FORM 3 END TERM 2 SERIES 2 EXAMS

'an investment of knowledge pays'

For marking schemes,prefer calling Mdm Mariam:0746711892

Other available resources are;

📌well summarised primary and secondary notes

📌F1-F4 termly exams

📌 primary exams

📌KCSE past papers

📌KCPE past papers

📌Mocks

📌 lesson plans

📌 schemes of work

Note:Exam questions are always free of charge

Marking scheme are not free

FORM 3 END TERM 2 SERIES 2 EXAMS

NAME…………………………………….…………... CLASS…………………………………….

ADM NO…………………………………….………..SIGNATURE…………………………..

DATE…………………………………….………………

FORM 3 END TERM 2 SERIES 2 EXAMS

443 /1

AGRICULTURE PAPER 1

TIME: 2HRS

INSTRUCTIONS

1. WRITE YOUR NAME CLASS AND ADMISSION NUMBER IN THE SPACES PROVIDE ABOVE.
2. ANSWER ALL QUESTIONS IN SECTION A AND B AND ANY TWO IN SECTION C.
3. ENSURE THAT YOUR QUESTION PAPER CONSIST OF THE THREE SECTIONS. SECTION A-30MKS, B-20MKS, C-40MKS.

SECTION A (30 MARKS)
Answer ALL Questions in the Spaces Provided

1. State **two** precautions when handling inoculated seeds.   **(1mk)**

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2. Explain the meaning of the following post-harvesting practices carried out in crops such as beans**.**   **(3mks)**
   (i) Dusting

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   (ii) Threshing

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   (iii) Cleaning

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3. Give **four** characteristics that a good plant used as green manure should possess.**(2mks)**

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4. State **three** ways in which crop rotation may improve soil fertility.   (**3mks**)

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5. State **three** ways in which primary tillage destroy soil-borne pests.   (**3mks**)

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6. Give **four** edaphic factors that influence crop production.   (**2mks**)

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7. **(i)** Define opportunity cost   (**1mark**)

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(ii) Name **Two** types of inventory records kept by farmers   (**1mark**)

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8. **(a)** Give **TWO** importance of sub-soiling   (**1mark**)

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9. **(i)** Give **TWO** destructive effects of moles in crop production   **(1mark)**

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   (ii) Apart from moles, name **TWO** other rodent pests   **(1mark)**

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10. State **FOUR** field pests that attach maize   **(2marks)**

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11. **Differentiate** between apiculture and aquaculture as used in Agriculture   **(1mark)**

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12. State **TWO** ways in which burning leads to loss of soil fertility   **(1mark)**

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13. State **TWO** benefits of hardening off seedlings before transplanting   **(1mark)**

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14.   Give **two** examples of the following: **(3marks)**
    a) Organic manures

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b) Straight fertilizer

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c) Incomplete compound fertilizer

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....

15. Name the primary macronutrient responsible for the following in plants.

i) Protein synthesis

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ii) Proper root establishment and development

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....

16. State **four** factors that would increase the seed rate of maize. **(2marks)**

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17. Give the role of the following in water treatment process. **(3 marks)**

a) Alluminium sulphate

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b) Chlorine

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c) Sodium bicarbonate

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18. List **THREE** soil constituents   **(1 ½ mark)**

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19. State **THREE** ways in which nitrogen is lost from the soil   **(1½ marks)**

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SECTION B (20 MARKS)

Answer all the questions in this section in the spaces provided

20. The diagram below shows a practice in crop production
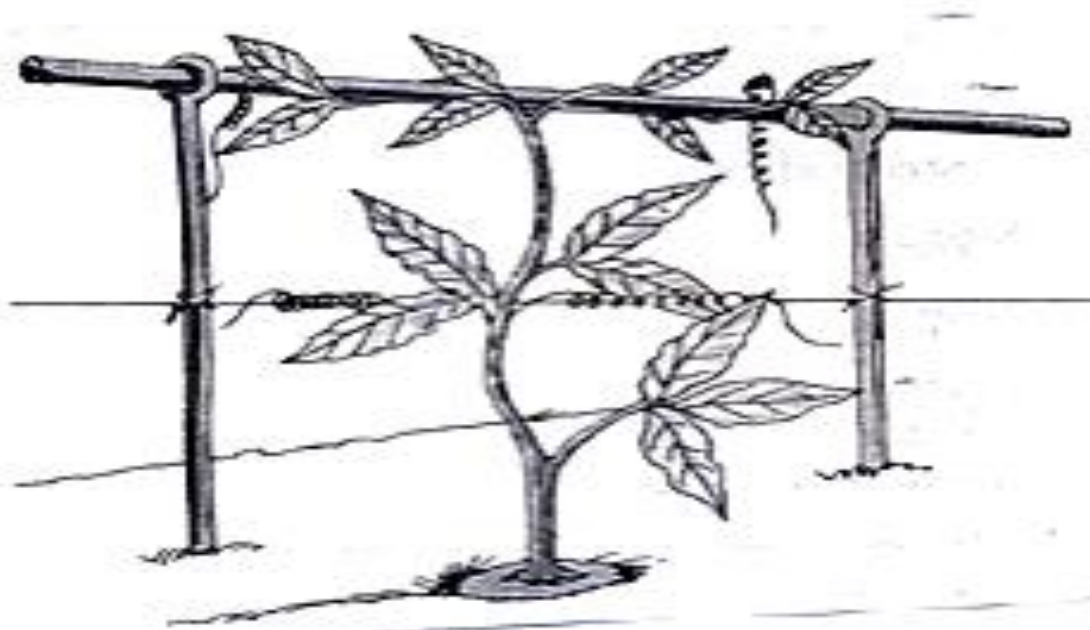
a) i) Give the identity of the field management practice illustrated above   **(½mks)**

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ii) Give **2** reasons for carrying out the above field management practice

(2 mks)

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b) A plot measuring 4m x 3m was prepared for planting cabbages at a spacing of 60 cm x 60 cm. Calculate the plant population in the plot. Show your working **(3mks)**

21 a)   Identify the illustration P and Q which are materials used in propagation of sugarcane (1mk)
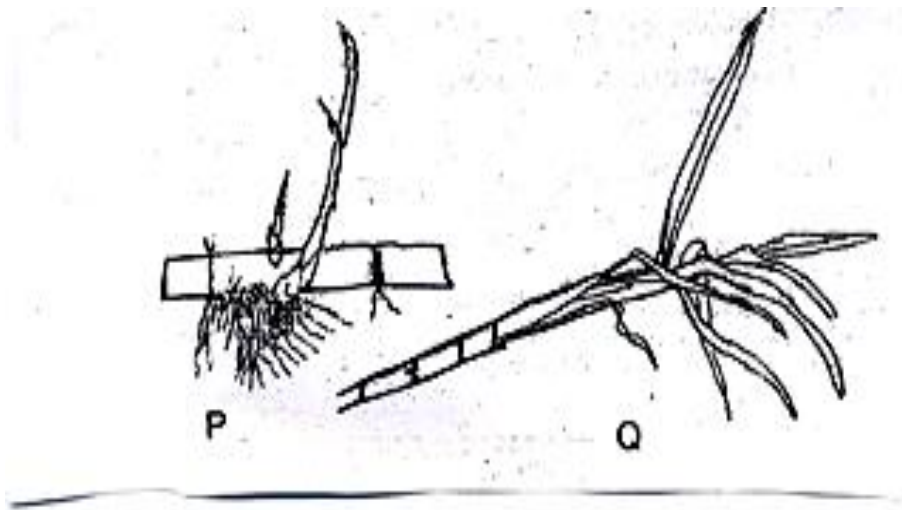
b) Giving reasons which of the above is more suitable as a planting material in sugar cane?   **(2 marks)**

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22. The diagrams below labeled H and J are illustrated of coffee plants establishing using two different pruning systems. Examine them closely and answer the questions that follow.

H

J

a) Name the pruning systems illustrated by diagrams **H** and **J** **(1 mark)**

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………………………………………………………………………………………………
………………………………………………………………………………………………

b) Give two advantages of pruning system illustrated by diagram Hover that one illustrated by diagram J **(2 marks)**

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c) Name two types of pruning that should be carried out after the coffee bush has been established using the system J **(2 marks)**

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23. The diagrams V and W illustrate some soil structures. Study the diagrams and answer the questions that follow
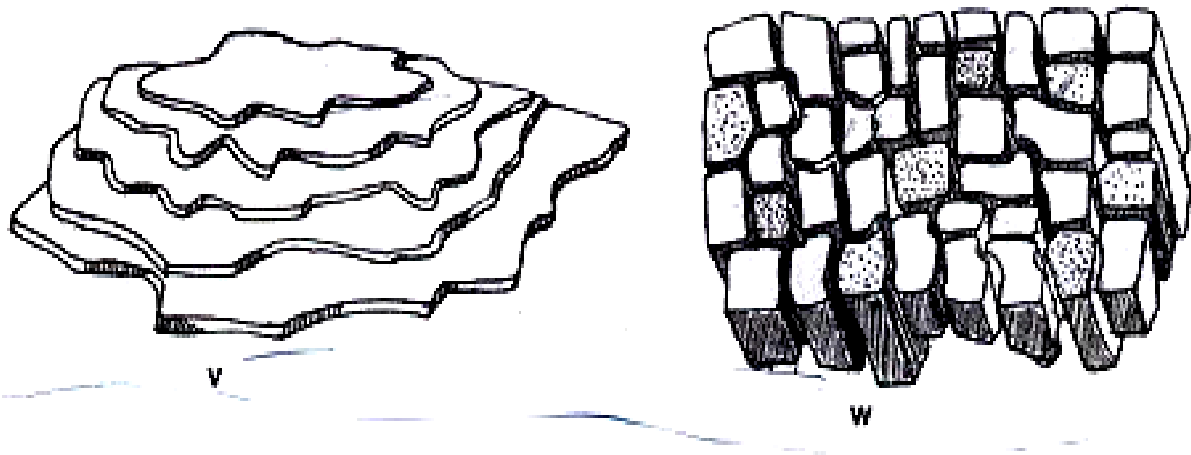
a) Identify two structures labeled **V** and **W**   (**1mark**)

V…………………………………………………………………………………………

W…….…………………………………………………………………………………..

b) Name the types of soils from which structures labeled **V** and **W** can be found
                                                                    (**1mark**)
…………………………………………………………………………………………
…………………………………………………………………………………………
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c) State two ways through which structure **V** may influence crop production(**2 marks**)
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24. The diagram below illustrates a method of preparing compost pit manure, study the diagrams and answer the questions that follow.
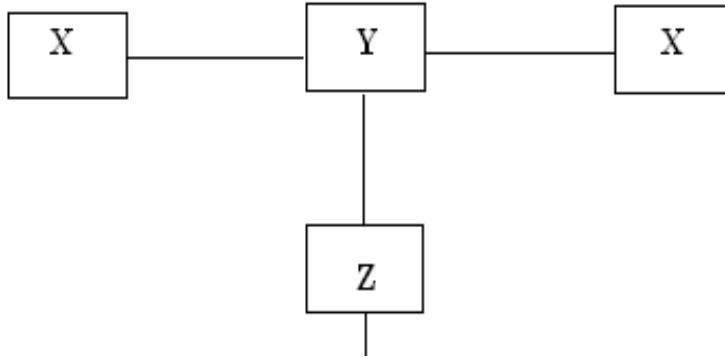
a) Identify the method illustrated (**1 mk**)

……………………………………………………………………………………………
……………………………………………………………………………………………

b) By using arrows between the boxes indicate the direction of movement of materials from X to the field. (**2 mks**)

c) i) In regard to Y what is the volume of X? (**1 mk**)

ii) How long should the materials stay in X and Y. (**1 mk**)

SECTION C (40MKS)

Answer any two questions from this section in the spaces provided.

25. Describe the establishment of cabbage under the following subheadings.

    a) Nursery establishment and management   **(8 mks)**

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    b) Land preparation   **(4 mks)**

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    c) Transplanting   **(8 mks)**

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26 (a) Outline the role of phosphorous in plants   **(5mks)**

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(b) Describe the policies used by the government to regulate the amount of imported agricultural good in Kenya   **(5mks)**

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(c) Describe uses of farm records in the farm   **(10mks)**

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27.(a) Discuss the human factors which influence agriculture. **(10 marks)**

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(b) Explain **five** factors to consider when choosing the planting time. **(10 marks)**

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NAME…………………………………………………………... CLASS…………..………

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DATE…………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

AGRICULTURE

FORM THREE

PAPER 2

SECTION A   (30MKS)

1. Name **two** species of camels.   **(1mk)**

……………………………………………………………………………………
……………………………………………………………………………………

2. Differentiate between a drenching gun and a bolus gun.   **(2mks)**

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3. State **four** reasons why it's important to maintain farm tools and equipment.

(2mks)

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4. State **four** importance of keeping livestock healthy.   **(2mks)**

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5. State **four** advantages of castration in livestock. (2mk)

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6. Name **two** dual purpose breeds of cattle. (1mk)

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7. State **four** differences between large white and landrace breeds of pigs**.** (2mks)

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8. Give **two** examples of feed addictives in livestock feeding. (2mks)

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9. (a) Highlight four differences between ruminants and non-ruminants. (2mks)

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(b) State four functions of proteins in the body of an animal**.** (2mks)

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10.(a) Differentiate between flushing and steaming up. (2mks)

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(b) Give four reasons why an animal may be culled**.** **(2mks)**

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11. Name four rabbit breeds. **(2mks)**

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12. State **six** requirements of a calf pen. **(3mks)**

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13. Indicate **six** livestock management practices carried out in a crush. **(3mks)**

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SECTION B   (20MKS)

14.   The following is a diagram of the oviduct of a hen. Study it carefully and answer the questions that follows.
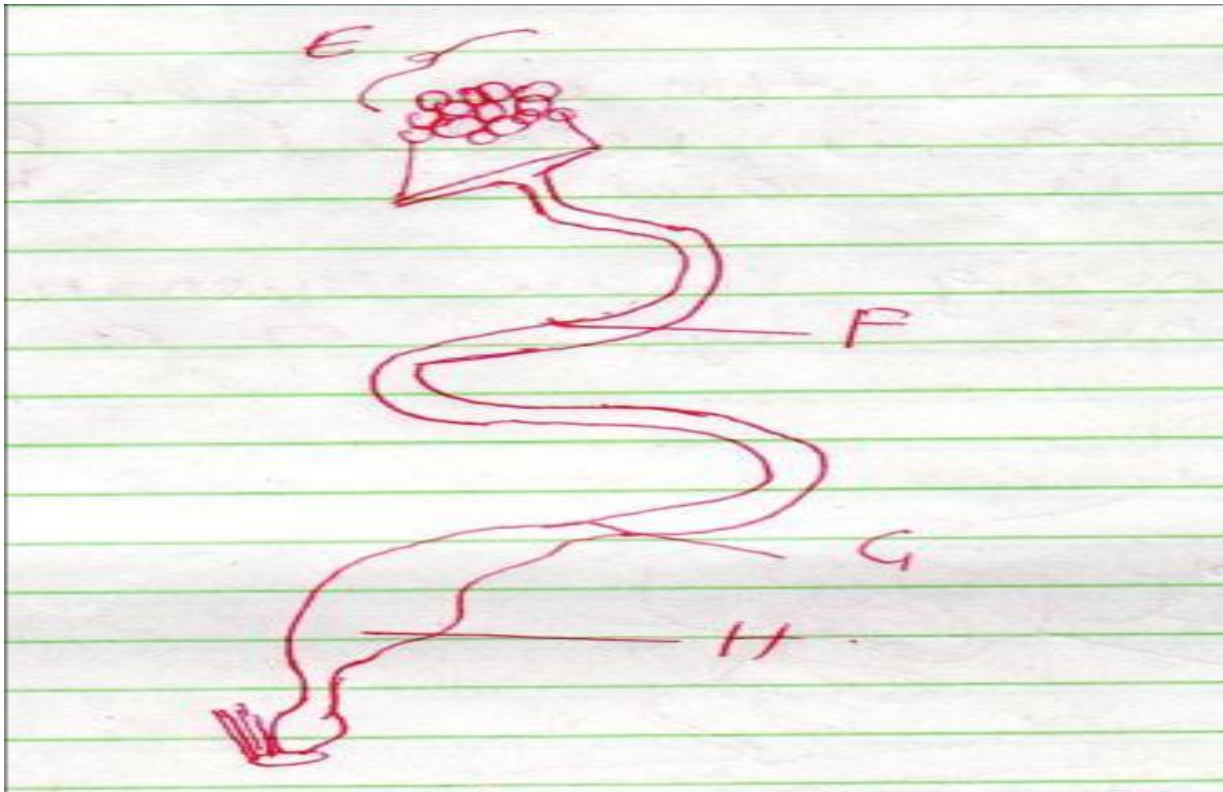
i.   Name parts labelled E, F, G and H.   **(2mks)**

E…………………………………………………………………..

F…………………………………………………………………..

G………………………………………………………………….

H………………………………………………………………….

ii.   State one constituent added to the egg in each of the following parts.

F…………………………………………………………..

G………………………………………………………………

H...

iii. State **two** processes that take place in the infundibulum. **(1mk)**

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....

iv. How long does the egg take from the time the ova is released from E to the time its laid? **(1mk)**

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....

15. The following is an illustration of the digestive system of a ruminant.
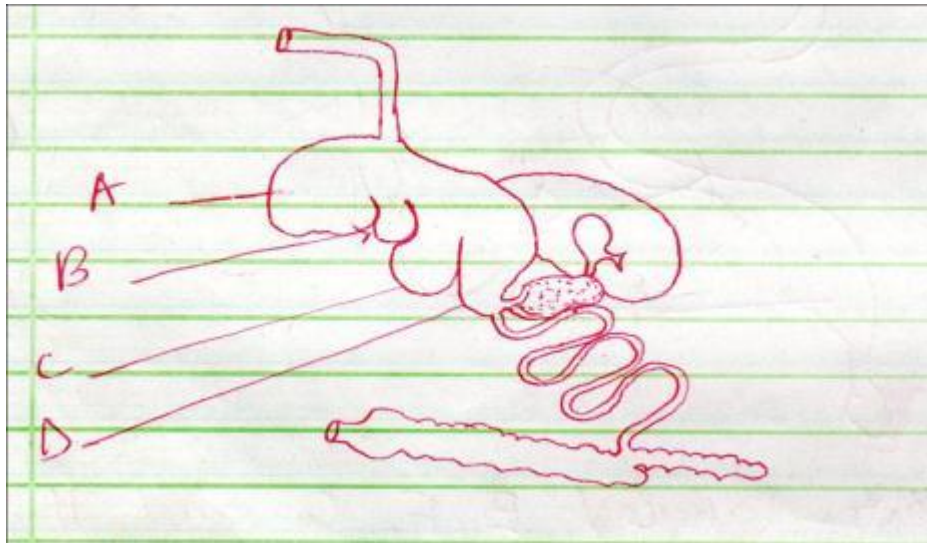
(a) Name the parts labelled A to D.

A...

B...

C...

D...

(2mks)

(b) Name the parts illustrated where microbial activities takes place. **(1mk)**

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....

(c) State **two** microbial activities that take place in part named in (b) above. **(2mks)**

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16. (a) Identify the tools J K L M and N**. (4 MKS)**

(4 MKS)
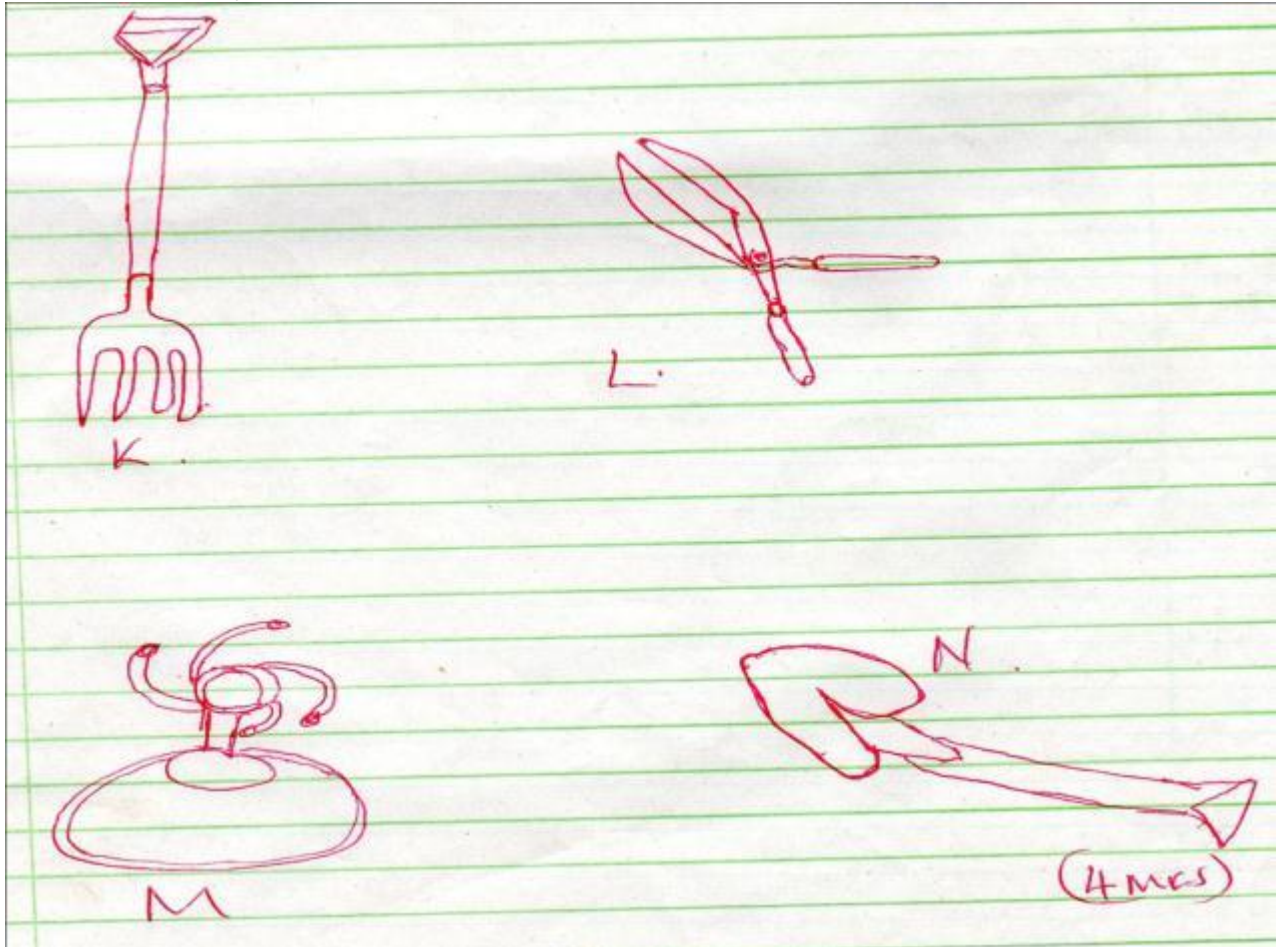
(b) Give **one** use of each of the tools named in (a) above. **(2mks)**

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....
....

(c) State the maintenance practices carried out on tool **K** and **L.** **(2mks)**

K..

L..

SECTION C   (40 mks)

17(a) State five factors to consider in selecting construction materials.   **(6mks)**

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(b)   Explain the factors to consider in citing farm structures.   **(9mks)**

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(c)   What is the importance of farm buildings.   **(5mks)**

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18(a) **Explain** the importance of fencing in the farm.   **(8mks)**

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(b) Describe the procedure followed when constructing a barbed wire fence.

(8mks)

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(c) State the maintenance practices carried out on a barbed wire fence. **(4mks)**

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19(a) State six effects of parasites in livestock. **(6mks)**

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(b) Describe the life cycle of ***Taenia solium*** species of tapeworm. (**10mks**)

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(c) State **four** control measures of tapeworm. (**4mks**)

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NAME…………………………………………………………... CLASS………..……………………

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FORM 3 END TERM 2 SERIES 2 EXAMS

FORM 3

BIOLOGY

PAPER 1

TIME: 2 Hrs

Instructions to candidate

   (a) *Write your name and admission number in the spaces provided.*
   (b) *Answer all the questions in the spaces provided.*
   (c) *All working must be clearly shown where necessary.*
   (d) *Additional pages must not be inserted.*

For examiner use only

Question	Maximum score	Candidates score
1 – 22	80	

1. **(a)** Name **two** structures found in a plant cell but are absent in animal cell.

(2 marks)

....

....

(b) Name the organelle in which protein synthesis takes place. **(1 mark)**

....

2. State what would happen in each of the following:
   a. If a plant cell is placed in
   i. Strong salt solution. **(1 mark)**

....

   (ii) Distilled water **(1 mark)**

....

   b. If a red blood cell is placed in:
   i. Strong salt solution **(1 mark)**

....

   (ii) Distilled water **(1 mark)**

....

3. Name the most appropriate biological tool that an ecologist student can use for collecting:
   i. grasshoppers from grass **(1 mark)**

....

   (ii) Ants from a tree trunk **(1 mark)**

....

4. Mangifera indica is the name given to a mango tree. What does each of the name represent?
   Indica **(1 mark)**

....

   Mangifera **(1 mark)**

....

(b) Name this method of identifying organisms. **(1 mark)**

....

5. **(a)** What do you understand by the term cell specialization as used in biology? **(2 marks)**

....
....

(b) Name any two specialized cells in plants and state how each is modified.

       Cell   Modification   **(4 marks)**

(i) _____   _____

(ii) _____   _____

6. **(a)** Name a word that can be used in microscopy to describe the ability to see two structures which are close together as separate structures. **(1 mark)**

....

(b) State the functions of the following parts of a microscope

    (i) Diaphragm **(1 mark)**

....

    (ii) Condenser **(1 mark)**

....

7. **(a)** Name the sites where light and dark reactions of photosynthesis take place **(2 marks)**

Light stage _____

Dark stage _____

(b) Describe what happens during light stage of photosynthesis. **(3 marks)**

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....
....

8. **(a)** The action of ptyalin stops at the stomach. Explain   **(1 mark)**

………………………………………………………………………………………………

(b) State a factor that denatures enzymes**.**   **(1 mark)**

………………………………………………………………………………………………

(c) Name **two** features that increase the surface area of small intestines.

(2 marks)

………………………………………………………………………………………………

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9. **(a)** Identify **two** ways by which blood protects the human body.   **(2 marks)**

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………………………………………………………………………………………………

………………………………………………………………………………………………

(b) (i) What prevents blood in veins from flowing backwards?   **(1 mark)**

………………………………………………………………………………………………

(ii) State the form in which oxygen is transported in blood**.**   **(1 mark)**

………………………………………………………………………………………………

10.(a) State the form in which the root hairs are adapted to their functions.

(2 marks)

………………………………………………………………………………………………

(b) Name the tissues in plants responsible for:

(i) Transport of water and mineral salts.   **(1 mark)**

………………………………………………………………………………………………

(ii) Transport of carbohydrates   **(1 mark)**

………………………………………………………………………………………………

11. Study the diagram below and answer the questions that follow
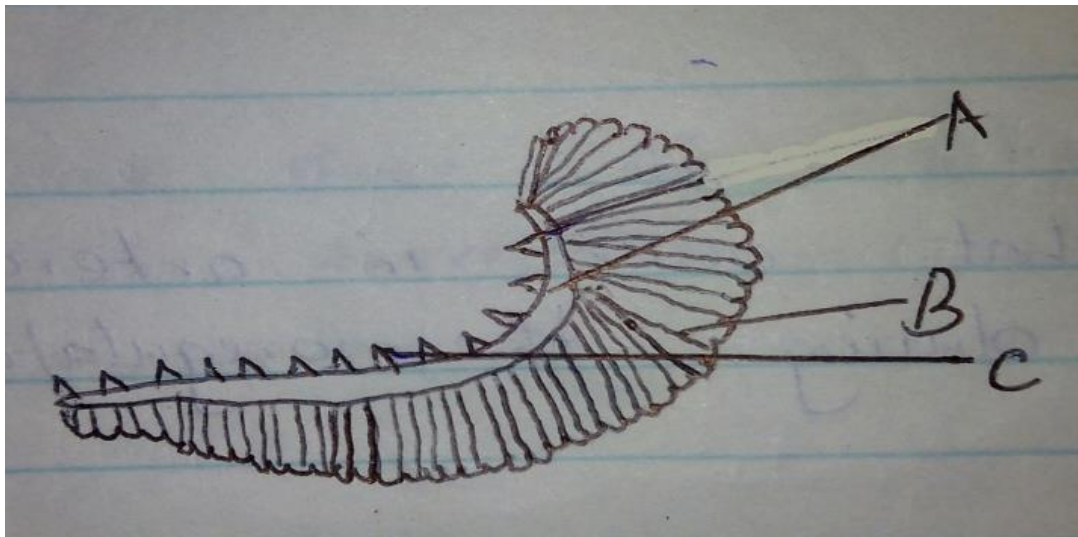
a. Label the structures labeled **A, B, C**, and **D.**   (3 marks)

   A……………………………………………………..

