MINISTRY OF EDUCATION

FRM 4 MIDTERM 2 EXAM

ALL SUBJECTS

SERIES 1

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NAME …… DATE……

ADM.NO ……STREAM……CANDIDATE'S SIGNATURE ……

233/1

AGRICULTURE

FORM IV

(THEORY)

TIME: 2 Hours

MID TERM 2 EXAM

Instruction to candidates

a) Write your name an index number in the space provided above

b) This paper consist of three sections **A B** and **C**

c) Answer **ALL** questions in section **A** and B and Any Two questions from section **C**

d) **ALL** answers must be written in the space provided after every question

EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	**1-15**	**30**	
B	**16-23**	**20**	
C	**24-26**	**40**	
	TOTAL	**90**	

SECTION A (30 MARKS)

Answer all questions in this section in the spaces provided

1 a) Give **TWO** characteristics of intensive farming system

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…… (1mk)

b) State **TWO** advantages of mixed cropping

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……..……..(1mk)

2. State **TWO** roles of humus in the soil

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……..……(1mk)

3. List **FOUR** effects of temperature on crop growth

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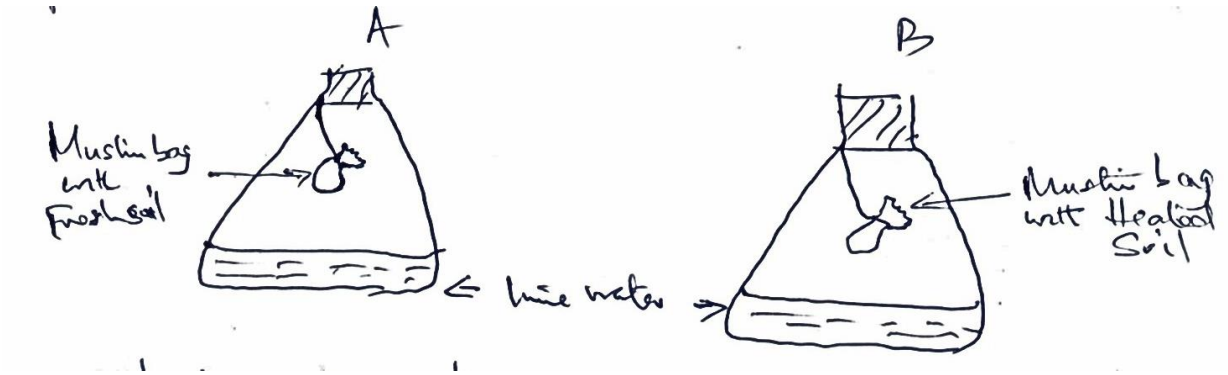
……..……(2mks)

4. Diagram below shows an experiment carried out by Form 1 students. Study and answer the questions that follows.



a) What is the objective of the experiment

……(1/2mks)

b) What observation should be made after 12 hours in flask **A** and **B**(1mk)

A

……

B ……

c) Give the reason for your observation

…….....

.....

.....(1mk)

5. Give **THREE** factors that determines the depth of ploughing in land preparation

……

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……(1 1/2mks)

6 a) what is minimum tillage

……

……(1mk)

(b) Give **FOUR** practices that encourages minimum tillage

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……(2mks)

7 a) State **TWO** types of irrigation carried out in Kenya

……

……(1mk)

(b) List **FOUR** uses of water on the farm

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……... (2mks)

8. Give **THREE** reasons for keeping health record in the farm

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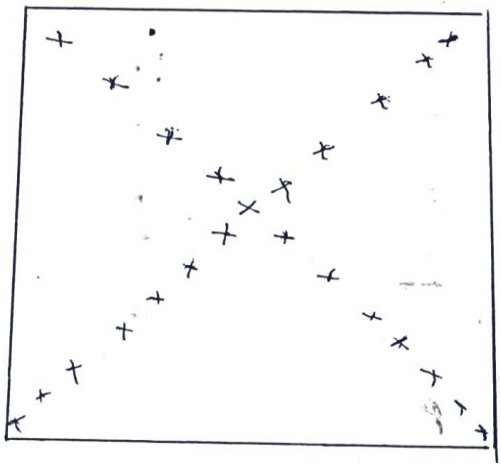
……... ($1^1/_2$mks)

9. The diagram below shows a method of soil sampling



a) Name the method illustrated above

……(1/2mk)

b) State **THREE** precautions taken when collecting a soil sample

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……(1 1/2mks)

c) Give **FOUR** reasons for testing soil

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……..(2mks)

10. State **TWO** reasons for seed treatment

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…… (1mk)

11. .Give **TWO** factors that determine spacing of beans

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……..(1mk)

12. State **FOUR** benefits of farmer having land tittle deed

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……(2mk)

13. List **THREE** materials that can be used to construct a gabion

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……...(1 1/2mks)

14. List **FOUR** harmful effects of crop pests

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……(2mks)

15. Give **FOUR** ways by which a farmer can improve labour productivity on the farm

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……(2mks

SECTION B (2O MARKS)

16. Differentiate between cropping and harvesting in fish farming

……

……(2mks)

17. Give **THREE** factors that determine the quality of shading forage

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…… (3mks)

18. State **four** characteristics of extensive farming systems

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……..……(2mks)

19. State **TWO** factors that determine selectivity of herbicides

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……(2mks

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20. Give **TWO** factors affecting the quality of hay

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……(2mks)

21. State **four** physical factors in soil formation

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……(2mks)

22. State **four** factors that determine the depth of planting.

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…… (3mks)

23. State **four** harmful affects ticks on livestock.

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……..……..……(2mks)

SECTION C (40MARKS)

Answer Any TWO questions in this section

24 (a) Explain **FIVE** cultural methods of pest control (10mks)

(b) Outline **FIVE** factors considered in timely planting of annual crops (10mks)

25 (a) Outline the process of land Adjudication (5mks)

(b) Discuss **five** reasons for carrying out minimum tillage. (5 marks)

a. Explain **5** ways in which soil losses fertility. (10 marks)

26 (a) Describe **seven** field management practices in tomato production.

(7marks)

b. Outline **five** factors that determine water requirements in an animal's body. (5 marks)
c. Describe the transplanting of tree seedlings. (8 marks)

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Name… …Index Number… … … … … ….

School… ….signature… … … … … … … … … ….

443/2

AGRICULTURE

Paper 2

TIME: 2HRS

MID TERM 2 EXAM

443/2 AGRICULTURE

INSTRUCTIONS TO CANDIDATES

1 Write your name, school, index number and signature in the spaces provided above.

2 THIS PAPER CONSIST WITH THREE SECTIONS A , B and C. Answer all questions in sections A and B. Answer any two questions from section C.

3 Answers to all questions should be written in the spaces provided.

4 The paper has 13 printed pages and students should ascertain that all pages are printed.

FOR EXAMINERS USE ONLY

Section	*Questions*	*Maximum Score*	*Candidate's Score*
A	1 – 18	**30**	
B	19 – 23	**20**	
C		**20**	
		20	
	TOTAL SCORE	**90**	

SECTION A (30 Marks)

Answer ALL questions in the spaces provided

1 Name the pig breed which has the following characteristics: long, large, and white body, broad and dished face, upright ears. (½ mk)

……

……

2 Name two non-infectious causes of livestock diseases. 1mk

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……

3. Name **four** materials that are collected by bees. (2mks)

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4.Give two reasons for the two month dry period the cow requires before parturition (1mks)

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5. Outline four ways of controlling egg eating in poultry. (2mks)

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6. (a) Name the cause of milk fever. (½ mk)

……

(b) Give one control measure of milk fever. (½ mk)

……

7.State **three** field conditions under which a disc plough should be used instead of a mouldboard plough. $(1\frac{1}{2} mks)$

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8. (a) State two disadvantages of using metal frames in construction of farm building. (1mk)

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(b) Give three reasons for seasoning timber. (1 ½ mks)

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9.List four factors that influence the pulse rate of an animal (2 mks)

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10. State four qualities of colostrum which make it suitable for feeding newly born calf. (2mks)

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11 . Name two dual purpose breeds of cattle 1mk

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12. Outline four reasons for swarming of bees. (2mks)

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13.State four reasons for steaming up in animal production. (2 mks

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14. Give two causes of high mortality in piglets. (1mk)

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15. (a) what is a notifiable disease? (1mk)

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(b) Name four examples of notifiable diseases in livestock. (2mks)

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16. Give **three** reasons why drenching alone is not an effective method of controlling intestinal parasites in livestock. $(1\frac{1}{2}mk$

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17. State four qualities of eggs preferred by consumers in the market (2 mks)

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18. Give four light breeds of chicken in poultry rearing. (2mks

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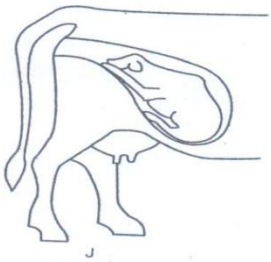
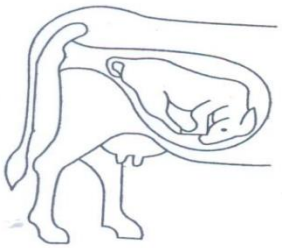
SECTION B (20 Marks)

Answer all questions in this section in the spaces provided after every question

19. The illustration below show different presentation of foetus at the time of birth. Study the illustrations and answer questions that follow.



J



K

(a) What diagram represents the normal position of a calf at birth

(1mk)

……

(b) What term is used to refer to position shown in diagram **K**?

(1mk)

……

(c) State three signs of parturition in cattle.

(3mks)

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20.Observe the tools A, B and C illustrated below then answer the questions that follow.

a) Name tools A, B and C and state the correct use of each tool.

(3mks)

Tool	Identity	Function
A		
B		
C		

b) State **two** maintenance practices that should be carried out to ensure that tool C is in a good working condition.
(2mks)

……..…

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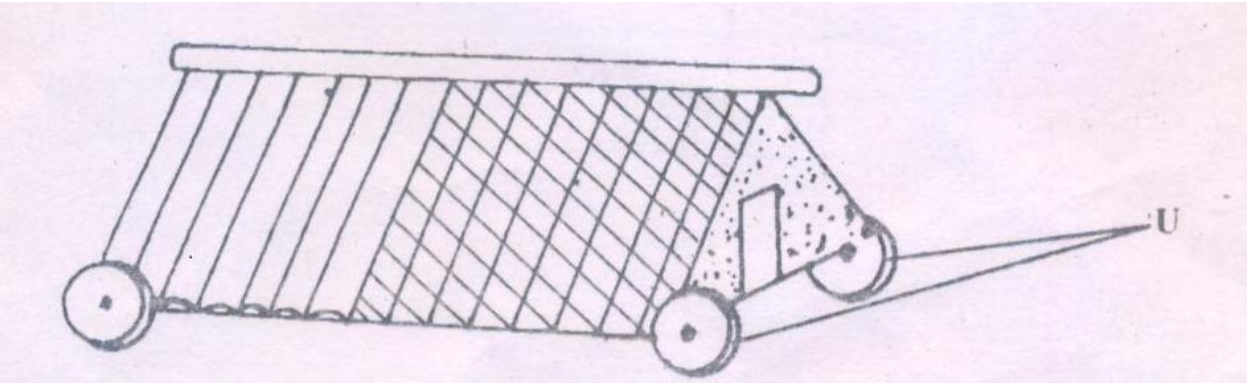
21. The diagram below represents a poultry keeping structure.



(i) Identify the structure. (½ mk)

……

ii) Identify the part labeled **U.** (½ mk)

……

iii)State the maintenance carried out on the structure illustrated above.
(1mk)

……

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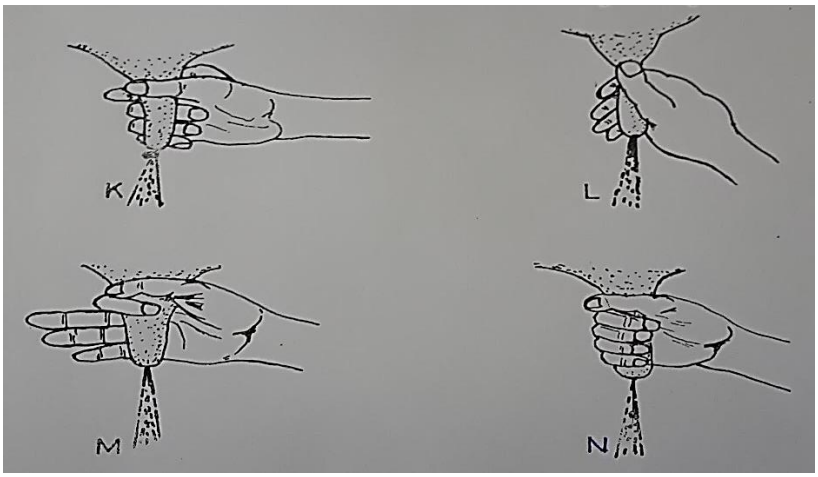
22. The diagrams K, L, M and N below show four possible ways of drawing milk from the teat of a cow during milking.



a) Which diagram shows the proper way of drawing milk.

(1mk)

……

b) How long should it take to milk a cow from the start to the end of milking.

(1mk)

……

c) How would a milkman ensure that no milk remains in the udder at the end of milking?

(1mk)

……

d) Give **two** practices carried out on milk immediately after milking.

(2mks)

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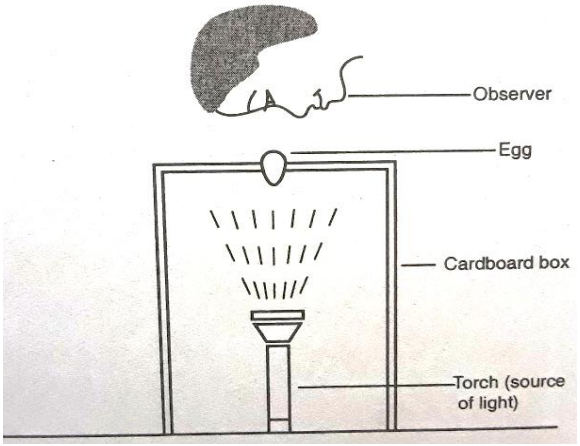
23.Below is an illustration of an activity carried out by a poultry farmer keeping layers



a) Identify the activity carried out using the set-up.
(1mk)

……

b) State **two** abnormalities in eggs that can be detected using the set-up above.
(1mk)

……

c) How can a farmer improve the following?

i. Hardness of egg shells. (½ mk)

……

ii. Yellowness of the egg yolk. (½ mk)

……

……

SECTION C (40 Marks)

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

24..Describe fish management under the following sub headings

a) Procedure for establishing a pond. 10mks

c) Stocking the pond. 3mks

d) Management practices that would ensure maximum harvest of fish from the pond. 5mks

e) Methods of preserving fish. 2mks

25.a) State the functions of any **six** parts of a plunge dip. (6mks)

b) State and explain **four** factors considered when selecting a breeding stock. (4mks)

c) Explain **five** mechanical methods of controlling ticks. (10mks)

26 a) State **five** advantages of embryo transplant. (5mks)

b) Describe coccidiosis disease under the following sub- headings.

i. Animals attacked (2mks)

ii. Causal organism (1mk)

iii. Symptoms (4mks)

iv. Control measures (3mks)

d) A ration containing 20% DCP for growing chicks is to be obtained by mixing ground maiz containing 10% DCP and fishmeal containing 50% DCP. Calculate the amount of each feedstuff in kilograms required to prepare 200kg of the feed (5mks)

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NAME.....CLASS.....

INDEX NO.....SIGN..... DATE.....

231/1
BIOLOGY
PAPER 1
TIME: 2 HOURS

MID TERM 2 EXAM

KENYA CERTIFICATE OF SECONDARY EDUCATION (K.C.S.E)

FORM FOUR.

Instructions

- Write your name, class and admission number in the space provided above.
- Write the date of the examination and sign in the space provided above.
- Answer ***all*** the questions in the spaces provided.
- You may be *penalized* for wrong spelling especially technical terms.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1-33	80	

This paper consists of 13 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing

1. Below is an image of a biological vector. Use it to answer questions that follow.

(a) Identify the parasite transmitted into human blood by the organism. (1 mark)

……

(b) Name the blood cells that are destroyed by the parasite in (a) above. (1 mark)

……

(c) State one biological method used to eradicate the larvae of this organism. (1 mark)

……

2. Give the structural adaptations of the following in an insect pollinated plant.

(a) Pollen grain. (1 mark)

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(b) Stigma. (1 mark)

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3. State the causative agents of the following diseases

(i) Tuberculosis. (1 mark)

……

(ii) syphilis (1 mark)

……

4 a) What do you understand by the term ecologically balanced ecosystem? (1mk)

……

……

b) Give two reasons for loss of energy from one trophic level to another in a food web (2mks)

……

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……

5. Identify the following types of responses:

(a) Pollen tube growing towards the ovary (1 mark)

……

(b) Maggots moving away from light. (1 mark)

……..

6. State two activities of the cell that are controlled by the nucleus. (2 marks)

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7. Distinguish between botany and zoology. (1 mark)

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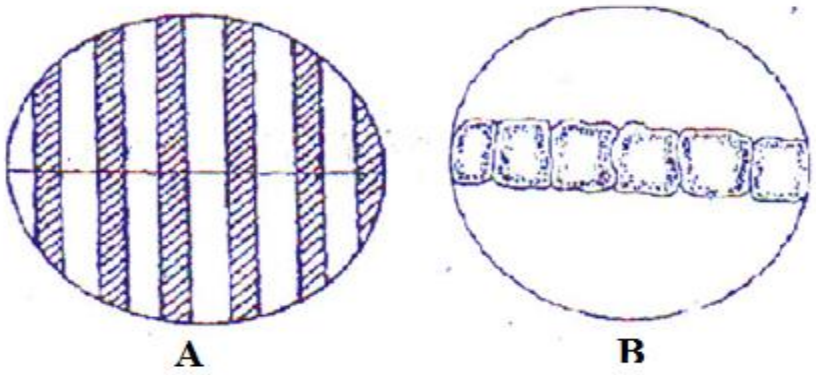
8. The field of view of a light microscope appeared as shown below in diagram A and the diameter in A

was occupied by cells as shown in B.



Calculate the length of one cell. (2 marks)

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9. State two importance of water in germination of seeds. (2 marks)

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10. Why is sexual reproduction advantageous in flowering in plants? (2 marks)

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11. Below is an illustration of an organism captured by students during a practical lesson.

(a) Identify two features that enable the organism to be placed in the phylum Arthropoda. (2 marks)

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(b) Explain why the organism will die when Vaseline is applied on its thorax. (1 mark)

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12. Name two properties of enzyme amylase. (2 marks)

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13. State the significance of natural selection. (2 marks)

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14. Explain why a plant shoot develops lateral branches when its tip is removed. (2 marks)

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15. Why is eating a lot of biscuits harmful to the teeth. (2 marks)

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16. a) Name the part of the chloroplast where each of the following activities take place.

i) Light stage……..(1mk)

ii) Dark stage…….(1mk)

b) Name two types of cells in a leaf that carry out photosynthesis (2mks)

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17. State any three disorders due to Gene mutation in human beings (3 marks)

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18. Why is it important that the radicle develops first during germination? (2 marks)

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19. (a) Explain one event of mitosis that restores the genetic constitution of an organism. (1 mark)

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(b) Identify the following types of cell division:

(i) Division of generative nucleus into male nuclei. (1 mark)

……

(ii) Division of cells lining the seminiferous tubules. (1 mark)

……

20. State two observable characteristics that show discontinuous variations in *Drosophila melanogaster* (2 marks)

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21. Explain why athletes breathe quickly and deeply after a 100 meters sprint. (2 marks)

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22.(a) State two proteins that determine human blood groups. (1 mark)

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(b)(i) What is the role of blood capillary? (1 mark)

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……

(ii) Explain why blood does not clot in undamaged blood vessels. (1 mark)

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23.(a) List one type of chromosomal aberrations. (1 mark)

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(a) State one advantage of polyploidy in modern farming. (1mark)

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24. Explain:

(a) Why insulin is not administered orally. (1 mark)

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(b) Why stomach wall is lined with mucus (1 mark)

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25.(a) what is homeostasis? (1 mark)

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……

(b) State two behavioral mechanisms used by snakes to increase their body temperature.
(2 marks)

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26. Explain why only a small amount of food materials taken up by herbivores is passed on to secondary consumers. (2 marks)

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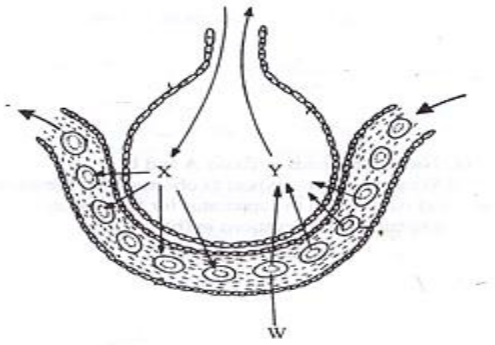
27. Below is a diagram of a respiratory surface. Use it to answer questions that follow.



(a) Name the physiological process involved in the exchange of gases in the structure above. (1 mark)

……..

(b) Identify the substance in cell labeled w that has high affinity for gas X. (1 mark)

…….

(c) State the advantage of gas Y being transported in cells labeled W (1 mark)

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28. (a) Explain why when transplanting a young plant, it is advisable to remove some leaves. (2 marks)

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(b) Give one role of xylem vessels other than transport (1 mark)

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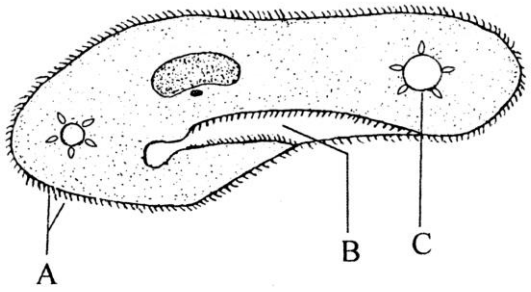
29. Study the diagram below and answer the question that follows:



(a) Name the kingdom from which the organism belongs to. (1 mark)

.....

(b) State the function of the structure labelled **C**. (1 mark)

.....

30. State two characteristics of a bony fish which enable it to reduce friction in water. (2 marks)

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31. (a) Identify the structural difference between the wing of a bird and the wing of an insect (1 mark)

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(b) Identify the type of evolution exhibited by the wings of birds and insects and state the name given to such structures. (2 marks)

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32. Name two characteristics that are controlled by the gene located on:

i) Y chromosomes (2mks)

……

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ii) X chromosomes (2mks)

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33. (a) what is the role of a pollen tube. (1 mark)

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(b) Identify the role of the following hormones in males:

(i) Follicle stimulating hormone. (1 mark)

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(ii) Testosterone. (1 mark)

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NAME: ……ADMNO:……DATE……..

SCHOOL:……: SIGN……...

BIOLOGY
PAPER 2
THEORY
TIME 2 HOURS

MID TERM 2 EXAM

231 / 2
BIOLOGY
PAPER 2

INSTRUCTIONS TO CANDIDATES

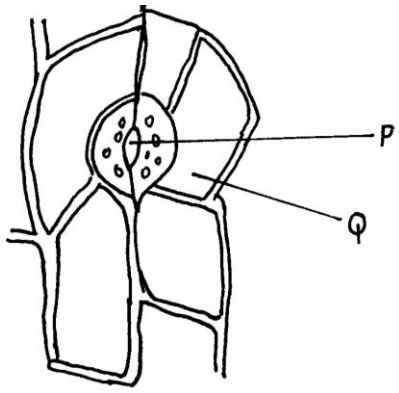
- *Write your name and Admission number in the space provided above.*
- *This paper has **two** sections **A** and **B**.*
- *Answer **ALL** the questions in section **A** in the spaces provided on the question paper.*
- *In section **B** answer question **6(compulsory)** and either question **7 or 8** in the spaces Provided after question **8.***

For Examiner's Use Only.

