FORM FOUR MID TERM ONE

SERIES ONE EXAMS *(11 SUBJECTS TESTED)*



FORM 4 MID TERM 1 SERIES 1 EXAMS

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Name: ……

ADM: …… CLASS: ……..DATE……

SCH…….

AGRICULTURE PAPER 1 TIME: 2 HOURS

MID-TERM 1 SERIES 1 EXAMS

INSTRUCTIONS TO CANDIDATES:

- *This paper contains **three** sections A, B and C*
- *Answer **ALL** the questions in section A and B*
- *Answer any **Two** questions from section C*
- *All answers should be written in the spaces provided.*

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAX SCORE	CANDIDATES SCORE
A	1-14	30	
B	15-18	20	
		20	
		20	
TOTAL		90	

SECTION A (30MKS)

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Answer ALL the questions in this section in the spaces provided

1.State **two** reasons why farmers should be encouraged to practice organic farming (1mk)

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2. State **two** ways in which crop rotation controls weeds (1mk)

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3. Name two methods of sowing pasture crops (1mk)

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4. State **four** qualities considered when selecting seeds for planting (2mks)

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5. State **four** advantages of crop rotation (2mks)

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6. State **three** physical agents of weathering in soil formation (1 ½ mks)

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7. Give **three** properties of a foliar fertilizer which makes it possible to be used as a foliar

Feed (1 ½ mks)

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8. Give **three** reasons why Banana should be pruned (1 ½ mks)

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9. State **four** factors considered when classifying crop pests (2mks)

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10. Give **four** reasons for land fragmentation (2mks)

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11. State **two** mechanical methods used in separating soil in soil analysis (1mk)

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12. State **three** ways in which inorganic fertilizers are classified (1 ½ mks)

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13. State **three** effects of raindrops on bare soil (1 ½ mks)

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14. Give **three** reasons why layering would be preferred to the use of cutting as a method of raising planting materials (½ mks)

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15. State the forms in which nitrogen is absorbed by plants (1mk)

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16. Outline **four** factors which effect herbraidal selectivity (2mks)

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17. State **four** natural factors that may influence soil erosion (2mks)

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18. Name four disadvantages of zero grazing (2mks)

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19. Outline **four** factors which encourage soil erosion (2mks)

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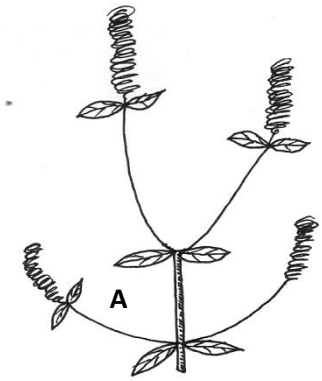
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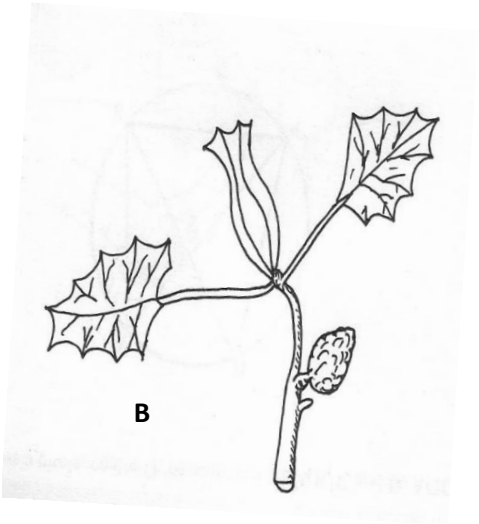
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SECTION B (20 MKS)

Answer ALL Questions in this section

20. Below are illustrations of common weeds. Study them and answer the questions that follow





(a) Identify the weeds (2mks)

A…….

B…….

(b) State the harmful effects of the weed B above (1mk)

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(c) Give **four** advantages of leasehold tenure systems (2mks)

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21. Describe the procedure which should be followed when spraying a crop of onions using a fungicide in powder form, water and a knapsack sprayer (5mks)

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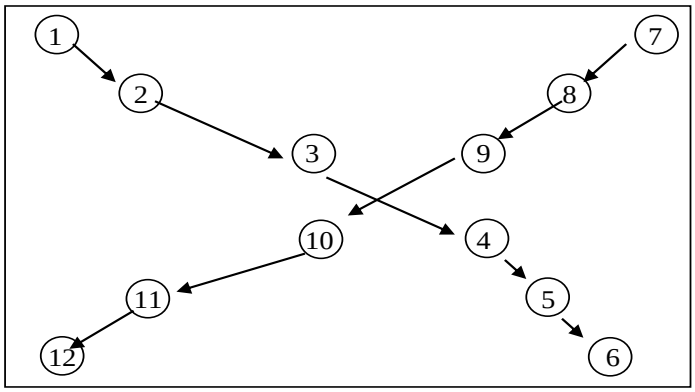
22.. (a) What is soil sampling? (1 mark)

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(b) Below is a method of soil sampling. Use it to answer the question that follow.



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(i) What method of soil sampling is represented above? (1 mark)

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(ii) name the other method of soil sampling (1mark)

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(iii) Outline **three** areas which should be avoided during soil sampling. (3 marks)

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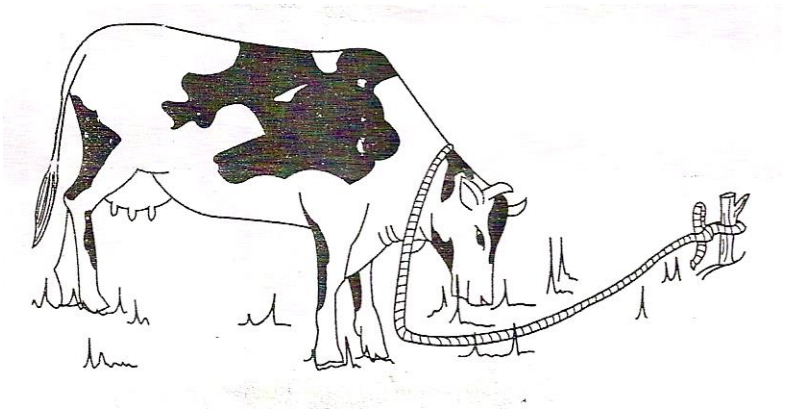
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23. . Identify the rotational grazing system shown below (1mk)



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b) Give the **FOUR** advantages of the system named above (4mks)

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SECTION C (40MKS)

Answer any two Questions in this section

24. (a) Describe harvesting of pyrethrum under the following sub-headings

(i) Procedure (4mks)

(ii) Precautions (6mks)

(b) Describe the safety measures observed when handling farm herbicides (10mks)

25. Describe the production of Rhodes grass (Chloris gayana) under the following sub-headings

(a) Land preparation (5mks)

(b) Pasture establishment (8mks)

(c) Maintenance (7mks)

26. .(a) Discuss the production of beans under the following sub headings

(i) Land preparation (4mks)

(ii) Varieties (2mks)

(iii) Selection and preparation of planting materials (5mks)

(iv) Field management practices

(b) Explain the method and procedure of harvesting of sugarcane (4mks)

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NAME: ……..

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MID-TERM 1 SERIES 1 EXAMS

AGRICULTURE PAPER 2

Paper 2 (THEORY)

2 HOURS

FORM 4 TERM 1

INSTRUCTIONS TO CANDIDATES.

- Write your name and ADM number in the spaces provided above.
- This paper consists of THREE sections A,B and C.
- Answer ALL questions in section A and B.
- Answer any TWO questions in Section C.
- Answers to all questions must be in spaces provided.
- Student should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
Total Score		90	

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SECTION A (30 MARKS)

Answer all questions in this section

1. State four characteristics of exotic dairy breeds. 2mks

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2 Differentiate between the following terms:- 2mks

a) A steer and a bullock

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b) Boar and sow

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3. name two tools used for dehorning 1mk

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4. Name two hormones that control milk let-down. 1mk

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5. State four signs of farrowing in pigs. 2mks

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6. Outline four management practices carried out while rearing a heifer. 2mks

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7. State two effects caused by keds in sheep. 1mk

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8. Outline four characteristics of an African wild bee. 2mks

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9. Name the breeding terms used to describe parturition in the following farm animals:- 2mks

a) Cattle……

b) Goat……

c)Sheep……

d) Rabbit……

10. Name four routes through which the vaccines can be administered. 2mks

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11. State two abnormalities observed during egg candling. 1mk

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12. State four advantages of natural incubation. 2mks

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13. Outline four disease causing micro-organism 2mks

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14. State two factors that determine amount of water required by a dairy cow. 1mk

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15. Name two dual purpose sheep breeds. 1mk

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16. Name four parts found in a piggery unit. 2mks

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17. State four advantages of embryo transplant. 2mks

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18. Name four disorders caused by mineral imbalances in cattle. 2mks

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19. Outline two physiological body functions that indicate illness in livestock. 1mk

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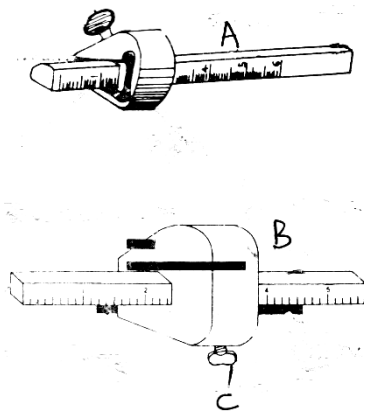
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SECTION B (20MARKS)

Answer ALL questions in this sectionSECTION B (30 MARKS)

20 (a) Study the following diagrams and answer the questions that follows.



(i) Name the workshop tools marked A and B. (2 marks)

(a)…….

(b)……

(ii) Name the part of tool B marked C. (1 mark)

B……..

C……

(iii) Give one functional difference between tool A and B. (1mk)

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(b) List down four maintenance of a wheel barrow. (2 marks)

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(c) Name the tool marked P & Q.





P _____ **Q** _____

(ii) Give two advantage of using the tool marked P. (2 marks)

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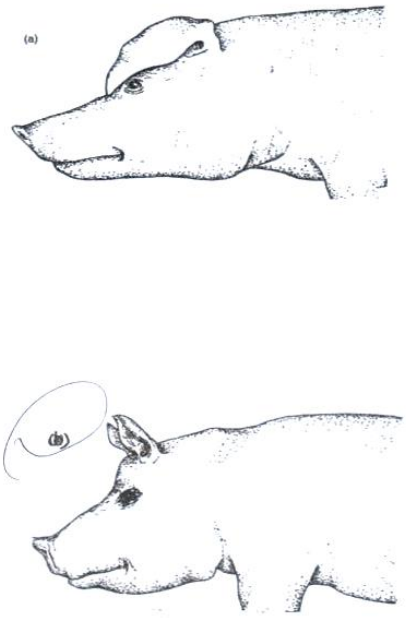
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22) Study the diagram of pigs shown below:



(a)……

(b)……

(a) Name the breeds of pigs marked a and b. (2 marks)

(a) _____

(b) _____

(b) Give two distinguishing features between (a) and (b) (2 marks)

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(c) List down two routine management that should be carried on the young ones of a and b in the first one week (2 marks)

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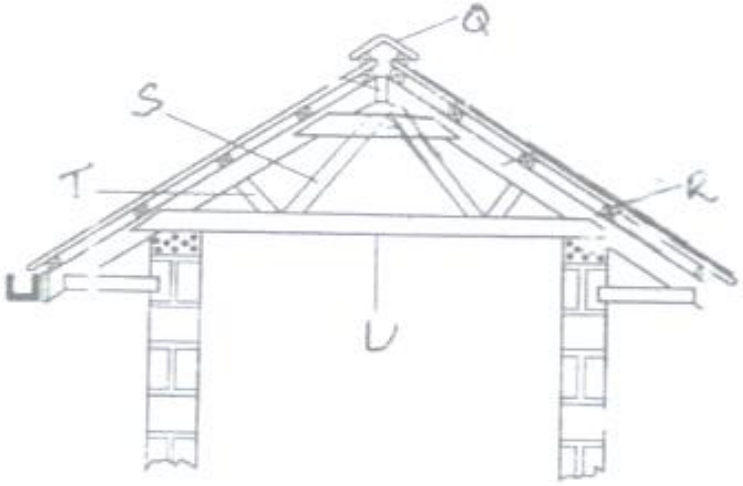
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23 (a) The following diagram represents part of the roof for construction of a farm study and answer the following questions.



(i) Name the part of roof marked Q R S T U (5 marks)

Q -……

R -……..

S -……..

T -……

U -……

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(ii) (a)Name the four tools that are used in assembling the structure. (2 marks)

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(b)State four routine management practices that are carried out in a crush. (2marks)

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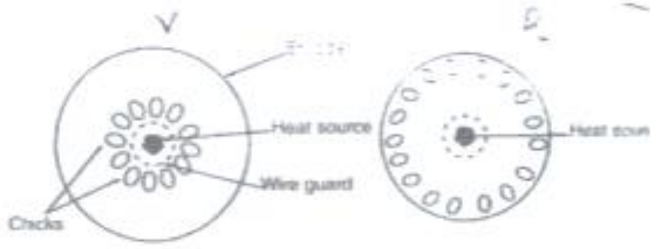
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24) The following diagram represent the behavior of chicks with heat variation.



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(a) (i) What does V, R & S represent? (3 marks)

V -……

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R ……

S ……

(ii) Which is the correct temperature? (1 mark)

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(b) State two requirements in an artificial brooder. (3 marks)

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(c) (i) Name two systems of rearing poultry. (2 marks)

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(ii) State two factors that encourage egg eating in layers.

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SECTION C (40MARKS)

Answer ANY TWO questions in this section

25.a).Name two methods of incubation (2mks)

b) Explain the condition necessary in an artificial incubation (8mks)

c) Describe the management of layers from the point of lay (10mks)

26a) Outline the procedure for castrating a piglet surgically (5mks)

b) Explain foot rot under the following subheadings

(i) Predisposing factors (5mks)

(ii) Symptoms (5mks)

(iii) Control (5mks)

27a) Give five functions of proteins in a cow (5mks)

b) Name five factors affecting digestibility of roughage in livestock (5mks)

c) Outline five advantages of a live fence (5mks)

d) Give four non-chemical methods of controlling ticks (5mks)

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Name:……

Class:…….. Adm No:…….Date…….

Sch ……

BIOLOGY PAPER 1

MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1

TIME: 2HOURS

INSTRUCTIONS.

Answer all the questions in the spaces provided.

1. Name the element obtained from insects by insectivorous plant. (1mk)

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2. State two function of centrioles in a cell. (2mks)

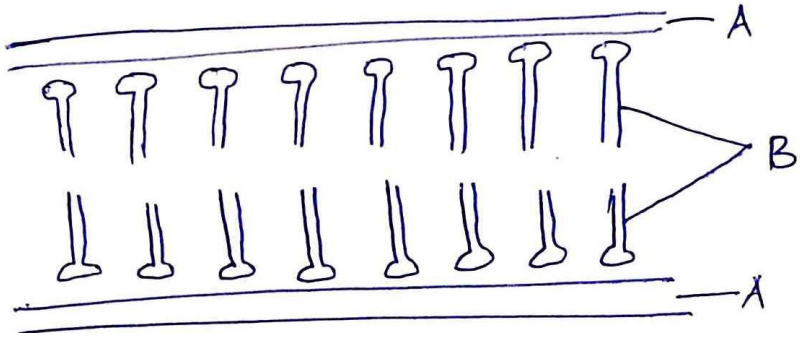
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3. Study the diagram below and answer the questions that follow.



a) Identify the structure. (1mk)

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b) Name the part labeled A and B. (2mks)

A ……

B ……

4. State the function of each of the following part of the light microscope. (2mks)

Mirror

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Fine adjustment knob

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5. Water logging can cause the death of some plants. Explain. (2mks)

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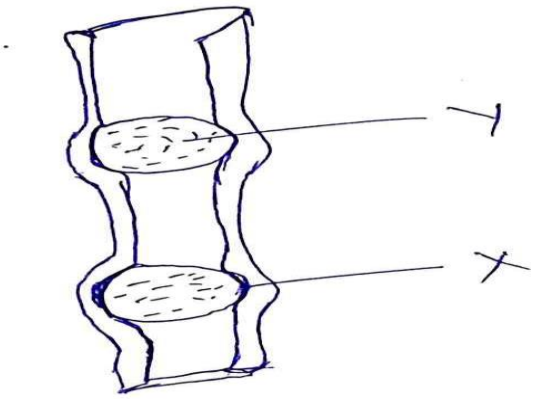
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6. The diagram below shows a process that takes place in the gullet swallowing of food.



a) Name the process. (1mk)

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b) Name : (2mks)

i. The muscle labeled X

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ii. The part labeled Y

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7. The equation below shows a process that takes place in mammals.

Amino acids ⟶ Organic compound + urea

a) Identify the process. (1mk)

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b) State the significance of this process to a mammal. (1mk)

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8. State the function of co-factors in cell metabolism. (1mk)

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9. Name two gaseous exchange structures in higher plants. (2mks)

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10. Give three structural differences between wind and insect pollinated flowers. (3mks)

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b. State the significance of cross pollination. (1mk)

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11. Explain how much of the following factors would lead to population increase of species in an ecosystem. (3mks)

a) Competition

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b) Predation

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c) Parasitism

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12.Name three support tissues in higher plants. (3mks)

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13.Why are plants said to be primary producers in a natural habitat. (1mk)

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b. Where does the digestion of fats in a mammal start. (1mk)

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14.Name two structures in a flower that wither off after fertilization (2mks)

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ii. Apart from withering, name two other changes that occur in flowers after fertilization. (2mks)

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15. The equation below shows a chemical reaction that takes place in plants.

Carbon (IV) Oxide + water ⟶ Glucose + A

a) Identify A

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b) Other than reactants, state two conditions necessary for this reaction. (2mks)

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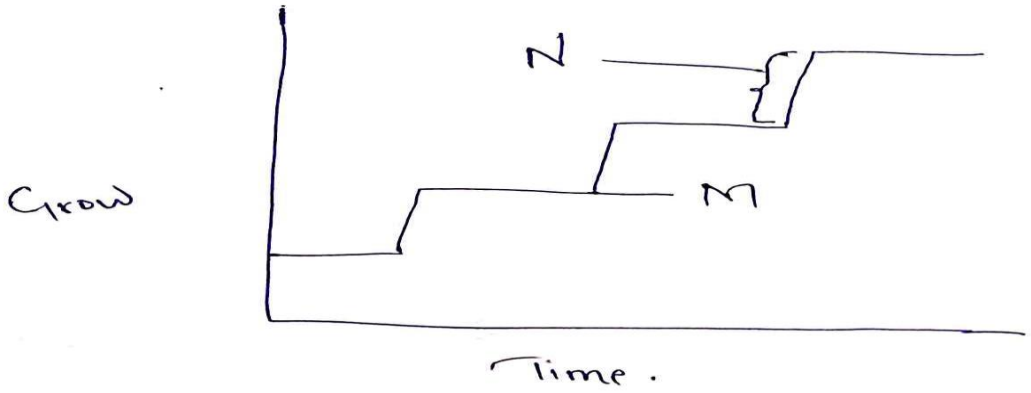
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c) Name the process represented by the equation. (1mk)

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16. The diagram below show the growth pattern in a grasshopper.



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i. Briefly explain the type of the shape of the graph. (2mks)

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ii. Name the regions labeled M and N. (1mk)

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17. Define eutrophication. (3mks)

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18. Define counter current flow system as used in gaseous exchange in a fish. (2mks)

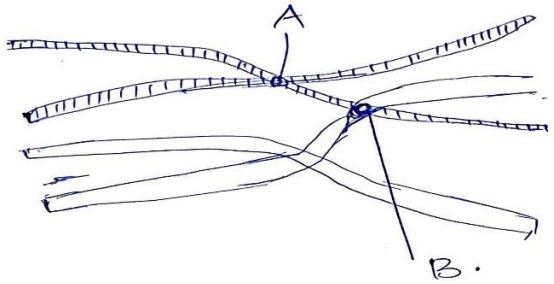
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19. The diagram below shows a phenomenon which occurs during cell division.



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i. Name the parts labeled A and B. (2mks)

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ii. State the biological importance of the part labeled B. (1mk)

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iii. Identify the type of all division in which this phenomenon occurs.(1mk)

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iv. Name the organs in human being in which the phenomenon occurs. (1mk)

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20. Name metabolic wastes of birds. (2mks)

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21. Name the organism that causes malaria in human beings. (1mk)

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22. Giving examples distinguish between continuous and discontinuous variation. (4mks)

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23.State three differences between deoxyribonucleia acid (DNA) and Ribonucleic acid (RNA) (3mks)

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24.Identify two causes of variation. (2mks)

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25.State three causes of variation. (2mks)

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26.What is parthenocarpy? (1mk)

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27.Explain four roles of auxin hormone in growth and development of plants. (2mks)

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28.State three differences between diffusion and active transport. (3mks)

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29.State three structural modifications of nephrones in dessert mammals.(3mks)

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30.State two adaptation of leaves in arid and semi-arid areas. (2mks)

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NAME…….

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MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1

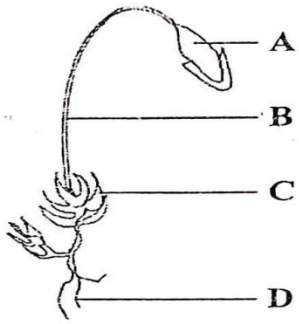
BIOLOGY PAPER 2

TIME:2HOURS

SECTION A

Answer all the questions in this section in the spaces provided.

1.(a)The diagram below represents a plant in the division Bryophyta.



(i)Name the parts labeled **B** and **D**. (2marks)

B……..

D……

(ii)State one function for each of the parts labeled **A** and **C.** (2marks)

A

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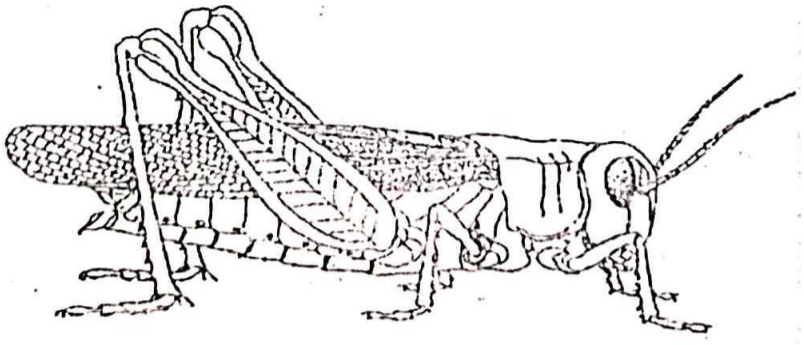
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(b)The diagram below represents a member of the kingdom Animalia.



(i)Name the phylum to which the organism belongs. (1mark)

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(ii)Using observable features in the diagram, give **three** reasons for the answer in b(i). (3marks)

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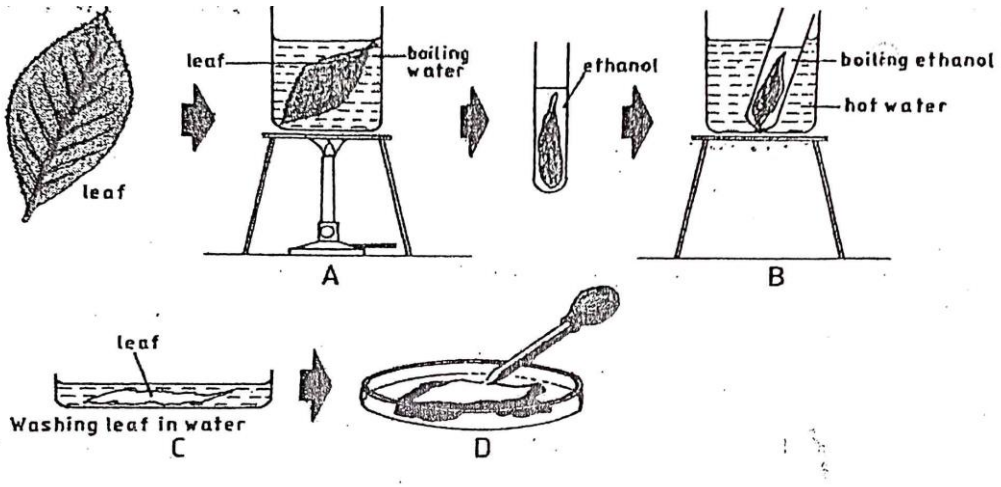
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2. The set up below illustrates a procedure that was carried out in the laboratory with a leaf plucked from a green plant that had been growing in sunlight.



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(i)What was the purpose of the above procedure. (1mark)

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(ii)Give reasons for carrying out steps A, B and C in this procedure. (3marks)

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(iii)Name the reagent that was used at the step labeled D. (1 mark)

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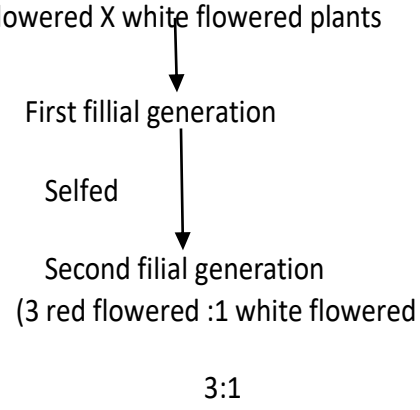
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(iv)State the expected result on the leaf after adding the reagent named in (iii0 above. (1mark)

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3.The chart below represents the result of successive crosses, starting with red flowered plants and white flowered plants and in which both plants are pure breeding.



