit before Mbaire finishes speaking . **(2mks)**

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(e)Write another word pronounced the same way as the word given below**.** **(3mks)**

Call-

Awe-

(f)In the words given below .Underline the part that should be stressed. (**2mks)**

(i)Excuse (verb)

(ii)Reject (noun)

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

ENGLISH

PAPER 2
TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

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

THE DETOX DEBATE

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

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

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

People will make drastic changes when they go on a detox diet and often feel better for starting a structured regime. However, detox kits made up of herbal laxatives and diuretics are unnecessary and have generally no proven benefit. Detox regimes do not improve kidneys and liver function. These organs are designed to filter your blood fats, alcohol and other nasties- all without the help of a fancy box from your local pharmacy. There is no scientific evidence to support specific detox diets. Programs or supplement kits. However, there's no debate about the fact that eating less junk food, cutting out cigarettes and your alcohol intake etc will benefit your health. For example drinking more water and cutting out caffeine will improve your bowel function. These changes will enhance your well-being but there's nothing magical about the detox diet itself. Rather it's the associated lifestyle changes that benefit your health.

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

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

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

QUESTIONS.

a) What is detoxing**?** **(2marks)**

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

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c) Give the contents of a detox kit. **(2 marks)**

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d) When do detox kits sell most**?** **(1 mark)**

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e) In about 80 words summarize the writer's argument on whether we need to detox or not**. (5marks)**

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f) Outline the dangers of detox diets. **(3marks)**

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g) Detox diets aren't an instant cure to health and wellness. (Write in the affirmative**)(1 mark)**

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h) We've heard a lot about the need to detox lately. (Re-write the sentence into passive**)(1 mark)**

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i) Explain the meaning of the following words as used in the passage**.** **(3marks)**

Laxatives

Overindulging

Deficiencies

1. ***Read the excerpt below and answer the questions that follow.*** ***25 marks***

The door to the bathroom opened. Fiona emerged and started walking but stopped. Her eyes had not adjusted to the darkness in the living room. "Where are you?" she asked.

"Over here" he said. "I have taken a couch in the living room. Go take the bed in the bedroom."

"You're acting as if you might have a wife," she said. "Do you?" "No, she divorced me last year."

"Did she?"

"Yes"

"Let's see now. You studied in America at a marriageable age."

"Let me guess." "Go ahead." "She is American."

"Who? Pamela?"

"Yes it is. And, yes, she is American. Enough about me now. Let's turn to you. Shouldn't your name still be Fiona McKenzie?"

"Who told you it might have changed?" She started walking to the bedroom. Her eyes had adjusted to the only light.

"Why was the Liberian Mauler calling you Joy instead?" "It's local slang for streetwalker."

"He was calling you a streetwalker?"

"Yes, do you want me to draw a picture for you? Where are you from anyway? Mars?" "No, Nigeria. Married?" "Me?"

The phone rang. He rose and answered the landline by the couch. When he ended the call, his mood had darkened.

"What's the matter?" she asked him. "You seem upset all of a sudden. Who was on the phone?"

"One Chineke Chiamaka," he said. "This man was claiming I chided him for being drunk, when all he had was a "Pepsi". He wriggled in his improvised bed to protest his innocence against that claim. "It beats me how he got my suite phone number in the first place," he added. "Anyway, I did not chide him. Why do people like to tell lies?"

QUESTIONS

i. What happens immediately before this excerpt? **4marks**

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ii. Discuss two character traits of Abiola and one of Fiona McKenzie as brought out in the excerpt. **6marks**

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iii. Why do people like telling lies? (Write in reported speech) **1 mark**

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iv. a. The phone rang. Add a question tag **1 mark**

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b. No, she divorced me last year. (Rewrite in the passive)

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v. Highlight two themes raised in the excerpt. **4 marks**

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vi. Identify and illustrate two features of style used in the excerpt. **4marks**

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vii. Explain the meaning of the following words as used in the excerpt**.** **3marks**

a. Streetwalker_____
____

b. Wriggled
_____

c. Chided
_____

3) Read the following oral poem and then answer the questions that follow.

Listen
My husband
In the wisdom of Lang'o
Time is not stupidity split up
Into seconds and minutes.

It does not follow
Like beer in a pot
That is sucked
Until it is finished.

It does not resemble
A loaf of millet bread
Surrounded by hungry youths
From a hunt
It does not get finished
Like vegetable in the dish.
A lazy youth is rebuked
A lazy girl is slapped
A lazy wife beaten
A lazy man laughed at
Not because they waste time
But because they only destroy
And do not produce

And famine
Invades your villages
And women take their baskets
To go and beg, food,
Strangers will sleep with them.
They will have your wives
And what can you say?

Questions

a) Classify the above song**.** **(2 marks)**

b) Who is the singer? **(2 marks)**

c) Explain two economic practices by the community from which the song is derived**.** **(4 marks)**

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d) Identify and illustrate three aspects of style found in this song. **(6 marks)**

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e) Contrast the Africans and Westerners in view of**:** **(2 marks)**

(i) Time

(ii) Concept of hard work

f) Giving examples, state the dominant tone of this song. **(2 marks)**

g) Identify the moral lesson in this song**.** **(2 marks)**

GRAMMAR

a. Answer the following questions according to the instructions given after each. (3marks)

2. In the 16th century, shake spears wrote many plays. (Underline the adverbial phrase)

3. If you come to the arena, you will meet the great Isukuti dancers. (Re-write using…. Unless)

4. The principal advised the students to consider the consequences of their behavior. (Rewrite in direct speech)

b. Complete each of the following with the correct phrasal verb formed from the word given in brackets. (2 marks)

Don't worry, the police will _____ the matter. (look)

Njoroge is not reliable. He promised to support our plan but _____at the last minute. (back)

c. Use the correct form of the words in brackets to fill the blanks. (2 marks)

The inmates took advantage of the _____ to escape from custody. (confuse)

The matter should be handled _____. (caution)

d. Fill in the blank with the appropriate choice between the two given in brackets. (3 marks)

No criterion _____ been established. (has/have)

The mother had just _____ down to rest when the baby cried. (laid/lain)

The number of excelling in English books in our library _____ increased. (has/ have)

e. Join the following pairs of sentences by using a relative pronoun. (2 marks) Nyaga walked along the path. The path led to the river.

d) Rabies is a disease. It is commonly spread by dogs.

f. Explain the meaning of the underlined idiom. (1 mark)

The chairperson <u>ate the humble pie</u> and returned to the negotiation table.

g. **Explain the difference between the following sentences.(2 marks)**

i. I like you better than him.

e) I like you better than he.

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

ENGLISH

PAPER 3

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

i. Answer three questions in total.

ii. Question one has two questions. Choose either (a) or (b)

iii. Question two is compulsory

iv. Choose one question from question three.

FOR EXAMINER USE ONLY

QUESTION	MARKS
1a b	
2	
3a	
3b	
3c	

1. **COMPULSORY: IMAGINATIVE COMPOSITION (20 MARKS)**

1. a) write a composition based on the saying "patience pays"

or

b) write a composition on ways in which the government should fight drug and substance abuse among youth today.

2.**The Compulsory Set Text.** **(20 marks)**

Greed is an inherent trait in most Africans in power. With appropriate illustrations from ***The Samaritan*** **by John Lara,** write an essay showing the truthfulness of this statement.

The Compulsory Set Text. **(20 marks)**

3a) Drawing illustrations from Meja Mwangis "An Incident in the park" write an essay to discuss the problems of urbanization.

OR

b) "War has mostly negative outcomes" with illustration from novel "An artist of floating world" support this statement.

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

GEOGRAPHY

PAPER 1

TIME: 2 ¾ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS

(a) *This paper two sections:* ***A*** *and* ***B***

(b) *Answer* ***all*** *the questions in* ***section A.***

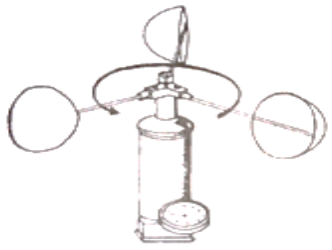
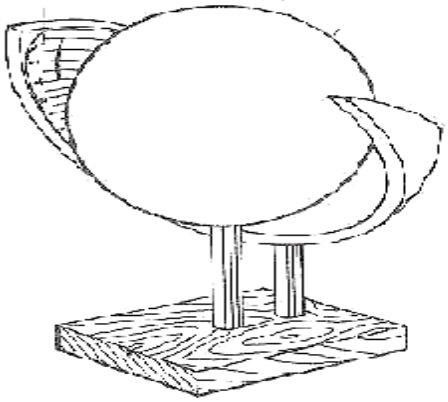
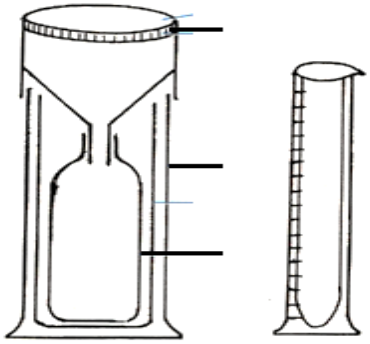
(c) *In section* ***B*** *answer* ***question 6*** *and any other* ***two*** *questions.*

(d) *All answers must be written in the foolscaps provided.*

(e) *Candidates must answer the questions in English.*

SECTION A

1. The diagram below shows some weather station instruments.

K	L	M
		

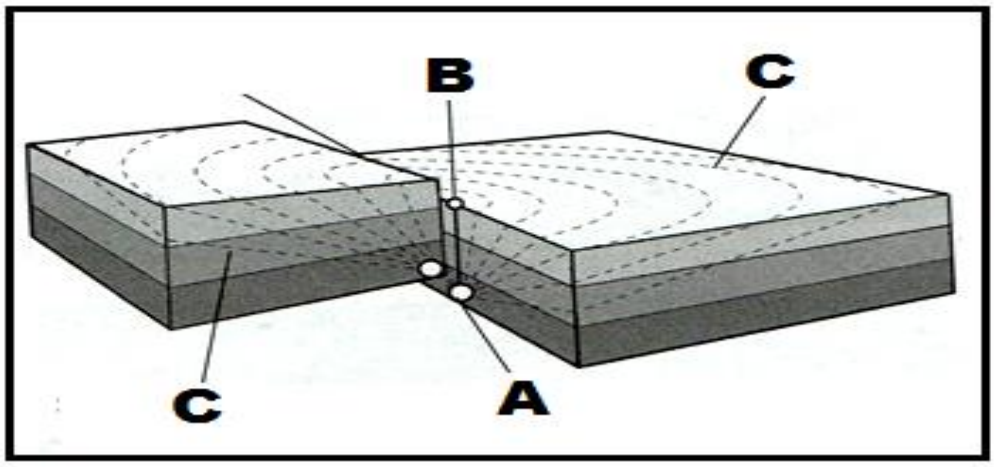
(a)Identify the instruments marked K, L and M. **(3 marks)**

(b)Outline **two** modern methods of weather forecasting. **(2 marks)**

2. (a) Give the **two** main movements of the earth. **(2 marks)**

(b) State t**hree** reasons why the interior of the earth is very hot. **(3 marks)**

3. The diagram below show the occurrence of an earthquake



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

(b) List **two** scales used to measure the magnitude of an earthquake. **(2 marks)**

4. State **five** characteristics of coniferous forests. **(5 marks)**

5. (a) What is soil catena? **(2 marks)**

(b) State **three** factors that influence soil colour. **(3 marks)**

SECTION B

6. **Study** the map of Oyugis (1:50, 000, sheet 130/1) provided and use it to answer the following questions.

(a) (i) Identify **two** relief features at grid square7342. **(2 marks)**

(ii) Measure the distance of road E 212 from its junction with road C 18 to the junction at grid square 7542. Give your answer in kilometres. **(2 marks)**

(iii) Determine the six figure grid reference of Kitweru School. **(2 marks)**

(b) (i) What is the vertical interval of the map? **(1 mark)**

(ii) Determine the bearing of a jaggery factory at grid reference 788237 from a church at grid reference 806188. **(2 marks)**

(c) (i) Draw a square 10cm by 10cm to represent the region east of easting 85 from northing 30 to northing 40. On the square, mark and name.