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

This paper consists of 9 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicates and no questions are missing.

1. The diagram below shows a portion of a lower epidermis of a sukuma wiki leaf.



a) Name the parts labeled P and Q. (2mks)

P _____

Q _____

b) Briefly describe the photosynthetic theory of stomata opening. (5mks)

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c) State one modification in the stomata of xerophyte plant other than being sunken and hairy. (1mk)

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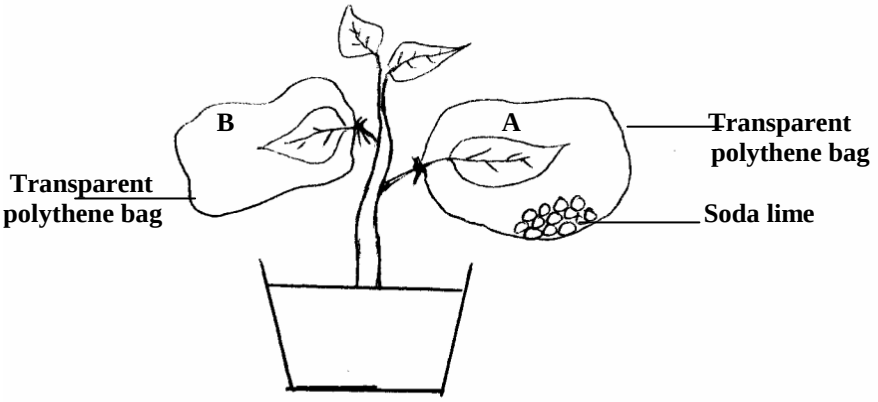
2. The diagram below represents an experimental set-up to investigate an aspect of photosynthesis.



The set up was placed in darkness for 24 hrs and then exposed to light for 5 hrs.

(a) **What** was the aim of the experiment? (1mark)

……
……

(b) Leaves **A** and **B** were tested for starch.

(i) **What** would be the expected results? (2marks)

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(ii) **Give** reasons for your answer in (b) (i) above. (2marks)

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(c) **What** was the role of leaf **B** in the experiment (1mark)

……

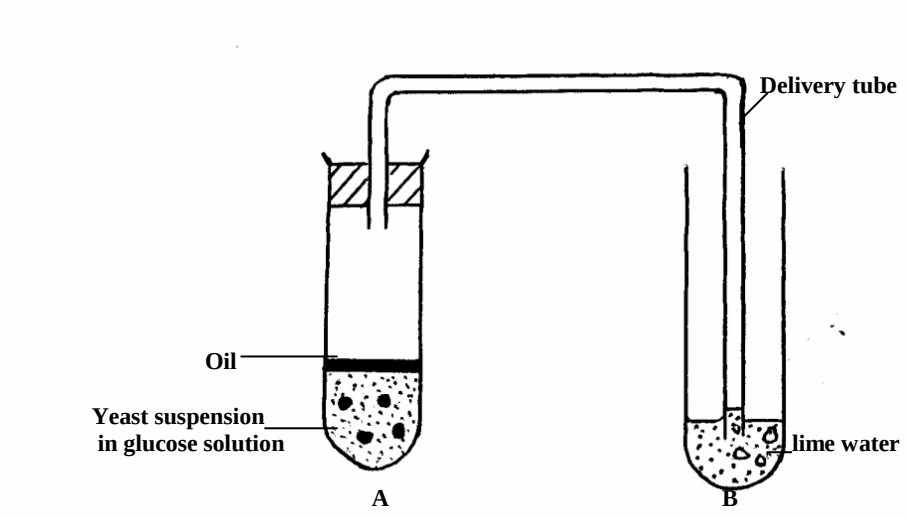
(d) **Why** was the set – up placed in darkness for 24 hours? (1mark)

……

(e) **Name** the organelle in a plant where photosynthesis takes place (1mark)

……

3. The diagram below illustrates an experiment to demonstrate a certain biological process.



Before adding yeast suspension in tube **A**, the glucose solution was first boiled and cooled.

a. **What** biological process was being demonstrated? (1mark)

……
……

(b) (i) **What** observation would be made in tube **B** after 20 minutes of the experiment? (2marks)

……
……
……
……

(ii) **Account** for the observations made in (b) (i) above (2marks)

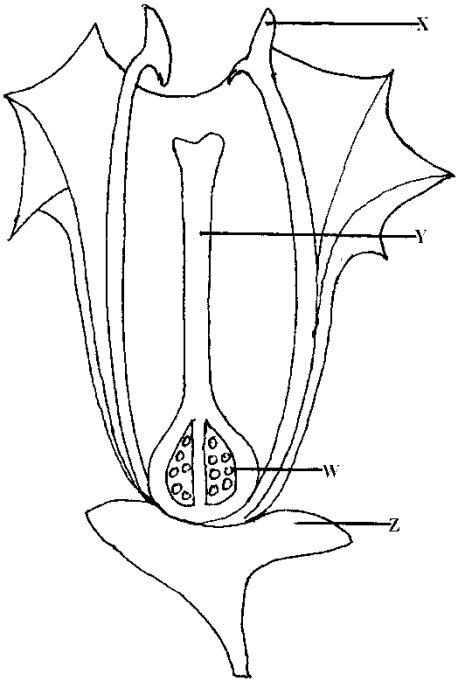
……
……
……
……
……

(c) **Write** down an equation to summarize the reaction taking place in tube **A**.
(1mark)

(d) **State two** industrial applications of the chemical reaction taking place in tube **A**.
(2marks)

……
……
……

4. The diagram below represents a flower.



(a) **Name** the parts labeled X and Y. (2mks)

X ……
Y ……

(b) **Describe** the ovary position. (1mk)
……

(c) (i) **Suggest** an agent of pollination of the flower above (1mk)
……
……

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

(d) On the diagram above, which part do you expect to find haploid nucleus after meiosis? (1mk)

……

(e) In the flower above its sepals cell was found to have 20 chromosomes. **What** would be the number of chromosomes found in the endosperm cell of the flower embryo sac after fertilization? (1mk)

……

(f) **State one** way in which flowers prevent self – pollination. (1mk)

……

5. When the offspring of purple and white flowered pea plants were crossed, they produced purple and white flowered plants in the ratio of 3: 1

Using letter H to represent the gene for purple colour

(a) State the genotype of:

(i) Parents (2 mks)

……

……

(ii) F_1 Generation (1 mk)

……

(b) Work out the cross between plants in the F_1 generation (4 mks)

(c) Account for the colour the flowers in plants of the F_1 generation

……

……

(1 mk)

SECTION B (40 marks)

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

6. In an experiment to investigate the effect of temperature on the activity of salivary amylase enzyme, test tubes containing 5 cm^3 of starch solution were placed in water baths maintained at different temperatures. After 30 minutes, 0.1cm^3 amylase solution was added into each of the tubes.
At one minute intervals, a drop of the mixture in each tube was tested for presence of starch. The time taken for all the starch to be digested was taken and recorded. The results were as shown in the table below.

Temperature (^{0}c)	5	10	15	20	25	30	35	40	45
Time taken to digest all starch (mins)	80	60	48	26	18	9	3	14	75

(a) On the grid provided **plot** a graph of time taken to digest all the starch against temperature. (6 marks)

(b) **What** was the optimum temperature range for this enzyme?
(1mark)

……
……

(c) **Account** for the results obtained at

(i) 5^0C (2marks)

……
……
……

(ii) 45^0C (2marks)

……
……
……

(d) Apart from temperature **name three** other factors that would affect the above reaction.(3marks)

……
……
……

(e) **Name two** regions in a human body where digestion of starch occurs.
(2marks)

……
……

(f) (i) **Give three** metallic ions that act as enzyme co- factors in a human body.
(2marks)

……
……
……

(ii) **What** is the role played by enzyme co- factors in the physiology of human body?
(1mark)

……
……

(g) **Name** the major respiratory substrate in a mammalian body during severe starvation. (1mark)

……

7. How are leaves of mesophytes suited to their function?
(20mks)

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

……
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BIOLOGY

FORM 4

PAPER 3

CONFIDENTIAL

MID TERM 2 EXAM

1. Each candidate should be supplied with the following

(i) 4 test tubes in test tube rack.

(ii) 1 boiling tube

(iii) Iodine solution – supplied with a dropper

(iv) Adequate distilled water

(v) Benedict solution– supplied with a dropper

(vi) Means of heating

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

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

(ix) DCPIP– supplied with a dropper

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

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

NAME:…….. INDEX NO: ……..DATE…….

SCHOOL:…….. CANDIDATE'S SIGNATURE: ……..……..

CLASS:…… . ADM NO:……

231/3
BIOLOGY
PAPER 3 (PRACTICAL)
TIME: 1¾ Hours

MID TERM 2 EXAM

INSTRUCTIONS TO CANDIDATES

- *Write your **name, Admission number** and **name of your school** in the spaces provided above*
- ***Sign** and write the **date** of examination in the spaces provided.*
- *This paper consists of three questions*
- *Answer **all** the questions in the spaces provided.*
- *You are required to spend the first 15 minutes of the 1¾ Hours allowed for this paper reading through all the questions before commencing your work.*
- *This paper consists of 5 printed pages.*
- *Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.*

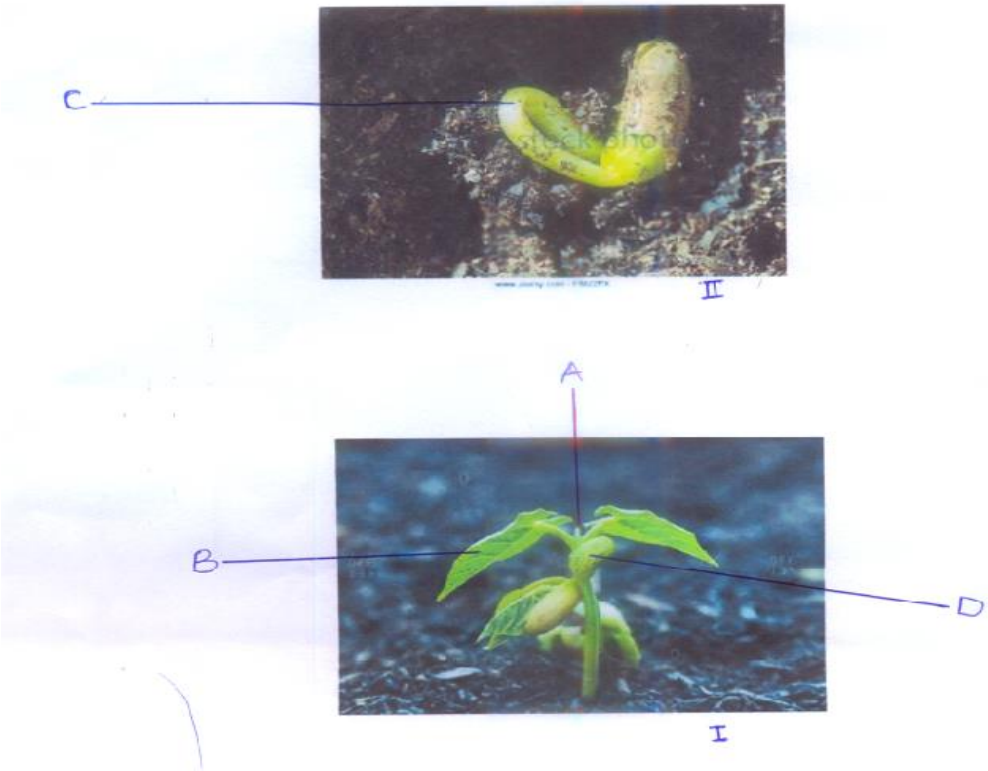
For Examiners Use Only

Question	Maximum score	Candidate's score
1	14	
2	13	
3	13	
Total Score	40	

1. You are provided with solution W in a boiling tube. Using the provided reagents, carry out possible food tests to identify food substances present in solution. **(14marks)**

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

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



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

A_____

C_____

D_____

b)(i) Name the class to which the specimen belongs. **(1 mark)**

_____

_____

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

_____

_____

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

_____

_____

_____

_____

d) Explain how the curvature labeled C is formed **(3marks)**

_____

_____

_____

_____

_____

e) Name the type of germination exhibited by the seedlings. Give a reason for your answer. **(2marks)**

Type

_____

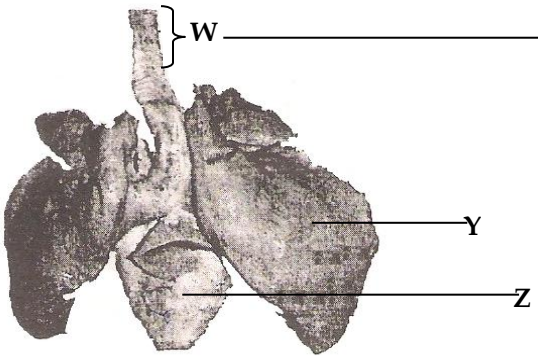
_____

Reason

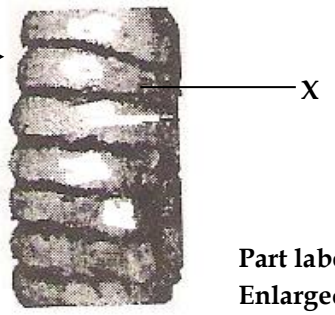
_____

_____

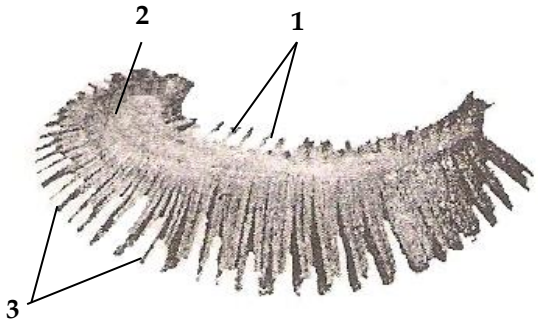
3. Below are photographs labelled J and K of organs obtained from different animals. The organs perform similar functions. Examine them.



Photograph J



Part labelled W Enlarged



Photograph K

a) Name the phylum to which the organs were obtained from **(1 mark)**

_____

_____

b) Identify the organs. **(2 marks)**

J_____

K_____

c) State the function performed by the organs. **(1 mark)**

_____

_____

d) Name the parts labelled X, Y and Z in **photograph J** **(3 marks)**

X_____

Y_____

Z_____

e) Identify the parts labelled 1, 2 and 3 in **photograph K**. **(3 marks)**

1_____

2_____

3_____

f) Using observable features, state how the parts labelled **1** and **3** you identified in **(d)** above are adapted to their functions **(3 marks)**

_____

_____

_____

_____

_____

_____

NAME……INDEX NO……

565/1
BUSINESS STUDIES
FORM 4
PAPER 1

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

BUSINESS STUDIES
PAPER 1
TIME: 2HOURS

INSTRUCTIONS:

i. Answer all questions
ii. Write the answers in the spaces provided
iii. Answers should be written in English

For official use only:

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

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

1. State four advantages of a partitioned office layout to the office staff. (4mks)

   i. ……
   ……

   ii. ……
   ……

   iii. ……
   ……

   iv. ……
   ……

2. For each of the farm resources given below, identify the appropriate factor reward
   (4mks)

	RESOURCE	**FACTOR REWARD**
i.	Farm yard	……..
ii.	Farm guards	……..
iii.	Farm owner	……
iv.	Livestock	……

3. List the principle of insurance that was violated in each of the following instances given below
(4mks)

	INSTANCE	PRINCIPLE
i.	A car owner was paid ksh. 400,000 when his car worth ksh. 390,000 was stolen	……..
ii.	Okado insured his neighbors retail shop against robbery	……..
iii.	A school was compensated when its bus got burnt by rioting students yet it had been insured against a road accident	……..
iv.	A hotel owner took away remains of items destroyed by fire being fully paid for the damages	……...

4. Give four reasons why business firms participate in conserving the environment (4mks)

I. ……
……

II. ……
……

III. ……
……

IV. ……
……

5. State four measures that a county government may take to improve the quality of its services to the residents of the county
(4mks)

i. ……
……

ii. ……
……

iii. ……
……

iv. ……
……

6. Outline four reasons that make human wants difficult to satisfy (4mks)

i. ……
……

ii. ……
……

iii. ……
……

iv. ……
……

7. Give four types of small scale retail businesses that can operated without shops.
(4mks)

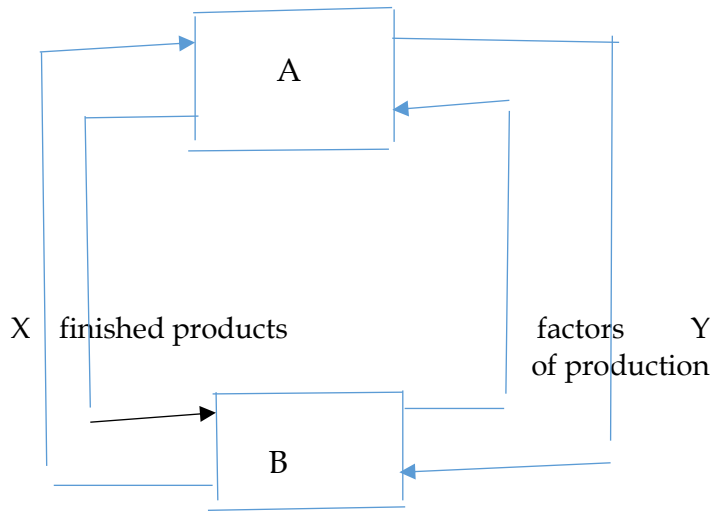
i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

8. The information below was extracted from the books of Khadudu Hardware's for the year 2019

	Ksh.
Capital (31/12/2019)	980,000
Investment	300,000
Monthly drawings	10,000
Capital (01/01/2019)	600,000

Required; determine the net profit for the year
(3mks)

9. The diagram below shows the circular flow of income in a two sector economy



a. Name the economic agent marked A and B

i. A ……

ii. B……. (2mks)

b. Identify the expenditure represented by the arrows X and Y

i. X……

ii. Y……. (2mks)

10. Highlight four advantages of a private warehouse to a manufacture (4mks)

i. ……

……

ii. ……

……

iii. ……

……..

iv. ……

……

11. Give four disadvantages of using mobile phones for communication in an organization (4mks)

i. ……

……

ii. ……

……

iii. ……

……

iv. ……

……

12. Outline three differences between monopoly and oligopoly as product markets. (3mks)

MONOPOLY	**OLIGOPOLY**
i.	
ii.	
iii.	

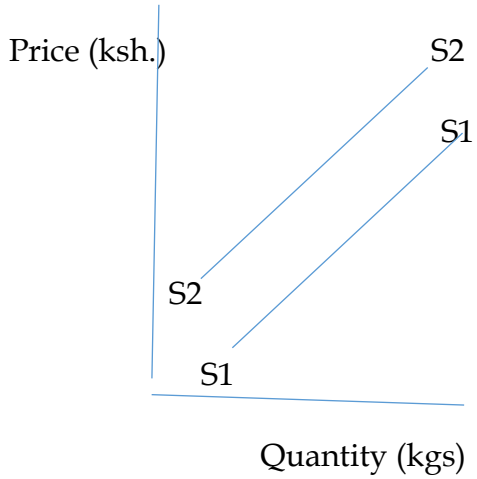
13. State four measures that the Central Bank can take to reduce inflation in the country
(4mks)

i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

14. Give four reasons why governments impose taxes on incomes
(4mks)

i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

15. The diagram below shows a change in the supply of a farm products in a market



Outline four circumstances under which the supply curve would shift from S_1S_1 to S_2S_2 (4mks)

i. ……

……

ii. ……

……

iii. ……

……

iv. ……

……

16. For each of the business transactions given below name the ledger account to be debited and to be credited
(4mks)

TRANSACTION	DR.	CR.
i. Proprietor took goods worth Ksh. 2000 for family use		
ii. Goods valued at Ksh. 4500 were sold on credit		
iii. A cheque of Ksh. 8000 was issued by the business in payment of rent		
iv. The business withdrew Ksh. 15,000 from the bank account for office use		

17. State FOUR disadvantages of pipeline transport
(4mks)

i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

18. The information below relates to Musoma Bookshop for the year ended 30.09.2020

Sales	Ksh. 1,500,000
Opening stock	Ksh. 250,000
Purchases	Ksh. 1,300,000
Mark up	25%

Determine:

i. Gross profit (2mks)

ii. Cost of sales (2mks)

19. Mrs. Obote sells a variety of fruits, vegetables and cereals in a market stall located in an urban market. Identify four methods that she may use to increase her volume of sales
(4mks)

i. ……
……

ii. ……
……

iii. ……
……

iv. ……
……

20. List the type of unemployment that suits each of the descriptions below

(4mks)

Description	**Type of unemployment**
i. A large number of laborers crowded on a small piece of work.	
ii. School leavers without information on where to get a job.	
iii. Many people kept out of employment because of physical disabilities.	
iv. A female job seeker opting to get married instead of being idle.	

21. Highlight four population characteristics of a country that is economically underdeveloped
(4mks)

i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

22. Give four reasons why some producer firms carry out production close to the product market
(4mks)

i. ……
……
ii. ……
……
iii. ……
……
iv. ……
……

23. Outline four circumstances under which a manufacturer would not require the services of middlemen
(4mks)

i. ……
……

ii. ……
……

iii. ……
……

iv. ……
……

24. List four ways used to classify partners in a business
(4mks)

i. ……
……

ii. ……
……

iii. ……
……

iv. ……
……

25. he two column cash book below is incomplete

Date	Details	F	Cash	Bank		Date	Details	F	Cash	Bank
2020			(Ksh.)	(ksh.)		2020			(ksh)	(ksh)
Jan1	Capital		350,000	150,000		Jan3	Rent			T
10	Sales		Q			4	Purchases		200,00	
18	Cash	C1		250,000		18	Bank	C1	P	
28	Debtors		70,000			25	Electricity			15,000
						31	Balance	c/d	R	345,000
			600,000	400,000					600,000	S

Determine the missing values represented by letters P, Q, R, S and T

i) P…….

ii) Q…….

iii) R…….

iv) S…….

v) T…….

Name…… ……Admission Number……

Student's Signature……Date……

565/2
BUSINESS STUDIES
PAPER 2
FORM FOUR
$2^1/_2$ HOURS

MID TERM 2 EXAM

Instructions to candidates;

a) *Write your name and admission number in the spaces provided above.*
b) *Sign and write the date of examination in the spaces provided above*
c) *This paper consists of **six** questions.*
d) *Answer any **five** questions in the spaces provided after question six.*
e) *All questions carry equal marks*

For Examiners use only.

Question	Maximum score	Candidate's score
	20	
	20	
	20	
	20	
	20	

1. a) Explain five factors to consider when choosing office equipment. 10marks)
   b) Explain the causes and remedies of the following types of unemployment. (10 marks)

i) Seasonal unemployment
ii) Structural unemployment
iii) Disguised unemployment
iv) Residual unemployment
v) Involuntary unemployment

2. a) Explain **five** importance of insurance to an economy. (10marks)

b) On 1st march 2019, Ukwala traders had ksh 95,000 in hand and a bank overdraft of ksh 15,000. During the month, the following transactions took place.

