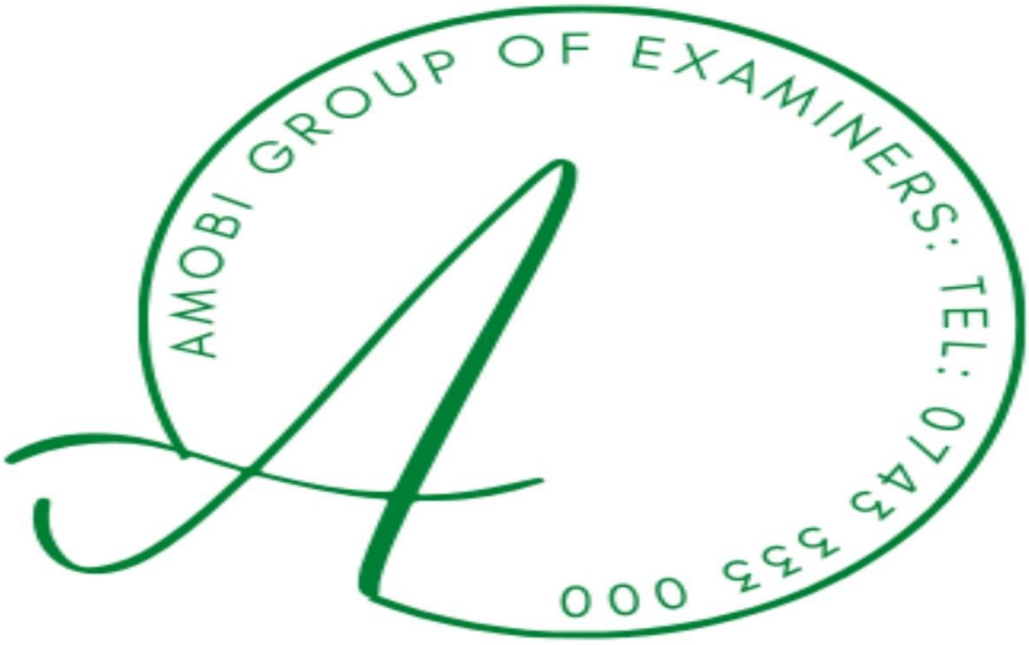
BRILLIANT STUDENTS FORM 3 END TERM 3 SERIES 2 EXAMS *(ALL SUBJECTS TESTED)*



BRILLIANT STUDENTS FORM 3 END TERM 3 SERIES 2 EXAMS

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ORDER OF THE 11 SUBJECTS TESTED

(ALPHABETICALLY ARRANGED)

1. **AGRICULTURE**
2. **BIOLOGY**
3. **BUSINESS STUDIES**
4. **CHEMISTRY**
5. **C.R.E**
6. **ENGLISH**
7. **GEOGRAPHY**
8. **HISTORY**
9. **KISWAHILI**
10. **MATHS**
11. **PHYSCIS**

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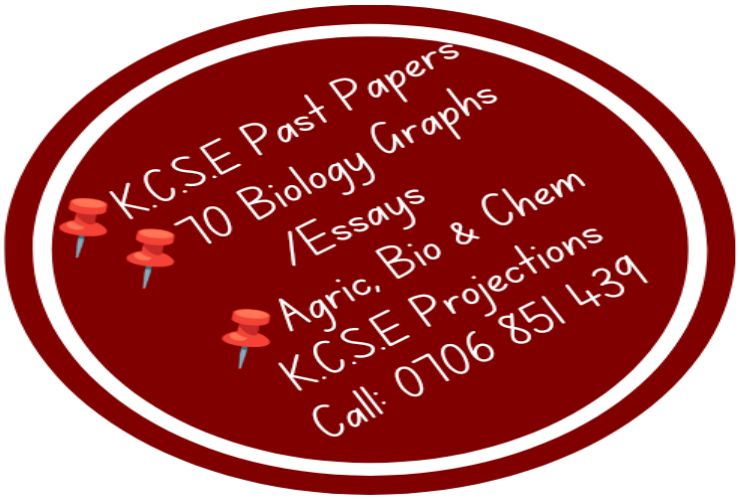
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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

443/1

AGRICULTURE

TIME:2 HOURS

INSTRUCTIONS TO CANDIDATES.

- *Write your name and admission number in the spaces provided.*
- *Answer all questions in the spaces provided.*
- *This question paper consists of three sections A, B and C.*
- *Answer all the questions in sections A and B any two questions from section c.*
- *Answers should be written in the spaces provided.*

For Examiner's use only

Section	Question	Maximum score	Candidate,s score
A	1-24	30	
B	25-28	20	
		20	
		20	
	Total score	90	

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

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SECTION A*(Answer all the questions)*

1.Define the term Agriculture. **1mk**

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2.Give the meaning of the following terms as used in Agricultural Production. **1½mks**

i. Olericulture

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ii. Pomoculture

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iii. Floriculture

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3.State **four** advantages of mixed farming. **2mks**

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4. State **four** importance of Agriculture. **2mks**

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5.Give **four** ways in which Health influence Agricultural production. **2mks**

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6.State **three** negative effects of wind in crop production. **1½mks**

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7. State **four** aspects of rainfall that influence agricultural production. **2mks**

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8.Differentiate between the following terms. **3mks**

i. Soil in "situ" and soil in deposition.

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ii. Soil structure and soil texture

……

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iii. Mixed cropping and mixed farming.

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9.Give **two** reasons why burning is discouraged as a method of clearing land **(1mk)**

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10. State **three** tertially operations that are carried out in the farm. **1½mks**

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11. Give **three** importance of carrying out minimum tillage **1½mks**

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12. State **four** importance of drainage in Agriculture **2mks**

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13. Give **three** reasons as to why green manure is not commonly used. **1½mks**

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14. State **three** basic concept of economics. **1½mks**

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15. State **four** roles of Nitrogen in plants. **2mks**

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16. Outline **three** characteristics of Nitrogenous fertilizers. **1½mks**

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17. State **three** importances of testing soil. **1½mks**

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18. Give **two** areas to be avoided when carrying out soil sampling. **1mk**

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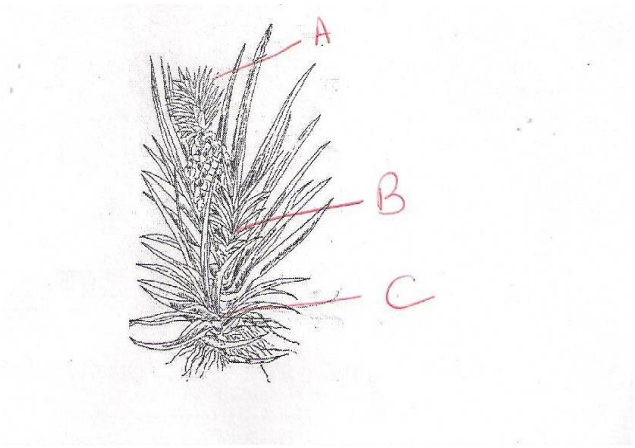
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SECTION B(*Answer all the questions in this section)*

19. The following is a diagram of a certain crop. Study it carefully and answer the questions that follow.



I. Identify the crop …….. **1mk**

II. Label the parts labeled A ,B and C. **1½mks**

A: ……

B: ……

C: ……

III. Why is the part labeled A more preferred when propagating the above crop. **1mk**

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IV. State **four** factors to be considered when selecting materials for planting. **2mks**

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V. State **four** factors which determine the depth of planting. **2mks**

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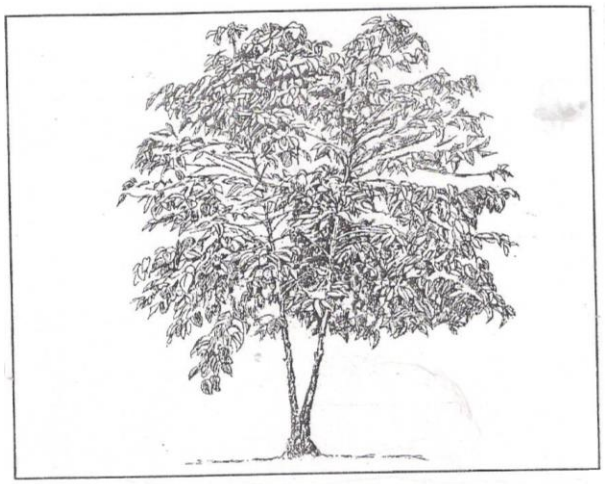
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20. The following is a pruned crop. Study it carefully and answer the questions that follows.



i. Identify the method of pruning. **1mk**

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ii. Give **four** disadvantages of using the above method of pruning. **2mks**

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iii. Apart from the above give any other method of pruning coffee. **1mk**

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iv. State **four** factors which determine the time of harvesting crops. **2mks**

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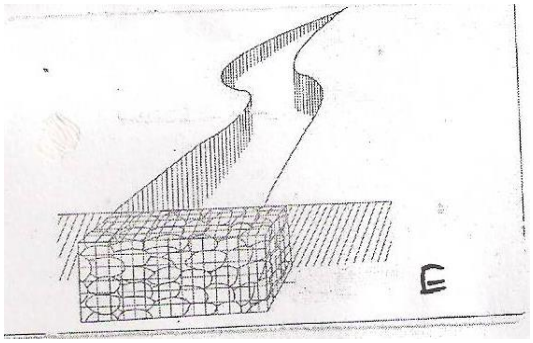
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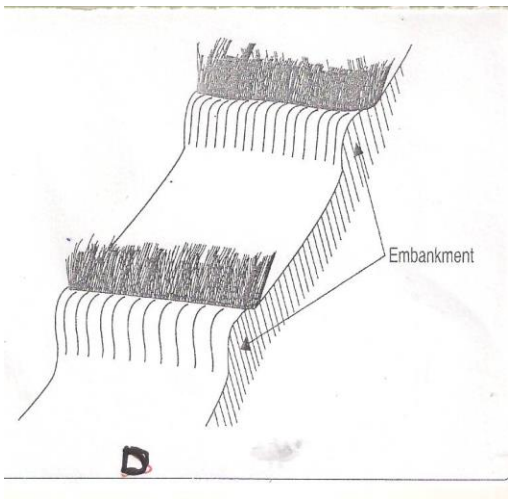
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21. The following are soil erosion control structures .Study the diagrams and answer the questions that follows.





i. Identify the structures **2mks**

D: ……

E: ……..

ii. Give **two** ways in which structure E will control soil erosion. **1mks**

……

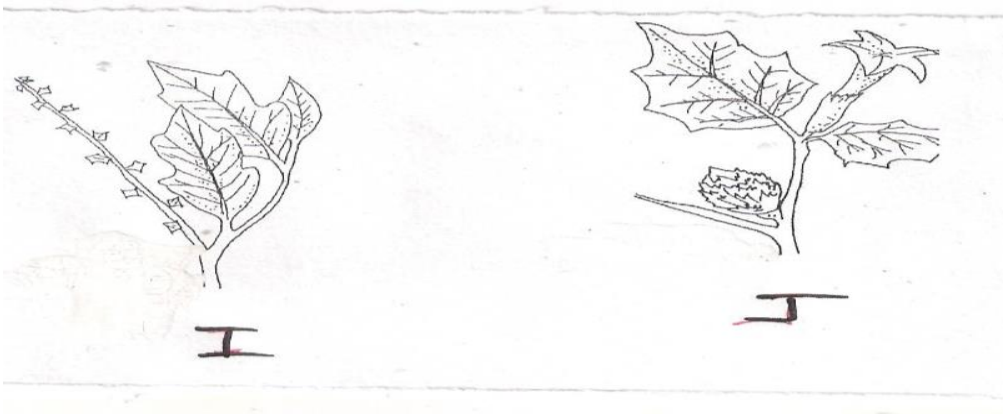
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22. The following are diagrams of common weeds in Kenya.



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i. Identify the above weeds. **2mks**

G: …….

H: …….

I: ……

J: ……..

ii. What is the economic importance of weed **1½mks**

G

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I

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J

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SECTION C.

(Answer any TWO questions in this section.)

23. Describe the tomato production under the following the heading.

a. Ecological requirement **3mks**

b. Transplanting **5mks**

c. Field practices **5mks**

d. Diseases and their control. **4mks**

e. Harvesting **3mks**

24. **(a)** Describe the nursery management practices. **6mks**

(b) Outline **five** objectives of land reform. **5mks**

(c) State and explain **five** factors which determine the effectiveness of a herbicide. **5mks**

(d) State **four** precaution measures that one should take when using any chemical in the farm. **4mks**

25. **(a)** State **five** advantages of landlordism and tenancy system of land tenure. **5mks**

(b) State and explain **five** factors which determine the spacing of any crop. **5mks**

(c) State and explain **five** cultural methods of controlling soil erosion. **(10mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

443/2
AGRICULTURE
PAPER 2
Time 2 Hours

INSTRUCTIONS TO CANDIDATES

(a) Write your name and index number in the spaces provided

(b) Sign and write the date of examination in the spaces provided

(c) This paper consists of three sections A, B and C.

(d) Answer all questions in section A and B.

(e) Answer any two questions in section C

(f) All the questions should be answered in the spaces provided

(g) Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

Section	Question	Max Score	Candidates Score
A	1-17	30	
B	18-21	20	
C	22	20	
	23	20	
	24	20	
	Total		

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SECTION A (30MKS)

1.Name the two types of bees **(1mk)**

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2.Define the following terms as used in livestock production **(1 ½ mks)**

a) Dehorning

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b) Culling

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c) Parturition

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3.State four reasons why a farmer should strive to keep livestock healthy **(2mks)**

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4.Outline the effects of parasites on their hosts **(3mks)**

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5.Give two importances of water in an animal's body **(1mk)**

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6.Give two examples of equipments that a livestock farmer can use in administering oral antihelminthes **(1mk)**

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7.Differentiate between flushing and steaming up. **(1mk)**

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8. (a) Name a dual purpose cattle breed reared in Kenya **(½mk)**

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(b) Outline four general characteristics of indigenous cattle breed **(2mks)**

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9.Name four breeds of dairy goats **(2mks)**

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10. State four ways of controlling tse tse flies **(2mks)**

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11. List the methods of selection in livestock **(1½ mks)**

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12. Give three types of bees found in a colony **(1½ mks)**

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13. List three advantages of hoof trimming in sheep production **(1½ mks)**

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14. State two uses of a foot bath in cattle dip **(1mk)**

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15. State six routes through which disease causing organisms can enter into an animal's body **(3mks)**

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16. (a) State three characteristics of succulent roughages **(1½ mks)**

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(b) Name two types of concentrates **(1mk)**

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17. State, four features of a good calf-pen **(2mks)**

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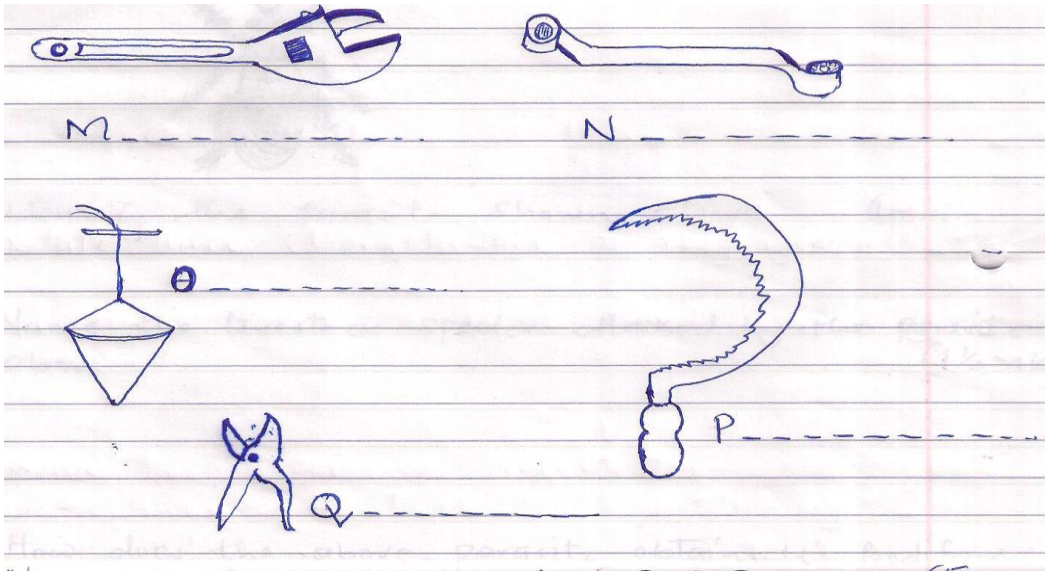
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SECTION B (30MKS)

18. (a) Below are farm tools, study them and answer the questions that follows:-



(i) Name the tools labeled M, N, O, P Q **(2mks)**

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(ii) Give one functional advantage of tool M over N **(1mk)**

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(iii) State the uses of each tool named in (i) above **(2½ mks)**

M…….. -

N-……

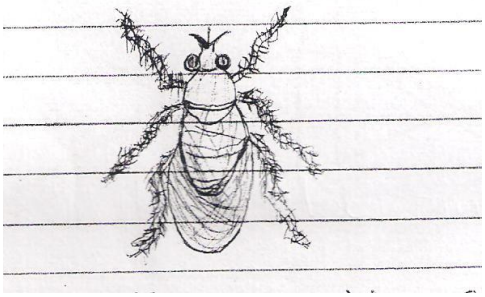
O-……

P…….. -

Q-……

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19. Study the diagram below and then answer the questions that follows:-



a) Identify the parasite shown above **(1mk)**

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b) Name the livestock species attacked by the parasite above **(1½ mks)**

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c) How does the above parasite obtain it's food from the host? **(1mk)**

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d) What are the harmful effects of the parasite you have mentioned in (a) above? **(2mks)**

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e) How would a farmer control the above parasite **(2mks)**

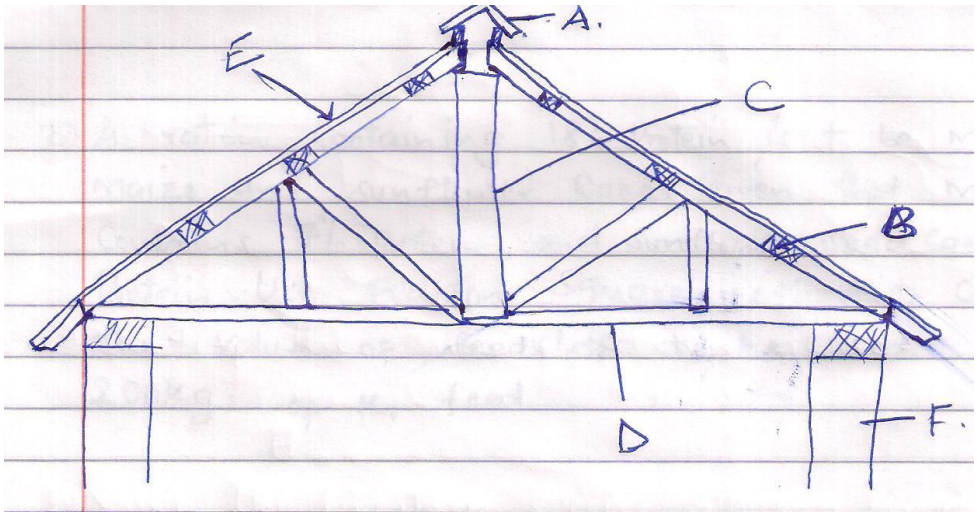
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20. Study the illustrations of a farm structure below and answer the questions that follows:

(i) Name the parts labeled A, B, C, D **(4mks)**

A -……

B -……

C -……

D - ……

(ii) State the function of the part labeled E **(1mk)**

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(iii) State three maintenance practices carried out on the roof of a farm structure **(3mks)**

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SECTION C (40MKS)

Answer any two questions in section C

21. **(a)** Outline the importances of fences in the farm. **(10mks)**

(b) Give two methods used for ration computation **(2mks)**

(c) A ration containing 18% protein is to be made from maize and sunflower cake. Given that maize contains 7% protein, and sunflower seed cake 34% protein. Use pearson square method to calculate the value of feedstuffs to be used to prepare 200Kgs of the feed. **(3mks)**

d Give five differences between digestion of a ruminant and a non-ruminant animal

22. (a) Outline the life cycle of a three host tick **(10mks)**

(b) State five effects of tick to livestocks **(5mks)**

(c) Howe can a farmer control ticks in livestock production? **(5mks)**

23. (a) Explain five factors considered when selecting a breeding stock **(10mk)**

(b) With a well labeled diagram, describe egg formation in a hen **(10mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

231/1

BIOLOGY PAPER 1

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO STUDENTS:

1.Write your name and admission number in the spaces provided.

2. Answer all the questions in this paper in the spaces provided.

3.Additional pages must not be inserted.

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QUESTION	MAXIMUM SCORE	STUDENT'S SCORE
1-27	80	

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1.Name the organelle which:

a.Forms ribosomes **(1mk)**

……

……

b. Synthesises energy **(1mk)**

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……

c.Contains enzymes that destroy worn – out organelles and cells. **(1mk)**

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2.Name the process by which amoeba and white blood cells obtain food. **(1mk)**

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3.State how blood volume may be brought back to normal. **(3mks)**

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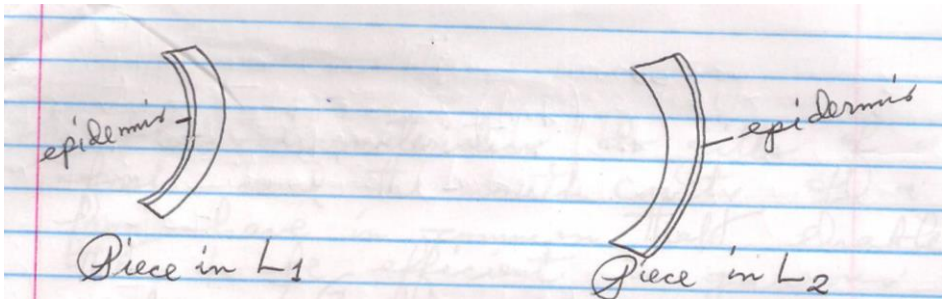
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4.A freshly obtained dandelion stem measuring 5cm long was split length – wise to obtain two similar pieces.

The pieces were placed in solutions of different concentrations in Petri dishes for 20 minutes.

The appearance after 20 minutes is as follows:



Account for the appearance of the pieces in solutions L_1 and L_2. 6mks

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5.Explain how plants that grow below the surface of water in a lake are adapted for photosynthesis. **(2mks)**

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6.Give a reason why two species in an ecosystem cannot occupy the same niche. **(2mks)**

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7. (a) What characteristics do gills of a fish and the mouth cavity of a frog have in common that enable them to be efficient in gaseous exchange. **(3mks)**

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(b) Describe the changes that occurs in the rib-cage and diaphragm during inspiration. **(3mks)**

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8. (a) explain what would happen if blood from a person who is A+ was transfused into a person who is A-. **(2mks)**

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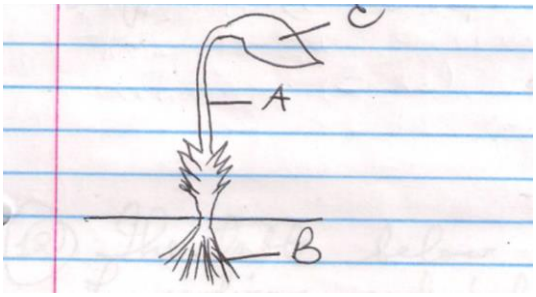
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(b)Name the chemical substance that helps blood to naturally remain fluid in the blood vessels. **(1mk)**

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9.The figure below represents a plant



a. State the division it belongs to **(1mk)**

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b. Label the parts A,B and C. **(3mks)**

A: -……..

B: -……

C: -…….

c. State the function of the part labeled C **(1mk)**

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10. Name the hormones involved in blood sugar regulation. **(2mks)**

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11. Mammals cannot digest cellulose because they do not secrete enzyme cellulase and yet herbivores depend mainly on grass for carbohydrates. Explain. **(2mks)**

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12. The table below shows the concentrations of sodium and iodine ions in sea water and cell sap of a plant.

	Sodium ion concentration	Iodine ion concentration
Sea Water	250	35
Cell sap	100	550

a.(i) Name the process through which plant cells take up sodium ions **(1mk)**

……

……

(ii) Give a reason for your answer in (a) (i) above. **(1mk)**

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b.If the plant was sprayed with a chemical that inhibits respiration:

i. Which of the two ions uptake will be affected? **1mk**

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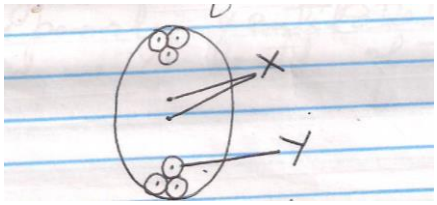
ii. Give a reason for your answer in (b) (i) above. **1mk**

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13. The diagram below represents a mature embryo sac. Study it carefully and answer the questions that follow



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a. Identify the structures labeled x and y.