1. Kodera forest.
2. Oriang' hill
3. A district boundary.
4. All weather road-bound surface.
5. A seasonal swamp (**6 marks)**

(ii) What is the scale of the sketch that you have drawn? **(1 mark)**

(d) (i) Citing evidence from the map, identify **four** crops grown in the area covered by the map. **(4 marks)**

(ii) Describe the distribution of settlement in the area covered by the map. **(5 marks)**

7. (a) (i) What is a mineral? **(2 marks)**

(ii) Give **three** ways used to classify rocks. **(3 marks)**

(b) (i) Describe how igneous rocks are formed. **(5 marks)**

(ii) List **three** examples of mechanically formed sedimentary rocks. **(3 marks)**

(c) Explain **three** types of rock metamorphism. **(6 marks)**

(c) Suppose you were to carry out a field study on rocks in the area surrounding your school

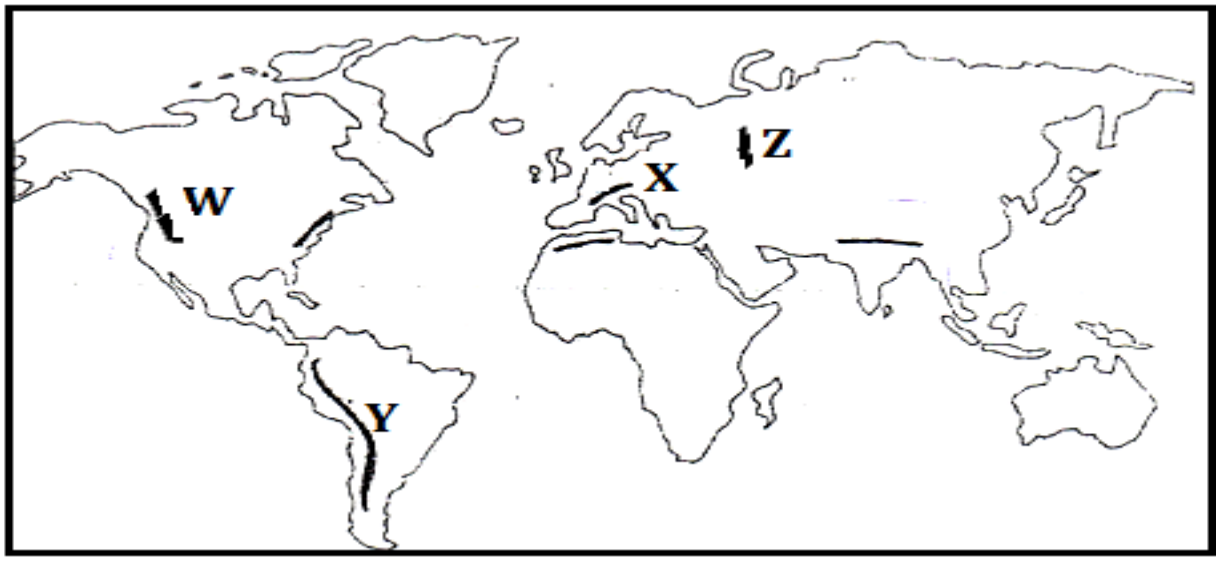
(i) State **three** characteristics that you would look for while identifying different rock types **(3marks)**

(ii) State **three** follow up activities for the field study. **(3marks)**

8. (a) (i) Differentiate between faulting and folding. **(2 marks)**

(ii) Name **five** features formed as a result of faulting. **(5 marks)**

(b) The world map below shows the location of some fold mountains. Use it to answerquestion (a) (i)



Identify the fold mountains marked W, X, Y and Z **(4marks)**

Citing relevant examples, explain how Fold Mountains were formed according to the plate tectonics theory. **(6 marks)**

(c) Explain the effects of Fold Mountains on the following

Transport. **(2 marks)**

Agriculture. **(2 marks)**

Tourism. **(2 marks)**

Mining. **(2 marks)**

9. (a) Give **three** examples of West coast deserts. **(3 marks)**

(b) (i) Apart from rock pedestals, name four other features formed due to wind erosion in arid regions. **(4 marks)**

(ii) With the aid of well labelled diagrams, describe how a rock pedestal is formed. **(7 marks)**

(c) Explain **four** factors that influence the rate of wind transport. **(8 marks)**

(d) State **three** negative influence of desert features. **(3 marks)**

10. (a) (i) What is a lake? **(2marks)**

(ii) Give**three** processes that lead to formation of Lakes. **(3marks)**

(b) Describe how Lake Victoria was formed **(6marks)**

(c) Explain **three** factors why some Lakes in the Rift Valley in Kenya are saline. **(6marks)**

(d) Explain **four** ways in which lakes influence the climate of the surrounding areas. **(8marks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

GEOGRAPHY

PAPER 2

TIME: 2 ¾ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

- *This paper has two sections: A and B.*
- *Answer all the questions in section B.*
- *Answer question 6 and any other two questions from section B.*
- *Answer ALL questions on the provided foolscaps.*

For Examiner's Use only.

Section	Questions	Max. Score	Candidate's Score
A	1 – 5	25	
B	6	25	
	7	25	
	8	25	
	9	25	
	10	25	
	TOTAL	100	

SECTION :

Answer ALL the questions in this section.

1. **(a)** Name **TWO** places where diamond mining is done in the Republic of South Africa. **(2 mks)**
   (b) State **THREE** problems facing gold mining in South Africa. **(3 mks)**
2. **(a)** Name **TWO** major wheat growing counties in Kenya. **(2 mks)**
   (b) Give **THREE** uses of wheat. **(3 mks)**
3. State **FIVE** characteristics of shifting cultivation. **(5 mks)**
4. Identify the characteristics of nomadic pastoralism. **(5 mks)**
5. (a) Name **THREE** ways in which placer mining can be done. **(3 mks)**
   (b) State **TWO** problems facing Trona mining on Lake Magadi. **(2 mks)**

SECTION:

Answer question 6 and any other two questions from this section.

6. The table below shows the estimated exports of fruits from Kenya to the European market in '000 of tones between 2000-2004. Use it to answer the questions that follow.

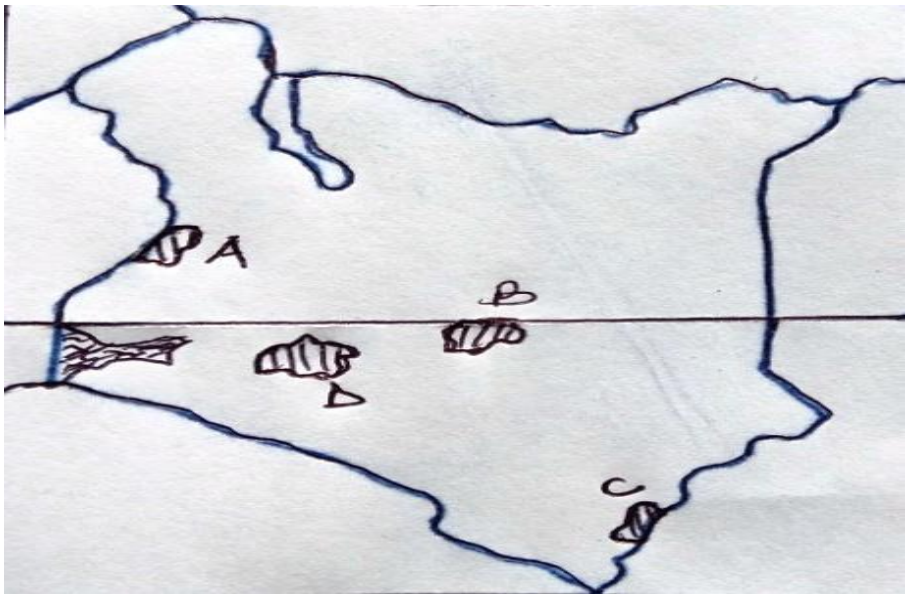
Crop	2000	2001	2002	2003	2004
Oranges	50	45	42	38	30
Apples	20	25	32	28	25
Tangerines	32	35	40	38	35
Melons	22	24	36	30	34
Total	**124**	**129**	**150**	**134**	**124**

(a) (i) Use a cumulative bar graph to present the date. (Use 1cm to represent 20 tonnes)**(10 mks)**
(ii) Give two disadvantages of using cumulative bar graphs in data presentation.**(2 mks)**
(b) Name five areas in Kenya where horticulture is practiced. **(5 mks)**
(c) Explain four reasons why horticultural produce is exported by air to the European markets. **(8 mks)**

7. (a) State four characteristics of coniferous forests which favour their exploitation**.** **(4 mks)**

(b) Explain five factors that favour the growth of natural forests on the slopes of Mt. Kenya.**10 mks**

(c) Use the map of Kenya below to answer the following questions.



(i) Name the forest reserves marked A, B, C and D. **(4marks)**

(ii) Name **TWO** hardwoods commonly exploited in the forest reserve marked A. **(2 mks)**

(d) State**FIVE** problems facing forestry in Kenya. **(5 mks)**

8. (a) (i) What is agriculture? **(2 mks)**

(ii) Identify **FOUR** characteristics of plantation farming in Kenya. **(4 mks)**

(b) Give **FOUR** physical factors that influence the growing of tea in Kenya. **(4 mks)**

(c) Explain **FOUR** problems facing small scale tea farming in Kenya. **(8 mks)**

(d) You plan to carry out a field study on a tea farm.

(i) Give **FIVE** reasons why you need a route map. **(5mks)**

(ii) Give **TWO**methods the class may use to gather data. **(2 mks)**

9. (a) Name **FOUR**sugarcane growing areas in Kenya. **(4 mks)**

(b) Give **FOUR** human factors that influence successful sugarcane production **(4 mks)**

(c) (i) Describe the stages involved in the processing of sugar cane at the factory**.** **(6 mks)**

(ii) Give **THREE** by-products obtained from sugarcane. **(3 mks)**

(d) Your class visited a sugarcane plantation for a field study on land preparation and planting.

(i) Outline **FOUR** activities that you are likely to identify. **(4 mks)**

(ii) Give **FOUR** methods you would use to record data during the study. **(4 mks)**

10. (a) (i) Define mining. **(2 mks)**

(ii) Clearly state **FOUR** formations in which minerals occur. **(2 mks)**

(b) (i) Name **THREE** methods of underground mining apart from shaft method**.(3 mks)**

(ii) Describe how shaft method is carried out. **(6 mks)**

(c) Explain **THREE** benefits of the oil mining to the local community in Turkana.**(6 mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

HISTORY

PAPER 1

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

SECTION A (25 MKS)

Answer all questions in this section.

1. Give **two** limitations of using anthropology as a source of information on History and Government. **(2mks)**

……

……

2. Give **one** evidence to show the Chinese reached the East African Coast. **(1mk)**

……

3. List **two** communities that comprise the highland Nilotes. **(2mks)**

……

……

4. Give **two** factors which influenced Seyyied Said to develop agriculture in Zanzibar. **(2mks)**

……

……

5. Give the main reason why the colonial government created reserves in Kenya. **(1mk)**

……

6. State **two** characteristics of independent churches in Kenya during the colonial period. **(2mks)**

……

……

7. Identify **one** method used by trade unionists to demand for their rights during the colonial period. **(1mk)**

……

8. Name the first person to be appointed as a prime minister in Keny**a.** **(1mk)**

……

9. Give **two** functions of the principal secretary in Kenyan government. **(2mks)**

……

……

10. State two reasons why Nabongo Mumias of Wanga collaborated with the British. **(2mks)**

……

……

11. Give **one** reason why corruption is being discouraged in Kenya. **(1mk)**

……

12. State **one** way in which the government of Kenya has addressed the problems of landlessness. **(1mk)**

……

……

13. Identify **two** political events which threatened the stability if Kenya 1975 to 1978. **(2mks)**

……

……

……

14. Give **one** reason why Africans who lived in towns formed social welfare organizations during the colonial period**.** **(1mk)**

……

15. What was the main ideological difference between KANU and KADU before independence in 1963? **(2mks)**

……

16. Name the President of the Supreme Court in Kenya**.** **(1mk)**

……

17. Give the main reason why KANU refused to form a government after the 1961 election**.** **(1mk)**

……

……

SECTION B (45 MARKS)

*Answer any **three** questions from this section.*

18. a) Give **three** reasons which contributed to the development of trade between the Kenya Coast and the outside world by the 16th Century**.** **(3mks)**

b) What reasons led to the decline of the Portuguese rule along the Kenyan Coast during the 16th century. **(12mks)**

19. a) Give **five** reasons why Christian missionaries established mission stations in Kenya during colonial period. **(5mks)**

b) Describe five factors which undermined Christian missionaries' activities in Kenya during the 16th century**.** **(10mks)**

20. a) Identify **three** African women who participated in the MauMau Movement. **(3mks)**

b) Describe the role of African women in the struggle for Independence in Kenya. **(12mks)**

21. a) State **five** common grievances of the political organizations in Kenya up to 1939. **(5mks)**

b) Explain **five** roles played by women in the Mau Mau Uprising. **(10mks)**

SECTION C (30MKS)

*Answer any **two** questions from this section.*

22. a) State **five** special groups that monitor human rights. **(5mks)**

b) Explain **five** principles of democracy. **(10mks)**

23. a) Why are parliamentary elections held regularly in Kenya? **(5mks)**

b) Explain **five** functions of the Executive committee in a county government in Kenya**.** **(10mks)**

24. a) State **five** ways through which the constitution of Kenya promotes national unity. **(5mks)**

b) Explain **five** factors which make it difficult for the correctional department in Kenya to work effectively. **(10mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

HISTORY

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

SECTION A (25 MKS)

Answer all questions in this section.

1. Give **one** contribution of archaeology to the study of History. **(1mk)**

……

2. Identify **two** activities that influenced early man to set up permanent settlement**.** **(2mks)**

……

……

3. Identify one area in Africa where agriculture began. **(1mk)**

……

4. State **two** disadvantages of human transport. **(2mks)**

……

……

5. State **two** uses of bronze in ancient Benin**.** **(2mks)**

……

……

6. Give the main reason for the decline of Meroe. **(1mk)**

……

……

7. State **two** advantages of mobile phone as a means of communication. **(2mks)**

……

……

8. Give **two** uses of steam power in Europe during the 19th Century. **(2mks)**

……

……

9. State one function of the Lukiko in the Buganda Kingdom in the 19th Century. **(1mk)**

……

……..

10. Mention two methods used by European powers to acquire colonies in Africa. **(2mks)**

……

……

11. State **two** privileges enjoyed by the assimilated Africans in the four French communes in Senegal. **(2mks)**

……

……

12. State **two** causes of the Ndebele war of 1893. **(2mks)**

……

……

13. Name the military wing of the African National Congress in South Africa. **(1mk)**

……

14. Name the person who convened the Berlin Conference. **(1mk)**

……

15. Give **one** early urban centers in pre-colonial Africa. **(1mk)**

……

16. Name the missionary chosen to represent Africans in the legislative council under the terms of Devonshire white paper of 1923**.** **(1mk)**

……

17. Name the commission mandated in matters concerning Election in Kenya. **(1mk)**

……

……

SECTION B

Answer any three questions from this section.