March 2: Bought goods for resale in cash ksh 68,000.
March 3: Cash sales banked, ksh 22,000
March 9: Paid Anyang' a creditor ksh, 12,880 by cheque in full settlement of his account after deducting 8% cash discount.
March 11: Paid salaries ksh 14,000 in cash.
March 16: Received a cheque of ksh 40,200 from Sakaya after allowing him a cash discount of ksh 1,800.
March 20: Shamim, a debtor paid her account of ksh 55,000 by cheque less 10% cash discount.
March 24: Withdraw 26,000 from bank for office use.
March 27: Took ksh 9,000 cash to pay his brother's medical bill.
March 28: Deposited all the cash into bank except ksh 14,400.

Required: prepare a three-column cashbook and balance it off. (10 marks)

3. a) Explain **five** features of oligopoly. (10 marks)

b) Explain the difference between partnerships and cooperative societies forms of business units. (10marks)

4. a) Explain **five** reasons for continued existence of small firms in an economy. (10marks)

b) Outline **five** channels that can be appropriate for the distribution of exporting tea to France.
(10marks)

5. a) Explain **five** reasons for government involvement in business. (10 marks)

b) Explain **five** documents sent by the buyer to the seller in Home trade. (10marks)

6. a) Explain **four** unethical practices in product promotion. (8marks)

b) The following trial balance relates to the business of OMASAJA Traders for the period ended 31st March 2019.

OMASAJA TRADERS
TRIAL BALANCE
AS AT 31ST MARCH 2019

	Dr	Cr
	Shs.	Shs.
General expenses	120,000	
Rent expenses		46,000
Telephone expenses	20,000	
Carriage inwards	28,000	
Salaries	360,000	
Sales		4,000,000
Purchases	2,400,000	
Discount received		36,000
Sales returns	40,000	
Motor vehicle		500,000
Debtors	300,000	
Stock (1st April 2018)	200,000	
Land and buildings	2,000,000	
Cash at bank	120,000	
Cash in hand	12,000	
Capital		1,850,000
Drawings	80,000	
Creditors		240,000
	6,226,000	6,226,000

Additional information

Stock as at 31st March 2019 was valued at ksh. 100,000

Prepare:

i) A Trading profit and loss (7marks)

ii) A Balance sheet (5marks)

NAME:_____ **INDEX NO:**_____

SCHOOL:_____**DATE**:_____

P233/1

CHEMISTRY THEORY

PAPER 1

TIME: 2 HOURS.

MID TERM 2 EXAM

Kenya Certificate of National Exam

FORM FOUR

Instructions to Candidates.

a) Write your name, school and class in the spaces provided.

b) All working must be clearly shown.

c) Mathematical tables and electronic calculators may be used.

d) Answer all the questions.

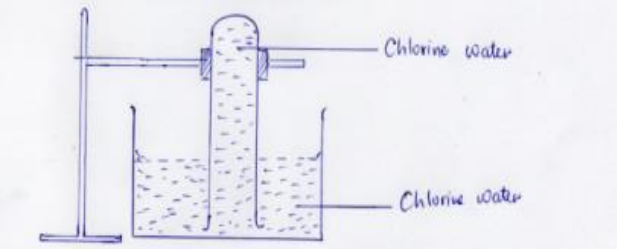
1. Air is a mixture of several different gases, which parts of air;(3Mks)

a)Supports combustion?.....

b)Puts of a burning plint?.....

c)Makes up almost 80% of air?.....

2.In an experiment a test tube full of chlorine water was inverted in chlorine water to as shown in the diagram below and the set up was left in sunlight.



After one day, a gas was found to have collected in the test tube.

(a)Identify the gas.....(1Mk)

(b)What will happen to the PH of the solution in the beaker after one day? Give an explanation. (2Mks

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

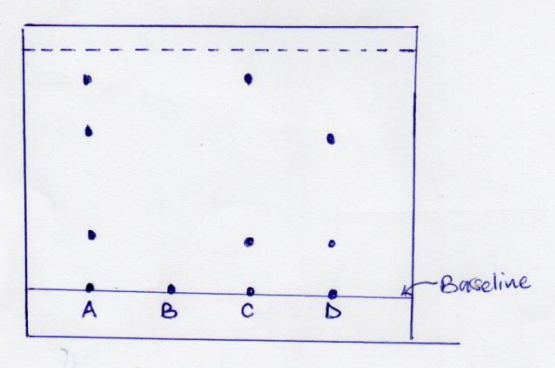
3.Draw the structure and give names of three alkanes having themolecular formula of C_5H_{10}. (3Mks)

4.(a)Using electrons in the outermost energy level draw the dot(.)and cross(X)diagram for the molecules H_2O and CH_4(H=1, C=12) (2Mks)

(1)H_2O

(2)CH_4

5.The following chromatogram was obtained in an experiment to investigate the components present in certain dyes.



(a)Which two dyes when mixed would produce dyeA .(1Mk)

.....

(b)Identify the pure dye.(1Mk)

.....

(C)Define solvent front?(1Mk)

.....

.....

.....

B) Indicate the solvent front in the diagram using the **letter E**.

6.A given element **F** has atomic number 14 and consist of isotopes as shown below.

Isotopes	G	H	J
Isotopes Mass	28	29	30
Percentage abundance	92.2	4.7	3.4

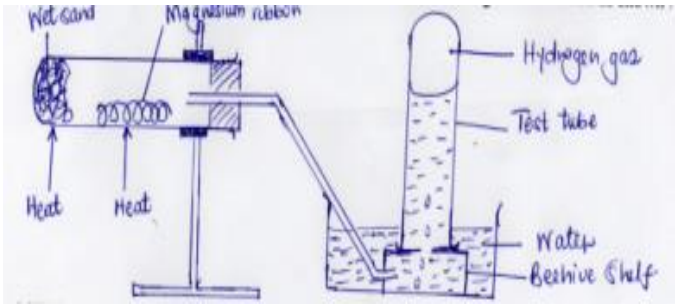
(a)Determine the relative atomic mass of **element F.** (2Mks)

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

(b)State the group and the period to which element **F** belongs. (1Mk)

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

7.Hdrogen gas can be prepared by passing steam over heated magnesium ribbon as shown .



(a)Write an equation for the reaction that produce hydrogen gas. (1Mk)

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

(b)Explain why the delivery tube must be removed from beneath the water before heating is stopped.(1Mk)

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

(c)Name the method of gas collection used in the experiment. Give a reason.(1Mk)

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

8.(a)State Charles's law .(1Mk)

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

(b)A gas occupies 450cm^3 at 27^{0}C.What volume would the gas occupy at 177^{0}C.If its pressure remains constant? (Give the answer in Kelvin) (2Mks)

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

9.A certain match stick head contains potassium chlorate and sulphur. On striking, the two substances react to produce potassium chloride and sulphur(IV)oxide respectively.

(a)Write an equation to show formation of sulphur (iv)oxide.(1Mks)

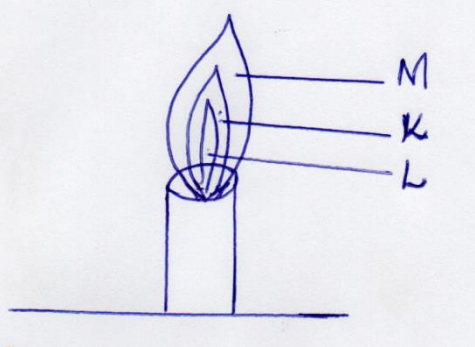
.....
.....
.....
.....

(b)Explain the environmental effect of using such matches in large numbers.(2MKS)

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

.....
.....

10.The figure below shows a flame obtained from a Bunsen burner.



(a)Name the type of flame. (1Mk)

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

(b)A match stick head was placed at **region L** will not ignite. Explain(1Mk)

(c)Name **region K .**(1Mk)

11.Solutions can be classified as Acids, Bases or Neural. The table below shows solutions and their P^H values.

Solution	P^H values
N	1.5
Q	7.0
P	13.0

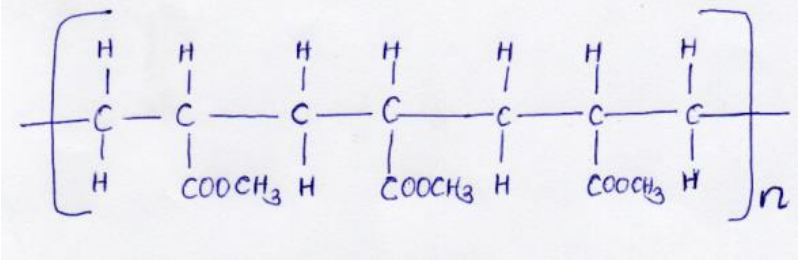
(a)Select any pairs that would react to form a solution of P^H 7.0 (1Mk)

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

(b)Identify **two**solution that would react with Aluminium hydroxide. Explain. (2Mks)

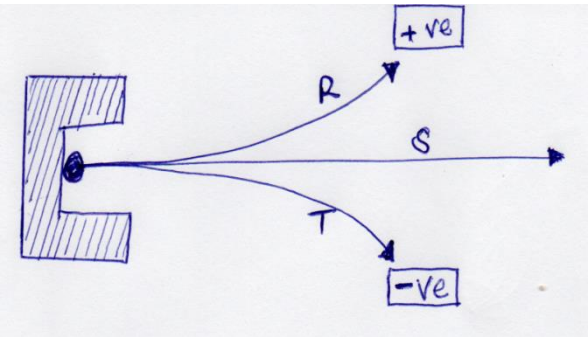
.....
.....
.....
.....

12.The diagram below shows part of a synthetic polymer. Study it and answer the questions that follows;



(a)Draw the structure of the monomer (1Mk)

13.The diagram below shows the radiation emitted by a radioactive isotope.



Name the radiations.(3mks)

R:.....

S:.....

T:.....

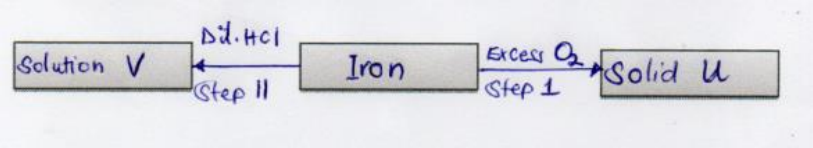
14.(a)Distinguish between a deliquescent and a hygroscopic substance.(2Mks)

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

(b)Give one use of a deliquescent substance In the laboratory. (1Mk)

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

15.Study the flow diagram below and answer the question that follow.



(a)Write an equation for the reaction taking place in **step 1.** (1Mk)

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

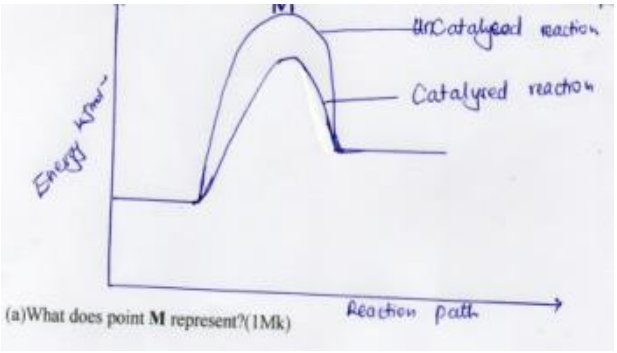
(b)Name **solution V.**(1Mk)

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

16. (a) state and exaplain two observations made when magnesium ribbon is lowered into a as jar full of carbon (iv) oxide (3mk)

b) Write a balanced chemical equation or the reaction that took place in a) above(1mk)

17. The energy level diagram below shows the effect of a catalyst on the reaction path.



(a)What does point **M** represent?(1Mk)

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

(b)With reference to the energy level diagram, explain how a catalyst increases the rate of reaction. (2Mks)

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

.....
.....

18. The table shoes behaviour of metals R, X , Y and Z study it and answer the questions.

Metal	Appearance on exposure to air	Reaction in water	Reaction with dilute hydrochloric acid
R	Slowly tarnishes	Slow	Vigorous
X	Slowly turns white	Vigorous	Violet
Y	No change	Does not react	Does not change
Z	No change	No reaction	Reacts moderately

(a) Arrange the metals in the order of reactivity starting with the **most reactive** (2Mks)

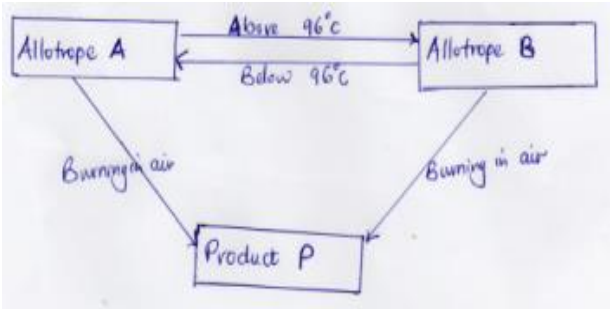
.....
.....
.....
.

(b)Name a metal which is likely to be ; (2Mks)

1)X:.....

11)Y:.....

20. The following chart below shows some properties of two allotropes of **element P**



(a)Name allotrope A(1Mk)

.....

(b)Write an equation to show formation of product P (1Mk)

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

(c)What does 96 ^{0}C represent? (1Mk)

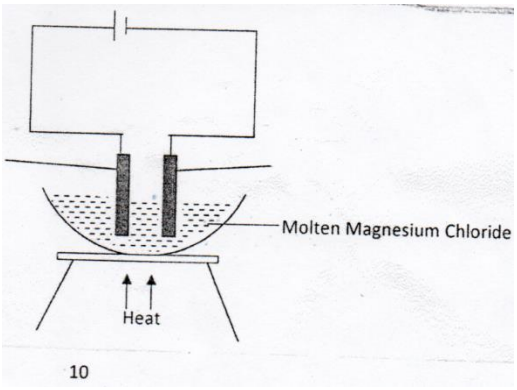
.....
.....

21.Complete the following table by filling in the missing test and observations. (3Mks)

NO	Gas	Test	Observation
I.	Ammonia	Put a moist red, then blue litmus into the gas	
2	Sulphuric(V) oxide		Paper turns green
3	Butene	Add a drop of bromine water	

22.An organic compound contains 24.24%carbon,4.04% hydrogen and the rest chlorine.If its relative molecular mass is 99.What is its molecular formula ?(C=12,H=1 ,Cl=35.5) (3Mks)

23.Study the diagram below and answer the questions that follows



(a)Define the term electrolysis.(2mks)

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.....
.....

(b)On the diagram, label the Anode and the Cathode. (1Mks)

(c)Write the equation for reaction taking place at the Cathode. (1Mk)

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

24.Hardness of water may be removed by either boiling or addition of chemicals

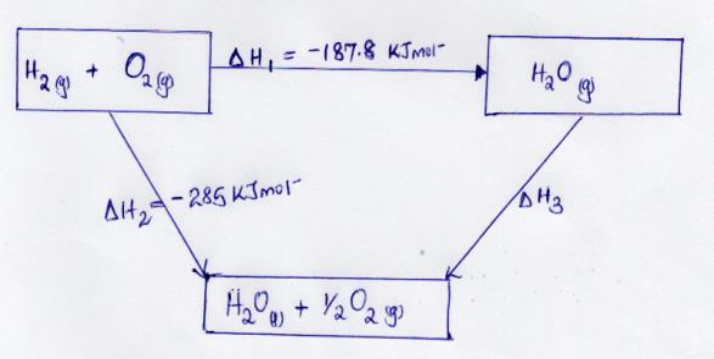
(a)Name the two types of water hardness. (2Mks)

.....
.....

(b)A sample of river water was divided into three portions, the table shows the test carried out on the portion and observations made. Complete the table by filling the inferences. (3Mks)

Test	Observation	Inference
To the first portion,1cm^3 of soap solution was added.	No lather formed	
The second portion was boiled ,cooled and 1cm^3 of soap solution was added.	No lather was formed	
To the third portion ,3cm^3 of aqueous sodium carbonate was added ,the mixture filtered and 1cm^3 of soap solution added to the filtrate.	Lather formed immediately	

25.The figure below shows an energy cycle diagram.



(a)Give the name of the enthalpy change H1 (1Mk)

.....

.....

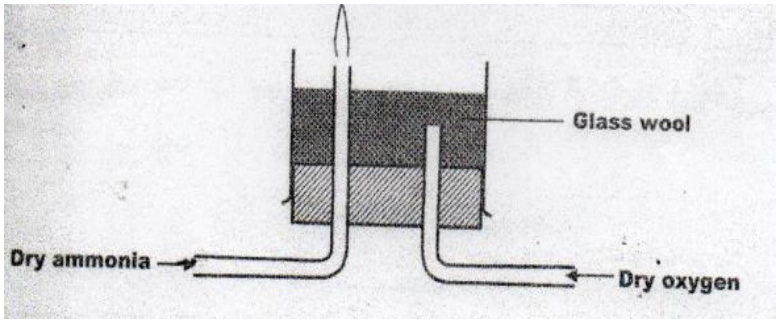
(b)Determine the value of H3 (2Mks)

.....

.....

.....

26.Dry ammonia and dry oxygen were reacted as shown in the diagram.



(a)What is the purpose of the glass wool? (1Mk)

.....

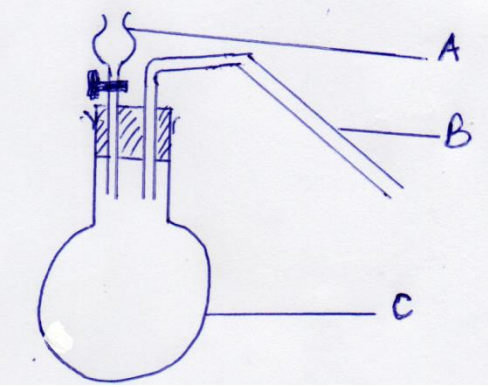
.....

.....

(b)What product would be formed if red- hot platinum was introduced in to a mixture of ammonia and oxygen? (1Mk)

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

27.Study the diagram below.



Identify apparatus A ,B and C. (3mks)

A:.....

B:.....

C.....

28.Explain why high temperature is required for Nitrogen to react with Oxygen. (2mks)

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

Name: ……Class: ……Adm.No……..

School: ……Date: ……SIGN……

233/2
CHEMISTRY
Paper 2
Time: 2 hours

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

CHEMISTRY PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided above.
2. Sign and write the date of the examination in space provided.
3. Answer ALL the questions in the spaces provided in the question paper.
4. All working MUST be clearly shown where necessary.
5. Mathematical tables and silent electronic calculators may be used.
6. This paper consists of 15 printed pages. Candidates should confirm this.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	14	
2	10	
3	14	
4	11	
5	10	
6	10	
7	11	
TOTAL SCORE	80	

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

								A
B				G		H	E	
	J		I	L				C
D							M	
Y								

(i) What name is given to the family of elements to which A and C belong? (1 mark)

(ii) Write the chemical formula of the sulphate of element D. (1 mark)

(iii) Which letter represents the most reactive (2 marks)

(a) Metal

(b) Non-metal

(iv) Name the bond formed when B and H react. Explain your answer. (2 marks)

(v) Select one element that belong to period 4. (1 mark)

(vi) Ionic radius of element E is bigger than the atomic radius. Explain.
(2 marks)

(vii) The electron configuration of a divalent anion of element N is 2.8.8. Induce the Position of element N on the periodic table drawn above. (1 mark)

(viii) The oxide of G has a lower melting point than the oxide of L. Explain. (1 mark)

(ix) How do the atomic radii of I and C compare. Explain. (2 marks)

(x)Explain the trend in the 1st ionization energies of the elements J, I and L.(1mark)

2 a) define the following terms

i) Saturated solution(1mk)

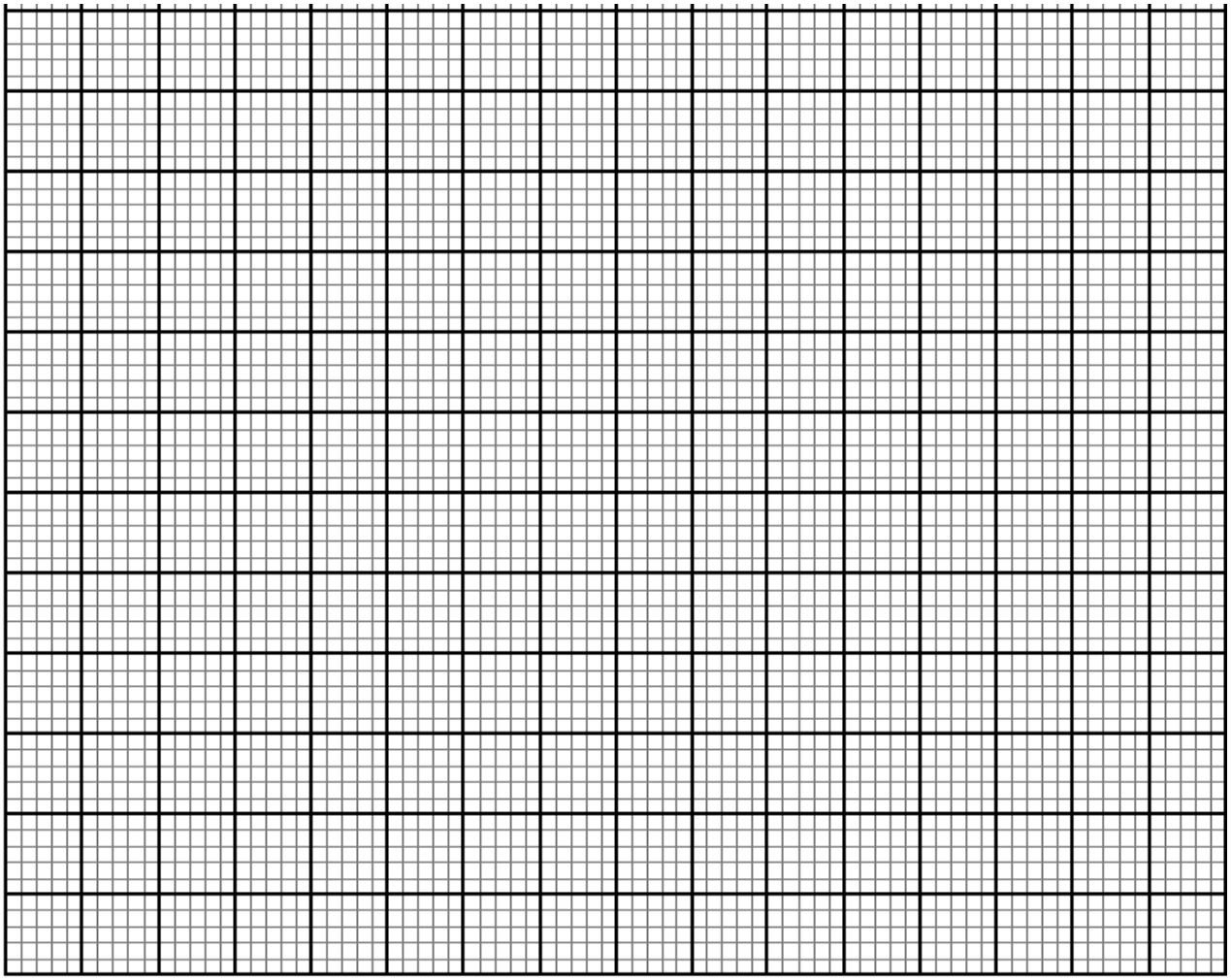
ii) Fractional crystallization(1mk)

b) Solubility of salt X and Y were determined at different temperatures as shown in the following data.