X:-…….

Y:-…….

b. State what is formed when x and y are fertilized. **(2mks)**

x-……..

y-……..

c. Why is cross- pollination more advantageous than self-pollination? **(2mks)**

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14. (a) Give two reasons why fats are not a preferred respiratory substrate in organelles. **(2mks)**

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(b) State two reasons why respiratory quotient (RQ) is important in organisms. **(2mks)**

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15. Why is a burning charcoal stove in a poorly ventilated room likely to cause death of the inhabitants. **(3mks)**

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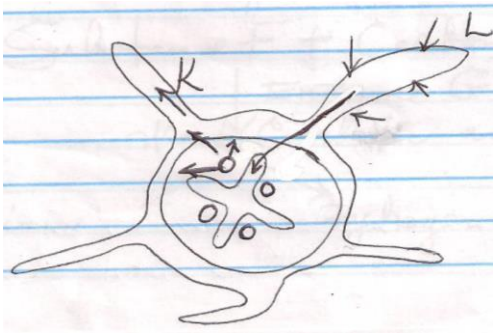
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16. Below is an illustration of a cross section of a plant root showing the transportation of substances in the plant.



a. Name the substances transported along the paths labeled k and L.

K-…….

L-…….

b. Give a reason for your answer in L above. **(1mk)**

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17. (a) name the process in which water molecules are split by light during photosynthesis. **(1mk)**

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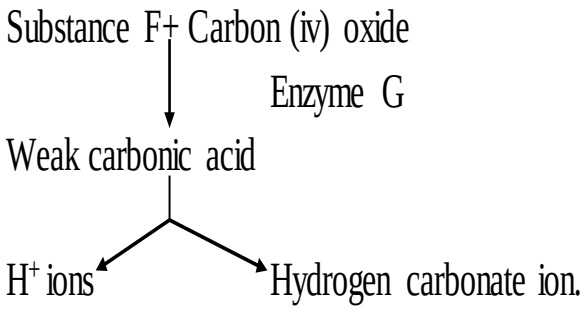
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(b) Explain why the process you named in (a) above is important to plants. **(1mk)**

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18. The diagram below illustrates the role played by red blood cells in transportation of carbon (IV) oxide.



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a.Other than carbon (IV) oxide transportation in the red blood cells, name the other form of carbon (IV) oxide in humans. **(1mk)**

……

……

b. (i) Name substances F **(1mk)**

……

……

(ii) Name the enzyme marked G and state its role in the reaction. **(2mks)**

Enzyme:……

Role:

……

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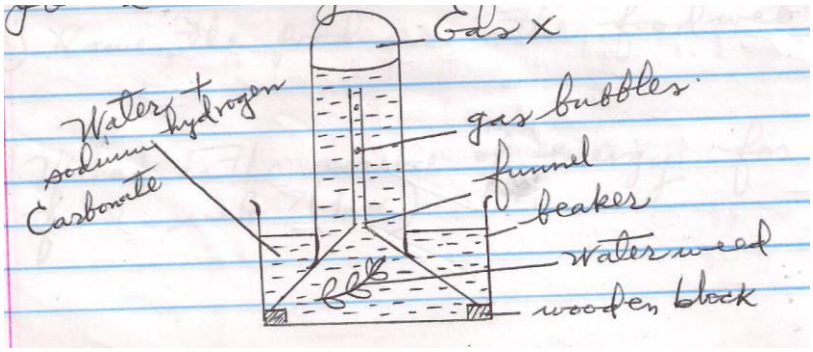
c.explain the role of calcium ions in blood clotting. **(1mk)**

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19. The set – up below represents an experiment to investigate the process of photosynthesis. The set-up was placed in light for six hours.



a.Why was sodium hydrogen carbonate added to water in this experiment? **(1mk)**

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b. Explain why the number of bubbles reduced in the evening. **(1mk)**

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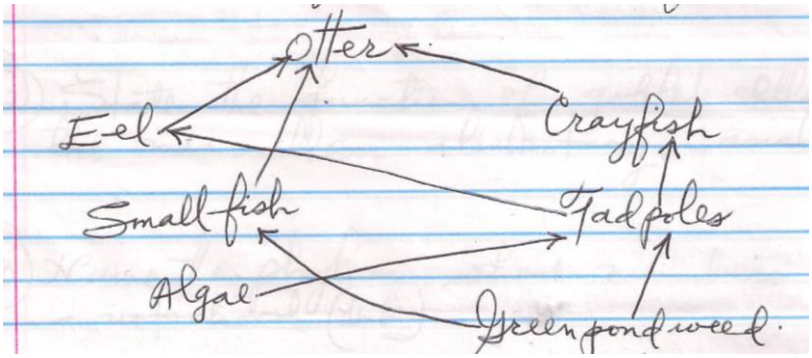
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c. explain why water was used in this experiment. **(1mk)**

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20. Study the food web below and answer the questions that follow.



(a)(i) Name the producer in the food web. **(1mk)**

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(ii) What is the source of energy for the food web? **(1mk)**

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(iii) Not all the energy trapped by the producer reached the otter

Give two reasons for this energy loss. **(2mks)**

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(b) Extract two possible food chains with the otter as the secondary consumer. **(2mks)**

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21. Name the causative agent of tuberculosis. **(1mk)**

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22. State the function of goblet cells in the mammalian alimentary canal. **(1mk)**

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23. Name the phylum whose members posses a notochord. **(1mk)**

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24. What name is given to the structure formed when the head and thorax are fused in members of Arachinda? **(1mk)**

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25. State two economic importance of fungi. **(2mks)**

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26. Under what condition is antidiuretic hormone released in the body? **(1mk)**

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27. Define the following terms:-

a.Protandry **1mk**

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b. Heterostyly **(1mk)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

Term 3

Biology

Paper 231/2Time: 2 hrs

Instructions to candidates

- Write your name, index number in the spaces provided above.
- Sign and write the date of examination in the spaces provided above.
- This paper consists of two sections A and B.
- Answer all the questions in section A in the spaces provided.
- In section B answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 9.
- Check to ascertain that all pages are printed and that no questions are missing.

FOR EXAMINER'S USE ONLY

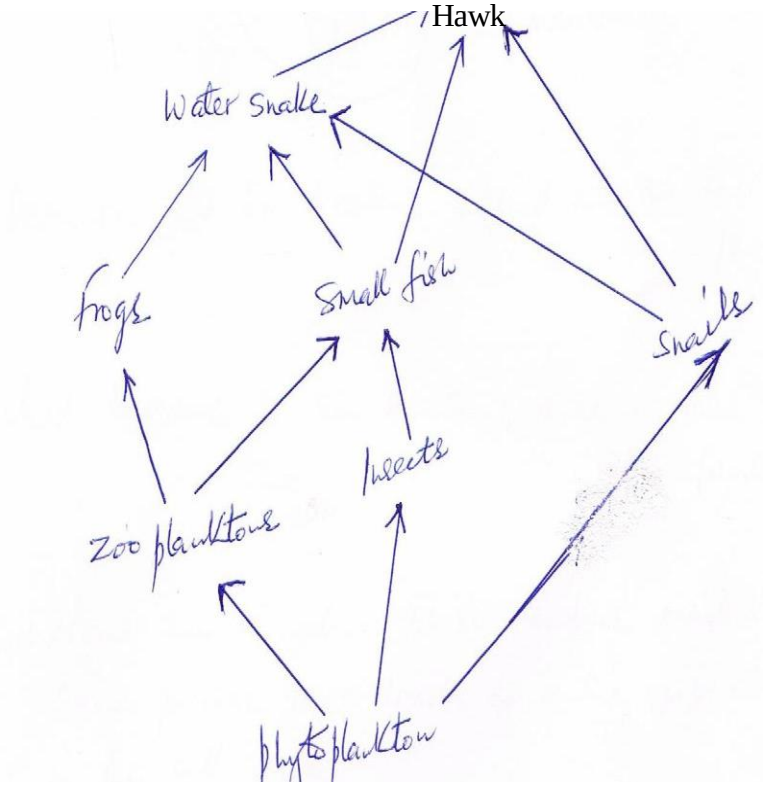
SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
	6	20	
	7	20	
	8	20	
Total score		80	

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SECTION A 40 MARKS

Answer all questions in this section in the spaces provided

Q1. The food web represents a feeding relationship in an ecosystem.



(a) Name two organisms which are both secondary and tertiary consumers **(2mks)**

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(b) State the short term effect of immigration of insects in the ecosystem. **(2mks)**

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(c) Which organism has the least biomass in the food web? Give reasons **(2mks)**

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(d) Explain the disadvantages of using synthetic pesticides over biological control in agriculture **(2mk)**

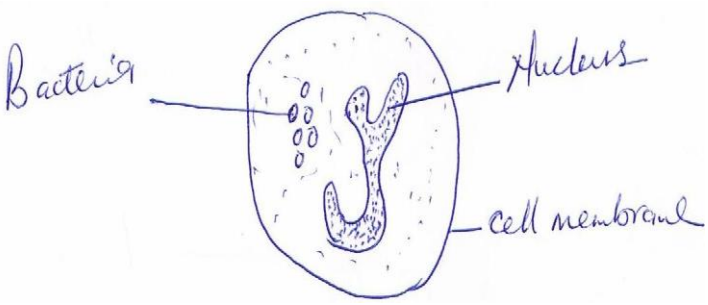
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Q2. The diagram shows a white blood cell



(a) Describe how the bacteria entered into the cell **(2mks).**

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(b) What happens to the bacteria once in the cell? **(2mks)**

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(c) (i) Name the kingdom whose members exhibit the same process that leads to entry of bacteria in the cell **(1mk)**

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(ii) besides the process described in (a) above, state two ways by which white blood cells protect the body. **(2mks).**

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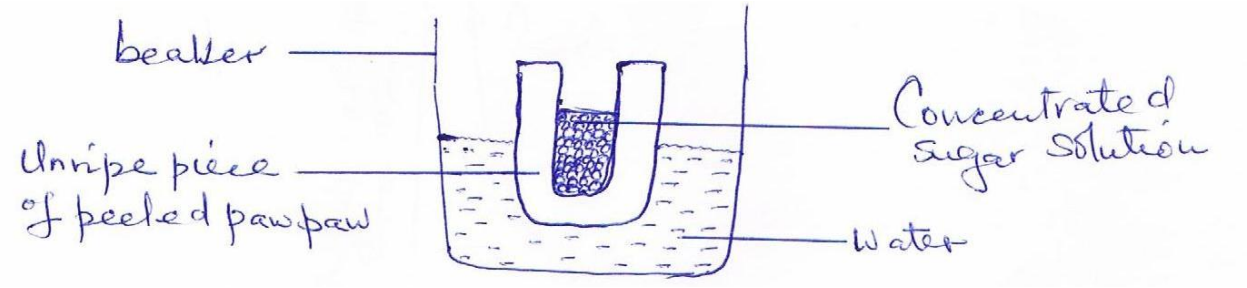
……

(iii) State where white blood cells (lymphocytes) are made. **(1mk)**

……

……

Q3. A group of students set up an experiment to investigate a certain physiological process. The set up is as shown in the diagram below:



(a) After sometime, the students observed that the level of the sugar solution had risen. What physiological process was being investigated? **(1mk)**

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(b) Account for the rise in the level of sugar solution in the experiment. **(3mks)**

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(c) (i) Suggest the results that the students would obtain if they repeated the experiment Using a piece of boiled paw paw. **(3mks)**

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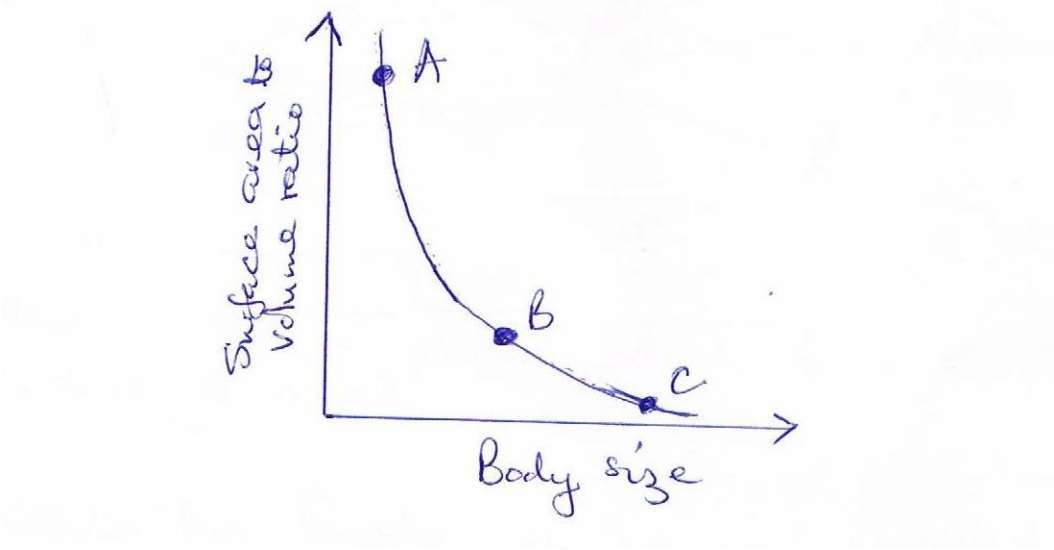
(ii) Give a reason for your answer in (c) (i) above **(1mk)**

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Q4. The graph shows relationship between body size and surface area to volume ratio of Organisms. Three animal species A, B and C are marked on the graph.



(a) Which of the three animals is likely to have the simplest transport system? Give a reason for your answer **(2mks).**

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(b) Give the formula used to calculate surface area to volume ratio of an organism. **(1mk).**

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(c) State two disadvantages of small surface area to volume ratio in organisms. **(2mks).**

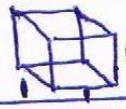
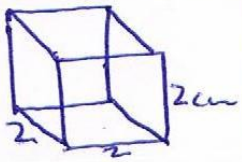
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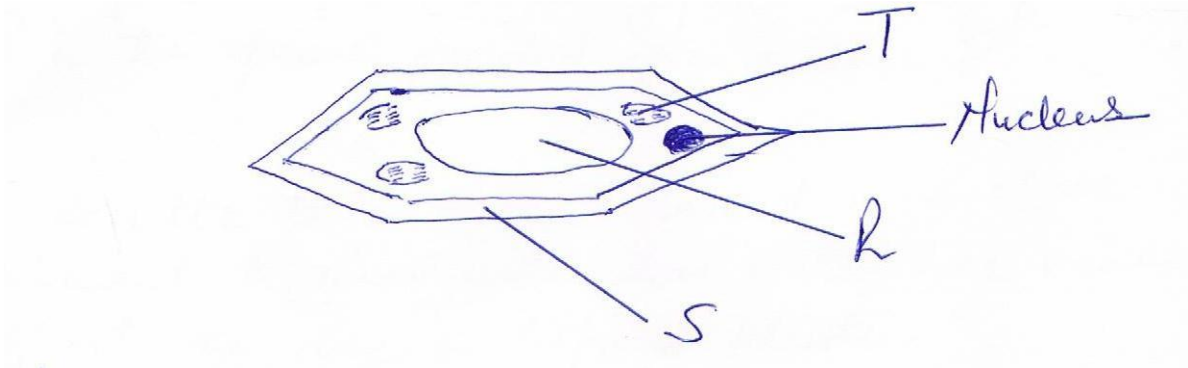
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(d) Showing your working, calculate the surface area to volume ratio of the following organisms X and Y.

Organism	Surface area (cm^2)	Volume (cm^3)	Surface area : volume ratio
X 	½	½	
Y 	½	½	

Q5. The diagram represents a plant cell.



(a) Name a carbohydrate which forms the structure labeled S **(1mk)**

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(b) (i) State the function of the part labeled R **(2mks)**

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(c) Name two cell organelles present in the diagram but absent in animal cells **(2mks)**

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(d) Complete the following table. **(2mks)**

Eye – piece lens magnification	Objective lens magnification	Total magnification
X10	X5	
	X40	X600

SECTION B (40 MARKS)

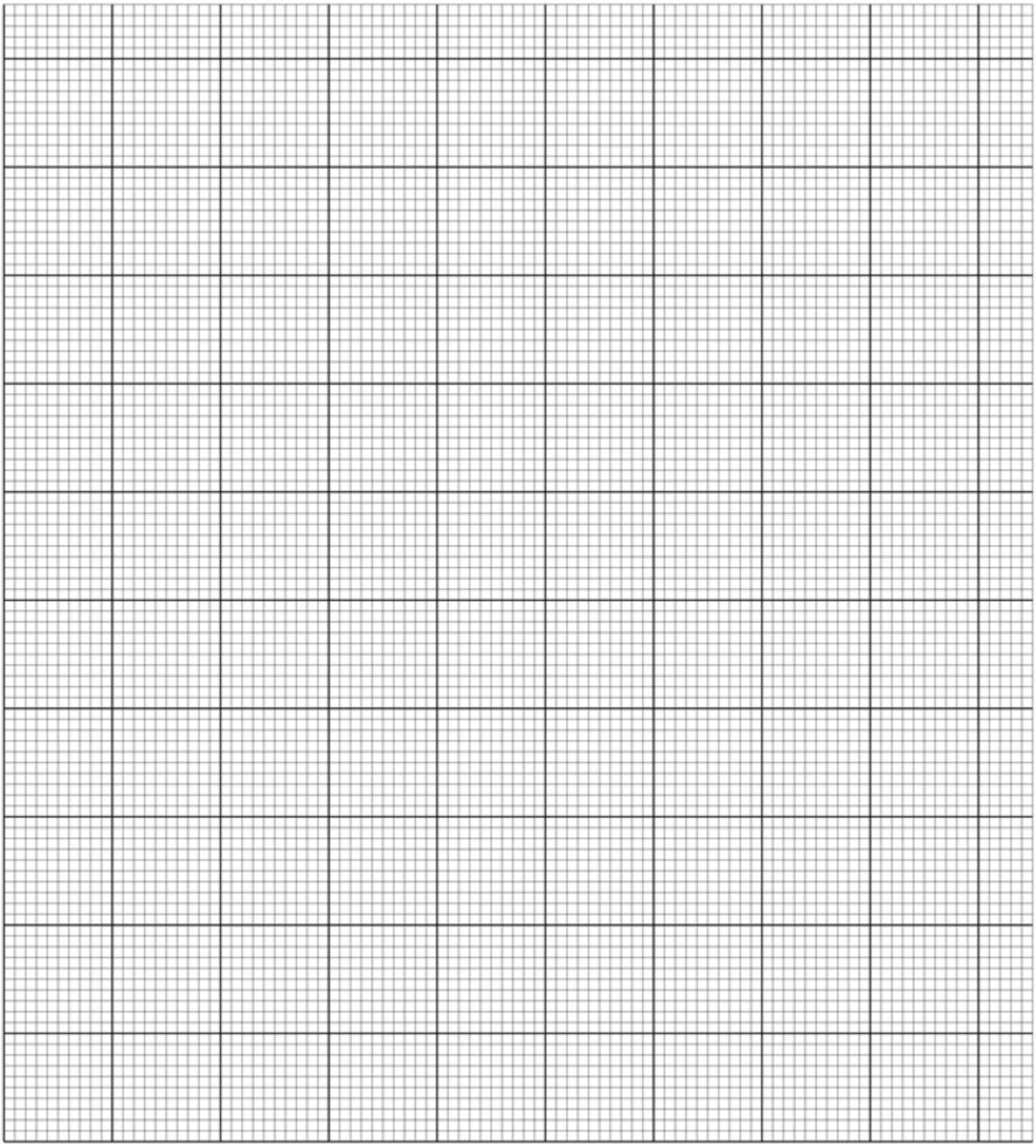
Answer question 6 (compulsory) and either question 7or 8 in the spaces provided after question 8.

Q6. The results below were obtained in a class experiment to investigate how water loss varies Throughout the day in tropical plants.

Time in day (hrs)	2.00 am	6.00a m	8.00 am	10.00 am	12.00 am	1.00 pm	2.00 pm	3.00 pm	4.00 pm	6.00 pm	8.00 pm	12.00 midnight
Water loss gm-2 h -1	14	35	135	275	315	285	245	175	75	16	16	

(a) Plot a graph of amount of water lost against time. **(6mks)**

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(b) Account for the amount of water lost between

(i) 2.00 a.m and 6.00 a.m **(2mks)**

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(ii) 6.00 a.m and 1.00 p.m **(2mks)**

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(ii) 1.00 p.m and 6.00 p.m **(2mks)**

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(c) (i) Which set of apparatus was used in the experiment? **(1mks)**

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(ii) State the effect of putting an electric fan near the apparatus during the experiment. Give a reason for your answer **(2mks)**

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(d) In a related ecological study two habitats each of 25 meters square were studied for five hours. Habitat A was an open pond while B was a forested area. More water was found to be lost in habitat B than A. explain **(2 mks)**

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(e) In a related ecological study two habitats each of 25 meters square were studied for five hours. Habitat A was an open pond while B was a forested area. More water was found to be lost in habitat B than A. explain **(2 mks)**

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7. (a) Giving examples,describe how various fruits and seeds are suited to different methods dispersal. **(17mks)**

(b) state the differences between a seed and a fruit. **(3mks)**

8. Describe how the ileum is adapted to its functions. **(20mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

231/3

BIOLOGY PAPER 3 (PRACTICAL)

TIME: $1^3/_4$HRS

Instruction to Candidates

- Write your Name, Adm. No., Class and Date in the spaces provided
- Answer all the questions
- You are required to spend the first 15 minutes of the $1^3/_4$Hrs around for this paper reading the whole paper carefully before commencing your work
- Answers must be written in the spaces provided in the question paper. Additional

Pages must not be inserted.

- The paper consists of six printed pages.

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QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 2 3	13 13 14	
TOTAL SCORE	**40**	

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1.You are provided with a suspension labelled W

a) Using the reagents provided only, carry out food test and complete the table below **(12 mks)**

Food substance	**Procedure**	**Observations**	**Conclusions**

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b) i) Name the enzymes that are required to digest the suspension W in the alimentary canal **(1mk)**

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ii) State the medium under which the enzymes named in a(i) above functions best. **(1mk)**

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c) Name the deficiency diseases a child that is fed on the above suspension W only is likely to suffer from **(2mks)**

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2. Photographs J and KI represents specimens which were obtained from different habitats.



a) With reasons identify the habitat of specimen J and KI **(4mks)**

KI: –……..

Reason(s)

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J: –……..