18. a) State **five** factors which led to the development of early agriculture in Mesopotamia. **(5mks)**

b) Explain **five** effects of Agrarian Revolution in Europe. **(10mks)**

19. a) State **three** results of the inventions of the textile industry in Britain**.** **(3mks)**

b) Explain **six** factors that led to Industrialization in Japan. **(12mks)**

20. a) State **five** causes of the Maji Maji Rebellion in Tanganyika (1905 – 1907). **(5mks)**

b) Explain **five** effects of the Chimurenga war of 1896 – 1897. **(10mks)**

21. a) State **three** roles of Kwame Nkurumah in the struggle for independence in Ghana. **(3mks)**

b) Explain **six** challenges faced by FRELIMO in the struggle for independence in Mozambique. **(12mks)**

SECTION C (30 MAKS)

Answer any two questions from this section

22. a) Outline **five** factors which contributed to the growth of Buganda Kingdom in the 19th Century. **(5mks)**

b) Describe the social organization of the Asante Kingdom. **(10mks)**

23. a) Name **three** leaders charged alongside Nelson Mandela in the Rivonia trial of 1964. **(3mks)**

b) Explain problems encountered by Nationalists in South Africa. **(12mks)**

24. a) State three privileges which were enjoyed by assimilitated Africans in the four communes of Senegal. **(3mks)**

b) Explain six results of the French policy of assimilation in Senegal. **(12mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

KISWAHILI

PAPER 1

TIME: 1 ¾ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

KISWAHILI

INSHA

MUDA: SAA 1¾

MAAGIZO KWA WATAHINIWA

*a) Andikainsha **mbili.***

*b) Insha ya **kwanza** ni ya **lazima.***

c) Chagua insha nyingine moja kutoka kwa hizo tatu zilizobakia.

d) Lugha ya Kiswahili sanifu itumike kujibu maswali

e) Kila insha isipungue maneno 400.

f) Kila insha ina alama 20.

g) Unadhifu wa hati unachangia kueleweka rahisi.

h) Karatasi hii ina kurasa mbili.

i) Watahiniwa ni lazima waangalie kama kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa

Maswali yote yamo.

1. **Lazima**

Wewe uulifuzu kutoka chuo kikuu miaka mine iliyopita na shahada ya ualimu. Andika barua ya kuomba kazi ya ualimu na uiambatanishe na wasifukazi.

2. Usalama umekuwa changamoto nchini kwa muda sasa. Pendekeza hatua ambazo serikali yafaa kuchukua ili kuimarisha usalama.

3. Mstahimilivu hula mbivu

4. Andika insha itakayomalizika kwa maneno haya **….** Niliyakumbuka maneno ya mwalimu mkuu, machozi yalinitoka njia mbilimbili. Hayawi hayawi huwa.

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

KISWAHILI

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

MAAGIZO

1. *Jibu maswali **yote**.*
2. *Andika majibu yako katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.*
3. *Karatasi hii ina kurasa **kumi**. Watahiniwa ni lazima waangalie kama kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.*

1. UFAHAMU (ALAMA 15)

Soma taarifa ifuatayo kisha ujibu maswali yanayofuata.

Kwa kipindi cha miezi kadha iliyopita tumeshuhudia vyombo vya dola vikitia makali yake kwenye upekuzi na hata kupiga doria usiku na mchana katika jitihada za kulinda nchi.

Mpango huu ni kweli umeonekana kufanya kazi hivi kwamba hata magaidi wenyewe wameshindwa kupenya katika miji na sasa kuhiari kijinga kushambulia magari ya abiria, kitendo ambacho ni cha kuonyesha uwoga. Kwa hatua hiyo, navipa vyombo vya dola kongole. Jambo ambalo lafaa kujulikana ni kwamba mikakati ya kulinda nchi haifai kuwa ni ya wakati mmoja tu, mbali inafaa kuwa ni zoezi la kila siku.

Magaidi nao huwa macho huku yakijua bayana kwamba wakati wa kulala kwa walinzi unapokuwepo, basi wanapata nafasi ya kututupia 'viazi' ukipenda grunedi.

Kama ilivyo kawaida katika mataifa mengi barani Afrika, ni bayana kwamba bado kungali na mianya mingi ambayo magaidi wa kimataifa huendelea kutumia. Dosari bado zipo. Kwa mfano, mipaka mingi ya nchi hizi huwa kama lango kuu la ugaidi wa kimataifa, kwani kuenea kwa saratani ya ufisadi halimo tu maofisini mbali pia kwenye mipaka yetu.

Kama kupata kitambulisho, pasipoti na stakabadhi zingine za kusafiri nchini Kenya ashakum si matusi ziligeuzwa 'maandazi' ya Kariakoo basi niambie ni nani hawezi kuingia na kutoka nchini bila usumbufu wowote ule bora tu anayehitaji ana hela mkononi? Kwa kuikubali hongo kuwa ufunguo wa kila kitu, Wakenya wenzangu hapo naona ni kama tumejiweka kwenye kikaango kilicho juu ya moto mkali. Hapa hakuna aliye na bahati, tajiri kwa masikini wamo kwenye mtego huu hatari.

Kwa mtindo ambao tunafuata wa kutoa ajira katika idara mbalimbali za ulinzi, inabidi serikali iwe na uangalifu sana hasa kwenye suala nzima la kuhakikisha stakabadhi wanazohitaji si ghushi.

Pasina kufanya hivyo hapo tena tunaweza kuwapata maadui wanaopenya na kujifanya walinzi wetu kumbe ni majasusi wa magaidi. Kila Mkenya anafaa kujihisi kulindwa. Miji, vijiji na hata vitongoji vinafaa kuwa na usalama wa kutosha, kwani kila Mkenya ni mlipa ushuru na hatufai kuona labda tabaka la juu likipendelewa huku mitaa ya mabanda ikiachiwa mbwa koko kama walinzi wao.

Suala lingine muhimu ni kuangaziwa upya usalama kwenye magari ya usafiri.

Juzi tulishuhudia mabasi mawili yakilipuliwa kwenye barabara ya Thika huku tukijua fika kwamba, mpango wa walinda nchi ungalipo.

La kusikitisha ni kuona kwamba, madereva na utingo wao walikamatwa na kufunguliwa mashtaka kwa kutozuia shambulizo hilo. Je, hii ni sheria gani? Dereva ataendesha gari au atachukua jukumu la walinda usalama?

Waswahili walinena kwamba ukubwa ni <u>jaa</u> na kwa hivyo Rais wa taifa ndiye anayefaa kubeba mzigo mzima wa usalama wetu bila kubananga wasaa. Wengine ambao wanafaa kuwajibika ni wakuu wote wa idara mbalimbali za usalama.

Usalama wako na wangu ni muhimu, elewa bayana kwamba bila usalama watalii hawawezi kuja kututembelea. Bila ya usalama maendeleo ya taifa kamwe hayawezi kupatikana, ndiposa kila jitihada sharti zifanywe ili wote waweze kuendelea kuyafurahia matunda ya uhuru wetu.

Ada ya mja kunena muungwana ni vitendo, hatufai tu kuimba wimbo wa 'linda nchi' ilhali mabasi barabarani hayana usalama. Hebu na tuuone ulinzi endelevu na hapo tutawakomoa magaidi kwa yakini.

<u>Maswali</u>

a) Ipe taarifa hii anwani mwafaka. **(alama 1)**

_____

b) Kwa nini magaidi wanashambulia magari ya abiria? **(alama 1)**

_____

_____

___

c) Kulingana na taarifa pamoja na maoni yako, eleza njia <u>tatu</u> ambazo zinatumiwa na magaidi ili kufanikisha utekelezaji wa unyama wao. **(alama 3)**

_____

_____

_____

_____

d) Ni njia gani ambazo magaidi hutumia kuingia katika nchi wanapoazimia kutekeleza uhalifu?

(alama 3)

_____

_____

_____

_____

_____

_____

e) Kwa nini suala la usalama kwenye magari ya usafiri muhimu? **(alama 1)**

_____

_____

___

f) Ni njia zipi zinazoweza kutumiwa kupunguza mashambulizi ya kigaidi kulingana na mwandishi? **(alama 2)**

_____

_____

_____

_____

_____

g) Eleza athari za utovu wa usalama. **(alama 2)**

_____

_____

_____

_____

_____

h) Eleza neno au mafungu ya maneno kama yalivyotumiwa katika kifungu. **(alama 2)**

Vyombo vya dola

_____

Jaa

_____

2. UFUPISHO (ALAMA 15)

Soma taarifa ifuatayo kisha ujibu maswali.

Ponografia ni tendo, maandishi, picha au mchoro unaoonyesha au kueleza uchi wa mtu au vitendo vya ngono kwa ajili ya kuchochea ashiki ya kuifanya. Mambo haya machafu huwasilishwa ana kwa ana kupitia sinema, video, magazeti, vitabu, muziki, televisheni. DVD, n.k.

Ponorafia imekuwepo tangu jadi, hasa katika nchi za magharibi. Lakini sasa limekuwa tatizo sugu. Hii ni kwa sababu imeenea ulimwenguni kote mithili ya moto katika mbuga wakati wa kiangazi. Uenezi umechangiwa na mambo kadha wa kadha. Mchango mkubwa zaidi umetokana na kuimarika kwa vyombo vya teknolojia ya habari na mawasiliano. Matumizi ya tarakilishi, mdahilishi na viungambali vya picha yamesambaza ponografia ilivyoanza. Hata hivyo, hubuniwa au kutengenezwa na makundi mbali mbali ya watu. Miongoni mwa hawa ni watu wasiojali maadili. Pili, kuna wale wenye matatizo ya kisaikolojia na kijamii. Wao hutengeneza na kueneza uchafu huu kwa lengo la ama kuvuruga maadili katika jamii au kuchukiza wanajamii waadilifu. Kundi lingine ni lile la wanaoichukulia ponografia kama nyenzo ya kutosheleza ashiki zao. Hivi sasa, kundi kubwa ni lile la wanotumia matusi haya kama njia ya kuchuma. Kwa mfano, wanamziki ambao hutumia ponografia kuvutia wateja na hivyo kuzidisha mauzo yao.

Kushamiri kwa wimbi na uonyeshaji ponografia kuna athari kubwa kwa jamii na hasa watoto. Ingawa watu wengine hudai picha hizi haziwaathiri, upo ushahidi kuonyesha kuwa wanaotazama picha za ngono hupata matatizo. Lazima ieleweke kuwa kinachoonekana na jicho au kusikika kwa sikio huathiri fikira au hisia. Picha za matusi zinachangia kwa kiasi kikubwa kuharibu akili. Badala ya kuzingatia mambo muhimu kama masomo watu huanza kutafakari mambo machafu.

Vijana wengi ni kama bendera. Hivyo basi huanza kuiga wanayoyaona na kusikia. Hili ni tatizo linalowafanya kuacha mkondo wa maadili. Kutokana na uchafu huu, watu wengi hushawishiwa kuingilia shughuli za ngono mapema kabla hawajakomaa kimwili, kiakili na kihisia. Matokeo yake ni mengi. Haya ni pamoja na ukahaba, utendaji mbaya shuleni, mahudhurio mabaya darasani na mimba zisizotarajiwa. Vijana wengi huacha shule kabisa. Wengine nao huambukizwa magonjwa ya zinaa ambayo huwaletea mauti.

Inasemekana kuwa akili za binadamu hunata zaidi mambo yanayowasilishwa kwa picha. Si ajabu vijana huyadumisha matusi haya katika kumbukumbu zao na kuyasanya sehemu ya maisha yao. Wengi huanza kuandama tabia mbovu kama ushoga, ubasha na usagaji. Kuna wale ambao huanza kujichua. Kujichua ni hali ya mwanamke au mwanaume kumaliza haja za kimaumbile bila kufanya mapenzi na mtu mwingine. Ponografia imechangia pakubwa kuenea kwa haya.

Jambo hili limegeuza mielekeo ya vijana. Wanaiga mitindo mibaya ya mavazi yanayoanika uchi wao. Hali kadhalika, huiga lugha, ishara na miondoko inayohusiana na ngono. Yote haya yanapingana na desturi za Mwafrika. Si ajabu visa vya ubakaji vinaongezeka kila kukuchapo.

Utazamaji wa picha chafu aghalabu huandamana na maovu mengine kama unywaji pombe,

matumizi ya dawa za kulevya, uvutaji sigara na utumiaji wa dawa za kuchochea uchu wa ngono. Mambo haya huwapa vijana kutazama tabia za unyama.

Jambo hatari ni kuwa kuendelea kutazama picha hizi huzifanya nishai na hisia za watu kuwa butu, yaani huondoa makali. Hata katika utu uzima, mtu atapoteza mhemko wa kawaida na kugeuzwa kuwa mtegemezi wa ponografia. Tatizo hili linaenea kwa vishindo mijini na vijijini. Ipo haja ya dharura kuikinga jamii kutokana na maenezi haya yasio na kizuizi.

Jambo la kwanza ni kuongeza ufahamu wa umma wote kuhusu uovu wa picha hizi. Kwa namna hii itawezekana kupunguza mahitaji na uuzaji wa ponografia. Tatizo hili linaenea kwa vishindo mijini na vijijini. Ipo haja ya dharura kuikinga jamii kutokana na maenezi haya yasiyo na kizuizi.

Tatizo la kuenea kwu ponografia limeendelea kuwepo kwa sababu ya udhaifu wa sheria. Kilichoko basi ni kuweka sheria za kuzuia utengenezaji wa upujufu huu. Kuambatana na haya, hatua kali zichukuliwe kwa wanaovunja sheria hizi. Hali kadhalika, ushirikiano wa karibu baina ya wadau uimarishwe katika ulimwengu mzima. Serikali na wanaohusika wakabiliwe ipasavyo. Jamii ingependa kuona michakato ya kuharamisha utengenezaji, usambazaji na utangazaji wa ponografia ikiwekwa.