Temperature (°C)		0	20	40	60	80	100
Solubility of 100g of water	X	12	30	75	125	185	250
	Y	15	20	35	45	65	80

i. On the grid provided, plot a graph of solubility (vertical axis) against temperature.

(4mks)



ii. From the graph determine the solubility of each at 50°C.

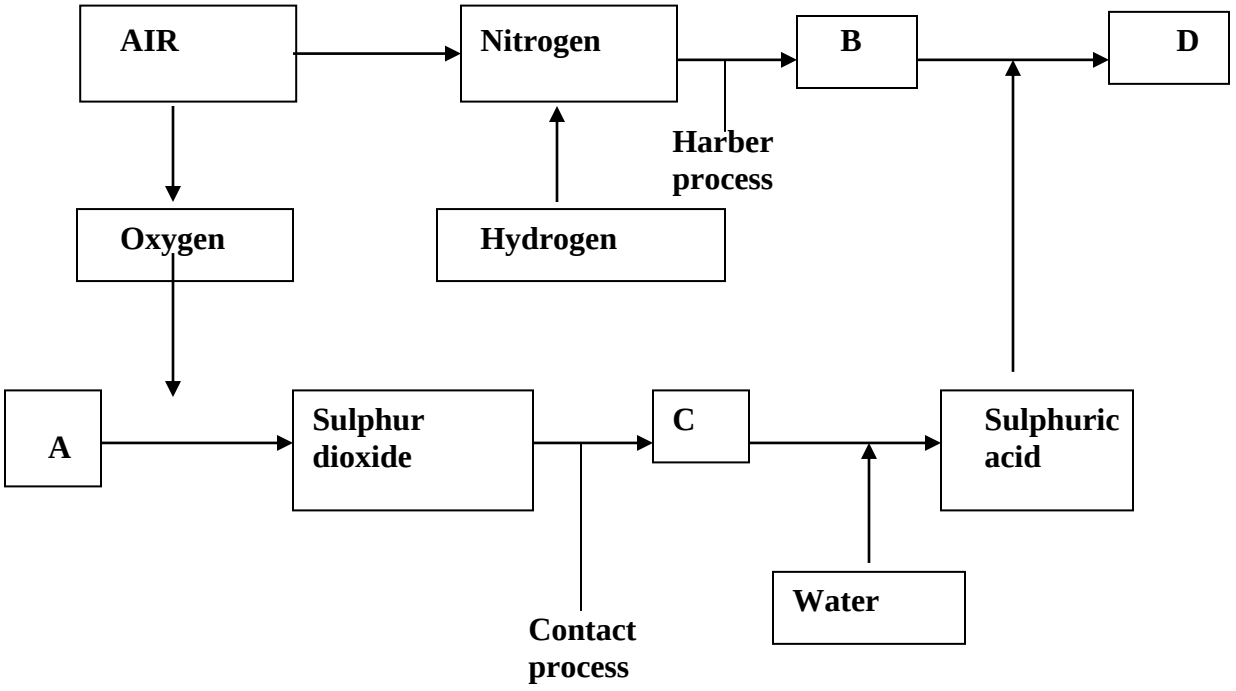
X …….. (1mk)

Y …… (1mk)

iii. At what temperature was the solubility of both salts equal. (1mk)

b)i. What is permanent hardness of water?
(1mk)

3. The flow chart below illustrates two industrial processes. Haber and contact processes each with air as one of the starting materials and other chemical reactions.



a) (i) Give the name of the process by which air is separated into oxygen and nitrogen. (1 mk)

……

……

(ii) Apart from oxygen and nitrogen gas produced from process a(i) name any other gas produced in the process above. (1 mk)

……

……

b) Name the substances which are represented by the letter. (4 mks)

A……..

B……..

C …….

D……

c) Name the catalyst used in;

(i) The Haber process (1 mk)

……

(ii) The contact process (1 mk)

……

(iii) Explain the role of the catalyst in both the Haber and contact process. (2 mks)

……

d) (i) Write a balanced equation for formation of compound D. (1 mk)

……

(ii) Calculate the percentage by mass of nitrogen present in compound D

(N = 14.0, H = 1.0, S = 32.0, O = 16.0)

(2 mks)

……

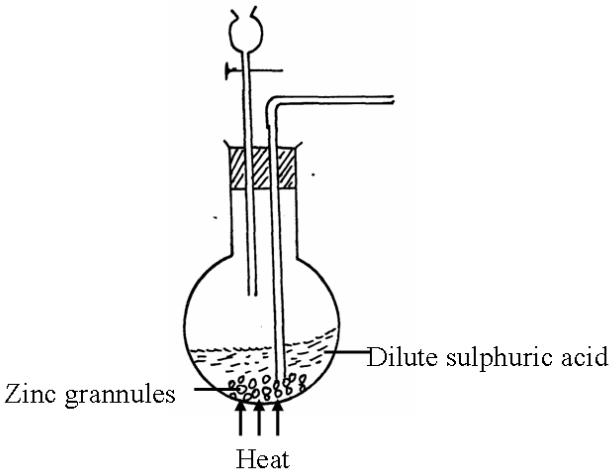
(iii) Give one use of compound D.

(1 mk)

……

……

4. A student set-up the arrangement below to prepare and collect dry hydrogen gas



(a) Identify two errors from the section of the arrangement shown above

(2mks)

I: ……

II:……

(b) Complete the diagram to show how dry hydrogen gas can be collected.

(2mks)

(c) (i) Explain why hydrogen was collected by the method shown above

(1mk)

……

……

(ii) Write a balanced chemical equation for the reaction that takes place when hydrogen gas is burnt in air. (1mk)

……

……

……

(e) Determine the relative atomic mass of zinc, given that when 6.54g of zinc was used, 2.4litres of hydrogen gas was produced. (Molar gas volume = 24 litres) (3mks)

……

……

……

……

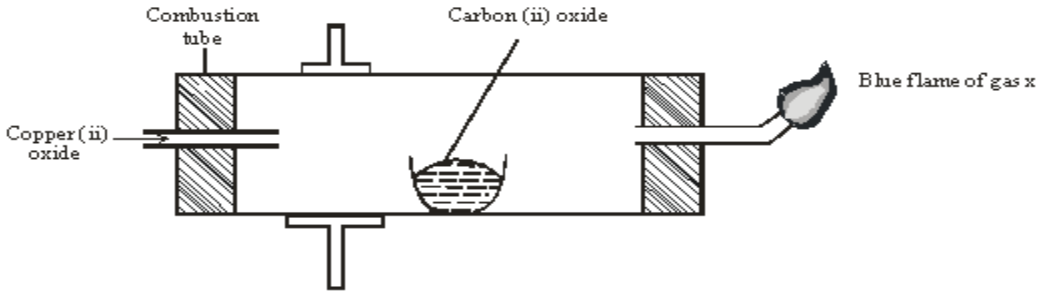
……

(c) State any **two non**-industrial uses of hydrogen gas (2mks)

……

……

5. The diagram below shows an experiment set-up to investigate a property of carbon (ii) oxide. Study it and answer the questions that follow.



a) Name one condition that is missing in the set up that must be present if the experiment to proceed. **1mark**

……

……

……

b) If the experiment was carried out properly. What observation would be made in the combustion tube? **1mark**

……

……

……

c) Give an equation for the reaction that occurs in the combustion tube. **1 mark**

……

……

……

d) Give an equation for the reaction that takes place as gas x burns. **1 marks**

……

……

……

e) Why is it necessary to burn gas x? **1mk**

……

……

……

f) Name the reducing and oxidizing agent. **2marks**

(i) Reducing agent

……

……

(ii) Oxidising agent

……

……

g) Identify any other substance that would have the same effect on copper (ii) oxide as carbon (ii) oxide. **1mark**

……

……

……

h) What would happen if copper (ii) oxide was replaced with sodium oxide? Explain

2mark

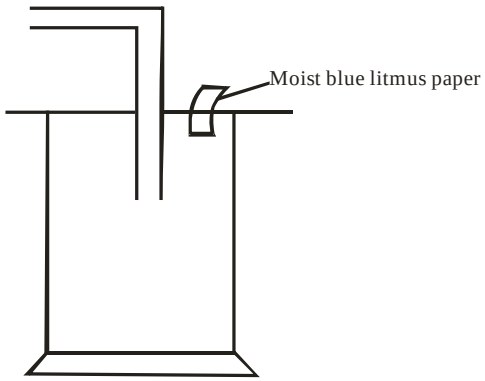
……

……

……

……

6. Dry chlorine was collected using the set up below.



a) Name a suitable drying agent for chlorine gas?

(**1mark)**

……

b) State one property of chlorine gas which facilitates this method of collection.

1mark

……

…….

c) State the observations made on the moist blue litmus paper.

(**2marks)**

……

……

……

d) Chlorine gas was bubbled through distilled water. With aid of an equation show the formation of chlorine water. (**1mark)**

……

……

……..…….

e) Write the formula of the compounds formed when chlorine gas reacts with warm dry phosphorous. (**2marks)**

……

……

……

f) Chlorine gas is mixed with moist hydrogen sulphide gas, state and explain the observations (**2marks)**

……

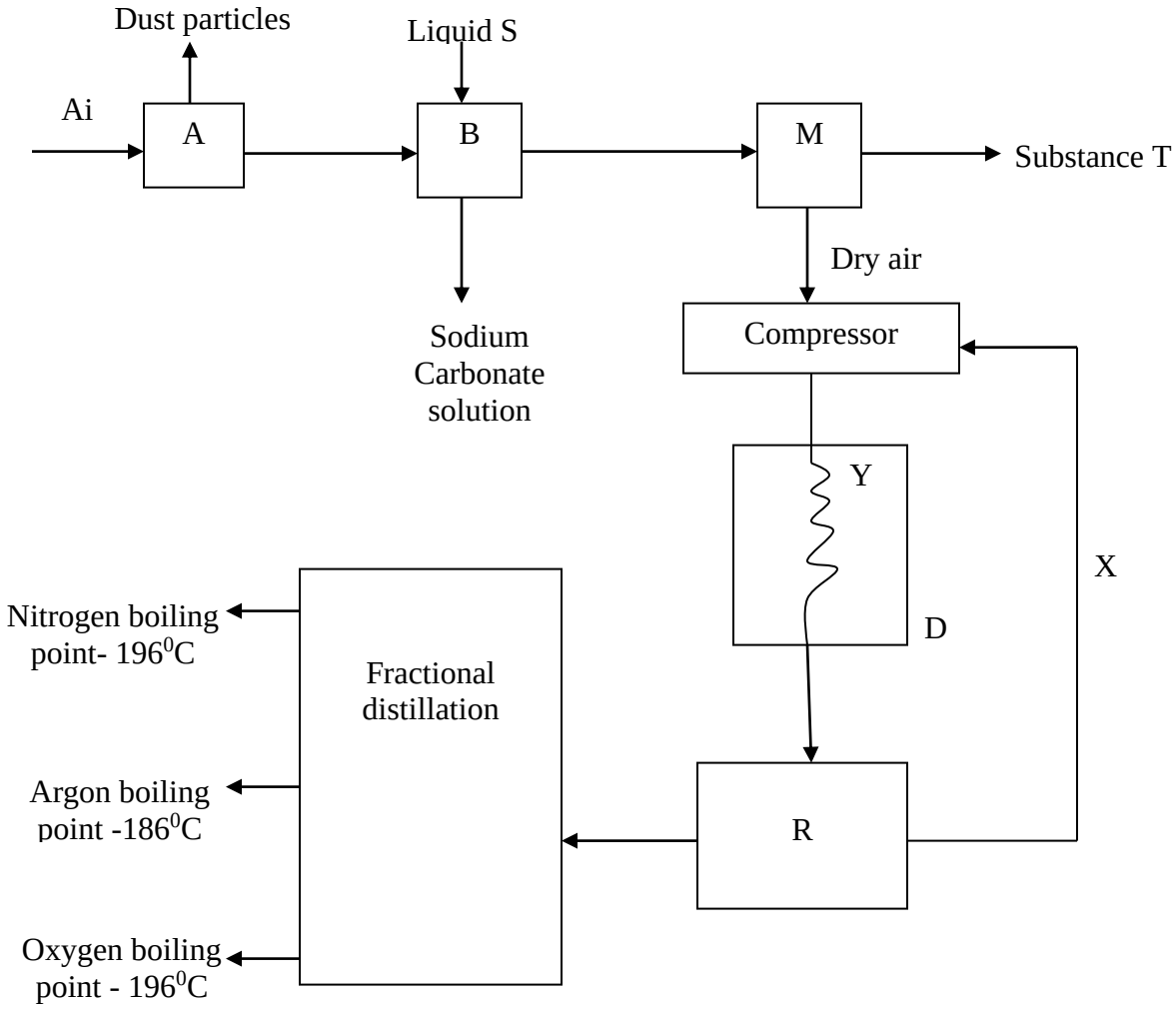
……

g) Give one use of chlorine gas. **1mark**

……

……

7. Fractional distillation of air is used in the industrial manufacture of oxygen. The diagram below shows the process.



a) What processes are taking place in chamber A,B,M and D **2marks**

A……..……
..
B…….

M……..…
.
D
…….……..…..

b) Name;

(i) Liquid S(1mk)

……..……..…

(ii) Substance T(1mk)

……..……

c) Explain why part Y in chamber D is curved? **1mark**

……

……

d) Give two industrial uses of oxygen gas? (**2marks)**

……

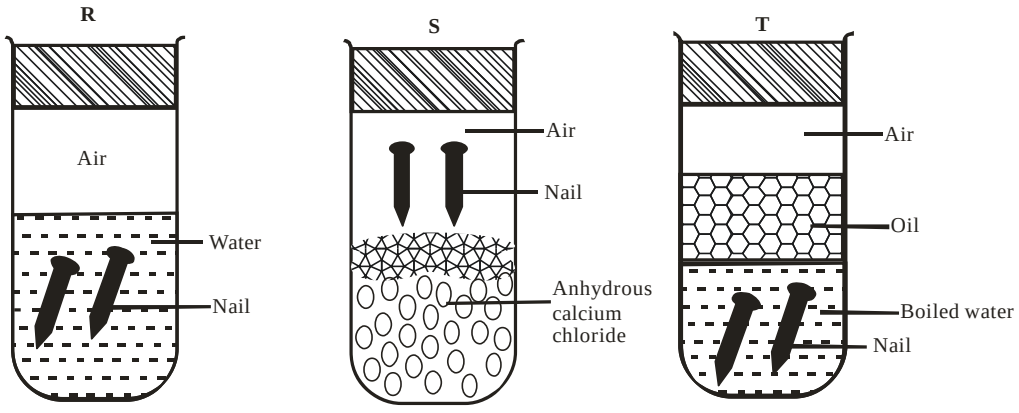
……

e) In the laboratory preparation of oxygen, manganese (iv) oxide and hydrogen peroxide are used. Write an equation to show how oxygen gas is formed. **1mark**

……

……

f) An investigation was carried out using the set-up below. Study it and answer the questions that follow.



(i) State and explain what will happen in the three test-tubes R, S and T after seven days. **2marks**

……

……

(ii) Give one reason why some metals are electroplated. **1mark**

……

……

233/3
CHEMISTRY
FORM 4
PRACTICAL

MID TERM 2 EXAM

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

In addition to the normal fittings and apparatus in the laboratory, each candidate would need the following:

- 150 mls of solution **A**
- 200 mls of solution **B**.
- 25 mls pipette
- 50 ml burette
- Pipette filler
- Thermometer (-10^0c – 110^0 c)
- Stop-watch
- At least six test-tubes
- Two boiling tubes
- 250ml Distilled water in a wash bottle
- Five labels
- 2 conical flasks
- 10 ml measuring cylinder
- 50 ml measuring cylinder
- 10 cm^3 of solution **C**
- **20cm^3 of 2M NaOH**
- Two filter paper
- 0.2g of solid **D**
- pH chart
- white tile
- filter funnel
- clamp and stand

Access to the following:-

(a) Source of heat
(b) Water bath
(c) 2M Nitric (V) Acid
(d) 2M Sodium Hydroxide
(e) 2M Ammonia solution
(f) 0.1M Potassium iodide
(g) 0.5M acidified Barium Nitrate (Acidified with Nitric (V) Acid)
(h) Bromine water
(i) Sodium hydrogen carbonate solid.
(j) Universal indicator solution.

Notes

- Solid **D** is maleic acid.
- Solution **C** is a mixture of Copper (II) Sulphate and Aluminium Sulphate. It is prepared by mixing two grams of each in water to make 20 $cm^3$of solution. (Prepare as per the number of candidates.)
- Solution **A** is prepared by dissolving 3.16 g of $KMnO_4$ and topping up to one litre.
- Solution **B** is prepared by mixing 5g of oxalic acid ad 2.86g of sodium oxalate and dissolve in one litre.

Name …… Index Number……/……

Signature ……..…….. Date ……/……/……

233/3 -Chemistry - Paper 3
(Practical)
FORM FOUR
Time- 2 ¼ Hours

MID TERM 2 EXAM

INSTRUCTIONS TO CANDIDATES

write your name and index number in the spaces provided.

- *Sign and write the date of examination in the spaces provided.*
- *Answer ALL the questions in the spaces provided in the question paper. You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus required.*
- *ALL working MUST be clearly shown where necessary*
- *Mathematical tables and electronic calculators may be used.*

FOR EXAMINER'S USE ONLY

QUESTION	Max Score	Candidate Score
1	21	
2	13	
3	6	
TOTAL	40	

QUESTION 1

- Solution A; which is 0.02M acidified Potassium Manganate (VII).
- Solution B; which is a mixture of Sodium Oxalate, $Na_2C_2O_4$ and oxalic acid, $H_2C_2O_4$

You are required to:-

i) Determine the solubility of Sodium Oxalate at room temperature.

ii) Determine the effect of temperature on the rate of reaction of Potassium Manganate (VII) and

Oxalic acid.

Procedure I

i) Fill the burette with solution B .Pipette 25.0cm^3 of solution A into a clean conical flask. Heat the contents of the conical to about 70^0c.
ii) Titrate the hot solution against solution B to a colourless end point.

Record your results in table I below

iii) Repeat steps (i) and (ii) two more times to fill the table I below.

Keep the remaining solution B and A for procedure II

Table I

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

(4 mks)

(a) Work out the average volume of solution B used. (1 mk)

(b) (i) Calculate the number of moles of potassium manganate (vii) in 25.0 cm^3 of solution A.

(1 mk)

(ii) Given the following reactions:-

$Na_2C_2O_{4(aq)} \longrightarrow 2Na^+_{(aq)} + C_2O_4^{2-}{}_{(aq)}$

$C_2O_4^{2-}{}_{(aq)} + 2H^+_{(aq)} \longrightarrow H_2C_2O_{4(aq)}$

$2KMnO_{4(aq)} + 5H_2C_2O_{4(aq)} + 3H_2SO_{4(aq)} \longrightarrow K_2SO_{4(aq)} + 2MnSO_{4(aq)} + 8H_2O_{(l)} + 10CO_{2(g)}$

I. Calculate the number of moles of oxalic acid that reacted with Potassium Manganate (VII) (1 mk)

II. Determine the mass of oxalic acid in the average volume used.

($H_2C_2O_4.2H_2O$) (H= 1.0, C= 12.0, O = 16.0) (1 mk)

(c) Given that solution B was prepared by dissolving 7.68 g of the mixture of oxalic acid and Sodium oxalate in 1000cm^3 of a solution.

(i) Using your answer in b (II) to work out the mass of oxalic acid in 1000 cm^3 of solution B. (1 mk)

(ii) From your answer above, calculate the mass of sodium oxalate in 1000 cm^3 of the mixture. (1 mk)

(iii) Hence calculate the solubility of sodium oxalate in g/100g of water. (1mks

Procedure II

i) Using a measuring cylinder, transfer 5.0 cm^3 of solution A into a clean boiling tube.

ii) Label five test tubes 1-5

iii) Using the burette measure 5 cm^3 of oxalic acid, solution B into five test tubes labelled 1 – 5

iv) Heat solution A until it reaches 80^0C.

v) To the hot solution in (iii) add 5.0 cm^3 of solution B from test tube 1 and start the stop watch at the same time. Stir the mixture using the thermometer and record time taken for the purple color to disappear.

vi) Repeat procedure (i) – (iv) at the temperatures shown using contents of test tubes 2, 3, 4 and 5 respectively.

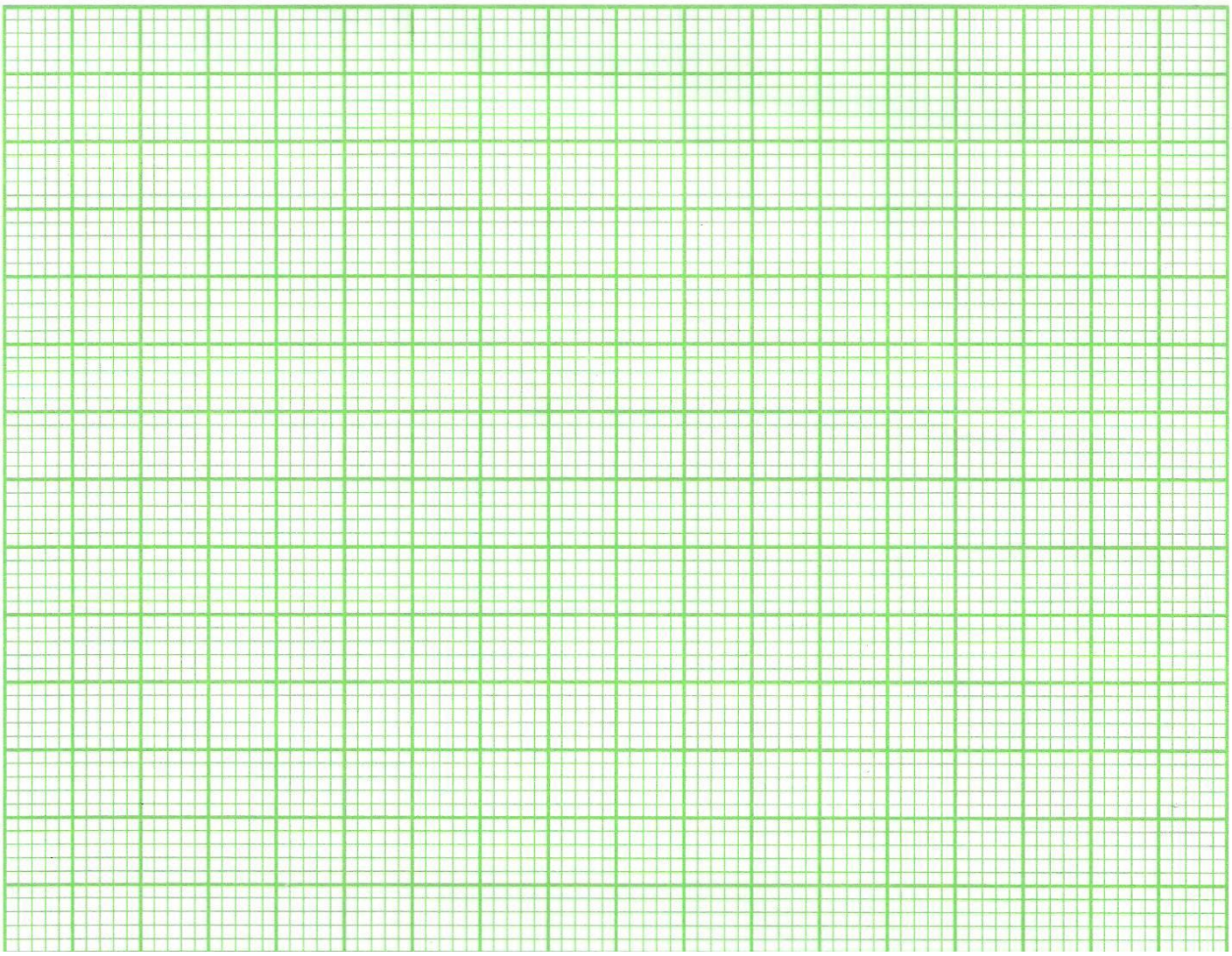
Table II

Temperature before mixing 0^0c	80	70	60	50	40
Time taken for purple colour to disappear in (sec)					
$^1/_{time}$ (sec^{-1})					

(5 mks)

(d) On the grid provided, plot a graph of $^1/_t$ (y – axis) against temperature at which the purple

colour disappear.