Reason(s)

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b) Give the term used to describe plants found in the same habitat with specimen J **(1mk)**

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c) State three modifications found in the stomata of leaves found in the habitat of specimen J **(3mks)**

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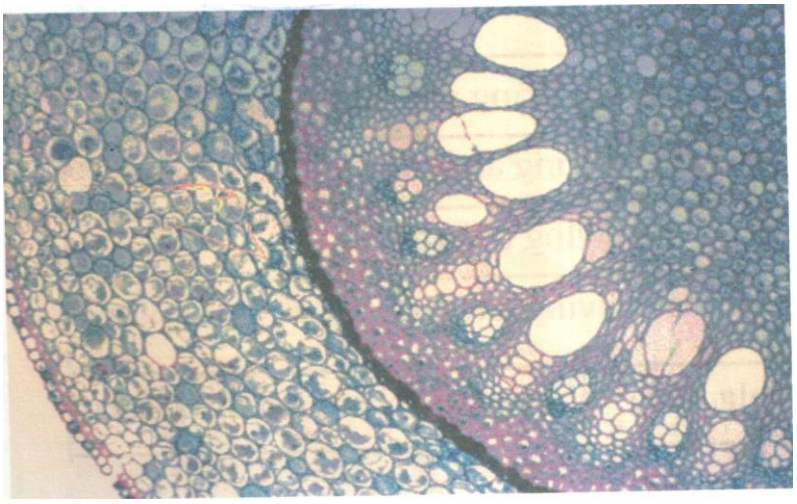
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d) The photograph below was obtained from a cross-section of part of specimen K_1



i) From which part of plants was the cross section obtained? **(1mk)**

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ii) Give reason for your answer in d(i) above **(1mk)**

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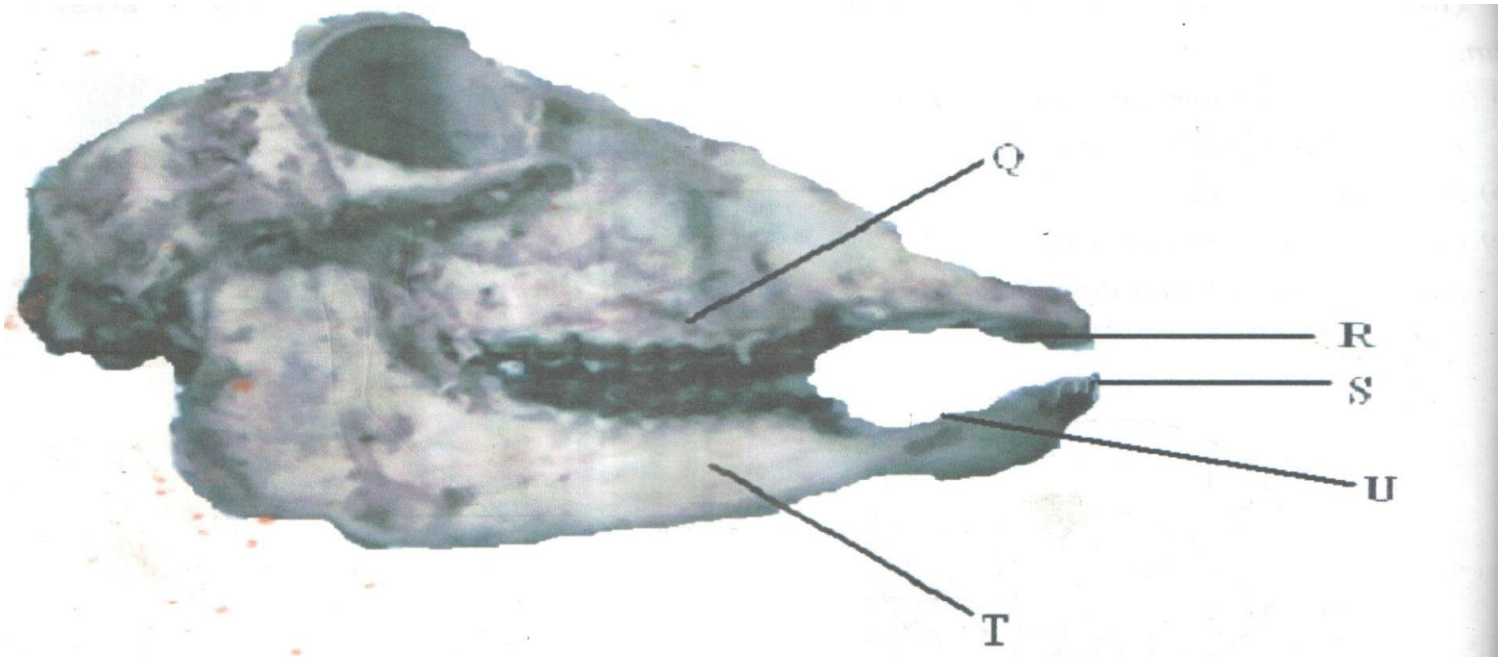
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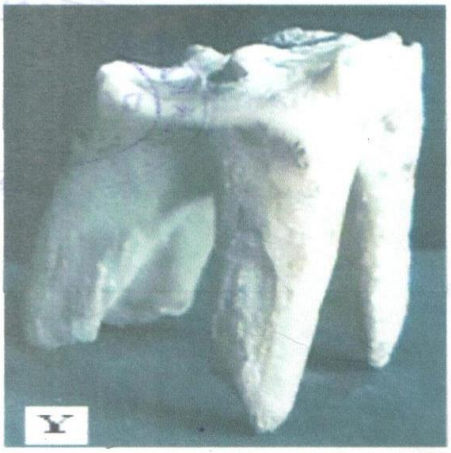
iii) Draw a plan diagram of the cross-section shown and label any four parts **(2mks)**

3. Below are photographs named J, X, Y and Z representing parts of a certain animal. Study them to answer the questions that follow.



Above: Specimen J







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a) Name the parts labeled in the photograph above as: **(4mks)**

Q –……..

R –…….

S –……..

T –…….

b) What is the function of part labelled U? **(1mk)**

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c) What is the mode of feeding of the animal from which the specimens above were obtained? **(1mk)**

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d) Fill the table below to distinguish between specimen X, Y and Z above **(9 mks)**

Specimen	Name	Adaptation	Function
X			
Y			
Z			

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

Instructions for candidates

a. Write your name and index number in the spaces provided above.

b. Sign and write the date of examination in the spaces provided above.

c. Answer all the questions.

d. All answers should be written in the spaces provided.

e. This paper consists of five printed pages.

f. Candidates should answer all the questions in English.

For Examiner's use only

Question	1	2	3	4	5	6	7	8	9	10	11	12	13
Marks													

Question	14	15	16	17	18	19	20	21	22	23	24		
Marks													

TOTAL MARKS

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1.Highlight any four challenges to a country that engages in direct production. **(4 mks)**

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2.State any four circumstances under which a market gap and business opportunity can arise. **(4 mks)**

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3.Name the office machine used for the purpose described below. **(4 mks)**

Use	Type of machine
a) Used for trimming documents into required shapes and sizes b) Used to prepare cash receipts c) Used to transmit printed/written messages eg. Letters, maps, photographs d) Used for destroying unwanted documents	

4.State any four common features of small-scale retailers. **(4 mks)**

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5.Outline any four factors that may limit the use of pipeline transport. **(4 mks)**

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6.The following information was extracted from the books of CEKENA enterprises for the year ended 30th June, 2014

	Ksh
Capital as at 30th June 2014	640,000
Capital as at 1st July 2013	420,000
Drawings for the year	180,000
Net profit for the year	140,000

Determine the additional capital for the year. **(4mks)**

7.Describe the procedure for making an insurance claim. **(5 mks)**

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8. Indicate with a tick (√) whether the following factors make-up internal or external business environments. **(4 mks)**

Providing safety equipment in the places of work		
Funding of a school project by donors		
Financial management in the business		
Introduction of a new tax		

9. State the level of production to which the following activities relate. **(4mks)**

Mechanic repairing a vehicle	
A trader selling goods to customers	
A road construction company tarmacking a road	
A mining company extracting minerals	

10. Outline any four advantages of face-to-face communication. **(4 mks)**

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11. Outline any four functions of advertising agencies. **(4 mks)**

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12. List down any four types of errors that a trial balance may not show. **(4 mks)**

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13. Name the ledger book used for the following. **(4 mks)**

a) Maintain accounts for debtors –**……**

b) Maintain the cash and bank accounts – **……..**

c) Maintain a record of all the creditors **–……..**

d) Maintain a record of all fixed assets - **……**

14. Highlight any four challenges to a country that experiences a high population growth rate. **(4 mks)**

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15. Give any four reasons why a high national income in a country may not necessarily mean better living standards for the citizens of a country. **(4 mks)**

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16. Outline any four factors that a firm should consider when deciding what goods and services to produce. **(4 mks)**

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17. Jacob insured his vehicle for shs. 900,000. Its actual value was shs. 1,200,000. The vehicle was involved in an accident and the damage was valued to be worth shs. 500,000. Calculate the amount that should be compensated for the vehicle. **(5 mks)**

18. Outline any four circumstances under which a manufacturer may choose to distribute products through wholesalers. **(4 mks)**

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19. Highlight four factors that can lead to a positive shift of a demand curve. **(4 mks)**

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20. Name the factor of production that each of the following resources relate to: **(4 mks)**

a) Manager –……..

b) Quarry –……

c) Vehicle –……

d) Owner – ……

21. Outline any four characteristics of monopolistic competition market. **(4 mks)**

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22. Record the following transactions in the relevant ledger accounts and balance them off on Jan 3. **(6 mks)**

Jan 1: Started business with cash shs. 30,000 and cash at Bank shs. 20,000.

2: Purchased stock of goods shs. 15,000 in cash.

3: Bought furniture shs. 5,000 by cheque

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23. Give the term that best fits the following descriptions. **(4 mks)**

a) Owners contribution to start or sustain a business – **……**

b) The resources/items/money that a business owes to others –**……..**

c) The resources/items owned by the business –**……**

d) The financial position of a business as shown by assets, liabilities and capital as at particular time –

……..

24. Highlight any four challenges that face the transport sector in the country. **(4 mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……..

SCHOOL: ……...

ADM NO: …… **SIGN:** …… **DATE:** ……...

BUSINESS STUDIES

Paper 2

2 ½ hours

Instructions to Candidates

- Write your name, Admission Number and class in the spaces provided above.
- This paper consists of six questions. Answer any **FIVE** questions.
- Write your answers in the answer booklet provided
- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- Candidates should answer the questions in English.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
	20	
	20	
	20	
	20	
	20	
	Total Score	

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ATTEMPT ANY 5 QUESTIONS

1.(a) Explain five measures that the African continent may use to solve the widespread unemployment cases. **(10mks)**

(b) Explain five functions of the stock exchange market. **(10mks)**

2. (a) Highlight five circumstances under which the wholesaler can be eliminated in the distribution of goods and services. **(10mks)**

(b) The following are the assets and liabilities of classic furniture Enterprises as at 1st July, 2012.

	Kshs.
Furniture for sale	560,000
Office furniture	150,000
Creditor	155,000
Drawing	40,000
Debtor	85,500
Premises	250,000
Cash at Bank	130,000
Net profit	60,000
Cash in hand	5,500
Bank loan	600,000
Prepaid insurance	20,000
Capital	426,000

Required.

Prepare the balance sheet of the business as at 1st July showing subtotals for:

(i) Fixed assets

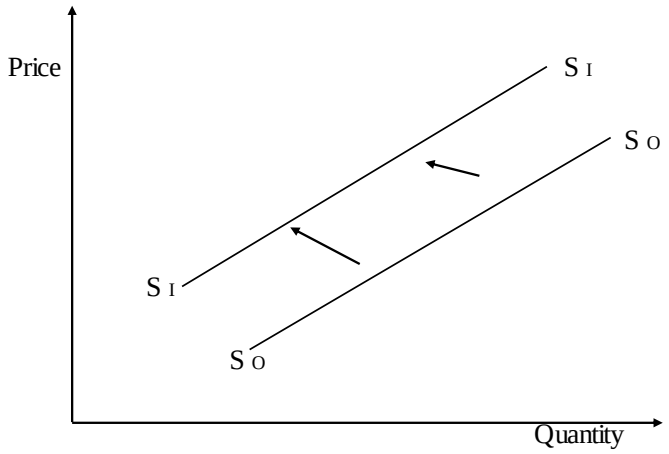
(ii) Current assets

(iii) Long term liabilities

(iv) Current liabilities

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3. (a) The following diagram shows a shift in the supply curve. Explain briefly five factors that would cause such a shift. **(10mks)**



(b) Explain five characteristic of economic resources. **(10mks)**

4.(a) The following balances were obtained from the books of Baraka for the period ended 12th January 2011

Drawings	5,000
Salaries	2,000
Capital	50,000
Purchases	12,000
Postage	500
Sales	15,000
Computer	10,000
Rent	2,000
Bank	15,000
Cash	18,500

Required

(i) Prepare a trial Balance of Baraka Traders as at 12th January 2011. **(12mks)**

(b) Bodaboda services (motor cycles) have become a popular means of transport in many parts of the country. Explain four factors that have led to this trend. **(8mks)**

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5(a) Kenya Power and Lighting Company is a monopoly in the provision of electricity in Kenya. Explain five challenges of having such a firm in the economy. **(10mks)**

(b) Explain five benefits of indirect production. **(10mks)**

6(a) Explain five factors that should be considered when choosing methods of product promotion. **(10mks)**

(b) Explain five importances of National Income statistics. **(10mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

CHEMISTRY

PAPER – 233/1

TIME: 2 HRS

INSTRUCTIONS TO CANDIDATES

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

b) Sign and write the date of examination in the spaces provided.

c) ANSWER ALL QUESTIONS IN THE SPACES PROVIDED.

d) All working must be clearly shown where necessary.

e) Mathematical tables or silent electronic calculators may be used.

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QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1 - 28	80	

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1. The table below shows information about elements K, L, M, P,R and V

Element	Group	Electron configuration of ion
K	VI	2,8,8
L	VI	2,8
M	II	2,8
P	III	2,8
R	I	2,8
V	VII	2,8

a)Write down electron configuration of elements K and M. **(1MK)**

……

……

……

b)Write the formula of

i) Ion of L **(1mk)**

……

……

ii) Compound formed between K and P. **(1mk)**

……

……

2. The PH values of solutions A, B, C, D are given in the table below

Solution **PH**

A9.8

B2.0

C5.2

D12.0

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Which solution is identified as.

i) Strong acid. **…….** **(1mk)**

ii) Weak base**……** **(1mk)**

iii) Lemon juice. **……..** **(1mk)**

3. In an experiment two similar boiling tubes were filled with carbon (IV) oxide. One of the boiling tubes was inverted over a trough of water and the other over a trough containing sodium Hydroxide solution. Draw two diagrams to show the result obtained after 10 minutes. **(2mks)**



ii) State one property of carbon (IV) oxide that makes it suitable as a fire extinguisher. **(1mk)**

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4a) Explain why the volume of a gas decreases when its temperature is decreased at constant pressure. **(1mk)**

……

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b) A sample of oxygen gas occupies a volume of $2.0cm^3$ at pressure of 700K pa. What will be the pressure if the same sample occupies a volume of $150cm^3$. Assume temperature remains constant. **(2mks)**

5. Describe how a solid sample of lead (II) chloride can be prepared using the following reagents. Dilute nitric acid, dilute Hydrochloric acid and lead (II) carbonate. **(3mks)**

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6. A certain element A whose atomic number is 14 has three isotopes. The table below shows the mass number and relative abundance of each isotopes.

Isotopic mass	% abundance
28.0	92.2
29.0	4.7
30.0	3.1

Calculate the relative atomic mass of element A. **(3mks)**

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7. Some potassium chloride was found to be contaminated with copper (II) oxide. Describe how a sample of potassium chloride can be obtained from the mixture. **(3mks)**

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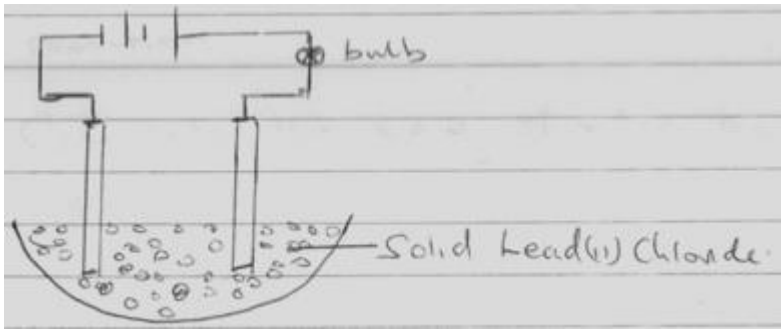
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8. The following diagram shows the effect of electric current on lead (II) Chloride.



a) When the circuit was completed no current flowed. Explain why. **(1mk)**

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b) When lead (II) Chloride was heated to about 300^0C it melted and there was light on the bulb. State and explain the observation made at the anode. **(2mks)**

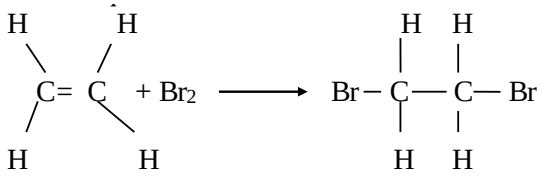
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9. The equation below is for the reaction between ethane and bromine.



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a) State with reason whether reaction is addition or substitution. **(2mks)**

……

……

……

……

b) Name the product formed. **(1mk)**

……

……

10. 3.2 g of XOH reacts completely with $20cm^3$ of 2m dilute sulphuric (VI) acid.

a) Write down chemical equation for the reaction. **(1mk)**

……

……

b) Calculate the RAM of X in the formula XOH. **(2mks)**

11. Oxygen is obtained by fractional distillation of liquid air

a) Name two other gases obtained during the process. **(2mks)**

……

……

……

……

b) Give two commercial use of oxygen . **(1mk)**

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12. Explain how sodium chloride used in the solvay process can be obtained from sea water. **(3mks)**

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13. A compound of carbon, hydrogen and oxygen contains 40% carbon, 6.67% hydrogen and the rest oxygen. Find its empirical formula. If its relative molecular mass is 180. Find its molecular formula. **(3mks)**

14. Explain why there is a general increases in the first ionization energies of the element in period 3 of periodic table from left to right. **(2mks)**

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15a) What is a dative covalent bond. **(1mk)**

……

……

b) Use dots (•) and crosses (X) show how an ammonium ion is formed. From ammonia and a Hydrogen ion. **(2mks)**

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16. Explain why a mixture of copper (II) oxide and magnesium reacts when heated while there is no reaction when a mixture of copper and Magnesium oxide is heated. **(2 mks)**

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17a) What is the chemical name of rust. **(1mk)**

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……

b) How does paint stop rusting. **(1mk)**

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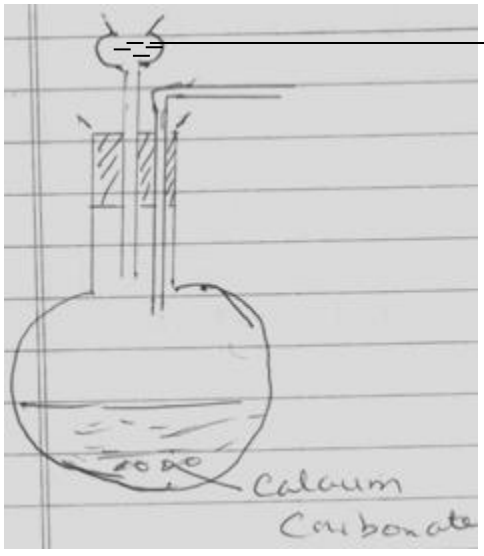
c) The cars in Mombasa rusts faster than those in Nairobi. Explain. **(1mk)**

……

……

……

18. The set up below is used to prepare and collect dry carbon (Iv) oxide gas. Complete the diagram. **(3mks)**



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19. State Gay Lusaacs law. **(1mk)**

……

……

……

b) What volume of oxygen will be required for complete combustion of $100cm^3$ of carbon (II) oxide. What is the volume of the product formed (All volumes at same temperature and pressure) **(2mks)**

20. State and explain the observation made when Hydrogen gas is passed over heated copper (II) oxide. **(3mks)**

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21. Molecular chlorides undergo hydrolysis.

a) What is meant by hydrolysis. **(1mk)**

……

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……

b) Write down a chemical equation for the hydrolysis of silicon (iv) Chloride. **(1mk)**

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22. Describe simple chemical test that can be used to distinguish between C_3H_6 and C_3H_8 **(2MKS)**

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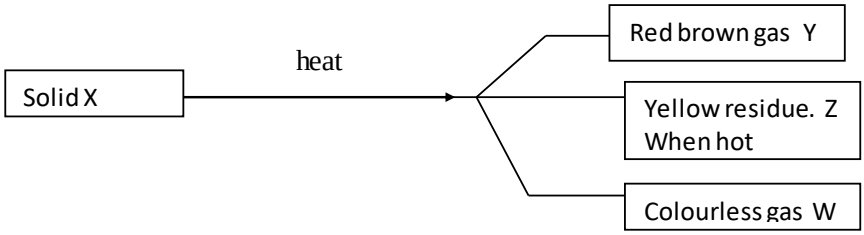
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23.



a) Name **(3mks)**

i) solid X **……**

ii) The red brown gas**……**

iii) Name ions present in the residue Z. **……**

24. A few drops of silver nitrate were added to sodium chloride solution in a test tube

a) What observation was made. **(1mk)**

……

……

b) Write a balanced chemical equation for the reaction. **(1mk)**

……

……

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

……

……

25. Magnesium carbonate decomposes when heated according to the equation.

$$MgCO_{3(s)} \longrightarrow MgO_{(s)} + CO_{2(g)}$$

Calculate the volume of carbon (iv) oxide which is produced when 8.4g of the carbonate is decomposed (Mg= 24.0 C= 12.0 o = 16.0) (Molar gas volume at s.t.p = 22.4 dm^3) **(3mks)**

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26. The products formed by the action of heat on nitrates P, Q, and R are as shown in the table below

Nitrate of metal	Products formed
P	Metal oxide, Nitrogen (IV) oxide and oxygen gas
Q	Metal , nitrogen (iv) oxide and oxygen
R	Metal nitrite and oxygen gas

a) Arrange the metals in order of decreasing reactivity. **(1mk)**

……

……

b) Name a metal that could possibly be R. **(1mk)**

……

……

C) Select a metal that would not displace hydrogen from dilute hydrochloric acid. **(1mk)**

……

……

27. Ethanol CH_3CH_2OH and dimethylether CH_3OCH_3 are two compounds with same molecular mass. Explain why ethanol has a higher boiling point (78.2^0C) than dimethylether (-24^0c) **(3mks)**

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28. The electron arrangement of element X is 2;8:8:2.

i) In which group and period of periodic table is element X. **(1mk)**

……

……

ii) State what would be observed if element X was placed in warm water. **(1mk)**

……

……

iii) If methyl orange was added to the resulting solution what would be observed Explain. (1mk)

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… SIGN: …… DATE: ……

FORM 3

CHEMISTRY PP2

INSTRUCTIONS TO CANDIDATE

- Write your name and admission number in the spaces provided.
- Sign and write the date of examination in the spaces provided.
- Answer all the questions in the spaces provided.
- All working must be shown where necessary.
- Electronic calculators and Mathematics tables may used
-

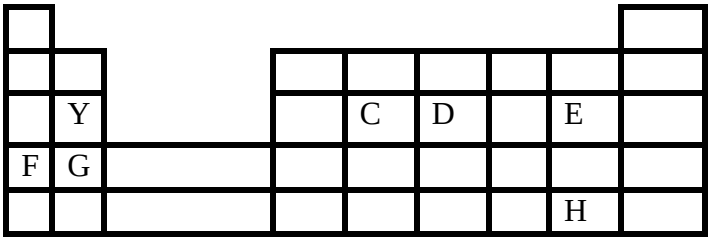
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Questions	Max score	Candidates score
1.	13	
2.	10	
3.	11	
4.	14	
5.	11	
6.	10	
7.	11	
TOTAL	80	

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QUESTIONS

1. The grid below represents part of the periodic table, Study it and answer the questions that follow. The letters do not represent the actual symbols of the elements.



a. Name the elements (letters) that can form anions with a change of -1. Give reason for your answer. **(2mks)**

……

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b. What type of structure is formed by oxide of C. Explain. **2mks**

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c. How does the reactivity of H compare with that of E. Explain. **2mks**

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……

d. 1.3 g of Y reacts completely with 1.2dm^3 of chlorine when reacted at S.T.P (Molar gas volume at s.tp=22.4dm^3).

i. Write a balanced chemical equation for the reaction between y and chlorine gas. **(2mks)**

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ii. Determine the atomic mass of Y. **2mks**

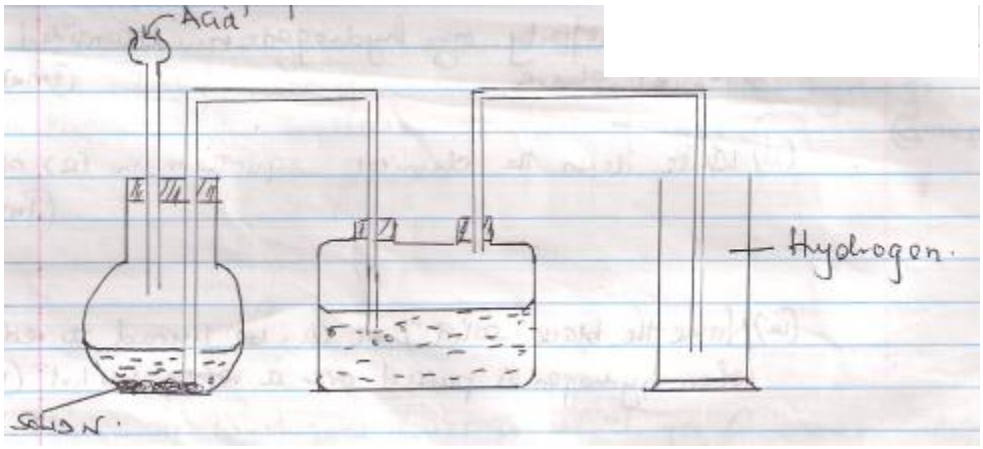
e.What is the general name given to the group of elements Y and G belong. **(1mk)**

……

……

f. Using dot(.) and crosses (x) draw a diagram to represent the compound formed when G and E react. **(2mks)**

2.The set up was used by a student from Karia High School to prepare and collect dry hydrogen gas.



a.Identify three mistakes in this set up and the solution. **(3mks)**

……

……

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b. Name liquid B **1mk**

……

……

c. Suggest a possible solid which can be used as solid N in the set up ;

……

……

d. Name a suitable catalyst in this reaction. **(1mk)**

……

……

e. Hydrogen produced can be passed over heated lead(II) oxide to determine one property of this gas.

i. What property of hydrogen is determined in (e) above. **1mk**

……

……

ii. Write down the chemical equation in (e) above. **1mk**

……

……

iii. State two uses of Hydrogen gas. **(2 mks)**

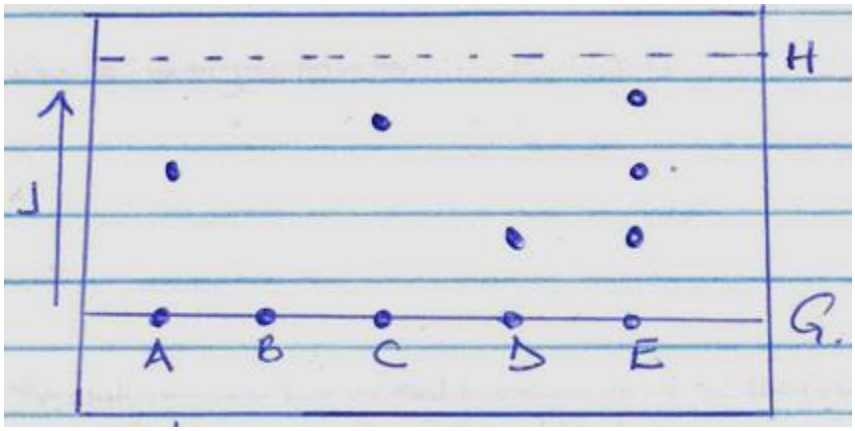
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3. The diagram below shows Chromatograms for five different dye.