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(a)What were parental genotypes? Use letter R to represent the gene for red colour and r for white colour. (2marks)

(b)(i)What was the colour of the flowers in the first filial generation? (1mark)

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(ii)Give a reason for your answer in (b)(i) above. (2marks)

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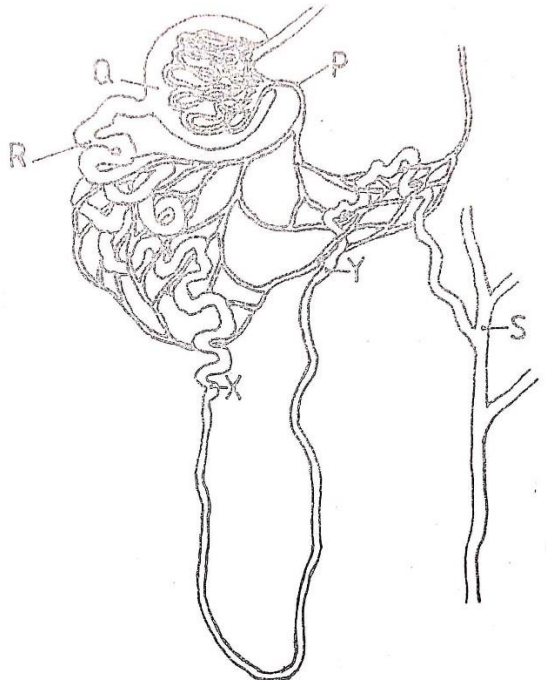
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(c)480 red flowered plants were obtained in the second filial generation, how many F_2 plants were white coloured plants? Show your working. (3marks)

4.The diagram below represents a mammalian nephrone.



(a)Name the:

(i)Structure labeled P. (1mark)

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(ii)Portion of the nephrone between point X and Y. (1mark)

……

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(b)Name the process that takes place at point Q. (1mark)

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(c)Name one substance present at point R but absent at point S in a healthy human. (1mark)

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(d)The appearance of the substance you have named in (c above is a symptom of a certain disease caused by a hormone deficiency.

Name the :

(i)Disease (1mark)

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(ii)Hormone (1mark)

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(e)State the structure modifications of nephrones found in desert mammals. 2mrks

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(f)State two advantages terrestrial animals have in excreting urea as their main nitrogenous waste product. (2marks)

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5.In an experiment on respiration ,a mouse was observed to have inhaled 200cm^3 of oxygen and exhaled 199.75cm^3 of carbon (IV)Oxide in ten minutes.

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(a)Calculate the respiratory quotient for the activity in the experiment. (2marks)

(b) Identify the possible food substance consumed by the mouse.

(c)State the fate of the excess food named in (b)above in the human body. (2marks)

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(d)Name the three end products of anaerobic respiration in plants.

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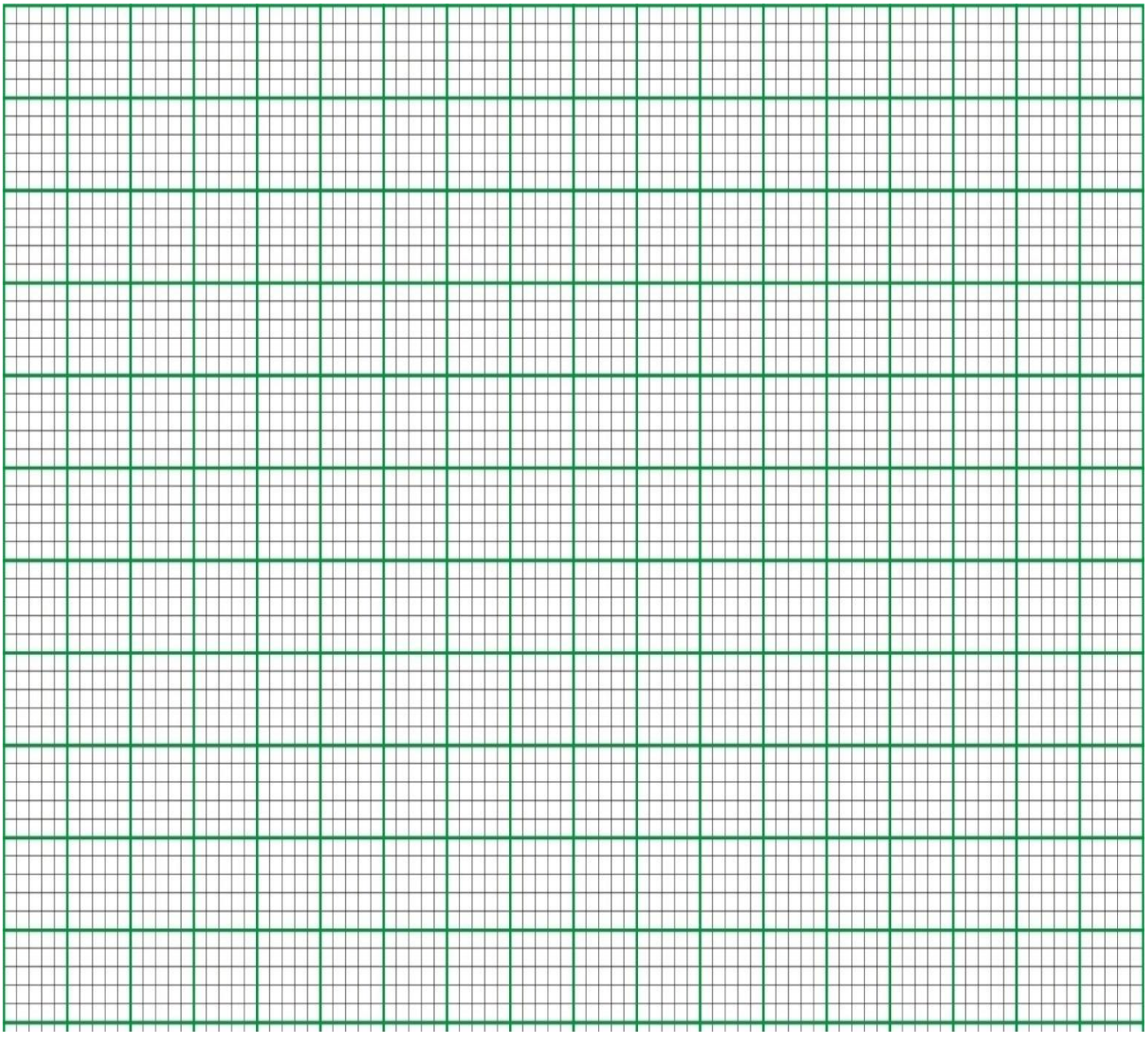
Answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 8

6. A scientist carried out an investigation to find out the population growth of mice under laboratory conditions. Twenty young mice were placed in a cage. The results obtained from the investigation were as shown in the table below.

Time in months	0	2	4	6	7	10	12	16	18
Number of mice	20	20	65	115	310	455	450	145	160

(a)On the grid provided, draw a graph of the number of mice against time.

(6marks)



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(b)Account for the changes in mice population between.

(i)0 to 2 months. (2marks)

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(ii)2 to 6 months (2marks)

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(iii)6 to 10 months (2marks)

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(iv)10 to 12 months (2 marks)

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(c)(i) Between which two months was the population change greatest? (1mark)

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(ii)Calculate the rate of population change over the period in (c) (i) above. (2marks)

(d)What change in population was continued to the 19th month?

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(e)To obtain the observed results state two variables that were kept constant during the investigation.

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NAME……

ADM……..CLASS……..DATE……..

MID-TERM 1 SERIES 1 EXAMS

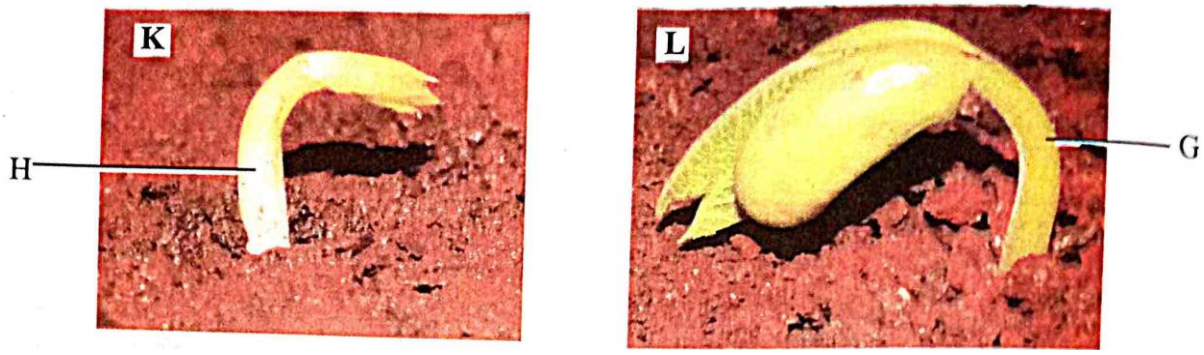
FORM 4 TERM 1

BIOLOGY PP3

40MKS TIME 1HR 45MINS

Answer all the questions in the spaces provided.

1.You are provided with photographs of seedlings labeled K and L. examine them



(a)Given that the two plants belong to the same class, name the class and give a reason based the observable features features on any of the two seedlings. (2mks)

(i)Class

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(ii)Reason:

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(b)State giving a reason the type of germination that occurs in each of the two seedlings. (4mks)

(i)K

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Reason

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L

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Reason

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(c)Name the parts labeled H and G on the seedlings. (2mks)

H ……..

G……

(d)Name the type of roots system that will develop in the two seedlings. (1mk)

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(e)The roots of both seedlings may develop swelling later in life.

(i)Name the organisms that are to be found in the swellings. (1mk)

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(ii)What is the role of the organisms that you have mentioned in (i)above. (1mk)

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(iii)Name and explain the relationship that exists between the organisms you have named in (ii) above and the plants. (3mks)

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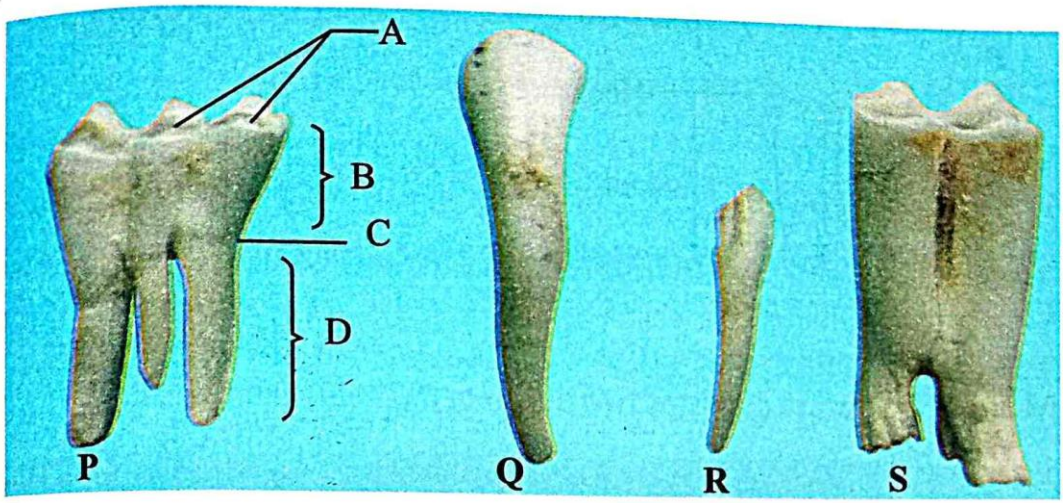
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2.You are provided with photographs of specimens labeled P,Q,R and S which were obtained from the same animal. Examine them



(a)With a reason identify P and Q. (4mks)

P

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Reason

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Q

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Reason

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(b)Using observable features only state.

(i)One similarity between specimen Q and R. (1mk)

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(ii)One difference between specimen R and S. (1mk)

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(c)Explain how specimen S is adapted for its functions. (2mks)

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(d)In specimen P name the four parts labeled. (4mks)

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A----------

B----------

C----------

D----------

3.You are provided with a mature orange fruit labeled specimen H,0.01% D.C.P,IP solution, Benedicts solution, iodine, dropper, means of heating,3 testtubes,1 test tube holder, test tube rack, filter paper, filter funnel,1 100ml beaker.

(a)Cut specimen H transversely into 2 halves. Squeeze the juice from the two halves into a small beaker. filter the juice and discard the residue. Using part of the juice and the reagents provided only, test for the food substances in the juice and record observations and conclusions in the table below.

Food	Procedure	Observations	Conclusion
Starch			
Reducing sugar			

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Vitamin C			

(b)Using the other half, observe it carefully draw and label its parts. (4mks)

(c)Name deficiency disease in human that may result from deficiency of Vitamin C. (1mk)

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NAME…….

CLASS……ADM…….DATE……..

BUSINESS STUDIES FORM 4

MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1 PAPER 1

TIME: 2HRS

INSTRUCTIONS: ***Answer all questions in the spaces provided***

1. State the term given to each of the following descriptions. (4 marks)

	Description	**Term**
a)	Study of activities that are carried out in an office	
b)	Study of the process of identifying a business opportunity, acquiring the resources to start and run a business	
c)	Study of trade and aids to trade	
d)	Study of a systematic record keeping	

2. A survey conducted in Kenya shows an upward trend in entrepreneurial activities among citizens. Highlight **four** possible factors that may be leading to such a trend. (4 marks)

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3. Outline **FOUR** challenges associated with a high ageing population in a country. (4 Marks)

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4. Outline **FOUR** items that are included when computing national income using the expenditure approach. (4 Marks)

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5. Outline **FOUR** features that constitute a market. (4 Marks)

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6. Name the accounts to be debited and credited for each of the transactions shown in the table below. (4marks)

	Transaction	A/c to debit	A/c to credit
a)	Bought goods on credit from Kamene		
b)	Took soda from stock to entertain own children		
c)	Paid for office expenses in cash		
d)	Sold old motor vehicle and received a cheque		

7. State **four** factors that may necessitate re-insurance. (4marks)

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8. Name **three** types of wholesalers according to the goods they handle. (3marks)

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9. State four reasons why consumers need protection from unscrupulous traders (4 mks)

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10. State four merits of a bonded warehouse to the Government (4 mks)

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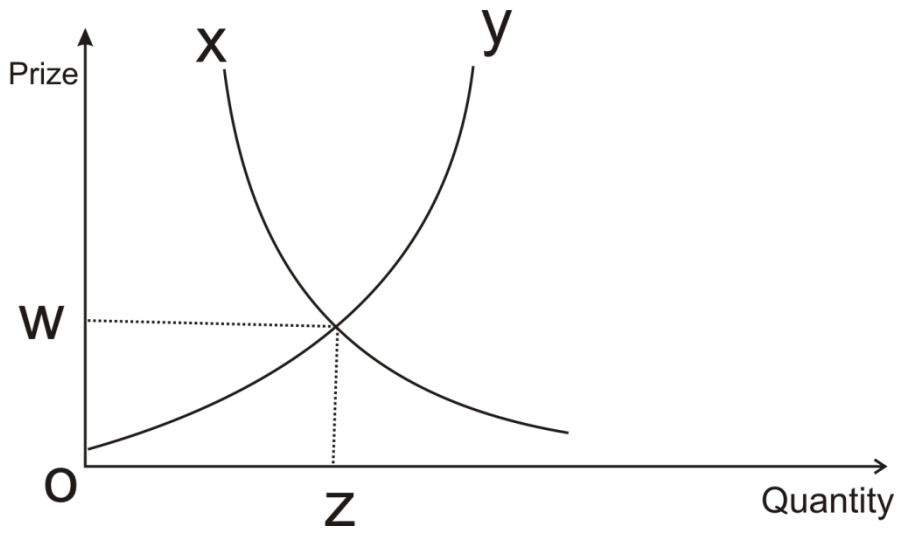
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11. Identify what is represented by the letters W,X, Y and Z in the diagram below(4 mks)



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W _____

X _____

Y _____

Z _____

12. The following balances were extracted from the books of Mwenge Traders on 30th June 2010.

	Shs.
Debtors	120 000
Creditors	240 000
Ten-year loan Loan	400 000
Closing Stock	25 000
Cash in hand	50 000
Drawings	30 000
Furniture	700 000

Required : Prepare a Balance Sheet as at 30th June 2010 (4mks)

13. Identify four circumstances under which face to face communication would be appropriate (4marks)

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14. Outline four factors you would consider before setting up a business (4marks)

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15. State four benefits of a business plan to a business (4marks)

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16. Outline four features of perfect competition market (4marks)

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17. Outline four factors to consider when choosing a method of promoting products (4marks)

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18. List any **four** characteristics of services. (4 mks)

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18. Complete the table below by identifying whether the factor is within the internal or external business environment.

(4 mks)

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FACTOR	ENVIRONMENT
a) Business objectives	
b) Goodwill from customers	
c) Competitors	
d) Marketing strategies	

19. A TV set was sold for sh.10,000. If the buyer was allowed a trade discount of 5% and a cash discount of 2% if payment is made within a month. Determine the amount received by the seller if payment is made within 2 weeks. (4 mks)

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20. . Highlight **four** channels of distribution for local agricultural products.(4 mks)

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21.. Enter the following transactions in the relevant journal

a) On 5th may 2001 an old tractor worth shs. 80,000 was sold to wakulima entreprices on credit

b) On 10th may an old furniture worth shs. 80,000 was sold on credit to Bumbere Restaurant for shs 90,000.

c) On 20th may a machine whose book value was shs. 80,000 was sold to Yusuf for shs. 50,000 on credit.

22. State **four** functions of an office in an organization (4mks)

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23. Identify **four** errors that may cause a trial balance to agree (4mks)

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24.State the four factors that may limit a persons ability to satisfy human wants (4mks)

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25. Give five differences between a cooperative and a parastatal (5 marks)

	COOPERATIVE		PARASTATAL
a		a	
b		b	
c		c	
d		d	
e		e	
f		f	

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Name: ……

Admission number …… Candidate's sign……....…..….....

School: ……

MID-TERM 1 SERIES 1 EXAMS

565/2

BUSINESS STUDIES

FORM 4 TERM 1

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write your name and index numbers in the spaces provided*
- *All answers should be written in the spaces provided in this booklet.*
- *Answer any five questions.*

For Examiner's Use Only

Qs	1		2		3		4		5		6		Total scores
Mks													

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1. 1). a) Explain five reasons why it is important for an entrepreneur to have a business plan.

   (10mks)

   b) Explain five ways in which the stock exchange market facilitates the growth of the country's economy.

   (10mks)

2. a) Outline five problems that are likely to be encountered when measuring national income. (10mks)

   b) Explain five factors that a trader should consider before giving credit.

   (10mks)

3. a) Highlight five circumstances under which a manufacturer would opt to use salesmanship as a way of promoting his products. (10mks)

   b) Explain five sources of business ideas that a potential investor can use when making investment decision. (10mks)

4. a) Explain five ways in which the government can create an environment that is conducive for doing business. (10mks)

   b) The following balances were extracted from Witu books of accounts on January 2017;

Motor vehicles	250, 000	
Furniture	8, 000	
Stock	37, 000	
Debtors	20, 000	
Cash at bank		15, 000
Cash in hand		5, 500
ADC loan	100, 000	
Creditors	12, 000	
Capital	224, 000	

The following transactions took place during the month.

January 1 deposited an additional shs.30, 000 from private sources into the business bank account.

January 5 issued a cheque for shs. 80, 000 to ADB bank which was honoured by the bank.

10 sold goods whose cost was shs.3, 500 at shs.7, 000 and received the proceeds by the cheque.

15 bought a new motor vehicle worth shs.50,000 having borrowed an additional loan from ADB bank.

17 took goods worth shs. 1, 200 to be used by his family.

20 sold one of the old motorvehicles whose book value was shs.27, 000 at shs. 22, 000 on credit.

25 received cash shs.15, 000 from a debtor.

29 paid a creditor by chequeshs.8, 500

30 bought more goods on credit worth shs. 3, 200

Prepare Witu's balance sheet as at 30th April 2017. (10mks)

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5. a) explain any five causes of an increase in supply of a given commodity. (10mks)

   b) Describe the procedure followed in seeking compensation from the insurance company. (10mks)

6. a) Despite the economies of scale enjoyed by large firms, some firms continue to operate on small scale basis. Explain five reasons. (10mks)

   b) Explain five reasons why several competing firms would combine and form one firm. (10mks)

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NAME: …….

ADM NO: ……. CLASS: …… DATE……..

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MID-TERM 1 SERIES 1 EXAMS

FORM FOUR CHEMISTRY

PAPER 1

TIME: 2 HOURS

Attempt all the questions in the spaces provided.

1. Starting with lead metal describe how to prepare a solid sample of lead (II) sulphate salt.(3 mks)

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2. Draw the structure of:

(a) (i) Hydroxonium ion H_3O^+ (2 mks)

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(ii) Aluminium oxide (2 mks)

(b) Aluminium chloride has a melting point of 120^{o}C while aluminium oxide has a melting point of 2977^{o}C. In terms of structure and bonding, explain how the differences come about. (2 mks)

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3. 3.1g of an organic compound containing carbon, hydrogen and oxygen only produced 4.4g of Carbon (Iv) oxide and 2.0g of water on complete combustion.

(a) Calculate its empirical formulae. (3 mks)

(b) Calculate its molecular formulae if its molecular mass is 62. (2 mks)

4. Two cleansing agents are represented below.

(i) R-COONa (ii) $R\text{-}OSO_3^-Na^+$

(a) Name the detergents (2 mks)

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(b) Select one of the detergents that would be suitable for washing in water containing magnesium chloride. Explain. (2 mks)

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5. The table below shows pH values of substances A, B, C and D. Study it and answer the questions that follow.

Substance	A	B	C	D
pH Value	3	10	1	7

(a) Which substance is likely to be pure water? (1 mk)

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(b) Which solution contains the lowest concentration of hydrogen ions.(1 mk)

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(c) In the equation below, identify the reagent that acts as a base. Give a reason for your answer.(2 mks)

$H_2O_{2(aq)} + H_2O_{(l)} \longrightarrow H_3O^+_{(aq)} + H^+_{(aq)}$

6. Identify the particles which enable the following substances to conduct electricity. (2 mks)

(i) Aluminium metal

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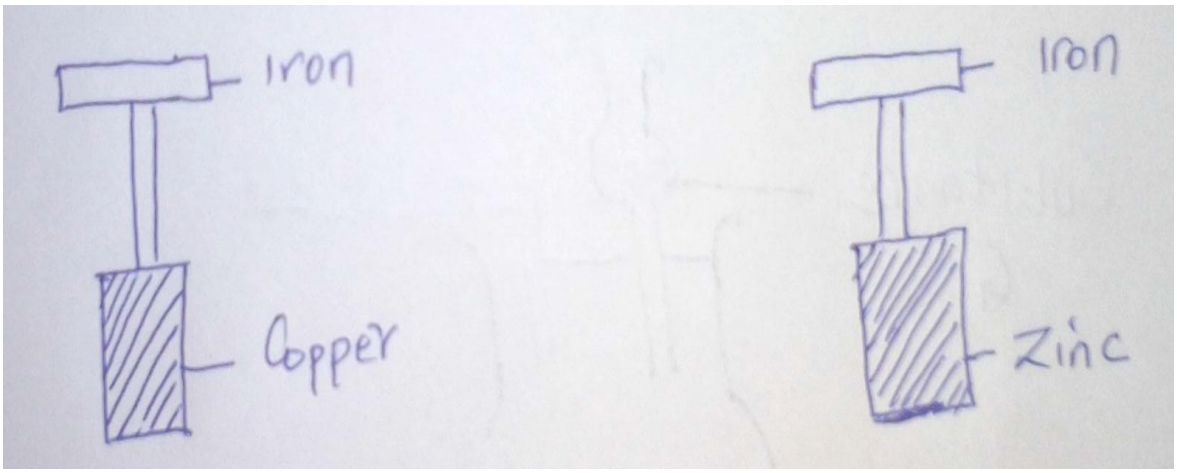
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(ii) Molten lead (II) bromide

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7. A form two student in an attempt to prevent rusting, put copper and zinc in contact with iron as shown below.



(i) State what would happen in set up X and Y after one week. (2 mks)

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(ii) Explain your answer in diagram Y. (1 mk)

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

Ion	X^{3+}	Y^{2-}
Electron arrangement	2.8	2.8.8

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

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

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9. Study the structure below.

$C_3H_7COOC_2H_5$

(a) Name the compound. (1 mk)

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(b) Name the compounds used to prepare the above compound. (2 mks)

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(c) What is the identifying physical property of the above compound?(1 mk)

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10. Determine the oxidation number of; (2 mks)

(i) Manganese in $KMnO_4$

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(ii) Chromium in $Cr_2O_7^{2-}$

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11. (a) Name two cations responsible for hard water. (2 mks)

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(b) Name two chemicals that are used to remove hardness of water.(2 mks)

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12. Classify the following as either compounds or mixtures. (1 mk)

Substance	**Type of substance**
a. Air	
b. Salt solution	
c. Sugar	

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

Salt	Solubility (g/100g H_2O)	
	at 50°C	At 80°C
G	43	58
Y	82	138

A mixture containing 40g salt G and 120g salt Y in 100g of water at 80°C was cooled to 50°C.