(3mks)

(e) From the graph:

i) Determine the time taken for the purple colour to disappear at 47.5^0C. (1mk)

ii) How does temperature change affect $^1/_t$ in this experiment? Explain. (1 mk)

……

……

QUESTION TWO:

You are provided with 10 cm^3 of solution C, which contains two cations and one anion. Carry out the tests below and record your observations and inferences in the spaces provided.

a) Add 20 $cm^3$of 2M aqueous sodium hydroxide to all of solution C provided. Shake well and filter

the mixture into conical flask. Retain both the residue (on the filter paper) and filtrate.

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

b) i) To about 2cm^3 of the filtrate, add 2M Nitric acid drop wise until in excess.

(i.e. about 1cm^3 of the acid).. Retain the mixture.

Observations	**Inferences**
(1 mk)	

Divide the mixture in b (i) above into two portions.

ii) To the first portion, add aqueous sodium hydroxide drop wise until in excess.

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

iii) To the second portion, add aqueous ammonia drop wise until in excess.

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

(c) To 2 cm^3 of the filtrate, add 3 drops of Potassium iodide

Observations	Inferences
(1 mk)	(1 mk)

(d) To 2 cm^3 of the filtrate, add 3 drops of acidified Barium nitrate solutions.

Observations	Inferences
(1 mk)	(1 mk)

(e) To the residue in (a), add 8 cm^3 of dilute nitric acid and allow it to filter into a boiling tube.

i) To 2 cm^3 of this filtrate, add aqueous ammonia drop wise until in excess.

Observations	Inferences
(1 mk)	(1 mk)

QUESTION THREE:

You are provided with solid D. Place all the solid D in the boiling tube. Add 10 cm^3 of distilled water and shake well. Divide the resulting mixture into four portions.

Observations	Inferences
(½ mk)	(½ mk)

a) To the first portion add 2 drops of universal indicator. Compare the result with the PH chart.

Observations	Inferences
(½ mk)	(½ mk)

b) To the second portion add two drops of Bromine water.

Observations	Inferences
(½ mk)	(½ mk)

c) To the third portion add drops of acidified potassium manganate (VII) solution A.

Observations	Inferences
(1 mk)	(1 mk)

d) To the fourth portion add, a little amount of $NaHCO_3$

Observations	Inferences
(½ mk)	(½ mk)

NAME……ADM NO……

UPI: …….. SIGN: ……DATE: ……

COMPUTER STUDIES 451/1

FORM 4

FORM FOUR PAPER I

TIME 2½ Hrs.

MID TERM 2 EXAM

Instructions to Candidates

- Write your Name, Admission number and UPI number in spaces provided above.
- This paper consists of **TWO** sections.
- Answer **ALL** questions in section **A**.
- Answer Question 16 and any other **THREE** Questions from Section **B**
- All answers MUST be written in the spaces provided on this question paper.

For Examiner's Use Only

Questions	Maximum Score	Actual Score
1-15	40	
16	15	
17	15	
18	15	
19	15	
20	15	
TOTAL		

SECTION A: 40 MARKS

Answer all the questions in this Section.

1.State two reasons for the increased use of Laptop computers in modern workplaces **(2marks)**

2. What precautions would you take in the computer laboratory incase users are complaining of overheating and suffocation. (**2marks)**

3.Convert the decimal number 15.373_{10} to its binary number system equivalent. **3marks)**

4.With an aid of a diagram describe the difference between Repeat Until and While… Do (**3marks)**

5.State three circumstances which may force an individual to acquire an impact printer instead of non-impact printer. (**3marks)**

6.Sam prepared a five-page brochure of Maseno School using Ms-publisher. He wanted to insert a school badge in each page of the publication. State two methods he need to apply to execute this task. (2marks)

7.State the difference between ones complement and twos complement (**2marks)**

8.State the function of each of the following features of an email software.

(i) Spam (**1mark)**

(ii) Trash (**1mark)**

9. State four benefits of cloud storage in computing. (**4marks)**

10. Describe the functions of the following disk management operations.

(a) Defragmentation **(1mark)**

(b) Partitioning (**1mark)**

11. Describe four ways through which an organization can minimize threats to it data integrity.

(4marks)

12. Study the following three sections of code and name accordingly (**3marks)**

10101010110	**MOV AL, 10**	**<OL> Chemistry**
01010101010	**MOV DL, 25**	** Biology**
01000010101	**MUL DL**	** Physics </OL>**
10100010110		
(a)	**(b)**	**(c)**

13. Identify how the operating system will label the following drives in case a computer has one floppy drive, one hard disk partition into two and a DVD. (**3marks)**

14. Five students Jane, Beryl, Baroness, Linda, and Jael scored the following marks in mathematics: 45, 76, 34, 65 and 45. The marks were recorded in cell C3 to C7. Write down the most appropriate function that can be used to give those positions so that they can be awarded in descending order.
(3marks)

15. Using an example explain two main parts of an URL. (**2marks)**

SECTION B: 60 MARKS

ANSWER QUESTION NUMBER 16 ANY OTHER THREE QUESTIONS FROM THIS SECTION

16.

(i) Define the following terms as used in programming.
(3marks)

(b) Machine dependent

(c) Bug

(d) Syntax

(ii) Give two reasons to justify why most programmers prefer using compilers instead of interpreters.
(**2marks)**

(iii) Describe two limitations of machine language.
(2marks)

(iv)Study the pseudo code below and design its equivalent flowchart (**8marks)**

```
Start
        Count=1
        For count =1 to 5 Do
        Get Value 1 and Value 2
        If Value 1 > Value2 Then
        Maximum =Value1
        Else
        Maximum =Value2
        Endif
        Display Maximum
        Count=Count+1
Stop
```

17.

(i) The five-bit number 00101 is used to represent decimal number 5, show three methods of coding for negative 5.
(**3marks)**

(ii) Convert the binary number $10101111010111011000 1_2$ into its

(a) Octal equivalent (**2marks)**

(b) Hexadecimal (**2marks)**

(iii) Convert 10101.010101_2 to decimal
(**3marks)**

(iv) Use 8-bit twos to subtract 35_{10} from 17_{10} **(3marks)**

(v) Perform the following calculation **(2marks)**
$110001_2+1111_2-11111_2$

18.
(i) Define the term desktop publishing.
(2marks)

(ii) List three nonprinting guides used in Desktop publishing
(3marks)

(iii) Explain the following features as used in DTP when manipulating graphical objects.
(a) Fill (**1mark)**

(b) Stroke **(1mark)**

(vi) Describe any three types of action queries.
(**3marks)**

(iv) Describe the function of the following features of a query grid.
(a) Criteria **(1mark)**

(b) Show **(1mark)**

(v) Mention three functions of database management software.
(3marks)

19.
(i) State three causes of system entropy. (**3marks)**

(ii) Describe three main ways of maintaining a computer-based system.
(3marks)

(iii) State three advantages of using pilot changeover strategy in system development
(3marks)

(iv) State a stage in system development life cycle where each of the following activities are carried out.

(a) Identifying shortcomings of the system

(1mark)

(b) Prepare training manuals

(1mark)

(c) Calculating the cost benefit analysis **(1mark)**

(v) State three outcomes that may result from using incorrect requirement specifications during system development.
(3marks)

20.
(a) Define the following terms.
(i) Downloading **(1mark)**

(ii) Uploading
(1mark)

(iii) Blog **(1mark)**

(b) Briefly describe how internet platform have revolutionized business operations in the 21st century.
(**3marks)**

(c) Mention three emerging issues that make many people have a negative perception about internet.
(3marks)

(d) Explain the following terms as used in data processing.

(i) Multiprocessing **(1mark)**

(ii) Batch processing
(1mark)

(e) Explain the following types of errors.

(i) Overflow error (**1mark)**

(ii) Truncation error **(1mark)**

(f) Mention two application areas of real processing
(2mark)

NAME: …… ADM NO.: ……

SCHOOL: ……..… DATE: ……

451/2

COMPUTER STUDIES

Paper 2 (Practical)

FORM 4

TIME: 2½ HOURS

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. Write the name and version of the software used for each question attempted in the answer sheet.
3. Answer all questions.
4. All questions carry equal marks.
5. Hand in all the printouts and the soft copy of your work on CD.

Question One

The table below shows data obtained from a hotel room booking database. Use it to answer the questions that follow:

Cust ID	Name	Phone number	Room No	Date of payment	Receipt No	Amount Paid
001	Mercy Kirwa	0722345671	126	23/4/2020	12345R1	7800
002	Stephen Rose	0733123456	347	02/04/2020	78653R2	4500
003	Jotham Mune	0791256435	56	05/08/2020	12364R1	5200
004	Kitanui John	0782345678	78	03/05/2020	12465R5	5678
005	Felix Kimon	0712678905	12	01/11/2020	12766R3	6790
006	Victor Orwa	0711347890	234	10/07/2020	12067R4	5489
001	Mercy Kirwa	0722345671	126	23/4/2020	12345R1	7800
005	Felix Kimon	0712678905	12	01/11/2020	12766R3	6790
004	Kitanui John	0782345678	78	03/05/2020	12465R5	5678
006	Victor Orwa	0711347890	234	10/07/2020	12067R4	5489

a) i) Create a database named **Hotel Details** to store the above data. (4mks)
ii) Split the data into two tables. The tables should be named: "Payment table" and "Personal details". (12mks)
iii) For each of the tables, chose the most appropriate key field. (4mks)
iv) Insert input mask for the **phone number** field such that the numbers are displayed as 0722-345-671.
(2mks)
v) Create one to many relationship. (4mks)

b) i) Create a data input screen for each table for inputting the data in the table above. Ensure
that the name and title of the screen are appropriate. (4mks)
ii) Use the screens created to enter the records in the table above into the appropriate tables. (8mks)

c) Create a query to extract all customers whose names end with letter "a". Save the query as "END WITH". (4mks)

d) Generate a tabular grouped report showing the total and average of the payments in the payment table. Grouping should be done on the customer's name (5mks)

e) Print the two tables and the report. (3mks)

Question Two

Bama School ordered Computer accessories and the following suppliers provided the following as illustrated below.

	A	B	C	D	E
1	**FName**	**ONames**	**Itemsold**	**Amount**	**Date**
2	Peter	Okada	Mouse	200	12/2/2008
3	James	Mukanda	System Unit	5000	12/3/2008
4	John	Kinyanjui	Keyboard	200	12/4/2008
5	Peter	Okada	CD Writer	2000	12/5/2008
6	James	Mukanda	commputer System	2000	12/6/2008
7	John	Kinyanjui	Mouse	200	12/7/2008
8	Freddrick	Okiring'	Mouse	200	12/8/2008
9	John	Kinyanjui	System Unit	2500	12/9/2008
10	Peter	Okada	Keyboard	200	12/10/2008
11	James	Mukanda	CD Writer	3000	12/11/2008
12	John	Kinyanjui	commputer System	5400	12/12/2008
13	Freddrick	Okiring'	Mouse	200	12/13/2008
14	Peter	Okada	System Unit	3000	12/14/2008
15	James	Mukanda	Keyboard	200	12/15/2008
16	John	Kinyanjui	CD Writer	2500	12/16/2008
17	Freddrick	Okiring'	commputer System	6000	12/17/2008

(a) Enter the data shown above into a spreadsheet and save it as **Bama**. (16 marks)

(b) The word commputer system has been entered incorrectly. Update the information in the spreadsheet.
(3 marks)

(c) Format all numeric values to 2 decimal places and use comma separators. (4 marks)

(d) Copy the content of Bama to a new sheet and rename the sheet as **BamaSales**. Enter a label in Cell F1 as **New Amount**. In cell F2 enter a formula to calculate the new amount if the amount went up by a value in cell B18. Copy the formula to the rest of the sheet.(10 marks)

(e) Using **BamaSales** find subtotals for each supplier. (6 marks)

(f) Using **BamaSales'** subtotals for each supplier create a labeled bar graph on a separate worksheet. Save the chart as **Supplier**.
(8 marks)

(g) Print Bama, BamaSales, Supplier. (3 marks)

NAME ……..…… **DATE**……..

INDEX NO. ……..…… **SIGNATURE** ……..…

313/1
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1
TIME: 2 ½ HOURS

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES
Answer any five of the given questions.
All answers must be written in the Answer Booklet provided.
All questions carry equal marks.
Give all your responses in English.

This paper consists of 2 printed pagesCandidates should check to ensure that all pages are printed as indicated and no questions are missing

ANSWER ANY FIVE QUESTIONS IN THIS PApER.

1. a) Identify Eight creations that God made using the divine command '' let there be'' Genesis 1
(8MKS)

b) Explain the Biblical teaching on the origin of Sin in the World (7MKS)

c) Give Five reasons why Christians should forgive others (5MKS)

2. a) What was the importance of the covenant between God and Abraham (7MKS)

b) How did God show His Mercy to the Israelites during the exodus? (7MKS)

c) How do people break the commandment ''DO not Kill'' in the society today? (6MKS)

3. a) Outline Seven promises of God to David through prophet Nathan (7MKS)

b) Explain the factors that led to the contest between prophets of Baal at Mt. Camel (7MKS)

c) Give reasons why a leader may be rejected in the society today (6MKS)

4. a) Outline the importance of prophets in the nation of Israel. (7MKS)

b) Explain seven teachings of prophet Amos about the day of the Lord. (7MKS)

c) Explain how the church punishes errant members. (6MKS)

5. a) Explain the symbols used during the call of prophet Jeremiah. (6 MKS)

b) Outline the message of prophet Jeremiah in his letter to the exiles. (Jeremiah 29:1 – 14) (7 MKS)

c) Explain ways in which Christians can avoid God's punishment today. (7 MKS)

6. a) Identify Seven factors that promote harmony and social responsibility in traditional African Communitie(7 MKS)

b) Mention Seven factors that influence the naming of children in African Traditional Society (7MKS)

c) Show how modern trends have affected burial rites in African Traditional Society. (6MKS)

NAME _____ INDEX NO._____

SCHOOL _____SIGNATURE _____

DATE _____

313/2

FORM 4

C.R.E

PAPER 2

TIME: 2½ HOURS

MID TERM 2 EXAM

313/2

C.R.E

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Sign and write the date of the examination in the spaces provided above.
3. This paper consists of **six** questions.
4. Answer **any five** questions in the spaces provided.
5. Each question carries **20** marks.
6. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	Total score
Candidates' score							

1.

a) Outline Micah's prophecy concerning the Messiah (Micah 5:2-5) (7mks)

b) Describe the annunciation of the birth of Jesus by Angel Gabriel as recorded in Luke 1:26 – 38 (5mks)

c) State five lessons Christians learn from the magnificat. (5mks)

2.

a) Explain the teachings of Jesus on the qualities of a true discipleship. (Luke 6:20- 49) (8mks)

b) Describe the incident in which Jesus forgave the sinful woman. (Luke 7:36—8:1-3) (7mks)

c) State five lessons Christians learn from the incident in which Jesus forgave a sinful woman. (5mks)

3.

a) With reference to the story of the rich man and Lazarus, explain the teachings of Jesus on the proper use of wealth Luke (16:19-31) (8mks)

b) Outline six signs of the end times as taught by Jesus in (Luke 21:5-38) (6mks)

c) Give seven ways in which Christians are preparing themselves for the second coming of Jesus Christ. (7mks)

4.

a) Identify eight characteristics of love as taught by Saint Paul in 1st Corinthians. (8mks)

b) Explain the unity of believers as expressed in the concept of the church (Ephesians 5:21-23) (5mks)

c) Identify seven factors that hinder effective cooperation among Christians' in Kenya today (7mks)

5.

a) Identify five sources of Christian Ethics. (5mks)

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

c) Explain how responsible Parenthood is demonstrated by Christians in Kenya today. (8mks)

6.

a) Outline the Christian teachings on marriage. (8mks)

b) How should Christians prepare for marriage? (6mks)

c) Give reasons why some Christians break the marriage vows. (6mks)

NAME: _____ **ADM No**_____

DATE:_____ **SCHOOL:** _____ **SIGNATURE:** _____

101/1

FORM 4

ENGLISH

Paper 1

2 Hours

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

Instructions to Students

a) *Write your name and index no. In the space provided.*

b) *Sign and write the date of the exam in the space provided.*

c) *Answer all the questions in the paper.*

d) *All your answers must be written in the space provided.*

For Examiners use only

Question	Maximum score	Student's Score
1	**20**	
2	**10**	
3	**30**	
Total score	**60**	

FUNCTIONAL WRITING

1.You are the secretary of the Young Youths Farmers Club in your school. In consultation with the chair, you called a meeting for 22nd, August 2021, at 3.00pm. Out of a total membership of fifteen, ten attended, four absent with apologies, and one does not sent any apology**. (20marks)**

The following are the agenda.

1. Preliminaries
2. Confirmation of minutes of the previous meeting.
3. Matters arising
4. Negotiations with the bursar for the purchase of vegetables
5. Schedules for the harvesting of the vegetables
6. Formula for sharing the income
7. A.O.B

Record the minutes of the meeting, giving details of discussions and resolutions made.

2.Cloze test (10marks)

Read the passage below and fill in each blank space with the most appropriate word. (20marks)

Every year, the government____1____hundreds of millions of shillings in tax revenue_____. 2 _____smuggling. Dumpling of sub-standard goods 3 _____counterfeit products poses another __4____threat ___5_____the stability of the economy. Local traders say smuggling ___6_____further fuelled be economic growth registered in the last two years.

They attribute this ___7___ to rising demand for imported goods, especially electronic ___8___cars and petroleum products. And while import volumes 9_____increased substantially in the past two years, facilities and equipment ___10___the Kilindini harbour, Mombasa and Kenyatta international Airport (JKIA) overstretched.

3. Oral skills (30marks)

a) Read the following poem and answer the questions that follow.

The Seed Shop

Here in a quiet and dusty room they lie,

Faded as crumbled stone or shifting sand,

Forlorn as ashes, shriveled scentless dry,

Meadows and gardens running through my hand.

In this brown husk a dale of hawthorn dreams,

A cedar in this narrow cell is thrust,

That will drink deeply of century's streams,

These lilies shall make summer on my dust,

Here in their safe and simple house of death,

Sealed in their shells, a million roses leap,

Here I can blow a garden with my breath,

And in my hand a forest lie asleep.

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

.....

.....

.....

ii. What is the effect of the rhythm in the poem **(1marks)**

.....

.....

iii. How else has the poet achieved the effect in(ii) above**?(4marks)**

.....

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.....

.....

.....

iv. Which words would you stress in the last line of stanza 1 and why**?(3marks)**

.....

.....

.....

b) For each of the set of words below, underline the odd one out. **(3marks)**

i. Cough Bought Dough

ii. Think Thy Thigh

iii. Not Note Knot

c) Provide another word that is pronounced the same way for each of the words listed below. **(3marks)**

i. Bean -

ii. Wear -

iii. One -

d) For each of these words make two sentences to bring the differences in their meaning. **(4marks)**

i. Beat

.....

.....

.....

ii. Produce

.....

.....

.....

e) Read the conversation below between Judy and a Peer Counselor and then answer the questions that follow. **(6marks)**

Peer counselor: *(Mentioning her to a sit?).* Hallo Judy. How are you getting on?

Please have a seat and don't be anxious.

Judy: Don't tell me it's all over school now. I will kill you...

Peer Counselor: (Interrupting) Please relax. Well, you swore me into secrecy and I have kept my part of the again. No cause of alarm.

Judy: So then, why do you want to see me? You mean it can show?

Peer Counselor: Calm down, you are just in early stages and please keep up appearances. The school closes next month.

Judy: (Looking disturbed). One month and the whole world will know. I need to procure...

Peer Counselor: Don't even go there.... will you be able to live with the guilt? Remember things can also go wrong and you die.

Judy: (Visibly agitated) Then, tell me what to do.

Peer Counselor: Please calm down. All is not lost. You just tripped; You never fell. These days Judy, girls are accepted back to school after giving birth so you need not worry. All will be fine. In the meantime, just relax for your baby.

Judy: (Sighs) Thank you for being there for me. Remember not a word to a sou.

Peer Counselor: You can trust me Judy, Good day.

Judy: Good day.

i. How does the peer counselor establish good rapport with Judy? **(2marks)**

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ii. What good conversational skills does the peer counselor portray? **(2marks)**

.....

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.....

iii. Identify two shortcomings in Judy's speech **(2marks)**

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KENYA CERTIFICATE OF SECONDARY EDUCATION

ENGLISH PAPER 2 FORM 4

MIDTERM 2 SET 1 2023 EXAM

NAME:_____STREAM_____DATE:____

Instructions to the candidates

i. Write your name and admission number in the spaces above.
ii. Answer all the questions in the spaces provided.
iii. Check to ascertain that the paper has all questions.
iv. The paper has 13 printed pages.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1.Comprehension Passage	20	
2. Literary Appreciation	25	
3. Oral Literature	20	
4. Grammar	15	

1. COMPREHENSION PASSAGE (20MARKS)

Read the passage below and answer the questions that follow.

America has a long tradition of creativity. The expression Yankee **ingenuity** is an acknowledgement of this trait present Americans with a novel problem, especially technological and they are likely to come up with the solution sooner rather than later.

That is the positive side. The downside is that in policy matters, Americans sometimes come up with the solutions and then look for personal problems on which to test them. Washington D.C, perhaps more than any other city in the world, has many solutions seeking problems to lock onto.

If the solutions are successful, domestically or internationally, you can expect any amount of excitement and chest thumping, which is another **hallmark** of the American character. Modesty is frowned upon as something for sissies or failures. Countries and peoples are ready paradigm of winners and losers. Woe unto you if you are a 'loser'. You will endure all manner of taunts and putdowns.

To escape this fate, most Americans-including those who are demonstrably poor, call themselves middle class, which probably they are when compared to the poor in other places. But poverty is relative to immediate environment not to some distant places.

One of the more recent American inventions is spinning not as in making clothes (the American textile industry has long being outsourced, notably from China another low wage country),but rather as in using words and other symbols amplified by the media to paint a picture of anything and everything in alight favorable to the presenter's side.