Wazazi nao wasijipweteke tu bali nao wasaidie. Ni muhimu washikilie kwa sharti juhudi zao za kuwaelekeza na kuwashauri watoto kuzingatia uongofu na kukwepa picha hizi najisi. Watoto lazima waeleweshwe kuwa haifai kutazama picha au michoro michafu. Itikadi na imani za kidini na utamaduni wa Kiafrika unakataza vikali mtu kuona uchi wa mtu mwingine. Matokeo ya kuasi makatazo haya yana madhara makubwa kwa watu na jamii.

Maswali

a) Fupisha ujumbe wa aya ya pili na ya tatu kwa maneno 20 – 25 (alama 6, 1 ya mtiririko)

Matayarisho

_____

_____

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_____

Nakala safi

b) Kwa kutumia maneno 55 – 60, eleza mambo muhimu yanayojitokeza katika aya ya nne hadi ya tisa kuhusu athari za ponografia . (**alama 9, 1 ya mtiririko)**

Matayarisho

Nakala safi

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3. MATUMIZI YA LUGHA (ALAMA 40)

1. Andika sifa bainifu za /**d**/ na /**f**/. **(alama 2)**

_____

_____

2. **Andika kinyume cha sentensi hii**. **(alama 2)**

   Mama alianika nguo zilizofuliwa na Kitwana.

_____

_____

3. **Andika neno ‘kuja’ katika hali ya kuamuru.** **(alama 1)**

_____

4. **Weka shadda katika neno ‘nta’.** **(alama 1)**

_____

___

5. **Yakinisha sentensi ifuatayo.** **(alama 2)**

   Wanafunzi wasipopita mtihani huo mwalimu hatalaumiwa.

_____

_____

___

6. **Kwa kutolea mifano, eleza miundo mitatu ya silabi za Kiswahili.** **(alama 3)**

_____

_____

_____

_____

7. **Andika kwa udogo.** **(alama 2)**

   Chaka la Samba halilali paka.

_____

___

8. **Changanua sentensi ifuatayo kwa kutumia jedwali.** **(alama 4)**

   Kiongozi aliyeng'olewa mamlakani amekufa.

_____

_____

_____

_____

9. **Mzizi ni nini? Toa mfano.** **(alama 2)**

_____

_____

___

10. **Bainisha aina za virai vilivyopigiwa mstari.** **(alama 2)**

    Mjadala <u>huo mzuri</u> uliisha <u>usiku wa manane</u>.

_____

_____

___

11. **Tofautisha sentensi hizi:** **(alama 2)**

a) Ningeondoka sasa ningefika mapema.

b) Ningaliondoka sasa ningalifika mapema.

_____

_____

___

12. **Toa maana mbili za sentensi hii.** **(alama 2)**

Aliletewa ng'ombe na mtoto wake.

_____

_____

___

13. **Tunga sentensi moja kubainisha.** **(alama 2)**

Kivumishi cha pekee cha kusisitiza.

_____

_____

___

14. **Nyambua vitenzi vifuatavyo katika kauli zilizo kwenye mabano**. **(alama 2)**

a) la (fanyia)

_____

___

b) suka (tendata)

_____

___

15. **Fafanua aina ya hali zilizotumika katika sentensi hizi.** **(alama 3)**

a) Mumo akacheka, akafurahia na akalala.

_____

___

b) Mtoto wa Maria hulia kila mara.

_____

___

c) Mwalimu aandika ubaoni.

_____

___

16. **Tumia neno 'karibu' katika sentensi kama**: **(alama 2)**

a) Kihusishi

_____

___

b) Kihisishi

_____

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17. **Tenganisha mofimu katika neno lifuatalo kisha uonyeshe majukumu yake kisarufi. (alama 3)**

Onana

_____

_____

_____

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_____

18. **Bainisha yambwa katika sentensi hii. (alama 2)**

Simu aliyonunuliwa Ali na mjombake imepotea.

_____

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_____

19. **Tumia kivumishi kionyeshi cha mbali pamoja na nomino katika ngeli ya I–I. (alama 1)**

_____

___

4. <u>ISIMU JAMII</u> (ALAMA 10)

a) **Eleza wajibu wa lugha ya Kiswahili kama lugha ya taifa nchini Kenya. (alama 5)**

_____

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b) **Fafanua sifa za sajili ya matanga.** (alama 5)

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

KISWAHILI

PAPER 3

Muda:Saa 2 Dakika 30

NAME…… ADM NO……

SIGN…… DATE;……

MAAGIZO

i. Jibu maswali **manne** pekee
ii. Swali la kwanza ni la **lazima**
iii. Maswali hayo mengine **matatu** yachaguliwe kutoka sehemu nne zilizobaki; yaani: Riwaya, Hadithi Fupi, Tamthilia na Ushairi.
iv. Usijibu maswali mawili kutoka sehemu moja
v. Majibu yote yaandikwe katika lugha ya **Kiswahili**
vi. Karatasi hii kurasa **Tano** ambazo zimepigwa chapa
vii. Watahiniwa ni lazima wahakikishe kwamba kurasa zote zimepigwa chapa sawasawa na kuwa maswali yote yamo.

Kwa matumizi yam tahini pekee

Swali	Upeo	Tuzo
1	20	
	20	
	20	
	20	
Jumla	80	

1. SEHEMU A: FASIHI SIMULIZI (LAZIMA)

Soma utungo ufuatao kisha ujibu maswali yanayofuata

Katiechi Analia, Katiechi Analia
Chozi lausaliti undani wake
Undani ambao ameuficha kwa miaka na mikaka
Undani ambao japo anachelea kutangaza asije akaonekana apendaye chongo…
Itabidi kuutoa, kuumwaga mtama

Na kiini cha chozi hili ni kwamba imewadia
Imewadia siku ya siku kanisani kwenda,
Kujitia pingu
Kujitia pingu, pingu za aushi
Je, hakuyataka haya?
Hakupania yapakata kama mwanagenzi,
Apatakavyo malaika mikononi pake?
Kwani basi analovya, kidari kwa maji chumvi?
Shavu lake laini,kuwa kijivu kwa shaka?
Ama ni yano mapenzi yalomlemea?
Mapenzi alopalia kwa miaka na dahari?

Kipi kinokwinamisha,
Kwa tewengu kukubwaga?
Ama ni majukumu kuhofia mwenzetu?
Ni adha za ulezi?
Ni hofu ya kutelekezwa?
Jikoni kuachwa jukumu la kawaida?
Ama ni ugeni kwa nasaba uso asili unokuuguza?
Je, ni mazoea unochelea kuacha?
Ama ni uzito wa nanga ua huba?
Kipi, sema ewe mwenzangu, sema.

Nikahi ni sitara
Usumbufu kuepuka vipanga na mwewe
Ndoa huneemesha na jina kukupa utatukukuka kimwana
Shujaa ukapata wa kukulinda
Miliki ni hakikisho kutoka kwa dume hata katika mauko,
Penzi halali kupata, na warithi kuambulia,
Wa kiume kukufaa
Silie mwana silie,
Watutia simanzi
Waitia ndoa doa, nuksani kukuandamia.

Wavyele mpeni Baraka
Mashangazi mtemeeni mate
Viganjani kumiminia pumzi zenu za neema
Ndoa yake kutengenea
Maumbu acheni
Kulengwa na machozi
Mwamliza zaidi, unyonge kumtia
Baba mtu mshike kondooyo,
Mwongoze kidesturi, madhabahu karibia,
Mkabidhi mkweo, mwenzi wake wa maisha.

Ndiye takayekuwa fahali, simba atakuwa kikaida
Amri tatoa yeye, malkia kufuata,
Utashi wake tatimizwa, ndivyo sheria inenavyo
Bila yeye kutamka mtamba aandamwi na sahibu
Tampenda ewe kinda, tanyenyekea bila kulalama
Penzi talinda wewe, wengine sije paramia
Kukupoka mwamba wako!

Maswali

a. Ainisha utungo huu kimaudhui. **Alama 1**

b. Eleza sifa **tatu** za utungo huu. **Alama 3**

c. Chambua mitindo katika utungo huu. **Alama 4**

d. Unanuia kuwasilisha utungo huu jukwani, tathmini vipengele **sita** ambavyo utavizingatia ili kufanikisha mawsilisho yako. **Alama 6**

e. Eleza manufaa **manne** ya ndoa kutokana na wimbo huu. **Alama 4**

f. Jamii ina matarajio yepi kuhusu wanandoa? **Alama 2**

SEHEMU B: HADITHI FUPI

2. Ahadi ni Deni-Rayya Timammy

a. `Maudhui ni kipengele muhimu katika kazi ya kisanii.' Thibitisha dai hili kwa kurejelea maudhui yafuatayo katika hadithi,***Ahadi ni Deni***. **Alama 10**

i. Uwajibikaji

ii. Nafasi ya wanawake

b. `` Ni vigumu kwa binadamu kuungama jambo kama hili ila kwa sasa naona ndiyo njia ya pekee ya kuinusuru nafsi yangu.''

i. Weka maneno haya katika muktadha. **Alama 4**

ii. Wahusika wengi katika hadithi ***Toba ya Kalia*** ni wasaliti. Eleza kikamilifu. **Alama 6**

Au

3. Kila Mchezea Wembe

``Watu wanaomboleza nikaja na fujo zangu bila kujali wala kubali na kuvuruga shughuli maziarani.''

a. Eleza muktadha wa maneno haya. **Alama 4**

b. Tathmini athari **kumi na mbili** za unywaji pombe kwa kurejela hadithi hii. **Alama 12**

c. Kwa kutoa hoja **nne** hadithini, eleza umuhimu wa mnenaji. **Alama 4**

SEHEMU: TAMTHILIA

BEMBEA YA MAISHA

4. ''Dunia ikijua anakusaidia jikoni itasema unashusha hadhi yake na kwa mizani ya jamii utakuwa unajivulia nguo. ''

a. Eleza muktadha wa maneno haya. **Alama 4**

b. Tambua tamathali **mbili** za usemi katika dondoo. **Alama 2**

c. Fafanua sifa zozote **nne** za msemaji wa maneno haya. **Alama 4**

d. Tathmini umuhimu wa **mandhari** kwa kurejelea nyumbani kwa Sara. **Alama 10**

5. '' Kila mbegu ipandwayo haina budi kuzaa na izaapo mazao yake huvunwa. Mtu huitakasa sahani akijua itamfaa tena.''

a. Eleza muktadha wa maneno haya. **Alama 4**

b. Fafanua umuhimu wa msemaji katika kujenga ploti. **Alama 4**

c. Tambua mbinu **moja** ya kimtindo katika dondoo. **Alama 2**

d. Kwa kutoa mifano **kumi** eleza namna mbinu iliyotambuliwa katika sehemu (c) imetumiwa kuendeleza tamthilia hii. **Alama 10**

6. <u>SEHEMU E: SHAIRI</u>

Soma shairi lifuatalo kisha ujibu maswali yanayofuata.

Ulikuwa wanipenda, imekuwaje?
Leo wanipondaponda, nitaponaje?
Nimefika njia panda, nilifikaje?
Wanitupa kama ganda, nitahisije?

Nilikuwa mtu kwako, nitupikeje?
Wanigeuza makoko, nieleweje?
Umenita mbwakoko, niitikeje?
Wanipasha unguliko, nipozekeje?

Jamili maungo yangu, wanibezaje?
Kanijaalia Mungu, wapuuzaje?
Kwako kuwa dungudungu, nilianzaje?

Kuiiza sura yangu, umeanzaje?

Nilikupenda kwa dhati, nizidisheje?
Nilitakalo sipati, nikupendeje?
Huba ziso hatihati, zimekufaje?
Mapenzi nazo laity, pamwe yaweje?

Majuzi ukinienzi, unipembeje?
Yakowe mangi mapenzi, yameishaje?
Na hina yangu simanzi, itaishaje?
Nitajitia kitanzi, hata iweje?

Maswali

a. Fafanua kwa kutoa hoja **nne** kutoka kwenye shairi sababu za nafsineni kutaka kujitia kitanzi. **Alama 4**

b. Eleza muundo wa shairi hili. **Alama 4**

c. Fafanua namna mtunzi ametumia uhuru wa kishairi kuwaslisha ujumbe wake**.** **Alama 3**

d. Andika ubeti wa **tatu** kwa lugha nathari. **Alama 4**

e. Eleza aina **tatu** za urudiaji katika shairi hili. **Alama 3**

f. Fafanua toni ya shairi hili. **Alama 1**

g. Bainisha nafsineni katika shairi hili. **Alama 1**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

MATHEMATICS

PAPER 1

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

MATHEMATICS

PAPER 1

2 ½ HOURS

INSTRUCTIONS TO DANDIDATES

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 **STRICTLY FIVE** questions from section II.*
5. *All working and answers must be written on the question paper in the spaces provided below each question.*
6. *Show all the steps in your calculations, giving you're your answers at each stage in the spaces below each question.*
7. *Marks may be awarded for correct working even if the answer is wrong.*
8. *Non-programmable silent electronic calculators and KNEC mathematical tables may be used except where stated otherwise.*

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.

5. Determine the lower and upper limit of each measurement. **(1 mark)**

6. 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 $\left(\frac{x-36}{3}\right)^o$

h) Find angle X^o **(1mk)**

i) 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.