(a) Which salt crystallised out? Give a reason. (2 mks)

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(b) Calculate the mass of the salt that crystallised out. (1 mk)

14. When the oxide of metal Z is heated in the presence of metal X is reduced. The oxide of metal X is reduced by metal Y. Arrange the three metals in order of increasing reactivity. (2 mks)

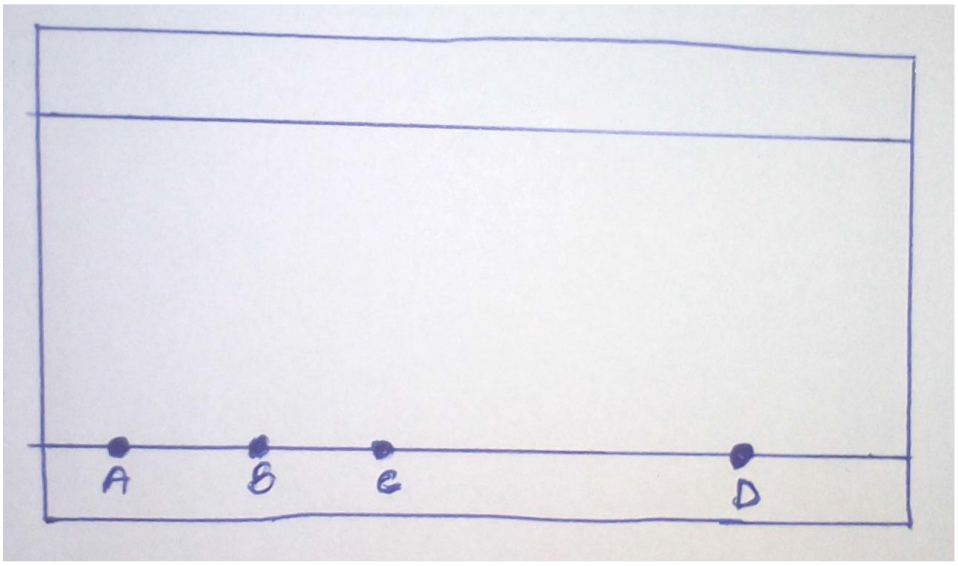
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15. The diagram below shows spots of pure substances A, B and C on a chromatography paper.

Spot D is that of a mixture.



After development A, B and C were found to have moved 4cm, 1.5cm and 3cm respectively. D has separated into two spots which had moved 3cm and 4cm.

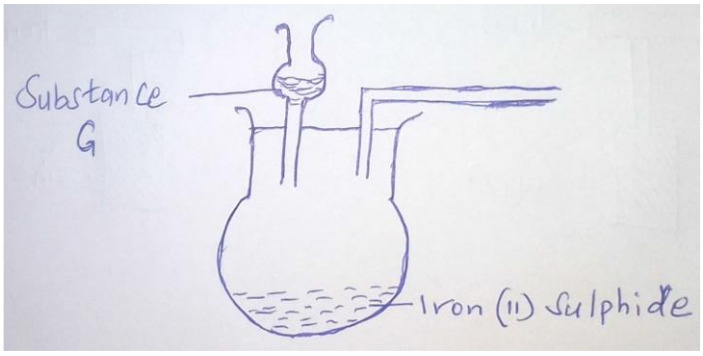
(i) On the diagram show the positions of all the spots after development. (3 mks)

(ii) Identify the substances present in mixture D. (1 mk)

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16. The apparatus shown below were set up used to prepare and collect hydrogen Sulphide gas



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(a) Name substance G. (1 mk)

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(b) Complete the set up to show how a dry sample of hydrogen Sulphide gas is collected. (2 mks)

17. Trona is a double salt of sodium with formula $Na_2CO_3.NaHCO_3.2H_2O$. Trona is collected, dried and heated to convert it to sodium carbonate.

(i) Write an equation for the decomposition of trona by heat (1 mk)

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(ii) State two uses of Sodium Carbonate. (2 mks)

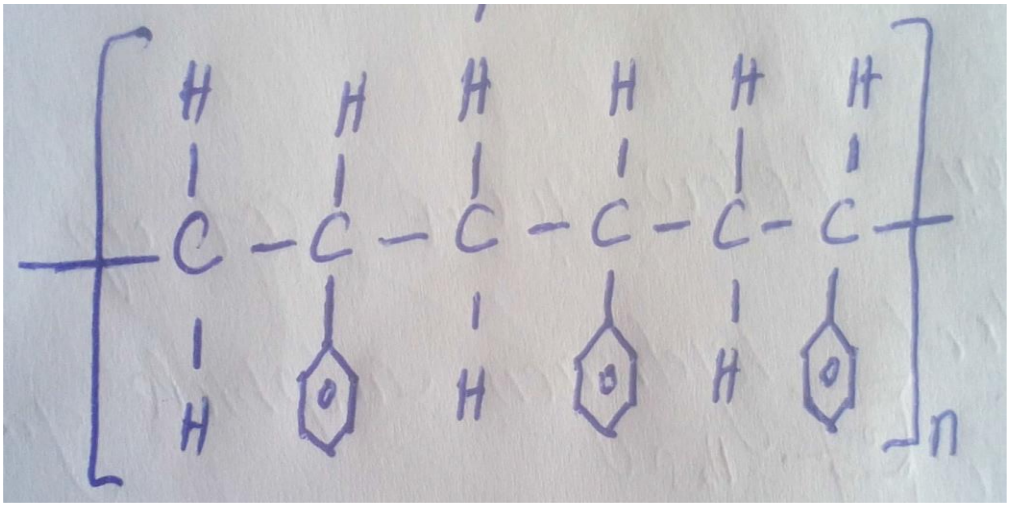
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18. Below is a part of a synthetic polymer. Study it and answer the questions that follow.



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(i) Draw the structure of its monomer. (1 mk)

(ii) Determine the number of monomers making the above compound if its relative molecular mass is 104,000. The benzene ring has six carbon atoms and five hydrogen atoms.

19. Nitric (v) acid may be prepared in the laboratory by the action of concentrated Sulphuric (vi) acid on a suitable nitrate and distilling off the nitric acid.

(a) Why is the apparatus consisting of glass desirable? (1 mk)

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(b) Pure nitric (v) acid is colourless but the products in the laboratory preparation is usually yellow. Explain. (2 mks)

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20. The results of an experiment to determine the solubility of Potassium chlorate in water at 30^{o}C was as follows:

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Mass of dish = 15.86g

Mass of dish + saturated solution at 30^{o}C = 26.86g

Mass of dish + solid potassium chlorate after evaporation to dryness = 16.86g

Calculate the mass of saturated solution containing 60g of water at 30^{o}C.(3 mks)

21. (a) State the Gay Lussac's law. (1 mk)

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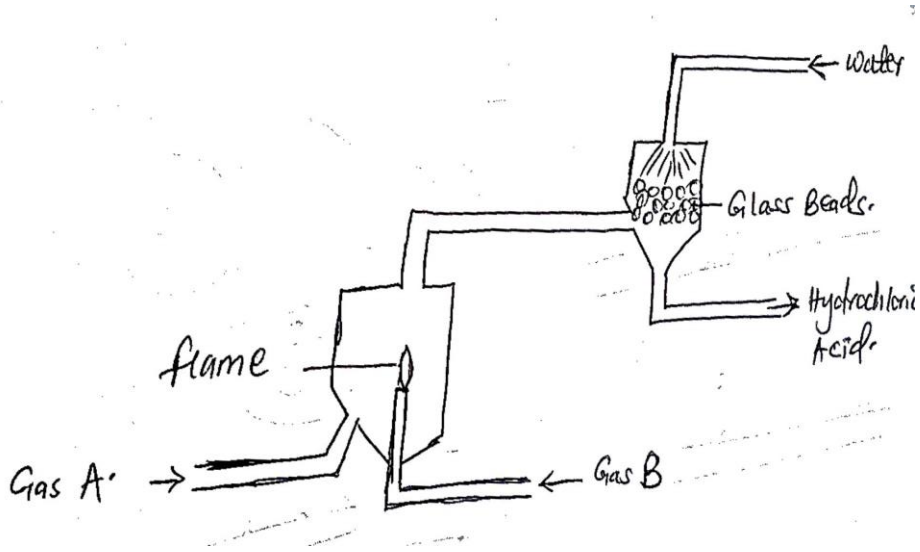
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(b) 15cm^3 of a gaseous hydrocarbon reacted completely with 45cm^3 of oxygen. 30cm^3 of Carbon (IV) oxide and 30cm^3 water were formed. Determine the formula of the hydrocarbon given that all volumes of gases were measured under the same conditions of temperature and pressure. (2 mks)

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22. The diagram below represents large scale manufacture of hydrochloric acid. Study it and answer the questions that follow.



(a) Identify; (2 mks)

(i) Gas A - ……

(ii) Gas B – ……..

(b) Write the chemical equation for the reaction between gas A and B.(1 mk)

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(c) State the role of glass beads in the process. (1 mk)

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23. 60cm^3 of oxygen gas diffused through a porous partition in 50 seconds. How long will it take 120cm^3 of Sulphur(iv) oxide gas to diffuse through the same

partition under similar conditions. (3 mks)

24. The table below shows the observations made on tests carried out on a colour liquid sample.

Exp	Test	Observation
(i)	Addition of excess $NaOH_{(aq)}$	White ppt soluble in excess
(ii)	Addition of dilute $H_2SO_{4(aq)}$	White ppt
(iii)	Addition of $AgNO_{3(aq)}$	White ppt

(a) Identify; (2 mks)

(i) Cation in the sample

……

……

(ii) Anion in the sample

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(b) Write the ionic equation for the reaction taking place in experiment (III)(1 mk)

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25. (a) Explain why its not advisable to use wood ash for cleaning aluminium utensils.(1 mk)

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(b) Aluminium metal is a good conductor and its used for over-head cables. State any other properties that makes aluminium suitable for this use. (1 mks)

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MID-TERM 1 SERIES 1 EXAMS

FORM FOUR CHEMISTRY

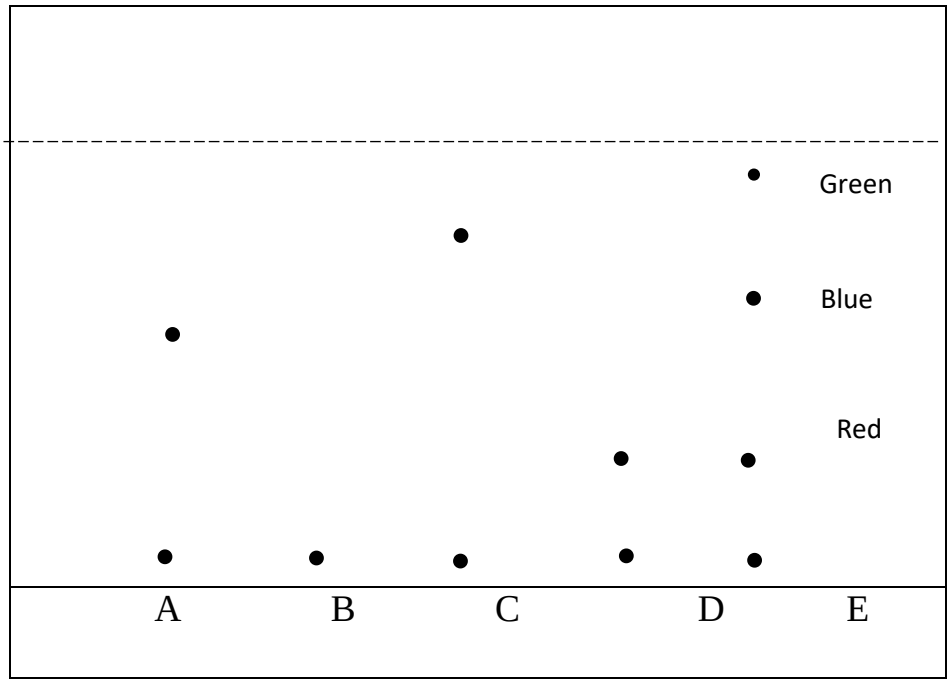
PAPER 2

FORM 4 TERM 1

TIME: 2 HOURS

Attempt all the questions in the spaces provided.

1. The diagram below shows chromatograms for five different dyes.



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

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

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(c) What is meant by the term solvent front? Indicate its position in the diagram. (1 ½ mks)

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(d) Which chromatogram were present in dye D. (1 mk)

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(e) Which dye is insoluble? (1 mk)

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……

(f) Which dye is pure? Explain. (1 ½ mks)

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(g) Which chromatogram is most soluble? (1 mk)

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(h) How can one obtain the extract of the blue dye? (2 mks)

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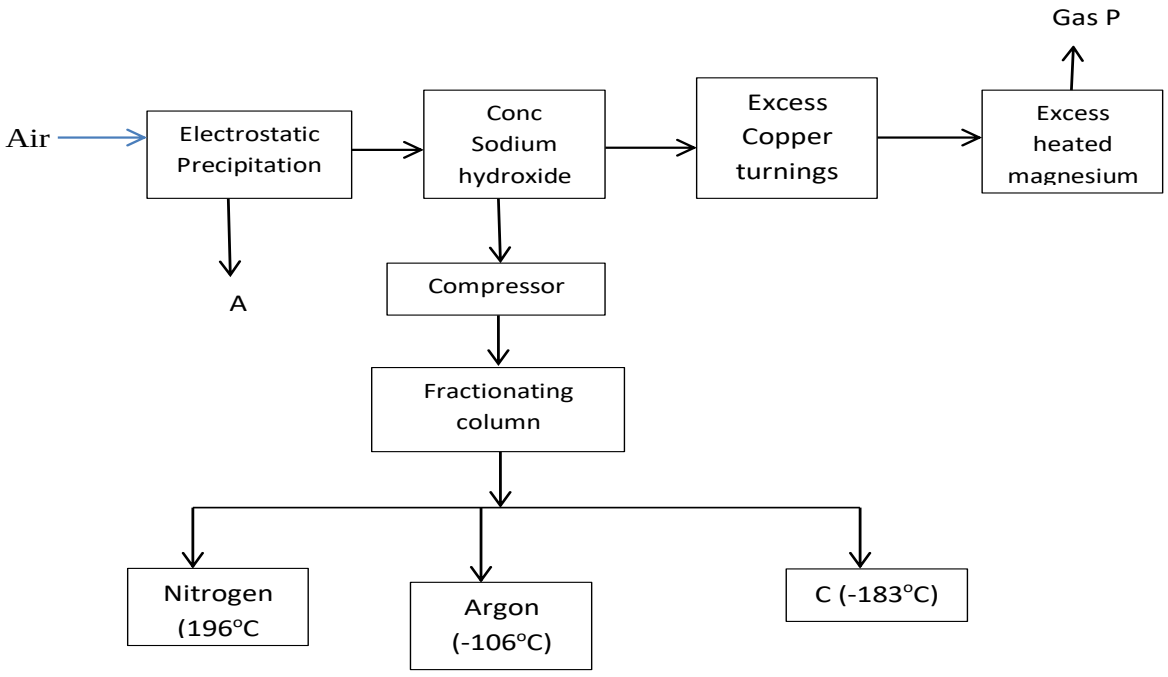
(i) The results showed that dye E contained unwanted colour. Identify the colour. (2 mks)

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2. Air was passed through several reagents as shown in the flow chart below.



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(a) Write an equation for the reaction which takes place in the chamber with.

(i) Concentrated Sodium hydroxide. (1 mk)

……

……

(ii) Excess heated copper turnings. (1 mk)

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(iii) Excess heated magnesium (1 mk)

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(iv) Name one gas which escapes from the chamber containing magnesium powder. Give a reason for your answer. (2 mks)

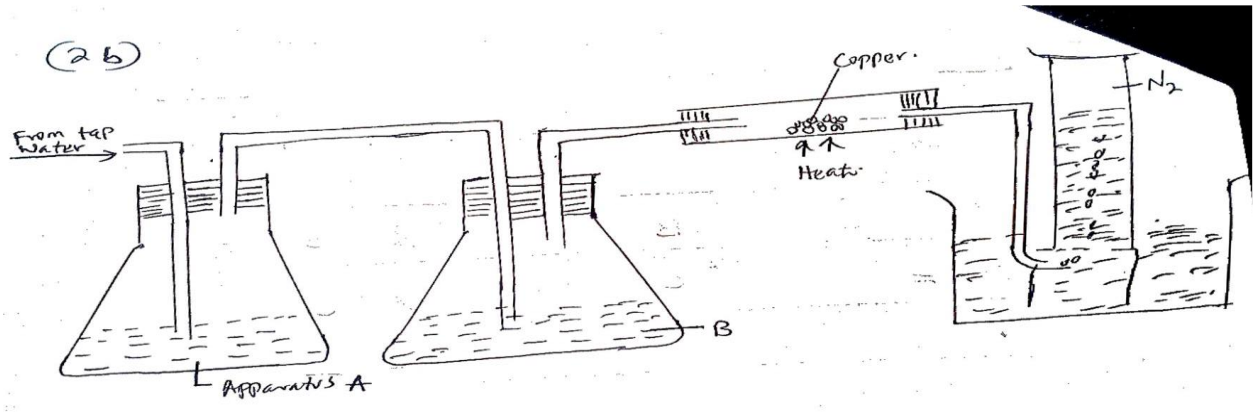
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(b) The diagram below shows an experimental set up for the laboratory preparation of nitrogen gas.



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(i) Name the reagent B and state its role. (2 mks)

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……

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(ii) What is the observation made in the combustion tube? (1 mk)

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(iii) Nitrogen gas collected using this method is not pure. Explain. (1 mk)

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(iv) Give a reason why liquid nitrogen is used for storage of semen for artificial insemination. (1 mk)

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3. Use the grid below to answer the questions that follow. The letters do not represent actual symbols of the elements.

F								
				Q				
O			**B**	**P**		**R**	**S**	**A**
T	**E**		**C**				**U**	
V							**Z**	

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(a) (i) Which element form ions with a charge of -2? Explain. (2 mks)

……

……

……

(ii) Identify and explain the elements with great tendency of forming covalent compound. (2 mks)

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(b) How do the reactivity of the following elements compare? Explain.

(i) T and V (2 mks)

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(ii) T and E (2 mks)

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(iii) S and Z (2 mks)

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(iv) Select the element with the largest atomic radius. Give a reason. (2 mks)

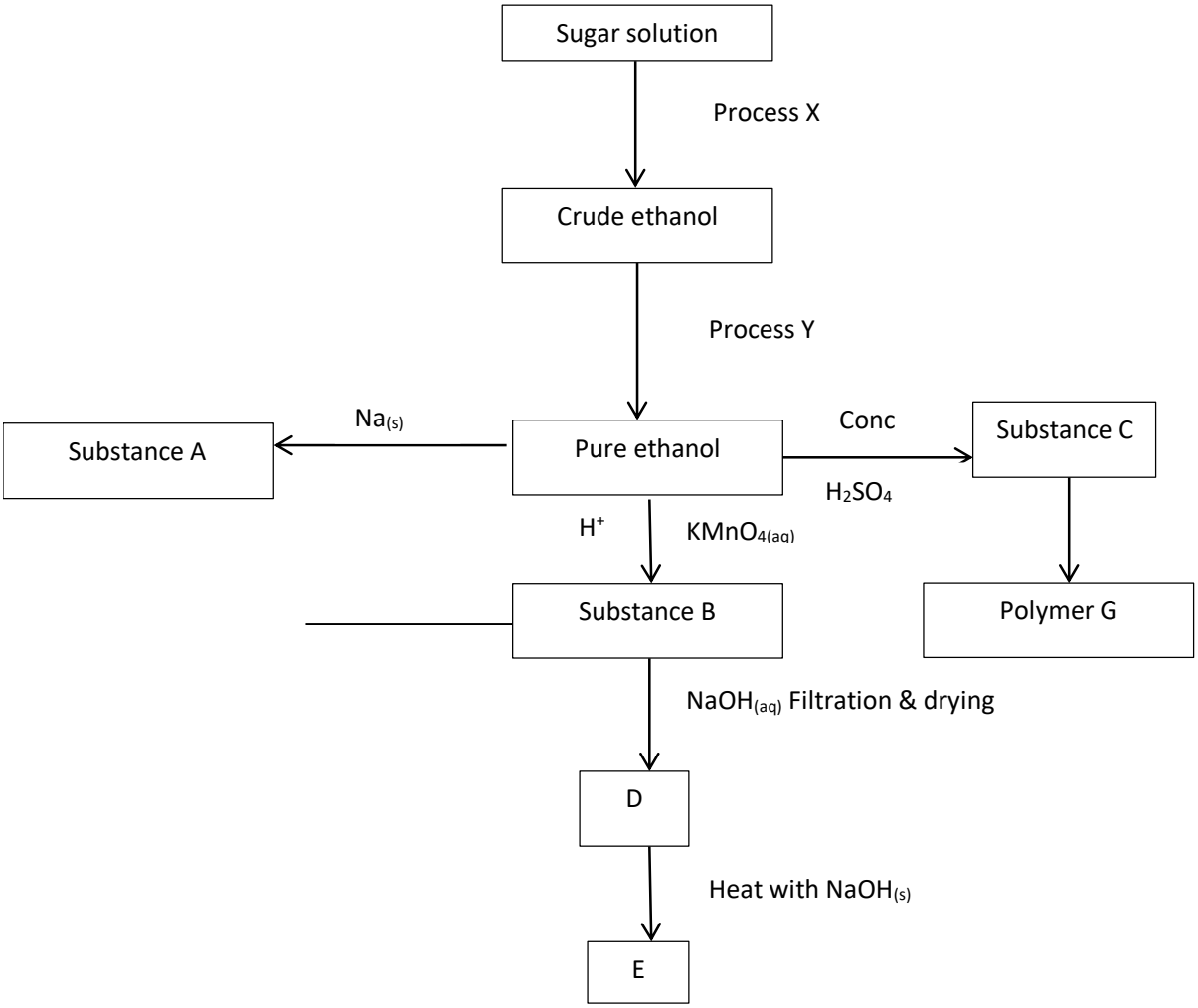
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4. Study the flowchart below and answer the questions that follow.



(a) Identify substances A, B, C and E. (2 mks)

A –……

B –……..

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C –…….

D –……

(b) Identify process X and Y. (1 mk)

X –……

Y -…….

(c) Write chemical equations to show how substance E may be obtained from B. (2 mks)

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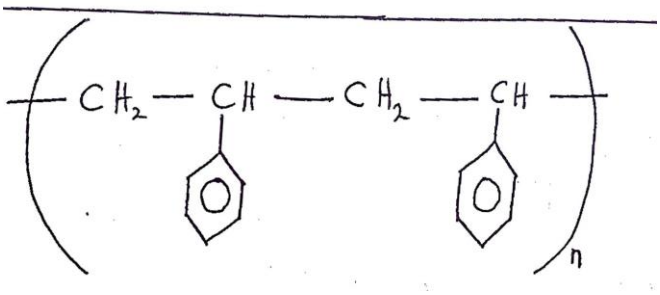
(d) Draw the structure of; (2 mks)

(i) Polymer G

(ii) The repeating unit of polymer G

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(e) A polymer is represented by:



(i) Draw the structure of the monomer. (1 mk)

(ii) A sample of the polymer was found to have relative molecular mass of 3952. Determine the volume of n. (H = 1.0, C = 12.0) (2 mks)

(iii) State one demerits of this kind of polymer as a synthetic fibre. (1 mk)

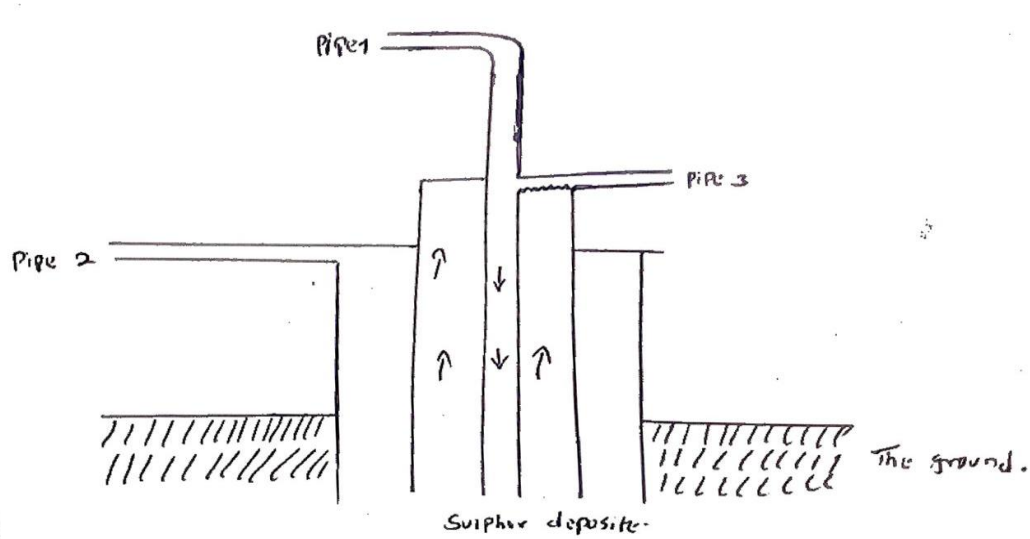
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5. The diagram below shows the extraction of Sulphur by the Frasch process.



(a) State what passes through pipe 1 and 3. (2 mks)

1 ……

3 ……

(b) Give the purpose of the solution that passes through pipe 2. (2 mks)

……

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……

(c) The following equation is the reaction of Sulphur (iv) oxide and oxygen gas. Use it to answer the questions below.

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$2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$

(i) Name the catalyst used for this reaction. (1 mk)

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(ii) Explain briefly how Sulphur (vi) oxide is converted to Sulphuric (VI) acid in the contact process. (2 mks)

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(e) (i) State two effects of Sulphur (iv) oxide on the environment. (2 mks)

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(ii) When ammonia is passed through concentrated Sulphuric acid, ammonium sulphate fertilizer is produced.

I. Write an equation for the reaction. (1 mk)

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II. Calculate the mass in kg of Sulphuric acid required to produce 250kg of the ammonium sulphate fertilizer (S = 32.0 O = 16.0, N = 14.0, H = 1.0) (3 mks)

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6. A sample of hydrated Iron (II) sulphate weighing 6.8g was dissolved in water and the solution made up to 250cm^3. 25cm^3 of the solution was titrated against a solution of 0.02 molar acidified potassium manganite (VII). The titre volumes obtained were 22.8cm^3, 22.4cm^3 and 22.5cm^3 for the first, second and third titrations.