This past week, the world witnessed, yet again, this peculiar American habit of hype and more hype, in this instance, designed to drive the point home that America's declared policy to force-feed democracy to recalcitrant societies has just scored a **humongous** victory. Following the Iraqi elections the turn out in particular, has been hailed as a stunning victory of American policy. Pitted against Iraqi Jihadists who are waging a relentless and ruthless insurgency, a scintilla of validation of America's Iraqi policy was all that was necessary to set off celebratory fireworks.

To those who recount narratives (the spinners), whose job it is to put a bright glass on things a clear picture of winners and losers are the Neanderthals; "thugs and assassins" in the words of the newly sworn in secretary of state Condeleeza Rice-the insurgents who threatened to wreak havoc on election day in Iraq but were thwarted.

The high turnout was read as a violation of many things that were most likely absent from the minds of those Iraqi voters who cast their ballots. Before it was even known whom they had voted for and why, the whole enterprise was turned into cause for chest thumping by

some American politicians, prompting John Kerry the loser in the November presidential race, to warn against hyping the Iraqi election.

Who will listen to a loser? This is America! By the time Kerry spoke, the spinning was in full gear. It was another turning point, declared elated talking heads. Never mind that there have been numerous "turning pints" in Iraq's tortured post-invasion experience. The winners were emerging.

A few voices have urged caution but they are drowned out by the self-congratulation that has **engulfed** just about every major media outlet here.

It is reminiscent of the chatter that followed Saddam Hussein's capture. That was another turning point. The irony is that America has been through this before, in a different place, with almost the exact same headlines. In the late 1967, many American newspapers published flowery and upbeat stories on the elections held in South Vietnam at the height of the war. The turnout was nearly 83% despite Vietcong terror. The election was declared a success and a turning point that would lead to stabilization of the country and eventual defeat of the insurgents. Of course, nothing of the sort happened.

History does not **invariably** repeat itself. Sometimes it does. Whatever one might think of it, history does always serve up many lessons. One of them is that a dose of modesty is always in order when confronted with vast historical forces or when seeking to rearrange complex societies their go hundreds, if not thousands, of years back.

What may look like victory as first sight may turn out to be another opening to a complex and trying situation that control produce winners or losers. It looks like this what is emerging in Iraq. The millions who headed to the polls on the instructions of their electrical leaders (remember Grand Ayatollah Sistani declared it a religious duty to vote? May or may not have had a clear idea of what society were hoping to create. Their leaders probably do.

Iraqis voted and they are justifiably proud of it. However, this should not be made to look like a first in the Islamic world, as it is being painted in the media. Not too long ago, an Islamic party had won a clear and convincing victory in a free and fair election in Algeria. It was never allowed to assume power. The international authorities desisted from calling the denial an affront to democratic practice. The man who cancelled the Algerian election results is feted in the very same quarter that now preach democracy.

Society's broken tyranny, war, fragmentation and other ills are not served by putdowns of important segments within them.

The approach may produce winners in the short term but for more losers in the end. Moreover, here we are talking of those who could lose everything, including their lives, on a mass scale. A little modesty may just be what is needed to get people across the divide talking. After all, in the end, we are all losers.

Questions

a) What is the negative side of America's long tradition of creativity? (2marks)

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b) "Woe unto you if you are a loser." What does the author mean by this statement? (2marks)

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……

c) Identify and explain an instance of irony in this passage. (3mks)

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d) What is the author's attitude towards the Americans? Give reasons for your answer. (2marks)

……

……

……

e) '...and the losers are Neanderthals; …' explain how the Neanderthals became losers according to this passage. (2marks)

……

……

f) What according to the passage is referred to as spinning? (2marks)

……

……

……

g) Identify one American policy discussed in this passage. (2marks)

……

……

h) Explain the meaning of the following words as used in the passage. (5marks)

i) Ingenuity……

ii) Hallmark……

iii) Engulfed……

iv) Humongous……

v) Invariably……

2. Read the excerpt believe then answer the questions that follow. (25marks)

Nora: I don't believe that any longer. I believe that before all else I am a reasonable human being, just as you are – or at all events, that I must try and became one. I know quite well, Torvald that most people would think you right, and that views of that kind are to be found in books; but I can no longer content myself with what most people say, or with what is found in books. I must think over things for myself and get to understand them

HELMER: Can you not understand your place in your own home? Have you not a reliable guide in such matters as that? - have you no religion?

Nora: I am afraid, Torvald, I do not exactly know what **religion** is.

Helmer: What are you saying?

Nora: I know nothing but what the **clergyman** said, when I went to be confirmed. He told us that religion was this and that, and the other. When I am away from all this, and I am alone, I will look into that matter too. I will see if what the clergyman said is true, or at all events if it is true for me.

Helmer: This is unheard of in a girl of your age! But if religion cannot lead you alright, let me try and awaken your **conscience**. I suppose you have some moral sense? Or –answer me- am I to think you have none?

Nora: I assure you, Torvald that is not an easy question to answer. I really don't know. The thing **perplexes** me all together. I only know that you and I look at it in a quite different light. I am learning, too, that the law is quite another thing from what I suppose; but I find it quite impossible to convince myself that the law is right. According to it a woman has no right to spare her old dying father, or to save her husband's life. I can't believe that.

Helmer: You talk like a child. You don't understand the conditions of the world in which you live.

Nora: No, I don't. But now I am going to try. I am going to see if I can make out who is right, the world or I.

Questions

1. Place this extract in its immediate context. (4 marks)

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2. Discuss any two character traits of Helmer in this extract. (4marks)

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3. Give evidence that Nora is an assertive character (3marks)

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4. From elsewhere in the play how is Nora portrayed in a different light? (2marks)

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5. I do not exactly know what religion is.(Add a question tag) (1mark)

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6. In which way does Nora conflict with the law? (2marks)

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7. Discuss one major issue of concern addressed in this context. (2 marks)

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8. What is the mood in this context? Explain. (3marks)

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9. What is the meaning of the following words? (4 marks)

i) Religion

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ii) Clergyman

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iii) Conscience

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iv) Perplexes

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3. Read the oral narrative below and answer the questions that follow. 20MARKS

The Moon, it is said, once sent an insect to men, saying, "Go to men and tell them, 'As I die, and dying live, so you shall also die, and dying live'"

The insect started with the message, but while on his way, was overtaken by hare, who asked, "On what errand are you bound?"

The insect answered, I am sent by the Moon to men, to tell them that as she dies and dying lives, so shall they also die and dying live."
The hare said, "As you are an awkward runner, let me go." With these words he ran off, and when he reached men, said, "I am sent by the Moon to tell you, 'As I die and dying perish, in the same manner you also shall die and come wholly to an end.'"

The hare then returned to the Moon and told her what he had said to men. The Moon reproached him angrily saying, "Do you dare tell the people a thing which I have not said?"

With these words the Moon took up a piece of wood and struck the hare on the nose. Since that day the hare's nose has been slit but men believe what hare had told them.

(Taken from African Folktales; edited by Paul Radin)

a) Classify this oral narrative. Illustrate your answer. (2 marks)

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b) What evidence is there in the story to show that it is a translation? (2 marks)

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c) Identify and explain any two features of oral narratives evident in this poem. (4marks)

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d) Describe the character of men in this narrative. (2 marks)

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e) What does this story reveal about death? (2marks)

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f) How different is the Moon's message from the one delivered by the hare? (2 marks)

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g) Describe one social activity of the society portrayed in the story? (2 marks)

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h) Describe the tone projected in this narrative? (2marks)

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i) Explain the moral of this story. (2 mark)

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4. GRAMMAR 15MARKS

A. Rewrite the following sentences according to the instructions given after each. (4 marks)

i. It was difficult but we completed the job. (Begin: Difficult …)

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ii. She said that she had not murdered her. (Use: 'denied')

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iii. I will not at any cost support your evil plans. (Begin: At no cost…)

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iv. They are renovating their house so that they may sell it. (Rewrite using 'with a view')

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……

B. Fill in the blank spaces with appropriate preposition. **(3 marks)**

(i) The accident occurred when the brakes of the car gave …….

(ii) Focused students never throw …… the towel.

(iii) The most wanted criminal turned themselves …… last night.

C. Use the correct form of the word in brackets to fill in the blank space in each of the following sentences. **(3 marks)**

(i) Only the ……. will live in peace in the new political dispensation. (corrupt)

(ii) The aim of education is to make one…… (function)

(iii) Their greed for money was……. (rival).

D. Choose the correct words from the ones given in the brackets. ***(3 marks)***

i. She works harder than……. (he/him)

ii. Uncle Jeff gave……..(my twin sister and I / me and my twin sister) mobile phones on our birthday.

iii. (He/Him)…… being the eldest in the family, has to shoulder all the responsibility.

***E. Replace the underlined phrasal verbs in the following sentences with one word that has the same meaning*.** **(2marks)**

(i) The boy <u>pulled out</u> of the marathon race due to fatigue

……

(ii) The county fire brigade <u>put out</u> the fire after many hours

……

KENYA CERTIFICATE OF SECONDARY EDUCATION

ENGLISH PAPER 3 FORM 4

MIDTERM 2 SET 1 2023 EXAM

NAME:_____STREAM_____DATE:____

Instructions to the candidates

i. Write your name and admission number in the spaces above.
ii. Questions one and two are compulsory.
iii. Choose any one question in question three.
iv. Check to ascertain that the paper has all questions.
v. The paper has 2 printed pages.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1. Imaginative/Creative Writing	20	
2. Compulsory Set Book Essay	20	
3. Optional Set Book Essay	20	
	60	

1. Creative Writing

Either

Write a composition ending with the following statement

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

Or

Write a composition expressing the validity of the saying, 'Let the sleeping dog lie.'

2. The Compulsory Setbook

***Blossoms of Savannah* by H.R. Ole Kulet.**

"Our greatest enemies are those close to us." Basing your argument on H.E. Ole Kulet's *Blossoms of the Savannah*, write an essay to qualify this assertion. (20 Marks)

3. Optional Set book

a. *Inheritance* by David Mulwa

Drawing illustrations from David Mulwa's *Inheritance*, write an essay to show how moral decadence among leaders affects society. (20 Marks)

b. *A Silent Song and Other Stories* by Godwin Siundu

'Misuse of power leads to regret.' Write an essay in support of this assertion using illustrations from A Man of Awesome Power by Naguib Mahfouz.

NAME……SCHOOL……..

ADM NO……INDEX NO……..DATE……..……

SIGN……CLASS……STREAM……

312/1.

GEOGRAPHY.

PAPER 1.

FORM 4

Time: 2 ¾ Hours.

MID TERM 2 EXAM

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTION TO CANDIDATES:

- **This paper has Two Sections A and B.**
- **Answer all questions in sections A.**
- **In section B answer questions 6 and any other two questions.**
- **All answers must be written on the answer sheet provided**

This paper consists of 4 printed pages

Candidates should check the question paper to ensure

that all the pages are printed as indicated and no questions are missing .

SECTION A

Answer all questions in this section.

1. a) Explain the origin of the earth and the solar system according to the Nebula cloud theory. (4mks)

   b) Name **two** other theories that explain the origin of the earth and the solar system apart from the Nebula cloud theory. (2mks)

2. a) List **two** zones of transition in the atmosphere. (2mks)

   b) Give **three** evidences that the interior of the earth is hotter. (3mks)

3. a) Define the following terms.

      i) River divide (1mk)

      ii) A confluence (1mk)

      iii) A river profile (1mk)

   b) List **three** factors that influence the formation of a river. (3mks)

4. How is an oasis formed? (4mks)

5. List **four** characteristics of Mediterranean climate. (4mks)

SECTION B: ***Answer questions <u>six</u> and any other <u>two</u> questions.***

6. (a) Study the map of Kijabe 1: 50,000 sheet 134/3 provided and answer the following questions

   (i) Give the approximate height of peak of Kijabe hill. (1mk)

   (ii) Measure the length of the Naivasha –Nairobi railway line from landhies (Grid ref 257987) to the level crossing near Kijabe station (grid reference 308984). Give your answer in kilometers and Meters.) (2mks)

   (iii) Name the relief feature on the map that may have created problems during the construction of the railway line. (1mk)

   (b) Describe the drainage of the area covered by the map extract. (5mks)

   (c) Explain how relief has influenced the distribution of settlement in the area covered by the map extract. (4mks)

(d) Citing evidence from the map, state four economic activities carried out in the area covered by the map extract. (4 mks)

(e) Suppose you were to carry out a field study at Wakangwe forest:

(i) Design a working schedule that you would use during the day of the study. (5mks)

(ii) Give reasons why it would be necessary to sample part of the forest for the study. (2mks)

(iii) State two ways in which your findings would be useful to the local community. (2mks)

7. a) i) What is faulting? (1mk)

ii) With the use of a well labeled diagram explain how a reverse fault occurs. (5mks)

iii) State **two** other types of faults apart from reverse faults. (2mks)

b) Describe how a rift valley forms through tensional forces. (4mks)

c) Explain **three** ways in which features resulting from faulting are of economic importance to man. (6mks)

d) You intend to carry out a field study of the landforms around your school.

i) State **two** hypotheses you are likely to formulate for the study. (2mks)

ii) Apart from dividing your class into groups, in what three other ways will you prepare for the study. (3mks)

ii) In what **two** ways is dividing the class into groups important? (2mks)

8. a) i) Differentiate between intrazonal and azonal soils. (2mks)

ii) Give **three** examples of a zonal soils (3mks)

b) i) Explain **four** factors that influence soil formation. (8mks)

ii) Give **two** factors that determine the colour of soil (2mks)

c) i) What is soil erosion. (2mks)

ii) Explain **four** ways in which vegetation prevents soil erosion. (8mks)

9 a) i) Name a country in Africa where temperate grassland is found. (1mk)

ii) State **four** characteristics of temperate grasslands. (4mks)

b) i) Explain **four** ways trees in the coniferous forests have adapted to the environmental conditions of the region. (8mks)

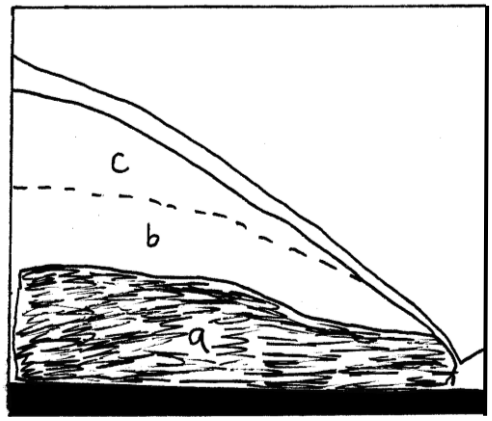
c) You are required to carry a field study on a forest near your school. Describe the methods you would use to determine each of the following aspects of the trees in the forest.

i) Age of the trees. (3mks)

ii) Height of the trees. (3mks)

iii) Tree species (3mks)

10. The figure below shows underground zones of saturation. Use it to answer question a (i)



a) i) Identify the zones marked a, b, and c. (3mks)

ii) Name **four** sources of groundwater. (4mks)

b) Explain **four** ways in which groundwater is of significance to human activities. (8mks)

c) i) Give **two** examples of lakes in East Africa that have formed due to crustal warping. (2mks)

ii) Describe how the process of crustal warping leads to formation of lakes. (5mks)

iii) State **three** other processes that lead to formation of lakes apart from crustal warping. (3mks)

MID TERM 2 EXAM

Kenya Certificate of Secondary Education

Geography *(312/2)*

Paper Two

Form 4

Time: 2 hours 45 minutes

Name: …… School: ……

Reg. No: …… Signature: ……

INSTRUCTIONS TO CANDIDATES:

- This paper consists of two sections, **A and B.**
- **Answer all** the questions in **section A**.
- Answer **question 6 and** any other **two** questions from **section B**
- **All answers MUST be written on separate answer sheets provided.**
- ***This paper consist of 4 printed pages , students to confirm this and ensure all the questions printed as indicated***

FOR EXAMINER'S USE ONLY

SECTION A	1	2	3	4	5	

SECTION B	6	7	8	9	10	

TOTAL

SECTION A (25 marks) Answer All the Questions in this Section

1. a) Define the term mining. **(2 marks)**

2. b) State **three** forms in which minerals occur. **(3 marks)**

3. a) Distinguish between forest and forestry. **(2 marks)**

   b) Show **three** factors that influence the distribution of forests. **(3 marks)**

4. a) What is horticulture? **(2 marks**

   b) Give **three** economic factors that influence agricultural activities. **(3 marks)**

5. a) Name two places where limestone are found in Kenya. **(2 marks)**

   b) List **three** uses of soda ash. **(3 marks)**

6. a) What is a dead ground? **(2 marks)**

   b) Mention **three** uses of a photograph. **(3 marks)**

SECTION B (75 marks)

Answer question 6 and any other two questions

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

(a) (i) Identify the type of photograph shown above. **(1 mark)**

(ii) Describe the characteristics of the forest shown on the photograph. **(4 marks)**

(iii) Draw a rectangle measuring 15 cm by 10 cm. On it, sketch and label **five** main features shown on the photograph. **(5 marks)**

(b) (i) Name **two** indigenous softwood tree species in Kenya. **(2 marks)**

(ii) Explain **three** problems facing forestry in Kenya. **(6 marks)**

(iii) State **three** factors favoring the development of softwood forests in Canada. **(3 marks)**

(c) Give **four** differences between softwood forests in Kenya and Canada. **(4 marks)**

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

Oil consumption in Kenya in the year 2010	
Economic sector	**Percentage of oil consumed**
Agriculture	4
Aviation	21

Commercial and Industry	22
Power	7
Rail	6
Road	30
Shipping	6
Others	4
Total	**100**

a) i) Draw a simple pie chart to represent the information above. **(6 marks)**

ii) What is the percentage of oil used in transport in the year 2010? **(2 marks)**

iii) Mention **two** demerits of using the method above to represent data. **(2 marks)**

b) i) List **three** countries where oil is produced in the Middle East. **(3 marks)**

ii) Explain **three** contributions of oil in the economy of the countries in the Middle East

(6 marks)

c) Describe how petroleum oil is formed. **(6 marks)**

8 a) Name **two** wheat growing counties in Kenya **(2 marks)**

b) State **five** conditions favoring wheat farming in Kenya. **(5 marks)**

c) Describe wheat farming from planting to harvesting stage. **(8 marks)**

d) Give **two** selling points of wheat in Kenya. **(2 marks)**

e) Compare wheat farming in Kenya and Canada. **(8 marks)**

9. a) Discuss nomadic pastoralism in Kenya under the following sub-headings

i) The cattle breeds kept **(2 marks)**

ii) The pattern of movement **(2 marks)**

iii) Marketing of the animals **(3 marks)**

b) i) Give **three** reasons why nomadic pastoralists keep large heads of animals. **(3 marks)**

ii) Explain **four** measures taken by the government of Kenya to improve beef cattle farming. **(8 marks)**

c) Give **four** challenges facing nomadic pastoralism in Kenya **(4 marks)**

d) Name **three** indigenous breeds of dairy cattle reared in Kenya. **(3 marks)**

10.) a.) i.) Differentiate between land reclamation and land rehabilitation **(2 marks)**

ii) Identify three methods of land reclamation in Kenya **(3 marks)**

b) i.) State four physical factors that influenced the location of Mwea Tabere irrigation scheme

(4marks)

ii.) Explain four problems facing Mwea Tabere irrigation scheme **(8 marks)**

c) i.) Outline the stages that were involved in the reclamation of land from the sea in Netherlands

(5marks)

ii.) State three benefits of the of irrigation farming in Kenya **(3 marks)**

THIS IS THE LAST PRINTED PAGE.

NAME… … … … … … … … … … … … … … … … …SCHOOL… … … … … … … … … … …

ADM NO… … … … … … … … … …FORM… … … … ….DATE… … … … … … … …

FORM 4

HISTORY AND GOVERNMENT

PAPER 2

MID TERM 2 EXAM

SECTION A. (25MKS)

ANSWER ALL QUESTIONS IN THIS SECTION

1. Identify two written sources of information on Kenyan History. (2mks)
2. Name one aspects of history that you have studied. (1mks)
3. Give the main reason for the migration of Eastern Bantus from Shungwaya. (1mk)
4. Identify two functions of the warriors among the Bantu communities in pre-colonial period.(2mks)
5. Identify one reason that can lead to revocation of citizenship by birth in Kenya. (1mk)
6. State ways in which the nation accord and reconciliation Act 2008 affected the composition of Government in Kenya. (2mks)
7. Identify two types of democracy. (2mks)
8. Give two social factors that led to the scramble and partition of East Africa. (2mks)
9. Give two methods which were used by the British to establish their rule in Kenya. (2mks)
10. Give the name of the Wanga leader who collaborated with the British (1mk)
11. Who was the British administrator in charge of the British Imperial East African Company (1mk)
12. Give two objectives for establishing colonial health centres. (2mks)
13. Identify the political party formed in 1960 to champion the interest of minority groups in Kenya. (2mks)
14. Name the election body that organizes general elections in Kenya. (2mks)
15. Give two types of elections held in Kenya. (2mks)
16. Identify the main voting system used in Kenya during elections. (1mk)
17. Who is the head of judiciary in Kenya. (1mk)

SECTION B;- (45MKS)

ANSWER ANY THREE QUESTIONS FROM THIS SECTION

18. a) Give five reasons for the migration of the Luo in Kenya during the 19th century. (5mks)
    b) Explain five effects of migration and settlement of the Luo into Kenya. (10mks)

19. a) State three reasons why Seyyid Said transferred his capital from Muscat to Zanzibar in 1840. (3mks)
    b) Explain six factors which contributed to the development of trade between the Kenyan Coast and the outside world in the 16th century. (12mks)

20. a) State three powers given to Imperial British East African Company by the British. (3mks)
    b) Explain the reason for an end to the Imperial British East Company rule in 1895. (12mks)

21. a) Give five early political organizations formed in Kenya upto 1935. (5mks)
    b) Explain the problems experienced by European settlers in Kenya. (10mks)

SECTION C:- 30MKS)

ANSWER ANY TWO QUESTIONS FROM THIS SECTION

22. a) Give three levels of conflicts that can be experienced in Kenya. (3mks)
    b) Explain six factors that promote National Unity in Kenya. (12mks)

23. a) State five Principles of Democracy. (5mks)
    b) Explain Kenya's Constitutional Review process (10mks)

24. a) State five functions of returning officers in a general election in Kenya. (5mks)
    b) Explain five factors which can interfere with free and fair elections in Kenya. (10mks)

NAME ……..ADM NO……STREAM……..

NAME OF SCHOOL……DATE……

INDEX NO. …… SIGNATURE ……..……..

311/2

HISTORY AND GOVERNMENT
PAPER 2
FORM 4
TIME: 2 ½ HOURS

MID TERM 2 EXAM

INSTRUCTIONS TO CANDIDATES

*This paper consists of three sections **A**, **B** and **C***
*Answer **ALL** the questions in section A*
Three questions from section B and
Two questions from section C.
*Answers to all questions **MUST** be written in the answer booklet provided*

SECTION A (25 MARKS)

Answer all the questions in this section in the answer booklet provided.