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a) Name the technique used to separate the dyes. **(1 mk)**

……

……

b) What conditions are required to separate the chromatograms present in a dye. **(2 mks)**

……

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c) What is meant by the solvent front. Indicate its position in the diagram. **(2 mks)**

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……

d) Which chromatograms are present in dye E. **(2 mks)**

……

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……

e) Which dye is insoluble. Explain. **(1 mk)**

……

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……

f) Which dye is pure. Explain. **(1 mk)**

……

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……

g) Name two industrial application of chromatography. **(2 mks)**

……

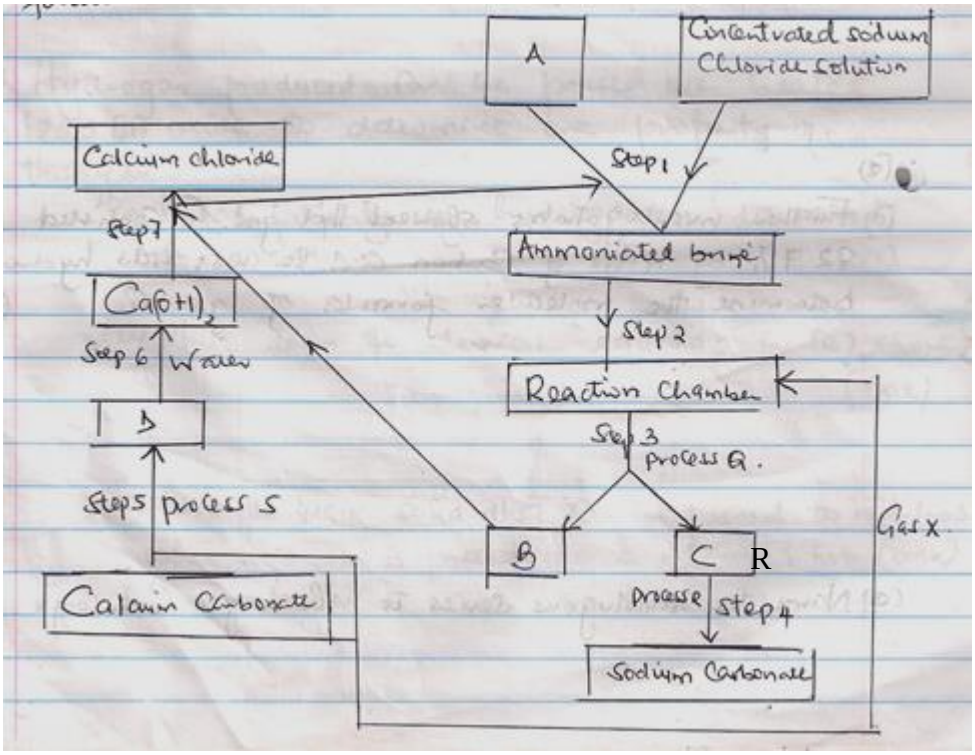
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4.Use the flow chart below to answer the questions that follow.



a.Name the process shown by the flow chart above. **(1 mk)**

……

……

b. Name substances A

B: ……

C:……

D:……

Gas x **5mks**

c.Name process **(2 mks)**

Q - ……

R - ……

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d. Write chemical equations for the reactions that take place.

(i) Step 4

……

……

(ii) Step 7

……

……

e. Name two substances that are recycled during the process. **2mks**

……

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……

f. State two uses of sodium carbonate. **(2mks)**

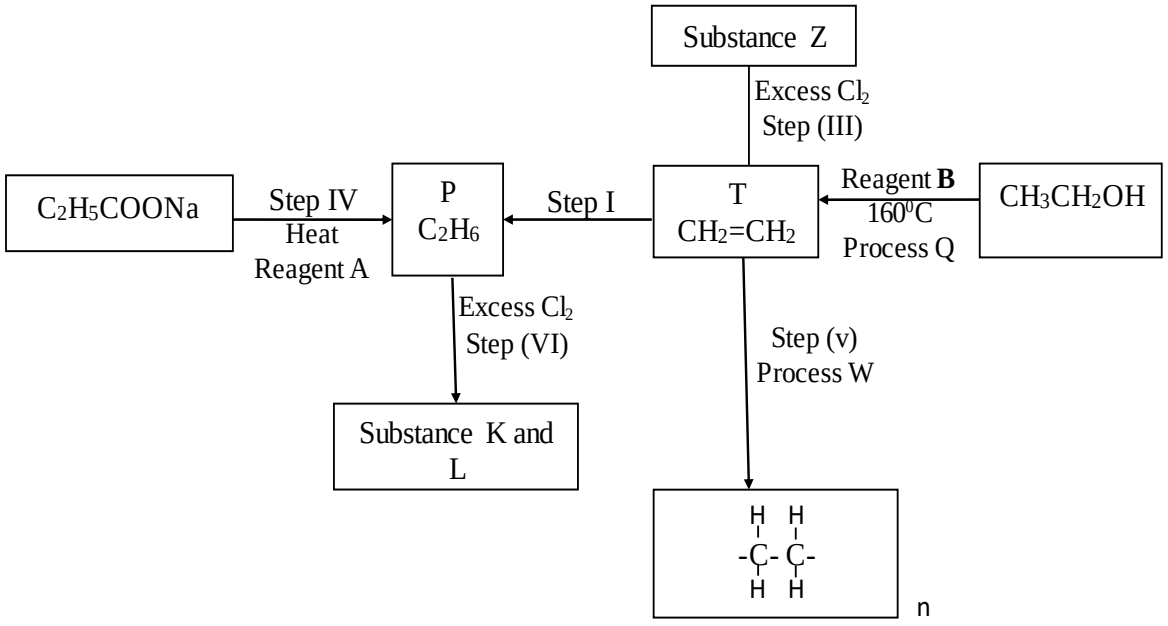
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5. Study the scheme below and answer the questions that follow.



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a. State the homologous series in which T and P belong. **(2 mks)**

T-……..

P-……

b. Write chemical equation for complete combustion of T. **1mk**

c. Name process Q **……** **(1 mk)**

Process W **……** **(1 mk)**

d. Name the type of reaction that occurs in

Step I **……** **(1 mk)**

Step III **……..** **(1 mk)**

Step VI **……..** **(1 mk)**

e. Identify reagent B**……** **(1 mk)**

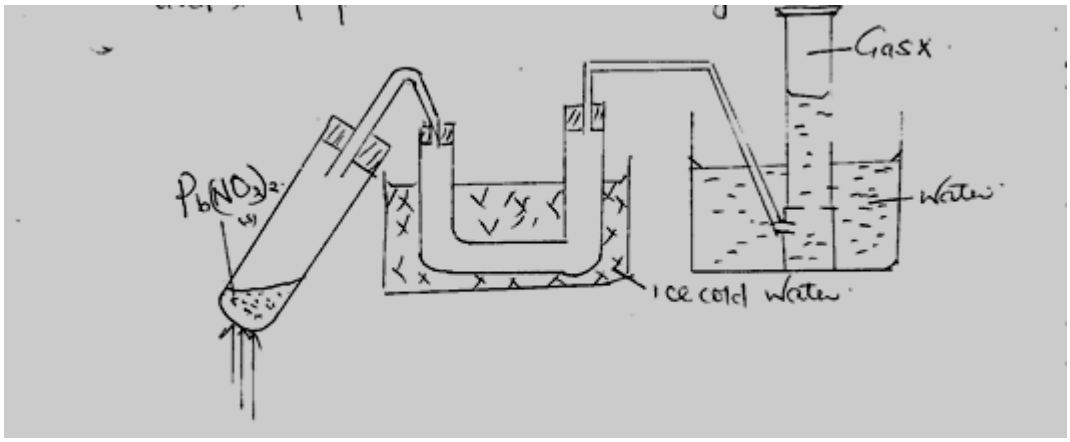
Reagent A**……..** **(1 mk)**

f. Write a chemical equation between reagent A and C_2H_5COONa. **(1 mk)**

……

……

6. The diagram below represents a set up that can be used to prepare and collect nitrogen (iv) oxide.



a. Write a chemical equation for the reaction that takes place in the boiling tube. **(1 mk)**

……

……

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b. Name gas x. **(1 mk)**

……

……

c. What observations are made on final residue in the boiling after reaction on heating and cooling the residue. **1mk**

……

……

……

d. When a piece of burning magnesium is lowered into a gas jar containing nitrogen (IV) oxide it continues to burn.

i. Explain the observation

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……

……

ii. Write a chemical equation for the reaction. **(1mk)**

……

……

e. What precaution should be taken when preparing nitrogen (IV) oxide gas, Explain. **1mk**

……

……

……

f. Explain why it is not advisable to use copper (II) nitrate instead of lead (II) nitrate. **1mk**

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g. What property of nitrogen (IV)oxide makes it possible to be collected by the method above. **(1mk)**

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h. State one use of nitrogen(iv)oxide. **(1 mk)**

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7. During an experiment, sulphur (IV) oxide was found to diffuse through a porous material at a rate of 25.00cm^3 per minute. When the experiment was repeated under the same conditions with another gas G.G was found to diffuse through the same porous material at a rate 26.26cm^3 per minute.

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

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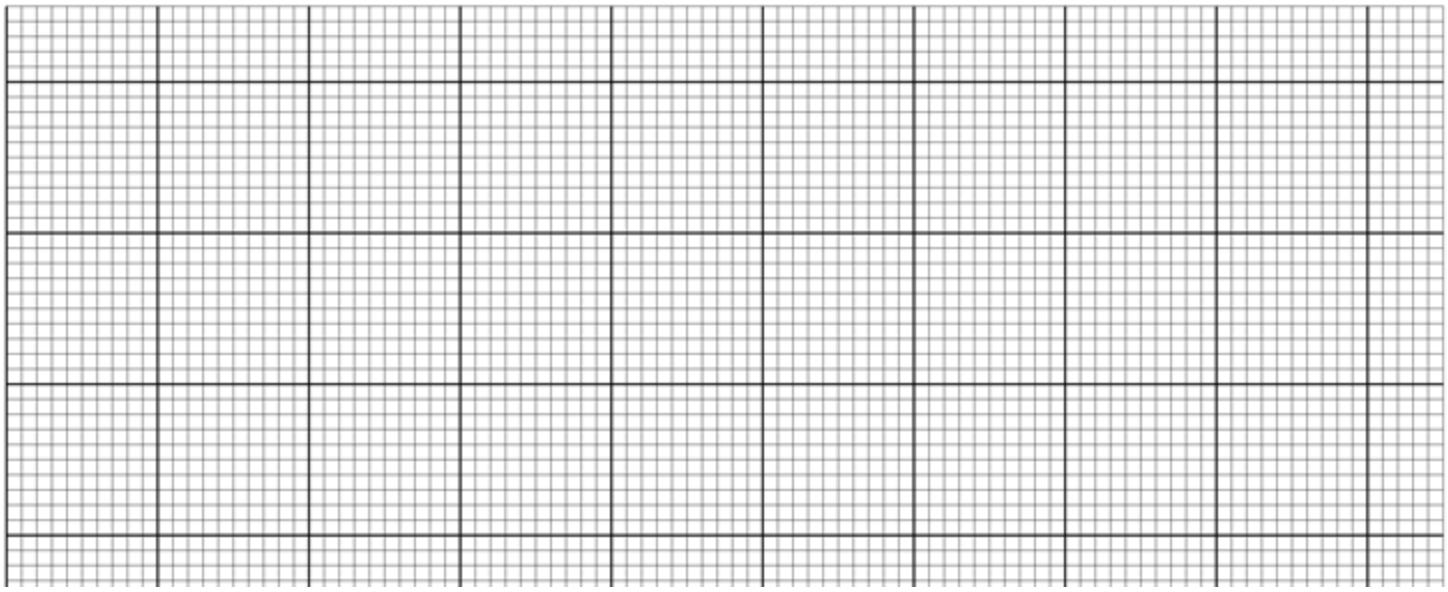
(ii) Determine the molecular mass of G.(O=16.0,S=32.0) **(3 mks)**

8. The following table gives sample results from an experiment carried out to investigate the relationship between the volume of a fixed mass of gas with its temperatures.

Temp ^0c	0	20	40	60	80
Volume of the gas(cm^3)	140	150	160	170	180

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a.Plot a graph of volume (y-axis) against temperature (x-axis). Extrapolate the graph to intercept the x-axis. 3mks



b. Identify the and state the law. **2mks**

……

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……

c. Determine from the graph

i. Volume of gas at 50 ^{0}c. **1mk**

ii. Temperature when the volume is 155cm^3 **1mk**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

CHEMISTRY PP3

FORM 3

INSTRUCTIONS TO CANDIDATES

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

b) You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.

c) All working must be clearly shown.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	16	
2	14	
3	10	
TOTAL SCORE	**40**	

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1. You are provided with:

- 0.2 M Sodium Hydroxide solution
- X M hydrochloric acid solution X
- Y M Na_2CO_3 solution Y

You are required to standardize hydrochloric acid and hence determine the concentration of sodium carbonate.

PROCEDURE I

Using a pipette transfer 25cm^3 of 0.2M Sodium hydroxide into a conical flask. Add 2-3 drops of phenolphthalein indicator and then titrate with hydrochloric acid provided in a beaker from a burette. Shake the conical flask after each addition and note the volume required to neutralize the sodium hydroxide solution. Record your results in the table below. **(3 mks)**

Titre	I	II	III
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of X used (cm^3)			

a) What is the average volume of solution X used? **(1 mk)**

b) Calculate the number of moles of solution X required to completely neutralize 25cm^3 of sodium hydroxide solution. **(2 mks)**

c) What is the morality of the hydrochloric acid, solution X? **(2 mks)**

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PROCEDURE II

Rinse the pipette thoroughly then pipette 25cm^3 of sodium carbonate into a conical flask. Add 2-3 drops of phenolphthalein indicator. Refill the burette with hydrochloric acid and use it to titrate the contents of the conical flask. Shake the flask after each addition of the acid and note the volume of the acid required to neutralize 25cm^3 of the sodium carbonate. Record your results in the table below. **(3 mks)**

Titre	I	II	III
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of X used (cm^3)			

d) What is the average volume of hydrochloric acid used in the second procedure? **(1 mk)**

e) Calculate the number of moles of sodium carbonate in 25cm^3 of solution. **(2 mks)**

f) Calculate the concentration of sodium carbonate in moles per litre. **(2 mks)**

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2. You are provided with solid A. Carry out the tests below. Identify any gas or gases produced and record your observations and inferences.

a) Heat gently a spatula endful of solid A in a dry test tube. Test the gas with red and blue litmus paper.

Observations	**Inferences**
(2 mk)	**(2 mk)**

b) Place a spatula endful of solid A in a boiling tube. Add $10cm^3$ of distilled water. Filter off the residue. Divide the filtrate into two portions. Retain the residue.

(i) To the first portion add 3 drops of ammonia solution and then excess.

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

(ii) To the second portion add 3 drops of Lead (ii) nitrate solution.

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

c) To the residue obtained in (b) above add $5cm^3$ of dilute nitric acid. Divide the solution into two portions.

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

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(i) To the first portion add 3 drops of Ammonia solution and then excess.

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

(ii) To the second portion add 3 drops of lead (ii) nitrate solution.

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

3. You are provided with solid M. carry out the tests below and record your observations and inferences in the spaces provided.

a) i. Place a half spatula of solid M in a non-luminous flame of a Bunsen burner.

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

(b) Place the remaining solid M in a boiling tube and add $8cm^3$ of water. Divide the solution into 4 portions.

(i) Place the remaining solid **M** in a boiling tube and add $8cm^3$ of water.

Observations	Inferences
(1/2 mk)	**(1/2 mk)**

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

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

iii. To the second portion, add 3 drops of acidified potassium dichromate (vi) and warm.

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

iv. To the third portion, add a little sodium hydrogen carbonate.

Observations	Inferences
(1/2 mk)	**(1/2 mk)**

v. To the fourth portion, add 3 drops of universal indicator and determine the PH of the solution.

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

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……..

SCHOOL: ……...

ADM NO: …… SIGN: …… DATE: ……...

C.R.E PP1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

ANSWER ANY **FIVE** QUESTIONS IN THE ANSWER SHEETS PROVIDED.

Answer any five questions in the answer sheet provided

1.a) From the Genesis stories of creation, outline seven teachings about human beings **(7mks)**
b) With reference to the story of the fall of human beings in **Genesis 3**, state the effects of sin on Adam and Eve **(8mks)**
c) How does the church help to bring back members who have fallen from the faith? **(5mks)**

2. a) Explain acts of faith demonstrated by Abraham **(8mks)**
b) Give seven reasons why God called Abraham **(7mks)**
c) Identify five ways in which Christians can show their faith in God **(5mks)**

3.a) Explain the achievements of David as a king of Israel **(8mks)**
b) Outline five failures of King Solomon **(7mks)**
c) Give five reasons why Christians in Kenya should build churches **(5mks)**

4.a) Outline eight characteristics of the true prophets in the old testament **(8mks)**
b) State six ways in which the rich oppressed the poor during the time of prophet Amos **(6mks)**
c) Give reasons why the church condemns injustice in Kenya **(6mks)**

5.a) Explain the significance of the symbolic act of buying land by prophet Jeremiah **(5mks)**
b) Outline the sufferings of prophet Jeremiah during his ministry **(8mks)**
c) State seven ways in which Christians resolve conflicts among themselves. **(7mks)**

6.a) Outline rituals performed during the birth of a baby in traditional African communities **(8mks)**
b) Give seven reasons why children are important in traditional African communities **(7mks)**
c) Explain ways children are made responsible members in Traditional African communities **(5mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

C.R.E PP2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

ANSWER ANY **FIVE** QUESTIONS IN THE ANSWER SHEETS PROVIDED.

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.**6mks**

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

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……..

SCHOOL: ……...

ADM NO: …… SIGN: …… DATE: ……...

101/1

ENGLISH

PAPER 1

(FUNCTIONAL SKILLS)

END OF TERM 3 EXAM

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1.Write your name and admission number in the spaces provided above

2.Answer **ALL** the questions that are asked in this paper in the spaces provided

3.Candidates should check to ascertain that all pages are printed as indicated and no questions are missing

4.Candidates must answer their questions in English.

FOR EXAMINER'S USE ONLY

SECTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	20	
B	10	
C	30	
TOTAL SCORE	60	

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1.SECTION A (FUNCTIONAL WRITING)

Recently, many students have been sneaking from your school which is a boarding school. The Principal has appointed you and five other senior students to investigate this. Write a report on your findings about the causes of the sneaking and give recommendations on how to curb it. **(20mks)**

2.SECTION B CLOZE TEXT (10MRKS)

Read the passage below and fill in the blanks with the most appropriate word.

A student in Mandera County (1)**……**history after scoring an A in the last year's form four examination. Ibrahim Abdi Ali, a former student at Sheikh Ali Secondary School (2)**…….** the troubled Rhamu Sub County,(3)**……..……**81 points. No Mandera student had (4)**……..…….**scored an A.

Speaking at Tawfiaq, Secondary School where (5)**…….**has been a Volunteer teacher, Ibrahim said it was by God's (6)**……..….**that he broke the record in the hardship(7)**……..…..**"I challenge students to keep the fire (8)**…….**since it has taken me much perseverance to achieve this," he said.

Ibrahim said he (9)**……**out of school in form two due to lack of fees,(10)**…….……**the Principal of Sheikh Ali came to his rescue.

3.SECTION C(ORAL SKILLS)

READ THE POEM BELOW AND ANSWER THE QUESTIONS THAT FOLLOW.

SUNSET

The sun spun like
A tossed coin
It whirled on the azure sky
It clattered into the horizon
It clicked in the slot
And neon lights popped
And blinked "time expired,"
As on parking meter.

(Oswald Mbusiyeni)

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Questions

(i) Describe the rhyme scheme of the poem. **(2mks)**

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(ii) How would you say the last line of this poem. **(2mks)**

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(iii) State any two onomatopoeic words in the poem. **(2mks)**

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(iv) Identify any other sound pattern used in the poem. **(1mk)**

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(v) State and illustrate three non-verbal cues that you would use to make the recitation of the above poem interesting. **(3mks)**

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B. PROVIDE ANOTHER WORD THAT IS IDENTICAL IN PRONUNCIATION AS THE UNDERLINED WOTDS IN THE SENTENCES BELOW. (6MKS)

(i) Why did the idle bridal party groan?

……

……

(ii) The beer caught the whale.

……

……

(C) INDICATE WHETHER THE FOLLOWING HAVE A RISING OR FALLING INTONATION (3MKS)

(i) What a wonderful watch you have.

……

……

(ii) Hand in your answer sheets now.

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(iii) Can I assist you?

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(D) You are expected to address an assembly of noisy students. How would you ensure that they listen to you? **(4mks)**

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(e) Study the proverb below

Haraka haraka haina Baraka.

(i) Translate the proverb into English. **(1mk)**

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(ii) Explain the meaning of the proverb. **(2mks)**

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(iii) Give an example of a proverb that is similar in meaning to the one above. **(Imk)**

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(f) **BELOW IS AN EXTRACT FROM A DISCUSSION. READ IT CAREFULLY AND ANSWER THE QUESTIONS THAT FOLLOW.**

CHAIRPERSON: Manzee, the teacher of English left us this question. Let's hurry over it and go on with other things. The question is "What role does Wandia play in the River and the Source? Evans, what do you think?

TEDDY: Excuse me. We have not chosen a secretary. How can we go on without one? Everybody chill. Let everybody take down their notes. So, we do not need a Secretary.

EVANS What about the report we have to make. A secretary is necessary for a Discussion of this nature.

CHAIRPERSON: (Furiously) you can't over-rule us here, Evans. You'd better shut up. Wandia is Aoro's wife who offers assistance in raising their family.

FLORA: (Loudly) Noo! But Wandia abandons the family and goes for further studies Abroad. She is……..

DAVE: We are not talking about….

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CHAIRPERSON: Eeh! Stop it! Wandia develops the plot in the story. She agrees to raise Becky's children when the latter dies of AIDS. Let's stop there, discussion Over.

ELIZA: (Amid pandemonium) But we haven't finished the assign.……

CHAIRPERSON: I said over. Next time.

Questions

1.Based on your knowledge of group discussions, identify 3 weaknesses in the discussion. **(3mrks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

101/2

ENGLISH

Paper 2

(Comprehension, Literary Appreciation and Grammar)

Time 2½ hours

INSTRUCTIONS TO THE CANDIDATES

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

b) Sign and write the date of examination in the spaces provided.

c) Answer ALL questions in the spaces provided in this question paper

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	25	
3	20	
4	15	
TOTAL SCORE	**80**	

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1. **Read the following passage and answer the questions that follow.**

The statements, events and reactions of the past couple of weeks surrounding the perennially vexed subject of corruption makes me wonder. Are we on the cusp of the challenge to and confrontation against corruption?

Certainly we have come a long way In identifying and isolating it. Let me give a small example. Twenty one years ago, I wrote a piece for the *Sunday Nation* which was entitled "Why Kenya's looting brigade now has its eyes on public land"

The main **thrust** of the article was that after the monetary excesses of 1992 and 1993, there was a growing penchant for Kenya's looting brigade to next move their focus and activities to public land. The process was as simple and as was crude. A handful of politically connected private individuals or entities would get allocated a prime piece of public land for a nominal sum. A title would be processed and then it would be sold, in part or whole, at a much higher price to a public institution that had the cash resources. It became known as "land grabbing" and most Kenyans can give countless examples of where this has taken place. It was double plunder because not only was the land grabbed; it was often paid out of public resources or savings that were meant for other things.

Today, we talk about this activity and make reference to it with alacrity and in most cases without fear. Not so in 1994.When I first wrote the piece and offered it to the *Sunday Nation*, it passed the relevant tests of being well researched and factually correct, but publishing it was another matter. There was a culture of fear that shrouded the whole country and putting one's head above the parapet was regarded as dangerous and reckless. The piece was pushed around a couple of editorial desks and the decision to publish was **deferred** for a while I recall I was requested to "soften" the piece. When it did eventually get printed, I was very much aware that I might get a backlash and braced myself accordingly. Today, there is much less remaining of that culture of fear but as we have been reminded several times recently, corruption at many levels continues unabated. The **Dossier** compiled by the Ethics and Anti-corruption Authority (EACC) is evidence enough. The stance made by the president on Thursday is also encouraging.