   B……………………………………………………..

   C……………………………………………………..

b. State the functions of the structure labeled C.   (1 mark)

………………………………………………………………………………………………

12.(a) In man, aerobic breakdown of glucose yields 2880 KJ of energy whereas anaerobic breakdown yields 150KJ. Give an explanation to account for this difference.   (2 marks)

(b) Differentiate between aerobic and anaerobic respiration. (2 marks)

....

....

....

13. State the changes that occur in arterioles in human skin during thermoregulation.

(2marks)

....

14.(a) State the role of the carnassial teeth in a lion. **(1 mark)**

....

(b) An organism was found to have the dental formula i 1/1 c 0/0 pm 3/2 m 4/4

(i) Calculate the number of premolars in the upper jaw. **(1 mark)**

(ii) Giving a reason, suggest the mode of feeding of the organism. **(2 marks)**

....

....

15.(a) State the role of the following in osmoregulation

(d) Hypothalamus **(1 mark)**

....

(ii) Pituitary gland **(1 mark)**

....

(b) What causes diabetes mellitus in man? **(1 mark)**

....

16.(a) Name three sites where gaseous exchange takes place in terrestrial plant

(3 marks)

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....
....

(b) Name the gaseous exchange surface in insects. **(1 mark)**

....

17. (a) State three factors that affect the rate of diffusion **(3 marks)**

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....
....

(b) What does a semi-permeable membrane correspond to in an animal cell?

(1 mark)

....

18.(a) What is the formula for calculating linear magnification of a specimen when using a hand lens? **(1 mark)**

....

(b) Give a reason why staining is necessary when preparing specimens for observation under the light microscope. **(1 mark)**

....

19.(a) State three external differences between chilopoda and diplopoda **(3 marks)**

....
....
....

(b) Name the taxonomic unit that comes immediately after a phylum in classification.

(1 mark)

....

20. The diagram below shows the complete classification of lion, tiger, fruit fly and red fox

Taxon	Lion	Wolf	Tiger	Fruit fly	Red fox
Phylum	Chordata	Chordata	Chordata	Athropoda	Chordata
Class	Mammalia	Mammalia	Mammalia	Insecta	Mammalia
Order	Carnivora	Carnivora	Carnivora	Diptera	Carnivora
Family	Felidae	Canidae	Felidae	Drosophilidae	Canidae
Genus	Panthera	Canis	Panthera	Drosophila	Vulpes
Species	leo	lupus	tigris	melanogaster	vulpes

    a. Identify one organism which is <u>not</u> related to the others.Give a reason for your answer in **(a)** above   **(1 mark)**

…………………………………………………………………………………………………

    b. Which organism is most closely related to the wolf? Give a reason for your answer.

                                                  (1 mark)

…………………………………………………………………………………………………

    c. Which organism would you expect to have more common features with the lion? Give a reason for your answer?   **(1 mark)**

…………………………………………………………………………………………………

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

                                                  (1 mark)

…………………………………………………………………………………………………

(b) Distinguish between a community and a population.   **(1 mark)**

…………………………………………………………………………………………………

  22.(a) Distinguish between interspecific and intraspecific competition**.**   **(2 marks)**

…………………………………………………………………………………………………
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(b) Distinguish between carrying capacity and biomass. **(2 marks)**

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....

(c) (i) Which instrument is used to measure the light intensity? **(1 mark)**

....

(ii) Name the equipment used to measure atmospheric pressure

....

NAME………………………………………………………….... CLASS…………..………

ADM NO………………………………………………SIGNATURE……………

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FORM 3 END TERM 2 SERIES 2 EXAMS

231/2

BIOLOGY FORM THREE

PAPER 2

(THEORY)

INSTRUCTIONS

- *(a) This paper consists of two sections; A and B.*
- *(b) Answer <u>all</u> the questions in section <u>A</u> in the spaces provided.*
- *(c) In section <u>B</u> answer question 6 (<u>compulsory</u>) and either question 7 or 8 in the spaces provided after question 8.*

For Teacher's use only

Section	Question	Maximum score	Student score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	Total score	80	

1. The diagram below illustrates the structure of bread mould.
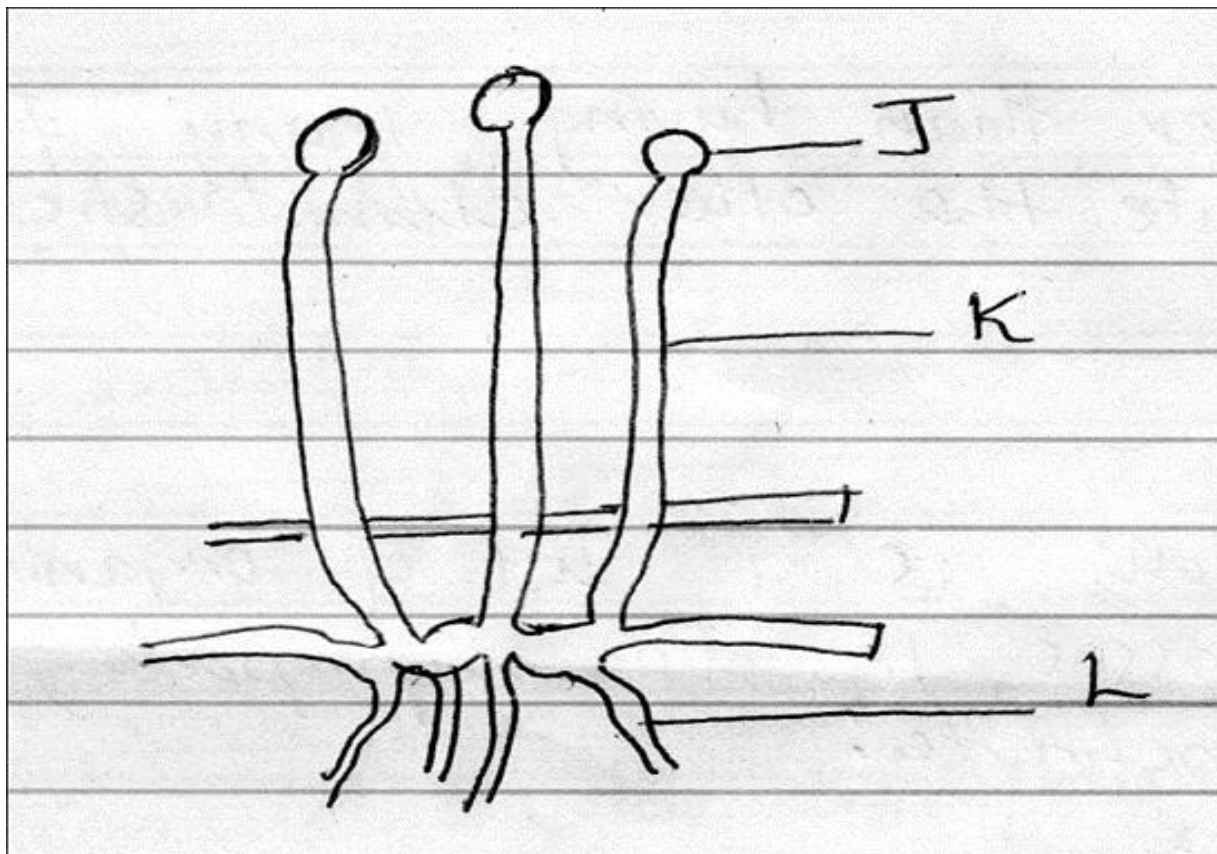
(a) Name the parts labelled   J, K, L   (**3mks**)

J ………………………………………………………………..

K.…………………………………………………………….

L.……………………………………………………………..

(b) State the functions of the structure labelled **L.**   (**2mks**)

………………………………………………………………………………………

………………………………………………………………………………………

(c) Name the type of nutrition exhibited by the mould**.**   (**1mk**)

………………………………………………………………………………………

………………………………………………………………………………………

(d) State **two** economic importance of the mould .   **(2mks)**

………………………………………………………………………………………………

………………………………………………………………………………………………

(2a) Name the phylum whose members possess notochord.   **(1mk)**

…………………………………………………………………………………………

(b) Other than having many features in common, state the other characteristic of a species**.**   **(1mk)**

………………………………………………………………………………………………..

(c) Below is a list of organisms, which belong to classes insect, diplopoda, chilopoda and Arachnida:

Tick
Centipede
Praying mantis
Tsetsefly
Millipede
Spider

Place the organisms in their respective classes in the table below. Give reason in each case.
(6mks)

Classes	Organisms	Reasons
Insecta		1. 2.
Diplopoda		1.
Chilopoda		1.

Arachnida		1.
		2.

3(a)(i) Name the type of circulatory system found in members of the class insect.

(1mk)

………

(ii) Name the blood vessel that transports blood from: **(2mks)**

Small intestine to the liver

……..

Lungs to the heart

……..

(iii) In what form is oxygen transported from the lungs to the tissues. **(1mk)**

………

(b) The diagram below shows a transverse section of a plant organ.
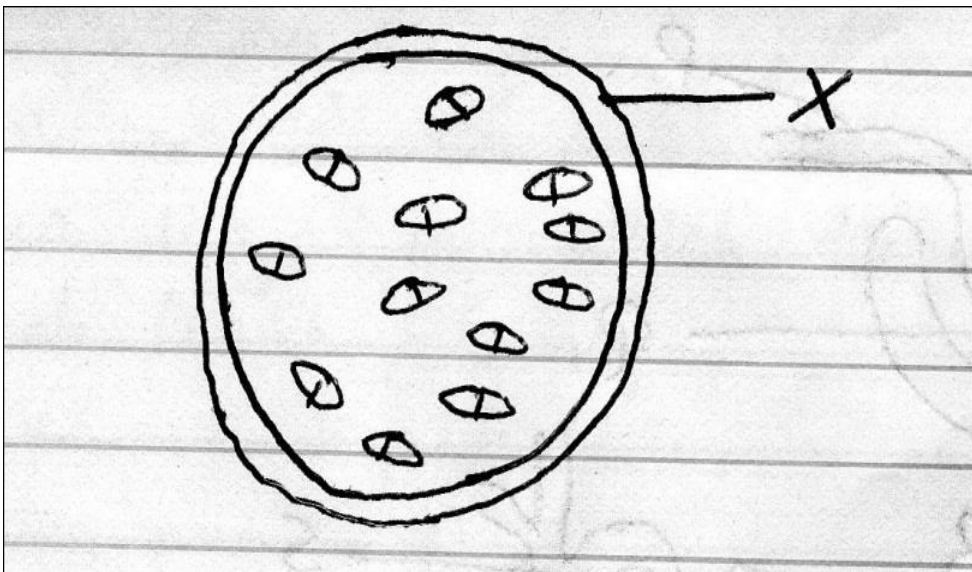
(i) Name the plant organ which the section was obtained. **(1mk)**

………

(ii) Name the class to which the plant organ was obtained. **(1mk)**

....

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

....

....

(iv) Name the part labelled X.

....

4(a) What is the meaning of the terms; **(2mks)**

➢ Homeostasis

....

....

➢ Osmoregulation

....

....

(b) Name the hormones involved in regulating glucose level in the blood. **(2mks)**

....

....

(c) The diagram below represents a mammalian nephron.
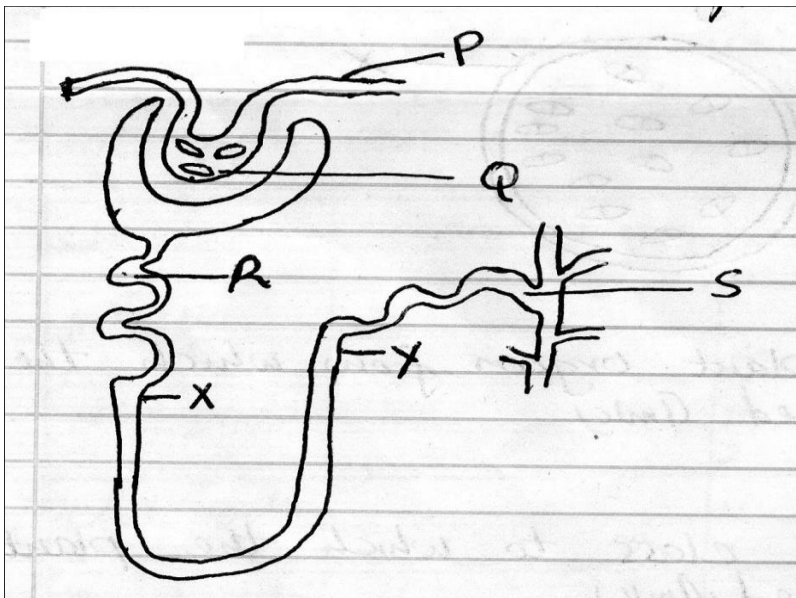
(i) Name the

    (a) Structure labelled **P**

....

    (b) Portion of the nephron between point **X** and **Y**.

....

....

....

  (ii) Name the process that takes place at point **Q**.

....

  (iii) Name one substance present at point R but absent at point 5 in a healthy mammal.

....

....

5. Leaves are organs of photosynthesis. The following diagram shows what happens in a plant during photosynthesis.
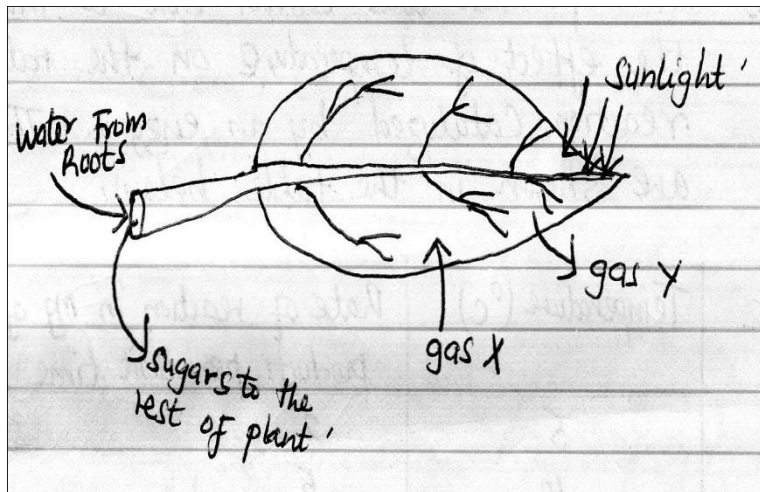
  (a) Give two ways in which leaves are adapted to absorb light.   **(2mks)**

....

....

....

(b) Name the gases X and Y   **(2mks)**

       X ....

       Y ....

(c) Name the tissues which transport water into the leaf and sugars out of the leaf.
                                                                                                (2mks)

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....

(d) Describe what happens during light stage of photosynthesis. **(2mks)**

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SECTION B

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

7. An experiment was carried out to investigate the effect of temperature on the rate of reaction catalysed by an enzyme. The results are shown in the table below.

Temperature (^{0}C)	Rate of reaction in mg of products Per unit time
5	2
10	5
15	8
20	11
25	15
30	21
35	30
40	37
45	34
50	28

55	21
60	11

i. On the grid provided draw a graph of rate of reaction against temperature. **(6mks)**

ii. When was the rate of reaction 26mg of product per unit time. **(2mks)**

iii. Account for the shape of the graph between
(i) 5^0C and 40^0C **(2mks)**

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………………………………………………………………………………………………

(ii) 45^0C and 60^0C

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iv. Other than temperature name two ways in which the rate of reaction between 5^0C and 40^0C could be increased. **(2mks)**

………………………………………………………………………………………………
………………………………………………………………………………………………

v. **(i)** Name one digestive enzymes in the human body which works best in acidic condition. **(1mk)**

………………………………………………………………………………………………
………………………………………………………………………………………………

(ii) How is the acidic condition for enzymes named in (e) above attained **(2mks)**

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………………………………………………………………………………………………

vi. The acidic conditions in (e) (ii) above is later neutralized.

    (i)   Where does the neutralization take place?   **(1mk)**

....

    (ii)   Name the substance responsible for neutralization.   **(1mk)**

....

7.   Explain how abiotic factors effect plants.   **(20mks)**

8.   How is the mammalian skin adapted to its functions.   **(20 MKS)**

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NAME………………………………………………….. CLASS………….………

ADM NO…………………………………………SIGNATURE…………..

DATE…………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

231/3

BIOLOGY PRACTICAL

PAPER 3

TIME 1 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided at the top of this page.*
-*Answer all questions. You are required to spend the first 15 minutes of the 1 ¼ hours allowed 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.*

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	15	
2	12	
3	13	
TOTAL	40	

1. Label 4 test tubes J, K, L and M. Peel specimen X provided and obtain four cube of about 1cm^3. Grind one of the cubes put in test tubes J add water and boil for about 5 minutes. Grind another cube and place it in test tube K. Grid the third piece and place it in test tube L. Place the remaining cube in test tube M. Measure 5ml of the Hydrogen peroxide provided and pour into each test tube

   a) Record the observation in these test tubes.   **(4 mks)**

   J..

   K..

   L..

   M...

   b) Compare the observations made in   **(2mks)**

   (i) K and M

   ....
   ....
   ....

   (ii) K and J   **(2mks)**

   ....
   ....
   ....

   c) Account for your answer in b(i) (ii)   **(4mks)**

   ....
   ....
   ....
   ....
   ....
   ....

d) Write a word equation for the reaction taking place in tube M.   **(2mks)**

……………………………………………………………………………………………

(f) Explain why hydrogen peroxide should not accumulate in living tissue **(lmk)**

……………………………………………………………………………………………
……………………………………………………………………………………………

2. Examine the diagrams below of various animals found in a sample of soil and decaying leaves collected from a local wood. Names of the specific organisms are :

Geophilus (A)   Lycosa (B) Scutigenella (C)   Enchytraeid (D) Porficala (E)
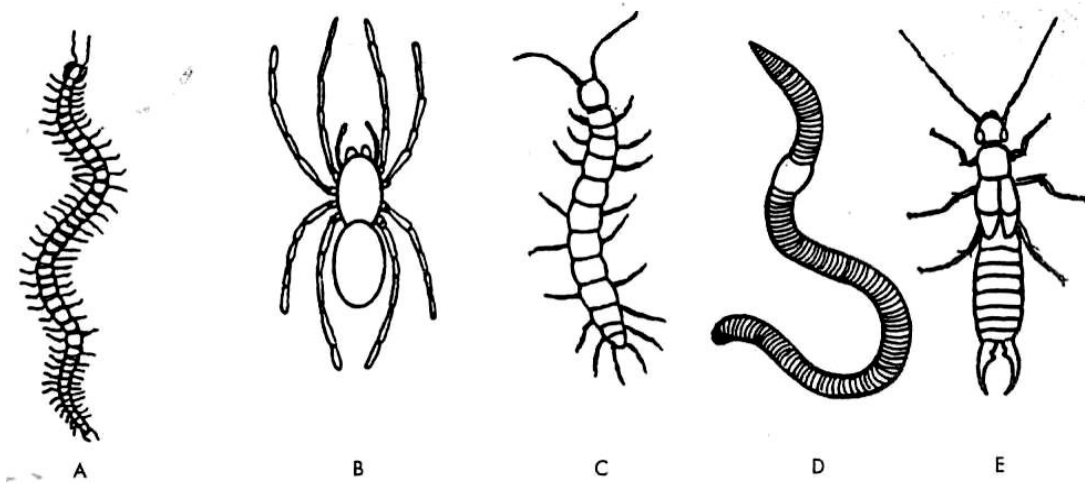
(a) Using the features in the order given below, construct a dichotomous key that can be used to identify the specimens.   **(8marks)**

 i. Presence of 8 or more legs or less than 8 legs.
 ii. Length of legs compared to body.
iii. Presence of legs on every segment.
iv. Presence of pincers on tip of abdomen.

(b) Name the class in which the organisms **B** and **E** belong.   **(2 mks)**

    B ……………………………………..

    C …………………………………….

(c) Label any four parts on diagram B.   **(2 mks)`**
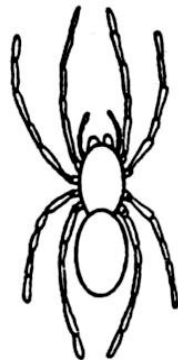
3. The photomicrograph below shows the arrangement of different types of cells and tissues in a certain living organism. Study it carefully and answer the questions that follow.
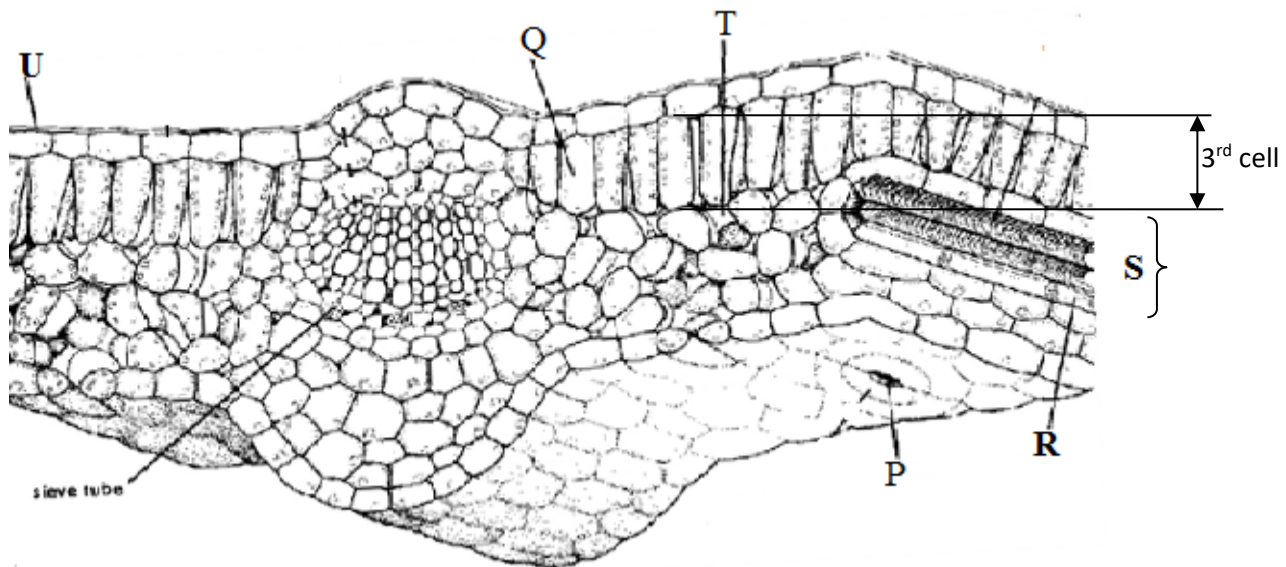
a)   **(i)** From what part of the plant was the photograph obtained?   **(1mark)**

…………………………………………………………………………………………………..

(ii) Name the parts labeled: - **P, Q, U,T** and **U**   **(5marks)**

    P…………………………………………………

    Q…………………………………………………

    T…………………………………………………

U……………………………………………

(iii) Give two major components that make up structure S.　　　　　　　**(2marks)**

……………………………………………………………………………………..

……………………………………………………………………………………..

(iv) State the function of the part labeled Q and an adaptation to its function **(2marks)**

…………………………………………………………………………………….

(v)　Give an environmental factor which regulates the function of the part labeled P.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(1mark)

…………………………………………………………………………………….

b) Measure the length of the third (3ʳᵈ) cell at the right side of structure labeled Q on the photograph whose magnification is X5000. What is the actual length of the cell in micrometers (µm)? Show your working. **(2marks)**

NAME…………………………………………………... CLASS…………..………

ADM NO………………………………………………SIGNATURE…………….

DATE………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

565/1
FORM 3 BUSINESS STUDIES
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

-) *Write **your name** and **your Admission Number** in the spaces provided above.*
- a) *Write the **date** of examination and **class** in the spaces provided above.*
- b) *Answer **all** the questions in the spaces provided.*
- c) *All answers should be written in English.*
- 1. *This paper consists of 9 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

FOR EXAMINERS USE ONLY:-

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

Question	14	15	16	17	18	19	20	21	22	23	24	25
Score												

TOTAL
MARKS

1. State **4** reasons that would make an individual engage in business   (**4marks**)

(i)………………………………………………………………………………………..

(ii)…………………………………………………………………………….…………

(iii)………………………………………………………………………………………..

(iv)…………………………………………………………………………………………

2. State whether the following factors will affect the business environment internally or externally
   (4marks)

Factor		Effect
(a)	Competition	……………………………………………..
(b)	Terrorism threat	……………………………………………..
(c)	Human resource management	……………………………………………..
(d)	Production capacity	……………………………………………..

3. Outline **4** characteristics of economic resources   (**4marks**)

(i)……………………………………………….…………………………………………

(ii)………….……………………………………….…………………………….……….

(iii)………….…………………………………………………………………………...

(iv)…………………………………………………………………………………………..

4. Outline types of utility and the production activity associated with each of them
   (**4marks**)

Utility	Production activity
(i)……………………	……………………………………………………………
(ii)……………………	…………………………………………………............
(iii)…………………	……………………………………………………………
(iv) …………………	………………………………………………………….

5. Highlight **four** ways in which the office facilitates effective handling of documents
   (**4mks**)

(i)……………………………………………………………………………………………

(ii)……………………………………………………………………………………………

(iii)…………………………………………………………………………………………

(iv)…………………………………………………………………………………………

6. Outline **4** disadvantages of using automatic vending machine   **(4marks)**

(a)………………………………………………………………………………..

(b) ……………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) ………………………………………………………………………………..

7. Outline **4** types of wholesalers   **(4marks)**

(i)………………………………………………………………………………………

(ii)………………………………………………………………………………………

(iii)………………………………………………………………………………………

(iv)………………………………………………………………………………………

8. State **four** reasons why there is increased use of mobile phones in banking (**4marks**)

(i)………………………………………………………………………………………

(ii)………………………………………………………………………………………

(iii)………………………………………………………………………………………

(iv)………………………………………………………………………………………

9. State **4** reasons why a consumer may prefer buying goods from a supermarket to a small scale retail shop   **(4marks)**

(i)………………………………………………………………………………………

(ii)………………………………………………………………………………………

(iii)………………………………………………………………………………………

(iv)………………………………………………………………………………………

10. State **4** factors that a retailer would consider before allowing a customer to buy goods on credit

(4marks)

(i)…………………………………………………………………………………

(ii)………………………………………………………………………..………

(iii)…………………………………………………………………………………

(iv)…………………………………………………………………………………

11. State **4** documents that should be submitted to the registrar of companies for the purpose of registering a limited liability company **(4marks)**

(i) …………………………………………………..………………………………

(ii)…………………………………………………………………………..………

(iii)…………………………………………………………………………………

(iv)…………………………………………………………………………………

12. Highlight **4** ways in which the government of Kenya may regulate her business activities **(4marks)**

(i) ………………………………………………………………………………

(ii)………………………………………………………………………..………

(iii)…………………………………………………………………………………

(iv)………………………………………………………………………………..

13. Outline **4** features of an efficient transport system **(4marks)**

(i) ………………………………………………………………………………

(ii) …………………………………………………………………………..………

(iii)…………………………………………………………………………………

(iv) ………………………………………………………………………………..

14. Highlight **4** factors that may render communication ineffective **(4mks)**

i. ………………………………………………………………………………

ii. …………………………………………………………………………………..

iii. ………………………………………………………………………………

iv………………………………………………………………………………………………

15. The table below contains descriptions relating to some types of warehouse. In the spaces provided, write the type of warehouse to which each description refers (**4marks**)

Description	Type of warehouse
a) Used to store exports & imports	
b) Operated for the owner's exclusive use	
c) Owned and operated by manufacturers and farmers	
d) Anybody can rent space in it for storing goods temporarily	

16. Outline **4** factors that may render communication ineffective (**4marks**)

(i)…………………………………………………………………………………………………

(ii)…………………………………………………………………………………….…………

(iii)………………………………………………………………………………………………..

iv.…………………………………………………………………………………………………...