(a) (i) Complete the following table. (3 mks)

Final burette reading (cm^3)	1_____	2_____	3_____
Initial burette reading (cm^3)	0.00	0.00	22.4
Total titre volume (cm^3)	4_____	5_____	6_____

(ii) Determine the average titre volumes (1 mk)

(b) Determine the number of moles of manganese (VII) ions used. (2 mks)

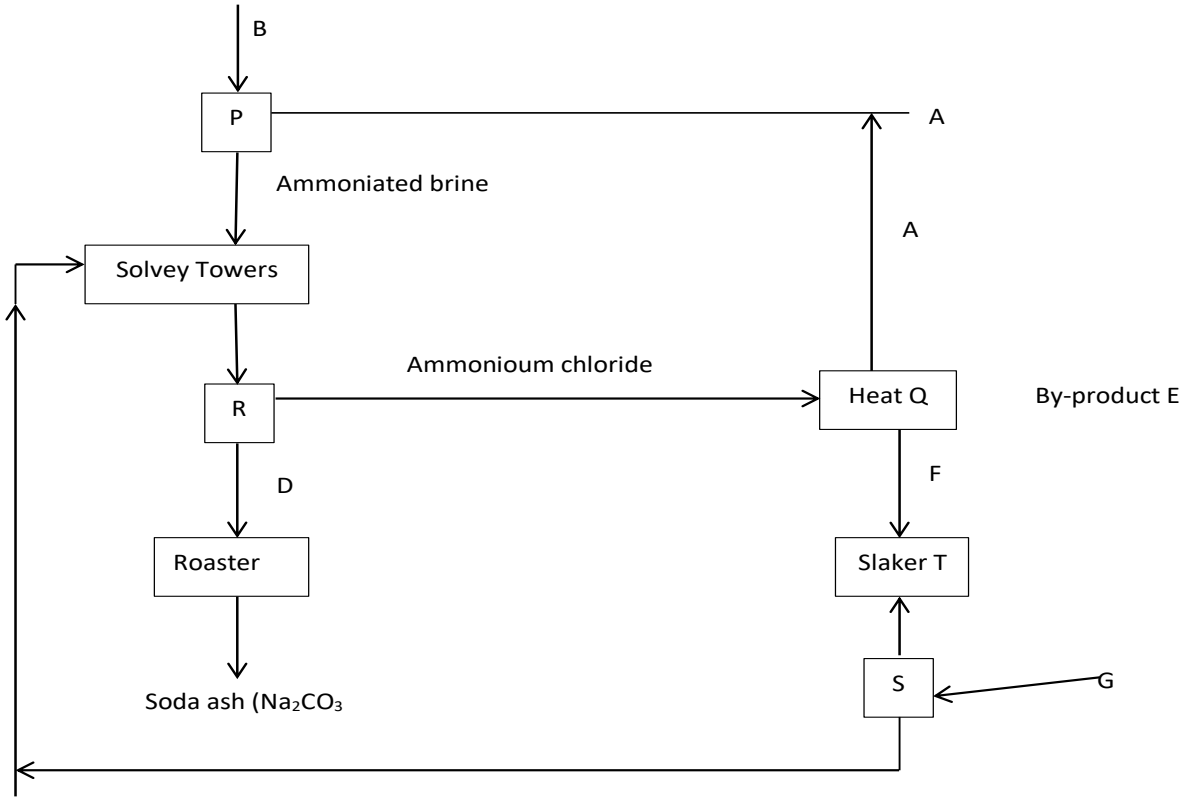
(c) Calculate:

(i) The concentration of the iron (II) sulphate in mol/dm^3 (molar mass = 278)(1 mk)

(ii) Moles of iron (II) ions in 25cm^3 of solution. (2 mks)

(e) An indicator is not required for this titration. How can the end point be determined? (2 mks)

7. The table below shows industrial manufacture of sodium carbonate. Study it and answer this questions that follow.



(a) Name the raw materials A and B. (2 mks)

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(b) Write equations for the reactions taking place at Q and S. (2 mks)

Q –

……

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S –

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(c) Name recycled substances and include equations for the reactions. (2 mks)

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(d) Name processes S and R. (2 mks)

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(e) Name by-product E. (1 mk)

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(f) Name substance D. (1 mk)

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MID-TERM 1 SERIES 1 EXAMS

233/3

FORM FOUR CHEMISTRY

PAPER 3

FORM 4 TERM 1

TIME: 2 HOURS

Attempt all the questions in the spaces provided.

You have been provided with:

- 0.5g Divalent MCO3 labeled P
- 0.5M hydrochloric acid labeled A
- 1.0M Sodium hydroxide labeled B
- Phenolphthalein indicator
-

PROCEDURE:

- Weigh exactly 0.5g of a divalent metal carbonate, MCO3
- Put the weighed carbonate in a conical flask
- Add to it 30.0cm3 of 0.5M hydrochloric acid solution A
- Add 2 – 3 drops of phenolphthalein indicator in the resulting solution.

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- Titrate the solution against a 1.0M Sodium hydroxide solution until the colour of the solution just turns pink permanently.
- Record your results in the table below.
- Repeat the experiment three times to complete the table. (4 mks)

Titration	**1**	**2**	**3**
Final burette reading (cm3)			
Initial burette reading (cm3)			
Volume of the base used (cm3)			

1. Calculate the average volume of base used to neutralize the excess acid.(1 mk)

2. Determine:

   (a) The number of moles of base used. (2 mks)

   (b) (i) The volume of the acid that was neutralized by the base. (2 mks)

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

3. (i) Write the equation for the reaction between the acid and carbonate.(1 mk)

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(ii) Determine the number of moles of the carbonate in the sample. (2 mks)

(iii) Determine the relative formula mass of the carbonate. (2 mks)

(iv) Determine the relative atomic mass of M. (3 mks)

2. You are provided with solid P. Carry out the tests below and record your observations and inferences.

- Put all solid P in a boiling tube and add about $5cm^3$ of distilled water. Shake until all solid dissolves.

(a) Place about $2cm^3$ portion of the solution in a test tube and add aqueous ammonia drop wise until in excess. (1 mk)

(1 mk)

Observations	Inferences

(b) Dip a clean end of a glass rod into the remaining solution and then place it in the Bunsen burner flame. Note the colour of the flame above the glass rod.

(1 mk) (1 mk)

Observations	Inferences

(c) Place about 2cm portion of the solution in a test tube of barium nitrate solution. Retain this content for the test in (d) below.

Observations	Inferences
(1 mk)	(2 mk)

(d) To the content in (c) above add 4 drops of 2m HNO3 following by 2 drops of acidified potassium manganet (vii).

Observations	Inferences
(1 mk)	(1 mk)

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

(a) scoop a half portion of the solid using a clean metallic spatula and introduce it to a non-luminous flame of Bunsen burner to burn.

Observations	Inferences
(1 mk)	(2 mk)

(b) Put the remaining portion of solid K. in a boiling tube and add about $10cm^3$ of distilled water. shake and divide the solution into three portion.

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

(ii) To the 1^{St} portion, add about 4 drops of acidified potassium manganite (Vii) solution.

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

(iii) To the 2^{nd} portion, add 3 drops of acidified potassium dichromate (vi) solution.

Observation	**Inferences**
(1 mk)	(1 mk)

(iv) To the 3rd portion, determine the PH using universal indicator paper.

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

NAME……..

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MID-TERM 1 SERIES 1 EXAMS

CRE FORM 4 TERM 1

PAPER ONE

FORM 4

1. Identify the five poetic books in the bible

b) Outline the translation of the bible from the original language to local languages. (8mks)

c) Describe seven ways in which Christians use the bible to spread the gospel today. (7mks)

2. Describe the incident when Abraham was willing to sacrifice his son Isaac.(6mks)

b) Give four differences between the Jewish and traditional African practices of circumcision (8mks)

c) State six ways in which Christians identify themselves in the society today. (6mks)

3. How did prophet Samuel promote the worship of Yahweh in Israel?(8mks)

b) Explain six effects of idolatry in Israel during the time of Prophet Elijah (6mks)

c) What lessons can Christians learn about social justice from the story of naboths vineyard?(6mks)

4. Identify six characteristics of false prophets in the Old Testament.

b) Describe the teaching of prophet Amos on Israel's election (6mks)

c) State eight factors that hinder Christians from practicing their faith in god.

5. Outline the measures taken by Nehemiah to restore the Jewish community after the completion of the wall of Jerusalem.

b) Explain why Nehemiah introduced the policy of separation of Jews from foreigners.(8mks)

c) Identify five ways in which the government of Kenya supports church leaders in their work

6. Outline the causes of death in traditional African communities.(6mks)

b) Explain the significance of rituals performed after the death of a person in traditional African communities. (7mks)

c) List seven moral values promoted during funeral ceremonies in traditional African communities (7mks)

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MID-TERM 1 SERIES 1 EXAMS

CRE PAPER TWO

FORM 4 TERM 1

TIME 2:30 MIN

INSTRUCTIONS TO STUDENTS

- **This paper consists of 6 quiz**
- **Attempt only 5 questions**
- **Each question carries 20 marks**

1a.) Outline what Angel Gabriel revealed about John the Baptist when he announced his birth to Zachariah. (6marks)

b.) From the story of the early life of Jesus up to twelve years, identify ways through which He is seen as coming from a poor background. (8marks)

c.) Give reasons why children should take part in church activities. (6marks)

2a**.)** Describe the temptations of Jesus in the wilderness before He began public Ministry. (LK 4:1-13)

b) What lessons do Christians learn from the temptations (5marks)

c) Identify problems faced by new converts in the church today. (7marks)

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3(a) identify **five** teachings that Jesus made to the guests at the Pharisees' house LK 14:1-14 (5marks)

(b**)**Give **four** reasons why Jesus used the parable of the great feast in his teachings LK 14:15-24 (8marks)

(c) Write down **seven** reasons why Christians take part in the Lord's Supper (7marks)

4a) identify **seven** characteristics of love as taught by Saint Paul in 1 Corinthians (13:4-8) (7marks)

b) Explain how the unity believers as expressed in the image of the bride 2 Corinthians 11:2, revelation 21:1-12 (8marks)

c) Give five ways in which the Christians in Kenya demonstrate the New Testament teaching on unity (5marks)

5a) identify five sources of Christian ethics (5marks)

b) Give seven reasons why Christians in Kenya condemn homosexuality (7marks)

c) Give reasons why peter denied Jesus (8marks)

6a) explain ways in which the gifts of the Holy Spirit are abused in the church today (7marks)

b) Outline the role of the Holy Spirit in the church today (8marks)

c) State the teaching of Saint Paul on the proper use of the gifts of the Holy Spirit in the church (5marks)

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Name ……..

Index Number …….Candidate's Signature ……...

Date **…….**

MID-TERM 1 SERIES 1 EXAMS

ENGLISH Paper 1

(Functional Skills)

FORM 4

Instructions to candidates

1. *Write our name and index number in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *Answer **all** the questions in this question paper.*
4. *All your answer must be written in the spaces provided in this paper.*
5. *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	10	
3	30	
	Total Score	

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FUNCTIONAL WRITING (20MKS)

1. You are the manager of Quick Safaris Transport Company. Of late you've realized that the workers, mainly drivers and conductors have lost discipline, and this has made the company incur a lot of loss.

   a) Write an internal memo to them, warning them of dire consequences if they do not change their behaviour and attitude.

      Some of the areas you wish to address are:

      i. Punctuality
      ii. Foul language
      iii. Lack of courtesy
      iv. Policy bribery
      v. Any other relevant area from your observation(13 marks)

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b) Design a Card inviting the workers to a motivational talk with an aim of changing their behaviour and attitude. (7 marks)

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

Poaching is increasing *(1)* _____ a menance, not just in Kenya, (2) _____ also in other parts of the continent, (3) _____ a grave danger to the survival of various animal species particularly the elephant. Whereas, there have been *(4)* _____ to raise awareness about the danger posed by the menance, not enough has been done to *(5)*_____ it out and punish offenders.

As it is, poaching is becoming a crisis, threatening species like elephants, which are hunted *(6)* _____ for their ivory, rhinos which are targeted because of their horns and other game like lions.

The Kenya Wildlife Service has been doing well to combat *(7)* _____ but it appears that more is needed if the criminals *(8)* _____ to be stopped. If the killers have more sophisticated weaponry, then KWS must *(9)* _____ its game or call *(10)* _____ the military to assist.

<u>Oral Skills</u> (30 marks)

3 (a). Read the poem below and then answer the questions that follow.

Her lip suckle the nipples
Milk bubbles, foams and ripples
Little hands up in the air
Catch on the mother's hair
Sweet sensation rises in pressure

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Tiny legs kick with pleasure
Sleep comes gently and strong
Sleep whispers softly and long.
(Emusara Ossie Enekase)

i. Identify any two pairs of rhyming words in the poem. (1mk)

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ii. Identify one major sound pattern in the poem. (1mk)

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iii. Give two examples of the above sound pattern. (2mks)

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iv. How would you perform the last two lines of the poem? (3mks)

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b) Suppose you were asked to make a speech at a friend's graduation party. What would you do to capture the audience's attention? (5 mks)

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c) Challenger: Two Europeans peeping through the window.

Response : Mucus

i. Classify the above genre. (1mk)

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ii. Identify and illustrate the most outstading stylistic device used in the above genre. (1mk)

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iii. Give two functions of the above genre. (2mks)

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d) In the words below, underline the part that should be stressed.

i. Suc.cess

ii. ad.vice

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iii. Chal.lenge

iv. ob.serve (4mk)

e) Give a word with a similar pronounciation (4mks)

i. Muscle **……**

ii. Worn **……..**

iii. Come **…….**

iv. Which **…….**

f) The following is a conversation between a father and his daughter. Identify six shortcomings in the father's listening skills. (6mks)

DAUGHTER: *(Shortly after having arrived home from school)* Good afternoon, Daddy.

FATHER: *(Sitting complacently in the sofa, reading a newspaper. Looking up……..)* Good afternoon.*(Resumes reading).*

DAUGHTER: *(Holding out her school report form)* Daddy, I'm excited. My classteacher said

I was the best improved. I was…

FATHER: Oh, you were? Me, I used to be number one. I was absolutely unbeatable.

DAUGHTER: Chemistry has been a particular headache (*now looking at the report form which she*

thought her father would wan see), but this time…

FATHER: *(Stretching his arms, looking preoccupied)*

Chemistry for me was particularly easy.

I never scored anything less than 90%.

DAUGHTER: Dad, I was going to tell you that this time…

FATHER: *(Absent-mindedly)* By the way, where is your mum?

DAUGHTER: Mum is in the garden pickng vegetables. But Dad, you are not listening to my story. I was telling you about Chemistry.

FATHER: You mean you have a story about Chemistry? Chemistry is not about stories. It is hard science.

DAUGHTER: It's about my improvement…

FATHER: (*Laughing)* Me, it wasn't a matter of improvement. I was always at the top of the class.

DAUGHTER: Daddy, I give up. You are not listening.

FATHER: *(looking surprised)* Listening? I heard you: you were talking about improvement inChemistry, weren't you?

DAUGHTER: Anyway, Dad. Thank you for paying attention. Enjoy your newspaper.

FATHER: Oh, yes I'm reading an interesting story about politics.

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Name: .....

ADM No: ..... Class: .....

Date: ..... Signature: .....

SCHOOL ……..

MID-TERM 1 SERIES 1 EXAMS

ENGLISH

(COMPREHENSION, LITERARY APPRECIATION AND GRAMMAR)

PAPER 2

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name and index number index the spaces provided
- Sign and write the date of examination in the spaces provided
- Answer all the questions in this question paper
- Answers to all questions must be written in the spaces provided in this booklet
- Candidates should check to ascertain that all paged are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidates Score
1	20	
2	25	
3	20	
4	15	
TOTAL SCORE	80	

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1. COMPREHENSION

Read the passage below and answer the questions that follow.

We are moving inexorably into the age of automation. Our aim is not to devise a mechanism which can perform a thousand different actions of any individual man but, on the contrary which could by a single action replace a thousand men.

Industrial automation has moved along three lines. First there is the conveyor belt system of continuous production whereby separate operations are linked into a single sequence. The goods produced by this well-established method are untouched by the worker, and the machine replaces both unskilled and semi-skilled. Secondly, there is automation with feedback control of the quality of the product; here mechanisms are built into the system which can compare the output with a norm, that is, the actual product with what it is supposed to be, and then correct any shortcomings. The entire cycle of operations dispenses with human control except in so far as monitors are concerned. One or two examples of this type of automation will illustrate its immense possibilities. There is a factory in the USA which makes 1,000 million electric light bulbs a year, and the factory employs three hundred people. If the pre-automation techniques were to be employed, the labour force required would leap to 25, 000. A motor manufacturing company with 45,000 spare parts regulates their entire supply entirely by computer. Computers can be entrusted with most of the supervision of industrial installations, such as chemical plants or oil refineries. Thirdly, there is computer automation, for banks, accounting departments, insurance companies and the like. Here the essential features are the recording, storing, sorting and retrieval of information.

The principal merit of modern computing machines is the achievement of their vastly greater speed of operation by comparison with unaided human effort; a task which otherwise might take years, if attempted at all, now takes days or hours.

One of the most urgent problems of industrial societies rapidly introducing automation is how to fill the time that will be made free by machines which will take over the tasks of the workers. The question is not simply of filling empty time but also of utilizing the surplus human energy that will be released. We are already seeing straws in the wind: destructive outbursts on the part of youth whose work no longer demands muscular strength. While automation will undoubtedly do away with a large number of tedious jobs, are we sure that it will not put others which are equally tedious in their place? For an enormous amount of sheer monitoring will be required. A man in an automated plant may have to sit for hours on end watching dials and taking decisive action when some signal informs him that all is not well. What meaning will his occupation bear for the worker? How will he devote his free time after a four or five hour stint of labour? Moreover, what, indeed, will be the significance for him of his leisure? If industry of the future could be purged of its monotony and meaninglessness, man would then be better equipped to use his leisure time constructively.

QUESTIONS

a) What is the main purpose of automation, according to the passage? (1mk)

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b) Explain why less men are required for the first type of industrial automation than in a manual system?(2mks)

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c) What is more sophisticated about the second industrial automation system than the first? (2 mks)

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d) What is the main benefit of computing machines? (1 mk)

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e) Comment on the biggest drawbacks of automation in industrial societies. (2mks)

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f) How would the sense be changed if the phrase "a single action" (lines 2-3) were replaced by "a thousand actions"? (2mks)

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g) What does the phrase “if attempted at all” refer to? (1mk)

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h) What does the author consider as important as “filling empty time”? (1mk)

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i) State the three lines of industrial automation referred to by the author. Give your answer in note form. (3mks)

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j) In a paragraph of not more than 100 words, describe the benefits and problems of increasing industrial automation. (5mks)

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2. Read the Fathers of Nations excerpt below and answer questions that follow(25 mks)

"Believe me, officer," he told the youth. "Without this medicine, I couldn't live a day."
"Is that right?" The youth yawned, making even more obvious his indifference to what he hadjust heard.
"I wouldn't know, sir," he added, meaning he could not be any less interested, his interestbeing zero already. Then, suddenly, he snapped to alert. He had remembered something. "Hey! You could hurt other people with that."
"With this needle?" "Yes, with that needle."
"And what would I use for my next shot?" "Just as I thought. What next shot?""Officer, let me ask you something. How old do you think I am? seventy?" "Yes, plus or minus five."
"That's correct. Now, out of every one hundred people in that age range, thirty of us are diabetic. We are unable to regulate the sugar level in our blood, and that kills most of us. Thismedicine is what keeps those of us who survive alive." He brandished his cellophane pouch again. "We shoot it into our veins with needles like that one."
"That may be so, sir. But you cannot take that stuff in. Leave it here with me.""I'll do no such thing if I have to wait here until the cows come home."
"What cows? Sir, you are holding up the line." "This needle is my life, officer."

EXCERPT QUESTIONS

a) Place the excerpt in its immediate **(4mks)**

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b) Discuss three major issues in this excerpt (**6mks)**

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c) Discuss two-character traits of Comrade Melusi in this excerpt. **(4mks)**

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d) "I wouldn't know, sir." Add a question tag. **(1mk)**

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e) Discuss any three aspects of style in this excerpt. **(6mks)**

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f) Explain the meaning of the following expressions from the excerpt. **(4mks)**

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i) Yearned

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ii) Brandished

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iii) Holding up

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iv) Indifference

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3. ORAL LITERATURE

Read the following story and answer the questions that follow.

One day elephant came across squirrel on the path to the river. The proud and lordly elephant swept squirrel of the path with his trunk, rumbling," out of my way, you of no importance and tiny size."

Squirrel was most offended, as he had every right to be. Stamping his little feet in a rage, he decided that he was going to try and teach Elephant some manners.

"Ho!" shouted Squirrel indignantly, "you may be very tall, and you may be very proud and I bet you think you're the greatest animal on earth, but you are much mistaken!"

Elephant looked around in surprise. " I am not mistaken, Squirrel," he rumbled, " I am the greatest, and everyone know it."

"Let me tell you something, Elephant," said Squirrel, chitterling angrily and flicking his tail, "1 may be small, but I can eat ten times as much as you! I challenge you to

an eating contest and I bet you that I, Squirrel can eat more palm nuts, and for longer time, than you, high and mighty Elephant!".

Elephant roared with laughter. He was so amused, in fact that he accepted creature's challenge. Besides, he was rather fond of palm nuts.

So both animals collected a huge pile of palm nuts and agreed to start the contest the very next morning at the first light. Elephant could hardly wait. He even skipped his evening meal of acacia pods so as to be truly empty for the morning. He intended to put Squirrel firmly in his place, once and for all.

The next dawned fine and sunny, as it often does in Africa, and the two contestant started to eat. Elephant munched steadily through his pile, with fine appetite. Squirrel nibbling away furiously, was soon full to bursting. Quietly, he slipped away, sending a cousin who was hiding nearby to take his place. Elephant was so absorbed in his greedy task that he didn't even notice. Brothers, sisters, Cousins, uncles, aunts, -one hungry Squirrel after another took a turn at the pile of palm nuts.

Eventually, at midday, Elephant looked up, "Well, Squirrel, have you had enough yet?" he asked, surprised to see his small adversary still busy eating. Not only was he still eating, but his pile of palm nuts was disappearing almost as fast as Elephant's own.

"Not yet", rumbled Squirrel, his mouth full'" and you? ""Never" replied Elephant scornfully. And he started to eat a little faster. By the time the sun was setting, elephant was so full he could hardly stand. He looked over to where Squirrel (the original Squirrel, who had come back after a day of sleeping in a nearby tree) was still eating more palm nuts. Elephant groaned.

"Truly you are amazing, Squirrel" he said." I cannot go on, and I'm forced to admit that you have won the contest." And he lifted his trunk in salute. Squirrel hopping with delight, thanked elephant and told him not to be so proud in future, and from that day to this, Elephant has always shown great respect for squirrel.

Questions

(a) Classify this narrative(2mks)

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(b) Give **four** features that show that this is an oral narrative. (8mks)

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(c) Describe one economic activity of the community from which this story is taken. (2mks)

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(d) 1dentify and illustrate one character trait of: (4mks)

(i) Elephant

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(ii) Squirrel

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(e) Identify **two** moral lessons one can learn from this story. (4mks)

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4.<u>GRAMMAR(15MKS)</u>

a) Rewrite the following sentences according to the instructions given (3mks)

i. He wi**ll** not be given a driving license. He passes the road test (Rewrite as one using unless')

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ii. The woman left the child with a neighbour and went to the market.(Begin: leaving….)

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iii. The boys went to play in the field. (underline the adverbial)

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b)Supply the correct preposition to complete the sentences given. (3mks)

(i) Property worth millions of shillings went up ……flames.

(ii). The three boys shared the bread…….themselves.

(iii). We should strive to live ……our means.

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c) Use the correct form of the word in brackets to fill in the blank spaces in the sentences below. (3mks)

(i). The audience was offended by the…….……(sense) of the speaker.

(ii). The…….(acquire) of a university degree is a great milestone to a student.

(iii). Everyone should obey the law……of their position in the society.

d)Use the correct alternative to complete the sentences below (4mks)

i). Teaching……(practice/practise) is not an easy job for teacher-trainees.

ii). The prophet's …….(prophesy/prophecy) was misleading to his audience.

iii. He…….((insured/ensured)his car with Madison.

iv. Mutai …….(hanged/hung) the chart on the wall.

e) Write the following sentences in indirect speech (1mk)

"These are juicy mangoes " Ken said.

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f) You do not require to cheat to pass (1mk)

(Supply a suitable question tag).

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CLASS……. ADM……. DATE……

SCHOOL……

FORM 4 MID-TERM 1 SERIES 1 EXAMS

101/3 - ENGLISH- Paper 3 2 ½ hours

(Imaginative Compositions and Essays Based on Set Texts)

Instructions to Candidates

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

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

*(c) Answer **three** questions in this question paper.*

*(d) In question 1, choose either **a or b.***

*(e) Question 2 and 3 **are compulsory***

*(f) This paper consists of **2 printed** pages.*

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

(h) Candidates must answer the questions in English.