1. State **two** reasons why the study of government is important (2 marks)
2. Define the term 'pre-history' (1 mark)
3. Name **two** economic activities of man in the pre-historic period (2 marks)
4. Give **two** examples of tools made by middle stone age man (2 marks)
5. Identify **one** factors that forced early man to change from hunting and gathering to food production (1 marks)
6. Name **two** early centers of agriculture in the world. (2 marks)
7. Name the type of writing invented by the early world. (1 mark)
8. Give **two** advantages of money system in trade (2 marks)
9. State **two** ways in which the industrial revolution in Europe promoted colonialism (2 marks)
10. What was the **most** important symbol of unity among the Asante? (1 mark)
11. Name **one** chartered companies which were used to administer European colonial possessions in Africa. (2 marks)

12. State **two** conditions that one had to fulfill to become assimilated to French West Africa. (2 marks)
13. State one way through which the European maintained peace among themselves during the partition of Africa (1 mark)
14. Apart from Nigeria and Ghana, name other West African country which was ruled by Britain(1 mark)
15. What is the **main** function of the security council of the UNO? (1 mark)
16. Mention **one** method used by the international community to hasten independence in South Africa. (1 mark)
17. Identify **one** types of democracy. (1 mark)

SECTION B (45 MARKS)

Answer any three questions from this section in the answer booklet provided.

18 a) State **three** roles played by the Tuaregs in the Trans-Saharan trade. (3 marks)

b) Explain **six** effects of the Trans-Saharan trade (12 marks)

19 a) Identify **three** ways in which trade contributed to the growth of Kingdoms in Africa in the 19th C. (3 marks)

b) Explain **six** factors that led to the rise and growth of the Buganda Kingdom. (12 marks)

20 a) Give **five** reasons why many developing countries have lagged behind in industrialization. (5 marks)

b) Explain **five** effects of the industrial Revolution in Europe. (10 marks)

21 a) Name **three** systems of colonial administration used by European powers in Africa. (3 marks)

b) Discuss the difference between the British and French forms of administration in Africa. (12 marks)

SECTION C (30 MARKS)

Answer any two questions from this section in the answer booklet provided.

22 a) State **three** reasons why the United States of America (USA) was reluctant to join the First World War during the initial stages. (3 marks)

b) Explain **six** results of the first world war (12 marks)

23 a) State **three** objectives of the Non –aligned movement (3 marks)

b) Explain **six** factors that undermined the activities of Non-aligned movement(12 marks)

24 a) Outline **three** functions of the East African community (3 marks)

b) Explain **six** problems which the East African Community faced upto 1977 (12 marks)

NAME…….. ADM NO…….

SCHOOL…….. DATE…….

SIGNATURE…….

441/1

HOMESCIENCE THEORY

PAPER 1

FORM 4

2½ HOURS

MID TERM 2 EXAM

CERTIFICATE OF SECONDARY EDUCATION

HOMESCIENCE FORM FOUR

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write the date of examination in the spaces above.
- This paper consist of three sections: A,B and C.
- Answer all questions in section A and B and any two questions from section C in the spaces provided.

FOR EXAMINER'S USE ONLY.

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
A	1-25	40	
B	26	20	
C		40	
TOTALSCORE		100	

SECTION A (40MARKS)

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

1. What is a dessert? Give **one** example. (1mk)

2. State **two** symptoms of a two-year –old child suffering from choking.
(2mks)

3. Mention **two** disadvantages of using old blanket pieces for mops.
(2mks)

4. Give two advantages of being able to draft your own patterns for garment construction.
(2mks)

5. Explain why vitamin D deficiency is not common in most parts of Kenya.
(2mks)

6. Give two reasons why lemon juice is sometimes added to fruit salads.
(1mks)

7. Other than burning test, state **two** ways of identifying textile fibres.
(1mk)

8. List **four** preparations to make on a fabric before laying out patterns.
(2mks)

9. Why is soup an integral part of an invalid diet? (1mk)

10. When some accidents occur in the home, a doctor must be consulted immediately. Identify **two** such accidents and explain why the doctor should be consulted. (2mks)

11. Irene was machine stitching her apron then the needle broke suddenly. Give two causes for this.
(2mks)

12. Explain briefly the meaning of housing the family.
(1mk)

13. (i) Define a stitch? (½ mks)

(ii)State **two** qualities of a well made stitch. (1 mks)

14. List down **two** details that are included in a label for any garment commercially made. (1mk)

15. Mention **three** classifications of washing machines. (1 ½mks)

16. Suggest **three** advantages of making a budget. (1 ½ mks)

17. Give **two** reasons for artificial feeding. (2mks)

18. Differentiate between indirect and semi-direct methods of lighting. (2mks)

_____

_____

_____

19. Give **two** reasons why fullness is introduced in garment during construction. (2mks)

_____

_____

_____

20. State **two** common methods of buying goods and services. (2mks)

_____

_____

_____

_____

21. Your sister has taken up modeling as a career. She has been starving herself and inducing vomiting after feeding in order to slim. Name two nutritional disorders she is suffering from? (1mk)

_____

_____

22. State **two** possible causes of large holes in a rubbed in cake mixture. (2mks)

_____

_____

_____

_____

23. Give **one** reason for each of the following practices in cleaning. (2mks)
    i) Cleaning a glass window from outside to inside

_____

_____

ii) Scrubbing a wall from down up

_____

_____

iii) Sweeping with long low strokes

_____

_____

iv) Pouring hot water down a kitchen sink drain.

_____

_____

24. Give **two** reasons for fitting airbricks on the outer wall of a room.
(2mks)

_____

_____

_____

_____

25. State four disadvantages of the corridor plan arrangement. (2mks)

_____

_____

_____

_____

SECTION B (20MARKS)

This is a compulsory question.

26. Your family is planning to visit and spend a weekend with relatives at a campsite. Giving reasons, describe how you would:

a) Describe how you will thoroughly clean her paraffin stove with wicks and leave it ready for use. (9 mks)

b) Launder your fast coloured nylon raincoat in readiness for camping. (7mks)

c) Clean an aluminum cooking pan (4mks)

SECTION C (40 MARKS)
Answer any two questions in this section.

27.a) Using well-labeled diagrams explain how you would prepare an interfaced waistband with an extended facing before attachment. (10mrks)

b) A well-drained house is a comfortable house to live in. explain five points to support the above statement. (5mks)

c) Outline five reasons why it is advisable for women to deliver in the hospital. (5mks)

28. a) Define;

(i) A raising agent (1mk)

(ii) Give the three ways of introducing raising agents in flour mixtures. (3mks)

b) Explain six ways of introducing air into flour mixtures mechanically. (6mks)

c) With the aid of two clearly labeled diagrams, show the front and the back measurements required for making a blouse with long sleeves. (8mks)

d) State two characteristics of a well- made seam. (2mks)

29. a) Give five points on how to ensure the purchase of quality goods by consumers. (5mks)

b) Explain five considerations to make when furnishing a sitting room. (5mks)

c) State five precautions to take when caring for the sick to avoid the spread of infection. (5mks)

d) State five qualities of a well made round bottom patch pocket. (5mks)

NAME…….. USAJILI……..…

SAHIHI YA MTAHINI……. TAREHE…….……

102/1

KISWAHILI

KIDATO CHA NNE

Karatasi ya 1

INSHA

Muda: Saa 1¾

MID TERM 2 EXAM

HATI YA KUHITIMU KISOMO CHA SEKONDARI

Kiswahili karatasi ya kwanza

MAAGIZO:

*(a) Andika insha **mbili**. Insha ya kwanza ni ya **lazima**.*

(b) Kisha chagua insha moja nyingine kutoka kwa hizo tatu zilizobakia.

(c) Kila insha isipungue maneno 400.

(d) Kila insha ina alama 20.

Karatasi hii ina kurasa 2 zilizopigwa chapa.

Watahiniwa ni lazima wahakikishe kuwa kurasa zote za karatasi ya mtihani zimepigwa chapa sawasawa na kuwa maswali yote yamo.

1. Umechaguliwa kuwa katibu wa Chama cha Kiswahili shuleni. Andaa kumbukumbu za mkutano uliofanyika hivi majuzi ili kupanga mikakati ya kukiendeleza Kiswahili ndani na nje ya shule yenu.

2. Vijana wa sasa wanakumbwa na changamoto nyingi za maisha. Thibitisha kauli hii huku ukieleza namna wanavyoweza kuzishughulikia.

3. Ngozi ivute ili maji.

4. Andika insha itakayomalizikia kwa kifungu hiki:-
……. ndivyo wahenga kuwa aliye juu mngojee chini. Hii ni zamu yao sasa. Wamewadhulumu wanawake kwa miaka na miaka. Wacha wapate kichapo cha kisasi.

JINA……NAMBARI YA MTAHINIWA …….

SAHIHI YA MTAHINIWA ……TEREHE……

102/2 -
KISWAHILI –
Karatasi ya 2
LUGHA
Muda: saa 2 ½

MID TERM 2 EXAM
Cheti cha Kuhitimu Masomo ya Sekondari Kenya

MAAGIZO

a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
b) Tia sahihi kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
c) Jibu maswali **yote**
d) Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.
e) Majibu yote **lazima** yaandikwe kwa Lugha ya **Kiswahili**
f) Usitoe ukurusa wowote kutoka kwenye kijitabu hiki
g) Karatasi hii ina kurasa 13 zilizopigwa chapaa
h) Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasaw na kuwa maswali yote yamo.

kwa Matumizi ya Pekee

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
Jumla	**80**	

1. Ufahamu (Alama 15)

Soma taarifa ifuatayo kisha ujibu maswali yanayofuata

Wahenga walisema kutoa ni moyo usambe ni utajiri. Iwapo wangefufuka leo hii wangeongezea kuwa ujasiri ni moyo usiseme ni umri. Kauli hii kama ile ya kwanza imesheheni ujumbe muhimu. Katika jamii nyingi, mtoto haruhusiwi kukaa au kuzungumza mbele ya watu wazima. Akiwa wa kike ndiyo basi. Ni ajabu basi kwa mtoto wa kike kutoka jamii yenye imani kali za jadi zinazomdunisha mwanamke kuweza kupata tuzo yenye staha ya juu zaidi.

Malala Yousafzai alishinda Tuzo ya Nobel mwaka 2014 akiwa na umri wa miaka 17. Aliyeshinda naye tuzo hii adhimu ni Kailash Satyarthi. Kigoli huyu alituzwa tunu hii kwa kupigania haki za wasichana kupata Elimu nchini Pakistan. Harakati hizi hakuzianza juzi. Mwaka 2012 alipigwa risasi na mijibaba ya ugaidi ya kundi Fulani linaloegemea mrengo wa siasa kali kwa 'hatia' za kuwatetea mabanati. Inasemekana alishambuliwa alipokuwa akisafiri kwenye basi la shule. Kilichochochea mashambulizi ni tuhuma kuwa alikuwa ameanzisha jukwaa kwenye mtandao wa Shirika la Utangazaji la BBC alilokuwa akichangia maandishi alipokuwa na umri wa miaka 11. Maandishi yake yalikuwa na ujumbe wa kupinga juhudi za makundi Fulani kuwanyima wanawake Elimu.

Haikuwezekana hata baada ya kupona kurudi Pakistani. Alihamia Uingereza alipofadhiliwa na wahisani. Licha ya kuwa aliishi ugenini na bila aila yake mwana huyu hakupoteza makali ya ari yake ya kuendelea kutetea maslahi ya kielimu ya wenzake wa kike.

Yeye ndiye mwenye umri wa chini zaidi katika historia kupata tuzo hili. Baadhi ya wale walioshinda Nobel katika umri mkubwa ni Desmond Tutu, Nelson Mandela na Wangari Maathai. Kila mmoja wao alitambuliwa kwa sababu mahususi zinazohusu jitihada za kuboresha maisha ya wanajamii.

Njia nyingine kuu aliyoitumai Malala ni hotuba. Mwaka 2013 alihutubia Kongamano la Vijana la Umoja wa Mataifa katika hafla iliyoandaliwa kwa heshima yake. Aliwashangaza wengi kwa ufasaha na uweza wake wa kutongoa hoja. Kila mtu aliguswa na dhati ya kauli zake. Katibu Mkuu hakuwa na jingine ila kulipa kongamano hilo jina Malala. Mtoto huyu wa kimaskini alipewa taathima ambayo watu wachache sana wamepata kutunukiwa. Hii ni heshima inayotengewa marais na wafalme. Na wanapoipata huruhusiwa kuhutubia kwa dakika tano tu.

Mwaka 2014, viongozi wenye sifa za ubabe wa kuwabinya wapinzani wao lakini wameshindwa kuwaokoa wanyonge walipokuwa wakilaza damu, yeye alisafiri hadi Naijeria kudai kuachiliwa kwa wasichana 200 waliotekwa nyara na kundi haramu.

Katika hotuba iliyojaa hisia ambazo huhusishwa tu na akina mama wenye uzazi mkubwa aliyoitoa Naijeria , aliwaasa watoto wenzake wasimruhusu mtu yeyote awaambie kuwa wao ni wanyonge au hawana uwezo. Aliwanasihi kuwa wao sio wadhaifu kuliko wavulana na wasijione wanyonge kuliko watoto wa kitajiri wala wale wanaotoka nchi zenye uwezo mkubwa . Alihitimiza kuwa wao ndio watakaoijenga jamii na kuwa wana uwezo wa kuyaendesha mambo.

Mshindi wa tuzo hii yenye thamani ya dola za kimarekani milioni moja ameitabaruku kwa watoto wenzake ulimwenguni. Bila shaka mwanzilishi wa tuzo ya Nobel ameguswa na tendo la mtoto huyu huko kuzimuni. Kama kumbukizi tunu hii hutolewa wakati wa kuadhimisha kifo cha Mwanaviwanda wa

Kiswidi aliyeasisi tuzo hii kufuatana na wosia wake mwaka 1895. Kama Alfred Noble mwenyewe, kwake Malala, ngwenje au darahimu si muhimu . Lililo muhimu ni ukombozi wa watoto na

hasa wa kike kielimu. Malala bado anavaa mtandio wake huku akidhihirisha adabu na unyenyekevu wa kupigiwa mfano.

Maswali

1. Eleza mtazamo wa jamii ya Malala kuhusu watoto wa kike. (alam.2)

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   ……

2. Unafikiri Malala alistahili kutuzwa Tuzo ya Nobel? Toa sababu tatu. (alama.3)

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3. Ni njia zipi alizozitumia Malala kutetea haki ya watoto wa kike kupata Elimu? (alama 3)

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   ……..

4. Malala anawapa ushauri upi watoto wenzake? (alama. 1)

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5. Kwa nini inasemekana kuwa Tuzo ya Nobel ina staha ya juu zaidi? (alama.2)

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…….

6. Andika kichwa kifaacho kwa kifungu hiki. (alama.2)

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…….

7. Eleza maana za maneno yafuatayo kama yalivyotumiwa katika taarifa: (alama. 3)

a) Tunu
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……

b) Wahisani
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……

c) Ubabe
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…….

2. **UFUPISHO**

Soma kifungu kifuatacho kisha ujibu maswali

Ukame ni tukio hatari la kimaumbile. Athari zake hutofautiana kutoka eneo moja hadi lingine. Kwa sababu hiyo, si rahisi kuielewa dhana ya ukame; kwa hakika si rasihi kuifafanua dhana hii. Katika eneo la Bali, kwa mfano, isiponyesha kwa muda wa siku sita wenyeji huchukulia hali hiyo kuwa ukame japo kiasi hicho cha mvua ni kikubwa mno ikilinganishwa na Libya ambayo hupata kiasi kidogo cha chini ya milimita 180 ya mvua kwa mwaka.

Katika hali ya kawaida ukame hutokana na kipindi kirefu cha uhaba wa mvua hasa katika mzima au zaidi. Uhaba huu wa mvua huweza kusababisha uhaba wa maji kwa shughuli, kundi au sekta Fulani. Shughuli za binadamu huweza kufanya hali ya ukame mbaya zaidi.Shughuli hizo ni pamoja na kilimo, unyunyiziaji maji na ukataji wa miti.

Ni vigumu kubaini wakati mahususi ambao ukame huanza kwa kipindi hicho cha ukosefu wa mvua huwa cha mfululizo, na eneo huendelea kupata mvua iliyopungua kwa miezi au hata miaka. Mimea hukauka na wanyama hufa kutokana na ukosefu wa maji. Ukame basi huwa hatari kwa maisha ya binadamu na viumbe wengine kwa kuwa huweza kusababisha njaa na kuyafanya maeneo kuwa majangwa.

Mbali na ukosefu wa mvua, ukame pia husababishwa na kiangazi. Kiangazi huongeza kiwango cha joto. Joto hilo hufanya maji yaliyohifadhiwa kuwa mvuke haraka, hivyo kiwango chake kupungua. Hali ya *el ninyo* pia husababisha ukame katika baadhi ya maeneo ambayo

huwa hayana mvua. Upepo huivutia mvua mahali panaponyesha na kuliacha kame eneo ambalo halina mvua ya aina hii. Hata katika maeneo yenye mvua ya *el ninyo* , kiangazi kikali huifuata na hivyo kusababisha ukame. Hali hii huitwa *la nina*. Mambo yanayotokana na mabadiliko ya hali ya anga ulimwenguni pia yanaweza kuchangia ya ukame. Ongezeko la joto duniani linafanya hali ya ukame kuwa mbaya zaidi.

Ukame una mdhara chungu nzima kwa binadamu. Madhara hayo huweza kuwa ya kiuchumi, kimazingira, kimazingira au hata kijamii. Ukame husababisha kupungua kwa mimea na mavuno. Huweza pia kutokea dhoruba za mchanga. Dhoruba hizi hutokea palipo na jangwa. Ukosefu wa maji ya kunyunyizia mimea husababisha njaa na magonjwa kama vile utapiamlo yanayotokana na ukosefu wa lishe bora. Makazi ya wanyama wanchi kavu na wale wa majini pia huathiriwa vibaya. Hali kadhalika, ukame husababisha uhamaji. Hii inamaanisha kuwa jamii huweza kutoka katika makazi asilia na wakati mwingine huweza hata kuwa wakimbizi.

Ukame husababisha ukosefu mkubwa wa maji. Ukosefu huu huwa na athari hasi kwa maendeleo ya viwanda kwa kuwa vingi huhitaji kiasi kikubwa cha maji. Juu ya hayo, maji huhitajika katika kuzalisha umeme. Umeme una matumizi mengi katika viwanda, nyumbani, afisini na hata hospitalini. Ukosefu wa umeme basi huwa ni tatizo kuu.

Aidha, ukame husababisha madhara mengi, binadamu wanaweza kujikinga kutokana na uhaba wa rasilimali za asili kama vile chakula na maji. Pia mioto mikubwa huweza kuenea haraka wakati wa ukame na hivyo kusababisha vifo vya binadamu na wanyama na uharibifu wa rasilimali nyingine.

Ingawa ukame husababisha madhara mengi, binadamu wanaweza kujikinga kutokana nao kwa kupunguza makali ya ukame. Jambo la kwanza wanaloweza kufanya binadamu ni kuhifadhi maji. Maji

ya mvua yanafaa kuhifadhiwa katika mabwawa na mapipa. Haya yanaweza kutumiwa wakati wa ukame hasa katika kukuza mimea. Mkakati mwingine ni kutumia mbinu za kupunguza chumvi na kemikali nyingine zilizomo kwenye maji ya bahari ili yaweze kutumika katika unyunyiziaji wa mimea. Hili litapunguza tatizo la ukosefu wa chakula. Pia ni muhimu kufanya utafiti kuhusu hali ya anga ili kupanga na kuweka mikakati ifaayo kukabiliana na hali hiyo.

Ni muhimu kuwa na mipangilio mizuri ya matumizi ya ardhi. Mathalani upanzi wa mimea itakayozuia mmomonyoko wa udogo, kubadili aina ya mimea inayokuzwa sehemu fulani pamoja na upanzi wa mimea isiohitaji mvua nyingi katika kame ni hatua mwafaka. Aidha, ni vizuri kupunguza matumizi ya maji hasa katika mazingira ya nyumbani kwa mfano tunapofua na kuosha. Njia nyingine ya kukabiliana na tatizo hili ni kusafisha maji yaliyotumiwa ili kuyatumia tena.

(a) Kwa maneno **50**, eleza visababishi vya ukame kwa mujibu wa taarifa

(alama. 4; 1 ya mtiririko)

Matayarisho

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Nakala safi

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b) Fupisha ujumbe wa aya ya **tano** hadi **saba** kwa maneno 70. (alama. 6; 1 mtiririko)

Matayarisho

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Nakala Safi

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a) Eleza masuala ambayo mwandishi ameibua katika aya mbili za mwisho kwa maneno **60**.

(alama 5; 1 ya mtiririko)

Matayarisho

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Nakala safi

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3. SARUFI NA MATUMIZI YA LUGHA ALAMA 40

a) Andika maneno yenye miundo ifuatayo . (alama.2

i) Kipasuo ghuna cha midomoni, irabu ya chini, kati, kipasuo sighuna cha ufizi, irabu ya juu mbele.

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ii) Nazali ya ufizi, kipasuo ghuna cha kaakaa laini, irabu ya juu, nyuma, irabu ya nyuma wastani.

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b) Bainisha silabi zinazowekwa shadda katika maneno yafuatayo (Alama. 1)

i) Waliotusifia

……
……

ii) Sherehekea

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c) Andika sentensi ifuata katika wingi. (Alama.2)

Wayo wa mguu wangu wa kulia umeungua

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d) Geuza sentensi ifuatayo katika hali ya udogo. (alama. 1)

Njia hii yetu inapitiwa na mtu mnene

……
……

e) Tunga sentensi moja yenye kivumishi cha pekee kinachoonyesha idadi jumla.
(alama.1

……
……

f) Andika upya sentensi zifuatazo kulingana na maagizo

i) Maafisa hao walipewa uhamisho. Maafisa wengine hawakupewa uhamisho

(unganisha kuunda sentensi ambatano) (alama.2)

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……
……

ii) Hadithi hiyo <u>ilitungwa</u> vizuri <u>ikawavutia</u> wengi

(badilisha vitenzi vilivyopigiwa mstari kuwa nomino)
(alama.2)

……
……
……...

iii) Tunda halitaoshwa vyema. Tunda halitalika .

(unganisha kuwa sentensi moja kwa kutumia 'po')
(alama.2)

……
……
……

iv) Kengewa alitoa ahadi .Wengi waliiamini ahadi hiyo. (unganisha kuwa sentensi moja inayoanza kwa . Ahadi….)
(alama .2)

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……

g) Tunga sentensi ya masharti inayoonyesha kwamba kitendo kilifanikiwa kutokana na kufanikiwa kwa kingine.
(alama. 2)

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h) Tunga sentensi yenye kishazi kirejeshi ambacho ni kielezi. (alama.2)

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i) Ainisha maneno ya liyopigwa mstari katika sentensi ifuatayo. (alama. 3)

<u>Mwenyewe hakuwa amekupa</u> ruhusa kuitumia

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j) Akifisha sentensi ifuatayo.

Kiwango cha umasikini katika kaunti ya homabay kinasikitisha sana itabidi sote wakatizi wa hapa tujizatiti ili tutimize malengo ya millennia seneta mteule alituhimiza

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k) Andika maneno yenye mofimu zifuatazo. (alama. 2)

i) Umoja (ngeli ya u-i), mzizi, kiisho

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……
……

ii) Kikanushi, kiambishi ngeli (ki-vi, Umoja)

Mzizi, kauli tendeka, kiisho

……
……
……

l) Tunga sentensi yenye muundo ufuatao. (alama. 2)

KN (N+RH) + KT (T+RE)

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…….

m) Andika sentensi ifuatayo katika hali ya kukanusha . (alama. 2)

Ngoma hizo zilihifadhiwa ili ziuzwe mjini.