So where to now? There is no doubt that the public outrage the majority of the population, who are mere victims, as opposed to beneficiaries, is gathering the momentum of landslide proportions. We should not underestimate that

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growing anger. This is both unsurprising and gratifying. For most of us, corruption just makes our lives much tougher, more fatiguing and even expensive.

The big question is: how seriously will those who have been named take it? The norm in many countries which aspire to high integrity standards is that when a person is named by such a body as the EACC, then that person should step aside. The onus is on the relevant bodies to complete investigations and prosecute as and when necessary and for the person named to defend him or herself.

That is where we should be heading. The president should make it clear that all the people named in the scandal should step aside. If we move down that road, then we are indeed heading in the right direction. If we do not then this will just be another bout of public gesturing of the bread and circuses variety.

Lastly, the EACC and in turn the Director of Public Prosecution, need to do some serious ground work to fully support and, where applicable, prosecute what is being alleged. We are watching and in a number of cases, rather sceptically.

Questions

a) According to the passage, what statements show that corruption has taken a long time to be addressed? **(2marks)**

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b) From the writer's perspective, what is land grabbing? **(2marks)**

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c) Why is it easier today to talk about land grabbing? **(2marks)**

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d) Why does the writer refer to land grabbing as the double plunder? **(2marks)**

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e) How does corruption affect the wider society? **(2marks)**

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f) What steps should be taken when suspects involved in corruption step aside? Give your answer in note form. **(3marks)**

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g) We should not underestimate that growing anger. (Rewrite in passive) **(1mk)**

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h) In which way can the EACC help in the fight against corruption? **(2marks)**

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i) What is the meaning of the following words as used in the passage? **(3marks)**

i. Thrust

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……

ii. Deferred

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……

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iii. Dossier

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2. Read the following excerpt and answer the questions that follow.

They were silent as they climbed the hill on their way back from Nasila river to draw water. The water containers that they carried on their backs were now heavy. The straps that supported the containers pressed down their heads with a painful exhaustion.

As they walked, each one of them allowed her mind to fleetingly roam the fanciful land of wishful thinking.

Resian thought how wonderful it would be, had she had a chance to enroll at the Egerton University and after graduation had a chance to work with her role model, Minik ene Nkoitoi, the Emakererei at the sheep ranch that she managed. She imagined herself already there driving a large flock of sheep. And when she thought of sheep, her mind flew back to fifteen years or so earlier and **reminisced** the first time she saw a sheep. It was a childhood memory, a memorable picture from the swirling scene around her which had been captured and preserved by her mind when she and Taiyo accompanied their father to the Nakuru Agricultural Show. She could still see in her mind a group of big, docile, tawny woolly animals that stood panting drowsily in a green pasture, with the sun beaming down brightly from a clear blue sky. She had then admired the white long overcoats that the handlers wore.

Taiyo also thought of Emakererei. She would ask Joseph Parmuat, to assist her compose a song in her praise. She had already put words to a tune she had composed to ridicule the three women who she thought **collaborated** with men to oppress the women folk. They were Nasila's three blind mice who, she thought, did not seem to know that the world was changing. Those were the *enkasakutoni,* who threatened to curse *intoiye nemengalana* and ensured they did not get husbands nor children: the midwife Enkaitoyoni who threatened to spy on the young women as they gave birth to ensure that any who was still among *intoiye-nemengalana* had her status altered there and then; and the **dreaded***Enkamuratani,* who would never tire of wielding her olmurunya **menacingly.**

1.Place the excerpt in its immediate context. **(4Mks)**

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2.Identify and illustrate two aspects of style in this excerpt. **(4Mks)**

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3.Discuss two themes evident in the excerpt. **(4Mks)**

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4.Discuss one character trait of Resian and Taiyo in the excerpt. **(4Mks)**

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5.The straps that supported the containers pressed down their heads with a painful exhaustion. Rewrite beginning: with**…….** **(1Mk)**

6.How do Resian's thoughts now come to be fulfilled in future? Briefly explain. **(4Mks)**

7.Explain the meaning of the following words as used in the excerpt. **(4Mks)**

(i) Reminisced

……

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(ii) Collaborated

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(iii) Dreaded

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(iv) Menacingly

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……

……

3 ***Read the poem below and answer the questions thereafter.***

I watched her at the bus stop
White blouse swelling
Before the impatient push
Of breasts earger to be free
Orange skirt billowing provocatively
Under the silken cares
Of the harbor breeze
Eyes flashing with life
I watched her,
But went quickly on my way,
For she was but a secondary student

I would have forgotten her
But I saw her again that night
Glowing in the soft light of mpakani Bar,
Six inches taller
Wide trouser clinging possessively
The youthful thrust of her buttocks

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Before dropping to mask the raised heels
She was transformed!
I wouldn't have recognized her
But for those eyes
So provocatively thirsty
With a pang of jelousy
I glanced at her partner
And chocked into my glass-
My father!
Richard S. Mabala.

a) What is the poem about?Illustrate. **2mks**

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b) Explain the transformation that the subject underwent. **3mks**

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c) Identify two lines from the poem that show that the persona looked at the subject lustfully **2mks**

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d) Identify and illustrate two features of style used in the poem. **4mks**

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e) What is the importance of the first person techniques used in the poem? **2mks**

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f) Rewrite these lines as instructed: **2mks**

i) I wouldn't have recognized her but for those eyes.

(Begin:If…….

……

……

……

ii) I would have forgotten her but I saw her again that night.(Rewrite beginning:Had……

……

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……

g) Explain these expressions as used in the poem:

i) billowing provocatively

……

……

……

ii) mask **(2MKS**

……

……

……

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4 Grammar (15 marks)

a) Rewrite each of the following sentences as instructed do not change the meaning **(3mks)**

i) Makau gives a present to each of his friends during Christmas (Rewrite in passive)

……

……

ii) It began to drizzle as soon as we started our exams (Rewrite beginning: Hardly..)

……

……

iii) "Why do you always come late to work?" The boss asked. ''This is no longer acceptable!" (Rewrite in indirect speech)

……

……

……

b) Rewrite the sentences below replacing the underlined words with appropriate phrasal verb. **(3mks)**

i) Juma always **visited** us when he had time.

……

……

ii) The teacher was **angry** with us.

……

……

iii) We opened school two weeks early to **compensate** for the lost time

……

……

c) Complete the following sentences with the correct form of the word in brackets. **(3mks)**

i) Abudi was liked by all her colleagues because of her **……(humble)**

ii) She was relieved when the three **…… (** passer-by) left her compound.

iii) He **……** (true) believes in hard work.

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d) Replace the underlined words with one word. **(3mks)**

i) He was accused of stealing <u>knives, forks and spoons</u>.

……

……

ii) The <u>brothers and sisters</u> fought over their parent's property.

……

……

iii) The thief stole the <u>container used by young children as toilet</u> mistaking it for a bowl.

……

……

e) Fill in the blank spaces below with the most appropriate preposition. **(3mks)**

i) The Harambee Stars players shared the prize money _____ themselves

ii) They had a super goalkeeper they could depend _____

iii) Our school mission vision and motto are in line _____ the Government policy

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

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ADM NO: …… SIGN: …… DATE: ……

FORM 3

PAPER 3

Instructions

Answer two questions only

One from the novel or the play and the other one imaginative

1.IMAGINATIVE COMPOSITION

Either

a) Write a story starting with:

As I said goodbye to her, little did I know that would be the last time I would be seeing her… **(20 Marks)**

Or

b) Write a composition to illustrate the following proverb:

"Beauty lies in the eyes of the beholder." **(20 Marks)**

2.THE NOVEL (COMPULSORY)

"Blossoms of the Savannah" by Ole Kulet **(20 Marks)**

Female assertiveness is one of the main thematic concerns. Using Resian as a point of reference, justify this statement.

OR

3.THE PLAY (COMPULSORY)

"A DOLL'S HOUSE" BY HENRIK IBSEN **(20marks)**

Using illustrations from the play, A Doll's House by Henrik Ibsen, show how lies and deceit are exposed in the play.

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

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ADM NO: …… **SIGN:** …… **DATE:** ……

312/1

GEOGRAPHY

PAPER 1

TIME: 2¾ HOURS

INSTRUCTIONS TO CANDIDATES:

(a) This paper has **two** Sections **A** and **B**.

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

(c) Answer question **6** and any other **two** questions from Section **B**.

(d) All answers must be written in the answer booklet provided.

SECTION A: (25 MARKS) (ANSWER ALL THE QUESTIONS)

1.a) State two forces that shape the surface of the earth. **(2mks)**

b) State three characteristics of the crust. **(3mks)**

2. a) Distinguish between a coast and a shore. **(2mks)**

b) State three conditions necessary for the formation of a spit. **(3mks)**

3.a) State three ideal conditions for the formation of an artesian well **(3mks)**

b) Give two ways in which underground water may reach the earth surface. **(2mks)**

4.(a) What is a lake **(2mks)**

(b) Give 3 reasons why most of the Rift Valley lakes are alkaline **(3mks)**

5.(a) Highlight **three** natural causes of climate change **(3mks)**

(b) State **two** effects of climate change on the physical environment. **(2mks)**

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SECTION B (ANSWER QUESTION 6 AND ANY OTHER TWO)

6. Study the map extract of Busia sheet 101/1 provided and use it to answer following questions.

a) i) Identify two man made features found in grid square3628. **(2 marks)**

ii) Measure the distance of Provincial boundary from Odiodo Hill to the bend at grid reference 3429 giving your answer in km . **(2 marks)**

iii) Give the magnetic declination when the map was taken **(1 mk)**

b) i) Calculate the bearing and direction of Odiado Hill from Air photo Principal point atgrid square 2539. **(2 marks)**

ii) Citing evidence from the map give two economic activities carried out in the area covered. **(4 marks)**

c) i) Give 3 types of vegetation shown in the map **(3mks)**

ii) Describe the relief of the area covered by the map. **(5 marks)**

d) i) Give the Longitudinal extent extent of the area covered by the map **(2mks)**

ii) Give the two types of scales represented by the map **(2mks)**

iii) Give two drainage features shown in the map **(2 mks)**

7(a) Differentiate between a rock and a mineral **(2mks)**

(b) i) Describe the formation of mechanically formed sedimentary rocks. **(3mks)**

ii) State 3 characteristics of igneous rocks. **(3mks)**

iii) Give 3 examples of metarmophic rocks. **(3mks)**

(c) State 3 characteristics of minerals. **(3mks)**

(d) Students from your school carried out a field study on the type of rocks within their locality

(i) identify any 3 tools they would carrry with them to the field **(3mks)**

(ii) State 3 ways the students would prepare before the field study. **(3mks)**

(iii) Give 2 problems they are likely to encounter **(2mks)**

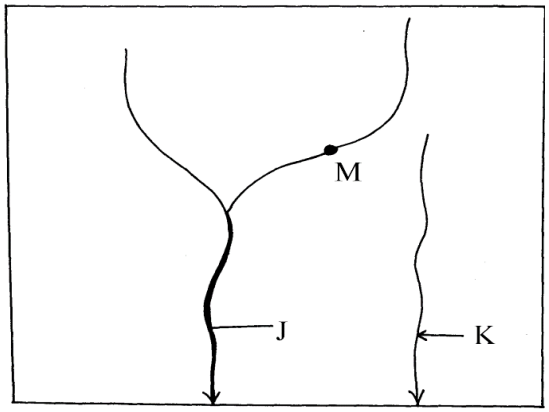
(iv) One of the rock samples they collected is coral. Give 3 uses of this type of rock.

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(3mks)

8. (a)(i) What is river rejuvenation **(2mks)**

(ii) Study the diagram below and answer the questions that follow.



(a) Identify the process represented by the diagram above **(1mk)**

(b) Label the parts marked J and K **(2mks)**

(c) Identify the type of erosion that take place at the point marked M **(2mks)**

(iii) Describe three ways in which a river transport its load **(6mks)**

(iv) With the aid of a well – labeled diagram, illustrate the hydrological cycle **(6mks)**

(v) Give the significance of river to human Activities. **(6mks)**

9.a) (i) Define the term faulting **(2 marks)**

(ii) Mention three types of features associated with faulting. **(3 marks)**

(iii) With the help of a diagram explain the formation of the rift valley through the tension process.

(iv) Supposing you were to carry out a field study on the Rift Valley. **(7 marks)**

b) (i) State any two objectives of the study. **(2 marks)**

(ii) State three importance of studying faulting through field work. **(3 marks)**

(iii) Explain four significance of faulting to human activities. **(8 marks)**

10. (a) What is weathering? **(2 marks)**

(b) Give **five** processes involved in physical weathering. **(5 marks)**

(c) (i) Apart from plants, give **four** factors that influence the rate of weathering**.** **(4 marks)**

(ii) Explain **three** ways in which plants cause weathering. **(6 marks)**

(d) Explain **four** effects of weathering. **(8 marks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

TERM III

GEOGRAPHY PAPER 2

FORM 3

TIME: 2 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

- THIS PAPER CONSISTS OF TWO SECTONS: A AND B
- ANSWER ALL QUESTIONS IN SECTION A
- IN SECTION B, ANSWER QUESTION 6 AND ANY OTHER TWO

SECTION A: 25 MARKS

1 a) Name two areas where gold is mined in South Africa **(2mks)**

b) State three ways in which mining create employment in Kenya **(3mks)**

2 a) Distinguish between a forest and forestry **(2mks)**

b) List three hard wood tree species in Kenya **(3mks)**

3 a) Differentiate between statistics and statistical methods **(2mks)**

b) List three sources of secondary data **(3mks)**

4 a) Name two oil producing countries in Middle East **(2mks)**

b) Give three by-products obtained when crude oil is refined **(3mks)**

5 a) Explain why mining is regarded as a robber industry **(2mks)**

b) Explain why petroleum, oil and natural gas are not regarded as minerals **2mk)**

c) Name one area in Kenya where gold is mined **(1mk)**

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SECTION B: 75 MARKS

ANSWER QUESTION SIX AND ANY OTHER TWO

6 The table below represents the rainfall and temperature data of station Y for one year. Study it and answer the questions that follow:

Month	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rainfall(mm)	5	10	33	40	60	100	75	40	30	15	5	5
Temp	23	24	25	27	27	29	28	27	26	25	24	24

a) Calculate the following:

I) Annual temperature range **(2mks)**

II) Mean monthly temperature **(2mks)**

III) Annual Rainfall **(2mks)**

b) Draw a combined line and bar graph to represent the data **(8mks)**

c) Describe the characteristics of the polygraph in b above **(6mks)**

d) Apart from choosing and labeling the vertical scales for rainfall and temperature, state four other steps to be followed in constructing a polygraph **(4mks)**

e) Give one disadvantage of this type of graph (1mk)

7 a) Define the term mineral **(2mks)**

b) I) Name two areas in South Africa where diamond is mined **(2mks)**

ii) Give four ways in which minerals occur **(4mks)**

c) I) Explain Three negative effects of mining on the environment **(6mks)**

ii) Identify any two methods of mining **(2mks)**

Iii) Name a port through which minerals in East Africa are exported **(1mk)**

d) Explain four ways in which soda ash contributes to the economy of Kenya **(8mks)**

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8 a) i) Name two provinces where forests are found in Canada **(2mks)**

ii) Give three tree species that are found in Canada **(3mks)**

b) Explain three ways in which the transportation of logs in Canada Differ from Kenya **(6mks)**

c) Explain four problems that face forestry in Canada **(8mks)**

d) A form four class conducted a field study in a forested region in the area around their school

i) Identify two main categories of hypothesis that the students would have formulated **(2mks)**

ii) Identify four activities the students could have been involved in during the study **(4mks)**

9 a) i) Identify the two types of photographs **(2mks)**

ii) State three advantages of using photographs as a technique of recording data **(3mks)**

iii) With reference to ground photographs explain the meaning of

Dead ground **(2mks)**

Fore ground **(2mks)**

Back ground **(2mks)**

B) **<u>Study the photograph below and use it to answer the questions that follow</u>**



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i) Name the type of photograph shown **(1mk)**

ii) Describe the appearance of the forest shown on the photographs **(7mks)**

c) Name the kind of farming activity in the photograph **(1mk)**

d) Name the type of trees shown in the photograph **(1mk)**

e) Compare tree harvesting in Kenya and Canada **(4mks)**

10. (a) State 3 factors influencing distribution and types of natural forests in Kenya . **(3mks)**

(b) List 4 characteristics of coniferous forest. **(4mks)**

(c) Explain 4 importance of forests in kenya . **(8mks)**

(d) Students of your school decided to carry out a field study in nearby forest.

(i) Give 3 importance of the previsit. **(3mks)**

(ii)State 3 reasons why they needed a route map. **(3mks)**

(iii)State 2 follow-up activities the students will have after the field study. **(2mks)**

(iv) Give 2 reasons why students required a working schedule. **(2mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

311/1

FORM 3 HISTORY AND GOVERNMENT

PAPER 1

TIME:2HRS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

1. This paper consists of three sections;A,B&C

2. Answer ALL the questions in section A, THREE questions from section B and TWO questions from section C.

4. Candidates should check the question paper to ascertain that no questions are missing.

5. Candidates should answer questions in ENGLISH.

SECTION A- 25 MARKS

1 Give two ways in which archaeologists identify a pre-historic site. **(2mks)**

2.Identify one natural factor that caused the Abagusii to migrate from Mount Elgon region to their present homeland. **(1mk)**

3.State the main factor that contributed to the growth of city states along the Kenya coast before 1500 AD. **(1mk)**

4 Give one way in which the translation of the Bible into vernacular languages facilitated the spread of Christianity in Kenya. **(1mk)**

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

6 Give two economic responsibilities of a Kenyan citizen. **(2mks)**

7 Identify two problems that have been experienced in the constitution making process in Kenya. **(2mks)**

8.State the main reason why African resistance was defeated in Kenya during the colonial period. **(1mk)**

9 Name two Independent Schools Association which emerged in central Kenya during the colonial period. **(2mks)**

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10 State two objectives of the missionary education in Kenya during the colonial period. **(2mks)**

11 State two similar grievances of the Taita Hills Association and the Ukamba Members Association to the colonial government. **2mks**

12 Outline two ways in which the ex-soldiers of the second world war contributed to the struggle for independence in Kenya. **(2mks)**

13 Identify two ways in which the results of the collaboration of the Maasai with British was similar to that of the Wanga. **(2mks)**

14 Identify two trade unions which joined to form the Kenya Federation of labour during the struggle for independence in Kenya. **(2mks)**

15 Name the first African to be appointed as minister in Kenya by the colonial government. **(1mk)**

SECTION B – 45 MARKS

INTRUCTIONS

Answer any three questions from this section

16(a) Identify the three Luo groups which migrated into Kenya during the pre-colonial period. **(3mks)**

b) Describe the political organization of the Luo during the pre-colonial period. **(12mks)**

17(a) State three factors that influenced Seyyid Said's decision to transfer his capital to Zanzibar.

b) Explain any six social effects of the Indian Ocean trade. **(12marks)**

18(a) State three ways in which Africans benefitted from the Devonshire White Paper of 1923. **(3mks)**

(b) Explain six challenges faced by European settlers in Kenya during the colonial period. **(12 mks)**

19(a) State three problems that were faced by early political organizations. **(3mks)**

(b) Explain six impacts of Mau-Mau uprising in Kenya. **(12 mks)**

SECTION C – 30 MARKS

INTRUCTIONS

Answer any TWO questions from this section

20.(a) State three circumstances that can make a Kenyan citizen to be denied the right to life. **(3mks)**

(b) Explain six civic responsibilities of a Kenyan citizen. **(12mks)**

21.(a) Give three reasons why national integration is important in Kenya. **(3mks)**

(b) Describe six principles of democracy today. **(12mks)**

22.(a) Identify five requirements in the constitution making process. **(5mks)**

(b) Describe five features of the independence constitution of Kenya. **(10mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

HISTORY AND GOVERNMENT PAPER 2

Time 2 ½ Hours

Instructions

The paper contains three sections A, B and C

Answer All questions in section A, Three questions in section B and TWO questions in section C in the answer sheets provided.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION (25 MARKS)

1.State two advantages of land enclosure system in Britain **(2mks)**

2.State two industries that were established by the early man **(2mks)**

3.Give one result of the invention of the wheel in Mesopotamia **(1mk)**

4.Name the first people to use iron in the world **(1mk)**

5.Identify two terms of the Berlin conference of (1885). **(2mks)**

6.Name any two countries that were colonized by Portugal in Africa **(2mks)**

7.State two roles of the tuaregs in the trans-saharan trade **(2mks)**

8.State the contribution of Alexander Graham Bell in communication **(1mk)**

9.Name the two territories acquired by Germany from France during the France – Prussian war of 1870 – 1871**.(2mks)**

10. State two functions of the Buganda tradition at parliament **(2mks)**

11. Mention two functions of the Emirs in Northern Nigeria during the colonial period **(2mks)**

12. Give two reasons functions of London as an early urban centre in Europe **(2mks)**

13. Identify two uses of Broze in Egypt **(2mks)**

14. Identify the MAIN factor that led to the use of the ancient town of Meroe **(1mk)**

15. Name one country that was not colonized by Europeans in Africa **(1mk)**

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SECTION B (45 MARKS)

Answer any 3 questions from this section

16. (a) State 5 uses of tools made by man in the middle stone age period **(5mks)**

(b) Describe the way of life of the early man in the New stone age period **(10mks)**

17. (a) State five ways through which slaves were obtained during the Trans-Atlantic slave trade.

(b) Explain five factors that led to the decline of the Trans-Atlantic trade **(10mks)**

18. (a) State five causes of the maji maji rebellion **(5mks)**

(b) Explain 5 results of Lewanika's collaboration with the British **(10mks)**

19. (a) Name three early written forms of communication **(3mks)**

(b) Explain six ways in which the modern society has benefited from the development in telecommunication **(12mks)**

SECTION C (30 MARKS)

Answer any 2 questions from this section

20.(a) State Three symbols of royal authority in Buganda Kingdom **(3mks)**

(b) Describe the political organization of the Buganda kingdom **(12mks)**

21.(a) State five characteristics of a good constitution **(5mks)**

(b) Explain 5 advantages of a written constitution. **(10mks)**

22. (a) State Three reasons why the British applied the policy of indirect rule in their colonies **(3mks)**

(b) Explain six results of African collaboration to European Invasion **(12mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

JINA: ……

SHULE: ……..

NAMBARI YA USAJILI: …… SAHIHI: …… TAREHE: ……

102/1

KISWAHILI

KARTASI YA KWANZA

INSHA

KIDATO CHA TATU

MUDA: SAA 1 ¾

MAAGIZO

(a) Andika insha mbili.

(b) Insha ya kwanza ni ya lazima kisha uchague insha nyingine moja kati ya hizo tatu zilizosalia.

(c) Kila insha isipungue maneno 400.

(d) Kila insha ina alama 20.

1. Wewe ni katibu wa chama cha kiswahili shuleni mwenu. Andika kumbukumbu za mkutano uliofanywa hivi karibuni kuzungumzia mikakati ya kuboresha kiswahili shuleni.

2. "Utalii una madhara mengi kuliko faida hapa nchini" Jadili.

3. Andika kisa kitakachodhihirisha maana ya methali: Yaliyopita si ndwele, tugange yajayo.

4. Andika kisa kitakachomalizia kwa: …….. tangu siku hiyo nilitanabahi kuwa marafiki wengine ni kama lumbwi.

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

JINA: ……..……..……..

1.UFAHAMU

Soma makala yafuatayo kisha ujibu maswali:

Kwa nafsi ya pekee napenda kupongeza hatua ya wananchi wa kanda mbalimbali kupata nafasi ya kushiriki katika jukwaa la wazi ili kuzungumzia mambo yanayoathiri afya za wasichana na wanawake nchini.

Masuala matatu yanayoathiri afya za wasichana na wanawake yamekuwa yakijadiliwa ambayo ni vifovya uzazi, vipigo kwa wanawake na ukatili dhidi ya wasichana walioajiriwa kufanya kazi majumbani.

Lengo kubwa la majadiliano hayo ni kuuwezesha umma kujadili jinsi gani matatizo hayo yanaweza kupungua nchini na ndio maana watu wa mamlaka mbalimbali, wanasheria, madaktari, wanaharakati wa haki za kibinadamu wa wananchi kwa jumla.

Nashukuru kuwapo kwa jukwaa hili kwani washika dau wameamua kujadili suala la vifo vya wanawake kwa sababu tatizo hilo ni kubwa na wanawake wanaendelea kupoteza maisha kila siku wakati jamii inaweza kuokoa maisha yao.