For Examiner's Use Only

Questions	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	
	Total	

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1.Imaginative Composition **20 marks**

Creative composition and text based essays

1 a. Write a composition ending with the following statement

……..a final look at her made me realize that choices have consequences **(20 mks)**

Or

b. Write a story to illustrate the proverb Hurry hurry has no blessings **(20mks)**

2.Compulsory Set Text: The Samaritan **20 marks**

A society driven by greed suffers a lot. Drawing your illustrations from The Samaritan, by John Lara write an essay supporting this statement. **(20mks)**

3.Optional Set Texts

Answer one question only

Either

a) The Short Story: A Silent Songs

Discuss the theme of suffering as depicted in the Gloria Mwaninga's story, 'Boyi' **(20mks)**

OR

***b)* Kazuo Ishiguro: Artist of The Floating World.**

"Worthiness Is a Matter of Constantly Shifting Perception" Using evidence from The Novel Artist of the floating world , show the truth of this statement. **(20mks)**

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NAME…….

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MID-TERM 1 SERIES 1 EXAMS

312/1

GEOGRAPHY PAPER 1

FORM FOUR

TIME 2 ¾ HOURS

INSTRUCTIONS

1.The paper contains2 sections A and B.

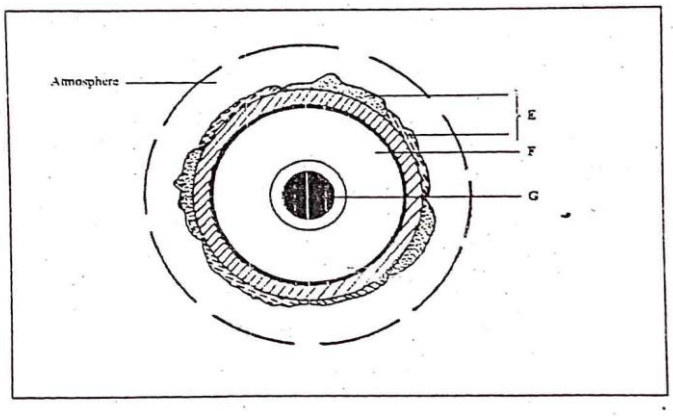
2.Attempt all questions in section A.

3.In section B answer questions 6 and choose any other two questions.

SECTION A

1.(a)Other than the sun name this other heavenly bodies that make up the solar system.(1mks)

(b)The diagram below represent the structure of the earth. Use it to answer questions below



Name the layers marked E,F and G.

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2. (a)State two characteristics of intrusive igneous rocks. (2mks)

(b)Fill the table below. (3mks)

Original Rock	Metamorphic Rock
Granite	X
Coal	Y
Z	Marble

3.(a)What is folding? (2mks)

(b)Name three orogenies know in geological history. (3mks)

4. (a)State three factors which influence how rivers transport their load.(3mks)

(b)State three ways in which waterfalls may be formed. (3mks)

5. (a)Differentiate between ice sheet and ice berg. (2mks)

(b)Give two ways in which ice moves. (2mks)

SECTION B

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

6.Study the map of Yimbo 1:50,000(sheet 115/1)provided and answer the following questions.

(a)(i)Convert the representative scale give on the into statement scale. (2mks)

(ii)Give the latitudinal extent of the area covered by the map. (1mk)

(iii)Give the magnetic declination as at January 1965. (1mk)

(b)(i)What is the height of usire hill? (1mk)

(ii)What is the length in kilometer of all weathered road loose surface (C506) from the road junction at grid square 3082 to the eastern edge of the map?(2mks)

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(iii)What is the bearing of the air photo principal point on grid reference 3274 from the trigonometrical station on grid reference 3980? (2mks)

(c) Using a scale 1cm to represent 100m draw a cross section along northing 99 between easting 16 and 22. (4mks)

On the cross-section mark and name the following

-Steep slope (1mk)

-A seasonal river (1mk)

-Thicket vegetation. (1mk)

(Answer on the graph paper)

(d)(i)Explain three physical factors that have influenced the distribution of settlements in the area covered by the map.

(6mks)

(ii)Calculate the vertical exaggeration of the cross section.drawn. (2mks)

7.(a)(i)Describe the following characteristics of minerals.

Texture. (1mk)

Tenacity. (1mks)

Colour. (1mk)

(ii)Describe how extrusive igeneous rocks are formed. (5mks)

(b)State three characteristics of rock. (3mks)

(c)Explain three economic significance of rocks in Kenya. (6mks)

(d)Student carries out field study on rocks around their school.

(i)State two importance of stating the objectives of the study. (2mks)

(ii)Give three reason why they prepare a route map for the study area. (3mks)

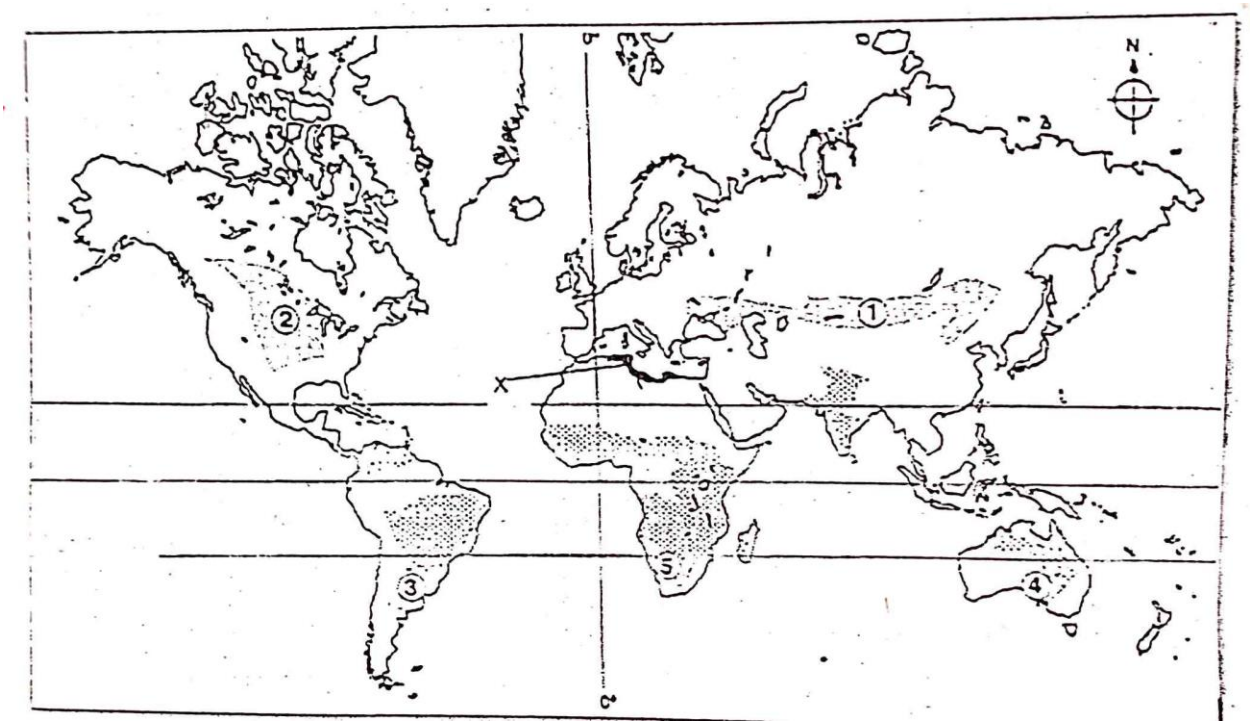
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(iii)Give three activities that the students were involved in during the field study. (3mks)

8.(a)(i)What is vegetation. (2mks)

(ii)Distinguish between natural and derived vegetation. (2mks)

(b)The map below shows the world vegetation regions. Study and use it to answer the questions that follow.



(i)Identify grassland regions marked 1,3 and 5. (3mks)

(ii)Describe the characteristics of vegetation marked X. (5mks)

(c) Explain how the following factors influence growth and distribution of vegetation .

-Altitude. (2mks)

-Soils. (2mks)

-Human activities. (2mks)

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(d)You class is to undertake a field study an vegetation in the man forest.

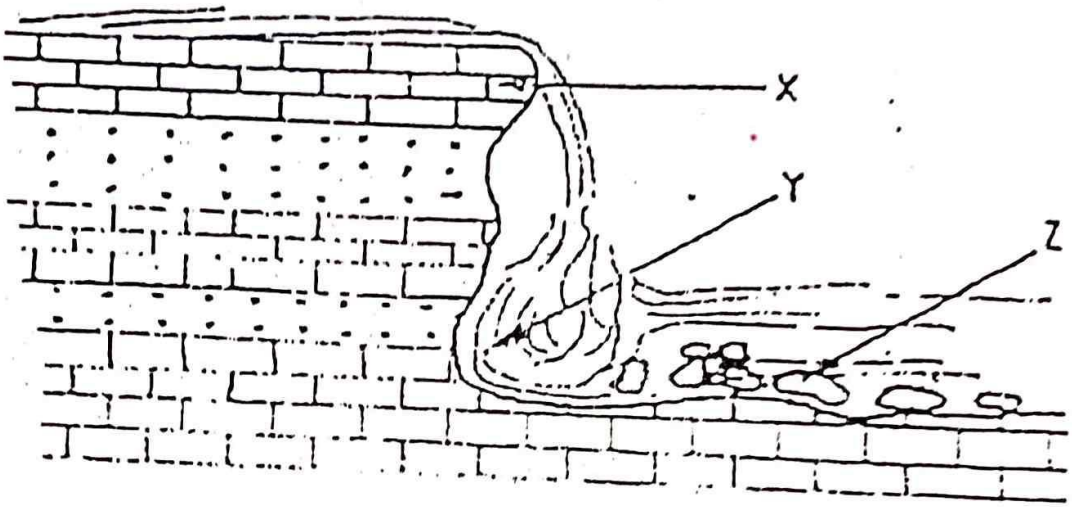
(i)State two objectives of the study. (2mks)

(ii)Prepare a working schedule for the study. (5mks)

9.(a)(i)Using a well labeled diagram, show the main processes of the hydrological cycle. (5mks)

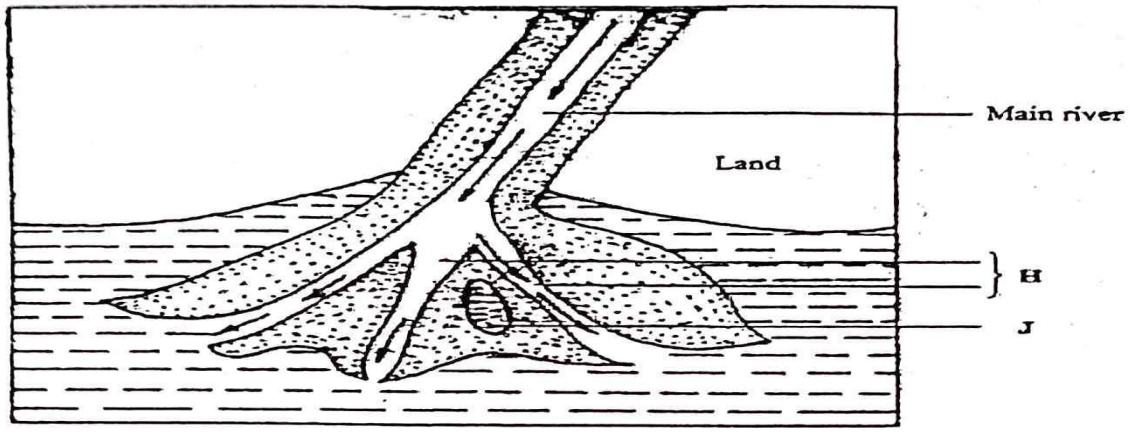
(ii)Differentiate between watershed and a catchment area. (2mks)

(b)(i)The diagram below shows a waterfall.name the features marked X,Y,Z. (3mks)



(ii)State three ways in which a waterfall may form. (3mks)

(c)The diagram below shows a type of a delta .Use it to answer the question below



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(i)Name the type of the delta shown above

(ii)Identify the features feature marked H and J delta.

(iii)Describe the formation of the above delta. (3mks)

10.(a)(i)Define the term soil. (2mks)

(ii)State four composition of soil. (4mks)

(b)(i)Differentiate between soil profile and soil catena. (2mks)

(ii)Draw and label the diagram to show soil profile. (5mks)

(c)What are the impacts of soil erosion. (5mks)

(d)You are required to carry out a field study on the lower course a river

(i)Give two reasons why you would require a route map. (3mks)

(ii)State two activities you would carry out to setermine why deposition occurs at this stage. (2mks)

(iii)State three follow up activities you would be involved in after the field study. (2mks)

(d)Students from a school in nakuru county are planning to carry out a field study on soil.

(i)Give three reasons why it is important to seek permission from the school authority. (3mks)

(ii)identify four challenges you would encounter during field study. (4mks)

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NAME…….

ADM……CLASS……DATE…….

SCHOOL……..

MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1 GEOGRAPHY

312/2 (GEOGRAPHY PAPER 2)

2021 EXAM **TIME: 2HRS 45 MINUTES**

INSTRUCTIONS TO STUDENTS

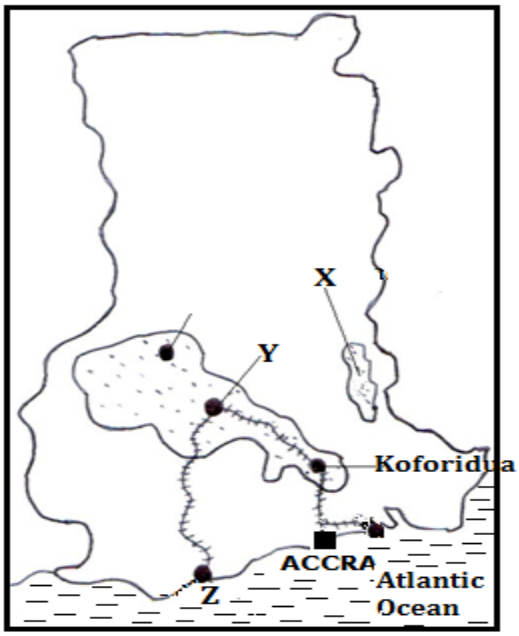
- *This paper has **two** sections: **A** and **B***
- *Answer **ALL** the questions in **section A.***
- *In section **B,** answer **questions 6** and any other **TWO** questions.*
- *All the answers must be written on the foolscaps provided.*
- *Candidates must answer the questions in English.*

SECTION A

1. (a) What is human Geography? (2 marks)
   (b) How is Geography related with Agriculture? (2 marks)

2. (a) State **two** main reasons why forest reserves were created. (2 marks)
   (b) List **three** primary forest products. (3 marks)

3. Study the sketch map of Ghana below and use it to answer the question (a).



(a) (i) Identify the cocoa growing areas marked X and Y. (2 mark)

(ii) Name the Port City marked Z. (1 marks)

(b) State **three** economic problems facing cocoa farmers in Ghana.(3 marks)

4. (a) What is forestry? (2 marks)

(b) State t**hree** physical factors favouring the development of softwood forests in Canada. (3 marks)

5.(a)Name **two** major petroleum producing countries in the Middle East. (2 marks)

(b) State **three** conditions necessary for the formation of petroleum.(3 marks)

SECTION B

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

6. Study the photograph below and use it to answer questions (a) and (b).



(a) (i) Name the type of photograph provided. (1 mark)

(ii) State **three** reasons for your answer in (i) above. (3 marks)

(iii) Identify the economic activity represented on the photograph?(1 mark)

(iii) Give **four** main features that can be seen on the photograph.(4 marks)

(b) (i) List **three** counties to the east of the Rift Valley where the economic activity shown on the photograph is practiced. (3 marks)

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(ii) Describe the stages involved in the processing of the crop shown at the factory. (8 marks)

(c) State **five** characteristics of horticulture farming in Kenya.(5 marks)

7.(a) (i) What is open cast mining? (2 marks)

(ii) Describe how solution mining method is carried out.(5 marks)

(b) Explain **three** ways in which mining contributes to pollution.(6 marks)

(c) Apart from South Africa, name four other diamonds producing countries in Africa. (4 marks)

(d) Explain **four** problems facing diamonds mining in South Africa.(8 marks)

8.(a)(i) Distinguish between indigenous and exotic forests. (2 marks)

(ii)State **four** differences between natural forests and planted forests.(8 marks)

(b)(i) State **three** measures that are being taken in Kenya to conserve forests.3 mks

(ii)Explain **three** factors favouring the exploitation of softwood in Canada. (6 marks)

(d) Form four students conducted a field study on forestry at a forest in their sub county

(i) State **three** reasons why it is important to seek permission. (3 marks)

(ii) State **three** challenges that the group is likely to have encountered during the study. (3 marks)

9. (a) List **three** physical factors that influence Agriculture. (3 marks)

(b) State **five** characteristics of extensive mechanized grain cultivation. (5 marks)

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(c) Describe the commercial cultivation of sugarcane in western Kenya until harvesting. (7 marks)

(d) Explain **five** economic problems facing sugarcane farmers in Western Kenya. (10 marks)

10.(a) (i)What is nomadic pastoralism? (2 marks)

(ii) State **four** physical factors that favour beef farming in Argentina. (4 marks)

(b) Explain **four** measures taken by the Kenyan government to improve pastoral farming. (8 marks)

(c) Compare dairy farming in Kenya and in Denmark under the following sub-headings:

(i) Scale of production. (2 marks)

(ii) Level of technology. (2 marks)

(iii) Marketing of dairy products. (2 marks)

(d) State **five** economic benefits of dairy farming in Kenya. (5 marks)

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Name _____

ADM No. _____ **CLASS**_____ **DATE**_____

SCHOOL _____

MID-TERM 1 SERIES 1 EXAMS

HISTORY AND GOVERNMENT

PAPER 1

FORM 4 TERM 1

TIME: 2½ hours

Kenya Certificate of Secondary Education

HISTORY AND GOVERNMENT

Paper 1

TIME: 2½ HOURS

Instructions to Candidates

*(a) This paper consists of **three** sections; **A, B** and **C.***

*(b) Answer **all** the questions in section **A, three** questions from section **B** and **two** questions from section **C.***

(c) Answers to all the questions must be written in the answer booklet provided.

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SECTION A (25 MARKS)

1. Name two eastern Cushite communities in Kenya. (2 marks)
2. Identify two forms of oral traditions in history. (2 marks)
3. Give one reason for the coming of the Arabs to the Kenyan coast before 1500AD. (1 mark)
4. Give two Levels of government. (2 marks)
5. Apart from Vasco Da Gama Pillar, which other historical monument was built by the Portuguese in Kenya? (1 mark)
6. Highlight two national days in Kenya. (2 marks)
7. Outline two ways through which African communities reacted to British colonization in Kenya. (2 marks)
8. Name any two arms of the government. (2 marks)
9. Outline the main grievance of the Ukambani Members Association. (1 mark)
10. Identify the event that led to the declaration of the state of emergency. (1 mark)
11. Highlight two roles played by women during MAUMAU. (2 marks)
12. Mention one type of elections held in Kenya. (1 mark)
13. Identify two failures of Jomo Kenyatta. (2 marks)
14. Mention the political party formed by Oginga Odinga in 1966. (1 mark)
15. Highlight one contribution of Prof. Wangari Maathai. (1 mark)
16. Identify one custom borrowed by the Bantus from the Cushites. (1 mark)
17. Mention one election official in Kenya. (1 mark)

SECTION B (45 MARKS)

18. a) Name five communities that belong to the plain Nilotes. (5 marks)

b) Discuss the political organization of the Agikuyu in pre- colonial era. (10 marks)

19.a) State five reasons for the coming of the Portuguese to the Kenyan coast.5 mks

b) Explain five challenges faced by Christian missionaries. (10 marks)

20.a) Identify three peaceful methods of conflict resolution (3 marks)

b) Explain six factors which undermine national unity in Kenya. (12 marks)

21.a) List five roles of the Independent Electoral and Boundaries Commission. (5 marks)

b) Explain five features of the Constitution of Kenya 2010. (10 marks)

SECTION C (30 MARKS)

22.a) Highlight five circumstances under which a by – election may be held in Kenya. (5 marks)

b) Discuss the principles that govern elections in Kenya. (10 marks)

23.a) Name any three political associations formed in Kenya before 1939. (3 marks)

b) Explain six grievances of the early political associations. (12 marks)

24.a) Mention the three sections of the Kenya Defense Forces. (3 marks)

b) Explain six functions of the National Police Service. (12 marks)

……

……

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Name _____

ADM No. _____ **CLASS**_____ **DATE**_____

SCHOOL _____

312/2

MID-TERM 1 SERIES 1 EXAMS

HISTORY AND GOVERNMENT PAPER 2

21/2 HRS FORM 4

INSTRUCTIONS CANDIDATES.

a. This paper consists of three sections: A, B and C.
b. Answer all the questions in section A, three questions from section B and two questions from section C
c. Answers to all the questions must be written in the answer booklet provided.
d. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing
e. Candidates should answer the questions in English.

1. State two disadvantages of oral traditions as a source of History and Government. (2mks)

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……

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2. State two circumstances that forced man to start growing crops.(2mks)

……

……

……

……

3. State the main mode of transport used during the trans – Saharan trade.(1mks)

……

……

……

4. What was the contribution of Alexander-Graham Bell in the of Science.(1mk)

……

……

5. Identify the form of writing that developed in Egypt as result of development of agriculture.(1mk)

……

……

6. State the main factor that led to emergence of Cairo as an Urban Centres (1mk)

……

……

7. Identify one factor that hinder industrialization in third world countries.(1mk)

……

……

8. Give two reasons why indirect rule was unsuccessful in Southern Nigeria .(2mks)(1x2)=2mks

……

……

……

……

9. State two strategic reasons for the scramble and partition of Africa.(2mks)

……

……

……

……

10. Give two resolution of the Berlin conference of 1884 to 1885(2mks)

……

……

……

……

11. Give two reasons why the league of nations was formed in 1919(2mks)

……

……

……

……

12. State one major event that led to the First World War.(1mk)

……

……

13. Identify two structural defects of the organization of African Unity(OAU) that have undermined its activities since 1963(2mks)

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……

……

14.Give two reasons why united state of America (U.S.A) did not join the First World war until 1917.(2mks)

……

……

……

……

15.State one use of steel(1mk)

……

……

16.What is the main role of the International Criminal Court?(1mk)

……

……

……

17.Give the main principle that guides non-aligned movement.(1mk)

……

……

……

SECTION B(45 MKS)

Answer any three questions from this section in sheet provided.

18.a)State five impacts of early agriculture in Mesopotamia.(5mks)

b.Explainthe effects of food shortages in third world countries(10mks)

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19.a)Sate five roles of Tuaregs in Trans-Saharan trade?(5mks)

b)Explain five social effects of Trans-Saharan trade on the people of western Sudan?(2mks)

20.a)Give the factors that led to the rise of the Baganda Kingdom.(5mks)

b)Describe the political organization of the Asante?(10mks) 2x5=10mks

21.a.State five factors which made the Lozi to collaborate with the British (5mks).

b.Explain five reforms introduced by the German administration in Tanganyika after the MajiMaji rebellion.(10mks)

SECTION C(30MKS)

22.a)State five reasons why the British used indirect rule to administer Northern Nigeria(5mks)

b.Why did the French system assimilation fail(10mks)

23.a)Give five functions of the security council of the united Nations Organization.(UNO) (5mks)

b)Describe five benefits for being a member of the common wealth of nations(10mks)

24.a)Give reasons for the formation of Non-Aligned Movement? (5mks)

b)Explain five effects of the cold war?(10mks)

……

……

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JINA_____

NAMBARI YA USAJIRI_____**KIDATO** _____

TAREHE_____

102/1

MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1 EXAM

Karatasi Ya 1

Muda: Saa 1¾

KIDATO CHA NNE

- **Andika insha MBILI. Insha ya KWANZA ni ya LAZIMA.**
- **Chagua insha moja nyingine kutoka tatu zilizobaki.**
- **Kila Insha isipungue maneno 400.**
- **Kila Insha ina alama 20.**

INSHA 102/1

ii. Lazima :

Wewe ni katibu wa jopo lililoteuliwa kuchunguza chanzo cha utovu wa usalama kijijini Sokoto. Andika ripoti maalum /rasmi kuhusu jambo hili.

iii. Magonjwa mengi yanasababishwa na mitindo ya kisasa ya maisha. Jadili.

iv. Tunga kisa kitakachodhihirisha maana ya methali: Mchagua nazi hupata koroma.

v. Andika insha itakayoanza kwa maneno haya:

Milipuko mikubwa ilisikika pu! Pu! Puu! Kisha niliwaona watu wakikimbia kuelekea pande zote…

JINA_____

NAMBARI _____**DARASA** _____**TAREHE** _____

SHULE _____

MID-TERM 1 SERIES 1 EXAMS

KISWAHILIKIDATO CHA NNE

Karatasi ya 2

KIDATO CHA NNE

MUDA: SAA 2 ½

1.UFAHAMU (ALAMA 15)

Soma makala yafuatayo kisha ujibu maswali:

Mwanamke wa kisasa anazaliwa na kukulia katika mazingira yaliyobadilika mno. Matazamio yake maishani ni tofauti na yale ya wanawake waliosihi mapote mawili yaliyopita; wanawake makamu ya nyanyake na mamake –kuu.

Yeye hatarajii kuzaliwa, kukua, kuolewa, kuwa mke wa bwana, kumzalia watoto, na daima dawamu kuwa **"mwandani wa jikoni"** akawapikia watoto na bwanake chakula; na akitoka jikoni aelekee shambani kulima, kichakani, kuchanja kuni,, mtoni kufua nguo na kuteka maji ya kutumia nyumbani. Mwanamke wa kisasa huandamana na mwanamume. **Akanyagapo mume naye papo huutia wayo wake.**

Mwanamke wa kisasa huenda shule na kujifunza yote yafunzwayo huko. Hushindana na wanawake kwa wanaume na kuibuka mshindi si mara haba.

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Huibuka mshindi katika masomo yake ya lugha, historia, jiografia, hesabu, sayansi na mengineyo, sawa na mwanamume.