How long will it take train B to catch up with train A? (**3 marks)**

How far from the start were the two trains when they met. **(2 marks)**

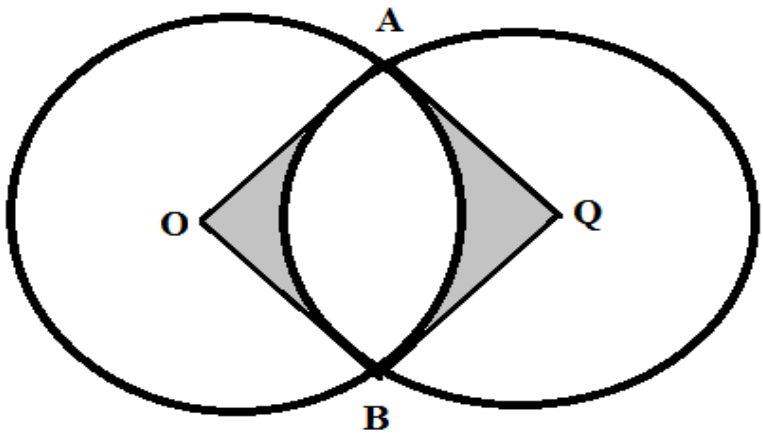
b) A car accelerated from rest to a velocity of 10m/s in 10 seconds. It travelled at this velocity for 20 seconds and then came to a stop in 5 seconds. Find;

The initial acceleration**.** **(2 marks)**

The distance travelled**.** **(2 marks)**

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 reflection along the line y = x to $A^1B^1C^1$

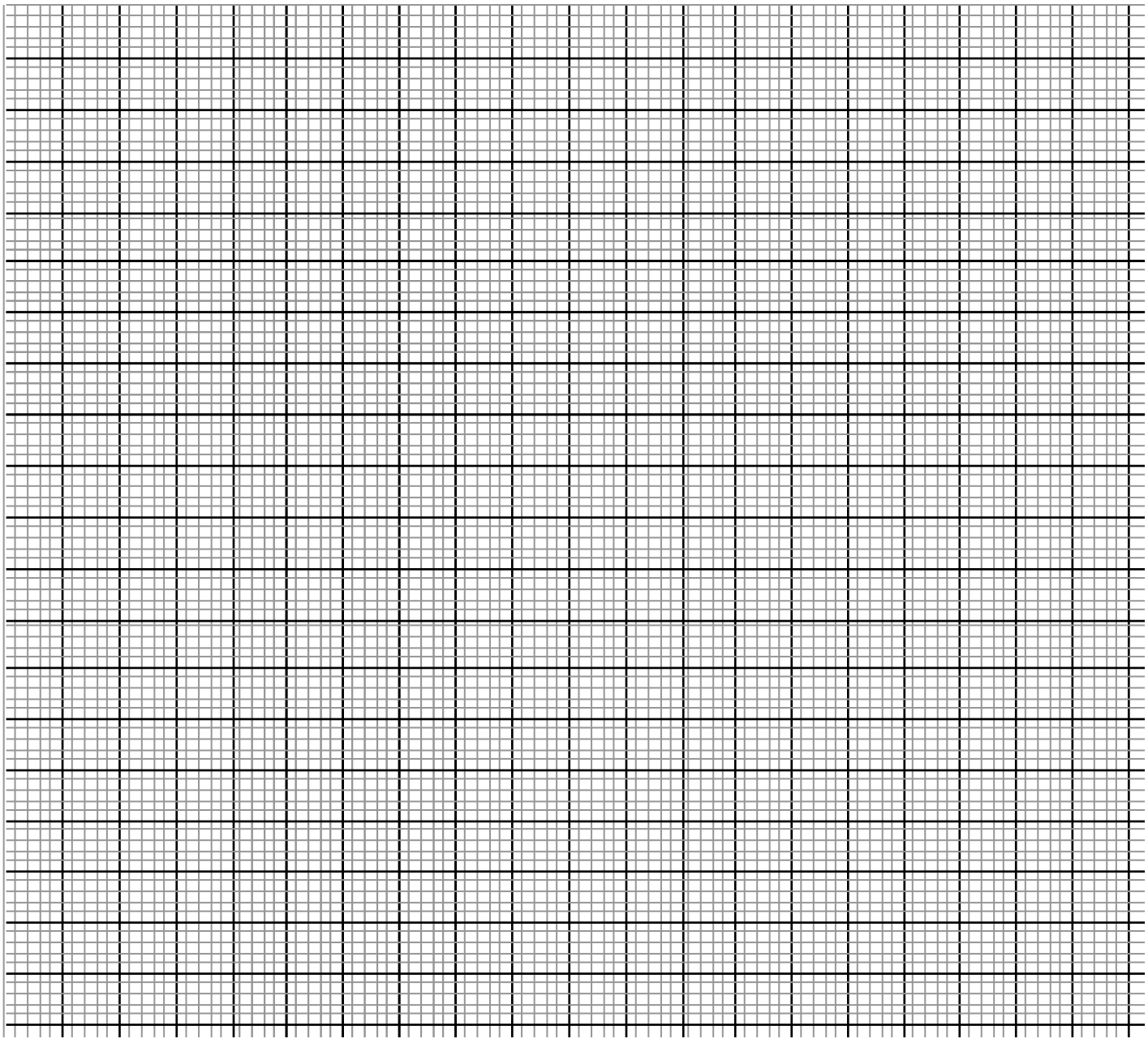
$A^1B^1C^1$ is given a rotation of a positive quarter turn about the origin $A^{11}B^{11}C^{11}$

$A^{11}B^{11}C^{11}$ is given an enlargement of linear scale factor -2 about (1,2) to $A^{111}B^{111}C^{111}$

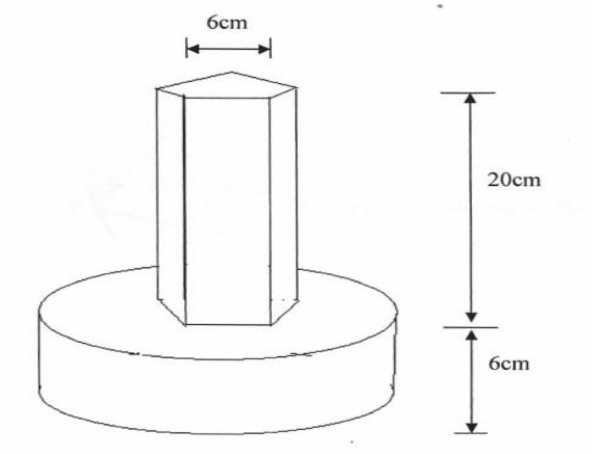
Using the grid provided, plot the triangle ABC and its image $A^1B^1C^1$ **(3mks)**

Locate the image $A^{11}B^{11}C^{11}$ from the grid hence state its co-ordinates. **(3mks)**

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)**

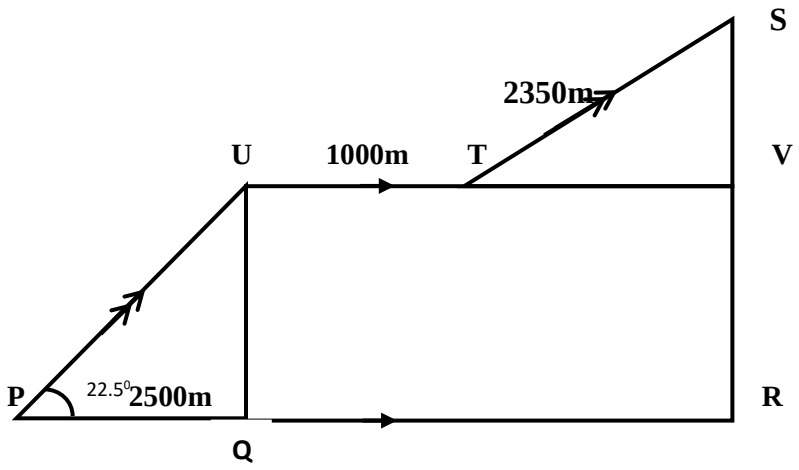
SKETCH **TO SCALE**

(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	
150	210	To D
To F 250	170	150 To C
	50	225 To B
	X	100 To A

1) Use a scale of 1cm to represent 50m to draw the map of the field**.** **(5mks)**

2) Find the area of the field in **hectares** **(5mks)** ***(more working space at back page)***

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

MATHEMATICS

PAPER 2

TIME: 2 ½ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

MATHEMATICS
PAPER 2
2 ½ HOURS

INSTRUCTIONS TO DANDIDATES

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 **STRICTLY FIVE** questions from section II.*
5. *All working and answers must be written on the question paper in the spaces provided below each question.*
6. *Show all the steps in your calculations, giving you're your answers at each stage in the spaces below each question.*
7. *Marks may be awarded for correct working even if the answer is wrong.*
8. *Non-programmable silent electronic calculators and KNEC mathematical tables may be used except where stated otherwise.*

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**

$$\frac{6.373\log 4.948}{\sqrt{0.004636}}$$

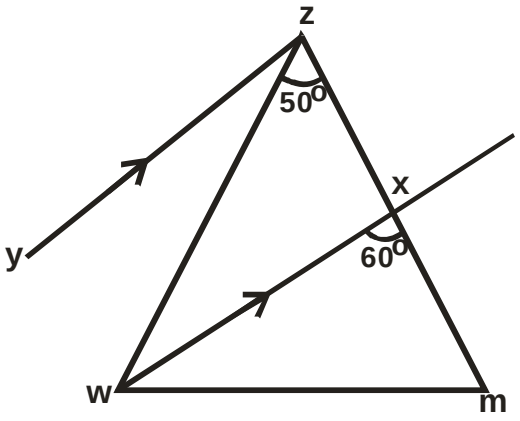
2) Determine the inverse of the matrix $\begin{pmatrix} 4 & 3 \\ 5 & -2 \end{pmatrix}$. Hence find the coordinates of the point at which the two lines $4x - 18 = -3y$ and $5x - 2y = 11$intersect. **(4 marks)**

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° and angle WXM = 60°. 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.

3) 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)**

$$\frac{\sqrt{2}+2\sqrt{5}}{\sqrt{5}-\sqrt{2}}$$

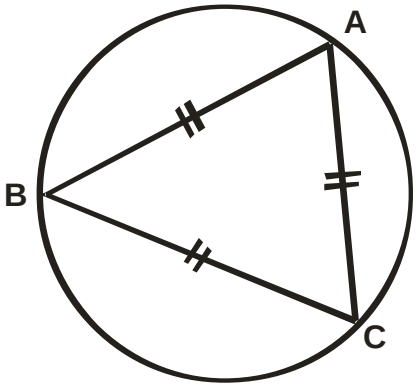
8) Use squares, square roots and reciprocals tables only to evaluate;

$\frac{3}{\sqrt{42.15}} + \frac{4}{(3.152)^2}$ **(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)**

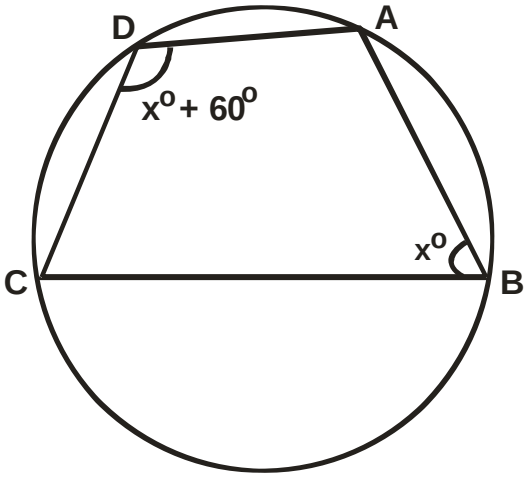
12) A circle of radius 3cm has its centre at (3, −2). Express the equation of the circle in the form $x^2 + y^2 + mx + ny + c = 0$. Where m, n and c are constants. **(3 marks)**

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)**

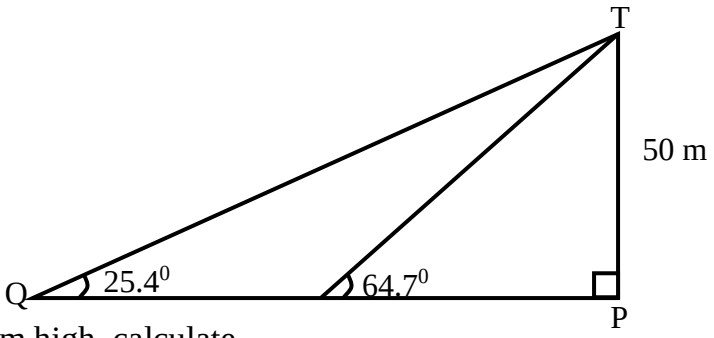
19) Kennedy bought three cows and twenty-five goats spending a total of Sh. 75000. If he had bought two cows and thirty three goats, he would have saved Sh. 5400. Kennedy later sold all his animals at a profit of 40% per cow and 50% per goat.

Determine;

the cost at which he bought each animal. **5 Marks)**

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.



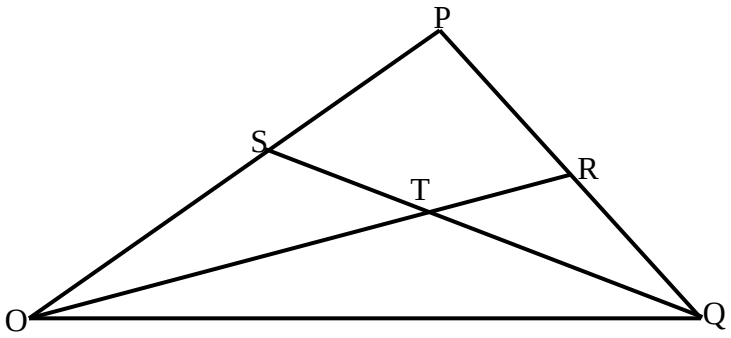
If the cliff is 50m high, calculate

i) The distance PQ **(2 Marks)**

ii) The distance QR **(4 Marks)**

iii) The speed of the boat in km/h **(4 Marks)**

21)



In the figure above, OPQ is a triangle in which OS $= \frac{3}{4}$OP and PR: RQ = 2:1

Line OR and SQ meet at T.

j) Given that OP = $\underset{\sim}{p}$ and OQ = $\underset{\sim}{q}$, express the following vectors in terms of $\underset{\sim}{p}$ and $\underset{\sim}{q}$.