Ripoti ya taifa kuhusu watu na afya ya mwaka 2004/2005 inakadiriwa kuwa idadi ya wanawake wanaofariki kutokana na matatizo ya uja uzito ni 24 kwa siku, wakati kila mwaka wanawake 578.

Pamoja na kwamba sera na sheria zipo lakini kumekuwa na mzunguko mrefu wa kushughulikia matatizo yanayowakabili wanawake.

Umefika wakati jamii inapaswa kutambua kazi ya wafanyakazi wa majumbani ni taaluma na iheshimiwe na vile vile umefika wakati wa kuokoa maisha ya akina mama wajawazito lakini yatawezekana iwapo kila mmoja katika jamii atawajaibika na kuchukua nafasi yake kuzuia manyanyaso zaidi dhidi ya wanawake wa Kiafrika.

a) Eleza azma ya mwandishi wa makala haya. **(alama 2)**

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b) Pendekeza anwani ya makala haya. **(alama 1)**

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c) Taja masaibu yanayowakumba wanawake ukirejerea kifungu hiki. **(alama 3)**

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d) Eleza kizingiti kikuu cha kukambili matatizo ya wanawake kulingana na taarifa hii **(alama 2)**

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e) Taja hatua tatu ambazo washika dau wafaa kuchukua ili kutatua tatizo hili linalokumba wanawake. **(alama 3)**

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f) Eleza maana ya msamiati na mafungu yafuatayo kama yalivyotumika kwenye makala. **(alama 4)**

i) Kushiriki katika jukwaa

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ii) Kumekuwa na mzunguko

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iii) Wadau .

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iv) Sera .

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2. UFUPISHO

Soma makala yafuatayo kisha ujibu maswali.

SUBIRA HUVUTA HERI

Alipofika umri wa kuvunja ungo, Sarabi alikuwa kibamba aliyevutia yeyote aliyemtia jicho. Ama kweli,kidosho huyu alikuwa mtanashati aidha mlimbwende mithili ya mbega. Naam, alikuwa dhairi shairi kwamba Manani alichukua siku ayami katika kuliwazisha umbo lake tebwere.Chambilecho wahenga na wahenguzi, chema chajiuza kibaya chajitembeza.

Hata hivyo,shakawa si dawa ya kosa.Sarabi alijipata katika aila fukara hohe hahe.Wavyele wa kipusa huyu hawakuwa na mbele wala nyuma.Bukrata wa ashiya ilikuwa ni kukuru kakara katika harakati za kupata riziki.Cha mno ni kwamba iliwabidi kupanga mbavu huku matumbo yakililia haki zao. Naam, ulitima uliendelea kuwaandama falau kupe kwenye mkia wa ng'ombe.

Maadam ya uchefuchefu wa dirhamu, mwana mwali huyu hakudiriki kuitia ozi milango ya shule. Wasemao husema kuku wa mkata hatagi,na akitaga hatotoi, na akitotoa hutwaliwa na mwewe. Sarabi alijawa na simazi kuona mahirimu wake wakijishasha kuwa wameelimika na kudai kuwa yeye alikuwa chizi bin bozi,yaani ,mbumbumbu mzungu wa reli. Hata hivyo hakukata tamaa.Alijipa moyo kuwa mja hajikuna ajipatapo.

Muda aliota mbawa na kupaa upesiupesi.Aushi ya Sarabi iliingia masika.Naam, mambo yakawa magumu kama kifuu cha nazi. Hapo ndipo aliamua kuwa maji yamezidi unga. Akawaaga wavyele wake na kukimbilia mjini kutafuta gange.Aisee! Mwenda bure si mkaa bure mathalani huenda akafumaniwa na nyota ya jaha!

Mji ulimpokea kwa mikogo na vitushi.Alipatwa na vikwazo hapa na pale. Ni yale yale ya mahenga kuwa jogoo wa shamba hawiki mjini aidha limbukeni hana siri.Kwa siku nenda siku rudi, alikanyaga lami huku akitumai kuwa atabahatika lakini wapi! kokote alikoenda vibao vya "HAKUNA KAZI" vilimkaribisha. Kukuli kuntu, alijipiga moyo konde na kujipa uhakikisho atafutaye hachoki na hakichoka keshapata.

Maulana si Athumani.Baada ya kutaataa hapa na pale kikuti kilimwangazia.Akabahatika mithili ya tasa aliyejaliwa mwana wa kipekee. Waima , mtegemea Rabuka katu si mtovu. Sarabi alijawa na bashasha mpwito mpwito sitataja kipovu aliyetanabahi yuaona.Gange aliyoipata ilikuwa ni ya tarishi katika shirika la uchukuzi na mawasiliano.Gange bambam na sheshe !

Sarabi alimaizi fika kuwa mchumia juani hulia kivulini. Wakuu zake hawakutoma kumnyeshea sifa fokofoko maadam ya jitihada alizobainisha pale kazini. Haikuchukua muda kwake kupandishwa cheo

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mfululizo huku akipata donge nono la mshahara.Chambilecho magalacha wa lugha, chanda chema huvikwa pete aidha mcheza kwao hutuzwa.

Banati huyu aliwajengea wavyele wake kasri akhiyari kule mjini. Akawafuta machozi ya ufasiki na kuwavika taji la ukwasi mkuu. Wanajamii walipokea pumbao wasiweze kuamini.Iweje wakati hohe hahe wapinduke kuwa mabwenyenye wa kupigiwa mifano? Wengi waliwaonea gere lakini hilo halikuwanyima ile ari ya kupiga hatua.

Sarabi alikuwa mfano maridadi kabisa wa jinsi jitihada zinavyoleta ufanisi mkuu aushini.Nilitazama haya yote kwa mshangao.Ama kweli ulimwengu ni uga wa mafunzo tele .Kila uchao mja hana budi kujijuza mapya na kupata upenye zaidi.Shabashi!

a) Huku ukirejelea uthibitisho wa methali hii, onyesha sehemu ya kwanza namna subira imebainika katika maelezo haya(Tumia maneno 70-80 **(alama 7) (Mtiririko alama 1)**

Matayarisho

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Jibu

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b) Fupisha ujumbe uliomo katika makala haya na uonyeshe sehemu ya pili ya methali "Subira huvuta heri "(maneno 70) (alama 5) (Mtiririko 2)

Matayarisho

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Jibu

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3.**MATUMIZI YA LUGHA**

a) Huku ukionyesha mifano, fafanua dhana ya kiimbo. **(alama 2)**

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b) Weka nomino ‘chai’ katika ngeli mwafaka.Onyesha upatanisho wa kisarufi kwa kutunga sentensi. **(alama 1)**

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c) Andika katika wakati ujao ‘me’ timilifu

Kisu kilimkata mwizi akafa **(alama 2)**

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d) Yakinisha sentensi ifuatayo.

Tafadhali usimwazime kalamu, hatakurudishia. **alama 1**

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e) Toa sifa bainifu za sauti ‘k’ na ‘j’ **(alama 2)**

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f) Tumia maneno haya katika sentensi kulingana na maagizo

i)Kasi(nomino) **(alama 1)**

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ii) Kiziwi (kivumishi) **(alama1)**

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g) Ainisha sentensi hii kiuamilifu

Mzazi amemwandikia mwalimu chakula mezani **(alama 3)**

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h) Changanua sentensi kimuundo kwa kutumia matawi .

Mchezaji atakayeshinda atatuzwa zawadi murua. **(alama 4)**

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i) Tunga sentensi kuonyesha matumizi ya kivumishi cha pekee cha kusisitiza **(alama1)**

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j) Nyambua katika kauli ya kutendata

i) okoa **(alama 1)**

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ii) suka **(alama1)**

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k) Andika katika usemi halisi;Rukia alimwambia Juma kuwa shughuli yao ingemalizika siku iliyofuata. **ala.2**

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l) Eleza matumizi mawili ya alama ya dukuduku.

Toa mfano **(alama 2)**

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m) Sahihisha sentensi :Bahari ambayo iliyochafuliwa imetulia. **(alama 1)**

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n) Tambua dhana inayojitokeza katika sentensi

Sawa ! Nitakurudishia kitabu chako. **(alama 1)**

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o) Onyesha shina la kitenzi katika neno 'walipigana'. **(alama 1)**

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p) Ainisha viambishi- Tuliyemkaribisha **(alama 3)**

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q)Tambua hali tatu tofauti katika sentensi .

Alipokuwa akicheza alianguka akavunjika mguu. **(alama 3)**

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r)Tambua aina za nomino katika sentensi

Kuongoza kwa mtawala huyo kumewaletea wasomali dhiki kuu. **(alama 2)**

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s) Nyoka huyu amemuuma msichana Yule. Andika katika ukubwa. **(alama2)**

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t) Onyesha matumizi ya aina mbili kuu za viwakilishi vya nafsi. **(alama 2)**

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u) Tambua kirai na kishazi :Baba na mama waliofika jana wameondoka. **(alama 1)**

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4.ISIMU JAMII

a) Eleza dhana ya uwingi lugha kama kipengele cha isimu jamii **(alama 2)**

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b) Fafanua mambo manne yanayochangia uwingi lugha katika jamii **(alama 8)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

JINA: ……..……..……..

SHULE: ……..……..……..

NAMBARI YA USAJILI: …… SAHIHI: …… TAREHE: ……

KIDATO CHA TATU

102/3

KISWAHILI

KARATASI YA 3

FASIHI

MUHULA WA TATU

MUDA: Saa 2 ½

MAAGIZO

a) Jibu maswali **manne** pekee.

b) Swali la **kwanza** ni la **LAZIMA**.

c) Chagua maswali mengine **matatu** kutoka sehemu **nne** zilizobaki yaani; Ushairi, Riwaya,Hadithi fupi na Tamthilia.

d) Usijibu maswali **mawili** kutoka sehemu moja.

e) Kila swali lina **alama 20**

f) Majibu yote yaandike kwa lugha ya **Kiswahili.**

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SEHEMU YA A: FASIHI SIMULIZI

1.

a) Taja mifano minane ya vipera vya utanzu wa semi katika fasihi simulizi. **(alama4)**

b) Fafanua sifa zozote tatu za mawaidha katika fasihi simulizi **(alama3)**

c) Eleza umuhimu tatu wa ngomezi. **(alama3)**

d) Eleza istilahi hizi za fasihi simulizi. **(alama3)**

i) Maghani

ii) Mapisi

iii) Misimu/simo

e) Fafanua sifa zozote tatu ambazo mtambaji wa hadithi anastahili kuwa nazo. **(alama3)**

f) Taja methali zozote mbili zilizo na dhana ya tashibihi. **(alama2)**

g) Eleza sifa zozote mbili za nyimbo. **(alama2)**

SEHEMU YA B: USHAIRI

2.Soma shairi lifuatalo kisha ujibu maswali yanayofuata

Mkata ni mkatika,harithi hatoridhiwa
Sina ninalolishika,wala ninalochukuwa
Mlimwengu kanipoka, hata tone la muruwa!
Mrithi nini wanangu?

Sina ngo'mbe sina mbuzi,sina konde sina buwa
Sina hata makaazi,mupasayo kuyajuwa
Sina mazuri makuzi,jinsi nilivyoachwa
Mrithi nini wanangu?

Sina kazi sina bazi ila wingi wa shakawa
Sina chembe ya majazi mno ni kukamuliwa
Nakwa'cheni upagazi,ngumu kwenu ku'tuwa
Mrithi nini wanangu?

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Sina sikuachi jina,mkata hatasifiwa
Hata nifanye la mana,mno mi kulaumiwa
Poleni wangu sana,sana kwenu cha kutowa
Mrithi nini wanangu?

Sina leo sina jana,sina kesho kutwaliwa
Sina zizi sina shina,wala tawi kuchipuwa
Sina wanangu mi sina,sana la kuacha kuraduwa
Mrithi nini wanangu?

Sina utu sina haki,mila yangu meuliwa
Nyuma yangu ili dhiki,na mbele imakaliwa
N'na wana na milik,hadi nitakapofukiwa
Mrithi nini wanangu?

Sina ila kesho kwenu,wenyewe kulongowa
Muwane kwa nyinyi mbinu,mwende pasi kupumuwa
Leo siyo kesho yenu,kama mutajikamuwa
Mrithi nini wananngu?

MASWALI

a) Taja mambo yoyote mawili ambayo mtunzi angewarithisha wanawe. **(alama2)**

b) Eleza sababu ya mtunzi kutoweza kuwarithisha wanawe. **(alama3)**

c) Andika ubeti wa nne kwa lugha nathari. **(alama4)**

d) Dondoa mifano miwili miwili ya: **(alama2)**

i. Inkisari

ii. Tabdila

i. Chambua shairi hili kwa upande wa:

Dhamira **(alama2)**

Muundo **(alama4)**

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e) Eleza maana ya vifungu vifuatavyo kama vilivyotumiwa katika shairi. **(alama3)**

i. Mlimwengu kanipoka

ii. Sina konde sina buwa.

iii. Wingi wa shakawa.

SEHEMU YA C: RIWAYA

A.K Matei: Chozi la Heri

3. Malezi ya watoto katika riwaya ya Chozi la Heri ndicho kitovu cha ufanisi na matatizo yote yanayowapiku watoto. Jadili **(alama 20)**

4. "…, Di, ni mimi… niko hai. Auntie Sauna alishikwa na polisi. ''

a) Liweke dondoo hili katika muktadha wake **(alama 4)**

b) Fafanua sifa za msemaji. **(alama 6)**

c) Eleza tamathali moja ya lugha iliyotumika katika dondoo hii. **(alama2)**

d) Sauna alishikwa na polisi? Elezea kikamilifu **(alama 8)**

SEHEMU YA: D HADITHI FUPI

A.Chokocho na D.Kayanda:

Tumbo Lisiloshiba na Hadithi Nyinginezo

5. "Penzi lenu na nani? . . . . Mgomba changaraweni haupandwi ukamea. Potelea mbali mkate wee!"

a) Eleza muktadha wa dondoo hii. **(alama 4)**

b) Taja na ufafanue mbinu mbili za lugha zilizotumiwa katika dondoo hili. **(alama 4)**

c) Onyesha vile maudhui ya utabaka yanavyojitokeza katika hadithi nzima. **(alama 6)**

d) Eleza sifa sita za mzugumzaji kwenye dondoo. **(alama 6)**

6. Kwa kurejelea hadithi zozote tano katika diwani ya, 'Tumbo lisiloshiba na hadithi nyingine.' Jadili maudhui ya nafasi ya wazazi katika malezi. (alama 20

SEHEMU YA E: TAMTHILIA

P.Kea: Kigogo

7. Tamthilia ya "Kigogo" ni kioo cha uhalisia wa maisha ya jamii nyingi za Kiafrika. Thibitisha.

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

FORM 3 MATHEMATICS

Paper 1

2 ½ Hours

Instructions to candidates

1. *Write your **name, admission number** and **class** in the spaces provided above.*

2. *Sign and write the date of examination in the spaces provided above.*

3. *The paper contains two sections: **Section I** and **Section II**.*

4. *Answer **All** the questions in **section I** and **strictly any five** questions **from Section II.***

5. *All answers and working must be written on the question paper in the spaces provided below each question.*

6. *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*

7. *Marks may be given for correct working even if the answer is wrong.*

8. *Non-programmable silent electronic calculators and **KNEC** mathematical tables may be used, unless stated otherwise.*

For Examiner's use only.

Section I

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

Section II

17	18	19	20	21	22	23	24	**Total**

Grand Total

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SECTION A (50 MARKS)

Answer all the questions in this section

1.Without using mathematical tables or calculator, evaluate. **3 mks**

$$\frac{\left(\sqrt[3]{13824)}\ -4\ \right)}{3+4\ \div 2-5\times 7}$$

2.A watch which looses a half a minute every hour was set read the correct time at 0445hr on Monday. Determine in twelve hour system the time the watch will show on Friday at 1845hr the same week. **3mks**

3.Find the least whole number by which $2^5 \times 5^4 \times 7^3$ must be multiplied with to get a perfect cube. What is the cube root of the resulting number. **3mks**

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4. A woman went on a journey by walking, bus and matatu. She went by bus $\frac{4}{5}$ of the distance , then by matatu for $\frac{2}{3}$ of the rest of the distance. The distance by bus was 55km more than the distance walked. Find the total distance. **3mks.**

5. Equity bank buys and sells foreign currencies as shown:

Currency	Buying (ksh)	Selling (ksh)
1 US Dollar	77.43	78.10
1 S.A Rand	9.03	9.51

A tourist arrived in Kenya with 5 600 US Dollars and changed the whole amount to Kenya shillings. While in Kenya he spent Sh. 201 376 and changed the balance to S.A Rand before leaving to South Africa. Calculate in SA Rand he received. **3 mks**

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6.The size of an interior angle of regular polygon is $3x^o$. While its exterior angle is $(x - 20)^o$. Find the number of sides of the polygon. **3mks**

7.Use reciprocal, cosine and square tables only to evaluate to 4.s.f the expression.

$$\frac{1}{15.79} - (\cos 73.61)^2$$ **4mks**

8.Given that $\text{Sin}(x + 20^o) = \cos(2x + 25)$ find the value of x and hence find the value of $\tan x$. **3mks**

9.A rectangular room is 4m longer than it is wide. If its area is 12 m^2 ,find its dimensions. **3mks.**

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10. The masses of two similar building blocks are 2.7 kg and 800grams respectively. Find the surface area of the larger block if the surface area of the smaller block is 120 cm^2. **3 mks**

11. By completing the square solve the following quadratic equation **4mks**

$$x^2 + 8x + 9 = 0$$

12. Without using a calculator , evaluate: $\frac{\frac{3}{4} + 1\frac{2}{7} \div \frac{3}{7} of\ 2\frac{1}{3}}{\frac{2}{3}(1\frac{2}{7} - \frac{3}{8})}$ **3 mks**

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13. Simplify the expression: $\frac{9t^2 - 25a^2}{6t^2 + 19at + 15a^2}$ **3mks.**

14. A business bought 300 kg of tomatoes at Ksh. 30 per kg. He lost 20% due to waste. If he has to make a profit 20%, at how much per kilogram should he sell the tomatoes. **3mks.**

15. Find the equation of the line through the point (2,3) and parallel to the line $x - 8y - 2 = 0$. Leave the equation in the form $y = mx + c$. **3 mks**

16. A rectangular field measures 308m by 228m. Fence posts are placed along its sides at equal distance apart. If the posts are as far as possible, what is the distance between them. **3mks**

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SECTION II (50mks)

Answer only *five* questions in this section in the spaces provided.

17. Three points P, Q and R are on a level ground. Q is 240 m from P on a bearing of 230°, R is 120m to the East of P.

(a) Using a scale of 1cm to represent 40m, draw a diagram to show the positions of P, Q and R in the space provided below. **4mks**

(b) Determine:

i. The distance of R from Q. **1mk**

ii. The bearing of R from Q. **1mk**

(c) A vertical post stands at P and another one at Q. A bird takes 18 seconds to fly directly from the top of the post at Q to the top of the post at P. Given that the angle of depression of the top of the post at P from the top of the post at Q is 9°, calculate.

i. The distance to the nearest metre the bird covers. **2mks**

ii. The speed of the bird in Km/h. **2mks**

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18. A and B are two towns. Tom left town A at 8:00 am travelling towards town B at an average speed of 90km/h. At 8:21 am on the same day, John left town A for town B travelling along the same road at an average speed of 97km/h. Determine;

(a) The time John caught up with Tom. **5mks**

(b) The distance from town A to the point where John overtook Tom. **2mks**

(c) On the same day, Paul left town B for A at 8:40am travelling at an average speed of 80km/h. He met Tom after 2hours 30 minutes. Determine the distance between A and B. **3 mks**

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19. A surveyor recorded the following information in his field book after taking measurement in metres of a plot.

(a) Sketch the layout of the plot. **4mks.**

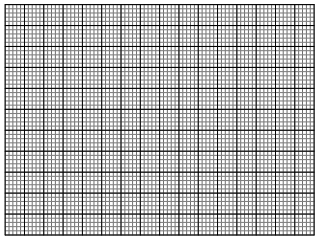
	To E	
	1000	
	880	320 to D
720 to F	640	
	480	600 to C
240 to G	400	
	200	400 to B
	From A	

(b) Calculate the area of the plot in hectares. **6mks**

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20. Complete the table for the function $y = 1 - 2x - 3x^2$ in the range $-3 \leq x \leq 3$ **(2mks)**

X	-3	-2	-1	0	1	2	3
$-3x^2$	-27		-3	0		-12	
-2x		4		0			-6
1	1	1	1	1	1	1	1
Y	-20			1		-15	



b) Using the table above and the graph paper provided, draw the graph of

$y = 1 - 2x - 3x^2$ **(4mks)**

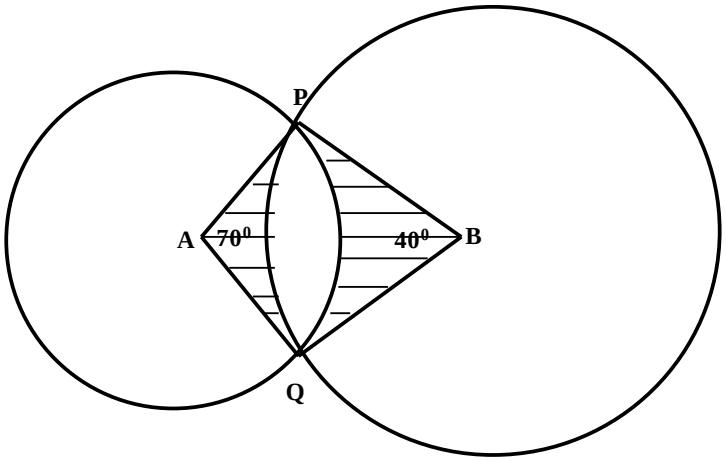
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c) Use the graph in (b) above to solve

i) $1 - 2x - 3x^2 = 0$ **(2mks)**

ii) $2 - 5x - 3x^2 = 0$ **(2mks)**

21. The diagram below shows two circles, centre A and B which intersect at points P and Q. Angle PAQ = 70^0, angle PBQ = 40^0 and PA = AQ = 8cm.



Calculate

(a) PQ to correct to 2 decimal places **2 Mks**

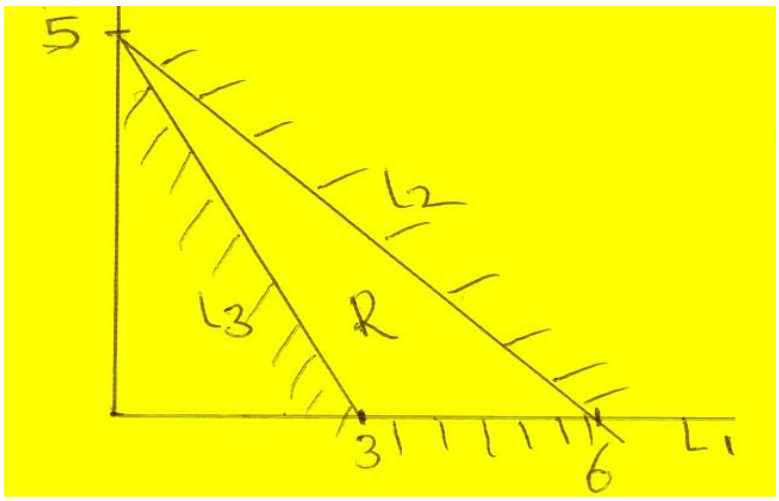
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(b) PB to correct to 2 decimal places **2 Mks**

(c) Area of the minor segment of the circle whose centre is A **2 Mks**

(d) Area of shaded region **4 Mks**

22. The region marked R below is enclosed by three inequalities as shown.



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a) Determine the area of region R **(2mks)**

(b) determine the inequalities that enclose the region

(i) L_1 **(2mks)**

(ii) L_2 **(3mks)**

(iii) L_3 **(3mks)**

23. Three business partners, Bela ,Joan and Trinity contributed Kshs 112,000, Ksh,128,000 and ksh,210,000 respectively to start a business. They agreed to share their profit as follows:

30% to be shared equally

30% to be shared in the ratio of their contributions

40% to be retained for running the business.

If at the end of the year, the business realized a profit of ksh 1.35 Million. Calculate:

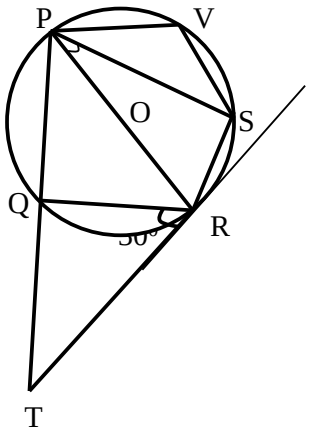
a) The amount of money retained for the running of the business at the end of the year. **(1mk)**

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b) The difference between the amounts received by Trinity and Bela **(6mks)**

c) Express Joan's share as a percentage of the total amount of money shared between the three partners. **(3mks)**

24. In the figure below POR is a diameter. PQT is a straight line, and $\angle QRT = 30^0$ and $RPS = \angle 35^0$. O is the centre of the circle.