17. State the appropriate insurance policy your school can take to cover each of the following risks (**5marks**)

Risks	Policy
a) Losses arising from debtors failing to pay	
b) Injury caused to neighbour's health due to school's leaked sewer	
c) Loss of cash being delivered to the local bank	
d) To cover cooks from injuries that may occur to them in the kitchen	
e) Loss of money due to account's clerk dishonesty	

18. Outline **4** qualities of a good salesperson (**4marks**)

(i)...

(ii)...

(iii)...

(iv)...

19. State **4** ways that a trader may provide after sale service to his customers (**4marks**)

(i)...

(ii)...

(iii)...

iv...

20. State **3** circumstances under which a trader would advertise his products over the radio instead of television (**3marks**)

(i)...

(ii)...

(iii)...

21. The diagram below shows the demand and supply curves of a certain commodity and the corresponding equilibrium price (Pe) and quantity (Qe). On the diagram, show the new equilibrium quantity and price as a result of a decrease in the supply of the commodity. Write down your observation (**4marks**)
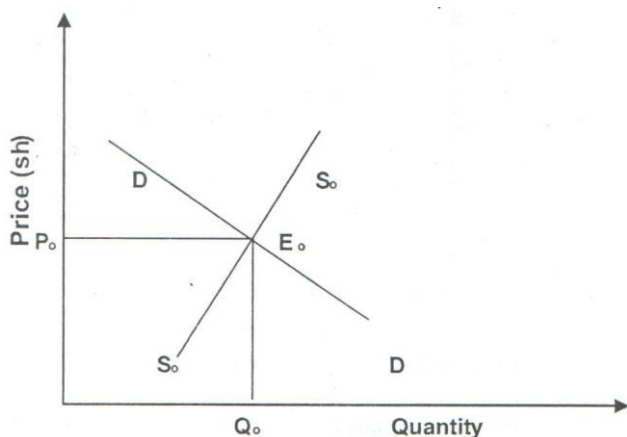
22. Highlight **4** dangers of locating firms in a central place (**4marks**)

(i)…………………………………………………………………………………

(ii)…………………………………………………………………………………

(iii)…………………………………………………………………………………

(iv)…………………………………………………………………………………

23. Outline **4** characteristics of a perfect competition market structure **(4marks)**

 (i)…………………………………………………………………………………

(ii)…………………………………………………………………………………

(iii)…………………………………………………………………………………

 (iv)…………………………………………………………………………………

24. Outline **4** channels that can be used to distribute locally manufactured goods **(4marks)**

(i)…………………………………………………………………………………

(ii)…………………………………………………………………………………

(iii)…………………………………………………………………………………

(iv)…………………………………………………………………………………

25. Give **4** assumptions in a two sector economy circular flow of income   **(4marks)**

(i)…………………………………………………………………………………

(ii)…………………………………………………………………………………

(iii)…………………………………………………………………………………

(iv) …………………………………………………………………………………

NAME……………………….…………………….…... CLASS……….…….……

ADM NO……………………….…………………….…SIGNATURE……….……

DATE………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

BUSINESS STUDIES

PAPER 2

2½ HOURS

FORM THREE

INSTRUCTIONS TO CANDIDATES

This paper consists of six questions.

Answer FIVE questions

Write your answers in the foolscaps provided.

All questions carry equal marks.

This paper consists of TWO Printed pages.

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 Examiners use only.

Question	1	2	3	4	5	6
Marks						

1. **(a)** Explain **FIVE** advantages of an open plan office layout for a business.**(10mks)**

   (b) Explain **FIVE** reasons for existence of small firms despite competition from large scale firms.   **(10mks)**

2. **(a)** Explain **FIVE** principles of Insurance.   **(5mks)**

   (b) With the aid of a diagram, explain the effect of an increase in supply to the equilibrium price and quantity of a product**.**   **(10mks)**

3. **(a)** Explain **FIVE** problems facing savings and credit cooperative societies in Kenya
   .   (**10mks)**

   (c) Explain FIVE reasons why the government gets involved in Business activities**.**

   (10mks)

4. **(a)** Despite the development in the transport sector, human porterage is still commonly used in Kenya.Explain **FIVE** reasons that account for this fact**.(10mks)**

   (b) Explain **FIVE** circumstances under which a firm may relocate its operations from urban centres to rural areas**.**   **(10mks)**

5. **(a)** Explain **FIVE** ways in which warehousing promotes trade.   **(10mks)**

   (b) Explain **FIVE** problems encountered when measuring National Income using the Income approach**.**   **(10mks)**

6. **(a)** Explain **FIVE** characteristics of perfectly competitive market**.**   **(10mks)**

   (b) Manufacturers distribute their products to the final consumers through various channels .

c)Highlight **FIVE** factors considered in choosing a particular channel of distribution**.**   (**10mks)**

NAME………………………………………………….. CLASS……………..………

ADM NO……………………………………………SIGNATURE…………….…..

DATE…………………………………………………………

FORM 3 END TERM 2 SERIES 2 EXAMS

233/1
CHEMISTRY
PAPER 1
(THEORY)
2 HRS
INSTRUCTIONS TO CANDIDATES

1. *Write your name in the space provided.*
2. *Answer all the questions in the spaces provided in the question paper.*
3. *Mathematical tables and silent electronic calculators may be used.*
4. *All working must be clearly shown where necessary.*

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 29	80	

1. The electron arrangement of ions X^{3+} and Y^{2-} are 2.8 and 2.8.8 respectively.

   a) Write the electron arrangement of elements X and Y. **(2 mks)**

   X - **(1 mk)**

   …………………………………………………………………………………………..

   Y - **(1 mk)**

   …………………………………………………………………………………………..

   b) Write the formula of the compound that would be formed between element X and Y.
   (1 mk)

   …………………………………………………………………………………………………

   …………………………………………………………………………………………………

2. Oxygen is obtained by fractional distillation of liquid air.

   (i) Name two other gases obtained during this process. **(2 mks)**

   …………………………………………………………………………………………………

   …………………………………………………………………………………………………

   (ii) Give two commercial use of oxygen. **(2 mks)**

   …………………………………………………………………………………………………

   ………………………………………………………………………………………………

3. **(a)** Explain why a burning magnesium ribbon continues to burn when placed in a gas jar containing carbon (iv) oxide gas but a burning splint is extinguished. **(2 mks)**

   …………………………………………………………………………………………………

   …………………………………………………………………………………………………

   (b) Write an equation for the reaction that takes place in (a) above. **(1 mk)**

4. Study the scheme below and then answer the questions that follow;
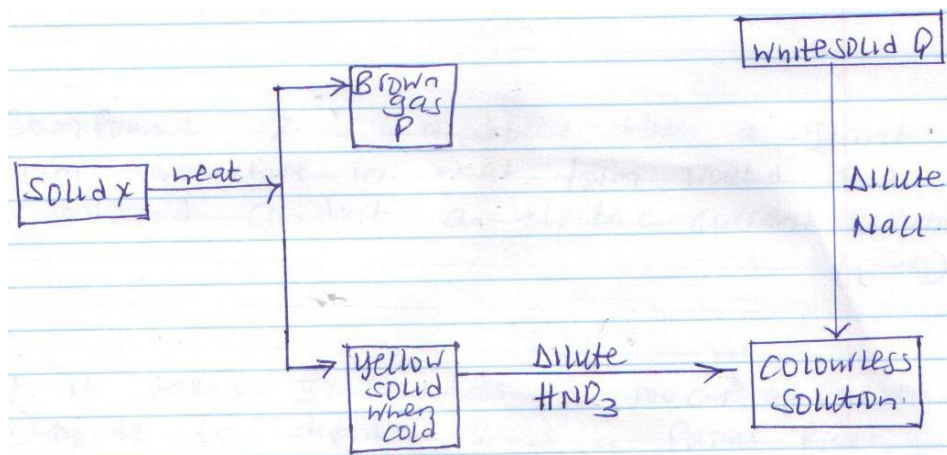
a) Identify;
   (i) Solid X.   **(1 mk)**

....
   (ii) Yellow solid   **(1 mk)**

....
b) Write an ionic equation for the reaction between dilute sodium chloride and the
   colourless solution   **(1 mk)**

....

5. **(a)** What are isotope?   **(1 mk)**
....
....
   (b) The R.A.M of element P is 63.5 it has two isotopes of masses 63 and 65 respectively.
   Determine the percentage abundance of each.   **(2 mks)**

6. Compound Z is a solid with a giant ionic structure in what form would the compound conduct an electric current. Explain. **(2 mks)**

....
....

7. If it takes 30 seconds for $100cm^3$ of Carbon(iv)oxide to diffuse across a porous plate, how long will it take $150cm^3$ of nitrogen (iv) oxide to diffuse across the same plate under similar conditions? (C=12.0, N=14.0, O=16.0). **(3 mks)**

8. **(i)** An oxide of an element Q was found to react with both HCl and NaOH. What property does the oxide exhibit? **(1 mk)**

....

   (ii) Give two examples of oxides that behave like the oxide of Q. **(2 mks)**

....
....

9. Use dot(and cross(x) diagrams to show the bonding in each of the following;
   (i) Lithium oxide (Li=3, O=8) **(1 mk)**

   (ii) PH_4^+ (P=15, H=1) **(2 mks)**

10. Study the table below and answer the questions that follow.

Solid	Cold water	Hot water
P	Soluble	Soluble
Q	Insoluble	Insoluble
R	Insoluble	Soluble

Describe briefly how a pure sample of the solids can be obtained from a mixture of the three. **(3 mks)**

....

....

....

....

11. 0.045 mole of a certain hydrocarbon gave on complete combustion 9.9 g of carbon(iv)oxide and 4.86g of water. Calculate its molecular formula. (C=12, H=1)

(3 mks)

12. Study the information below and use it to answer the questions that follow.

Ion	Electronic arrangement	Ionic radius
Na^+	2.8	0.095
K^+	2.8.8	0.133
Mg^{2+}	2.8	0.065

Explain why the ionic radius of:

a. K^+ is greater than that of Na^+. **(1 mk)**

....

....

b. Mg^{2+} is smaller than that of Na^+. **(1 mk)**

....

....

c. Define the term ionization energy. **(1 mk)**

....

....

13. When 34.8g of hydrated sodium carbonate $Na_2CO_3.XH_2O$ were heated to a constant mass, 15.9g of anhydrous sodium carbonate (Na_2CO_3) were obtained. Calculate the value of X in the hydrated carbonate. (Na=23, O=16, C=12, H=1). **(3 mks)**

14. When carbon (iv) oxide gas was passed through aqueous calcium hydroxide a white precipitate was formed.
    a. Write an equation for the reaction that took place. **(1 mk)**

    b. State and explain the changes that would occur when carbon (iv) oxide gas is bubbled through the white suspension. **(2 mks)**

....

....

15. Some zinc sulphate crystals were heated to constant mass with the following results obtained.

    Mass of crucible = 20.00 g

    Mass of crucible and crystals = 25.74g

    Mass of crucible and residue = 23.32 g

    From the Data, calculate the value of X in the formula $ZnSO_4.XH_2O$. (Zn=65, S=32, O=16, H=1) **(3 mks)**

16. Study the set up below and answer the questions that follow.

Cotton wool soaked in concentrated Ammonia Solution

Cotton wool soaked in concentrated hydrochloric acid
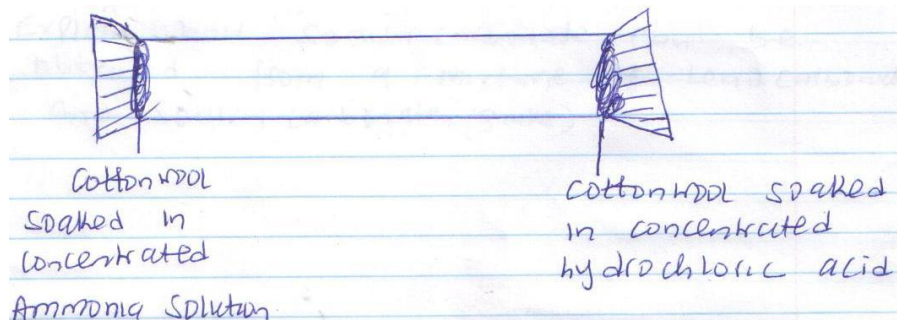
a. What is the aim of the above experiment? **(1 mk)**

……………………………………………………………………………………………………

b. State the observations made after sometime? **(1 mk)**

……………………………………………………………………………………………………

c. Write an equation for the reaction taking place in the above set up. **(1 mk)**

……………………………………………………………………………………………………

17. A compound has an empirical formula C_3H_6O and a relative formula mass of 116. Determine its molecular formula. (H=1.0, C=120, O=16.0) **(2 mks)**

18. Explain how sodium carbonate can be obtained from a mixture of lead carbonate and sodium carbonate. **(3 mks)**

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

19. A pure solid sample was heated and a graph of temperature against time obtained as shown below.
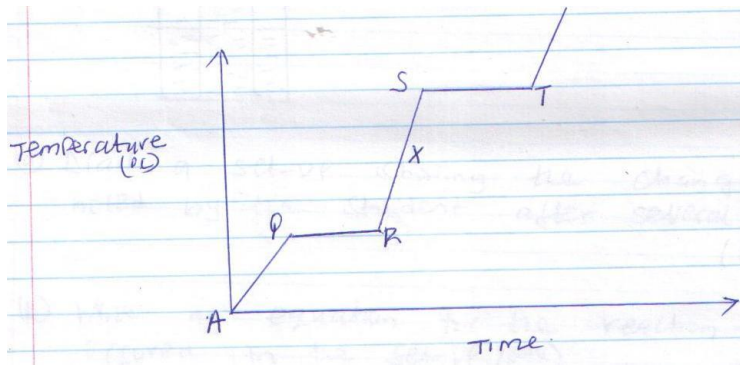
a. Which regions on the curve represent the melting and boiling processes? **(1 mk)**

Melting **(1/2 mk)**

……………………………………………………………………………………………………
……………………………………………………………………………………………………

Boiling **(1/2 mk)**

……………………………………………………………………………………………………
……………………………………………………………………………………………………

b. Explain why temperature remains constant at region ST. **(1 mk)**

……………………………………………………………………………………………………
……………………………………………………………………………………………………

c. In which state of matter will the sample be at point X. **(1 mk)**

……………………………………………………………………………………………………

20. A form two student used the set-up below to investigate the effect of sunlight on chlorine water.
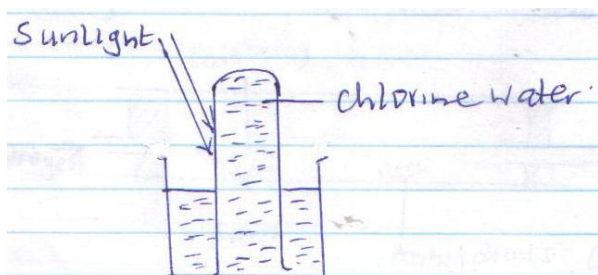
(a) Draw a set-up showing the change noted by the student after several hours. **(1 mk)**

(b) Write an equation for the reaction that occurred in the set-up. **(1 mk)**

21. The table below shows the melting and boiling points of impure solid Q.

Substance	Melting point (0C)	Boiling point (0C)
	140-180	240-280

Identify the melting and boiling points of pure substance Q.

(i) Melting point **(1 mk)**

(ii) Boiling point **(1 mk)**

22. Study the diagram below;
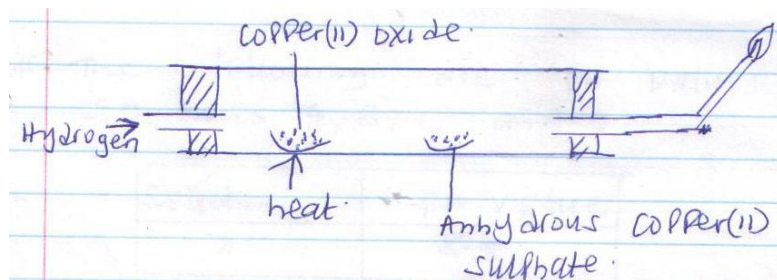
(ii) State **two** observations made after sometime. **(2 mks)**

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(iii) Write **one** equation showing a reaction taking place in (a) above. **(1 mk)**

23. Molten Zinc Chloride was electrolysed using graphite electrodes.
  a. State the observation made at the anode. **(1 mk)**

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……………………………………………………………………………………………………

  b. Write equations for the reaction occurring at each of the electrode.
  Cathode **(1 mk)**

  Anode **(1 mk)**

24. Describe how the following reagents would be used to prepare barium sulphate: solid sodium sulphate, distilled water, barium carbonate and dilute nitric(v)acid. **(3 mks)**

25. The following are PH values of some solutions A, B, C and D.

Solution	PH value
A	8.5
B	4.5
C	2.0
D	12

(v) With the highest concentration of hydroxide ions. Explain.

(2 mks)

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(vi) Which may be tooth paste. **(1 mk)**

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26. State two applications of electrolysis. **(2 mks)**

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27. When steam was passed over heated charcoal as shown in the diagram below a certain reaction took place.
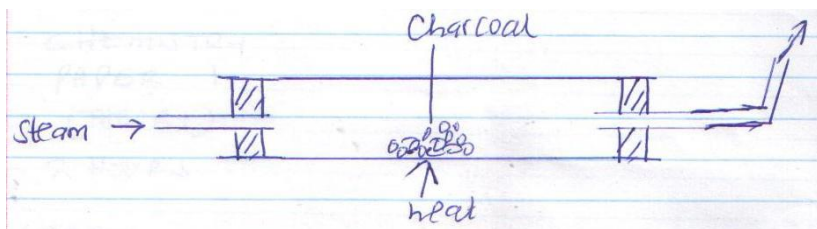
(e) Write the equation for the reaction which took place. **(1 mk)**

(f) Name two uses of carbon (ii) oxide gas, which are also uses of hydrogen gas.

(2 mks)

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28. (a) State the observation made when chlorine gas is bubbled through a solution of potassium iodide. **(1 mk)**

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(b) Write an ionic equation for the reaction in (a) above. **(1 mk)**

29. Give the reason why Helium is used in weather balloons. **(1 mk)**

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NAME……………………………………………....... CLASS…………..………

ADM NO…………………………………………SIGNATURE……………

DATE…………………………………………………

FORM 3 END TERM 2 SERIES 2 EXAMS

CHEMISTRY

PAPER 2 THEORY

TIME 2HRS

TERM 1

Instructions to candidates.

1. *Write your name and index number in spaces provided in the question paper.*
2. *Answer all the questions in the spaces provided in question paper.*
3. *Mathematical tables and silent calculators may be used.*
4. *All working must be clearly shown where necessary.*

QUESTIONS	STUDENT SCORE
1	
2	
3	
4	
5	
6	
7	

1. Study the table below and answer the questions that follow. The letters do not represent the actual symbols of the elements.

Element	A	B	C	D	E	F	G	H
Atomic no.	11	12	13	14	15	16	17	16
Boiling point (°C)	890	1110	2470	2360	280	445	34.7	-186
Formulae of oxide		BO			E_2O_3	FO_2		
Boiling point of oxide (°C)	1193	3075	2045	1728	563	-72	-91	

(a)(i) Write the electronic arrangement for ion of element **C** and **F**.   **(1 mark)**

(iii)   To which period and group do element **B** belong.   **(1 mark)**

Period

………………………………………………………………………………………………

Group

………………………………………………………………………………………………

(b) Explain the difference in boiling points of element **B** and **F**.   **(2 marks)**

B…………………………………………………………..

F…………………………………………………………...

c) Write the formula of the compound formed between elements **B** and **G**.

          (1 mark)

……………………………………………………………………………………………..

d) The chloride of **A** has a higher boiling point than that of **C**. Explain.

          (2 marks)

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(e) Complete the table to show the formulae of the oxides.   **(2 marks)**

(f) Select an oxide that reacts with hydrochloric acid and potassium hydroxide.
 Explain   **(1 mark)**

……………………………………………………………………………………………..

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(g) Determine the oxidation state of **F** in its oxide.   **(1 mark)**

....

h) using dots (.) and cross (x) draw the structure of   **(2 marks)**

NH_4^+

2. A   Study the arrangement below and answer the questions that follows.
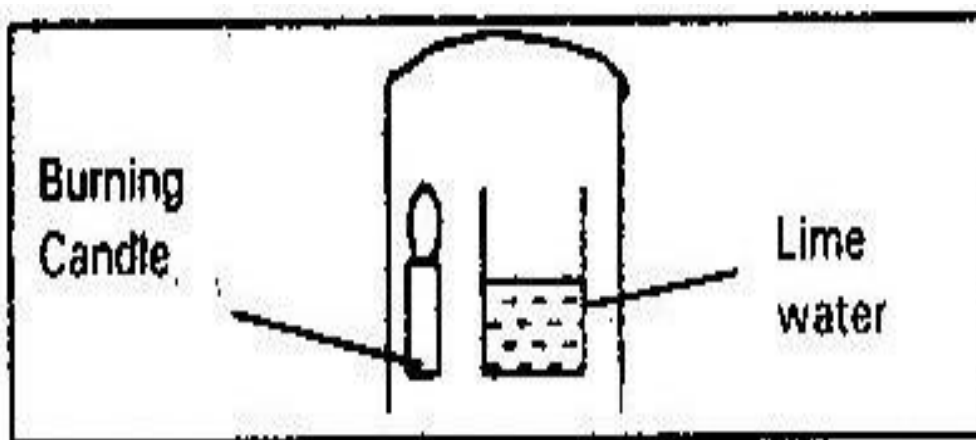
(i) What observation is made in the lime water after a short time.   **(1mk)**

....

(ii) Write an equation for the reaction taking place in the beaker containing lime
water   (**1 mark**)

....

(B) A piece of Phosphorus was burnt in excess air and the product obtained was shaken with small amount of hot water to make a solution.

i)   Write an equation for the burning phosphorus in excess air   **(1mk)**

………………………………………………………………………………………………..

ii)   The solution obtained in above was found to have a PH of **2**. Explain **(lmk)**

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C) Explain why cooking pots made of aluminium do not corrode easily when exposed toair.   **(2 marks)**

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D. The diagram below represents a set-up used to prepare oxygen gas.
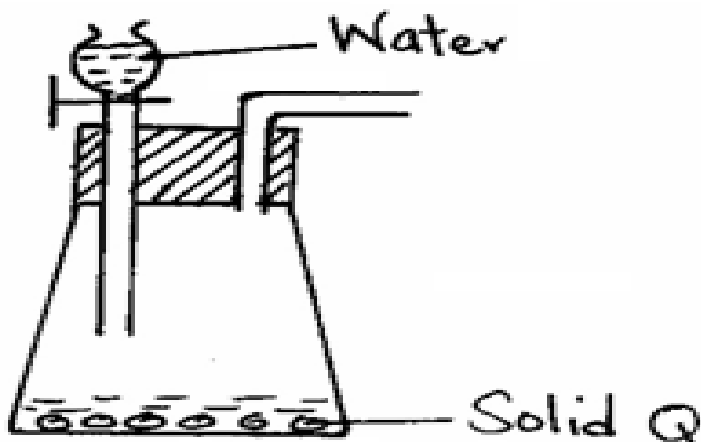
   (a) Name substance **Q.**   **(1 mark)**

………………………………………………………………………………………………..

   (b) Complete the set-up to show how dry oxygen gas is collected.   **(2 mark)**

   (c) Write the equation for the reaction that occurs.   **(1 mark)**

3. (a) state Graham's law of diffusion**.**   **(1mk)**

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b) $20cm^3$ of un known gas Q takes 12.6 seconds to pass through small orifice. $10cm^3$ of oxygn gas takes 11.2 seconds to diffuse through the same orifice under the same conditions of temperature and pressure. Calculate the molecular mass of unknown gas Q (0=16) **(2mks)**

c) A balloon used in a meterological station contains $250dm^3$ of helium at $25^{\circ}c$ and 100kpa pressure. Calculate the temperature when will burst, when its volume reaches $400dm^3$ and 80kpa pressure. **(3mks)**

(b) (i) what is meant by empirical formula of a compound. **(1mk)**

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………………………………………………………………………………………………..

(ii) a hydrated salt has the following composition.

By mass.Copper 25.4% sulphur 12.8 %, oxygen 25.8%, water 36% . its relative formula mass is 249.5. determine the emperial formula of the hydrated salt. **(3mks)**

(iii) 9.98g of hydrated salt were dissolved in distilled water and the total volume made to $200cm^3$ of solution. Calculate the concentration of the salt solution in moles per litre.

(2mks)

(c) If 200cm^3 of carbon (ii) oxide were burnt in 150cm^3 of oxygen. What is the volume of the remaining gases? (all volumes measured at the same temperature and pressure). What will be the volume of each of the remaining gases.

4. (a) A patient was given tablets with prescription 2 x 3 for 3 days on the envelope. Clearly outline how the patient should take the tablets. **(1 mark)**

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………………………………………………………………………………………..

(b) Two samples of equal volumes of water were put in 250cm³ beaker and heated for 10 minutes. Sample 1 registered a higher temperature than sample 2. State the conditions under which flame 1 is produced in the Bunsen burner.

(1 mark)

………………………………………………………………………………………..

....

....
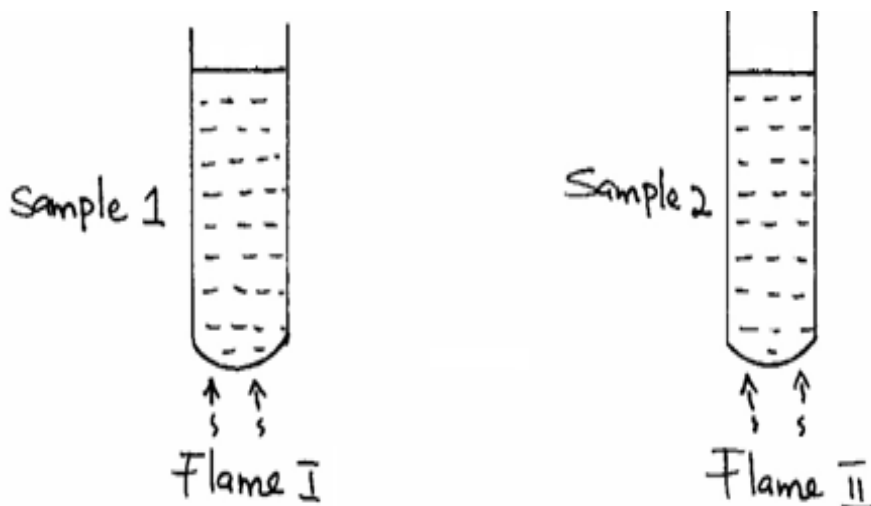
c) The apparatus below was used to separate a mixture of liquid A and B.
State two properties of the liquids that make it possible to separate them are using such apparatus.   **(2 marks)**
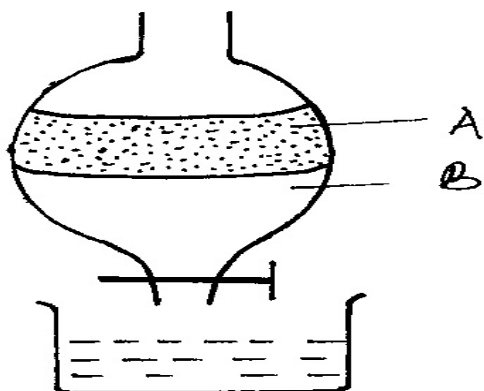
d)   A laboratory technician accidentally mixed liquids suspected to be benzene (B.P. 78 ^{0}C) and water (B.P 100^0 C). He has a problem of separating the mixture and seeks your help. Describe to him.   **(2marks)**

          (i)   The method he should use

....

          (ii)   The precautions he should take when carrying out the separation.

....

   e) A bee keeper found that when stung by a bee, application of a little solution of sodium hydrogen Carbonate help to relieve the irritation from the affected area. Explain.   **(2mks)**

....

....

....

 (f)   The following data gives the PH value of solution P, Q and R.