(i) PQ **(1 Mark)**

(ii) OR **(2 Marks)**

(iii) SQ **(1 Mark)**

k) 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.

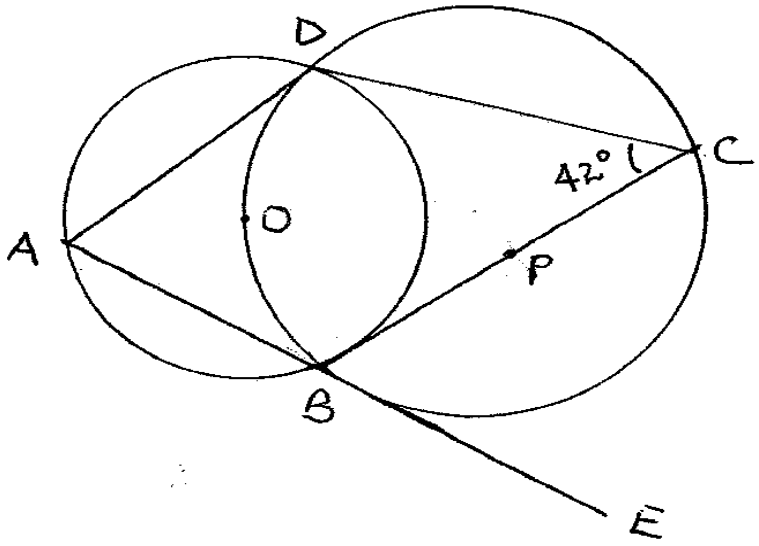
A.	1.5	1.95	2.51	3.20	4.50
B.	1.59	2.51	3.98	6.31	11.5

(a) Find a linear equation connecting A and B **(2 Marks)**

- On the graph paper provided draw a suitable straight line graph to represent the relation in (a) above **(5 Marks)**

- 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 2)

PHYSICS

PAPER 1

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

NAME: ……ADM. NO: .....…CLASS:…

SECTION A (25MARKS)

INSTRUCTIONS.

Answer all the questions in the spaces provided.

1) State the reading shown on the scale of a vernier calipers in the diagram below. **(1mk)**

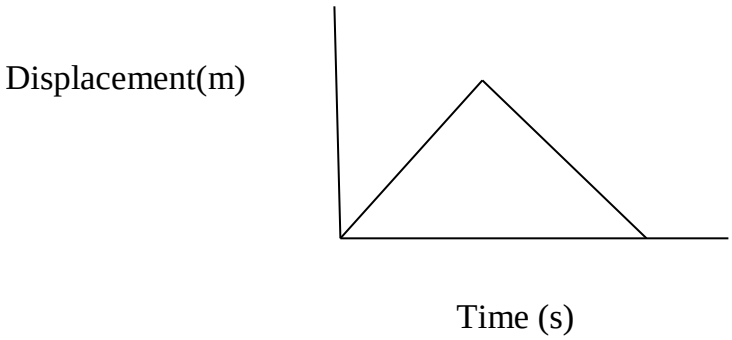


2) State the reason why electricity transmission cables are left sagging between the pylons.

(1mk)

3) The reading on a mercury barometer at the foot of a hill. Density of air = 1.25kg/m^3, density of mercury = 1.36 x 10^4kg/m^3. **(3mks)**

4) The figure below shows the displacement time graph for the motion of an object.



Sketch the velocity time graph for the object. **(2mks)**

5) State two factors that would raise the boiling point of water. **(2mks)**

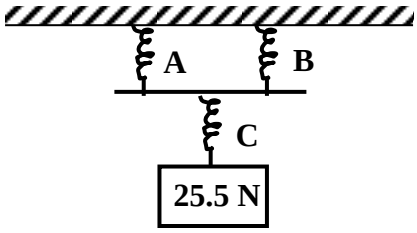
6) The level of water in a burette is $25cm^3$. 40 drops each of volume $0.05cm^3$ are added to the burette, what would be its new reading. **(2mks)**

7) Explain how the efficiency of a vacuum flask us affected if the double-walled glass surface is replaced with a double-walled metal surface. **(2mks)**

8) A body moving at 50m/s decelerates uniformly at $2m/s^2$ until it comes to rest. What distance does it cover from the time it starts to decelerate to the time it comes to rest. **(3mks)**

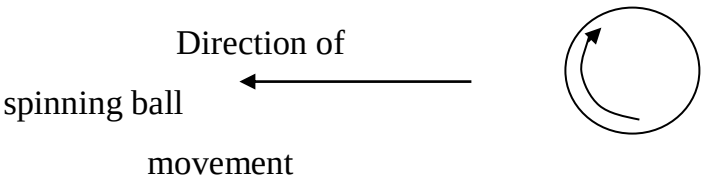
9) Sketch a graph of pressure versus volume for an ideal gas at constant temperature**.** **(3mks)**

10) Three identical springs A, B, and C are used to support 25.5N weight as shown below.
The weight of the horizontal bar is 2.5N, determine the extension on each spring given that 6N causes an extension of 2cm. **(2mks)**



11) State the property of Freon that makes it useful as a refrigerant liquid. **(1mk)**

12) The diagram below shows a spinning ball as it moves through air in the direction shown.



Draw the streamlines of air around the ball and show the direction in which it spins such that an upward force is created. **(2mks)**

13) State the law of conservation of energy. **(1mk)**

SECTION B (55 MARKS)

14) State one renewable source of energy. **(1mk)**

b. An electric crane lifts a load of 2000kg through a vertical distance of 3m in 6 seconds. Determine:

i. The work done. **(2mks)**

ii. The power developed by the crane. **(2mks)**

iii. The efficiency of the crane if operated by an electric meter rated 12.5kw. **(2mks)**

c. A pulley system has two pulleys on the lower block and one pulley on the upper block. Sketch the system showing the direction of the robe, the load and the effort. **(3mks)**

15) Define the term friction. **(1mk)**

b. A spherical steel ball is released from rest just above the surface of a column of oil which is in a long wide tube.

State three forces affecting the movement of the ball as it falls in the oil. **(3mks)**

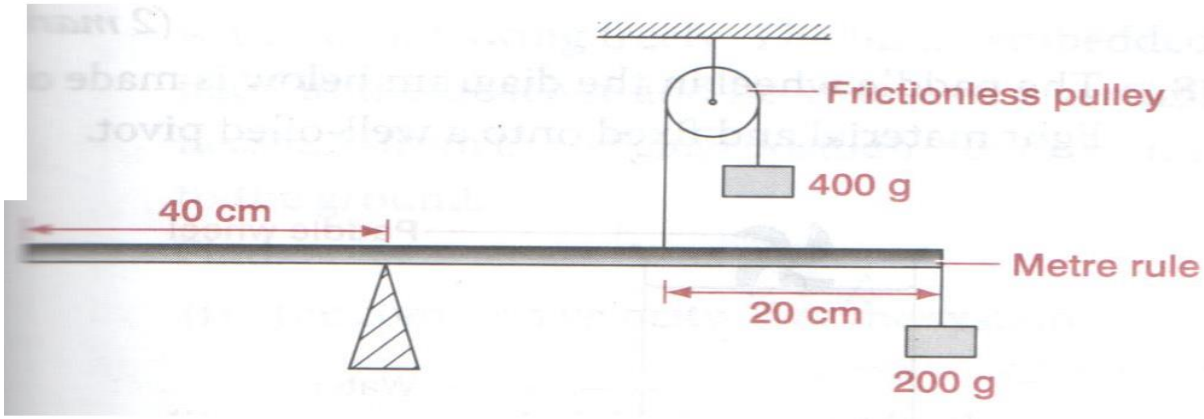
Explain which of the forces in b (i) above varies as the ball falls. **(1mk)**

What is the net force acting on the ball that is moving at terminal velocity? (**1mk)**

Sketch a graph to show the variation of resultant force on the ball with velocity from the moment it was released. **(2mks)**

c. State the principle of movements. **(1mk)**

13. The diagram below shows a uniform metre rule in equilibrium under the forces shown.



14. Determine the weight of the metre rule. **(3mks)**

16) A 4kg mass is receiving heat at a rate of 100KJ per minute and its temperature at various times recorded as follows.

emp (^oC)	230	250	270	270	270	270	310	350	390	390	390
Time t (min)	0	1	2	6	9	13	18	23	28	29	30

a. Plot a graph of temperature against time. **(5mks)**

b. Use you graph to determine:

Specific heat capacity of the substance in solid state. **(3mks)**

Specific heat capacity in its liquid state. **(3mks)**

Its melting point **(1mk)**

Its boiling point **(1mk)**

Specific latent heat of fusion. **(2mks)**

17) In an experiment to demonstrate Brownian motion, smoke was put in a smoke cell and observed under a microscope.

State and explain the observation made. **(2mks)**

Give a reason for using small particles like smoke particles in the experiment**.** **(1mk)**

What observation would be made if the temperature of the smoke cell is raised? **(1mk)**

b. An oil drop of average diameter 0.7mm spreads out into a circular patch of diameter 75cm on the surface of water in a trough.

j) Calculate the thickness of the molecule. **(3mks)**

k) State any two sources of error in b (i) above. **(2mks)**

18) At 30^{o}C , the pressure of a gas is 100cmHg. At what temperature would the pressure of the gas fall by 20cm of mercury. Give the temperature in ^{o}C. **(3mks)**

b. A hole of area 4.0cm^2 at the bottom of a tank 5m deep is closed with a cork. Determine the force on the cork when the tank is filled with water. (g=10m/s^2, density of water = 1000kg/m^3**).(4mks)**

c. A measuring cylinder of height 25cm is filled to a height at 15cm with water and the rest is occupied by kerosene. Determine the pressure acting on its base. (Density of water = 1g/cm^3, density of kerosene = 0.8g/cm^3 atmospheric pressure = 103,000 Pa) **(3mks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

PHYSICS

PAPER 2

TIME: 2 HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

Mathematical tables and silent electronic calculators **may be** used.

The following constants may be used where necessary

Plancks constant, h = 6.63×10^{-34} JS

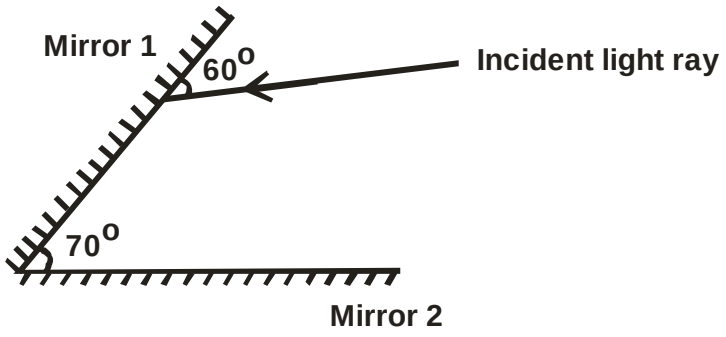
Charge of an electron, e = 1.6×10^{-19} C

1 electron volt (1eV) = 1.6×10^{-19} J

SECTION A (25 MARKS)

Answer ALL the questions in this section in the spaces provided

1) The figure below shows a ray of light incident on the surface of one plane mirror.

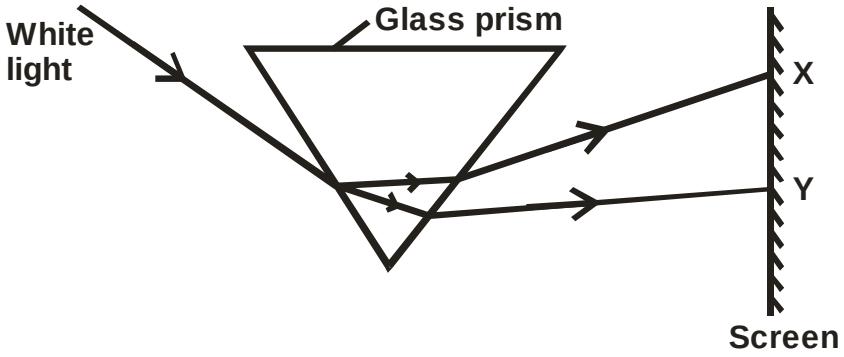


Sketch the path of the ray on the diagram after striking mirror 2 indicating all the angles. **(2 marks)**

2) Explain why eight dry cells of 1.5V each arranged in series to give a total e.m.f of 12.0V cannot be used to start a car just like a lead-acid accumulator. **(2 marks)**

3) When a candle flame is brought near the cap of a charged electroscope, the electroscope discharges. Explain this observation. **(2 marks)**

4) The figure below shows an experiment set up used to illustrate dispersion of white light.