Mwanamke wa kisasa hutaka kufanya kazi za kibega, akazifanya. Akitaka kuwa mwalimu, akawa. Akataka kuwa daktari, akafanikiwa. Almuradi, siku hizi mwanamke hufanya kazi yoyote ile afanyayo mwanamume. Kuna wanawake marubani wa ndege, masonara, waashi wahandishi, madereva wa magari, mawakili, mahakimu, mawaziri wakuu na hata marais wananchi. Hakuna kazi isiyofanywa na mwanamke siku hizi.

Mwanamke wa kisasa **hateswi akafyata ulimi**. Anapohiniwa yeye hupigania haki kwa dhati na hamasa. Katu hakubali'mahali pake' katika jamii alipotengwa na wanaume wenye mawazo ya kihaidhina yaliyopitwa na wakati.

Siku hizi mwanamke huolewa tu wakati amepata kazi ya kumwezesha kujikimu maishani au pale anapokuwa na hakika kwamba biashara yake, iwapo ni mfanyi biashara, imepiga hatua ya kutomrudisha **ukutani**.

Mwanamke wa kisasa haamuliwi katika jambo lolote, bali hufanya maamuzi yake mwenyewe. Kwa upande mwingine, mwanaume wa 'kisasa', ambaye bado amefungwa pingu na taasubi za kiume, hapendezwi na mwanamke huyu. Huuma kidole akatamani yale ya akale, lakini wapi! Analazimika kukubali mwanamke huyu kama mshirika sawa maishani, na kuishi naye, apende asipende. Shingo upande analazimika kukubali kwamba mabadiliko haya sio mithili ya kiwingu kipitacho, bali ni ya **aushi**.

MASWALI

a)Msemo '**mwendani wa vijungu jiko'** unadhihirisha hali gani ya mwanamke katika jamii? (al.2)

b)Jamii imefanya mwanamke kuwa hayawani wa mizigo. Fafanua. (al.2)

c)Eleza maana ya **'akanyagapo mume papo huutia wayo wake'** (al.2)

d)Mlinganishe mwanamke wa kiasili na wa kisasa katika maswala ya ndoa na elimu. (al.4)

e)Mwanamume wa kisasa anamwonaje mwanamke wa kisasa? (al.2)

_____

_____

_____

_____

f)Eleza maana ya:

(i)Akafyata ulimi (al.1)

_____

_____

(ii)Ukatani (al.1)

_____

_____

(iii)Taasubi za kiume (al.1)

_____

_____

_____

2. UFUPISHO

Soma kifungu kisha ujibu maswali.

Imesemekana na kurudiwa tena na tena kwamba, iwapo tuna maono ya kujiondoa katika umaskini wa kupindukia, ni lazima tukipe kilimo umuhimu. Zaidi ya Wakenya milioni kumi wamo katika hatari ya kufa katika maeneo mbali mbali kwa sasa kufuatia uhaba wa chakula nchini.

Kiini kikubwa cha njaa hiyo ni mapuuza ya muda mrefu katika sekta ya kilimo.Imesahaulika kuwa karibu asilimia sabini na tano ya Wakenya wanategemea kilimo kwa chakula na mapato ya kifedha kila siku. Kilimo hutoa karibu robo tatu ya nafasi za kazi kwa wananchi na pia kuletea serikali karibu robo ya mapato yake kutokana na mauzo ya mazao katika mataifa ya nje.

Wataalamu wa maswala ya zaraa wanaeleza kuwa pato la nchi linatokana na kilimo huangamiza njaa mara nne zaidi ya mapato yanayotokana na shughuli nyinginezo za kiuchumi. Hiyo ni kwa sababu shughuli za kilimo hulenga kuzalisha vyakula moja kwa moja.

Imebainika kuwa, katika mataifa mengi yanayostawi, asilimia sabini na tano ya wananchi huishi katika maeneo ya mashambani na idadi hii hutegemea kilimo kujimudu kimaisha ilhali hapa Kenya ni asilimia nne pekee ya bajeti inayowekezwa katika kilimo.Kwa wakati huo, ushuru unaotozwa bidhaa za kilimo katika maeneo haya umebainika kuwa mkubwa. Hii imepelekea uwekezaji katika kilimo kupungua na hivyo kuchangia kukithiri kwa baa la njaa.

Wakati umewadia kwa serikali za Afrika na wapangaji wa masuala ya uchumi kuweka juhudi maradufu katika kushabikia ili kumaliza njaa na umaskini. Kuna haja ya kuwajulisha, kuwahimiza na kuwaelimisha wakulima wa mashamba madogo madogo kuhusu mihimili ya zaharaa kama vile uzalishaji wa matunda na mboga, ufugaji wa ndege, samaki na ng’ombe mbali na kuweka mikakati ya kuanzisha nafasi za kazi katika sekta ya kilimo.

Serikali itafikia lengo hili iwapo itaanza kufadhili kilimo, kupunguza gharama za pembejeo za kilimo, kuweka sera zinazodhibiti uuzaji na ununuzi wa vyakula hasa baina ya mataifa na kuongeza sehemu ya bajeti inayotengewa kilimo. Bila

hilo hatutakuwa na linguine bali kukimbilia mataifa yalistawi kuomba misaada ili kuwanusuru raia wetu kutokana na ghadhabu na njaa.

a)Fupisha aya mbili za mwanzo (maneno 50 – 55) (al.6, 1 ½ ya mtiririko)

Matayarisho

Nakala safi

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(b)Bila kubadili maana,fupisha aya mbili za mwisho. (maneno 55 – 60) (al.6, 1 ½ utiririko)

Matayarisho

Nakala safi

SARUFI NA MATUMIZI YA LUGHA (ALAMA 40)

a. Taja irabu zozote mbili za Kiswahili. (alama 2)

b. Tofautisha kati ya shadda na kiimbo. (alama 2)

c. Kwa kuzingatia muundo, taja aina tatu za sentensi. (alama 3

d. Weka maneno haya kwenye ngeli zake.

i. Kiwete (alama 1) _____

ii. Ua (alama 1) _____

e. Bainisha aina za maneno kwenye sentensi hii. (alama 3)

Mtoto wa mwalimu alikuwa akicheza uwanjani.

f. Kwa kutolea mifano , eleza matumizi mawili ya kistari kifupi. (alama 2)

i. Eleza maana ya mofimu. (alama 1)

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ii.Taja aina mbili za mofimu. (alama 2)

_____

_____

_____

g. Tunga sentensi zenye vivumishi vinavyoleta dhana hizi.

i.kumiliki (alama 1)

_____

_____

_____

ii. kutobagua (alama 1)

_____

_____

_____

h. Tambua aina za vielezi katika sentensi hii. (alama 2)

Kamau alilia kitoto alipoanguka sakafuni pu!

_____

_____

_____

_____

i. Changanua sentensi hii kwa kutumia majedwali. (alama 4)
   Omolo analia kwa sauti ilhali Akinyi anapika Samaki.

j. Nyambua vitenzi hivi kwenye kauli zilizowekwa mabanoni. (alama 3)

i. la (tendeka) _____

ii. nywa (tendea) _____

iii. fa(tendewa) _____

k. Bainisha viambishi kwenye kitenzi ***hawakukupikia***. (alama 3)

_____

_____

_____

_____

_____

l. Eleza maana ya kitenzi cha asili ya kigeni. (alama 1)

_____

_____

_____

m. Tambua shamirisho katika sentensi hii. (alama 3)

Wafula alimpikia dadake sima kwa sufuria.

_____

_____

_____

_____

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n. Kwa kutolea mifano, onyesha matumizi matatu ya **-ki-**

o. Tofautisha sentensi hizi. (alama 2)

i. Ningelisoma kwa bidii ningelipita mtihani.

ii. Ningalisoma kwa bidii ningalipita mtihani.

ISIMUJAMII: **(alama 10)**

Nipe chai, andazi mbili na egg moja…….

a) Taja sajili inayorejelewa na maneno haya **(alama 2)**

b) Fafanua sifa ***nane*** zinazohusishwa na sajili hiyo. **(alama 8)**

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JINA_____

NAMBA _____ **KIDATO** _____**TAREHE**_____

IDARA YA LUGHA

MID-TERM 1 SERIES 1 EXAMS

102/3

KISWAHILI FORM 4 TERM 1 EXAM

Karatasi ya 3 FASIHI

MUDA : SAA 2 ½

MAAGIZO

i. *Jibu maswali **manne** pekee.*
ii. *Swali la kwanza ni la **lazima***
iii. *Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani; Tamthilia, Hadithi Fupi, Ushairi na Fasihi Simulizi*
iv. *Usijibu maswali mawili kutoka sehemu moja.*
v. *Majibu yote yaandikwe kwa lugha ya Kiswahili*

Kwa Matumizi ya Mtahini Pekee

SWALI	UPEO	ALAMA
1	20	
	20	
	20	
	20	
	JUMLA 80	

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SEHEMU YA A: FASIHI SIMULIZI

1.

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

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

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

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

i) Maghani

ii) Mapisi

iii) Misimu/simo

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

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

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

SEHEMU YA B: USHAIRI

2.Soma shairi lifuatalo kisha ujibu maswali yanayofuata

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

Sina ngo'mbe sina mbuzi,sina konde sina buwa
Sina hata makaazi,mupasayo kuyajuwa
Sina mazuri makuzi,jinsi nilivyoachwa
Mrithi nini wanangu?
Sina kazi sina bazi ila wingi wa shakawa
Sina chembe ya majazi mno ni kukamuliwa
Nakwa'cheni upagazi,ngumu kwenu ku'tuwa
Mrithi nini wanangu?

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

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

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

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

MASWALI

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

b) Eleza sababu ya mtunzi kutoweza kuwarithisha wanawe. **(alama3)**

c) Andika ubeti wa nne kwa lugha nathari. **(alama4)**

d) Dondoa mifano miwili miwili ya: **(alama2)**

i. Inkisari
ii. Tabdila

e) Chambua shairi hili kwa upande wa:

i. Dhamira **(alama2)**

ii. Muundo **(alama4)**

f) Eleza maana ya vifungu vifuatavyo kama vilivyotumiwa katika shairi. **(alama3)**

i. Mlimwengu kanipoka

ii. Sina konde sina buwa.

iii. Wingi wa shakawa.

SEHEMU YA: C HADITHI FUPI; MAPAMBAZUKO YA MACHWEO

3. Mwandishi wa hadithi ya "mapambazuko ya machweo" uwajibikaji kwa kiasi kikubwa mno. Illihirisha ukweli na kauli hii **(alm20)**

4. "Thank you. U mteja wa pekee, unajua kuthamini huduma nzuri unapopewa."

i) Fafanua muktadha wa dondoo hili. **(al.4)**

ii) Taja na ueleze mbinu mbili za kimtindo katika dondoo hili. **(al.4)**

iii) Kwa kurejelea hadithi ya "Kila Mchezea Wembe," Fafanua changamoto zinazowakumba watumiaji wa vileo kupita kiasi. **(al.12)**

SEHEMU YA D: TAMTHILIA: BEMBEA YA MAISHA

5. Huku ukirejelea tamthilia ya Bembea ya Maisha, eleza tofauti ya hali maendeleo kati ya hospitali za mjini na hospitali za kijijini **(alm20)**

6. 'Mwanangu binadamu mchoyo kwa lake lakini mkarimu ajabu kwa la mwenziwe. Atakukirimu kwa la mwenziwe na atakupa nyongeza usiyohitaji lakini atalizika katika giza kina cha moyo wake. Ndiyo hulka yake hiyo mwana wa Adamu. '

a) Eleza muktadha wa dondoo hili. **(alm4)**

b) Jadili sifa za msemaji wa maneno haya. **(alm6)**

c) Fafanua umuhimu wa mazungumzo kati ya msemaji na msemewa katika kujenga tamthilia ya Bembea ya Maisha. **(alm10)**

NAME:……..

ADM:……..…. CLASS:…… DATE…….

SCHOOL …….

MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1

MATHEMATICS PAPER 1

TIME: 2 ½ HOURS

SECTION A

1. Evaluate

$\{ (1\frac{1}{4} - \frac{3}{8}) \; 2\frac{1}{2} + 1\frac{3}{4} \div 1\frac{1}{4} \}$ (2mks)

2. Convert $0.1\dot{0}\dot{7}$ into fraction (3mks)

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3. Use prime factors of 1764 and 2744 to evaluate. (3mks)

$\frac{\sqrt{1764}}{\sqrt[3]{2744}}$

4. Given that sin 2x = cos (3x-10), find tan x correct to 4 s.f (2mks)

5. Given that 3x + 5y = 300 and x+y = 78, find the value of 10x+15y.(3mks)

6. Given that $4p - 3q = \begin{pmatrix} 10 \\ 5 \end{pmatrix}$ and $p + 2q = \begin{pmatrix} -14 \\ 15 \end{pmatrix}$. Find

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a) $\sim p$ and $\sim q$ (3mks)

b) Show that A(1,-1), B(3,5) and C(5,11) are collinear (3mks)

7. Simplify (3mks)

$$\frac{2a^2 - 3ab - 2b^2}{4a^2 - b^2}$$

8. A Kenyan bank buys and sells foreign currencies as shown below

	Buying (Ksh)	Selling (Ksh)
1 Hong Kong dollar	9.74	9.77
1 South African rand	12.03	12.11

A tourist arrived in Kenya with 105,00 Hong Kong dollars and changed the whole amount to Kenyan shillings while in Kenya, she spent Ksh 403879 and changed

the balance to South African Rand before leaving for South Africa. Calculate the amount in South African Rand that she received. (4mks)

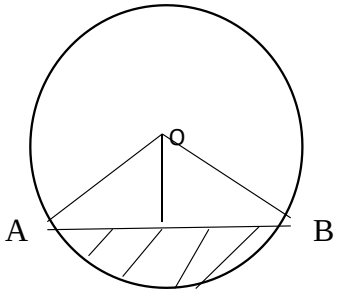
9. Twenty five machines working at a rate of 9 hours per day complete a job in 16 days. A contractor intends to complete the job in 10 days using similar machines working at a rate of 12 hours per day. Find the number of machines the con tractor requires to complete the job. (3mks)

10. Solve the following pair of simultaneous inequalities and represent the solution on a number line. (3mks)

    $3x-1>-4$

    $2x+1\leq 7$

11. The figure below is a circle with centre O and radius 5cm. If ON =3cm, AB=8cm and < AOB=106.3^{o}. Find the area of the shaded region. (3mks)



12. The width of a rectangle is 10cm and its area is 120cm2. Calculate the width of a similar rectangle whose area is 480cm^{2}. (3mks)

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13. The mean of the numbers M, 8m+1, 17 and 20 is 14.

Calculate

a) The value of m. (2mks)

b) The mode (1mk)

14. Solve the equation

$X^2 = 4(\frac{1}{2}x+2)$ (3mks)

15. Find the possible values of x if

$9^{x^2} = 27^{(2x+12)}$ (3mks)

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16. The l cm of 125, 18 and a third number is 31500. Find the square of the third number. (3mks)

SECTION B

ANSWER ANY 5 QUESTIONS IN THIS SECTION

17. (a) John, James, peter and Kamau invested some money in a business in the ratio of 7:9:10:14 respectively. The business realized a profit of Ksh 46800. They shared 12% of the profit equally and the rest in the ratio of their contributions

Calculate.

(i) The amount shared equally. (2mks)

(ii) The amount received by James (4mks)

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(iii) The amount received by Kamau. (4mks)

18. Three bells ring at intervals of 6 mins, 5 mins and 8 mins. If they rang first at 9.15a.m, find when they will ring for:

a) The second time. (6mks)

b) The fifth time. (4mks)

19. The mark of 100 candidates for mathematics examination were distributed as follows.

marks	No of candidates	Mp(x)	x.f	c.f
30-34	5			
35-39	24			
40-44	26			
45-49	24			
50-54	13			
55-59	6			
60-64	2			

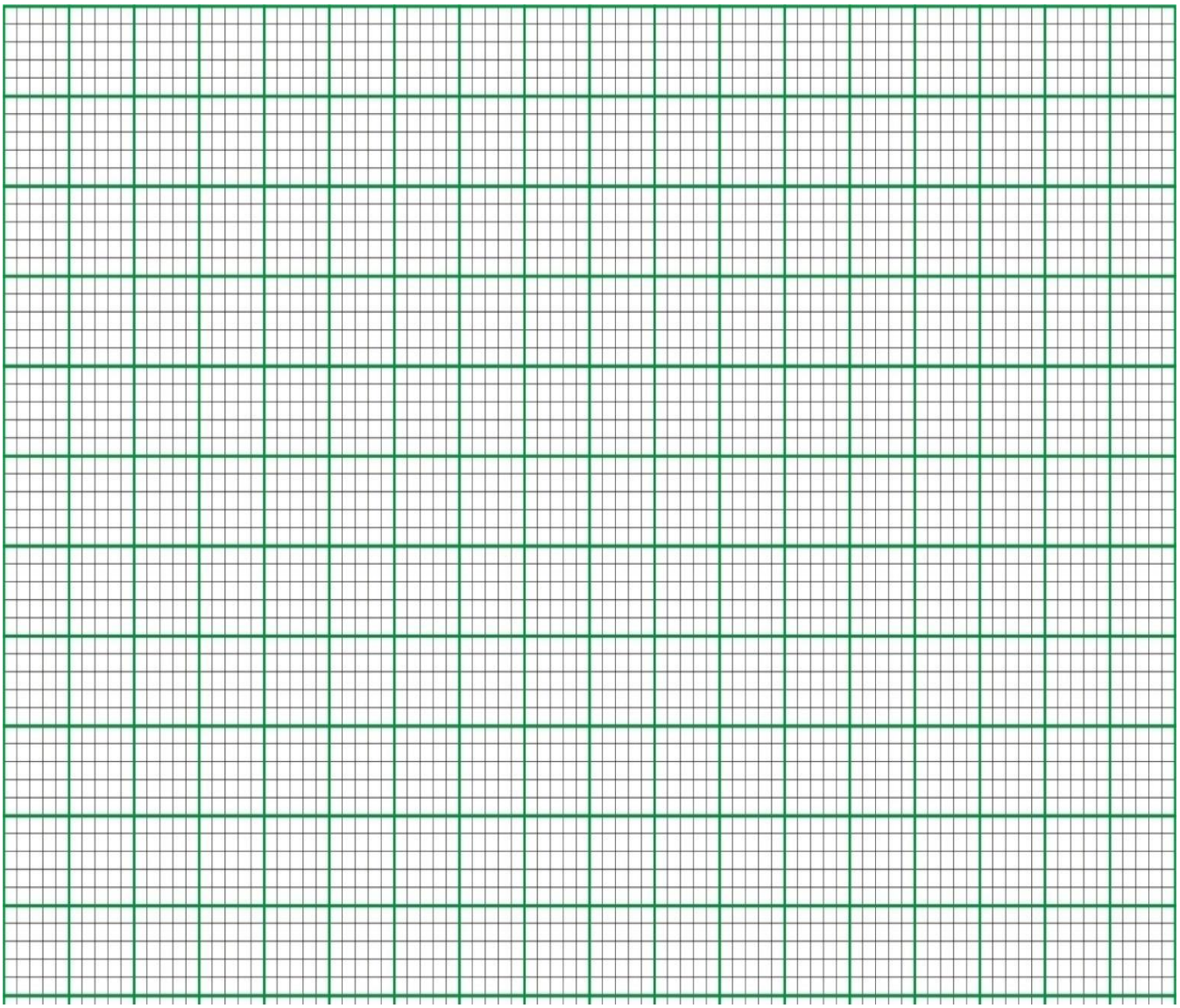
(a)Calculate

(i) The mean mark (2mks)

(ii) The median (3mks)

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(b) On the grid provided, draw a histogram. (3mks)

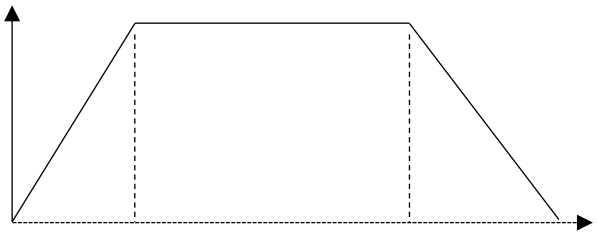


(c) On the same graph, draw a frequency polygon. (1mk)

(d) Find the modal mark. (1mk)

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20. The diagram below shows the speed- time graph for a bus travelling between two stations. The bus begins from rest and accelerates uniformly for 30 seconds. It then travels at a constant speed for 60 seconds and finally decelerates uniformly for 40 seconds.
Given that, the distance between the two stations is 2090m. Calculate



Time in seconds

a) The maximum speed, in Km/h the bus attained. (3mks)

b) The acceleration. (2mks)

c) The distance travelled during the last 20 seconds. (2mks)

d) The time the bus takes to travel the first half of the journey. (3mks)

21. The position vectors of points A and B are OA=$\begin{pmatrix} 2 \\ 4 \end{pmatrix}$ and)OB= $\begin{pmatrix} 12 \\ -4 \end{pmatrix}$. A point M is on AB such that AM= 1/2AB and point N is on OB such that ON:NB=1:3

a) Find

(i) AB (2mks)

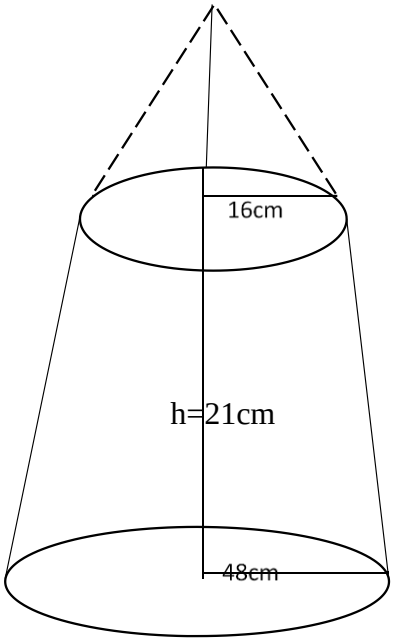
(ii) NM (3mks)

(iii) /NM/ Correct to 1 decimal (2mks)

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b) A translation vector maps A onto A' (5, -1). Find the coordinates of the image of B under the translation vector (3mks)

22. The figure below represents a frustum of a solid cone of base radius 16cm. The height of the frustum is 21cm. (Taking $\pi=22/7$)



Calculate

a) The height of the solid cone. (2mks)

b) The volume of the solid frustum. (3mks)

c) The total surface area of the frustum. (5mks)

23. Two points A and B lie on the circumference of the circle, of the centre O and radius 8cm, where <AOB= 80^{o}. Calculate:

a) The length of the minor arc AB (2mks)

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b) The length of the chord AB. (2mks)

c) The area of the sector AOB (2mks)

d) The area of triangle AOB. (2mks)

e) The area of the minor segment of circle cut off by AB. (2mks)

24. A triangle whose vertices are A(1, 4) , B(2, 1) and C (5, 2) is given the following transformation.

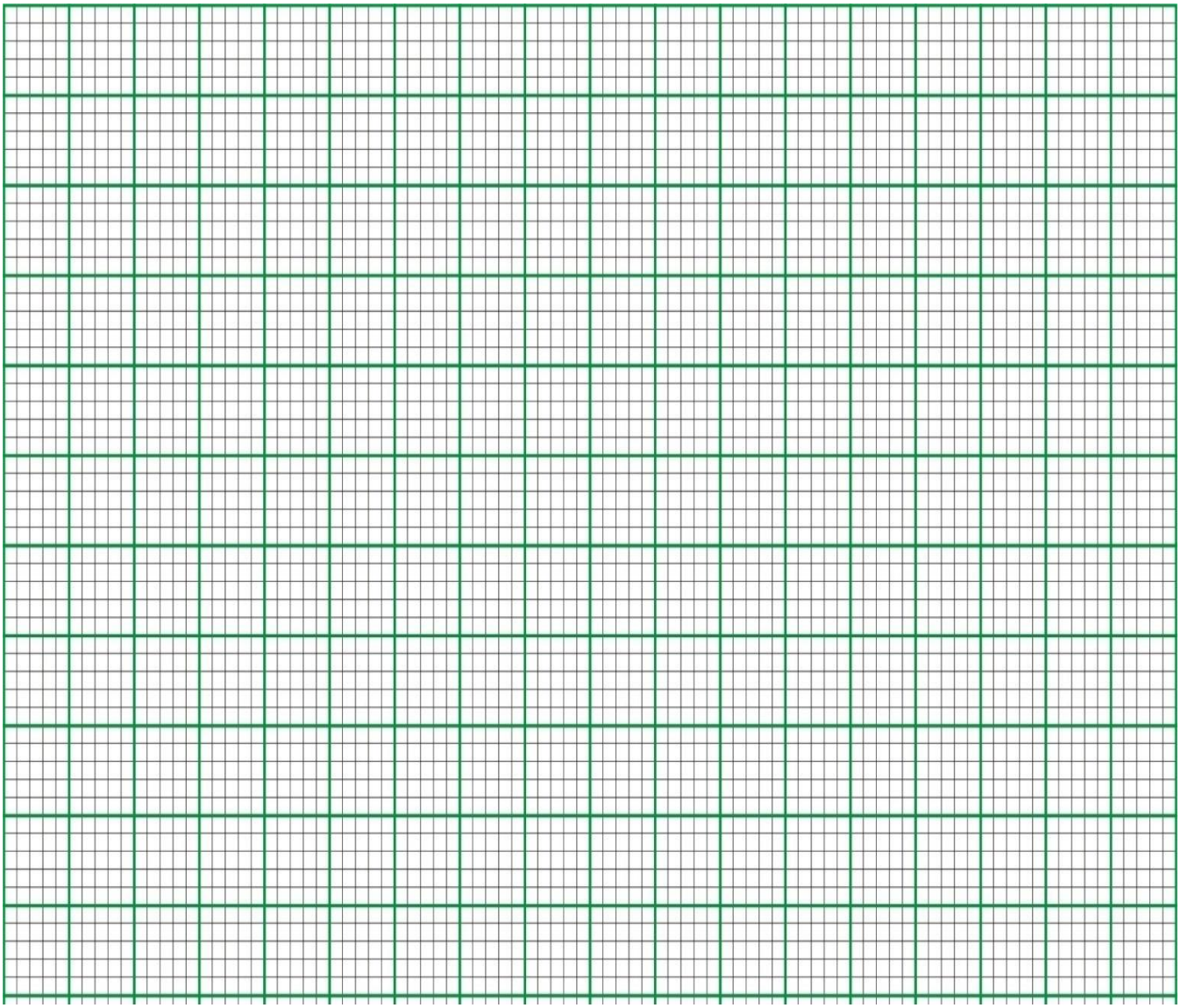
(i) A reflection along the line y=x to A'B'C'

(ii) A'B'C' is given a rotation of a positive quarter turn about the origin to get A"B''C''.