Solution	PH value

P	13.6
Q	6.9
R	1.3

i) Which solution would produce Carbon (IV) Oxide when reacted with Copper (II) Carbonate? **(1mk)**

…………………………………………………………………………………………………..

ii) What would be the colour of solution "P" after adding a few drops of phenolphthalein indicator? **(1mk)**

…………………………………………………………………………………………………..

5. A student set up the apparatus shown below to prepare and collect dry carbon (iv oxide gas
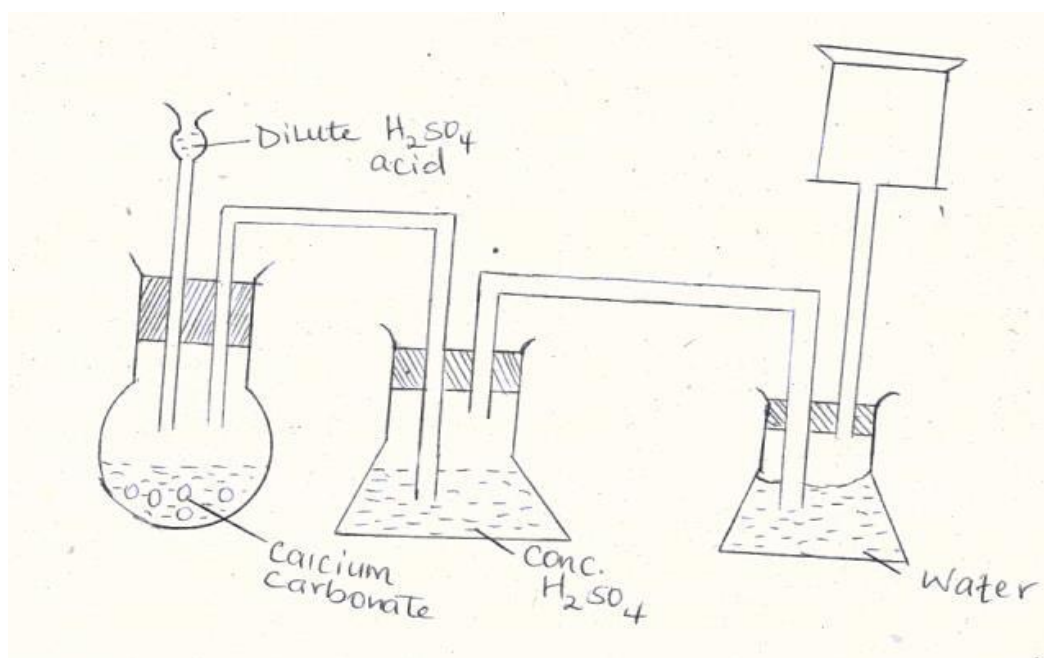
(a) State a correction for two mistakes in the set up above. **(2mks)**

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…………………………………………………………………………………………………..

(b) The flow chart below is for the manufacture of sodium carbonate by the Solvay process. Use it to answer the questions that follow.
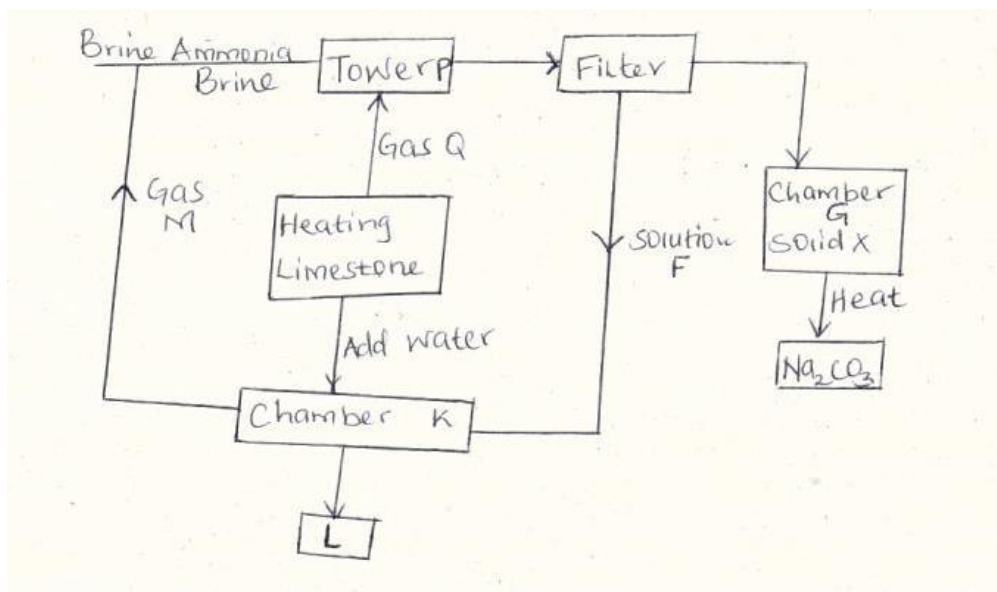
5i) Name gas M and Q   **(2mks)**

M…………………………………………………………………

Q…………………………………………………………………..

(ii) Name solution **F** **(2mks)**

………………………………………………………………………………………………………..

Solid **x**

………………………………………………………………………………………………………..

(iii) Name the product L formed and give one of its use.   **(2mks)**

………………………………………………………………………………………………………..
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(iv) Write equations of the reactions in ;

Tower **p**   **(2mks)**

………………………………………………………………………………………………………..

Chamber **k**

……………………………………………………………………………………………………..

6 Describe how solid samples of salts can be obtained from a mixture of lead (II) chloride,

……………………………………………………………………………………………………...
……………………………………………………………………………………………………..
……………………………………………………………………………………………………..
……………………………………………………………………………………………………..

(a) sodium chloride and   ammonium chloride.   **(3 marks)**

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(b) Write the equation for thermo decomposition of:
  i.   Sodium nitrate.   **(1 mark)**

……………………………………………………………………………………………………..

  ii.   Copper (II) nitrate.   **(1 mark)**

……………………………………………………………………………………………………..

  iii.   Calcium carbonate   **(1 mark)**

……………………………………………………………………………………………….

(iii) Define the term electrolysis?   **(1mk)**

……………………………………………………………………………………………………..
……………………………………………………………………………………………………..

6.The set up below was used to electrolyse a bromide of metal D, DBR_2.
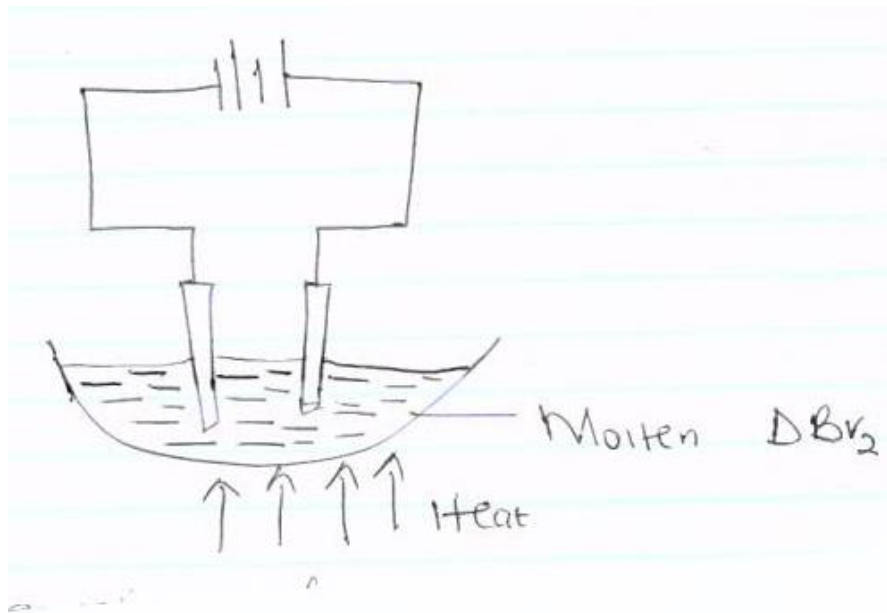
Write equations for the reactions at the

(i) Cathode   **(1mk)**

....

(ii) Anode   **(1mk)**

....

(iii) Give a reason why this experiment is carried out in a fume cupboard.   **(1mk)**

....

(iv) State one application of electrolysis.   **(1mk)**

....

7a) the set up below was used to prepare hydrogen gas. Complete the diagram to show how a dry sample of the gas can be collected.

Dilute hydrochloric acid

Zinc granules
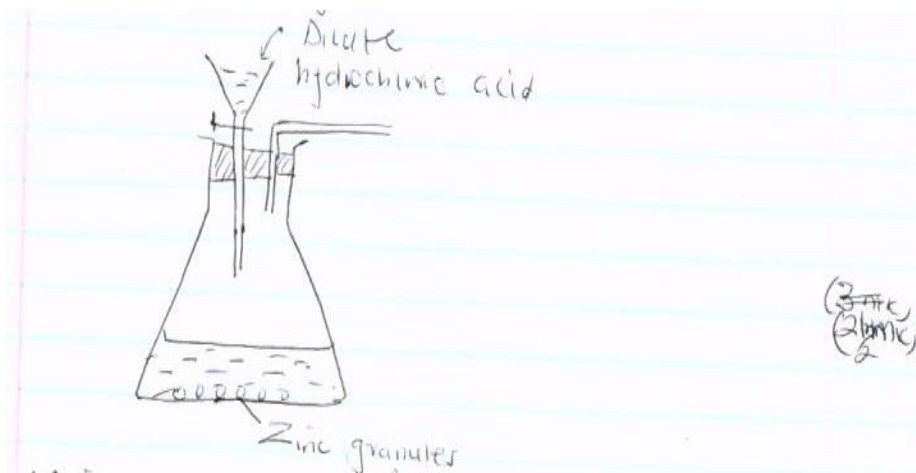
(g) Write an equation for the reaction producing hydrogen gas.**(1mk)**

…………………………………………………………………………………………………..

(b) dry hydrogen gas was passed over heated copper (ii) oxide in a combustion tube as shown below.

Copper (ii) oxide

Dry hydrogen gas.

Heat

Liquid X

flame

Ice cold water

State out
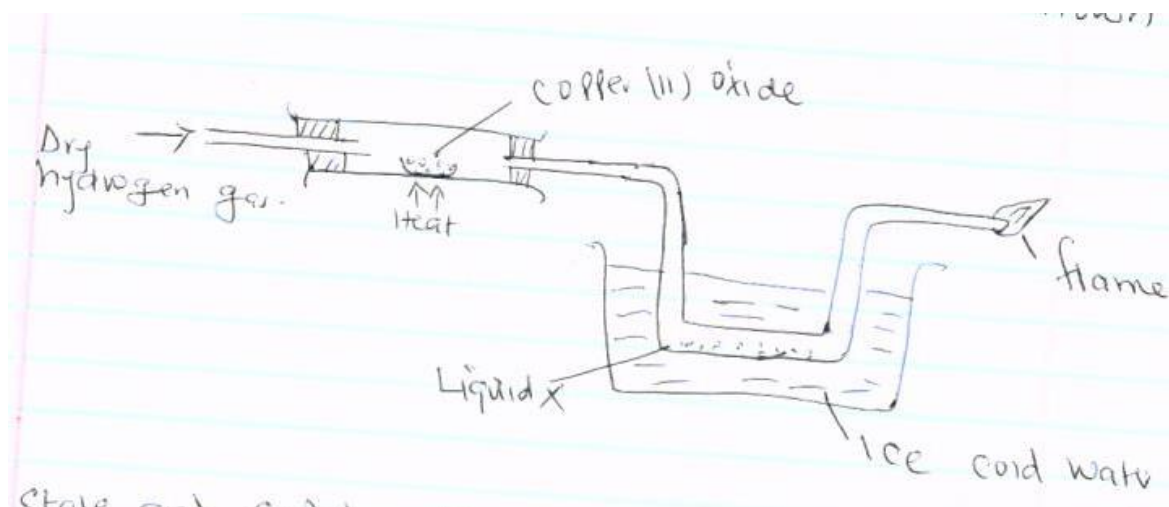
(c) State and explain the observation made in the combustion tube**.** **(2mks)**

…………………………………………………………………………………………………..
…………………………………………………………………………………………………..

(d) Write an equation for the reaction that took place in the combustion tube.

(1mk)

....

(c) **(i)** identify liquid **x** (1/2mk)

....

(e) Give one chemical test that can be used to prove the identity of liquid **x.**

(1mk)

....

di) when magnesium oxide is used is placed of copper (ii) oxide, no liquid is formed in the u-tube dipped in ice-cold water . Explain. (1mk)

....
....

(ii) write an equation for the reaction at flame point. (1mk)

....

NAME……………………………………………………... CLASS…………..………

ADM NO……………………………………………SIGNATURE……………

DATE…………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

FORM 3

CHEMISTRY

 PAPER 3 (PRACTICAL)

TIME: 2¼ HOURS

Instructions to candidates.

(a)   *Write your name and admission number on the paper.*

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

(c)   *Spend the first 15 minutes of the 2¼ hours to read the question paper and ensure all the chemicals and apparatus are available.*

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

(e)   *KNEC mathematical tables and silent electronic calculators may be used.*

(f)   *Check the question paper to ensure all the questions are printed. The paper consists of 3 questions.*

(g)   *Answer all the questions in English.*

For examiner's use only

Question	Maximum score	Candidate's score
1	12	
2	11	
3	17	
Total score	40	

Q1 You are provided with

➢ Solution D which is acidified potassium manganate(VII)
➢ Solution E which was prepared by dissolving 23.5g of ammonium iron(II) sulphate per dm^3
$(NH_4)_2SO_4$ .Fe SO_4 . $6H_2O$.

a) You are required to determine the concentration of acidified potassium manganate(VII) i.e standardize solution D.

Procedure

b) Fill the burette with solution D
c) Pipette $25.O^3$ of solution E and transfer into a clean 250ml conical flask.
d) Titrate solution D against solution E until a permanent colour change occurs
e) Record your results in table 1 below.
f) Repeat the procedure two more times.

Table 1

	1	11	111
Final burete reading(cm^3)			
Initial burette reading (cm^3)			
Volume of solution D added (cm^3)			

(!) What were the colour changes during the titration. **(1mk)**

………………………………………………………………………………………………..

(II) Calculate the average volume of solution D used. **(1mk)**

(III) Calculate the number of moles of solutions E in $25cm^3$
(N+14,H=1,Fe=56,S=32,0=16) **(3mks)**

(iv) Given that the reacting ratio(mole ratio) of D:E is 1:5 respectively, calculate the number of moles of solution D in the average volume. **(1mk)**

(v) Calculate the molarity of solution D. **(2mks)**

Q2 You are provided with

- ➢ Sodium carbonate solid Y.
- ➢ 0.125m hydrochloric acid solution Z.

You are required to determine the mass of solid Y sodium carbonate provided.

Procedure

1. Put all the solid Y provided in a 100ml beaker and add about $50cm^3$ of distilled water.
2. Stir and transfer the solution into a 250ml volumetric flask.
3. Rinse the beaker with more distilled water and put the washing into the volumetric flask
4. Add more water to the volumetric flask to make up to the mark, label this solution Y.
5. Fill the burettle with the hydrochloric acid solution Z.
6. Pipette $25.0cm^3$ of solution Y into a conical flask.
7. Add 2-3 drops of methyl orange indicator and titrate with solution Y from the burette.
8. Record in table II below
9. Repeat the titration two more times.

Table II

	I	II	III
Final burette reading (cm^3)			
Initial burette reading(cm^3)			
Volume of solution Z(cm^3)			

(1)   Calculate the average volume of solution Z used.   **(1mk)**

(II)   Calculate the number of moles of hydrochloric acid solution Z in the average volume.   **(1mk)**

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

 (IV) Calculate the number of moles of sodium carbonate solution Y in 25cm^3 **(1mk)**

(v)   Calculate the number of moles of sodium carbonate solution Y in 250cm^3.

                                                                                                                                (1mk)

(vI) Calculate the mass of sodium carbonate solid Y that you were provided with(Na=23, C=12.O=16) **(2mks)**

Q3(a) You are provided with a metallic oxide solid P. Carry out the tests below and answer the questions asked.

(1) Put about 2 cm^3 of sulphuric (VI) acid in a test tube and add all the solid p provided. Shake well, leave to settle, filter and retain the filtrate.

(i) Write down the observation made. **(1mk)**

……………………………………………………………………………………………………
……………………………………………………………………………………………………

(ii) Name the salt present in the filtrate. **(1mk)**

……………………………………………………………………………………………………

(iii) Write an equation for the reaction that takes place. **(1mk)**

……………………………………………………………………………………………………

(II) Heat about 1 cm^3 of the filtrate in a boiling tube until all the water evaporates. Observe and leave to cool. **(1mk)**

NB Do not overheat.

……………………………………………………………………………………………………

(III) Add about 1cm^3 of distilled water to the solid when it cools and observe. **(1mk)**

……………………………………………………………………………………………………

(IV) From the observation in (II) and (III) above, what can you say about the changes that occur. **(1mk)**

……………………………………………………………………………………………………

(v) Name the method that has been used to prepare the salt formed in **(i)** **(1mk)**

………..

(b)   You are provided with solid R. Use it to carry out the tests below.

(i)(i)   Heat ½ spatula of the solid in a dry test tube and observe. Test the gases produced with wet litmus papers and a glowing splint. Record all your observations.

(5mks)

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(II)   From the observations, identify solid R.   **(1mk)**

……...

(II)   Put the rest of solid R in a test tube and add about 2 cm^3 of distilled water. Shake well, retain the solution formed, and write the observation made.   **(1mk)**

……….

(III)   Add a few drops of sodium sulphate ($Na_2 SO_4$) solution to the solution made in step(II) above. Write your observation   **(1mk)**

………

(iii)   Write an ionic equation for the reaction between solid R and $Na_2 SO_4$ solution.

(1mk)

……….

(v)   In **(iii)** above, two salts have been prepared. Name the method used for preparing the salts.   **(1mk)**

……...

NAME………………………………………... CLASS…………..………

ADM NO…………………………………SIGNATURE……………

DATE…………………………………………

FORM 3 END TERM 2 SERIES 2 EXAMS

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) Identify **five** books of the old Testament referred to as the writings **(5mks)**
   b) Give **five** reasons why the Bible is referred to as the word of God **(10mks)**
   c) Describe **five** ways in which Christians use the Bible **(5mks)**

2. a) Give **five** signs given to Abraham by God in his covenant **(5mks)**
   b) Describe **five** ways in which Abraham demonstrated his faith in God **(10mks)**
   c) Outline **five** lessons Christians can learn about God from Abraham's experience at Mt.Moriah **(5mks)**

3. a) Describe how prophet Elijah fought against corruption and injustices in Israel **(8mks)**
   b) How did God manifest his power during Prophet Elijah's ministry? **(6mks)**

   c) Explain why Christians should fight against bribery and corruption in Kenya **(6mks)**

4. a) Outline **four** categories of true prophets in the Old Testament **(8mks)**

b) Give **six** similarities between the Traditional African and true prophets in the Old Testament **(6mks)**

c) State **six** challenges which church leaders in Kenya face in their work **(6mks)**

5. **a)** Explain **four** reasons why God was to pass judgement on Israel and other Nations **(8mks)**

b) Describe the call of Amos to become a prophet of God in Israel **(7mks)**

c) Outline **five** ways in which Christians can help curb the evil of oppression of the poor **(5mks)**

6. **a)** State **five** reasons why sacrifices were offered in African traditional society **(5mks)**

b) Outline the role of kinship system in traditional African communities **(7mks)**

c) Explain **four** ways in which western education has affected kinship ties in the society today **(8mks)**

FORM 3 END TERM 2 SERIES 2 EXAMS

CRE

PAPER 2

INSTRUCTIONS

ANSWER ANY FIVE QUESTIONS IN THE ANSWER SHEET PROVIDED

1. With reference to Luke's gospels, explain eight ways in which Jesus fulfilled the Old Testament prophesies about the Messiah. **(8mks)**

b) Explain What Zachariah revealed about John the Baptist in the Benedict sin Luke 1:68-80 **(6mks)**

c) Give reasons why then birth of a child is celebrated in the modern society? **(6mks)**

2 a) Give reasons why Jesus was rejected in Nazareth **(8mks)**

b) Describe the healing of the paralytic (lk 5:17-26) **(7mks)**

c) Give reasons why a church leader may be rejected today **(5mks)**

3 a) Narrate the parable of the widow and the unjust judge (lk18:1-8) **(6mks)**

b) Explain Jesus teaching on prayer **(8mks)**

c) Give the importance of prayers in a Christian life today **(6mks)**

4a) Explain actions taken by Jewish leaders to ensure that Jesus was put to death **(8mks)**

b) Give evidence to show that Jesus resurrected **(6mks)**

c) What is the importance of Jesus resurrection to Christian today? **(6mks)_**

5a) Explain the New Testament teaching s on the unity of the believers as expressed in the bride **(8mks)**

b) Identify causes of disunity in the early church **(6mks)**

c) Explain how church disciplines those who cause disunity in to church today **(6mks)**

6 a) Outline seven teachings about Jesus from peters message on the day of Pentecost

(7mks)

b) Outline the characteristics of love as taught by St.Paul in 1corinthian 13 **(7mks)**

c) State activities of the church in Kenya which show that the Holy Spirit is working among them. **(6 marks)**

FORM 3 END TERM 2 SERIES 2 EXAMS

101/1
ENGLISH
PAPER 1
(Functional writing, cloze test
and oral skills.)
 TIME:2 HRS

i) You are the secretary of Umoja Faith Church Youth Group. The group is planning to hold a meeting on 16th August 2015 whose main agenda will be the Mission Outreach and initiating income generating activities. The constitution stipulates that there must be a 21-day notification of the meeting.

(a) Write a notice of the meeting that will be sent to the members.   **(6 marks)**

(b) During the meeting, 8 members were present, 3 including the treasurer sent apologies and the whereabouts of 2 members were unknown. The youth pastor attended the meeting. Apart from the main issues, members raised some matters from the previous meeting. There were also some personal issues raised by some members.
Write down the minutes of the meeting.   **(14 marks)**

ii) *Read the passage below and complete each blank space with an appropriate word 10 marks*

Citizens used **to i)**………………………….. that political leaders would observe the principles of good governance simply **ii)**…………………they were expected to. **iii)**……..…………………; it appears most leaders on the continent have replaced integrity with reckless impunity that has **iv)**……………….. Africa in chaos. v)……………….office are also supposed to be **vi)**………… to the people that entrusted them with the vii)**……………………..of** leading them. **viii)**…………………………, the political elite in the continent see people as a means to an end. In many countries these days, Kenya included, politics has become the easiest way to make money. Electioneering is seen as an **ix)**………………..with extremely lucrative returns when campaign loyalties are **x)**………………….with appointments in the government of the day.

iii)*a) Read the following Ankole song and answer the questions that follow*.

Suck and I hide you, my gentle one Suck and I hide you, my beloved

I dreamt that the hunt was at Buganga I dream that the hunt was at Ngarama

Where, oh where, shall I put, my little baby? Where, oh where, shall I put you, my lovely little lips? If I put you in a clump of grass, my gentle oneThe hunters' rough dog will come sniffing around

The hunters' thick club tears up the back

Suck and I hide you, gentle one Suck and I hide you, for whom the drum sounds

Where, oh where, shall I put you, my lovely little lips?Where, oh where, shall I put you, my beloved?

If I put you by the wayside, gentle one Passers-by will take you with them, my beloved If I put you in an anthill, my little baby The ants will enclose you in their nest, lovely little lips Suck and I hide you, little baby Suck and I hide you, my gentle one

When I am dead and gone, gentle one Feed on little blades of grass like cow, my belovedAnd wash them down with a little water, my little baby That's what raises orphans, you for whom the drum sounds

If I do not die, my little baby

Good things will be ours to enjoy, you for whom the drum sounds

1. Identify aspects of oral performance that make this song easy to remember?**(2 marks)**

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………………………………………………………………………………………………………..

(ii) In what ways would this song be made interesting to listen to?   **(2 marks)**

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………………………………………………………………………………………………………..

(iii) How would you perform the last two lines of the above song?   **(2 marks)**

……
……
………………………………………………………………………………………………………..

b)   *Study the genre below and answer the questions that follow*

I have a wife everyone she bears has a bead

1. Identify the genre under which the above item falls.   **(1 mark)**

………

………..

2. Assuming you were to perform this genre, what will you do before the presentation? **(1mark)**

……

………..

3. How will (ii) above assist you as a presenter? **(1mark)**

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………..

c) *Identify the silent letters in the words below* *(***3marks***)*

i) Shepherd

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ii) Rendezvous

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iii) Epistle

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d) **_Write another word that has the same pronunciation as the following words_(3marks)**

1. Mark

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2. Broach

………………………………………………………………………………………………………

3. Proof

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e) *Underline the stressed the syllables in the highlighted words* *(***2 marks***)*

(a) We have to *relocate* these people
(b) The security officer will *punish* you if you come late.

f) *Indicate whether the following sentences have a falling or a rising intonation.***(2 marks)**

(a) A stitch in time saves nine

…………………………………………………………………………………………..

(b) Do you like tomatoes or not.

…………………………………………………………………………………………

g) Jaramba's son, Mariapa, was really enthusiastic to go for a party with his friends at Carnivore. He had been invited to a friend's birthday party. He had to get permission from the father first in order to attend. However, Mariapa failed to convince his father because of his approach and language. What could have been the weaknesses in his negotiation skills? **(5 marks)**

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h) *Read the conversation below between Audrey, a student, and the school secretary then answer the questions that follow.* **(6 marks)**

Audrey: Hallo. Good morning.

Secretary: Hallo. Who is on the line and what do you want?

Audrey: I am a Form 4Y student and I have been away from school for three days now. May I speak to the Principal?

Secretary: The Principal is not in the office now.

Audrey: Could I please leave a message for him?

Secretary: Oh, please, don't you have his cellphone number?

Audrey: No madam, since it is official, kindly take down the…

Secretary: Excuse me, young girl, I am too busy for this idle chat.

Audrey: I am sorry but it is very urgent, madam.

Secretary: (*without a pen or paper*) Go ahead and you better be quick.

Audrey: Thanks for the attention

v. Identify the weaknesses in the secretary's telephone conversation skills. **(3marks)**

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(ii) What should she do to improve on this?   **(3marks)**

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NAME……………………….…………………………... CLASS…………..………

ADM NO……………………………………………….SIGNATURE……………

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FORM 3 END TERM 2 SERIES 2 EXAMS

ENGLISH
PAPER 2
(Comprehension, Literary appreciation and grammar)
TIME: 2 ½ HOURS

<u>*INSTRUCTIONS:*</u>
Answer all the questions in the spaces provided.

1. COMPREHENSION.
Read the passage below and answer the questions that follow after it:

Those who have never travelled by air imagine that it is an interesting experience. It is, in some ways, but I would like to show some of the disadvantages. When travelling long distances, one disadvantage is the close proximity of your travelling companions. At least in a crowded train you can get up on the pretext of going to stretch your legs in the corridor, which gives you an opportunity to see if there is a vacant seat with less offensive passengers in another compartment, or, if the worst comes to the worst, you can spend the greater part of the journey in the buffet car eating tired sandwiches and drinking a brown liquid referred to as coffee out of paper cup. You may not enjoy it but it may well be the lesser of the two evils.

Not so on the plane. Inevitably, you find yourself wedged in the middle of a row seating many people. How some unfortunate travellers manage to get the isle or window seats. I have never been able to discover, since they do not look significantly different from anyone else. Perhaps it is done by shameless lying: Excuse me, stewardess, but I must get a seat next to the window as I am recovering from a spinal operation, or I am afraid unless I sit by window, I will get sick and mess up everybody. All I know is, I have never been able to invent a convincing reason.

So, there I am, wedged next to the fattest man on the plane on one side, and the most fidgety child on the other. No room to stretch my legs, barely room to fasten my seat belt, nowhere to rest my arms – in other words, I am sitting „encaged like a sausage, constantly squeezed and trampled over by other members of my row trying desperately to reach the aisle or get a view from the window. And when it is time for food, it is even worse. Either the fat man gets my tray as well as his own, or the child, displaying a well-timed fit of temper, sends my meat nearly flying in all directions.

Time and space will not allow me to tell you about other miseries. But do you know? The stewardess could address you in a strange tongue and become impatient when you fail to respond. The food could he strange and unpalatable…….. and you never quite forget that should something happen you would meet your maker without any delay whatsoever.