Identify the colours X and Y. **(1 mark)**

X _____

Y _____

What physical property changes for the colours when they enter the prism? **(1 mark)**

Diffraction is not a common phenomenon in light. Explain why. **(1 mark)**

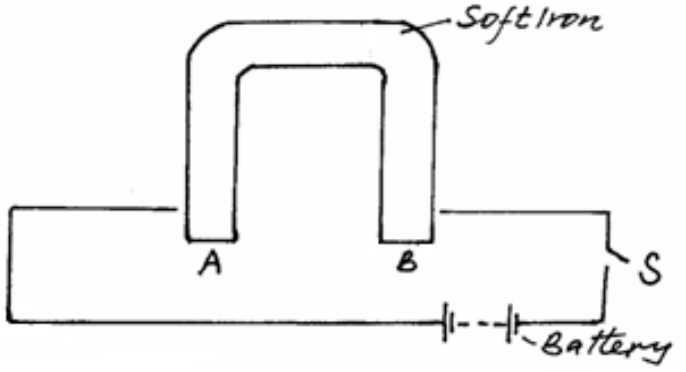
Apart from temperature, state any **one** other factor which affects the resistance of a metallic conductor. **(1 mark)**

5) a) Define the term capacitor**.** **(1 mark)**

Two plates of a parallel-plate capacitor are 0.6 mm apart and each has an area of 4 cm^2.Given that the potential difference between the plates is 100 V, calculate the charge stored in the capacitor. (Take ($E_o = 8.85 * 10^{-12} * Fm^{-1}$**)** **(3mks)**

6) A current of 0.8A flows through an electric circuit. Determine the quantity of charge that passes a point in the circuit in 6 minutes. **(2 marks)**

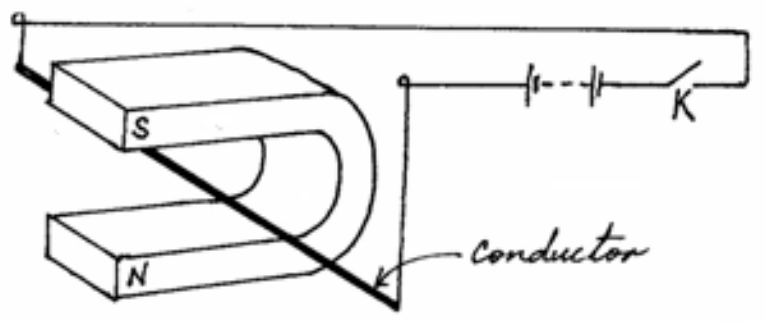
7) The figure below shows an incomplete circuit of an electromagnet.



Complete the circuit by drawing the windings on the two arms of the core so that A and B are both north poles when the switch S is closed. Indicate the direction of the current of the windings drawn. **(1 mark)**

8) A girl standing 120m away from a tall building claps her hands and hears an echo 0.75s later . Determine the speed of sound in air at this place. **(3 marks)**

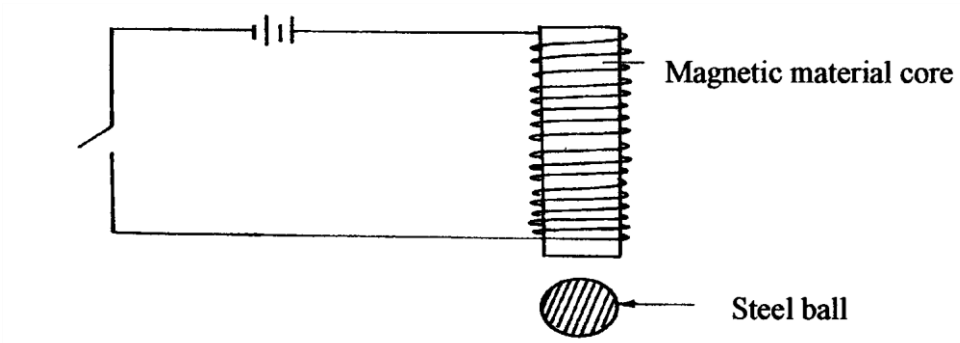
9) The figure below shows a thick copper conductor placed between two poles of a strong magnet. The wire is free to swing in between the poles.



Indicate on the same diagram the direction in which the conductor swings when the switch K is closed. **(1 mark)**

State one change that can be made on the set up so that the direction of swing of the conductor is reversed. **(1 mark)**

10) The set up in figure 4 below can be used in a laboratory for lifting and releasing a steel ball.



i) State the material which is suitable for use in the core. **(1mark)**

If a slightly larger ball is to be lifted, it is necessary to make an electromagnet stronger.

Name **two** ways of increasing the strength of the magnet. **(2 marks)**

SECTION B (55 MARKS)

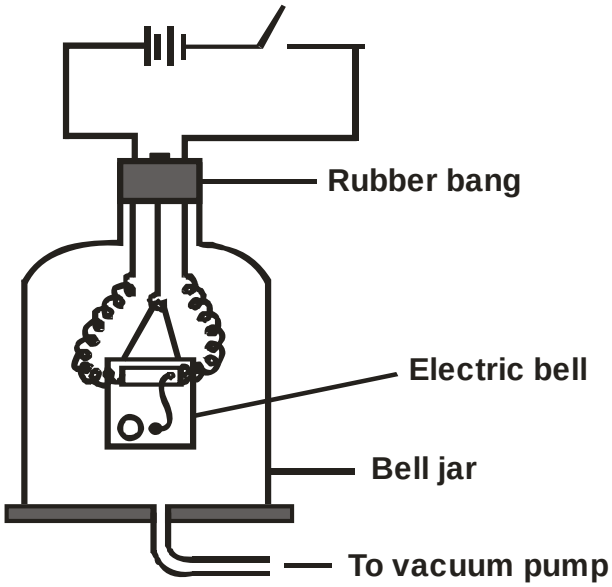
Answer ALL the questions in this section in the spaces provided.

11)a) Sound is a mechanical longitudinal wave. Explain why sound is classified as;

A mechanical wave. **(1 mark)**

A longitudinal wave. **(1 mark)**

b) The diagram below shows a set up that was used to demonstrate that, sound is a mechanical wave.



i) State the function of the vacuum pump. **(1 mark)**

ii) When the switch is closed, state and explain what happens as the air is continuously drawn from the bell jar. **(3 marks)**

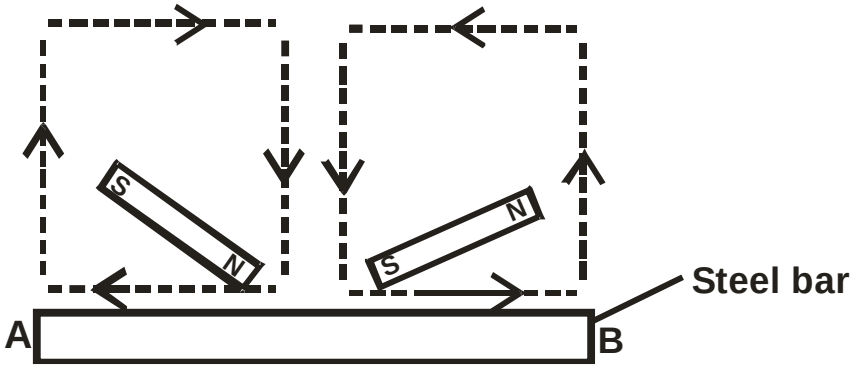
(iii) State **two** possible reasons why it is not possible to reduce the sound completely in this experiment. **(2 marks)**

c) A fishing boat uses ultrasound of frequency 6.0×10^4Hz to detect fish directly below. Two echoes of the ultrasound are received, one after 0.09 seconds coming from the shoal of fish and the other after 0.12 seconds coming from the sea bed. The sea bed is 84m below the ultrasound transceiver.

i) State **two** reasons why ultrasound is preferred. **(2 marks)**

ii) Calculate the speed of the ultrasound waves in water. **(2 marks)**

12)a) The figure below shows a method of magnetization used in making magnets.



i) Name the method. **(1 mark)**

ii) Identify the polarities A and B of the magnet produced. **(2 marks)**

A _____

B _____

iii) Apart from this method, state any other method used in magnetization. **(1 mark)**

b) In demagnetization by electrical method:

i) State the type of current used. **(1 mark)**

ii) Explain your answer in (i) above. **(2 marks)**

(b) Explain why when demagnetizing a magnet, the magnet should be held in the East-West direction. **(2mrks)**

13)(a) Define the following **terms** **(3 mks)**

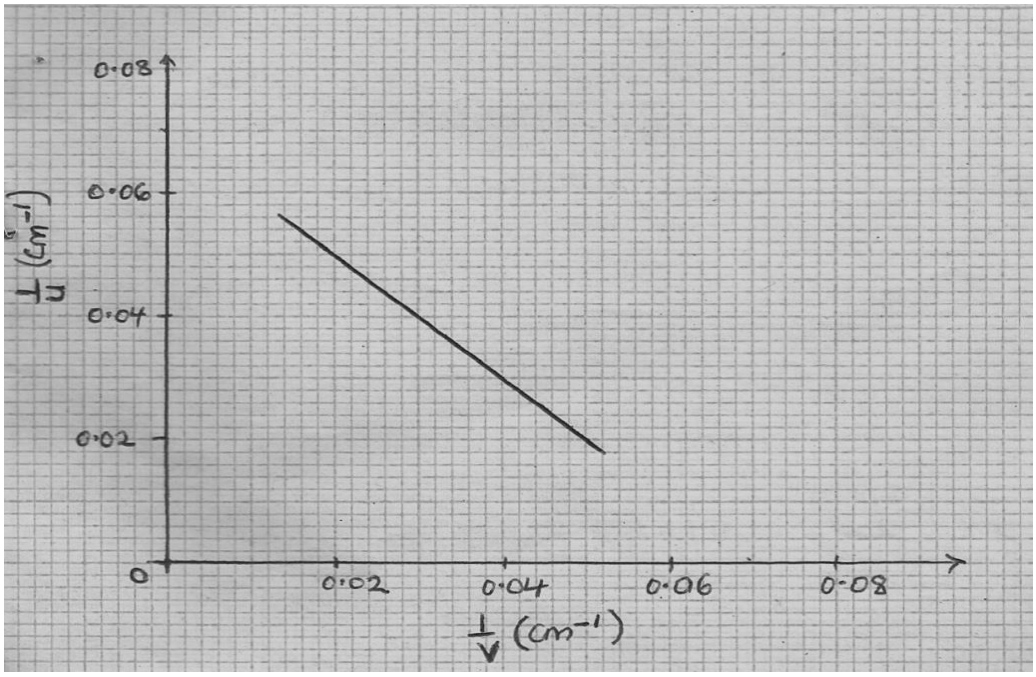
Principal focus

Centre of curvature

Focal plane

(b)) An object is placed 18 cm in front of a concave mirror of focal length 12 cm. Determine the position and nature of the image formed **(3mks)**

- The graph below shows variation of $\frac{I}{u}$ (cm $^{-1}$) with $\frac{I}{v}$ (cm $^{-1}$) for an object placed infront of a concave mirror

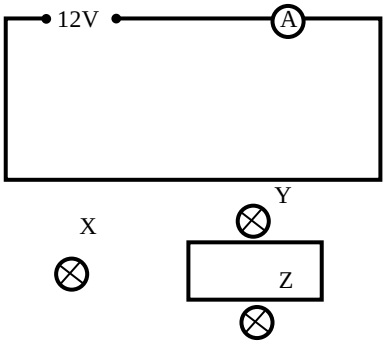


From the graph,

Determine the focal of the mirror. **(2mks)**

Determine the image distance when the object is 20cm from the mirror. **(2mks)**

14) (a) The figure below shows how a student set up a circuit using 3 identical bulbs X, Y and Z each rated "12V, 2.0A"



(i) When operating normally, calculate the resistance of one of the bulbs **(2 Marks)**

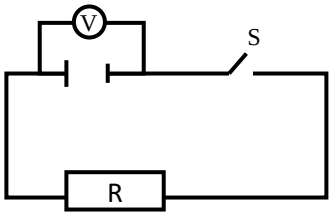
(ii) Calculate the effective resistance of the three bulbs. **(2 Marks)**

(iii) What will be reading of the ammeter? **(2 Marks)**

(iv) Draw a circuit diagram showing the three bulbs connected in such a way that they would all work at the same brightness especially if they are not identical. **(2 Marks)**

(b) When the switch S is kept open in the circuit shown below the voltmeter reads 1.5V. When the switch

is closed, the readings drops to 21.3V and the current through the resistor is 0.5A.



(i) What is the e.m.f of the cell? **(2 Marks)**

(ii) What the terminal voltage of the cell? **(1 Mark)**

(iii) Calculate the value of R. **(3 Marks)**

17. a) Sketch a graph of displacement against time for a transverse wave of frequency of 50Hz of at least two cycles with amplitude 2cm. **(4marks)**

b) Distinguish electromagnetic waves and mechanical waves **(2marks)**

……

……

……

c) A pulse-echo sounder is used by fishing boat to locate a shoal of fish in water. The sounder sends sound of frequency 21KHz and wavelength of 7.5cm. if the echo is received after 0.4seconds, determine how far the shoal of fish is from the base of the boat**.** **(4marks)**

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

PHYSICS

PAPER 3

CONFIDENTIAL

1. Each candidate require the following:
   - ✓ A resistance wire mounted on a mm scale.(Nichrome wire SWG 32)
   - ✓ Two dry cells in a cell holder.
   - ✓ A voltmeter.(0-5v)
   - ✓ Four connecting wires, one with a crocodile clip at one end.

2. Each candidate requires the following:
   - ✓ Two retort stands each with a boss and clamp.
   - ✓ A metre rule.
   - ✓ A pendulum bob.
   - ✓ A stop watch.
   - ✓ A cotton thread (100cm long)
   - ✓ Two pieces of wood.

FORM 4 MIDTERM 1 EXAMS

(SERIES 2)

PHYSICS

PAPER 3

TIME: 2 ¼ HOURS

NAME…… ADM NO……

SIGN…… DATE;……

INSTRUCTIONS TO CANDIDATES

- Write **your name** and **index number** in the spaces provided
- Answer **ALL** the questions in the spaces provided in the question paper.
- You are supposed to spend the first 15 minutes of the 2 ¼ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Marks are given for clear record of observations made, their suitability, accuracy and the use made of them.
- Candidates are advised to record their observations as soon as they are made.
- **Non-programmable** silent electronic calculators and KNEC mathematical table may be used.
- This paper consists of 6 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	20	
2	20	
TOTAL	40	

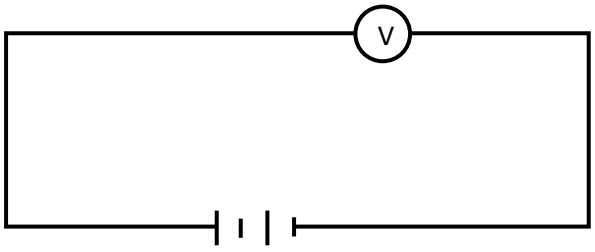
1. You are provided with the following:

- ✓ A resistance wire mounted on mm scale.
- ✓ Two dry cells in a cell holder.
- ✓ A voltmeter.
- ✓ Four connecting wires, one with a crocodile clip at one end.