Calculate

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(a) Angle PRQ **(2 Marks)**

(b) Angle RPQ **(2 Marks)**

(c) Acute angle SOR **(2 Marks)**

(d) Angle RTQ **(2 Marks)**

(e) Angle PVS (2 Marks)

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

121/2

FORM III MATHEMATICS PAPER 2

2½ HOURS

INSTRUCTIONS TO CANDIDATES

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

b) This paper consists of TWO sections. Section 1 and section 11.

c) Answer all the questions in section 1 and only five from section 11.

d) Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.

e) Marks may be given for correct working even if the answer is wrong.

f) Non-programmable silent electronic calculators and mathematical tables may be used.

g) This paper consists of 16 printed pages.

h) Check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.

For examiners use only

Section 1

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

Section II

17	18	19	20	21	22	23	24	total	Grand total	

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SECTION I

Answer all the questions in this section.

1.Use logarithms to evaluate

$$\frac{1.46\ x\ 183}{0.97\ x\ 0.041}$$ **(3mks)**

2.Find the integral values of x which satisfy the inequalities. **(3mks)**

$2(2\text{-}x) < 4x - 9 \leq x + 11$

3.Make v the subject of the formula

$4N = \frac{M}{p+\frac{1}{V}} + \mathbf{N}$ **(3mks)**

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4.Solve the equation

$9^{x+3} = 243$ **(2mks)**

5.Mutua bought 8 pairs of trousers and six shirts at Sh. 4140. Had he bought twice as many shirts and half as many trousers, he would have saved Sh. 180. Find the cost of each item. **(3 marks)**

6.Determine the equation of the perpendicular bisector of a line joining the points P(-2,-4) and Q(4,8) **(3mks)**

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7.The volume of a cube is $9.261cm^3$. Find

a) the length of the cube **(1mk)**

b) the perimeter of one of it's faces **(1mrk)**

c) the total surface area of the cube **(2mks)**

8.Simplify leaving your answer in surd form.

$\frac{1+3\sqrt{2}}{1-\sqrt{3}}$ **(3mks)**

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9. A play station can be purchased on cash at sh 30,000. It can also be purchased on hire purchase terms at a deposit of sh 10,000 followed by twelve equal monthly installments of sh. 3200 per month. Determine the percentage rate of interest per month. **(3mks)**

10. The floor dimensions of a rectangular tank were measured as 3.4cm by 2.7m. calculate the percentage error in calculating the area of the floor of the tank. **(3mks)**

11. The mean mass of 18 form 4 boys is 64 kg. When their class teacher is added the mean becomes 65 kgs. What is the mass of the class teacher in kilograms. **(3mks)**

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12. The sum of four consecutive odd numbers is 88. Find the numbers. **(3mks)**

13. Solve the equation

$4\cos(2x - 60) = 2$ for the range $0^0 \leq x \leq 300^o$ **(3mks)**

14. Given that $\log y = 3.143$ and $\log x = 2.425$, evaluate

$4 \log y^3 - 3 \log \sqrt[3]{x}$ **(3mks)**

15. Given $OP = \begin{pmatrix} 4 \\ 5 \end{pmatrix}$, $OQ = \begin{pmatrix} 3 \\ 8 \end{pmatrix}$, and $OR = \begin{pmatrix} 7 \\ -4 \end{pmatrix}$

a) Express in column form $p - 2q - 3r$ **(1mk)**

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b) Express PQ and QR as column vectors, hence write QR in terms of PQ. **(2mks)**

16. Triangle ABC is right angled at C. BC = 8cm and AC = 6cm. A perpendicular from C cuts AB at D. Find the length CD. **(4mks)**

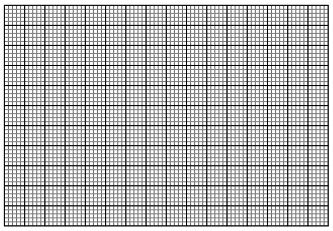
SECTION 11

Answer only 5 questions from this section.

17. Plot trapezium ABCD with vertices A(2,0), B(4,0),C(3,2) and D(2,2) **(1mk)**

a) Find the area of trapezium ABCD. **(1 mk)**

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b) ABCD is reflected in the x – axis to give the image $A^1 B^1 C^1 D^1$. Plot the image and write down its co-ordinates. **(2mks)**

c) The image of $A^1B^IC^I D^I$ under a negative quarter turn about the origin is $A^{III}B^{III}C^{III}D^{III}$. Plot this image and write down its co-ordinates. **(2mks)**

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d) Plot $A^{III}B^{III}C^{III}D^{III}$ the image of $A^{II}B^{II}C^{II}D^{II}$ under an enlargement scale factor -½ and centre (O,O) **(1mk)**

e) Describe fully a transformation that will map $A^{II}B^{II}C^{II}D^{II}$ onto ABCD. **(2mks)**

18. In triangle PQR, PQ=20m,QR=30m and angle PQR=70°.

(a) Calculate

(i) the area of triangle PQR. **(2mks)**

(ii) the length PR **(2mks)**

(iii) the angle QPR **(2mks)**

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(b) T is the top of a 10m pole standing vertically on point Q.

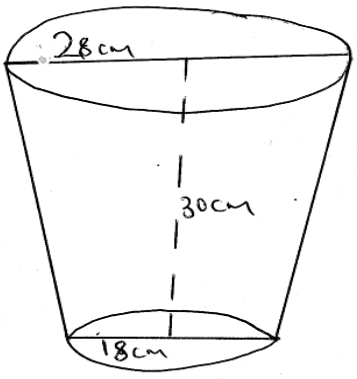
Find

(i) length TP **(1mk)**

(II) length TR **(1mk)**

(iii) area of triangle TPR **(1mk)**

19. A container in the shape of a frustrum of a cone has an internal base diameter of 18cm and internal top diameter of 28cm. the container is open at the top and has a depth of 30cm as shown below.



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a) Calculate

(i) the slant height of the container **(3mks)**

(ii) the capacity of the container in litres **(3mks)**

b) The container is half-filled with water. Calculate the surface area of the container that is in contact with water. **(4mks)**

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20. In triangle OAB, O(O,O) ,A(2,8) and B(10,2). C is the midpoint of OA and E is the midpoint of AB

a) Find

(i) the co-ordinates of C and E **(3mks)**

(ii) the magnitude of CE and OB **(3mks)**

b) Express the vector CE in terms of OB **(1mk)**

c) Given that OM=OE + 2CE, find

(i) the co-ordinates of M **(2mks)**

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(ii) the co-ordinates of the image of M under a translation $\begin{pmatrix}-8\\-2\end{pmatrix}$ **(1mk)**

21. A married man earns a basic salary of sh. 10800 per month and is housed by his employer for a nominal rent of sh. 500 per month. His taxable income is hence deemed to be 115% of his basic earning less the rent paid. He is entitled to a family relief of sh. 1160 per month and a life insurance relief at a rate of 10% of insurance premium of sh. 600 p.m.

a) calculate his taxable income in £p.a. **(1mk)**

b) calculate relief on his insurance in sh p.a **(1mk)**

c) Using the income tax table below

(i) calculate the gross amount of tax he pays in sh p.a **(4mks)**

Income in £ p.a	Rate in sh per £	
1- 2100	2	
2101 -4200	3	
4201- 6300	4	
6301- 8400	5	
Over 8400	6	

(ii)Calculate his net tax in sh. per month **(2mks)**

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(d)Apart from tax,he is also deducted sh 280 for NHIF. Calculate his net earnings in sh per month. **(2mks)**

22. Marks scored by students in a class were recorded as shown below.

35	30	45	64	62	52	37	43	55	49
60	39	54	37	42	59	62	48	57	32
46	64	31	44	56	35	47	38	53	61
46	59	45	51	49	47	40	45	36	46

a) Complete the frequency table below with uniform classes as shown in the first class.

Marks	30-34						
No. of students	3						

b) determine the modal class. **(1mk)**

c) calculate

(i) the mean mark. **(4mks)**

(ii) the percentage of students who scored between 45 and 54 marks. **(2mks)**

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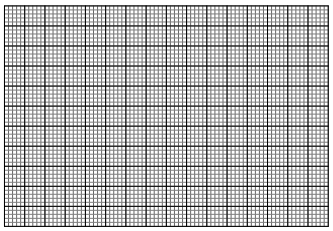
(III) The simplified fraction of students who passed the exam if the pass mark was 45. **(1mk)**

23. The effort E required to lift a load L is partly constant and partly varies as L. Use the table below for values of E and L to answer the questions that follow.

L	2	4	6	8	10	12
E	5.5	6	6.5	7	7.5	8

(a) Write an expression for E in terms of L. **(1mk)**

(b) Draw a graph of E against L **(3mks)**



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c) From the graph,determine

(i) gradient of the graph **(2mks)**

(ii) the E-intercept of the graph. **(1mk)**

d) Write the equation connecting E and L. **(1mk)**

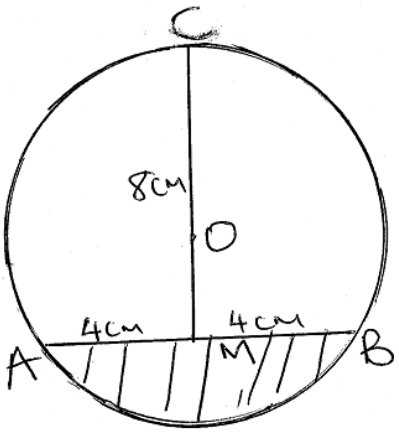
e) Find from the graph

(i) the effort when the load is 7. **(1mk)**

(ii) the load that can be lifted by an effort of 6,25. **(1mk)**

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24. In the figure below, O is the centre of the circle. Chord AB of the circle is 8cm long. CM is perpendicular to AB and CM=AB.



Calculate

(a) the radius of the circle **(3mks)**

b) the obtuse angle AOB **(2mks)**

c) the shaded area **(3mks)**

d) the unshaded area **(2mks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……..

SCHOOL: ……...

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232/1

PHYSICS

PAPER 1 (THEORY)

2 HOURS

INSTRUCTIONS

- Write your name and Index number in the space provided
- Sign and write the date of the examination in the space provided above
- This paper consists of two sections A and B.
- Answer all the questions in the spaces provided.
- All workings must be clearly shown.
- Mathematical tables and silent electronic calculators may be used.
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing

For examiner's use only

SECTION	QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
A	1-13	25	
B	14	12	
	15	12	
	16	12	
	17	11	
	18	8	
		80	

TOTAL CANDIDATE'S SCORE

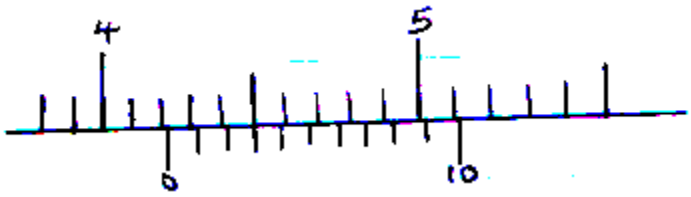
Section A ☐ **+ section B** ☐ = ☐

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SECTION A (25MKS).Answer all questions.

1.The fig. 1 below shows a vernier calliper. State the reading indicated on the instrument. **(2marks)**

Figure 1



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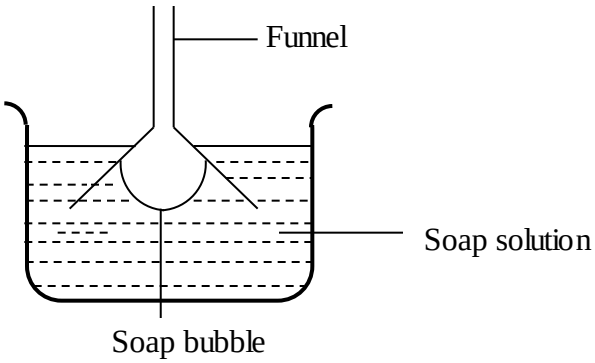
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2.When a body of mass 0.25kg is acted on by a force, its velocity changes from 5m/s to 7.5m/s. determine the work done by the force. **(3marks)**

3. An object weighs 7N on earth where acceleration due to gravity is 10N/kg. Find the acceleration due to gravity on another planet where the same object weighs 5N. **(2 marks)**

4. The fig.2 below shows a funnel dipped into a liquid soap solution.

Figure 2



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Explain what happens to the soap bubble when the funnel is removed from the soap solution. **(1mark)**

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5. Highlight two facts which shows that heat from the sun does not reach the earth surface by convection. **(2marks)**

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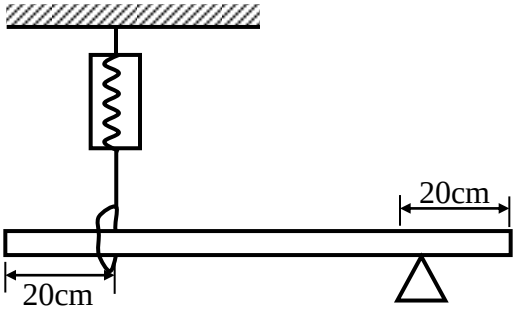
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6. The fig 3 below shows a uniform beam of length 1.2m pivoted near one end. The beam is kept in equilibrium by a spring balance as shown.

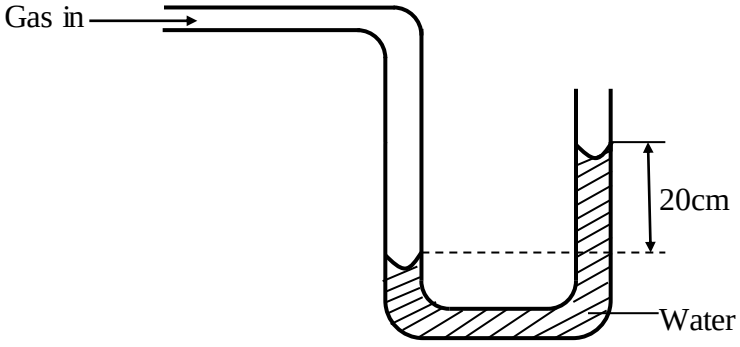
Figure 3



Given that the reading on the spring balance is 0.75N, determine the weight of the beam. **(2marks)**

7. The fig.4 below shows a U- tube manometer open at one end and the other end connected to the gas supply.

Figure 4



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Given that the atmospheric pressure is 1 x 10^5pa and density of water= 100kg/m^3, determine the pressure of the gas. **(3marks)**

8. Smoke particles are observed through the eye piece of a microscope. They are seen to move randomly. Explain what causes this motion.

(1 Mark)

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9. State how the length of a conductor affects its rate of thermal conductivity. **(1mark)**

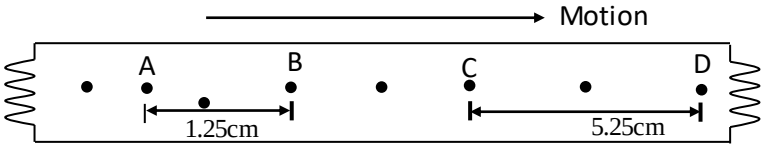
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10. A tape attached to a moving trolley is run through a thicker timer. A section is shown in Fig 5 below. If the frequency of the ticker timer is 50HZ, calculate the acceleration of the trolley. **3marks)**

Figure 5



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11. A load (L) was raised using the system shown in fig.6 (a).The system was modified as shown in fig 5 below and used to raise the same load. Explain the change in efficiency. **(1mark)**

Fig 6(a)

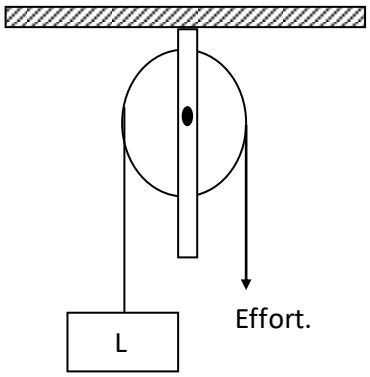
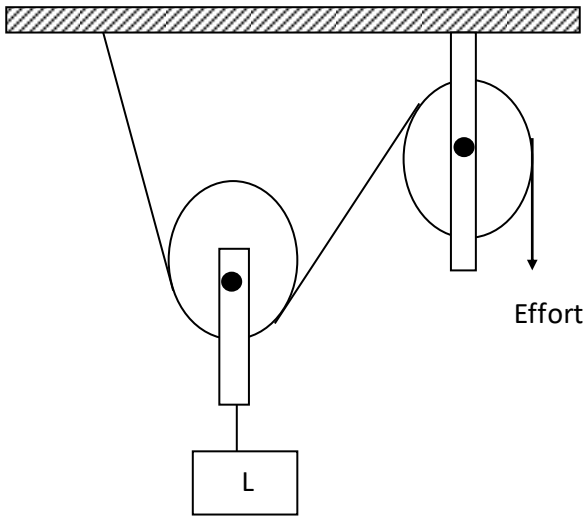


Fig 6(b)



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12. A tout placed a boy on the carrier of a matatu and forgot to tie it up. State and explain what happened to the boy when the matatu suddenly came to a stop. **(2marks)**

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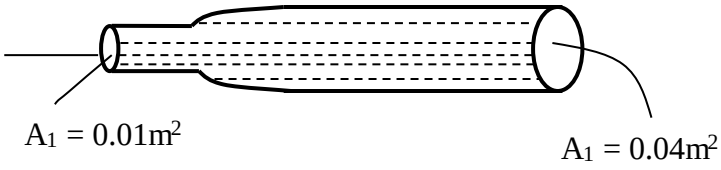
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13. The fig. 7 below shows water entering a pipe at a velocity of 40m/s. The pipe widens on the outlet. Use the information to calculate the velocity of water at end B.

Fig 7



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SECTION B. 55MKS

Answer all questions in the spaces provided below each question.

14. a) Define the term specific heat capacity of a substance. (1mark)

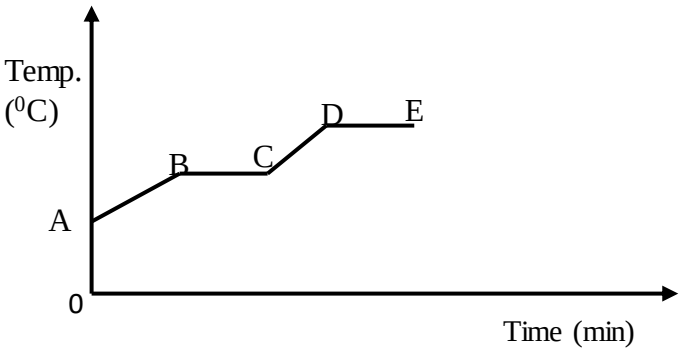
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b) Fig 8 below shows a heating curve of a substance W.

Fig 8



i) Explain the shape of the graph between points.

I) B and C **(1 Mark)**

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II) D and E **(1 Mark)**

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ii) State a reason why the graph did not start from the origin O. **(1mark)**

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c) A block of metal of mass 150g at 120^0C is dropped into lagged calorimeter of heat capacity $40JK^{-1}$ containing 100g of water at 40^0C.The temperature of the resulting mixture is 46^0C.Taking $4200JKg^{-1}K^{-1}$, determine:

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i) The heat gained by the calorimeter **(2marks)**

ii) The heat gained by water **(2marks)**

iii) The heat lost by the metal block **(2marks)**

iv) The specific heat capacity of the metal block. **(2marks)**

15. (a) State Boyle's law. **(2marks)**

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b) With the aid of labeled diagram describe an experiment to verify Boyle's law. **(5marks)**

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c) Why does an air bubble increase in volume as it rises to the surface of water in a boiler. **(2marks)**

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d) A bubble of air rising from the bottom of pond doubles its volume first as it reaches the surface of the pond. Calculate the depth of the pond assuming that the temperature remains constant. **(3marks)**

16. a) Define impulse interms of momentum. **(1mark)**

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b) A particle of mass m, is initially moving vertically downwards with a velocity u, m/s, obtain an expression for changes in kinetic energy after:

i) It has moved freely under gravity for time t. seconds. **(2marks)**

ii) It has moved freely under gravity for a vertical distance ,s, meters. **(2marks)**

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c) A lead ball is placed on the surface of a viscous fluid and released.

i) State three forces acting on the ball as it falls through the fluid. **(3marks)**

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ii) State the force which vary as the ball falls and why the variation. **(2marks)**

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iii) What is meant by the term terminal velocity of the ball. **(1mark)**

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iv) Sketch a graph showing the variation of the displacement of the ball with time from when it was released. **(1mark)**

17.a) Define the following terms:

i) Velocity ratio **(1mark)**

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ii) Mechanical advantage **(1mark)**

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b) Name a device that is used to convert sound energy to electrical energy. **(1mark)**

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c) A bullet of mass 20g travelling at 4000m/s is stopped by a concrete wall. Calculate the amount of energy transferred to the wall. **(2marks)**

d) A spring with a spring constant of 68N/m stretches by 0.22m when a force is applied on it . Determine the energy stored in the stretch spring. **(3marks)**

e) A pulley system having a velocity ratio of 4 is used to raise a load of 80N through a height of 0.6m at a constant speed using an effort of 20N in a time of 15 seconds . Calculate the power developed by the effort. **(3marks)**

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18.a) A matatu starts from rest and accelerates to cover a distance of 49m in 7 seconds. Determine

i) Its acceleration **(2marks)**

ii) Its velocity after 7 seconds **(2marks)**

b) A trolley moving in a horizontal bench of height 1.2m strikes a barrier at the edge of the bench. The brass mass on top of the trolley flies off on impact and lands on the ground 2.5m from the edge of the bench. Determine

i) The time taken by the brass to reach the ground . **(2 Marks)**

ii) The speed at which the trolley struck the barrier. **(2 marks)**

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FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……

SCHOOL: ……

ADM NO: …… **SIGN:** …… **DATE:** ……

232/2

PHYSICS

PAPER 2

TIME: 2 HOURS.

INSTRUCTIONS TO CANDIDATES

- Write your name and your index number in the spaces provided above.
- This paper consists of **two** sections **A** and **B**
- Answer **all** questions in section **A** and **B** in the space provided
- All working **must** be shown in the spaces provided in this booklet.
- Mathematical tables and silent electronic calculators may be used
- This paper consists of 10 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR OFFICIAL USE

Section	Question	Max. score	Candidate's score
A	1-13	25	
B	14	13	
	15	10	
	16	10	
	17	11	
	18	11	
TOTAL SCORE		80	

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1.SECTION A (25 MKS) ANSWER ALL

1. State one similarity between an alkaline battery and lead acid battery. **(1mark)**

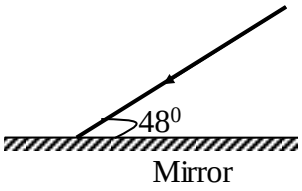
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2.The fig 1 below shows a ray of light incident on a mirror.

Fig 1



Determine the angle of reflection when the mirror is rotated 10^0 anticlockwise. **(2marks)**

3.State the condition under which the potential difference across the terminal of a cell is equal to its e.m.f. **(1mark)**

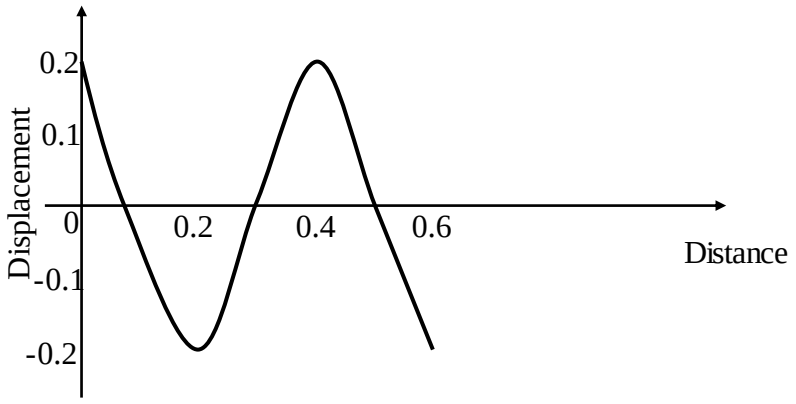
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4.The fig 2 below shows a displacement – distance graph of a wave profile.

Fig 2.



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a) State the amplitude of the wave. **(1mark)**

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b) Given that the period of the wave is 0.255, determine the velocity of the wave. **(2marks)**

5.State the property of light applied in transmitting light signals in optical fibres. **(1mark)**

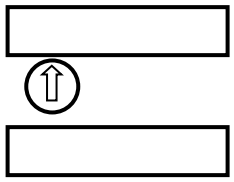
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6.The figure 3 below shows two bar magnets and plotting compass.