Well, man's conquests of the air may be his most outstanding achievement to date, but as far
as I am concerned, it's an international disaster.

(a) In your own words, say why travelling by air is not a pleasant thing. Use the information given in the first three sentences of the passage. **(2 marks)**

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(b) According to the passage why is it better to travel on a crowded train than on a crowded plane? **(3 mks)**

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(c) What is implied by the food served in a train? Illustrate your answer. **(2 marks)**

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d) The writer points out that he has been unable to invent a convincing reason so as to be excused to occupy the window seat. What reason does he give to support this claim? **(2 marks)**

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e) In **point form**, write the reasons why the writer envies those who get the aisle or window seats. **(4marks)**

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f. What does the expression encaged like a sausage mean? **(2 marks)**

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g. Time and space will not allow <u>me</u> to tell you about other miseries. (Rewrite the sentence changing the underlined pronoun to subjective case) **(1 mark)**

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h. How offensive are the passengers is the writer referring to in paragraph 1 of the passage? **(2 marks)**

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i. What is the mood of this passage? **(2 marks)**

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2. READ THE EXTRACT BELOW AND ANSWER THE QUESTIONS THAT FOLLOW

Nora: I didn't find it dull.

Helmer: *(smilling)*But there was precious little result, Nora.

Nora: Oh, you shouldn't **tease** me about that again. How could I help the cat's going in and tearing everything to pieces?

Helmer: Of course you couldn't, poor little girl. You had the best of intentions to please us all, and that's the main thing. But it is a good thing that our hard times are over.

Nora: Yes, it is really wonderful.

Helmer: This time I needn't sit here and be **dull** all alone, and you needn't ruin your dear eyes and your pretty little hands-

Nora: *(clapping her hands)* No, Tovald, I needn't any longer, need I! It's wonderfully lovely to hear you say so! (taking his arm) Now I will tell you how I have been thinking we ought to arrange things, Torvald. As soon as Christmas is over-(A bell rings in the hall.) There's the bell. (She tidies the room a little.) There's someone at the door. What a **nuisance**!

Helmer: If it is **a caller**, remember I am not at home.

Maid: *(in the doorway)* A lady to see you, ma'am,--a stranger.

Nora: Ask her to come in.

Maid: *(to Helmer)*The doctor came at the same time, sir.

Helmer: Did he go straight into my room?

Maid: Yes, sir.

Questions

1. What does Nora refer to in her opening words in this extract?   **(2 marks)**

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2. What has happened that has made the couple happy?   **(2 marks)**

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3. Discuss two themes evident in this extract.   **(4 marks)**

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4. "There's someone at the door." Add a question tag   **(1 mark)**

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5. A lady has come to see Nora as reported by the maid. Who is this lady and how does her coming

affect the Helmers from the rest of the play. Write your answer in note form.**(6 marks)**

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6. Discuss one aspect of style in this extract.   **(2 marks)**

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7. Briefly explain what happens after this extract.   **(4 marks)**

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8 Explain the meaning of the following expressions as used in the excerpt.   (**4 marks**)

i) Tease

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……

ii) Dull

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……

iii) Nuisance

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……

iv) A caller

……
……

QUESTION 3
Read the narrative below and then answer the questions that follow.

There was a famine in the animal kingdom. This famine had lasted so long that any existing source of food had been completely depleted. The animals knew they had to do something real quick or they would all die off one by one. They called a meeting where every animal was in attendance and they determined that they had to do something **drastic**. It was decided that the mothers would be sacrificed to ensure the continuation of the animal races. They would eat their mothers.

The dog who had been at the meeting decided to hide his mother. He was not going to sacrifice his mother, so he hid her in the sky. Every day, he would go to a particular spot where he sang a song asking his mother to drop a rope.

Dog would sing:

Mother Mother send down your rope
All have killed and eaten their mothers
Dog has taken his mother to the sky
Mother Mother send down your rope

His mother would drop a rope and the dog would climb to the sky where his mother would have a feast waiting for him.

One day as the dog was singing for his mother to drop the rope, the tortoise was passing by and he hid himself to observe what was going on. He heard the song dog was singing, then he saw a rope being dropped from the sky with which the dog climbed to the sky.

The following day, the tortoise went to the same spot and **disguising** his voice like the dog's, he sang the song he had heard the dog sing the day before. A rope dropped from the sky and the tortoise began to climb this rope. At this same time, the dog was just approaching the same spot and he saw the tortoise climbing to the sky. The dog immediately started to sing to his mother. This time, he sang that he was not the one climbing the rope and his mother should cut the rope. Dog's mother got a pair of scissors and cut the rope sending the tortoise crashing to the ground. This caused tortoise shell to break into several pieces. He managed to **glue** these pieces together but that is how the tortoise ended up with the rough shell we know today.

1. With a reason, classify this oral narrative. **(2marks)**

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2. Identify and illustrate **two** features of oral narratives evident in the story above.

(4marks)

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3. How important is the song sung by dog to his mother? **(2marks)**

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4. Why did the dog have to sing at that particular spot? **(2marks)**

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5. Describe **two** character traits of Dog as depicted in the story. **(4marks)**

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6. Explain **one** theme evident in the story. **(2marks)**

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7. The following day, the tortoise went to the same spot and disguising his voice like the dog's, he sang the song he had heard the dog sing the day before. **(1mark)**
Rewrite beginning with: The tortoise…

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……………………………………………………………………..…………………………………
……………………………………………………………………………………………………
…………………………………………………………………………………………………..

Give the meaning of the following words as used in the story. **(3marks)**
   i. Drastic

…………………………………………………………………………………………………..
  ii. Disguising

…………………………………………………………………………………………………
  iii Glue

…………………………………………………………………………………**(**2marks**)**

4. GRAMMAR

 (a) *Use the correct form of the word in brackets to complete the following sentences:*
[5 marks]

  i)   The dress I bought for my baby has**……………………..(**shrink)

  ii)   The government promised to cushion Kenyans against Covid-19 until**…………………**. returns.(normal)

  iii)   The financial experts advised me that it is**……………………..** (hazard) to think of investing now.

  iv)   Resian lives in a**…………………………..** (dominant) male society.

  v)   Taiyo and Resian's lives were**……………………….**(separate) linked.

2. *Replace the underlined word in each of the following sentences with appropriate phrasal verb.* **[3 marks]**

  i.   Agege always <u>visits</u> at meals time.

……………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

  ii.   The late president of Burundi refused to <u>relinquish</u> power in 2015 leading to bloodshed.

……………………………………………………………………………………………
……………………………………………………………………………………………
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  iii.   The ten people who tested positive for Covid-19 are <u>stabilizing</u> at Mbagathi Hospital.

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……………………………………………………………………………………………
…………………………………………………………………………………………….

 3. *Rewrite the following sentences as instructed. Do not change the meaning*:
[4 marks]

       It was a bizarre incident.[Rewrite beginning: How**……………..]**

....

....

....

    i.   Walking around without wearing a mask is dangerous.[Rewrite using a to infinitive]

....

....

....

    ii.   It would be unwise to open schools amid the Covid-19 pandemic. (extremely). [Put the word in brackets in its correct position in the sentence]

....

....

....

  iv) When the people burst into the councilors office he had not even sat down. (Begin: Hardly)

....

....

d) Fill the blank spaces with the correct preposition

a) I am indebted _____ him for the help he gave me.

b) She has always confided _____ him.

 c) The ailing man has been in bed _____ the whole week

FORM 3 END TERM 2 SERIES 2 EXAMS

101/3

ENGLISH

PAPER 3

(CREATIVE COMPOSITION AND ESSAYS BASED ON SET TEXTS)

TIME: 2 ½ HOURS

Instructions

(a)Answer three questions only.

(b)Question one and two are compulsory

(c)In question one, choose one composition either a or b. In question 2, all the questions are compulsory.

1. **Imaginative composition.** (20marks)

   Either:

 a) Write a composition beginning:

   Looking at my father, I knew my brother and I were in hot soup.......

   <u>Or</u>

(b) Write a story to illustrate the saying

   "All that glitters is not gold"

2. **The compulsory set text**

BLOSSOMS OF THE SAVANNAH

(a)'Women are their own enemies .'Write an essay exemplifying the truth of this statement using Blossoms of the Savannah . (20mks)

(b)'Not all aspects of culture and traditions are bad.' Drawing your illustrations from the novel Blossoms of the Savannah ,validate the above assertion **.** **(20mks)**

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FORM 3 END TERM 2 SERIES 2 EXAMS

312/1
GEOGRAPHY
PAPER 1
TERM ONE
 2 ¾ Hours

INSTRUCTIONS TO CANDIDATES

(a) This paper has two sections   A and B.
(b) Answer all questions in section A.
(c) Answer question 6 and any other two questions from section B
(d) All Answers to be written on booklet provided
(e) Candidates should check to ascertain all questions are printed
(f) Candidates should answer the questions in English.

SECTION A

ANSWER ALL QUESTIONS

1. **(a)** Identify **two** types of environment   **(2mks**
     (b) mention **three** areas covered in physical geography   **(3mks)**

2. **(a)** State components of the Solar system   **(3mks)**
     (b) List planets in the solar system without satellites   **(2mks)**

3. **(a)** Mention types of folds   **(3mks)**
     (b) Name fold mountains found in the following continents   **(2mks)**
            South America
            North Africa

4. (a) Define the tem Earth movement   **(2mks)**
(b) State **three** causes of earth movement   **(3mks)**

5. (a) Define the following terms
➤ Divide/watershed   **(1mk)**
➤ Confluence   **(1mk)**

(b) Identify ways in which a river eroded its channel   **(3mks)**

SECTION B
Answer question 6 and any other two questions
6. Study the Migwani Map sheet 151/1
Scale: 1:50000 and use it to answer the questions
(a) State types of scales used on the Map extract   **(2mks)**

1. Name **two** man-made features found East of Easting 00 and north of Nothing 80   **(2mks)**
2. Give the **six** figure grid references of Kauma dam top the South West of the Map extract   **(2mks)**

(b)(i) What is the length in kilometers of all weather road Bound surface C94 from the junction with the Dry weather Road D502 to northing 84? **(2mks)**
(ii) Calculate the area enclose by all weather loose surface road to the North West of the Map. Give your answers in KM^2
3. Draw a square 14cm by 14cm to represent a section of the map enclosed by easting 99 and Northing 70 on it mark and name the following features.
10. Mboni Dam
11. Dry weather road south of Northing 91
12. Iko shops
13. River ngoo   **(5mks)**
4. Citing evidence from the Map, give three functions of Gwani town .**(3mks)**

a) (i) Identify **two** types of vegetation found North of Northing 68   **(2mks)**

(ii) describe the drainage of the area covered by the Map   **(5mks)**

(b) (i) What is a rock?   **(2mks)**
(ii) Give **two** types of intrusive igneous rocks   **(2mks)**

> State **three** characteristics of Sedimentary rocks   (**2mks**)

(c)   The table below shows some original rocks

Name their metamorphic equivalent

(Original rock)   Metarmophic

Granite   -   (**1mk**)

Sandstone   -   (**1mk**)

Clay   -   (**1mk**)

Limestone   -   (**1mk**)

d) Describe three ways through which original rocks turn into metamorphic rocks
(6mks)

e) You are supposed to carry out field study on rocks around your school

(i) Give **two** methods of data collection you would use   (**2mks**)

(ii)   State **two** objectives of your study   (**2mks**)

(iii)   Give reasons as to why it would be necessary to carry geological hammar
(1mk)

(iv)   State **three** problems you are likely to encounter in the course of the field
study

(**3mks**)

7. (a)   Define physical weathering   (**2mks**)

1.   Describe **three** processes of physical weathering
(6mks)

2. (i)   Explain **two** factors which accelerate the rate of weathering in equatorial
areas

(**4mks**)

(ii) Explain **three** significance of weathering to human activities   (**6mks**)

3.   You are planning to carry out a field study on weathering in the area around
your school
(i) State **two** ways you would prepare for the study   (**2mks**)
(ii)Give **three** chemical weathering processes you are likely to study   (**3mks**)

(iii)   What follow-up activities would you be involved in after the field study
                                                                                    (2mks)

8. (a)   (i)   What is faulting   **(2mks)**

       (ii)   Name **four** types of faults   **(4mks)**

   (b)   (i)   State three causes of faulting   **(3mks)**

       (ii)   Using well labeled diagrams, describe the formation of rift valley by
                   compressional forces   **(6mks**)

       (iii)   Apart form Rift Valley name three features formed by faulting   **(3mks)**

   (c) You intend to carry out a field study on faulting at the Rift Valley.
   (i)   Identify **four** sources of data you would use prepare for the study   **(4mks)**

   (ii)   State three positive effects of faulting to human activities you are likely to
   identify   **(3mks)**

9. (a)   (i)   Differentiate between weather and climate   **(2mks)**

       (ii)   Identify any **three** elements of weather   **(3mks)**

   (b)   State the apparatus found in Stevenson screen   **(3mks)**

   (c)   The table below represents temperature and rainfall data of a certain station.
           Use **i** to answer question c**(i) (ii) (iii)**

Months	J	F	M	A	M	J	J	A	S	O	N	D
Temp in 0C	24	28	24	24	22	22	20	20	23	24	28	29
Rainfall(mm)	12	15	60	78	85	40	30	20	85	90	21	2

   (a) Calculate annual range of temperature
               (show your calculations)   **(2mks)**

   (b) Calculate annual rainfall   **(2mks)**

   (c)   Describe the climate of this station   **(5mks)**

(d) (i) What's weather forecasting   **(2mks)**

(ii) State effects of weather furcating on human activities   **(3mks)**

(iii) List factors that influence temperatures of a place   **(3mks)**

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FORM 3 END TERM 2 SERIES 2 EXAMS

312/2
GEOGRAPHY
PAPER II
FORM 3
TIME 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES
a) *This paper consists of two sections: A and B.*
b) *Answer ALL the questions in section A. in section B, answer question 6 and any two other questions.*
c) *All answers must be written in the answer booklet provided*

1. (a) Define the term 'photograph'   (2 mks)
   (b) List **three** limitations of using photographs.   (3 mks)
2. (a) State the **three** types of fieldwork.   (3 mks)
   (b) List **three** ways through which data may be presented.   (3 mks)
3. (a) What is mining?   (2 mks)
   (b) Name **three** methods of underground mining.   (3 mks)
4. (a) What is forestry?   (2 mks)
   (b) Name the **three** major natural forests of the world.   (3 mks)
5. (a) State the **two** characteristics of both primary and secondary data.   (2 mks)
   (b) Write down **two** methods that can be used in taking measurements as a method of
   collecting data**.**   (2 mks)

SECTION B:
Answer question 6 and any other two questions from this section.
6. (Compulsory)
   You intend to carry out a field study on the weather experienced in the locality of your
   school.
   (a)(i) State **four** ways you would prepare for the study.   (4 mks)
   (ii) State **two** hypothesis for the study.   (2 mk)
   (iii) Describe how you would use the raingauge during the study.   (4 mks)
   (iv) State how you would record the information while in the field.   (2 mks)
   (b) What is the importance of a reconnaissance in field work.   (5 mks)
   (c) State **two** advantages and two disadvantages of observation as a method of data
   collection.   (4 mks)
   (d) State **four** factors that must be considered when preparing a questionnaire.   (4 mks)
7. (a) Explain how the following factors influence the exploitation of minerals.
   (iii) Technology   (2 mks)
   (iv) Quality of the ore   (2 mks)
   (v) Accessibility   (2 mks)
   (b) Explain **four** factors which influence the occurrence of minerals.   (8 mks)
   (c) Name the minerals found in the following areas in East Africa.   (5 mks)
      d. Kariandusi –
      e. Kerio valley –
      f. Mwadui –
      g. Ruhuhu valley –
      h. Tororo -
   (e) Explain **three** ways in which minerals contribute to the economy of Kenya.

                                                                                         (6 mks)

8. **(a)** What is 'dead ground' in photograph work? **(2 mks)**

(b) Give **two** differences between aerial photographs and ground photographs. **(4 mks)**

(c) Below are the nine parts of a photograph, name the parts marked A, B, C and D.

(4 mks)

A		
	C	B
D		

A

B

C

D

(d) Name the **three** types of ground photographs. **(3 mks)**

(e) Describe the clues that may be used to interpret the following in a photograph:-

(v) Relief of an area. **(3 mks)**

(vi)   Drainage of an area.

(3 mks)

(vii)   Industrial and mining activities.

(3 mks)

(f) State **three** advantages of photographs.

(3mks)

9. **(a)** What is statistical data? **(2 mks)**

(b) Name the **two** types of questionnaires. **(2 mks)**

(c) State **two** disadvantages of interviews as a method of data collection. **(2 mks)**

(d) List the **three** types of sampling. **(3 mks)**

(e) Study the data in the table below and answer the questions that follow.

Kenya: Leading export crops by value (Ksh. Million)

CROP	TEA	HORTICULTURE	UNROASTED COFFEE
2000	35150	21210	11700
2001	34480	19840	7460
2002	34370	28330	6540
2003	33000	36480	6280
2004	36000	39540	6940

i.   Calculate the percentage increase in values of each export commodity between the years 2003 and 2004. **(6 mks)**

ii.   On a graph paper, draw a comparative line graph to represent the data in the table above. **(6 mks)**

iii. What **two** conclusions about the three commodities can you draw from the graph?

(2 mks)

iv. State **two** advantages of using comparative line graphs. **(2 mks)**

10.(a) Distinguish between indigenous forests and planted forests. **(4 mks)**

(b) Explain how the following factors influence the distribution of natural forests.

(6 mks)

   i. Temperature

   ii. Altitude

  iii. Soils

(c) State **four** characteristics of temperate hardwood forests. **(4 mks)**

(d) Explain **three** factors that favour the development of softwood forests in Canada.

(6 mks)

(e) State **five** problems facing forestry in Kenya. **(5 mks)**

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FORM 3 END TERM 2 SERIES 2 EXAMS

311/1
HISTORY AND GOVERNMENT
PAPER 1
TIME:2 ½ HOURS

Instructions to candidates

a) *This paper consists of three sections A, B and C.*
b) *Answer all the questions in section A; three in section B and any two in section C.*
c) *Answers to all the questions must be written in the answer booklet provided.*

SECTION A: 25 MARKS

Answer All Questions in this section.
1. Name **two** periods in the history of Kenya.   **(2 mks)**
2. Give **two** sources of information on Kenyan history.   **(2 mks)**
3. Identify **two** archaeological sites in Kenya.   **(2 mks)**
4. Give **one** theory that explains the origin of Kenyan communities.   **(1 mk)**
5. Name **two** communities of the coastal Bantu.   **(2 mks)**
6. State **two** duties of the Orkoiyot among the Nandi.   **(2 mks)**
7. Give **one** reason which led to the decline of Gedi during the 15th century. **(1 mk)**
8. Identify **two** communities that acted as middlemen in the Indian Ocean trade.

                                                                         (2 mks)
9. Give **two** reasons why the Oman Arabs were interested in ruling the coast of East
   Africa   **.(2 mks)**
10. Give the meaning of citizenship.   **(1 mk)**
11. Identify o**ne** developmental right of children.   **(1 mk)**
12. State **one** way in which the constitution promotes national integration in Kenya.
    (1 mk)

13. Give **one** type of direct democracy. **(1 mk)**

14. Name the leader of the German East African Company in East Africa. **(1 mk)**

15. Give **one** major significance of the Anglo German Agreement. **(1 mk)**

16. Identify **two** activities of the Imperial British East Africa Company between 1888 and 1895. **(2 mks)**

17. Identify **one** response of Kenyan people to the establishment of colonial rule. **(1 mk)**

SECTION B: (45 MARKS)
Answer any three questions from this section in the booklet provided.

18.(a) Give **five** reasons for the migration and settlement of the Maasai in Kenya in the 19th century. **(5 mks)**

(b) Explain **five** results of the interaction between the Bantu and other Kenyan communities. **(10 mks)**

19.(a) Identify **five** factors that facilitated the coming of the Arabs to the Kenyan Coast. **(5 mks)**

(b) Describe the impact of the Indian Ocean trade on the people of East Africa. **(10 mks)**

20.(a) State **three** ways in which the Christian Mission stations facilitated the spread of Christianity in Kenya. **(3 mks)**

(b) Explain **six** challenges that the Christian Missionaries faced in Kenya in the 19th century. **(12 mks)**

21.(a) Give **five** reasons why the British were interested in colonizing Kenya. **(5 mks)**

(b) Explain **five** results of the Wanga collaboration with the British colonial administration. **(10 mks)**

SECTION C: 30 MARKS
Answer any two questions from this section in the booklet provided.

22.(a) Give **five** limitations of the right to life. **(5 mks)**

(b) Explain **five** values of good citizenship in Kenya. **(10 mks)**

23.(a) State **three** political causes of conflict in Kenya. **(3 mks)**

(b) Explain **six** factors that promote national unity in Kenya. **(12 mks)**

24.(a) Identify **three** national symbols of the republic of Kenya. **(3 mks)**

(b) Describe **six** challenges faced in giving Kenyans a new constitution. **(12 mks)**

NAME…………………………………………………... CLASS……….…..………

ADM NO…………………………………………….SIGNATURE………………

DATE…………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

HISTORY AND GOVERNMENT
FORM 3
PAPER 2
TIME: 2 ½ HRS

INSTRUCTIONS TO CANDIDATES
   (a) *This paper consists of three sections A, B and C*
   (b) *Answer all questions in section A, three questions from section B and two questions from section C.*
   (c) *Answer to all the questions must be written in the answer booklet provided.*
   (d) *Candidates should check the Question paper to ascertain that all the pages are printed and that no Questions are missing.*
   (e) *Candidates should answer the questions in English.*

SECTION A 25 MARKS

Answer all the Questions in this section

1. Give the main method used by anthropologist to gather their historical data. **(1mk)**
2. Which is the title of the tools made by the new Stone Age man? (**1mk**)
3. Give the main reason why early agriculture developed in Egypt. **(1mk)**
4. Apart from tool making, identify **two** other early industries of the early man. **(2mks)**
5. Name **two** methods of irrigation used during early agriculture in Egypt (**2mks**)
6. Identify **two** slave ports on the western of Africa coast during the Trans-Atlantic Trade. (**2mks**)
7. Why was the Trans-Atlantic Trade referred to as triangular trade? **(1mk)**
8. State **two** characteristics of macadam roads**.(2mks)**
9. Mention **two** negative impacts of internet today **(2mks)**
10. List **two** advantages of fire and smoke signal used in ancient days**.(2mks)**
11. State **two** factors that led to the decline of moroe as an urban centre. **(2mks)**
12. State how William morton's invention improved the lives of people during operation. **(1mk)**
13. Name the least common type of constitution. **(1mk)**
14. Name **two** countries in west Africa that were colonized by the British**.(2mks)**
15. State **two** economic effects of the Chimwenga war. **(2mks)**
16. Identify the name of the treaty signed between Samori Toure and the French.

SECTION B (45 MARKS)

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

17. **a.** Give **three** reasons why Africa is considered the cradle of mankind **(3 mks)**
    b. Explain **six** ways in which Homo Erectus attempted to improve his way of life**.(12mks)**
18. **a.** State five uses of oil during the industrial revolution. **(5 mks)**
    b. Explain **five** factors that undermined industrial growth in India. **(10 mks)**
19. **a**. State **three** economic activities that led to the growth of Buganda Kingdom during the pre-colonial period.**(3mks)**
    b. Explain the social organization of the Shona during the pre-colonial period.**(12mks)**
20. **a.** Give **three** reasons why the Buganda collaborated with British colonial rulers**(5mks)**
    b. Explain f**ive** results of the Buganda collaboration with the British during the colonial period.
        (10mks)

SECTION C (30 MARKS)

*Attempt any **two** Questions from this section*

21.a. Outline the factor that united the people of Asante empire during the pre-colonial period **(3mks)**

b. Explain the similarities between Buganda and Asante political organization **(12mks)**

22.a. State factors that led to the growth of Johannesburg town**. (5mks)**

b. Expalin the impacts of Agrarian and industrial developments on urbanization. (**10mks**)

23.a. State **five** reasons that led to the failure of maji maji rebellion in 1905-1907**(5mks)**

b. Explain **five** reforms that were introduced by the German administration after the maji maji uprising **(10mks)**

JINA…………………………………………………………………... KIDATO………..………

NAMBARI YA USAJILI……………………………………SAHIHI………..…………

TAREHE………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

KISWAHILI

KARATASI YA 1

MUDA: SAA 1¾

KIDATO CHA TATU

MAAGIZO

(a) Jibu Maswali yote

(b) Swali la kwanza ni la lazima

Swali la lazima

1. Andika dayalojia baina ya mtu na rafiki yake ambao ndiyo kwanza wakutane toka walipoachana katika shule ya msingi.
2. Andika insha juu ya methali "Mti mkuu ukigwa wana wa nyuni huyumba"
3. Kuboresha maisha katika magereza ni kukuza uhalifu. Jadili
4. Niliskia jina langu likitajwa. Mmoja akaniita nikatoka nje. Nilisikia msongamano wa watu nyimbo za ushindi zikapanda juu!.................... Endeleza kisa hiki.

JINA…………………………………………………………... KIDATO…………..………

NAMBARI YA USAJILI……………………………….…….SAHIHI……….……

TAREHE…………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

KISWAHILI KIDATO CHA TATU
KARATASI YA PILI
MUDA: SAA 2 ½
MAAGIZO
JIBU MASWALI YOTE

SWALI	UPEO	ALAMA
1	15	
2	15	
3	40	
4	10	
JUMLA	**80**	

1.   UFAHAMU

Soma taarifa ifuatayo kisha ujibu maswali;

(Watu wamesimama nusu mduara chini ya mti mkubwa. Wanafanya kelele na kuinua silaha zao. Mbele yao kuna viongozi. Hivi ndivyo mambo yalivyoendelea.)

Mkuu wa wilaya: Ningependa kiongozi wenu awasilishe matatizo yenu. Tafadhali ketini

tumsikilize.

Mzee: Wakale hawakuropoka walipolonga kuwa ng'ombe akivunjika guu
              malishoni, hujikokota zizini. Sisi Walukenya tumepata dhiki isiyo
              kifani. Chanzo cha <u>idhilali</u> yetu ni wanyama pori. Ninasema uongo?

Umati:	(Kwa kishindo) HAPANA!
Mzee: yetu	Tuvumilie hadi lini? Tumeamua kupiga milundi kuleta malalamiko

kwa serikali. Tatizo letu la kwanza ni usalama. Wiki hii tumezika vijana watano. Mwezi uliopita, tulipoteza watu watatu. Wote hawa ama wamevyogwa na ndovu au wamegotwa na vifaru kama sio nyati. <u>Udhia</u> tuupatao ni kuwa tunapowazika fisi nao huwazikua. Linalotuudhi zaidi ni kuwa serikali haitoi fidia na mara chache inapotoa, ni shilingi thelathini elfu tu. Yaani, maisha ya binadamu ni rahisi hivyo? Wanaonusurika mashambulizi hubidi wagharamie matibabu yao wenyewe. Walukenya hawana usalama. Linalotisha mno ni kuwa siku hizi wanyama mwitu wanatuvamia hata mchana. Juzi, ndovu alishambulia matatu barabarani na kujeruhi watu wengi. Shughuli zetu za kila siku zimekwama. Mbali na hayo makazi, nyua na rasilmali kama miti na mito inaharibiwa na hawa wanyama, (Akigeukia umma) Kweli au sio?

Umati:	(Kwa sauti) Kweli kabisa!
Mzee:	Tatizo la tatu linahusu mifugo. Hakuna aliye salama. Ng'ombe

wanaliwa ovyo na simba. Chatu wanameza kuku, huku nyoka wadogo <u>wakibugia</u> mayai. Mwezi uliopita, chui waliwaua mbuzi thelathini wa Mzee Kitainge na kula ini la mmoja tu. Mifugo ni uhai wa Walukenya. Watakuwa nini bila mifugo? Isitoshe, wanyama pori wamedidimiza malisho ya mifugo yetu. Tuingiapo mbugani, tunashtakiwa. Tangu lini wanyama pori wakawa muhimu kuliko binadamu? Halafu mara kwa mara mifugo wanaambukizwa maradhi sugu. (anakohoa kidogo na kuendelea) La nne ni kuwa, tangu jadi, Walukenya wanajilisha lakini siku hizi wanaomba chakula. Kwa nini Wanyama wameharibu mimea yetu. Tumekataa kuhangaishwa zaidi. Tumeandaa silaha na kesho tunaanza kuwaangamiza wanyama pori.(Anaketi huku akishangiliwa kwa vifijo na nderemo).