(iii) A''B''C'' is given an enlargement of linear scale factor -2 about (1, 2) to A'''B'''C'''

a) On the grid provided, plot the triangle ABC and its image A'B'C'. (3mks)

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b) Locate the image A''B''C'' from the grid and hence state its co-ordinates. (3mks)

c) Draw triangle A'''B'''C''' hence state its co-ordinates. (4mks)

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MID-TERM 1 SERIES 1 EXAMS

FORM 4 TERM 1 MATHEMATICS

PAPER 2 TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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

b) *This paper consists of **TWO** sections. Section A and Section B.*

c) *Answer **ALL** the questions in section A and only **FIVE** questions from Section B.*

d) *All answers and working must be written on the question paper in the spaces provided below each question.*

e) *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*

f) *Marks may be given for correct working even if the answer is wrong.*

g) *Non-programmable silent calculators and KNEC mathematical tables may be used except where stated otherwise.*

h) *Candidates should check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.*

FOR EXAMINER'S ONLY

SECTION A

Grand total

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1. Make x the subject of the formula. (3mks)

   P= $\sqrt{\frac{x+2w}{4x+3R}}$

2. Simplify the following by rationalizing the denominator. (3mks)

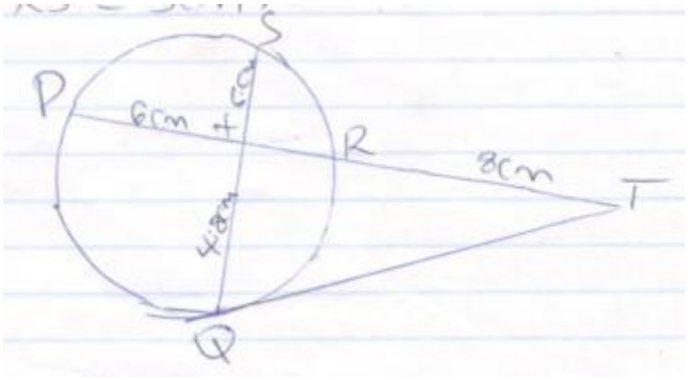
   $\frac{8}{4-2\sqrt{3}}$

3. A quantity P is partly constant and partly varies inversely as square of t. p =6 when t=6 and p=18 when t=3. Find t when p=11. (3mks)

4. Solve for x in the equation; (3mks)

   $\text{Log}_8(x+6) - \log_8(x-3) = \frac{2}{3}$

5. In the figure below QT is a tangent to a circle at Q. PXRT and QXS are straight lines. PX =6cm, RT=8cm, Qx=4.8cm and Xs= 5cm.



   Find the length of;

   a. XR (2mks)

   b. QT (2mks)

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6. Solve for x and y in the simultaneous equation below. (3mks)

   $xy + 6 = 0$

   $x - 2y = 7$

7. Solve for x. (3mks)

   $2x^2+x-36= 0$

8. Expand $(1+2x)^7$ up to the term in x^3, hence use the expansion to estimate the value of $(1.02)^7$ correct to four decimal places. (3mks)

9. Find the value of y for which $\begin{bmatrix} 3 & 4 \\ y & 6 \end{bmatrix}$ is a singular matrix. (3mks)

10.a) Find the inverse of the matrix $\begin{bmatrix} 4 & 3 \\ 3 & 5 \end{bmatrix}$. (1mk)

b) Hence solve the simultaneous equation using the matrix method.(3mks)

$4x+3y=6$

$3x+5y=5$

11. An item that costs sh. 24, 000 cash can be bought on hire purchase. A customer pays sh.6, 000 as deposit and then makes 6 monthly installments of

sh.3, 500 each. Calculate the monthly rate of compound interest, giving your answer to 1 d.p. (3mks)

12. Barasa shared sh.360, 000 among his children Simiyu, Wasike and Nekesa I the ratio 1:3:5 respectively. How much did each receive? (3mks)

13. In the arithmetic series 1+4+7+10+…find the sum of the first 100 terms. (3mks)

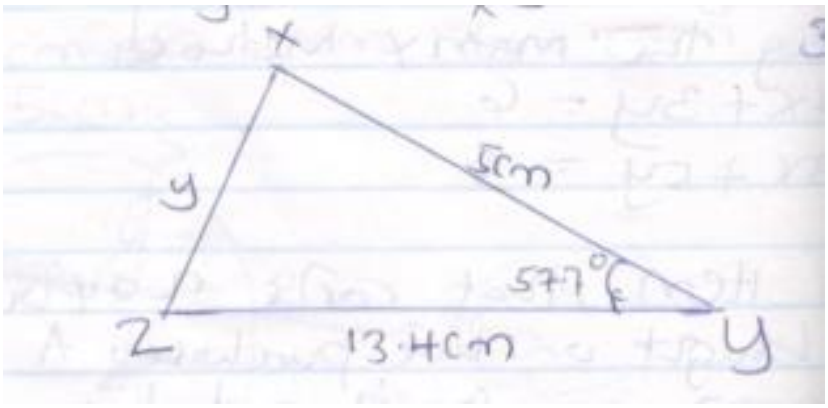
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14.If $a=\begin{pmatrix}1\\2\\3\end{pmatrix}, b\begin{pmatrix}4\\-4\\5\end{pmatrix}$ $and\ c=\begin{pmatrix}1\\0\\-5\end{pmatrix}$. $find\ 3a-2b+c.$ (3mks)

15.Make x the subject (3mks)

$$P=\sqrt[3]{\frac{bx^2-ax}{x}}$$

16.The figure below shows a triangle xyz in which x=13.4cm, z=5cm and <xyz= 57.7^0. Find length y. (3mks)



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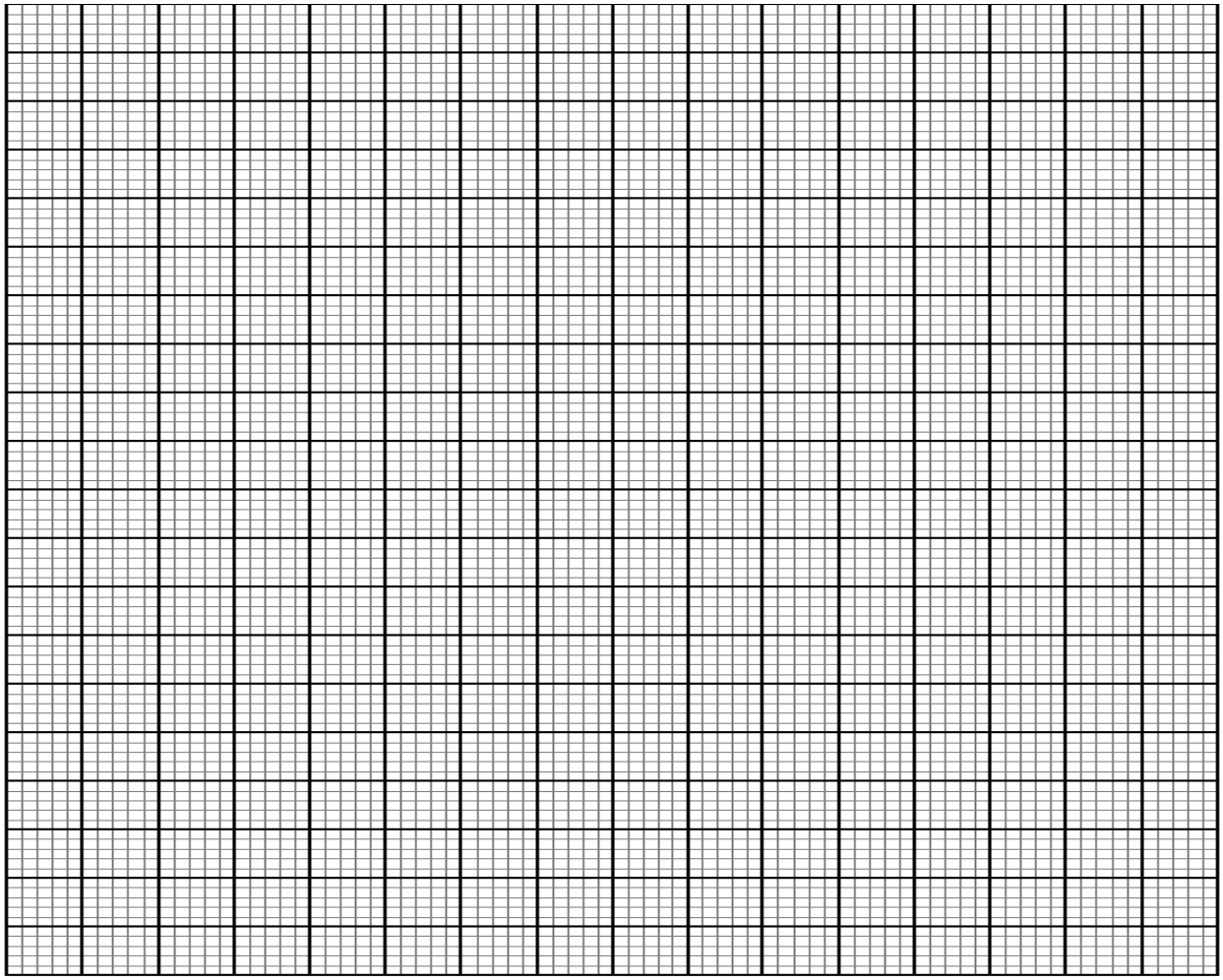
SECTION B: ANSWER 5 QUESTIONS ONLY IN THIS SECTION.

17.a) Complete the table below for the function $y=2x^2+3x-5$

x	**-4**	**-3**	**-2**	**-1**	**0**	**1**	**2**
$2x^2$					0		
3x	-12	18					
-5	-5			-3			6
y							

b) On the grid provided draw the graph of $y=2x^2+3x-5$ for $-4\leq x\leq 2$.(4mks)

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c) Use your graph to state the roots of

i. $2x^2+3x-5=0$ (1mk)

ii. $2x^2+6x-2=0$ (3mks)

18. A trader bought 8 cows and 12 goats for a total of ksh.294, 000. If he had bought 1 more cow and 3 more goats he would have spend ksh.337, 500.

a. Form two equations to represent the above information. (2mks)

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b. Use matrix method to determine the cost of a cow and that of a goat. (3mks)

c. The trader sold the animals he had bought making a profit of 40% per cow and 45% per goat.

i. Calculate the total amount of money he received. (3mks)

ii. Determine his profit in Kenyan shillings. (2mks)

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20. The bearing of towns P and Q on a horizontal ground from a tower are 050 and 142 respectively. The angle of elevation of the top of the lower from town P is 34 . Given that P is 200m from the top of the tower and Q is 120m from the base of the tower

Determine

a) The height of the tower (3mks)

b) The angle of elevation of the top of the lower from Q (3mks)

c) The distance between the two towns P and Q (4mks)

21.A group of young men decided to raise ksh.480, 000 to start a business. Before actual payment was made four members pulled out and each of the remaining had to pay an additional ksh.20,000 write an expression in terms of p for;

a. i. Original contribution of each member. (1mk)

ii. Contribution after withdrawal of four members. (1mk)

b. Form an equation in p and hence determine the number of initial members. (5mks)

c. Three men Kamau, James and Hassan shared shs.480, 000 such that Kamau: James is 3:2 and James:Hassan is 4:2. Find how much each got.(3mks)

19. The relationship between two variables S and T is given by the equation $S=KT^n$ where K and n are constant

T	2	3	4	5	6	7
S	12.8	28.8	51.2	80.8	115.2	156.8

(a) Write down the linear equation relating to S and T (1mk)

(b) Complete the table above for the linear equation relating to S and T(to one decimal place) (2mks)

(c) Draw a suitable straight line graph to represent the data (3mks)

(d) Use your graph to determine the value of K and n (2mks)

(e) Find the value of S when T =3.5 (2mks)

17. a) The current price of a vehicle is shs 500,000. If the vehicle depreciates at a rate of 15% p.a . Find the number of years it will take for its value to fall to shs 180,000. (4mks)

b) The cash price of a cooker is shs 9,000. A customer bought the cooker by paying 15 monthly installments of shs 950 each. Calculate:

a) the carrying charge (3mks)

b) the rate of interest (3mks)

20. The table below shows the income tax rates in a certain year.

Total income in k£ per annum	**Rate in shs per pound**
1 – 3,900	2
3,901 – 7,800	3
7,801 – 11,700	4
11,701 – 15,600	5
15,601 – 19,500	7
Over 19,500	7.5

Mrs Musau earned a basic salary of ksh 18,600 per month and allowances amounting to ksh.7, 800 per month. She claimed a personal relief of ksh 1,080 per month. Calculate;

a. Total taxable income in k£ p.a. (2mks)

b. i. The tax payable in ksh per month without relief. (4mks)

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ii. The tax payable in ksh per month after relief. (2mks)

c. Mrs Musau's net monthly income. (2mks)

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MID-TERM 1 SERIES 1 EXAMS

232/1

PHYSICS PAPER 1

FORM 4 TERM 1 EXAM

TIME: 2 HOURS

Attempt all the questions in the spaces provided.

1. Name three factors to consider when measuring volume of irregular solids using displacement method. (3 mks)

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2. Explain two factors which affect surface tension. (2 mks)

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3. The air pressure at the base of a mountain is 75.0cm of mercury while at the top it is 60.0cm of mercury. Given that the average density of air is 1.25kg/m^3 and the density of mercury is 13600kg/m^3, calculate the height of the mountain.(3 mks)

4. (a) State the kinetic theory of matter. (2 mks)

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(b) Explain why it is possible to compress gases but not solids and liquids.(1 mk)

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5. State four effects of anomalous expansion. (4 mks)

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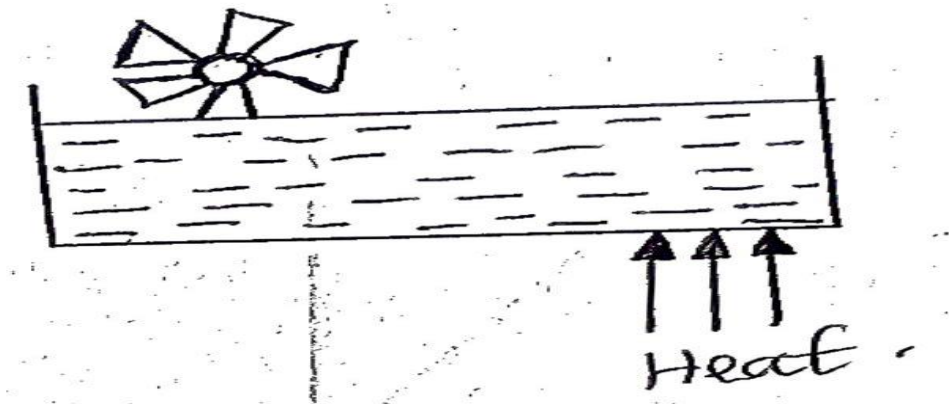
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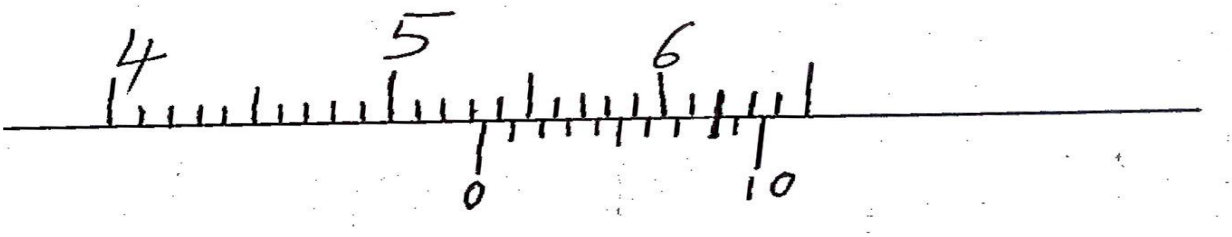
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6. The pedal wheel in the figure below is made of light material and is well oiled. In which direction will it rotate? (2 mks)



7. State the readings on the vernier scale below. (2 mks)



8. Define a moment of a force. (2 mks)

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9. Explain why:

(a) It is not safe for a double decker bus to carry standing passengers on the upper decker. (2 mks)

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(b) Bus body builders build luggage compartments under the seats rather than on roof decker. (2 mks)

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SECTION B: (55 MARKS)

Answer all the questions in the spaces provided.

10. (a) State Hooke's law. (2 mks)

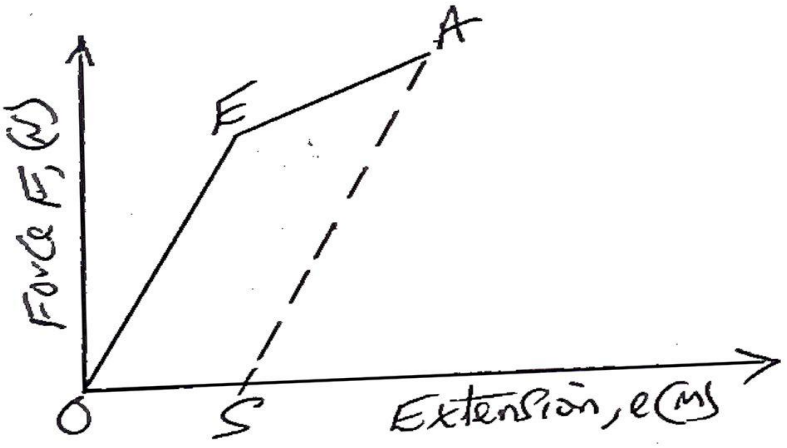
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(b) In an experiment to determine how force and extension of a helical spring vary, the graph below was drawn from the data obtained.



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(i) What do points A and E represent? (2 mks)

A – ……

E –……

(ii) Name the deformation that occurs between EA. (1 mk)

11. (a) The window and door of a house are both left open during a windy day. The door, which opens inwards, tends to slum shut when it is slightly ajar. Explain. (2 mks)

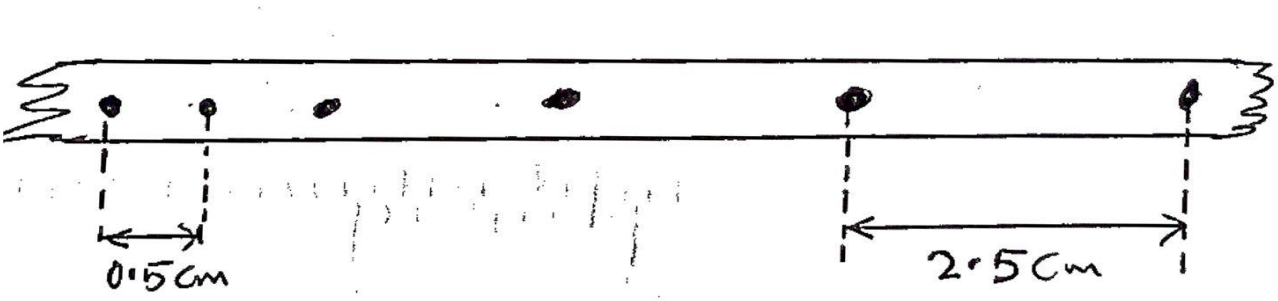
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(b) It is noted that 250cm^3 of fluid flows out of a tube, whose inner diameter is 7mm, in a time of 4 seconds. What is the average velocity of the fluid in the tube? (3 mks)

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12. (a) A body whose initial velocity is 30m/s moves with a constant retardation of $3m/s^2$. Calculate the time taken for the body to come to rest. (2 mks)

(b) The tape below was produced by a ticker-timer with a frequency of 100Hz. Find the acceleration of the object which was pulling the tape. (4 mks)



13. (i) Define the term Momentum. (1 mk)

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(ii) Determine the change in momentum produced when a force of 3.5×10^3N acts on a body which is at rest for 0.02 seconds. (2 mks)

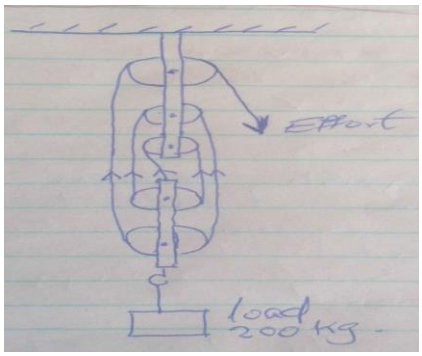
(iii) What velocity will be given to the body if it has a mass of 20kg? (3 mks)

(iv) Distinguish between elastic collision and inelastic collision. (2 mks)

14. (i) State the law of conservation of energy. (1 mk)

(ii) A block and tackle system is used to lift a mass of 200kg. If this machine has a velocity ratio of 5 and an efficiency of 80%.

(a) Sketch a possible arrangement of the pulleys, showing how the rope is wound. (3 mks)



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(b) Calculate the effort applied. (3 marks)

(iii) State two reasons why the efficiency of a machine is never 100%.(2 mks)

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15. (i) Define heat capacity. (2 mks)

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(ii) Calculate the quantity of heat energy required to raise the temperature of a metal block with a heat capacity of 460J/k from 15^{o} to 45^{o}C. (3 mks)

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(iii) State and explain two factors which affect the rate of evaporation of a liquid.
(2 mks)

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16. (i) State Charles' law. (1 mk)

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(ii) $0.02m^3$ of a gas at 27^oC is heated at constant pressure until the volume is $0.03m^3$.

Calculate the final temperature of the gas in ^oC. (3 mks)

(iii) Briefly explain the relation of Charles law and Kinetic energy.(2 mks)

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17. (a) Define;

(i) Angular displacement. (1 mk)

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(ii) Angular velocity (1 mk)

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(b) An object going through a circular path is said to accelerate, although the velocity is constant. Explain. (2 mks)

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18. (a) State the Archemedes' principle. (1 mk)

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(b) A stone of weight 3N in air and 1.2N when totally immersed in water.

Calculate:

(i) Upthrust of the stone (1 mk)

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(ii) Volume of the stone. (2 mks)

(iii) Density of the stone (1 mk)

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ADM NO: ……. CLASS: ……DATE……

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232/2

PHYSICS

MID-TERM 1 SERIES 1 EXAMS

FORM THREE

Date:……..

TIME: 2 HRS

PHYSICS PAPER TWO

Instructions

- *Write your name, admission number, class, signature and date of examination in the spaces provided at the top of the page.*
- *This paper consists of two sections A and B.*
- *Answer all the questions in the two sections in the spaces provided after each question.*
- *Electronic calculators and mathematical tables may be used.*
- *All numerical answers should be expressed in decimal notations.*

SECTION A

1. Two metallic spheres A,B stand in contact as shown. A positively charged rod is held near sphere A. Show the charge on each sphere when the metallic balls are separated and the rod is removed.

(2marks)



2. State two conditions necessary for total internal reflection to occur (2marks)

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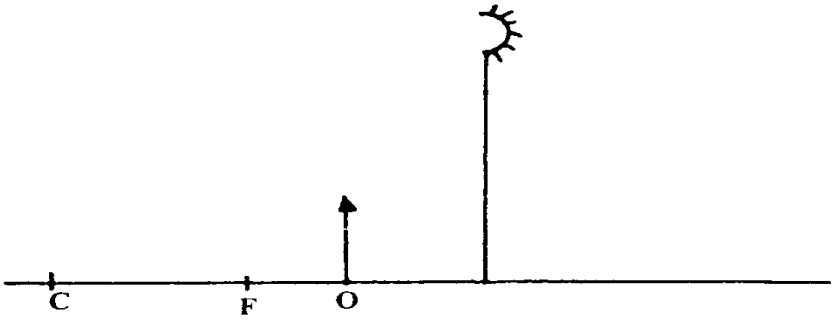
3. a) Define the term focal length as applied in the study of curved mirrors(1mark)

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b) An object O stands on the principal axis of a concave mirror as shown below



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(i) By drawing suitable rays, show the position of the image (3marks)

(ii) Determine the magnification of the image formed (2marks)

4. Distinguish between an electromagnetic wave and a mechanical wave (2marks)

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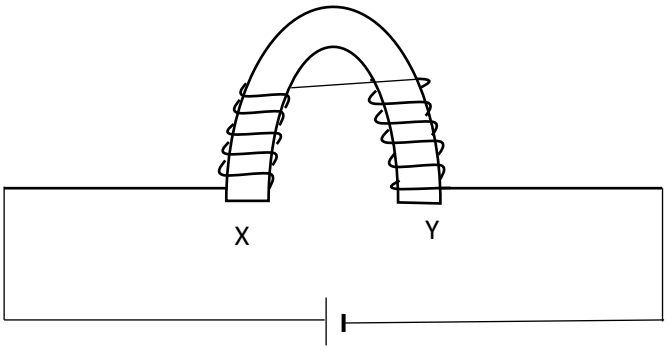
5. a) Explain why repulsion method is the best test for polarity of a magnet as opposed to attraction. (1 mark)

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b) A coil of insulated wire is wound around a u – shaped soft iron core X Y and connected to a battery as shown below.