Figure 3



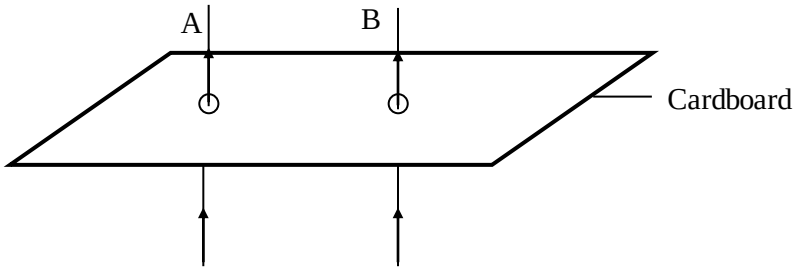
Draw the magnetic field pattern round the bar magnets indicating the polarity of each. **(2marks)**

7. A soldier standing some distance from a wall blows a whistle and hears its echo 1.8seconds later. How far is the wall from the soldier ? (Speed of sound in air = 330m/s) **(3marks)**

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8. The fig. 4 below shows the conductivity wires A and B passing through a horizontal piece of card board



i) Sketch the resultant magnetic field pattern when the currents of high magnitudes are flowing on both wires as shown. **(1mark)**

ii) What is the resulting effect of the field on the wires at the loose ends? **(1mark)**

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iii) If the current in B were to be reversed , state how the resulting effect would affect the wire conductors. **(1mark)**

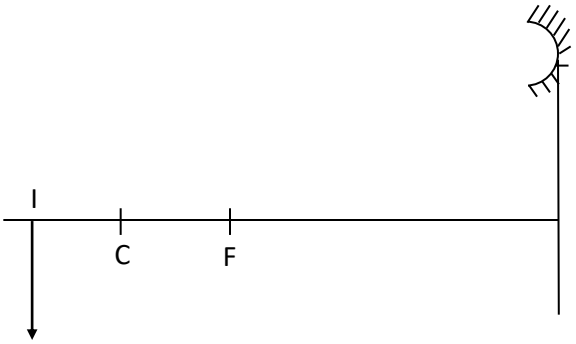
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9. The fig.5 below shows the image, I formed by a concave mirror. Locate using ray diagrams the position of the object. **(2 Marks)**

Figure 5.



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10. A 10μF capacitor is charged by 100v supply and then connected across an uncharged 20μF capacitor. Calculate the final p.d on each capacitor. **(3marks)**

11. Other than temperature, state any other factor that affect the resistance of an ohmic conductor. **(1mark)**

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12. A car battery requires topping up with distilled water occasionally. Explain why this is necessary and why distilled water is used. **(2marks)**

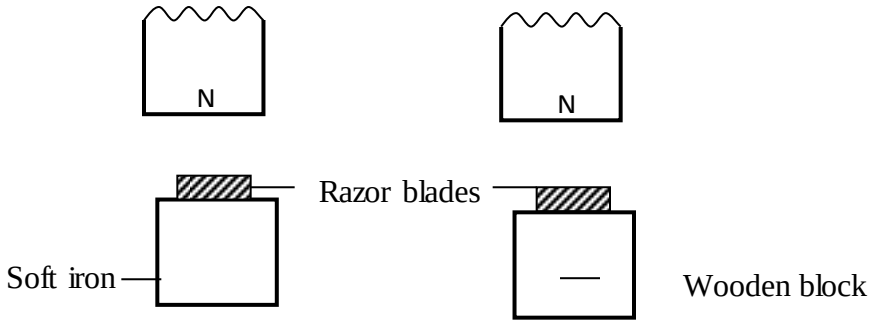
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13. Two similar razor blades are placed one on a wooden block and the other on a soft iron block as shown in figure 6 below.



It was observed that the razor blade on the wooden block was attracted to the magnet while the one on the soft iron block was not. Explain the observation. **(2marks)**

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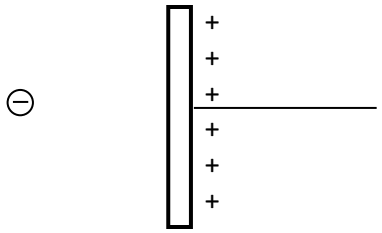
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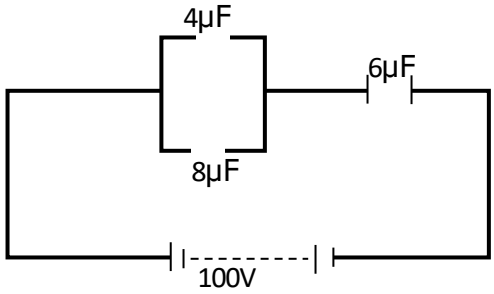
SECTION B (55MKS). ANSWER ALL QUESTIONS

14. a) Draw the electric field pattern in the fig.7 below. **(2marks)**

Figure 7



b) Fig. 8 shows a system of capacitor connected to R 100v supply.



Determine:

i) the effective capacitance of the circuit. **(3marks)**

ii) the charge through the 6μf capacitor. **(3marks)**

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iii) the p.d across the 8μf capacitor. **(5marks)**

c) State the factors that affect the capacitance of a parallel plate capacitor. **(2marks)**

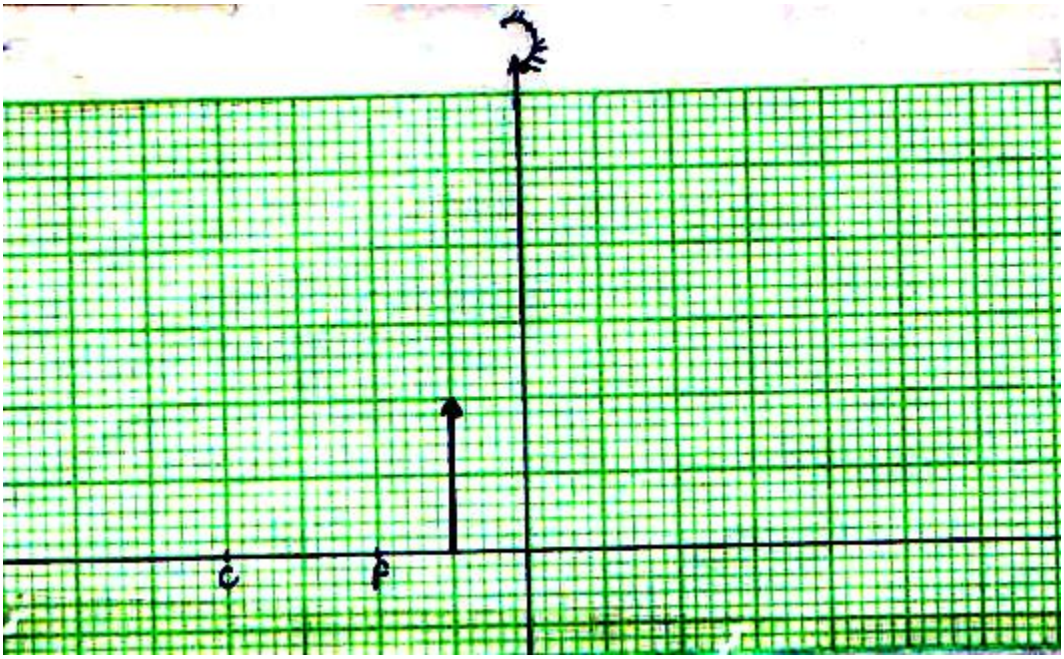
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15. The fig. below shows an object placed in front of a concave mirror of focal length 10cm. C is the center of curvature.



a) On the same fig. draw a ray diagram showing the position of the image. **(3marks)**

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b) Use the ray diagram in (a) above to determine:

i) the image distance. **(1mark)**

ii) magnification. **(1mark)**

iii) State two characteristics of the image. **(2marks)**

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c) A building standing 20M from a pinhole camera produces on the screen of the camera an image 2.5cm high, 5cm behind the pinhole. Determine the actual height of the building. **(3marks)**

16.a) Name the property of light that shows it is a transverse wave. **(1mark)**

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b) State a characteristic of sound, which is determined by a overtone. **(1mark)**

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c) Distinguish between stationary and progressive waves. **(1mark)**

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d) State the condition for a minimum to occur in an interference pattern. **(1mark)**

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e) State two ways by which the frequency of a note produced by a given guitar may be increased. **(2marks)**

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f) In an experiment using ripple tank the frequency, f, of the electric pulse generator was reduced to one third of its value. How does the new wavelength compare with the initial wavelength? Explain you **(3marks)**

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g) State one observable change on water waves when passed from deep to shallow water. **(1mark)**

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17.a) State the Snell's law. **(1mark)**

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

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c) The speed of free light in a prism is 1.94×10^8 m/s.

i) Determine the refractive index of the prism material.(speed of light in air = 3.0×10^8 m/s) **(2marks)**

ii) Determine the critical angle of the prism material. **(2marks)**

d) State the advantage of using optical fibre in communication. **(2marks)**

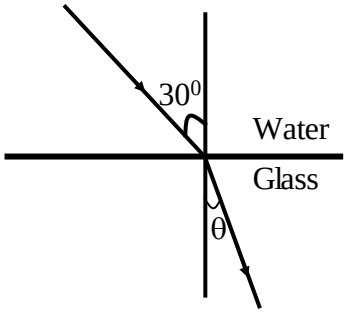
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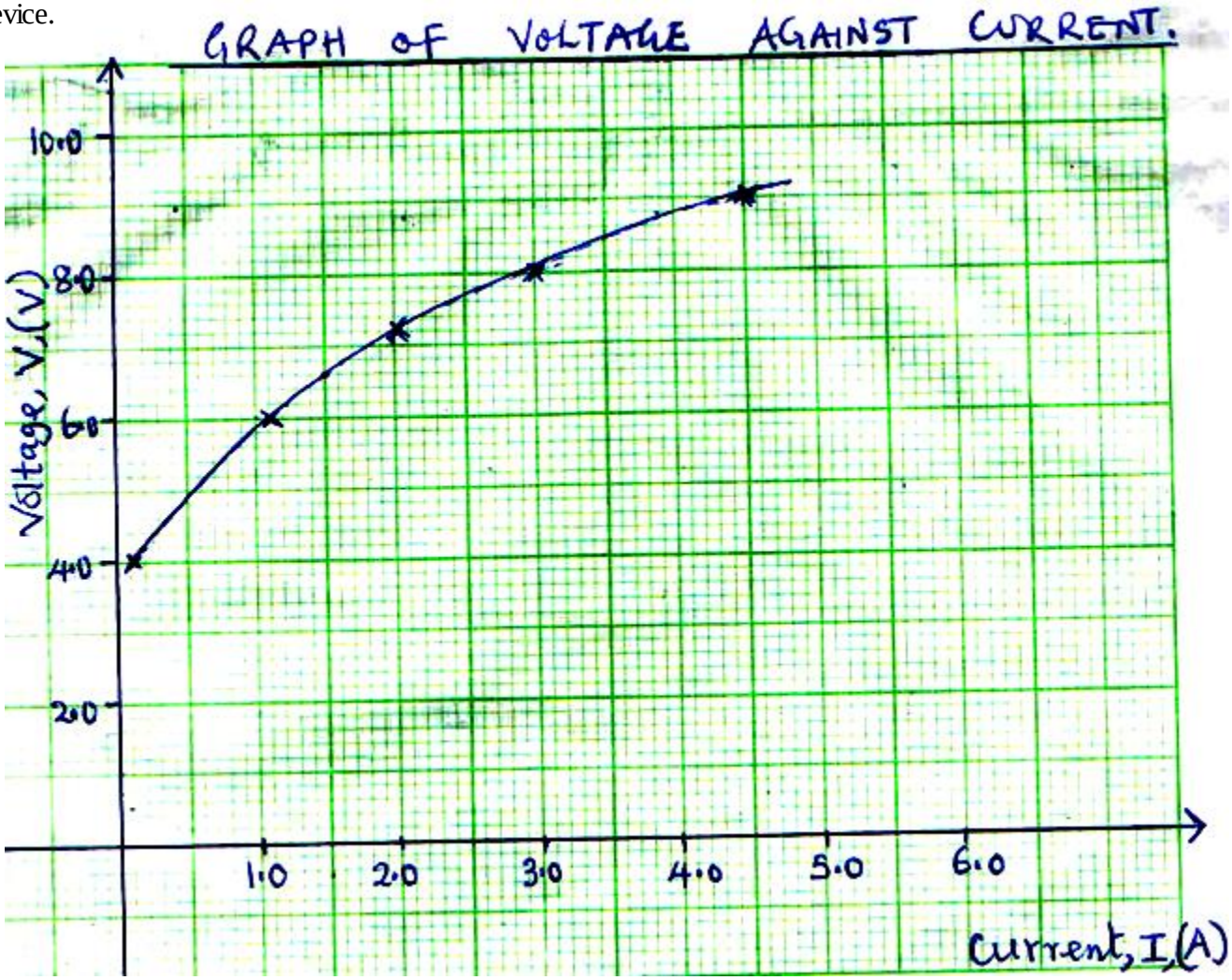
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e) The refractive indices of water and floss are $\frac{3}{2}$ and $\frac{4}{3}$ respectively. Find the value of θ in the fig. below. (2marks)



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18. (a) Figure below shows a graph of potential difference .v(volts) against current , I (amperes) for a certain device.



From the graph:

i) State with a reason whether or not the device obeys ohm's law. **(2marks)**

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ii) determine the resistance of the device at ;

I) I=1.5 A **(2marks)**

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II) I= 3.5 A **(2marks)**

iii) From the results obtained in (ii) state how the resistance of the device varies as the current increases. **(1mark)**

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iv) State the cause of this variation in resistance. **(1mark)**

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b) Three identical dry cells each of e.m.f 1.6v are connected in series to a resistor of 11.4Ω. a current of 0.32a flows in the circuit. Determine:

i) the total e.m.f of the cells. **(1mark)**

ii) the internal resistance of each cell. **(2marks)**

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BRILLIANT STUDENTS

FORM 3 END TERM 3 SERIES 2 EXAMS

NAME: ……..……

SCHOOL: ……..……...

ADM NO: …… **SIGN:** …… **DATE:** ……...

232/3

PHYSICS

PAPER 3

PRACTICAL

FORM 3 EXAMINATION 2

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 $^{1}/_{4}$ 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.
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing

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QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	20	
2	20	
TOTAL	40	

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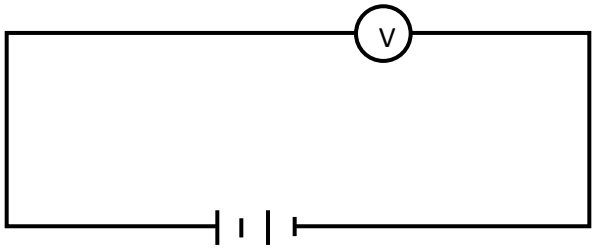
1. You are provided with the following:

- ✓ 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.

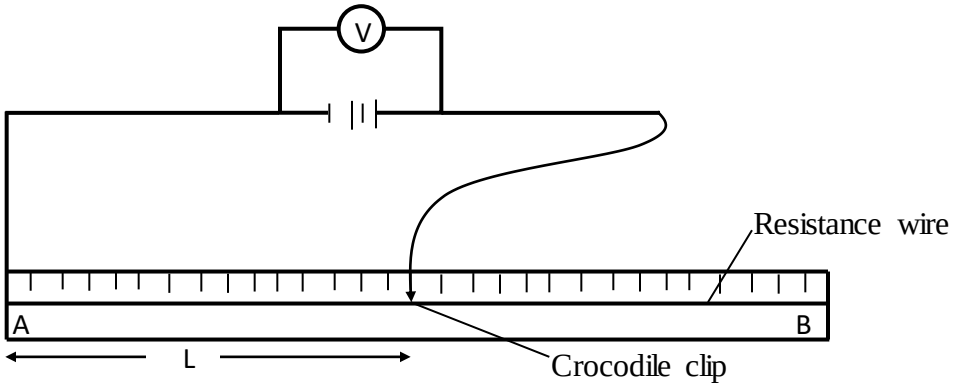
Fig 1



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



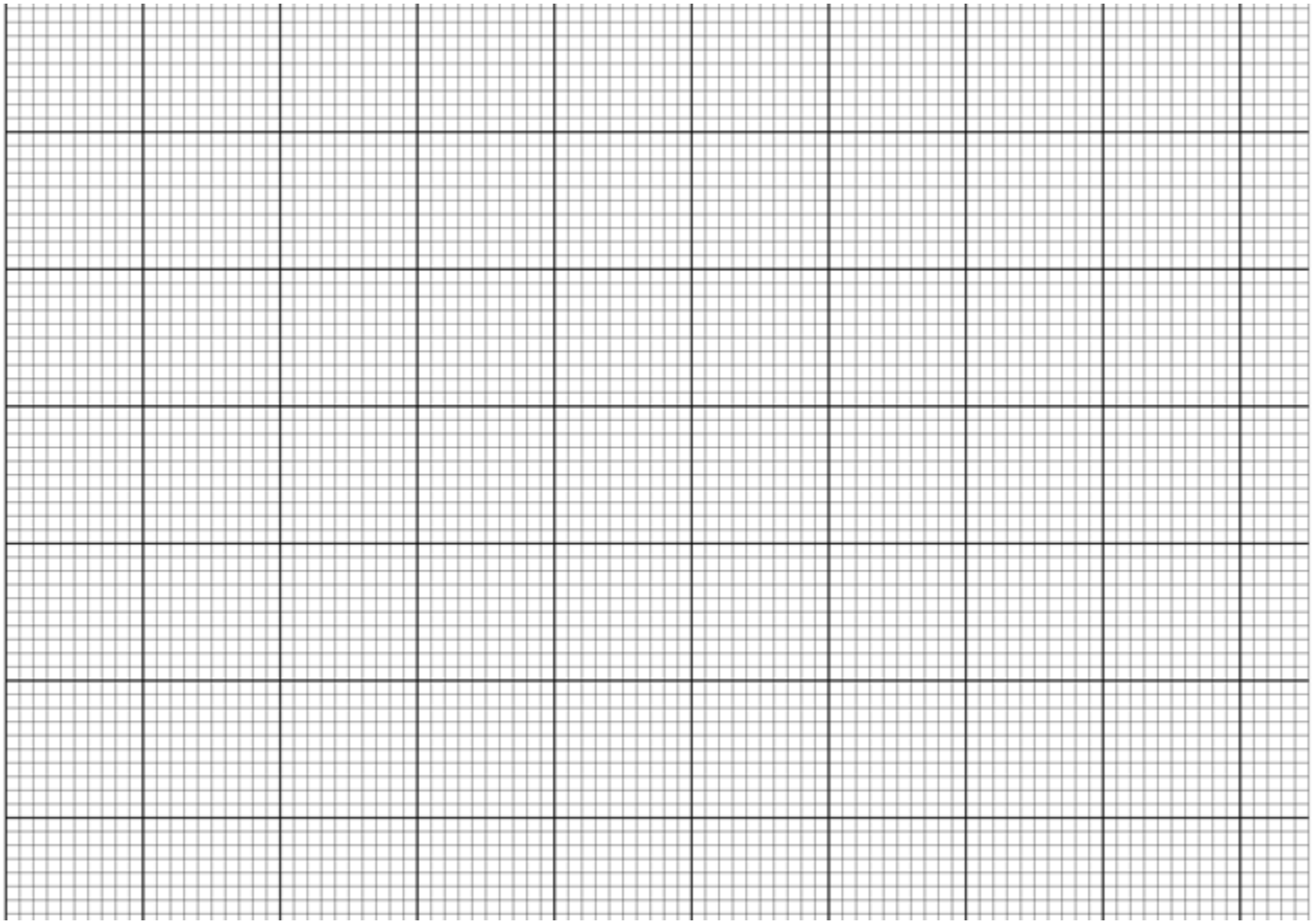
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c) Repeat the procedure in (b) above for the following values of length, L =20cm, 30cm, 40cm, 50cm, and 60cm. Complete the table 1 below. **(7marks)**

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)**



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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).

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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.

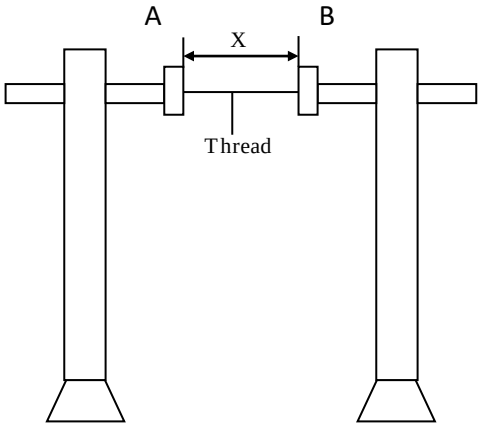


Figure 2 (a)

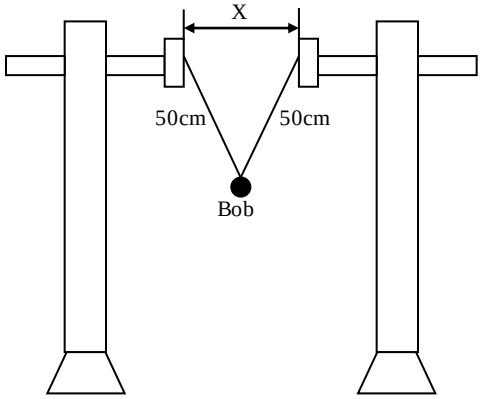


Figure 2 (b)

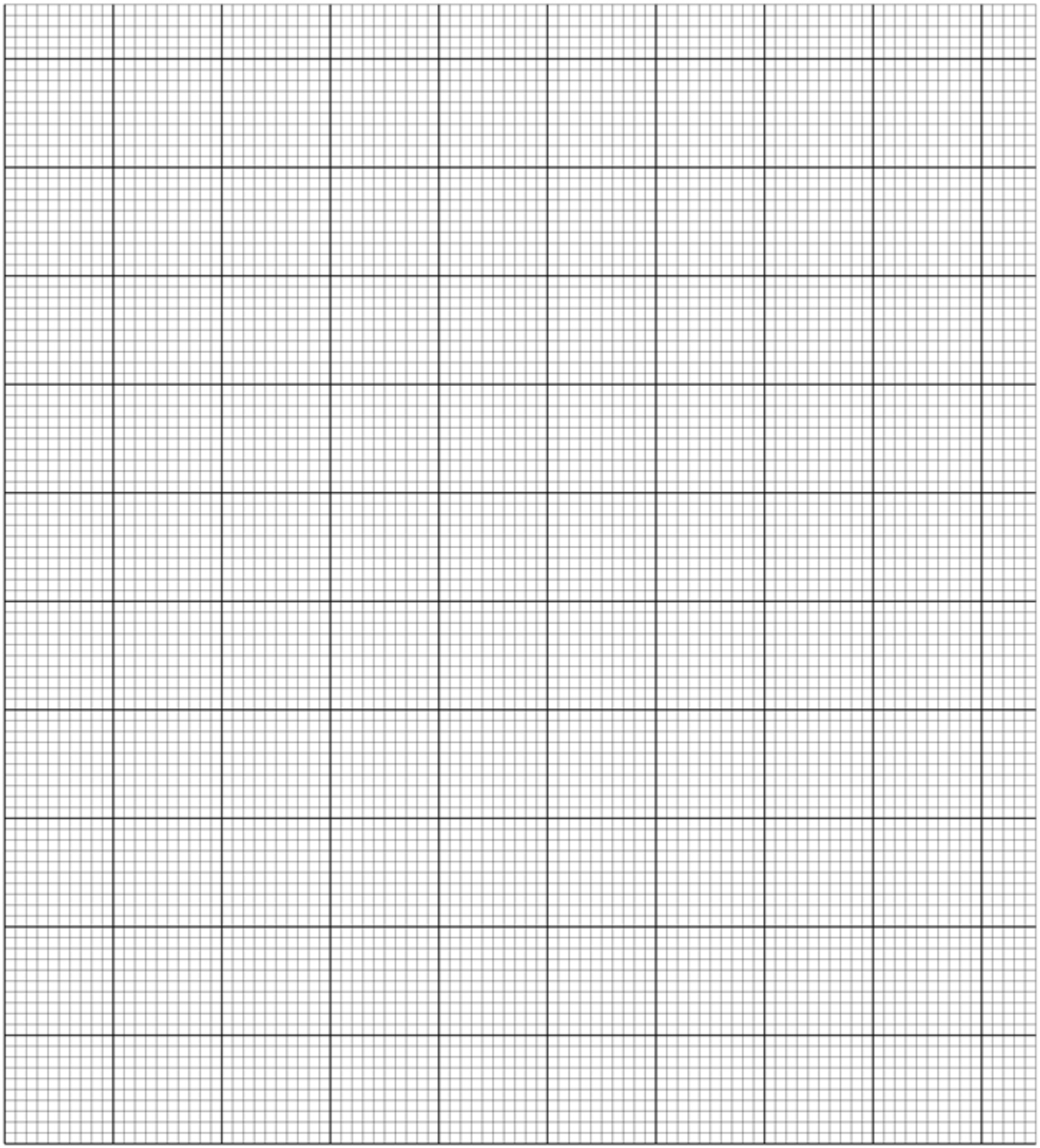
Table 2

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)

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f) Use the grid provided to plot a graph of T^4(vertical axis) against $X^{2.}$ **(5marks)**



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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)**

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