Mkuu wa wilaya:	Afisa Tarafa, Chifu, Madiwani na Walukenya wote. Hamjambo? Kwa kweli mali na maisha ya watu wengi yamepotea. Nawashukuru kwa uvumilivu wenu. Nawahakikishia kuwa penye wazee hapaharibiki neno. Naahidi kuwa serikali itatatua matatizo yenu. Hakuna haja ya kushambulia wanyama pori.

	Hatua hiyo ni kama kuchukua sheria mikononi mwenu. Serikali haitasita kuchukua hatua kali kwa wahusika.
Umati:	Aaah!
Mkuu wa wilaya:	Serikali inashughulikia migogoro baina ya binadamu na wanyama pori katika nchi nzima. Imeunda jopo kukusanya maoni kuhusu fidia na suluhisho. Jopo hili litakuwa hapa kesho kutwa. Nawahimiza mje kwa wingi na mtoe maoni yenu.
Mtu:	Maoni na tunateseka?
Mkuu wa wilaya:	Tunapongojea matokeo ya jopo, serikali imechukua hatua za dharura. Hizi ni pamoja na kuanzisha kikosi maalumu cha askari wa kulinda wanyama na binadamu. Serikali pia itajenga ua wa umeme kuzunguka mbuga ili wanyama wasitoke. Zaidi ya hayo, serikali itajenga mabwawa mbugani na kuimarisha Idara ya Tiba kwa mifugo wilayani. Haya yamefanywa ili kulinda wanyama pori. Wanyama pori hawana uwezo wa kujitetea. Hata hivyo, sote twajua manufaa yao. Ili hatua za serikali zifaulu na ili muishi na wanyama kama ilivyokuwa tangu jadi, naomba mfanye mambo fulani. Kwanza, ningependa mjizuie kuwinda wanyama pori. Hili hutatiza mkufu wao wa utegemezi. Vilevile, msiwachokoze wanyama.Jambo hili huwakasirisha na kuwafanya kuwashambulia. Pili, tujizuie kuingilia njia za wanyama za kuhama, pamoja na malisho yao. Mwisho, mchukue hatua za kujilinda kutokana na wanyama pori. Hizi ni pamoja na kuzungushia makaazi nyua na kupiga ripoti kwa walinda mbuga hatari itokeapo. Mungu aliwapa Adamu na Hawa jukumu la kulinda rasilmali zote ardhini. Kama vizazi vyao, nasi lazima tubebe jukumu hilo kifuani. Ahsanteni.

Maswali:

1.Kwa kurejelea taarifa, eleza ukweli wa methali "Ng'ombe akivunjika mguu malishoni hujikokota zizini kusaidiwa".   **(alama 2)**

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2.Taja malalamiko manne yaliyowasilishwa na wanakijiji. **(alama 2)**

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3.Kuvamiwa kwa wanakijiji na wanyama pori kuna athari gani kwa mifugo wao

(alama 2)

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4. Ni hatua gani ambazo serikali imechukua ili kutatua migogoro baina ya wanyama na binadamu? **(alama4)**

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5. Ni kwa nini mzee anatumia balagha katika mazungumzo yake?

(alama 1)

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6. Eleza maana ya misemo hii kama ilivyotumiwa katika taarifa. **(alama 2)**

(a) Kupiga milundi

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(b) Kuchukua sheria mkononi

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7.Eleza maana ya maneno haya jinsi yalivyotumiwa katika taarifa. **(alama 2)**

(i)Idhilali

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(ii) Udhia

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(iii) Wakigubia

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(iv) Jopo

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UFUPISHO

Maelfu ya watu duniani wako hatarini kupoteza maisha yao kwa sababu ya uvutaji sigara.

Wataalamu wanasema mtu anayevuta pakiti mbili za sigara kwa moja, anapunguza muda wa maisha yake kwa asilimia 30. Inaelezwa kwamba ingawa wavutaji wengi wa sigara katika nchi za Ulaya na Marekani wanapunguza ama kuacha kabisa uraibu huo, wavutaji katika nchi zinazoendelea wanazidi kuongezeka kila kukicha.

Kwa mujibu wa wataalamu, vijana huanza kuvuta sigara kwa sababu ya utundu na kutaka kujua ladha ama mhemko unaosababishwa na sigara. Wengine huanza kuvuta sigara wakifuatisha wacheza sinema maarufu, wanamziki ama baadhi ya watu wanaowaenzi.

Sigara ama tumbaku husababisha athari mbalimbali kwa watumiaji wake, mingoni mwake magonjwa ya kifua kikuu, kansa ya mapafu ama utumbo na wakati mwingine, kifo. Kwa mujibu wa watafiti, watu wanaovuta sigara kwa miaka 20 na zaidi wako hatarini kufa kwa ugonjwa wa kansa ya utumbo. Hii ni kwa sababu moshi wa sigara unaweza kusababisha uvimbe kwa utumbo mkubwa na rektamu.

Uvutaji sigara unachangia asilimia 80-90 ya magonjwa ya kifua ama njia ya hewa ikiwemo kikohozi, pumu, homa ya mapafu na kansa ya mapafu. Mvutaji sigara hushambuliwa mara kwa mara na magonjwa ya koo, mafua na kikohozi kisichosikia dawa.

Uraibu huu pia huchangia asilimia 30 ya vifo vinavyosababishwaa na magonjwa ya moyo. Hewa ya 'Carbon monoxide' iliyopo kwenye sigara inaongeza kiasi cha 'cholestrol' ambayo huziba mishipa ya damu. Uvutaji sigara husababisha kuta za mishipa ya damu zikakamae; hali ambayo ni hatari na inaweza kusababisha mishipa ya damu ipasuke. Kemikali ya 'nicotine' iliyopo ndani ya 'sigar' inaweza kuongeza shinikizo la damu, mapigo ya moyo na kupunguza kiasi cha oksijeni kwenye misuli, hasa ya moyo. Mvutaji sigara anaweza kufa ghafla, kwani mapigo ya moyo yanaweza kusimama ghafla kwa sababu ya shinikizo kwenye moyo wake linalosababishwa na moshi ama kemikali zilizopo kwenye sigara.

Kwa wanawake, uvutaji sigara ni hatari zaidi kuliko ilivyo kwa wanaume. Mwanamke ambaye anatumia vidonge vya kuzuia mimba na anavut sigara anaweza kupatwa na athari kubwa za kiafya na kuhatarisha maisha yake. Hatari zinazomkabili ni pamoja na damu kuganda katika sehemu za miguu na katika moyo. Matatizo hayo yanaweza kusababisha athari zaidi wakati wa ujauzito ama wakati wa kujifungua na hivyo kupelekea mama kufa ghafla ama baada ya kujifungua.

Pia, kwa mujibu wa utafiti, watoto wanaozaliwa na akina mama wanaovuta sigara wakiwa wajawazito aghalabu huvuta sigara wakiwa na umri mdogo sana. Tumbaku ama bidhaa zinazotokana na tumbaku huweza kupenya katika plasenta na kuingia katika mfumo wa damu ya mtoto aliye tumboni na hatimaye katika ubongo kwa hivyo kupelekea mtoto huyo ajaribu kuvuta sigara akiwa mdogo. Uvutaji wa sigara kwa mama mjamzito unaeleweka

wazi kwamba humuathiri mtoto aliye tumboni kwanu huathiri ulimi na kuwafanya wawe na uzito wa kuongea na pia huwa wazito kujifunza na huathiri mapafu yao katika siku za baaadaye za uhai wao.

Nchini Kenya, serikali sasa inapanga kuanzisha mbinu na sheria za kuhakikisha kuwa wavutaji sigara hawavuti katika maeneo ya umma. Sheria hizo zinapiga marufuku uvutaji sigara kwenye maeneo yote ya umma. Tayari, taasisi mbalimbali za umma na za kibinafsi zimeandikwa mabango ya kuwaonya wavutaji dhidi ya kuvuta sigara katika mazingara ya taasisi hiyo.

Maswali.

a). Eleza athari za sigara kwa wanawake (Maneno 25-30)   **(alama7)**

Nakala chafu

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Nakala safi

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b). Madhara ya uvutaji sigara ni yepi? (maneno 45-50)   **(alama 8)**

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Nakala safi

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MATUMIZI YA LUGHA

a). Toa mifano miwili ya vipasuo –ghuna   **(alama 2)**

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b). Ainisha viambishi katika sentensi ifuatayo   **(alama 3)**

Atamtawadhisha

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c). Bainisha aina za nomino zilizopigiwa mstari katika sentensi hii.   **(alama 4)**

Kucheka kwa **Bwana Omari** kulionyesha **raha** baada ya kuionja **asali**

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d). Neno **'tikiti'** lapatikana katika ngeli mbili tofauti. Taja ngeli hizo huku ukitungia
sentensi mbili tofauti kubainisha matumizi.   **(alama 4)**

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e). Andika sentensi ifuatayo upya kwa kubadilisha vitenzi vilivyopigiwa mstari kuwa
nomino.

Yeye <u>hufuma</u> mikeka vizuri na <u>kuwavutia</u> wengi.

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f). Akifisha sentensi ifuatayo.   **(alama 2)**

nilimkuta mkuu wa wilaya ya munyaka akisoma kitabu kiitwacho kiu.

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g). Andika katika msemo halisi   **(alama 2)**

Njeri aliwaambia rafiki zake kuwa wangekuwa wakienda kwao siku zote kumuona.

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h). Bainisha aina ya vitenzi katika sentensi ifuatayo.   **(alama 2)**

Mama alikuwa akienda kwake usiku

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i). Eleza maana ya misemo ifuatayo   **(alama 2)**

(i). Msumari wa moto juu ya kidonda

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(ii). Giza la ukata

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j). Bainisha aina ya vielezi namna katika sentensi ifuatayo   (**alama 2**)

Makame alimpenda sana mwanamke kwa dhati licha ya visa vyake vingi mno vya ukaidi

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k). Andika udogo kisha wingi wa sentensi hii   (**alama 4**)

Paka yuyu huyu hula panya na kunywa maziwa kila siku

Udogo

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Wingi

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l). Kanusha   (**alama 3**)

Ukimwona mwalimu mwambie nitamtembelea kesho asubuhi au jioni

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m). Andika kinyume cha sentensi hii   (**alama2**)

Mjomba hufuja mshahara wake kila mwezi

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n). Eleza maana mbili za sentensi ifuatayo   **(alama 2)**

Mabaharia walisema hawatawasili Ijumaa

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o). Andika visawe vya: **(alama 2)**

i). Bohari………………………………………………………………………

ii). Soko…………………………………………………………………………

p). Tunga sentensi ukitumia –angu kama: **(alama 2)**

i). Kiwakilishi……………………………………………………………………

ii). Kivumishi……………………………………………………………………

ISIMU JAMII

Soma mazungumzo yafuatayo kisha jibu maswali

A: Sasa!

B: Fit!

A: Umepata ngapi?

B: Four twenty.

A: Utaitwa National School?

B: Sijui na wewe?

A: Nitaangalia yangu tomorrow.

B: Uta-come kunieleza?

A: Yes au nikuesemesie.

B: Okey nitakuremind.

A: Bye.

B: Sawa nisalimie buda.

Maswali

a). Hii ni sajili gani? **(alama 2)**

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b). Unadhani wazungumzaji ni wa rika gani? Kwa nini? **(alama 2)**

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c). Taja sifa bainifu za sajili hii **(alama 6)**

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JINA…………………………………………………………………... KIDATO……….….………

NAMBARI YA USAJILI……………………………………SAHIHI……………

TAREHE…………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

102/3 (FASIHI)

KISWAHILI

KARATASI YA 3

MUDA: SAA 2½

MAAGIZO KWA MTAHINIWA

a.Jibu maswali manne pekee

b. Swali la kwanza ni la lazima

c. Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki; yaani: Tamthilia, Hadithi fupi, Riwaya na fasihi simulizi.

d. Usijibu maswali mawili kutoka sehemu moja.

Kwa matumizi ya mtahini pekee.

Swali	1	2	3	4	5	6	7	8	jumla

(a) Soma shairi lifuatalo kisha ujibu maswali

Kiapo kwao majaji, wanosimamia haki

Kwa sharia ni magwiji, wahalifu hawatoki,

Wengi wao ni walaji, kwa rushwa ni mashabiki,

Kwa rushwa mashabiki.

Kiapo kwa daktari, wagonjwa hawadhiliki,

Kazi zao ni dhariri, maradhi hayakwepeki,

Na wengine ni hatari, bila pesa hutibiki,

Bila pesa hutibiki.

Kiapo cha mawaziri, kwa mbwembwe na itifaki,

Na suti zao nzuri, shingo tai haitoki,

Na wengi wana dosari, ni kwa mikataba feki,

Ni kwa mikataba feki.

Kiapo cha magavana, mikoa kuimiliki,

Hujifanya ni mabwana, wala hawasogeleki,

Nayo nchi huitafuna, na kuwa haikaliki

Na kuwa haikaliki

Kiapo cha maraisi, kwa mizinga na fataki,

Na wageni mahususi, hualikwa kushiriki,

Ikulu wakijilisi, kwa wizi hawashikiki

Kwa wizi hawashikiki.

Viapo vya utiifu, kwa sasa havistahiki

Wanoapa ni wachafu, tena hawaaminiki,

Biblia misahafu, washikapo unafiki

Washikapo unafiki

Maswali

1. Dhamira ya shairi hili ni kushtumu ukiukaji wa maadili ya kikazi. Jadili. **(alama 3)**
2. Eleza namna vipengele vifuatavyo vya kimtindo vilivyotumika katika shairi hili.
   (i) Usambamba **(alama 2)**
   (ii) Aina za taswira **(alama 3)**
3. Bainisha toni katika shairi hili. **(alama 2)**
4. Fafanua mbinu **mbili** alizotumia mshairi kutosheleza mahitaji ya kiarudhi katika shairi hili. **(alama 4)**
5. Ainisha shairi hili kwa kuzingatia vigezo vifuatavyo**;** **(alama 3)**
   (i) Mpangilio wa vina
   (ii) Mizani
   (iii) Mpangilio wa maneno
6. Fafanua muundo wa shairi hili. **(alama 3)**

Sehmu ya B

Tamthilia ; Kigogo – P Kea

Jibu swali moja kutoka sehemu hii

(a) Na mwamba ngoma huvuta wapi?"
   i) Eleza muktadha wa dondoo hili **(ala. 4)**
   ii) Tambua tamathali mbili za sauti zilizotumika katika muktadha huo **(ala. 2)**
   iii) Fafanua sifa za msemewa wa maneno **(ala. 3)**
   iv) Eleza umuhimu wa msemaji katika kuijenga Tamthilia hii. **(ala.3)**

v) Thibitisha ukweli kuwa kila mwamba ngoma huvuta kwake ukirejelea Tamthilia nzima ya Kigogo **(ala. 8)**

au

(b) Eleza jinsi maudhui yafuatayo yanavyojitokeza katika Tamthilia ya Kigogo

    a)   Utabaka   **(alama 5)**

    b) Usaliti   **(alama 5)**

    c) Umaskini   **(alama 5)**

    d) Dhuluma   **(alama 5)**

Sehemu ya C
Hadithi Fupi
Jibu swali moja kutoka sehemu hii

a) Eleza jinsi maudhui ya umaskini yanavyojitokeza katika hadithi ya Mapenzi ya Kifaurongo. **(alama 4)**

b) Onyesha jinsi unafiki unavyojitokeza katika hadithi, " Shogake Dada ana Ndevu"

(alama 4)

c) changanua mtindo katika dondooo lifuatalo. **(alama 6)**

      "Bi. Hamida alitunga donge kifuani mwake. Na donge likaja juu. Likampanda na kumsakama kooni. Kweli? Uongo? Kweli au uongo yale maneno ya binti yake? Labda kweli anamfikiria mambo mabaya binti yake tu. Labda kweli, dhana yake ni mbovu. Bi. Haminda alichanganyikiwa na mambo. Alivutwa huku na huku na nafsi yake yenye chagizo. Upande mmoja sauti yake ya ndani ilikuwa inamtetea Safia, na upande wa pili wa nafsi yake ilikuwa ikimshuku Safia; na sauti zake zote mbili hizo zimo ndani ya kiwiliwili chake zinamvuta yeye mtu mmoja, Bi. Haminda. Hatimaye hakutambua afanye nini.

d) sekta ya elimu imekumbwa na changamoto nyingi. Thibitisha ukirejelea hadithi zifuatazo; **(alama 6)**

    i) Mtihani wa Maisha

    ii) Mwalimu Mstaafu

au

(c) " ukiukaji wa haki za watoto ni suala ambalo limeshughulikiwa katika diwani ya *Tumbo Lisiloshiba na Hadithi Nyingine.''* Jadili ukweli wa kauli hii ukirejelea hadithi zozote nne. **(alama 20)**

Sehemu ya D

Riwaya Chozi la Heri- Assumpta K

Jibu swali moja kutoka sehemu hii.

(a) "…. Unatumia mantiki gani kusema sisi si watoto wa miaka hamsini?"

  i. Eleza muktadha wa dondoo hili. **(alama 4)**

  ii. Taja mbinu ya lugha inayojitokeza katika *dondoo* hili. **(alama 1)**

  iii. Kwa kutumia hoja **nane,** onyesha jinsi ukoloni mamboleo umeendela kutawala waafrika **(alama 8)**

  iv. Eleza wasifu wa msemaji wa maneno haya**.** **(alama 4)**

  v. Eleza umuhimu wa msemewa wa maneno haya. **(alama 3)**

au

(b) Eleza athari za siasa za ukabila na ubabedume kwa mujibu wa riwaya ya Chozi la Heri. **(alama 20)**

Sehemu ya E
Fasihi simulizi

(a) i)*Soma kifungu kifuatacho kisha ujibu maswali*

"Mwanangu, dunia haitaki papara. Ikiwa unataka kufanikiwa katika mustakabali wako kuwa mtoto mtiifu na mwongofu. Kumbuka kuwa asiyefunzwa na mamaye hufunzwa na ulimwengu…"

  (a) Tambua na ueleze kipera hiki cha fasihi **(alama 2)**

  (b) Eleza sifa tatu za kipera hiki. **(alama 3)**

  (c) Fafanua dhima tano za kipera hiki katika jamii. **(alama5)**

ii) Fanani anawezaje kuihusisha hadhira katika usimulizi wake? **(alama 4)**

iii) Eleza utaratibu unaofuatwa wakati wa kutega na kutegua vitendawili. **(alama 6)**

NAME…………………………………………………... CLASS…………..………

ADM NO……………………………………………SIGNATURE……………

DATE………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

121/1

MATHEMATICS

TIME;2½ HRS

Instructions

(a)   Write your name, class and admission number.

(b)   Answer all the questions in section 1 and ONLY Five in section 11.

(c)   Show all the calculations in the spaces provided

(d)   KNEC mathematical tables and non-programmable calculators may be used.

For Examiners Use

Section 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

Section 11

17	18	19	20	21	22	23	24	Total

Grand total

1. Evaluate without using a calculator. [**3 Marks**]

$$\frac{1\frac{1}{2} \times 4\frac{3}{5} - 1\frac{3}{5}}{3\frac{1}{5} + 7\frac{1}{2} \div 1\frac{1}{2}}$$

2. When a number is multiplied by 3 and two added to the product, the result is the same as subtracting one from the number then multiplying this by four. Find the number.

[2 Marks]

3. Three similar steel bars of length 200cm, 300cm and 360cm are cut into equal pieces. Find the largest possible area of a square that can be made from any of the three pieces. **[3 Marks]**

4. A of 10 soldiers set off with enough food to last 7 days. After 4 soldiers deserted, how many more days will the food last the remaining soldiers? **[3 Marks]**

5. The scale of a map is given as 1:500000. Find the actual area in hectares of a region represented by square of sides 10cm. **[3 Marks]**

6. A watch loss 30 seconds every hour and was set to read the correct time at 0545h Monday. Determine the time in 12 hrs system the watch will show on Friday at 1945hrs. **[3 Marks]**

7. A two digit number is such that the sum of the digits is 12. If the digits are interchanged, the value of the new number formed is fifteen more than twice the value of the value of the original number. Find the original number. **[4 Marks]**

8. Express the following numbers as a product of its prime-factors in power form.
   a. 288 **[2 Marks]**

   b. 1980 **[2 Marks]**

9. I have a packet of sweets. When I try to share them equally among 2,3,4,5 and 6 children, I always have one left over. What is the minimum number of sweets that can be in the packet? **[3 Marks]**

10. Otieno miscopied 98 as 89. He multiplied 89 by a certain number and got 4005. Find that number and the correct product. **[2 Marks]**

11. Evaluate **[3 Marks]**

$$\sqrt{11\frac{1}{9}} \times \sqrt{2\frac{14}{25}}$$

12. Use elimination method to solve the simultaneous equation. **[3 Marks]**
$$x - 2y = 27$$
$$7x + y = 9$$

13. Simply the following expressions.   **[4 Marks]**

       a) $\sqrt{9x^2y^4}$

       b) $\sqrt{645^2t^{10}}$

       c) $\sqrt[3]{64y^6Z^{18}}$

       d) $\sqrt[3]{275^{\frac{1}{9}}T^{\frac{8}{27}}}$

14. A rectangle measures 20cm by 15cm. if each dimension is increased by 2cm, find the percentage increase in area.   **[3 Marks]**

15. Given that $x = y, y = 3$ *and* $z = \frac{2x}{3y}$, evaluate the value of $\frac{x+y}{2z+3x}$ **[3 Marks]**

16. A wooden block measuring 20cm by 30cm by 50cm has mass of 22.5kgs. find the density of the wood in g/cm³. **[3 Marks]**

17. The boundaries PQ, QR, RS and SP of a piece of land are straight lines such that Q is 16km on a bearing of 40^0 from P, R is directly south of Q and east of P and S is 12km on a bearing of 120^0 from R.

a. Using a scale of 1:400000, represent the above information on a scale drawing. **[4 Marks]**

b. Calculate

   i. The distance from P to S. **[1 Mark]**

   ii. The distance of Q from S **[1 Mark]**

   iii. The bearing of S from Q **[1 Mark]**

c. The area of the piece of land PQRS in hectares. **[3 Marks]**

18. The table below shows the values of x and y of two equations.

$$2x + 3y = 17 \quad 4x - y = 13$$

x	1	2	3	4	5	6
y	5	-	-	3	-	-

x	1	2	3	4	5	6
y	-	-	4	-	-	-

a. Calculate the tables **[2 Marks]**

b. (i) Using the graph paper provided and using a suitable scale, plot the coordinates of the two
equations. **[4 Marks]**

(ii) Hence or otherwise solve the simultaneous equations. **[2 Marks]**

c. Use the values in b(ii) above to evaluate; **[2 Marks]**

$$\frac{x^2 + y^2}{2xy}$$

19.

a. Construct a triangle XYZ such that XY=7.5cm. $\angle ZXY = 63^0$ and $\angle ZYX = 58^0$.
[3 Marks]

b. Measure line XZ **[1 Mark]**

c. Drop a perpendicular from Z to touch line XY at K. Measure ZK **[3 Marks]**

d. calculate the area of ΔXYZ **[3 Marks]**

20. the following measurements were gotten from a surveyors field book

		Z		
		400		
TO E 200	300		TO F 120	
		200		
		150	TO D 100	
		100		
TO C 180	60		TO B 50	
		40		
		A		

a. By using an appropriate scale, draw the accurate figure on the space provided. (Measurement in Metres).   **[5 Marks]**

b. Calculate the total area of the piece of land in hectares.   **[5 Marks]**

21.a. Use the figure below to answer the questions that follow.
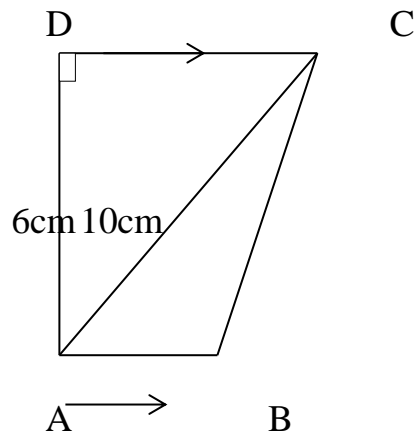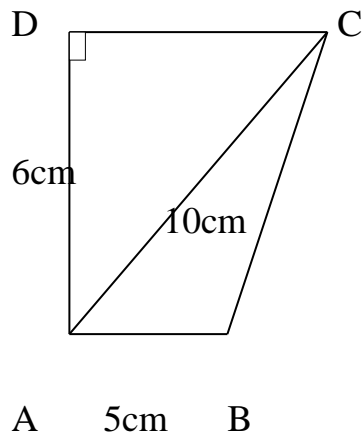
Find:
  i. The area of triangle ABC **[2 Marks]**

  ii. The length of the perpendicular from B to AC   **[2 Marks]**

b. PQRS is a trapezium with area 88.2cm². PQ is parallel to RS. If PQ=9.4cm and the distance between PQ and RS is 6.3cm. Find the length of RS.**[3 Marks]**

c. The diagonals of a rhombus measure 16cm by 12cm. Calculate the area of the rhombus. **[3 Marks]**

22. A supermarket bought 600 trays of eggs at shs. 120. Each tray contains 30 eggs. The eggs were repacked into smaller trays each holding 6 eggs. During the repacking 10% of the eggs were found either bad or broken and could not be sold. The small trays were sold at shs. 30 each.

a. How much did one egg cost in the supermarket. **[2 Marks]**

b. How much was received from the sale of the eggs. **[2 Marks]**

c. How much money was lost due to breakage or bad eggs? **[2 Marks]**

d. How much profit was realized? **[2 Marks]**

e. Calculate the percentage profit **[2 Marks]**

23. There are 8 lessons of 40 minutes each in Gatwe Secondary school. Students are supposed to report 1 hour before assembly in the morning. The school assembly takes 15 minutes. There is a 20 minutes break after the first 3 lessons and lunch break is 1hr 10minutes after the next 3 lessons. Games start 10 minutes after the last lesson and go on for 2 hours. Students go home at 5.30pm
    a. How much time are the students supposed to spend in school.**[2 Marks]**

b. At what time are the students supposed to report at school**[2 Marks]**

c. When does the first lesson begin.   **[2 Marks]**

d. At what time do the students go for lunch. **[2 Marks]**

e. When does the last lesson end**. [2 Marks]**

24. a. A form is in the shape of trapezium ABCD.
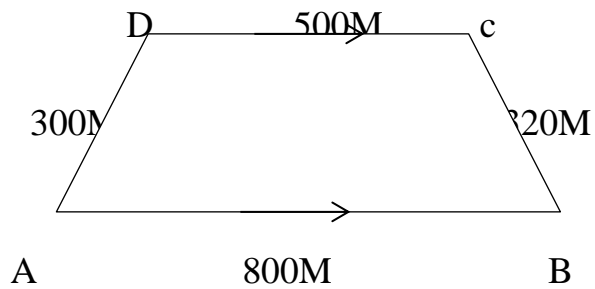
AB is parallel to DC, AB=800m, BC=400 CD = 500m DA=300m and $<DAB = 60^0$

  i. using a suitable scale, draw the plan of the farm **[3 Marks]**

  ii. Find the area of the farm in hectares. **[3 Marks]**

b. The scale of a map is 1:250000. Calculate the area in m² OF A GAME PARK ON A map whose actual area is 25km²**[4 Marks]**

NAME……………………………….…..…,call,…………..…... CLASS…………..………

ADM NO……………………………………………………SIGNATURE……………

DATE………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

MATHEMATICS

PAPER 2

TIME:2½ HRS

Instructions

(a)   Write your name, class and admission number.

(b)   Answer all the questions in section A and ONLY Five in section B.

(c)   Show all the calculations in the spaces provided

(d)   KNEC mathematical tables and non-programmable calculators may be used.