State the polarities of the ends X and Y. (2 marks)

X ……

Y……

6. Loudspeaker placed between two wall A and B is sending out constant wave pulses. Determine how far the loudspeaker is from wall B if it is 100m from wall A, and the time between the two echoes received is o.2 seconds (speed of sound is 340m/s) (3 marks)

7. a) Explain why eight dry cells in series cannot be used to start a car engine even though they have the same e.m.f. as the lead acid accumulator (1 mark)

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……
……

8. State two characteristics of images formed by plane mirrors. (2 marks)

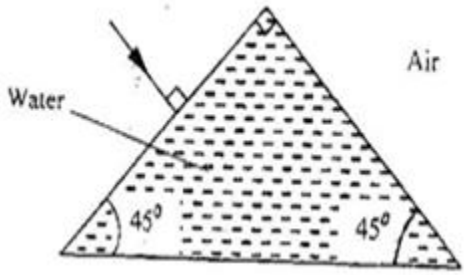
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9. The figure shows a ray of light incident on the face of a water prism



Sketch the path of the ray as it passes through the prism .Critical angle for water is 39^0 (2 marks)

10. A car battery requires topping up with distilled water occasionally. Explain why this is necessary and why distilled water is used. (1 marks)

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SECTION B

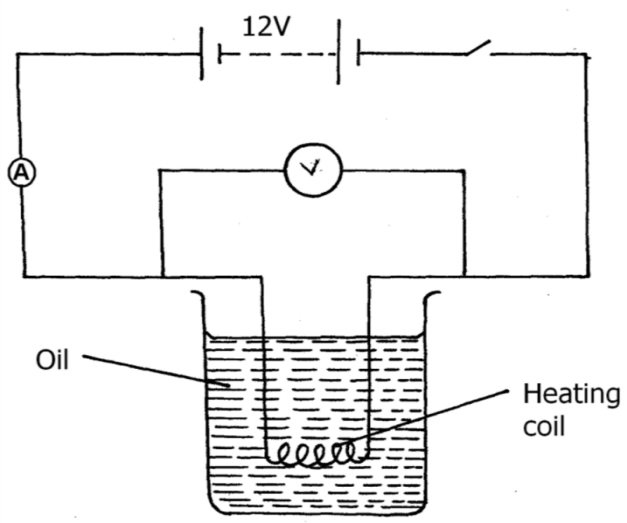
11. a) State Ohm's law (1mark)

……

……

……

b) The diagram below shows a circuit with a coil used to warm oil in a beaker.



i) Explain how heat is produced in the coil (2marks)

……

……

……

……

ii) Given that the reading of the ammeter is 2.4A determine the resistance of the coil. (3marks)

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iii) How much heat is produced in the coil in a minute? (3mks)

iv) Give two changes that can be made in the set up in order to produce more heat per minute (2mks)

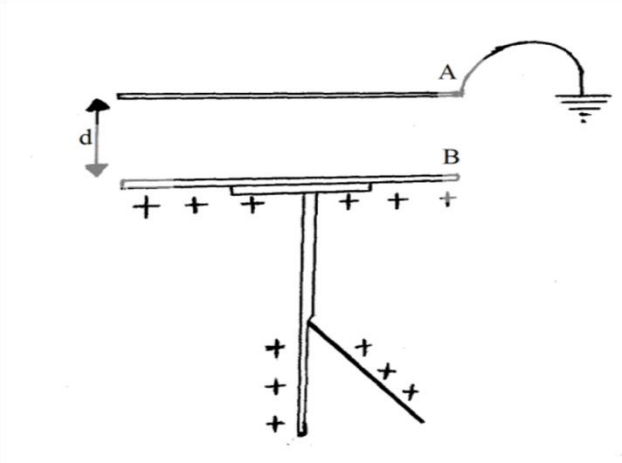
12. a)Define capacitance of a capacitor (1mk)

……

……

……

b) The figure below shows a charged electroscope two aluminum plates A and B arranged a shown



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State and explain the observations made when:

i) d is reduced (2mk)

……

……

……

……

ii) the plate A is more horizontal (2mks)

……

……

……

……

iii) a sheet of polythene is placed between A and B (2mks)

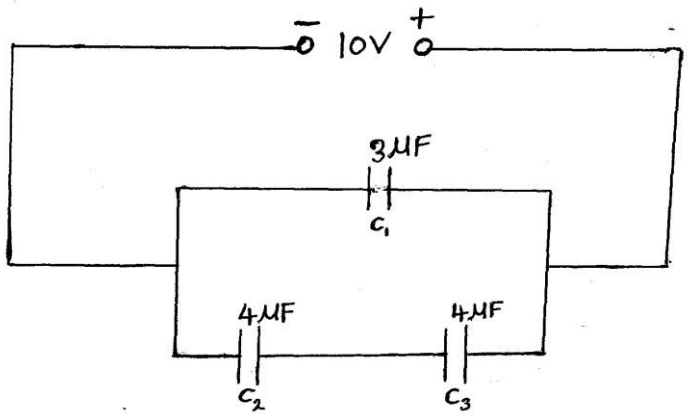
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c) Three capacitors are connected to a 10V battery as shown below.



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i) Calculate the combined capacitance (2 marks)

ii) What is the charge on the 3 μF capacitor (3marks)

iii) p.d across 4μf capacitor (2 marks)

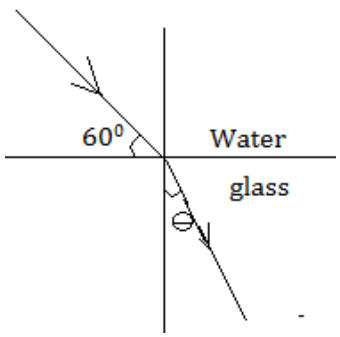
13. a) State Snell's law (1 mark)

……

……

……

b) The figure below shows a ray of light travelling



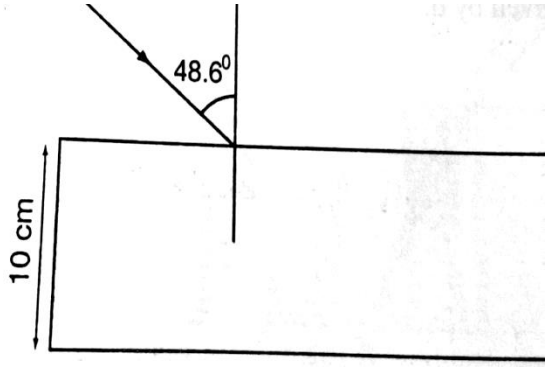
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i) Calculate the refractive index of water with respect to glass given the refractive index of glass and water are $^{3}/_{2}$ and $^{4}/_{3}$ respectively. (2 marks)

ii) Calculate the angle Θ (2 marks)

c) Using a well-labeled diagram, describe how optic fibers are used for communication. (3 marks)

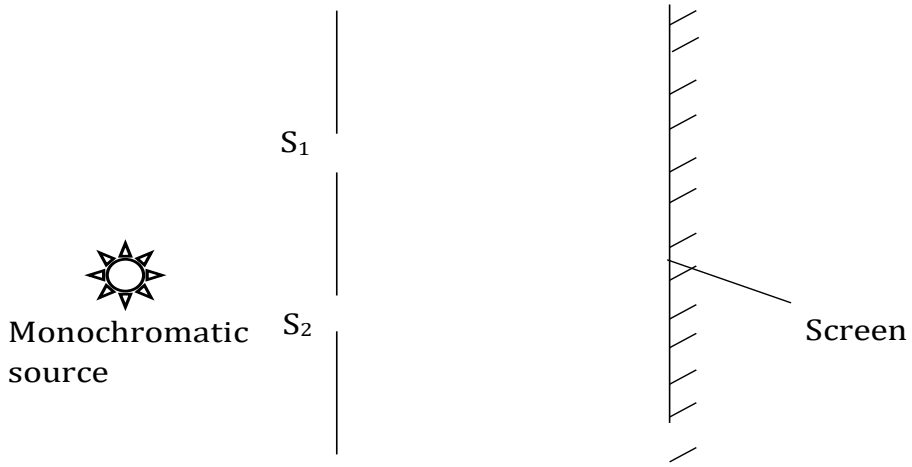
d) A ray of light is incident to a glass block as shown



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Calculate the distance moved by the ray in the block given the refractive index of glass is 1.5. (3mks)

14. In an experiment to study one of the properties of waves, a double slit was placed close to the source of monochromatic light as shown below.



(i) What property of waves is being investigated? (1 mark)

……

……

……

(ii) State the function of the double slit. (1 mark)

……

……

……

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(iii) State and explain the observation made on the screen. (2 marks)

……

……

……

……

(iv) State what is observed on the screen when;

(I) the slit separation S_1 S_2 is decreased. (1 mark)

……

……

(II) White source of light is used in place of monochromatic source. (1 mark)

……

……

(III) S_1 and S_2 are made larger. (1 mark)

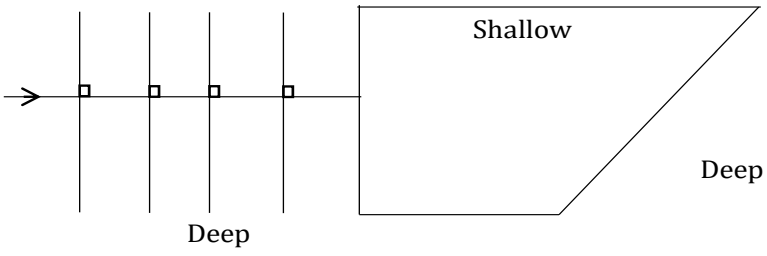
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(b) The diagram below shows plane wave fronts in a ripple tank incident on a boundary between a deep to shallow region.

Deep region

shallow region



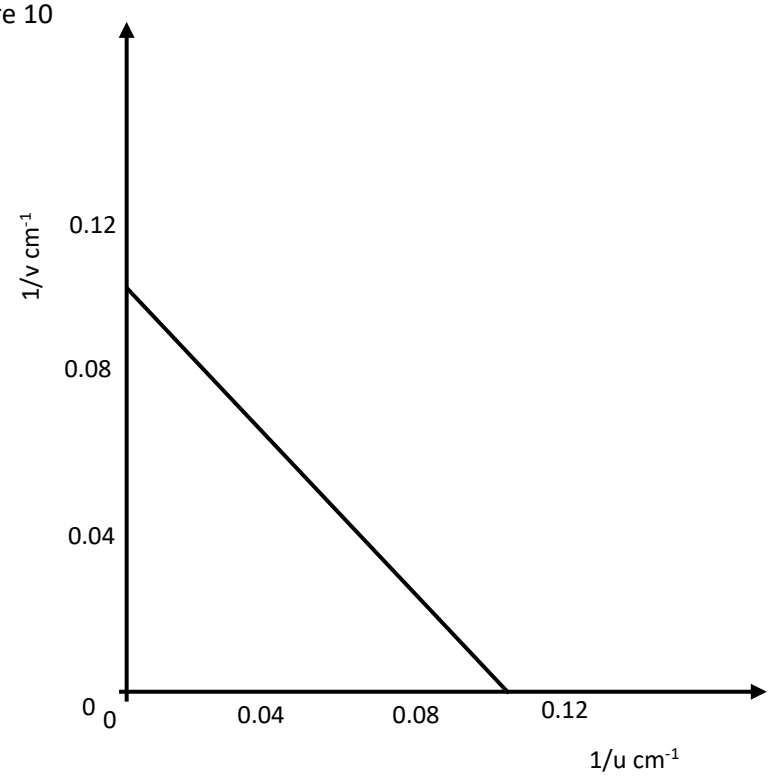
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On the same diagram, sketch the wave pattern in and beyond the shallow region.

(2 marks)

15. (a) Figure 10 shows a graph of 1/v against 1/u for a concave mirror

Figure 10



i) Use this graph to determine the focal length of the mirror. (2marks)

ii) Determine the image distance when the magnification is m = 2 for the concave mirror above. (3 marks)

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(b) State one application of each of the following

(i) Convex mirror. (1mark)

……

……

ii) Parabolic mirror. (1mark)

……

……

c) A small object is placed 15 cm in front of a convex mirror of focal length 10 cm. Determine the position of the image. (3marks)

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NAME: ……...

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MID-TERM 1 SERIES 1 EXAMS

PHYSICS

PAPER 3

TIME: 2 $\frac{1}{2}$HOURS.

Instructions to candidates

a) *Write your name and index number in the space provided above*
b) *Sign and write the date of the examinations in space provided above*
c) *Answer all questions on the question paper*
d) *You are supposed to spend the first 15 minutes allowed for this paper reading the whole paper carefully before commencing your work and confirming your apparatus.*
e) *Marks are given for a clear record of the observations actually made, (or their suitability and accuracy and or the use made of them)*
f) *Candidates are advised to record observations as soon as they are made.*
g) *Mathematical tables or electrical calculators may be used*
h) *Candidates should answer all the questions in English*

For examiner use only.

Question	Maximum	Candidates score
1	20	
2	20	
Total	40	

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QUESTION 1

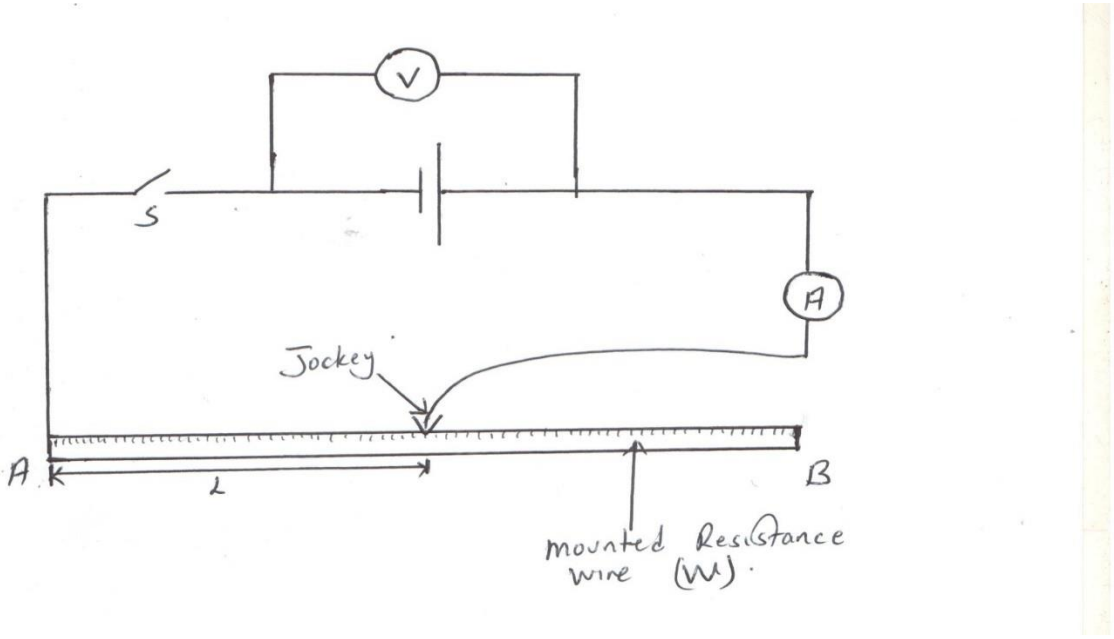
You are provided with the following apparatus:

- ✓ Ammeter
- ✓ Voltmeter
- ✓ Mounted resistance wire labeled W
- ✓ A new dry cell
- ✓ A cell holder
- ✓ 8 connecting wires
- ✓ A switch
- ✓ A jockey
- ✓ Micrometer screw gauge (to be shared)

PART A

PROCEED AS FOLLOWS:

a) Connect your apparatus as shown in the figure



b) Place the jockey at L=10cm, close the switch S. Read and record the current and the P.d readings.

Current (I) =……A (1/2mk)

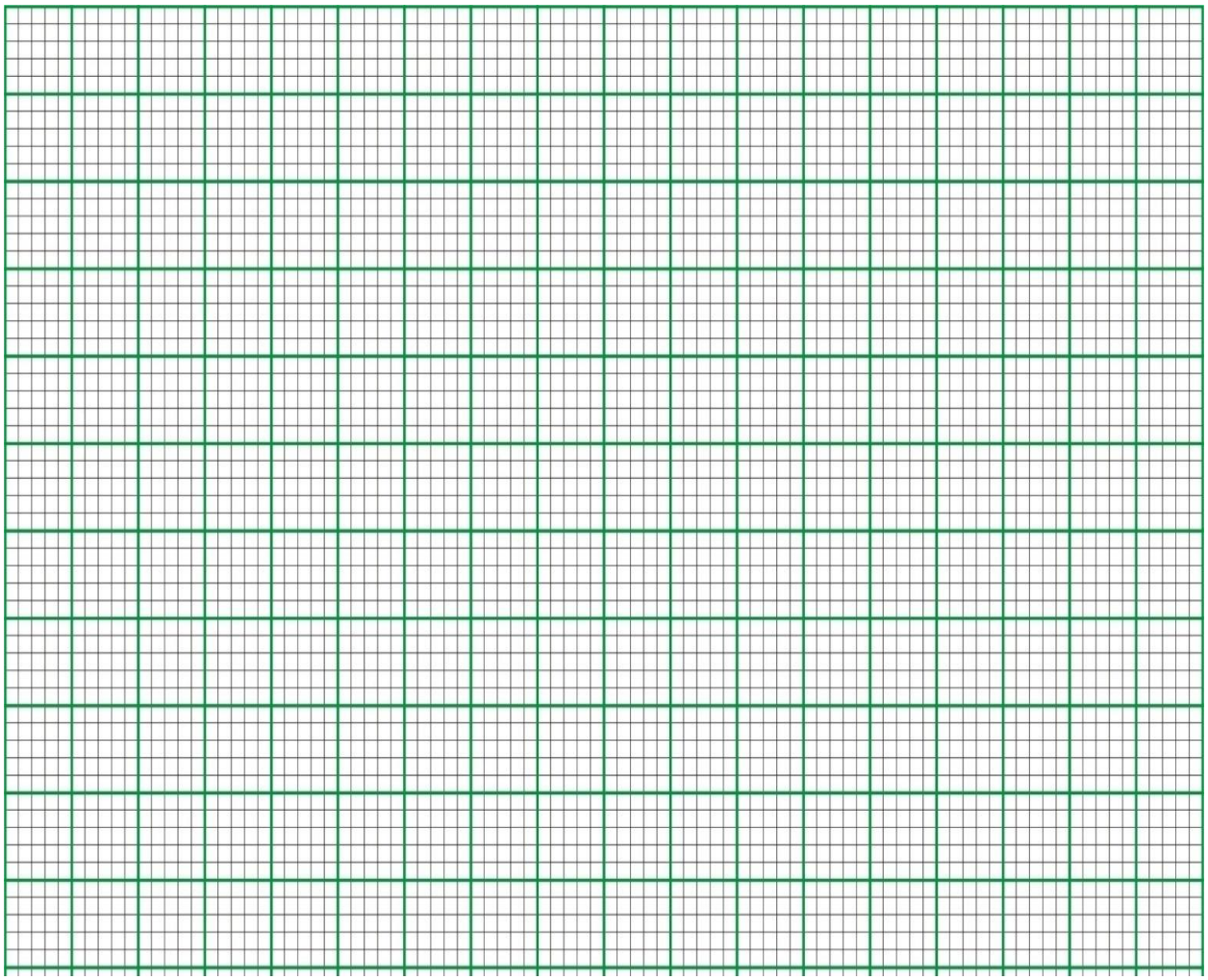
P.d (V) =…….V (1/2mk)

c) Repeat the procedure in (b) for other values of L, and complete the table below. (5mks)

length L(cm)	10	15	20	25	30	35
P.d.(V)						
Current I(A)						

d) Plot a graph of p.d (V) against current (I) in the graph paper provided. (5mks)

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e) Determine the slope S of the graph (3mks)

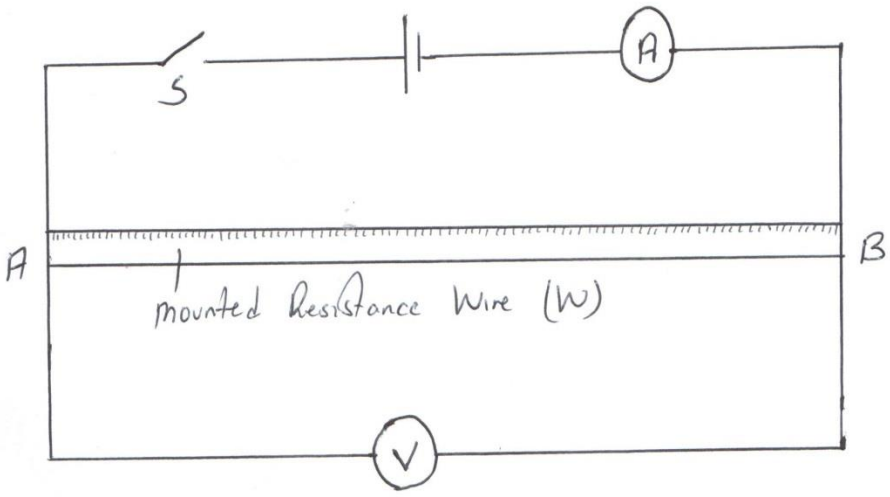
f) Given that the relationship between p.d (V) and current (I) supplied from the cell is given by the equation E=V+Ir, use your graph to determine the values of

i. E=…… (1mk)

ii. r.=…… (1mk)

PART B

Re-arrange the apparatus as show below



a) Close the switch S and record the current, (I) and the P.d (V) readings.

I=……A

V=……V (1mk)

b) Use your values in (f) above to calculate the resistance R, of the wire, W.

R=……Ω (1mk)

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c) Measure the diameter d of the wire, W, using a micrometer screw gauge. Give your answer in SI units.

d.=……. (1mk)

d) Given that $\Omega = \frac{4B}{\pi d^2}$, find the value of Ω for the wire W. (1mk)

QUESTION 2

PART A

i. Using the vernier calipers measure and record the external diameters of the three pipes.

d_A =_____cm _____m (1mk)

d_B =_____cm _____m (1mk)

d_C =_____cm_____m (1mk)

Hence or otherwise work out the cross-sectional area of the pipes.

Pipe A=_____m^2 (1mk)

Pipe B=_____m^2 (1mk)

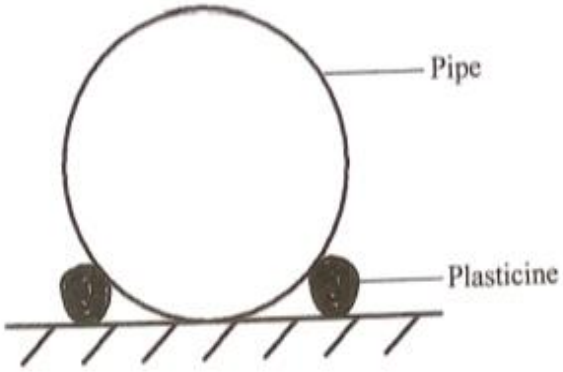
Pipe C=_____m^2 (1mk)

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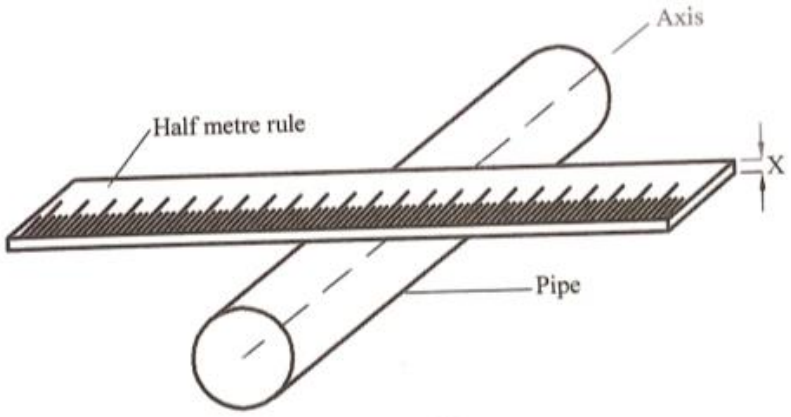
ii. Measure and record the thickness X of the metre rule.

X=----------cm ----------m (1mk)

iii. Place the pipe marked A on the bench and use the placticine to stop it from rolling as shown below.



iv. Place the half metre rule onto the pipe such that it balances horizontally. Ensure that the half metre rule is perpendicular to the axis of the pipe as shown below.



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v. Push one end of the balanced half metre rule slightly downwards and release it so that it oscillates up and down.

vi. Repeat the procedure in (iii) (iv) and (v) for the other pipes B and C. Complete the table below.

	Pipe A	Pipe B	Pipe C
Diameter d (m)			
Time for five oscillations			
Periodic time T (s)			
$Z=T\sqrt{(\frac{3(d-X)}{2})}$			

(5mks)

vii. Determine the average value of Z. (2mks)

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PART B

You are provided with the following

- ✓ Rubber bung
- ✓ Vernier calipers
- ✓ Beam balance

Proceed as follows

i. Using a vernier caliper, measure the length D, d and h as shown in the figure below

D=_____cm D=_____m (1mk)

d=_____cm d=_____m (1mk)

h=_____cm h=_____m (1mk)

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ii. Measure the mass M of the rubber bung using the beam balance.

m=_____g m=_____kg (1mk)

iii. Detemine the value of r using the given equation. (2mks)

$$\pi r \left(\frac{d+D}{4}\right)^2 = \frac{m}{h}$$

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