Proceed as follows:

a) Set –up the circuit as in the figure 1 below and determine the total electromotive force E of the cells.

Fig 1

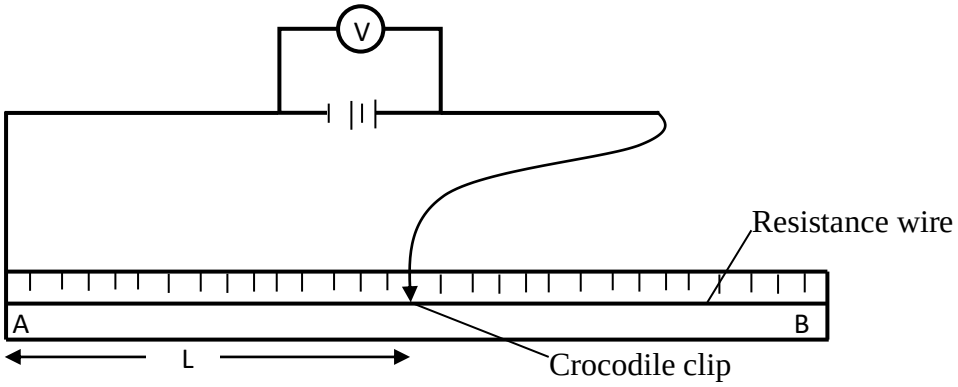


e.m.f of cells, E=_____ volts .

(1mark)

b) Set up the circuit shown in fig. 2 below, connect the wire with clip on the mounted wire at the length, L, of 10cm, from the end marked A. Record the voltmeter reading in the table provided in part C below.

Fig 2

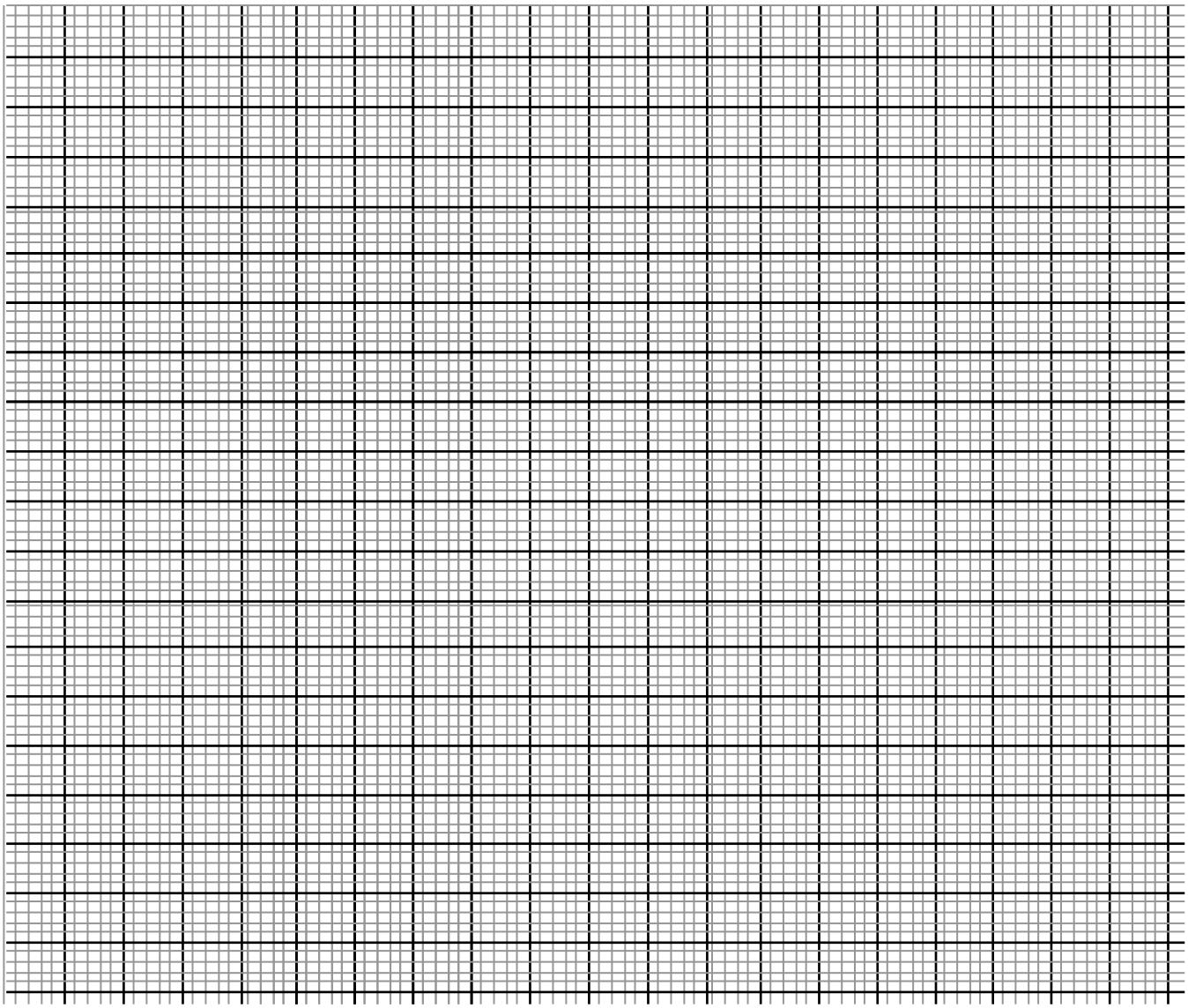


c) Repeat the procedure in (b) above for the following values of length, L =20cm, 30cm, 40cm, 50cm, and 60cm. Complete the table 1 below. **(7marks)**

Table 1

L (cm)	Voltmeter reading V (V)	E- V(V)	$\frac{V}{E-V}$
10 20 30 40 50 60			

d) Plot a graph of $\frac{V}{E-V}$ against L (cm). **(5marks)**



e) Determine the slope of the graph. **2mks**

f) Given that, $\frac{V}{E-V} = K_1 L_1 + K_2$

determine the values of K_1 and K_2. **(3 Marks)**

g) Given that $4K_2r = 10$, where r is the internal resistance of the cell. Determine the value of r.

(2marks)

QUESTION 2

You are provided with the following:

Two retort stands each with a boss and clamp.

- ✓ A meter rule.
- ✓ A pendulum bob.
- ✓ A stop watch.
- ✓ A cotton thread 100cm long.
- ✓ Two pieces of wood.

Proceed as follows:

a) Use two pieces of wood on each clamp to hold the cotton thread on both of its ends as shown in figure 2(a).

b) Adjust the thread so that the distance x between points A and B is 100cm and then tighten the clamp to make a

firm grip.

c) Move the stands close to each other so that the distance x reduces to 90cm hence suspend the pendulum bob at the

center of the now sagging cotton thread as in fig.2(b).

d) Displace the bob sideways slightly and then release it so that it makes small oscillations in a direction perpendicular

to a vertical plane through AB.

e) Repeat the procedure b, c and d, for values of x indicated on the table and complete the table.

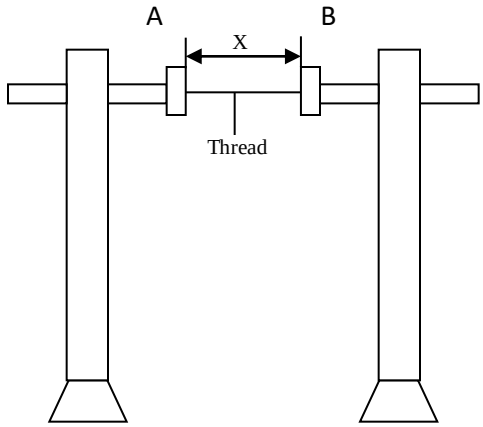


Figure 2 (a)

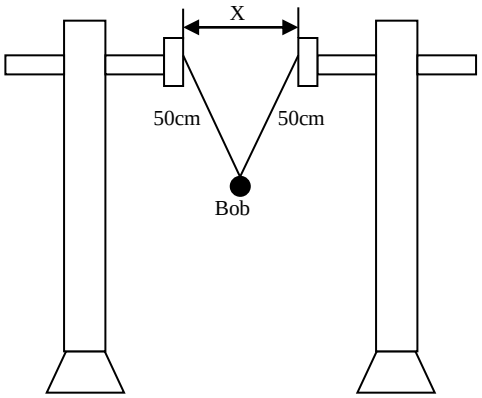


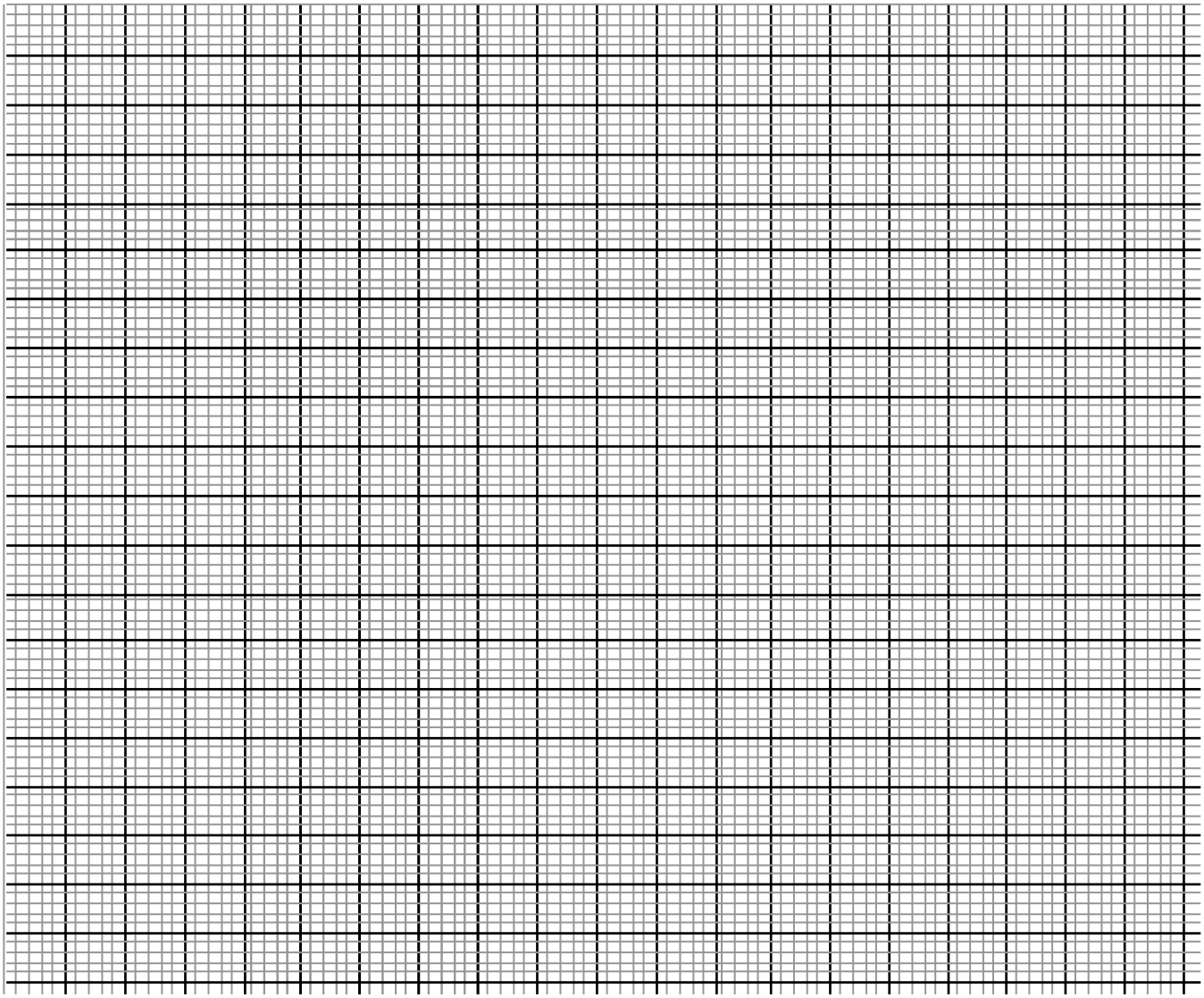
Figure 2 (b)

Table 2

Distance x(cm)	90	80	70	60	50	40
Time for 10 oscillations t(s)						
Period T=$\frac{t}{10}$(s)						
T^4 (S^4)						
X^2($cm^{2)}$						

(10marks)

f) Use the grid provided to plot a graph of T^4(vertical axis) against $X^{2.}$ **(5marks)**



g)The relation between T and X is that $T^4 = nx^2 + m$ where n and m are constants. Use your graph to determine:

i) n **(3marks)**

ii) m **(2marks)**

THE END

FOR THE FOLLOWING;

- ✓ ONLINE TUITION
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- ✓ KCSE TOPICALS
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- ✓ TOP SCHOOLS PREMOCKS
- ✓ JOINT PREMOCKS
- ✓ KCSE MOCKS
- ✓ TOP SCHOOLS MOCKS
- ✓ JOINT MOCKS
- ✓ KCSE POSTMOCKS
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