For Examiners Use

Section 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

Section 11

17	18	19	20	21	22	23	24	total

Grand total

SECTION A

1. Use logarithm tables to evaluate**; [4 Marks]**

$$\sqrt[3]{\frac{146.34^2 \times 0.0063}{\cos 54}}$$

2. A number n is such that when it is divided by 3,7,11 or 13, the remainder is always 1. Find the number. **[2 Marks]**

3. A square has an area of 144m². Calculate its perimeter. **[2 Marks]**

4. Factorise $2x^2 - x - 6$ hence solve the quadratic equation

$$2x^2 - x - 6 = 0 \qquad \textbf{[3 Marks]}$$

5. List all integral values of x that satisfy the combined inequality; Represent the solutions on a single number line. **[4 Marks]**

6. A body accelerates at 5m/s^2 to reach a velocity of 60m/s in 5 seconds. Calculate the initial velocity. **[2 Marks]**

7. Draw a triangle STR and put arrows on its side to show that $\overrightarrow{TS} + \overrightarrow{SR} = \overrightarrow{TR}$ **[2 Marks]**

8. A point P(2,5) is translated to P'(1,6)

    (a) Find the translation vector **[2 Marks]**

    (b) The image of $X(3,0)$ under the same translation. **[2 Marks]**

9. Solve for x in **[3 Marks]**

$$9^x + 3^{2x} = 54$$

10. The sum of interior angles of a regular polygon is 3240^0. Find the size of each exterior angle.

                                                     [3 Marks]

11. Write 1936 and 1728 in terms of its prime factors hence evaluate;

$$\frac{\sqrt[3]{1728}}{\sqrt{1936}}$$

12. Use reciprocal tables to evaluate**; [4 Marks]**

$$\frac{16}{2.674} + \frac{24}{0.1396}$$

13. Evaluate; **[3 Marks]**

$$\frac{\frac{1}{2}of\ 3\frac{1}{2}+1\frac{1}{2}(2\frac{1}{2}-\frac{2}{3})}{\frac{3}{4}of\ 2\frac{1}{2}\div\frac{1}{2}}$$

14. Use substitution method to solve**; (3 Marks)**

$$2x + 3y = 1$$
$$3x - 2y = 8$$

15. The straight line joining the points P(a,7) and Q(13,a) is parallel to the line whose equation is $3y + 2x = 9$. Find the value of a.   **[3 Marks]**

16. The ratio of the areas of two circles is 16:25

a) What is the ratio of their radii**. [2 Marks]**

b) If the smaller circle has a diameter of 28cm, find the radius of the larger circle. **[2 Marks]**

17. The marks of 30 girls in a class were recorded as follows.

220 250 204 230 210 227 221 252

200 228 208 225 200 202 240 228

212 225 252 216 212 226 227

240 248 203 201 251 242 216

a) Construct a frequency table with a class width of 5 Marks beginning with 199 marks.   **[3 Marks]**

b) What is the modal class?   **[1 Mark]**

c) Estimate the mean   **[3 Marks]**

d) Estimate the median **[3 Marks]**

18. The initial velocity of a body is 30m/s. the body accelerates uniformly to a velocity of 60m/s in 6 seconds. It moves at this constant velocity for 5 seconds before decelerating in 3 seconds.

a) Using the graph paper provided, draw a velocity time graph to illustrate the information above. **[4 Marks]**

b) Calculate the initial acceleration **[2 Marks]**

c) Calculate the total distance covered. **[4 Marks]**

19. The diagram below shows two circles that share a common chord XY which is 13cm long. Calculate;
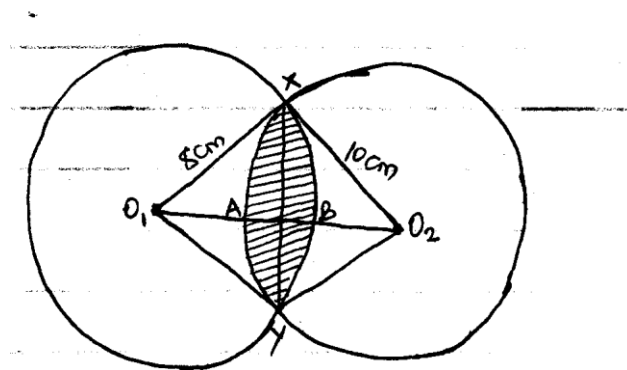
a) $<XO_1Y$ **[1 Mark]**

b) $< XO_2Y$ **[1 Mark]**

c) The area of the sector O₁XBY **[2 Marks]**

d) The area of the sector O₂YAX **[2 Marks]**

e) The area of the shaded part **[4 Marks]**

20.a. The diagram below shows a triangle OAB
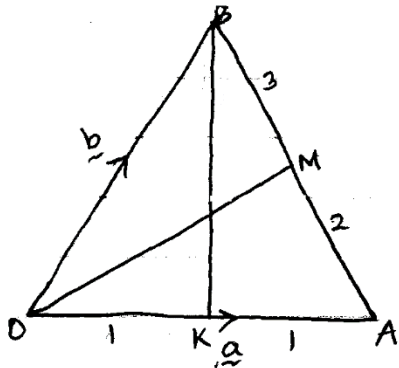
Points M and K are on AB and OA respectively such that;
AM:MB=2:3 and K is the mid point of OA.
Express the following vectors interms of a and b.

(a) AB⃗ **[1 Mark]**

(b) $\overrightarrow{OM}$ **[2 Marks]**

(c) $\overrightarrow{BK}$ **[2 Marks]**

b. The co-ordinates of P and Q are (6,10) and (8,14) respectively. Calculate;

d) $\overrightarrow{PQ}$ **[1 Mark]**

e) The mid-point of line PQ **[2 Marks]**

c. Given that $a = \begin{pmatrix} 3 \\ 4 \end{pmatrix}$ b $\begin{pmatrix} 2 \\ 1 \end{pmatrix}$ and $c = \begin{pmatrix} 3 \\ -4 \end{pmatrix}$. Another vector P is such that $p = 2a - b + 4c$. Evaluate $|p|$ correct to 2 decimal places. **[2 Marks]**

21. The diagram below shows a frustrum that was cut from a right cone.
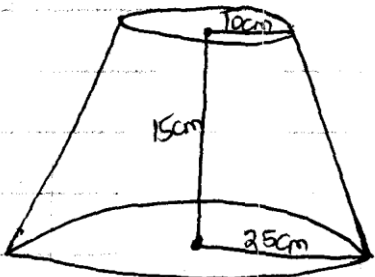
Calculate;

d) The highest of the cone **[2 Marks]**

e) The volume of the frustrum **[4 Marks]**

f) The surface area of the frustrum **[4 Marks]**

22. A line L_1 has the equation $3x + 4y = 12$

(a) Calculate

    (i) The gradient of line L_1 **[2 Marks]**

(ii) The coordinates of P and Q where the line cuts the x-axis and y-axis respectively **[4 Marks]**

(iii) Another line L_2 is perpendicular to L_1 and passes through (-4,5). Determine the equation of line L_2 in the form $y = mx + c$ **[4 Marks]**

23. Form all inequalities that define Region R   **[10 Marks]**
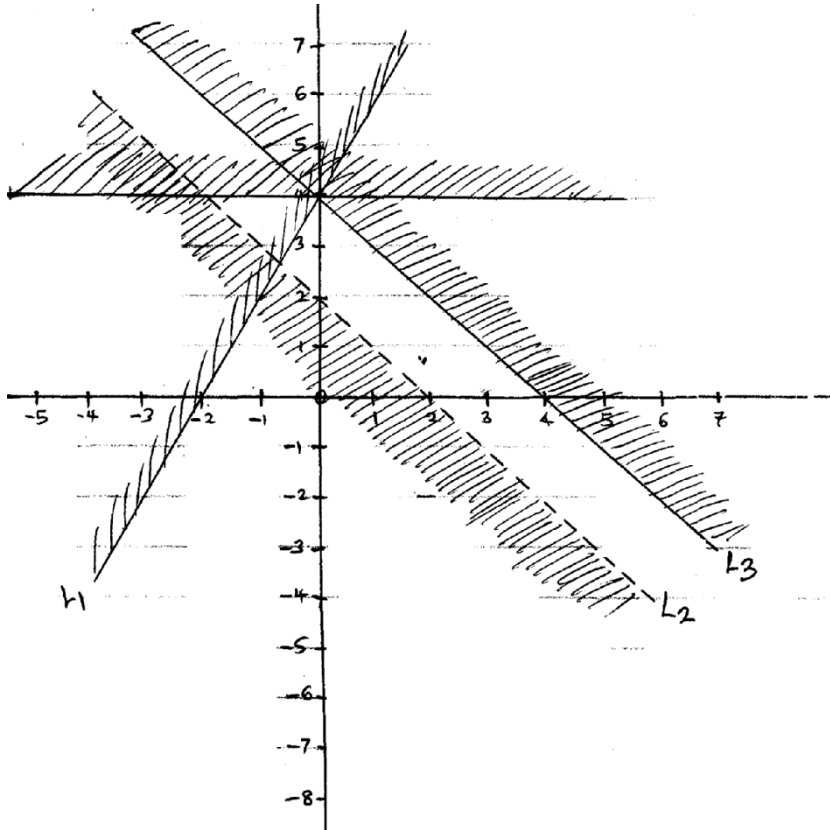
24. a. Two trains T1 and T2 travelling in opposite directions on parallel trucks are just beginning to pass
each other. Train T1 is 72m long and is travelling at 108km/hr and T2 is 78m long travelling at
   72km/hr. Find the time in seconds it takes the two trains take to completely pass one another.

[3 Marks]

(b) A rally car travelled for 2 hours 40 minutes at an average speed of 120km/hr. the car consumes an average of 1 litre of fuel for every 4 kilometres.
A litre of fuel costs sh. 64. Calculate the amount of money spent on the fuel.

[4 Marks]

(c) Mwangi and Otieno live 40km apart. Mwangi starts from his home at 7.30am and travels towards Otieno at 16km/hr. Otieno starts from his home at 8.00am and cycles at 8km/hr towards mwangi. At what time do they meet? **[3 Marks]**

NAME………………………………………………………... CLASS…………..………

ADM NO…………………………………………….SIGNATURE……………

DATE…………………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

PHYSICS
PAPER 1
TIME: 2 HRS

INSTRUCTION TO CANDIDATES:

1. *Write your name and Admission number in the spaces provided.*
2. *Answer all the questions in the spaces provided.*
3. *Mathematical tables and electronic calculators may be used.*
4. *All workings must be clearly shown where necessary.*

FOR EXAMINERS USE ONLY:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 13	25	
B			
TOTAL			

1. The micrometer screw gauge represented by figure 1 below has a thimble scale of 50 divisions. What is the reading shown? **(1 mk)**
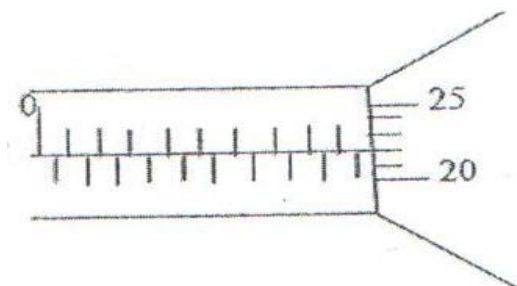
2. Figure 2 shows a uniform bar of length 1.0m pivoted near one end. The bar is kept in equilibrium by a spring balance.

0.1m

0.1m
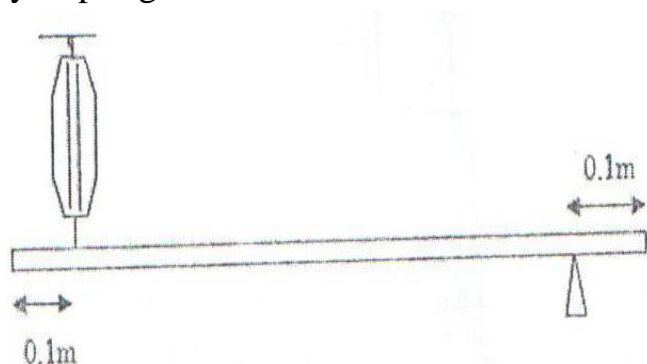
Given that the reading of the spring balance 0.6N, determine the reaction on the pivot. **(3 mks)**

3. Figure 3 shows a shallow dish containing a volatile liquid. The bulb of a thermometer is held inside the liquid. A jet of air is blown over the surface of the liquid, so that the liquid evaporates rapidly.
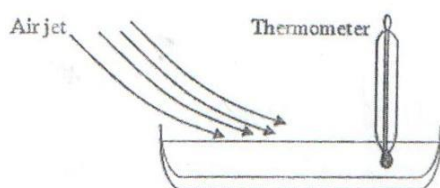
State and explain what happens to the reading shown on the thermometer. **(3 mks)**

....

....

....

4. Figure 4(a) shows a glass ornament standing on a shelf. Figure 4(b) shows an identical ornament filled with colored glass beads.

4(a)   4(b)

State which ornament is more stable and why.   **(2 mks)**

....

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5. 100g of water of density 1g/cm^3 is mixed with 60g of a liquid of relative density 1.2. Assuming no change in volume, find the density of the mixture.   **(2 mks)**

6. An object of mass 'm' has a weight 'w_1' in air and 'w_2' in water. Suggest a reason why w_1 is greater than w_2.   **(1 mk)**

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7. State the significance of the closeness of streamlines in fluids.   **(1 mk)**

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8. A thin metal disc has a hole passing through its center. What would happen to the size of the hole if the disc were heated?   **(1 mk)**

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9. State two factors, which can cause the temperature at which water boils to rise.

                                                                                (2 mks)

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10. A bullet of mass 2.0g is fired horizontally into a block of wood of mass 600g. The block is suspended from strings so that it is free to move in a vertical plane. The bullet and the block rise together through a vertical distance of 8.6cm as shown in figure 5.
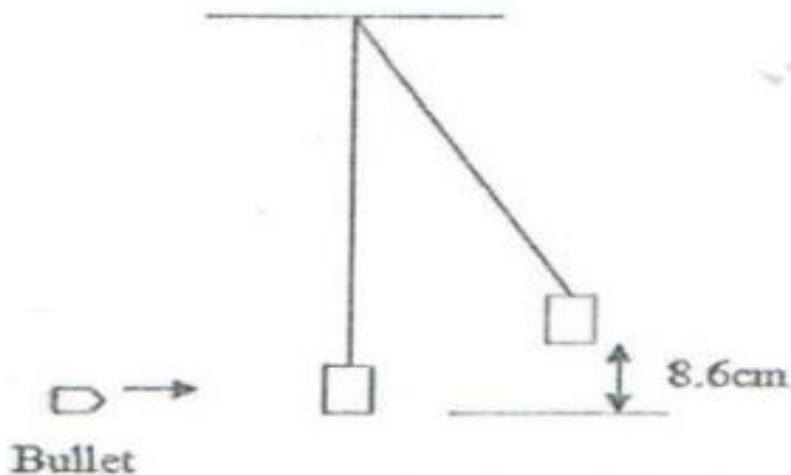
Bullet

Determine the speed of the bullet before the impact with the block. **(3 mks)**

11. The figure below shows a uniform plank of wood of length 1.2m pivoted near one end. The plank is kept in equilibrium by a string as shown S.
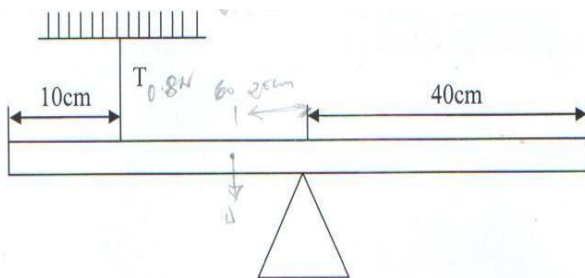
Given that the tension T in the string is 0.8N, determine the reaction force at the pivot.
(3 mks)

12. Give a reason why heat transfer by radiation is faster than heat transfer by conduction. **(1 mk)**

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13. In the diagram in figure 6, water flows through a section of a pipe whose diameter changes.
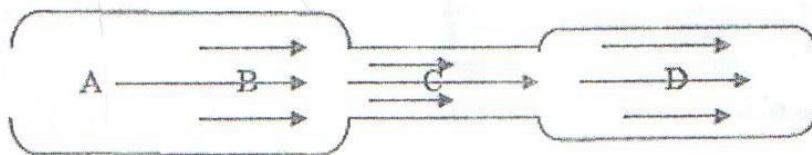
Sketch a graph of the variation of pressure along the line ABCD. **(2 mks)**

SECTION B:

14. (a) The figure below shows a section of a ticker tape. The dots were made at a frequency of 50Hz.
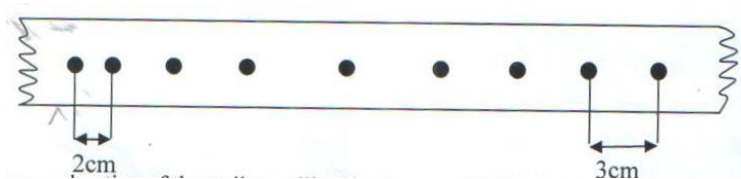
Determine the acceleration of the trolley pulling the tape.   **(3 mks)**

(b) A body starts from rest and accelerates at 2 m/s^2 for a time of 5 seconds, calculate:

a)   Its final velocity.   **(2 mks)**

b) The distance travelled.   **(2 mks)**

(c) State Newton's 2nd Law of motion.   **(1 mk)**

(d) A hammer of mass 2 kg strikes a nail with a velocity of 9m/s and is stopped by the force of reaction in 0.025s. find the force of the acting on the nail.   **(2 mks)**

(e) A body is released from a height, h. if the acceleration due to gravity is g, derive an expression of the velocity of the stone just before hitting the ground.   **(3 mks)**

(f) The figure below shows a velocity – time graph of a body in motion – sketch on space provided a displacement – time graph of the motion. **(2 mks)**
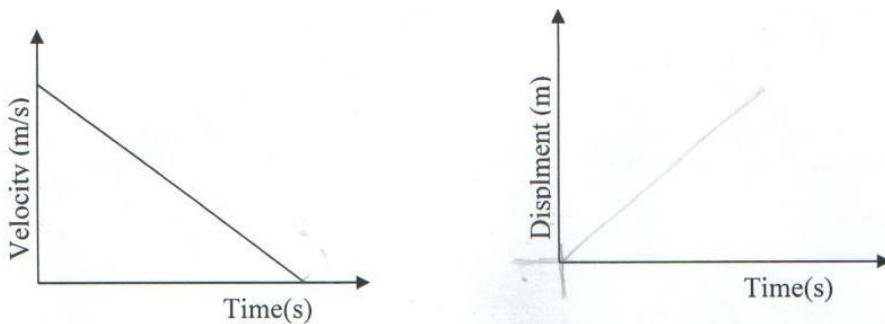
15. A burette is filled with oleic acid drop upto the 15.5cm^3 ark. After 50 drops of the oil were let out of the burette the level of the oil dropped to 22.5cm^3.
   a) Determine the volume of one drop of the oleic oil. **(3 mks)**

   b) One drop of the oleic oil is carefully introduced onto a clean surface of a trough. It spread to a patch. Determine the thickness of each oleic oil molecules in metres. (Assuming the radius of drop = radius of patch). **(5 mks)**

   c) State two assumptions made in part (b) above. **(2 mks)**

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16. The table below shows the values of extensions of a spiral spring when various forces are applied to it.

Force F, (N)	0	1.2	2.0	3.0	4.0	5.0	6.0
Extension R, (cm)	0	0.8	1.5	2.3	3.1	3.8	4.6

(iv) On the grid provided, plot a graph against the extension. **(5 mks)**

(v) From the graph, determine the work done in stretching the spring by 4cm. (3 mks)

17. Differentiate between mechanical advantage and velocity ratio. **(2 mks)**

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(iv) An effort of 125N is used to lift a load of 500N through a vertical height of 2.5 m using a pulley system. If the distance moved by the effort is 1.5 m, calculate the;

    (iii) Work done on the load. **(2 mks)**

    (iv) Work done by the effort. **(2 mks)**

    (v) Efficiency of the system. **(2 mks)**

    (v) Draw a well labeled diagram of the pulley used in (b) above. **(3 mks)**

(vi)   Suggest one method of improving the efficiency of the system.   **(1 mk)**

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18. The figure below shows path of ray of yellow light through a glass prism. The speed of yellow light in the prism is 1.88×10^8 m/s.
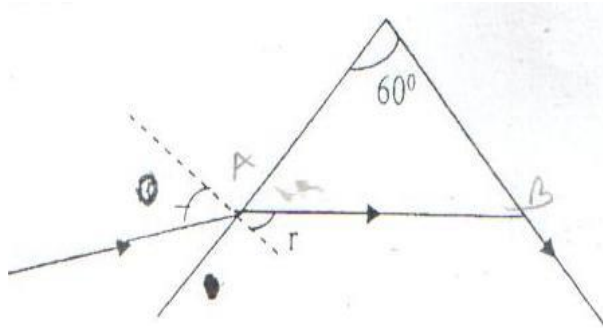
a) Determine the refractive index of the prism material for the light (speed of light in vacuum=3.0×10^8 m/s).   **(3 mks)**

b) (i) Show on the diagram the critical angle.   **(1 mk)**

c) Given that r=21.20, determine angle Θ.   **(3 mks)**

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

e) State 2 conditions that must be satisfied at B for total internal reflection to occur.

(2 mks)

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NAME………………………………………………... CLASS………….………

ADM NO………………………………………………SIGNATURE……………

DATE……………………………………………………..

FORM 3 END TERM 2 SERIES 2 EXAMS

PHYSICS
Paper 2
(THEORY)
MARCH/APRIL
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES:-

(a)   Write your ***name***, ***index number*** and ***class*** in the spaces provided above.
(b)   This paper consists of ***two*** sections; ***A*** and ***B***
(c)   Answer ***all*** the questions in section ***A*** and ***B*** in the spaces provided
(d)   All working ***must*** be clearly shown.
(e)   Mathematical tables and electronic calculators may be used
(f)   This paper consists of 11 printed pages. Candidates should check to ascertain that all pages are
         printed as indicated and that no questions are missing.
c)   Candidates should answer the questions in English.

For Examiner's Use Only:

Section	Question	Maximum Score	Candidate's Score
A	**1 – 15**	**25**	
	16	15	
	17	13	
B	18	15	
	19	12	
Total Score		**80**	

SECTION A (25 MARKS)

1. What property of light is suggested by the formation of shadows?　　**(1 mk)**

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…………………………………………………………………………………………

2. The figure below shows an object O placed in front of a plane mirror.

O ↑
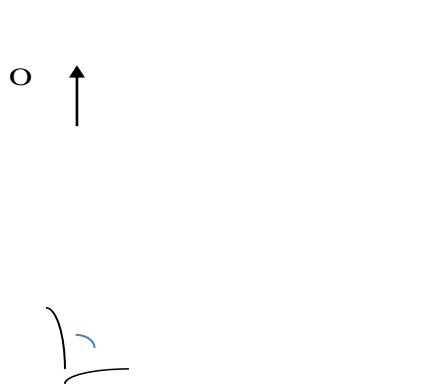
On the same diagram, sketch rays to show the position of the image as seen by the eye.
(2 mks)

3. State two uses of a charged gold leaf electroscope.　　**(2 mks)**

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…………………………………………………………………………………………
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4. The figure below shows two spherical materials, one an insulator and the other a conductor. Negative charges are introduced at point A in each case.

Insulator   conductor

    A   A

5. State two advantages of an alkaline battery over a lead acid battery. **(2 mks)**

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………………………

6. State the purpose of manganese IV oxide in a dry battery. **(1 mk)**

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7. The figure shows a U- shaped magnet whose poles are labelled and two magets near it. Iron nails are attracted to the lower ends of the magnets as shown.
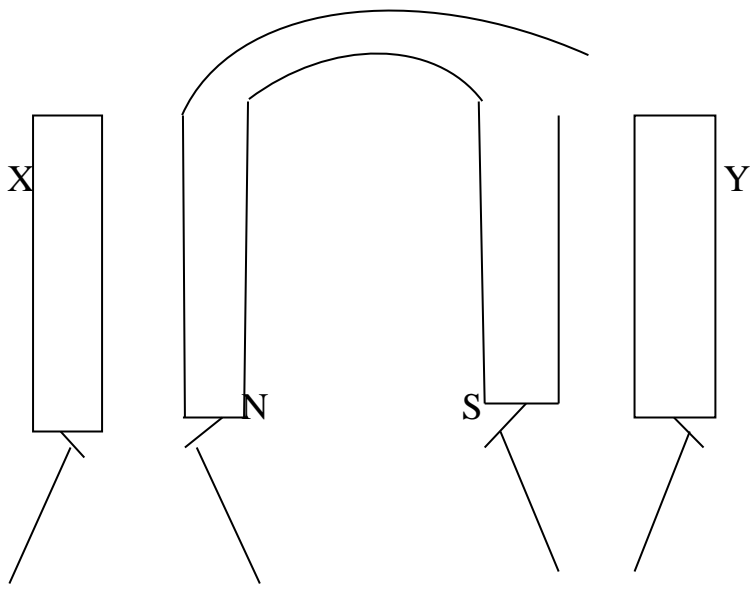
Identify the poles marked X and Y   **(2 mks)**

X ....

Y ....

8. The figure below shows an arrow indicating the direction of a current in conductor.

Card board

conductor
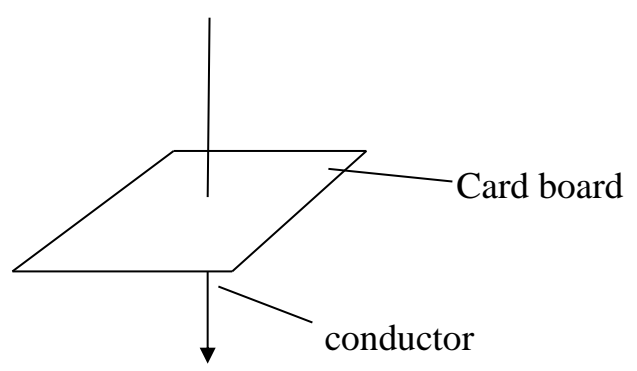
Sketch on the diagram the magnetic field pattern due to the current.   **(2 mks)**

9. The figure below shows a longitudinal wave.
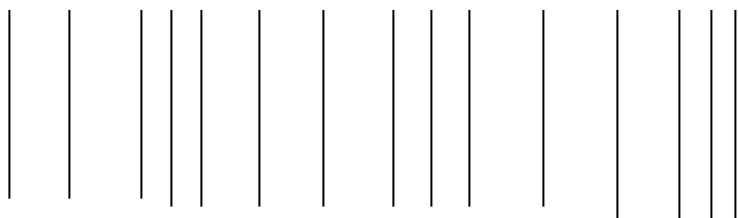
On the same diagram, indicate the wavelength of the wave.   **(1 mk)**

10. State two factors that affect the speed of sound in air.   **(2 mks)**

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11. An observer watching a fireworks display sees the light from an explosion and he hears the sound 2 seconds later. If the speed of sound in air is 330m/s, how far is the explosion from the observer?   **(2 mks)**

12. A wave with a periodic time of 0.2 seconds is travelling at a speed of 50cms^{-1}. What is the wavelength of the wave?   **(3 mks)**

13. State one advantage and one disadvantage of a convex mirror when used as a driving mirror.   **(2 mks)**
Advantage:

....

....

Disadvantage:

....

....

14. A girl holds a large concave mirror of focal length 1m, at a distance of 80 cm from her face. State two characteristics of her image in the mirror. **(2 mks)**

15. State one application of a parabolic mirror. **(1 mk)**

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SECTION B (55MARKS)

16. a) The diagram below shows a ray of light incident on a glass prism. If the critical angle of

the glass is 42°, draw the path of the ray through the prism **(2mks)**
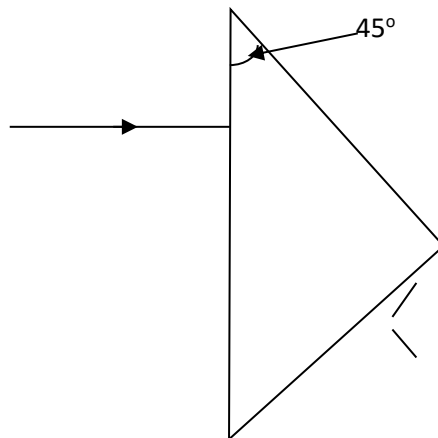
b) State two conditions necessary for total internal reflection to occur **(2mks)**

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c) The figure below shows rays of light AO, BO and CO incident on a glass air interface. OA', OB' and OC' are the corresponding emergent rays. Study the diagram and answer the questions that follow.
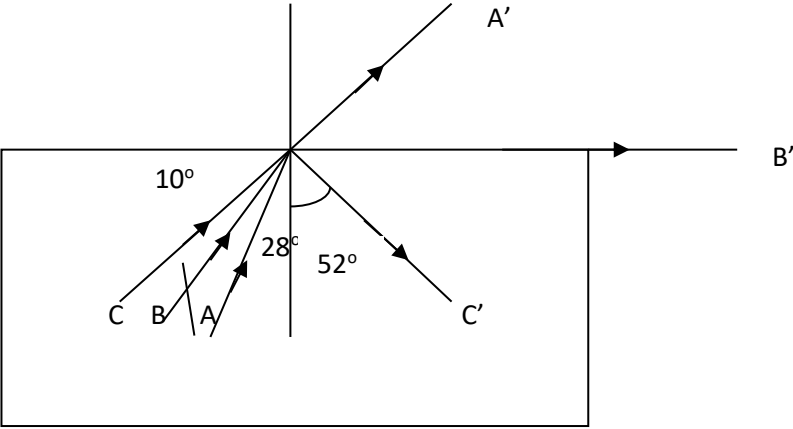
Determine:

i. The critical angle of the glass. **(1mk)**

ii. The refractive index of the glass. **(3mks)**

d) If the speed of light in air is $3.0 \times 10^8 \text{ms}^{-1}$, determine the speed of light in water o refractive index 1.33. **(3mks)**

e) A pin is placed at the bottom of a beaker of depth 11.5cm. The beaker is then filled with paraffin. By using another pin on the side of the beaker and observing from the top, thedistance of the image of the pin in the beaker is found to be 3.5cm from the bottom. Determine the refractive index of paraffin. (**4mks)**

17.a) Distinguish between longitudinal and transverse waves. (**2mks)**

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b) he figure below shows a displacement-time graph for a progressive wave travelling at

200cms^{-1}
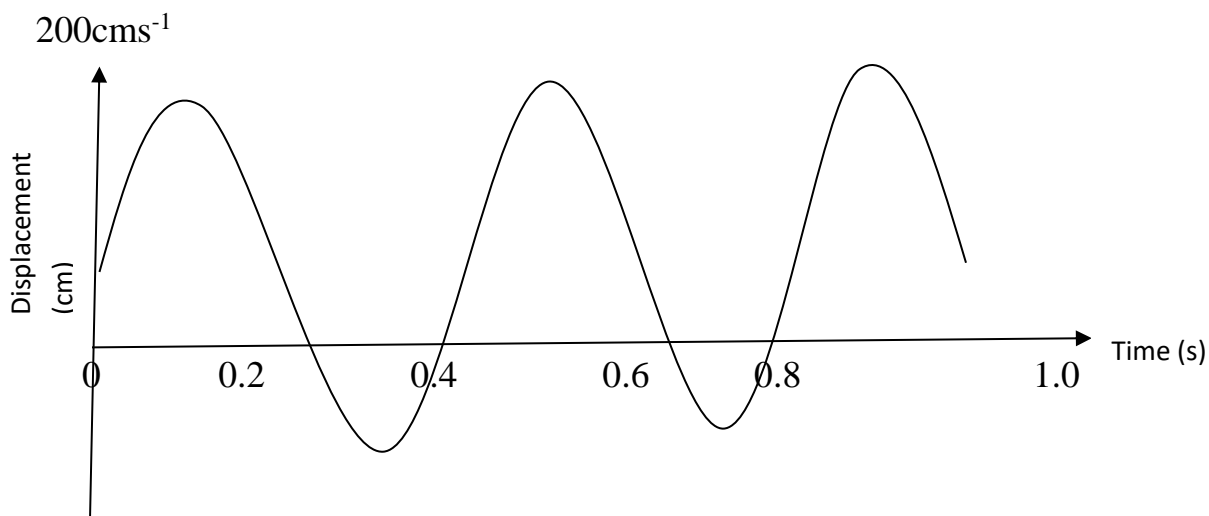
Determine:
(i) The periodic time. (**1mk**)

(ii) The frequency of the wave. (**2mks**)

(iii) The wavelength of the wave. (**3mks**)

c) Two vertical cliffs are x distance apart. A mine-worker stands between the two vertical cliffs, 400m from the nearest cliff. Every time he strikes the rock once, he hears two echoes; the first one after 2.5 seconds, while the second follows 2 seconds later. From this information, calculate:

i) The speed of sound in the mine. (**2mks**)

ii) The value of x. (**3mks**)

18. a) The figure below shows two mirrors PQ and PR inclined at an angle of 110°. A ray of light is incident on mirror PQ at an angle of 60°.
Complete the ray diagram to determine the angle of reflection of the ray in the mirror

QR. Indicate the angles at each reflection .   (**3mks**)
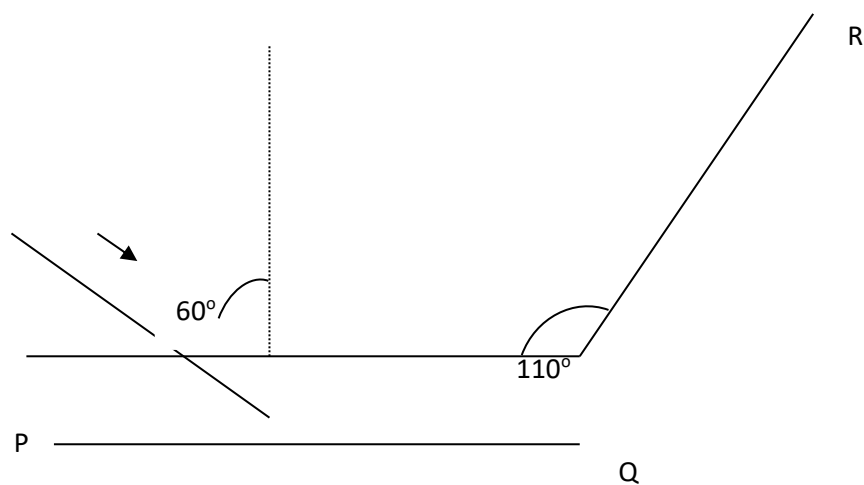
b) Two plane mirrors are inclined at an angle P and forms 5 images. Determine   angle P.

(**3mks**)

c) An object is placed in front of a concave mirror as shown below. C is the centre of curvature.
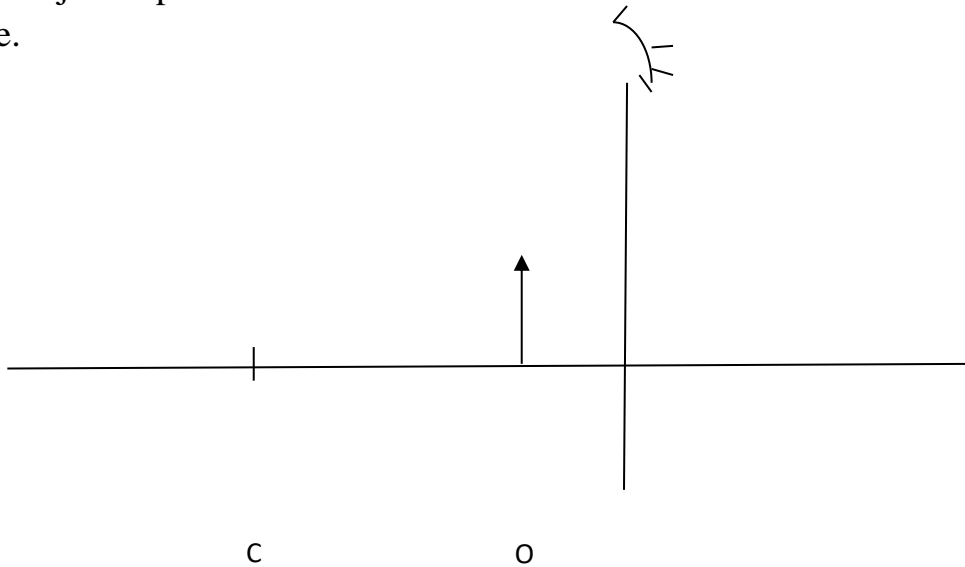
i) On the same diagram, use rays to locate the position of the image.(3mks)

ii) Determine the magnification of the image. **(3mks)**

d) A building standing 200m from a pinhole camera produces on the screen of the camera an image 2.5cm high, 5.0cm behind the pinhole. Determine the actual height of the building . **(3mks)**

19. a) A current of 0.5A flows in a circuit. Determine the quantity of charge that crosses a point in 4 minutes . **(3mks)**

b) i) What is polarization in a simple cell? **(1mk)**

ii) How is the defect in b(i) above minimized? **(1mk)**

c) In the circuit diagrams shown below, the cells and bulbs are identical
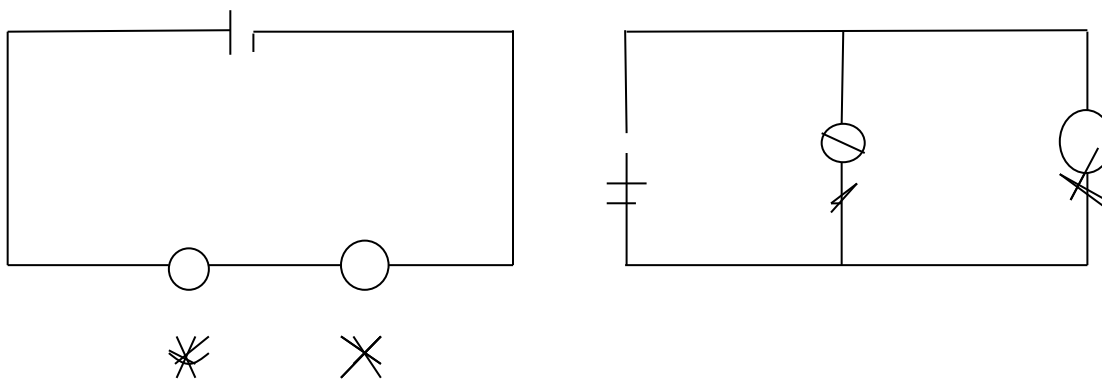
Explain with a reason which of the bulbs in circuit **(a)** or **(b)** is brighter**. (2mks)**

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    d) The figure below shows the features of a dry leclanche cell.
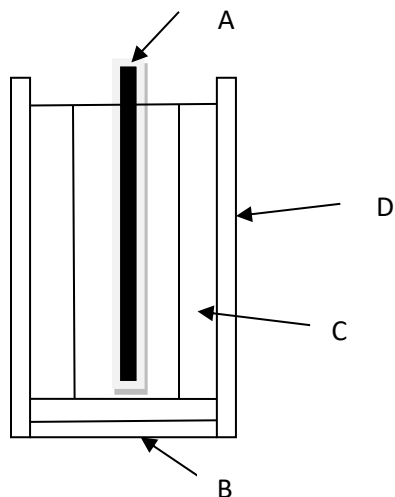
    i) State the polarities of the parts labelled A and B .   **(2mks)**

        A...

        B...

    ii) Name the chemical substances in parts labelled **C**and **D.**   **(2mks)**

        C...

        D...

  e)State a reason why the caps of the cells of a lead-acid battery are opened when charging the battery.   **(1mk)**

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NAME……………………………………………... CLASS……….…..………

ADM NO……………………….………………SIGNATURE……….……

DATE…………………………….……………………

FORM 3 END TERM 2 SERIES 2 EXAMS

PHYSICS
PAPER 3
PRACTICAL
TIME: 2 ½HOURS

INSTRUCTIONS TO CANDIDATES

o *Write **your name** and **index number** in the spaces provided*
o *Answer **ALL** the questions in the spaces provided in the question paper.*
o *You are supposed to spend the first 15 minutes of the 2 $^1/_2$ hours allowed for this paper reading the whole paper carefully before commencing your work.*
o *Marks are given for clear record of observations made, their suitability, accuracy and the use made of them.*
o *Candidates are advised to record their observations as soon as they are made.*
o ***Non-programmable** silent electronic calculators and KNEC mathematical table may be used.*
o *This paper consists of 7 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing*

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES
1	24	
2	16	
TOTAL	40	

QUESTION 1 (PART A)

You are provided with the following apparatus:

- A rectangular glass block.
- Four optical pins.
- A soft board.
- A protractor.
- 30cm ruler.
- 2 white plain papers.
- A plane mirror.
- A vernier calipers (to be shared)

PROCEDURE

(a) Trace the outline of the glass block on the white paper.

(b) Draw a normal ON, 2cm from point X on side XY.

(c) Measure an angle (i) 10° from the normal.

(d) Place back the glass block on the outline and fix a plane mirror vertically along the length of the glass block on the opposite side of XY using a cello tape as shown in the figure below.
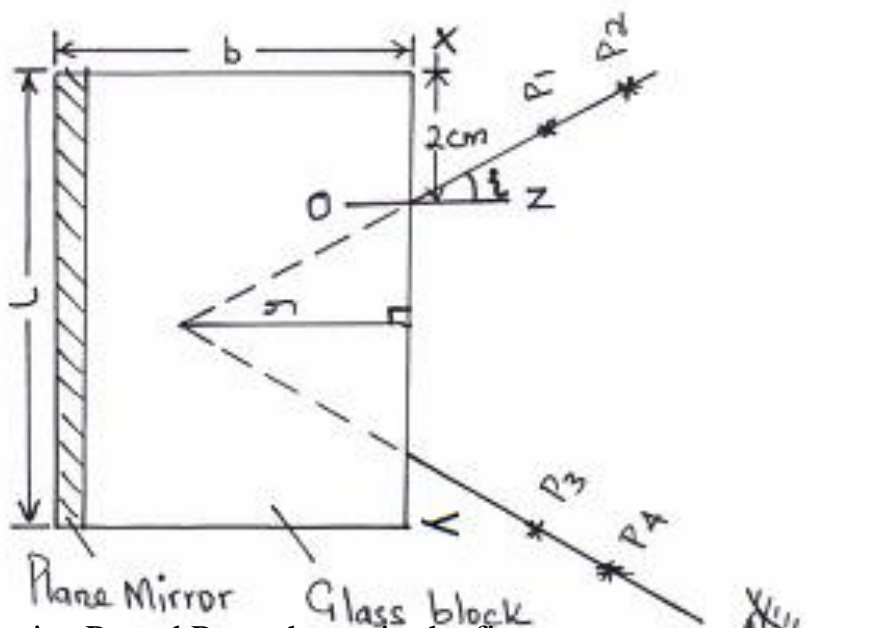
(e) Fix two pins P_1 and P_2 as shown in the figure.

(f) By observing image of P_1 and P_2, locate two pins P_3 and P_4 such that they appear to be in line with images of P_1 and P_2.

(g) Remove the pins and the block. Join P_3P_4 and produce the line to meet line P_1P_2 produced

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(h) Measure the perpendicular distance y.

(i) Repeat the same for angles of 15°, 20°, 25°, 30°, 35° and 40° and record the results in table 2 below.

(**NB**: **The paper work must be submitted together with the question paper).**

Table 2

Angle i	10°	15°	20°	25°	30°	35°	40°
y(cm)							

(**7marks**)

(j) Plot a graph of y(cm) against angle i. (**5marks**)
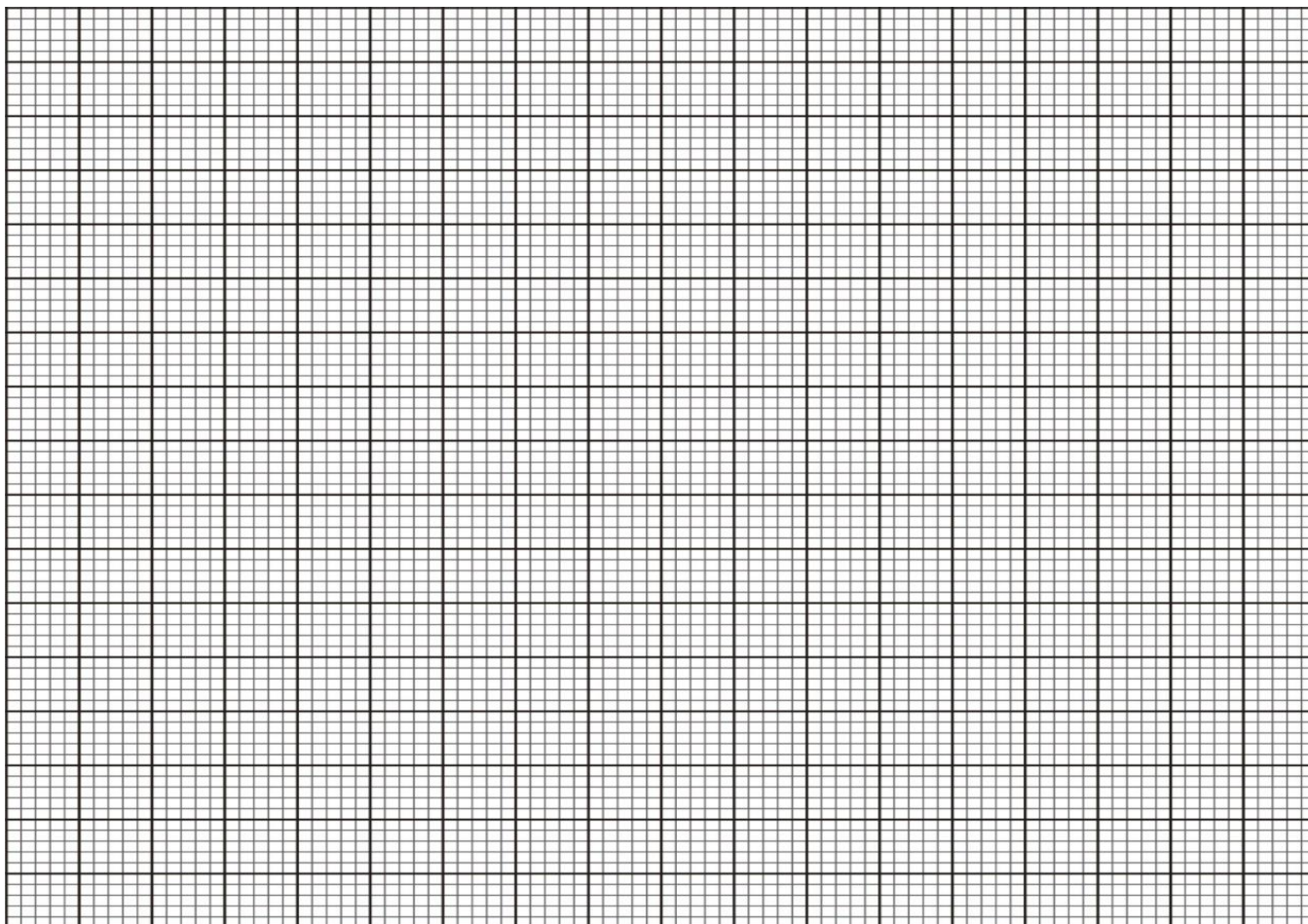
i) Use the graph to determine y_o the value of y when i = 0°

y_o = ……………… cm (**1mark**)

ii) Measure and record the breadth (b) of the glass block

b = …………… Cm (**1mark**)

(ii) Determine the value of η given that

$$\eta = \frac{b}{y_o}$$

(**2marks**)

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PART B

You are provided with the following:-

- A boiling tube.
- Some dry sand.
- A liquid in a measuring cylinder labelled L.
- Half metre rule.
- A vernier calipers (to be shared).
- A weighing machine (to be shared).
- Tissue paper.
- A measuring cylinder.

Proceed as follows:

a) Measure the length of the boiling tube.

h = **…………………….** cm   **(1mark)**

b) Put a little amount of sand in the boiling tube and place it in the measuring cylinder which is almost filled with liquid L. Add sand, little by little until the tube floats upright as shown in figure below.

Fig.1

Boiling tube
Sand

Measuring cylinder
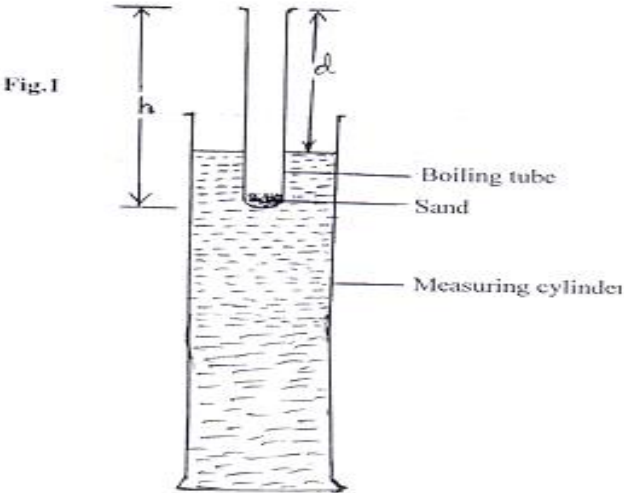
Measure the length, d, of the boiling tube which is above the liquid using half metre rule

d = ………………… cm   (1mark)

c).Determine the length, t, of the boiling tube which is immersed in the liquid using half metre rule

t = ………………….. cm   (1mark)

d) Remove the boiling tube from the measuring cylinder, wipe it dry (on the outside) and measure its mass, m, including the sand inside.
m = ……………………… g   (1mark)

e) Measure the external diameter, D, of the boiling tube.

D = ………………….. cm   (1mark)

f) Determine the external radius, R.

R = …………… cm   (1mark)

g)   Using the formula m = $12\rho\pi R^2$, determine ρ for the liquid.   (2marks)

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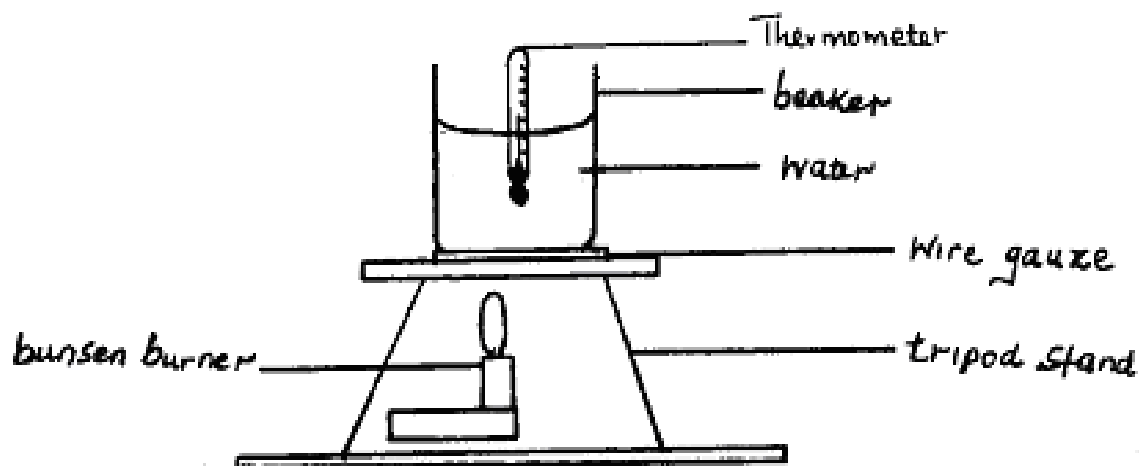…………………………………………………………………………………
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Question 2
You are provided with the following:-
- A 250ml glass beaker.
- A Bunsen burner.
- A thermometer.
- A stopwatch.
- A Tripod stand and a wire qauze.
- A measuring cylinder 100ml.
- Water.

Procedure

Set the apparatus as shown in figure below.

(a) Measure 100cm³ of water and pour it into the beaker. Take the initial temperature of the water.

T_o =………………………. ºC.   **(1mark)**

Now heat the water to a temperature of 75ºC. Switch off the gas tap and place a thermometer into the beaker and start the stopwatch when the temperature is 65ºC. Take the temperature TºC of water every two minutes. Record your results in the table 3 below.   (7marks)

Table 3

Time, t(minutes)	2	4	6	8	10	12	14
Temperature, T(ºC)							
$(T - T_o)$ (ºC)							
Log $(T - T_o)$							

(b)   Plot a graph of Log $(T - T_o)$ against Time (t).   **(4marks)**
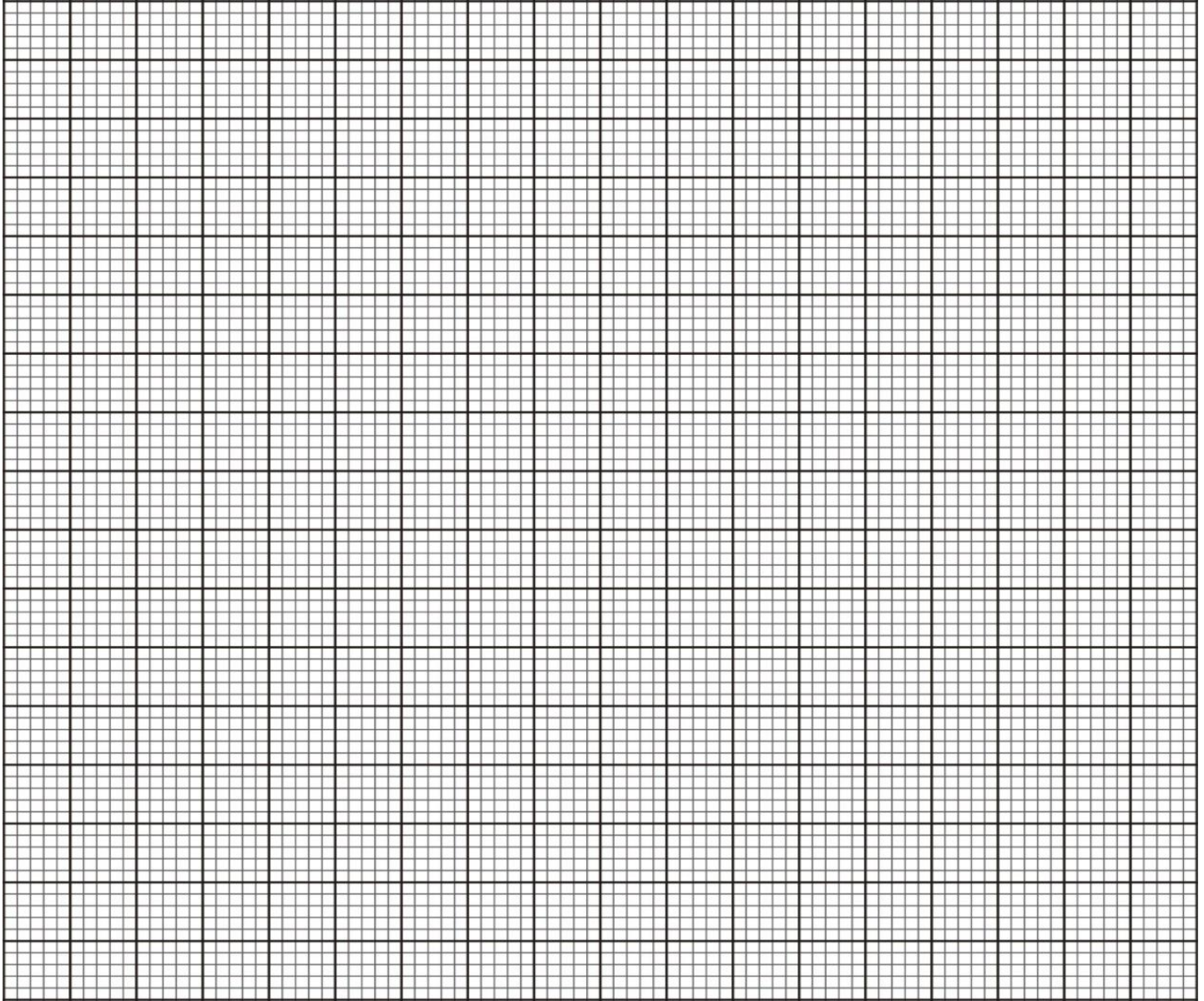
(c) From the graph find the value of Q given that $Q = \log (T - T_o)$ when $t = 0$. **(1mark)**

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(d) Determine P, where P is the antilog of Q. **(1mark)**

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(e) Calculate the temperature of the surrounding T_S using expression $P = 65 - T_S$.
(2marks)

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