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…….

n) Andika sentensi ifuatao katika wakati uliopita hali ya mazoea. (alama.2)

Ekapolon atawashauri wanafunzi kuhusu umuhimu wa kufanya bidii

……
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……

o) Andika sentensi ifuatayo katika kauli ya kutendesha kwa kuzingatia maneno yaliyopigiwa mstari

p) (Alama. 2)

Alimfanya mtoto <u>anywe</u> uji ukamfanya <u>ashibe.</u>

……
……

q) Tunga sentensi ukitumia mzizi, ingineo kumaanisha "mbali na". (Alama. 1)

……
……

r) Hewala ni kwa kukubaliana na jambo, …… .ni kwa kutoka kitu kinusurike, na…….ni kwa aliyefanya vyema katika jambo.
(alama.1)

……
…….

s) Zito ni kwa jepesi, ……..ni kwa choyo na, ……ni kwa kali.
(alama.2)

t) Andika visawe vya kauli zi zilizopigiwa mstari.

Atyang alikumbwa na matatizo mengi lakini hakukata tama.

4. **ISIMU JAMII**. (Alama.10)

Eleza sababu tano zinazowafunga watu kufanya makosa ya kisarufi katika mazungumzo.

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KENYA CERTIFICATE OF SECONDARY EDUCATION

KISWAHILI PAPER 3 FORM 4

MIDTERM 2 SET 1 2023 EXAM

NAME:_____STREAM_____DATE:____

Maagizo:

a. Jibu maswali yote.
b. Majibu yaandikwe kwenye karatasi zilizoambatanishwa.
c. Majibu yote lazima yaandikwe kwa lugha ya Kiswahili
.

SEHEMU A: HADITHI FUPI
(*alama 20*)

D.W. Lutomia na Phibbian Muthama (Wah): *Mapamba zuko ya Machweo na Hadithi Nyingine*

1. **Paul Ng'ang'a Mutua** :
   a. *Harubu* ya maisha" Yametosha basi ! Ila hilo la kwenda na mtoto kazini unajua vizuri haiwezekani. Kesho nitasema na Bosi. Akiwa na mood nzuri huenda…"
   i.Eleza muktadha wa dondoo hili
   (*alama4*)
   ii.Tambua mbinu moja ya kimtindo iliyotumiwa katika dondoo hili **(*alama 1*)**
   iii.Fafanua sifa tano za mhusika anayesema maneno haya **(*alama 5*)**

   b. Mtoto wa kike katika jamii za kiafrika anakabiliwa na changamoto nyingi. Thibitisha kwa kurejelea hadithi ya *Sabina*.
   (*alama 10*)

SEHEMU B: USHAIRI

(*alama 20*)

2. *Soma shairi lifuatalo kisha ujibu maswali.*

Viumbe kukumbukana, ni jambo la mana sana,
Kwa hali kila namna, mambo tukiambizana,
Hali tukajuliana, hata tusipoonana,
Ni jambo la mana sana, viumbe kukumbukana.

Tusipoweza kunena, kunena ana kwa ana,
Kwa kuwa tumetengana, kwa marefu na mapana,
Hatuna budi hatuna, ila kuandikiana,
Ni jambo la mana sana, viumbe kukumbukana.

Wangwana hukumbukana, kwa hali kila aina,
Wakawa wanakazana, pasiwe na kutupana,
Kwa hali hii naona, alama ya kupendana,
Ni jambo la mana sana, viumbe kukumbukana.

Wengine hupigiana, simu wanapopezana,
Papo wakawa wanana, hapo wanasikiana,
Hii ni moja namna, ya hali kujuliana,
Ni jambo la mana sana, viumbe kukumbukana.

Pakiwa njia hapana, ya hizi mbili aina,
Yani kuandikiana, na simu kupigiana,
Ipo moja bora sana, nayo ni kwenda onana,
Ni jambo la mana sana, viumbe kukumbukana.

Sipendi kunena sana, neno likakosa mana,
Ila la kukumbukana, tusiache kuhimizana,
Ili kesho wetu wana, wakue wakijuana,
Ni jambo la mana sana, viumbe kukumbukana.

(*M. M. Nyanje*)

a. Fafanua **mambo sita** ambayo mtunzi anasisitiza katika shairi hili.
(*alama 6*)

b. Bainisha **tamathali moja** ya usemi iliyotumiwa katika shairi hili.
(*alama 2*)

c. Eleza **mbinu mbili** ambazo mtunzi ametumia kutosheleza mahitaji ya kiarudhi.
(*alama 4*)

d. Bainisha bahari ya shairi hili ukizingatia vina.
(*alama 2*)

e. Bainisha nafsineni katika shairi hili.
(*alama 2*)

f. Andika **ubeti wa sita** kwa lugha ya nathari.
(*alama 4*)

SEHEMU YA C: RIWAYA YA CHOZI LA HERI (alama 20)

3.Riwaya ya chozi la heri imejaa migogoro aina ainati.Thibitsha kauli hii ,(alama 20)

SEHEMU D: FASIHI SIMULIZI
(*alama 20*)

4.Soma utungo ufuatao kisha ujibu maswali.

Wabalainga na Waserere walikuwa majirani tangu jadi. Hata hivyo, hawakuonana jicho kwa jicho. Walishambuliana na kuibiana mifugo kwa miaka mingi.

Siku moja, Wabalainga walipanga vita kwa siri kama ilivyokuwa kawaida yao. Wazee wao walishauriana usiku wa manane, kisha kuwatolea wapiganaji wa jamii hiyo baraka. Kila mpinganaji aliwekewa mkono kwenye kipaji. Mmoja wao aliwekewa mikono miwili. Huyu aliitwa Kulu, kiongozi wa kundi hili.

Kulu alikuwa mrefu wa kimo, mwenye vidole virefu, viganja vinene na kifua kipana akilinganishwa na wenzake. Kila alipopumua, hewa kutoka puani mwake ilitikisa majani kwneye miti. Macho yake nayo yalikuwa ya kupenyeza; angekutazama tu ungehisi anakuona hadi moyoni. Hakukosa kwenda vitani kila wakati vita vilipopangwa. Alikuwa chaguo la Kijiji kizima.

Kabla ya vita kuanza, Kulu alivishwa ngozi ya chui na kichwani kachomekwa unyoya wa mbuni. Mikononi kashika mkuki mkubwa uliotetemesha ardhi kila alipousimika.

Safari ilianza hadi kwenye uwanja wa vita. Moja kwa moja vita vilianza, kila upande ukitaka kuonyesha ubabe wake. Ghafla binvuu Kulu alijitoma mbele ya kikundi chake, akavuta pumzi na alipoiachilia, wapiganaji Waserere walipeperuka hewani wakaelea kisha kuanguka chini pu! Wengi wao hawakupumua tena. Walionusurika walivunjika sehemu mbalimbali za mwili. Papo hapo, Kulu alibebwa juu juu na wapiganaji wenzake kusherehekea ushindi wao.

a. (i) Bainisha kipera cha utungo huu.
(*alama 1*)

(ii) Toa **sababu tano** kuthibitisha jibu la (i) hapo juu
(*alama5*)

b. Bainisha **vipengele vitano** vya kimtindo ambavyo vimetumiwa kufanikisha uwasilishaji wa utungo huu.
(*alama 5*)

c. Unanuia kuhifadhi tungo za aina hii. Eleza **manufaa matano** ambavyo jamii yako itapata kutokana na hifadhi hiyo.
(*alama 5*)

d. Unakusudia kutumia mbinu ya kushiriki kufanya utafiti kuhusu tungo za aina hii. Eleza **matatizo manne** unayoweza kukumbana nayo katika utafiti wako.
(*alama 4*)

NAME……INDEX NO. ……

121/1
MATHEMATICS
PAPER 1
2 ½ HRS
FORM 4

MID TERM 2 EXAM

Kenya Certificate of Secondary education
MATHEMATICS PAPER 1

INSTRUCTIONS TO CANDIDATES

1. *Write your name, Admission number and class in the spaces provided.*
2. *Sign and write date of the examination in the spaces provided.*
3. *The paper contains TWO sections: Section A and B*
4. *Answer ALL questions in section I and **STRICTLY ANY FIVE** questions from section II.*
5. *All working and answers must be written on the question paper in the spaces provided below each question.*
6. *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*
7. *Marks may be awarded for correct working even if the answer is wrong.*
8. *Non-programmable silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.*

FOR EXAMINERS USE ONLY

SECTION A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

SECTION B

17	18	19	20	21	22	23	24	25	26	27	TOTAL

SECTION A (50MKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION

1. Simplify $\dfrac{\left(1\frac{3}{7}-\frac{5}{8}\right)+\frac{2}{3}\,of\ 1\frac{1}{5}}{\frac{3}{4}+1\frac{5}{7}\div\frac{4}{7}\,of\ 2\frac{1}{3}}$ (4mks)

2. A straight line ax + by = 16 passes through A (2, 5) and B (3, 7). Find the values of a and b (3mks)

3. Simplify $\dfrac{2-x-x^2}{3x^2-2x-1}$ (3mks)

4. Solve for X where $0 \leq x \leq = \ 90^0$

   $\sin 2x\ -\cos(x-30)=0$ (2mks)

5. Solve for X in $2x - 4 \leq 3x + 2 < 10 - x$
   Hence represent your solution on a number line (3mks)

6. Two similar cylindrical solids have heights of 18 cm and 24 cm. The volume of the larger cylinder is 320cm^3, find the volume of the smaller cylinder (4mks)

7. Solve for X $8^{3x-2} \; x \; 16^{\frac{1}{2}X} = \frac{1}{4}$
   (3mks)

8. A quantity P varies jointly as Q and inversely as on the square root of R. If Q is increased by 10% and R is reduced by 19%, find the percentage change in P (3mks)

9. Okedi sold goods whose marked price is sh. 340,000 at a discount of 2%. He was paid sh. 16660 as commission for the total sales. Calculate the percentage rate of commission (3mks)

10. The interior angle of a regular polygon is three and a half times the exterior angle. Determine the sides of the polygon (3mks)

11. Give that A = $\begin{pmatrix} 2 & 3 \\ 1 & 4 \end{pmatrix}$, $B \begin{pmatrix} -1 & 3 \\ 2 & -1 \end{pmatrix}$;find matrix C where AC = B (3mks)

12. Amoit bought 2 pens and 5 exercise books at a cost of sh. 275. Allan bought 4 such pens and exercise books from the same shop at a cost of sh. 415 by letting sh. X and y to be the costs of a pen and a book respectively, find the cost of each item (4mks)

13. Okech left some money in his will to be shared amongst his wife, son and daughter in the ratio 4:3:2 respectively. If the daughter received sh. 120,000 less than the mother's share, find the total amount of money Okech left in his will. (2mks)

14. Use tables of reciprocals to find the reciprocal of 0.3758. Hence find the value $\frac{\sqrt[3]{0.125}}{0.3758}$ correct to 4.S.f (4mks)

15. A major sector of a circle subtends an angle of 150 at the centre. The radius of the circle is 7cm and the centre is at O as shown

If the sector is folded into a conical shape, calculate the radius of the cone correct to 1 d.p
(3mks)

16. A Kenyan bank buys and sells currencies at the exchange rates below

Currency	Buying (ksh)	Selling (ksh)
1 euro	147.87	148.00
1 us dollar	74.22	74.50

An American tourist arrived in Kenya with 24,000 Euros. He converted all the euros to Kenya shillings at the bank. He spent a total sh. 200,000 while in Kenya and converted the rest into US dollars at the bank. Find the amount in dollars that he received. (3mks)

SECTION II (50MKS)
ANSWER ANY FIVE QUESTIONS IN THIS SECTION

17. The diagonals of a rectangle P, Q, R, S intersect at (5, 3). Given that the equation of line PQ is 4y - 9x =13 and that of line PS is y -4x =5
    a) The co-ordinators of P (3mks)

    b) The co-ordinates of R (2mks)

    c) The equation of line RQ (2mks)

d) The equation of a perpendicular line drawn to meet PR at (5,3) (3mks)

18. A bus left Malaba town at 6.00am and travelled at an average speed of 80km/h towards Nairobi which is 510km away. At 6.30am a salon car left Nairobi the same day following the same route and travelled at average speed of 100km/h towards Malaba. After 1 hour, the car had a puncture which took 15minutes to repair before proceeding with the journey;

Determine

a) The distance covered by the bus in 30minutes (1mks)

b) The time of the day when car met the bus. (6mks)

c) The distance from Nairobi to the point where the car met with the bus (2mks)

d) The time of the day to the nearest minute when the bus got to Nairobi (1mk)

19. Points P, Q and R are a straight line on a level ground. An electricity pole is erected at P with a point X and Y on it. From point X, the angle of depression of point Q is 48^{o} while the angle of depression of R from Y which is 3m above X is 60^{o}

a) Illustrate the position of X, Y, P and R by sketching. (1mk)

b) Hence calculate to 1 d.p.

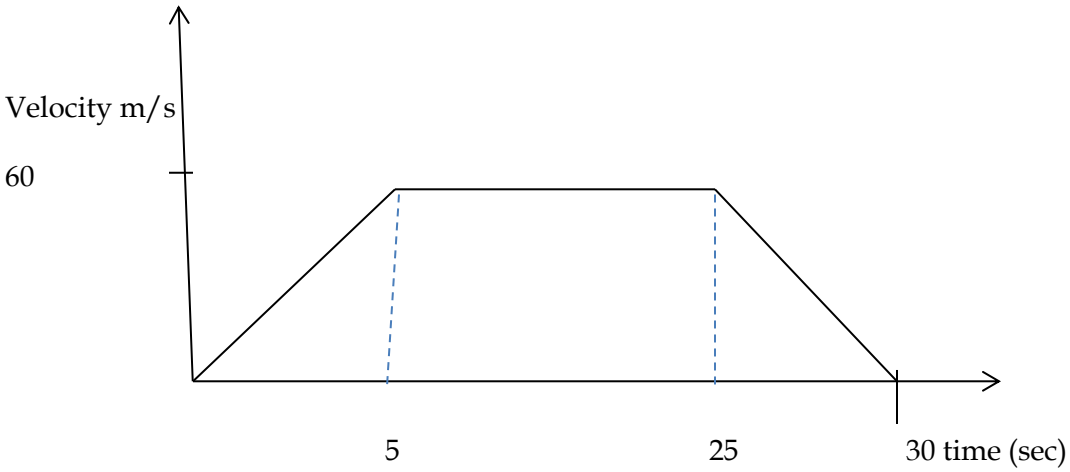
i) The length XP (3mks)

ii) The distance YQ (2mks)

iii) The distance PQ (2mks)

iv) The angle of elevation of Y from R given that PR = 8cm (2mks)

20. a) The figure shows a velocity- time graph of a car



i) Find the total distance covered by the car in metres (3mks)

ii) Calculate the deceleration of the car (3mks)

b) A lorry left kisumu at 8.00am and travelled towards the Nakuru at an average speed of 72km/h. At 8.30am a matatu left kisumu and followed the lorry at an average speed of 96km/h.

Determine the time of the day when the matatu caught up with the lorry (4mks)

21. The date below shows marks scored by 48 students in a geography exam.

Marks %	30-39	40-49	50-59	60-69	70-79	80-89
Students	6	10	x	9	12	2

a) Determine the value of x (2mks)

b) State the modal class (1mk)

c) Calculate the (3mks)

i) Mean mark

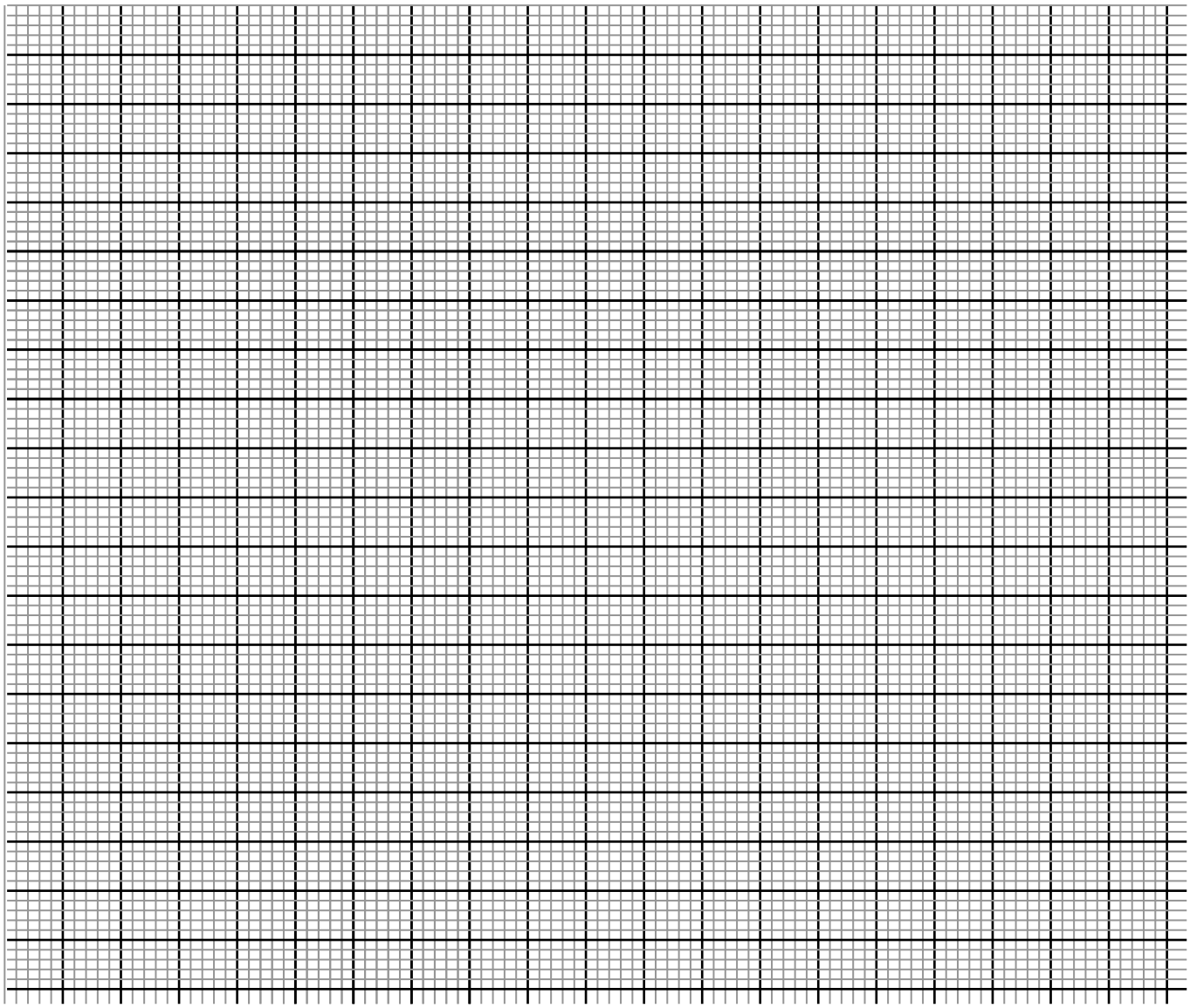
ii) Median mark (4mks)

22. a) Complete the table below for the equation $Y = x^2 + 3x - 6$ where $-7 \leq x \leq 4$

x	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4
y		4			6				-2			

(3mks)

b)Using the scale 1 cm to represent 1 unit on the X- axis and 1cm to represent 2 units on the Y - axis, draw the graph of $y = x^2 + 3x - 6$ for $-7 \leq x \leq 4$ 4mks)



c) Use your graph to solve for x in

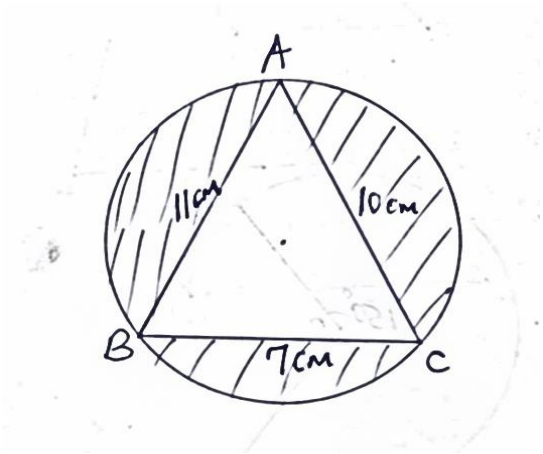
$x^2 + 3x - 6 = 0$ (2mks)

d) State the;

i) Turning point of the curved (1mk)

ii) Equation of the line symmetry (1mk)

23. the figure shows triangle ABC inscribed in a circle where AC = 10cm, BC = 7cm and AB =11cm



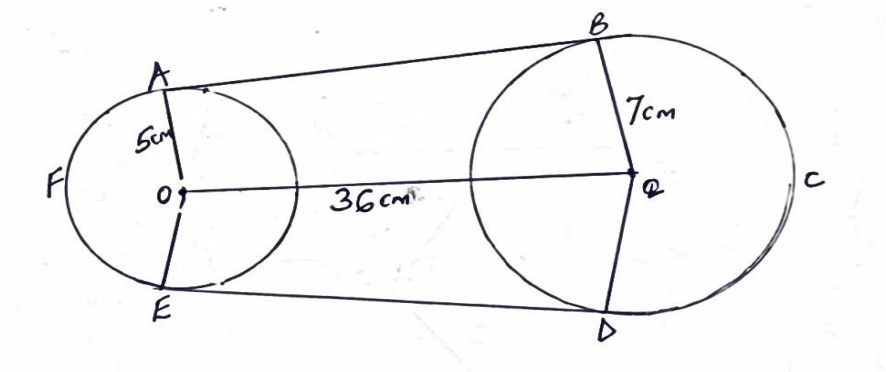
Calculate correct 1 d p ($use\ \pi\ = \frac{22}{7}$)

a) The size of the angle CAB (4mks)

b) The radius of the circle (2mks)

c) Hence, find the area of the shaded region (4mks)

ABCDEFGA is a belt tied around two wheels whose centres are O and Q forming a pulley system. Given that Q =36cm, AO = 5cm BQ = 7cm. calculate correct 1 d.p ($Take\ \pi\ = \frac{22}{7}$)



a) Angle AOQ (3mks)

b) The length of the belt in contact with

i) The wheel whose centre is O (2mks)

iii) The wheel whose centre is Q (2mks)

c) The length of AB, hence the total length of the belt (3mks)

Name ……..…… Index Number ……

Date ……...Candidate's Signature ……..…….....

FORM FOUR

121/2

MATHEMATICS

Paper 2

TIME: 2 ½ hours

MID TERM 2 EXAM

Instructions to candidates

1. *Write your name, index number, date and sign in the spaces provided above.*
2. *The paper contains **TWO** sections: **Section I** and **Section II.***
3. *Answer **ALL** the questions in **Section I** and any **five** questions from **Section II***
4. *All answers and working must be written on the question paper in the spaces provided below each question.*
5. ***Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.***
6. *Non – programmable silent electronic calculators and KNEC Mathematical tables may be used, except where stated otherwise.*

For Examiner's use only.

Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

Section II

17	18	19	20	21	22	23	24	Total

Grand Total

This paper consists of 14 printed pages

SECTION 1 (50 MARKS) *Answer all the questions in this section*

1. Use a calculator to find V if $\frac{1}{V} = \frac{1}{23.9} - \frac{1}{38.45}$ (2mks)

2. Solve for X in **Log (7X – 3) + 2 Log 5 = 2 + Log (X+3)** (3mks)

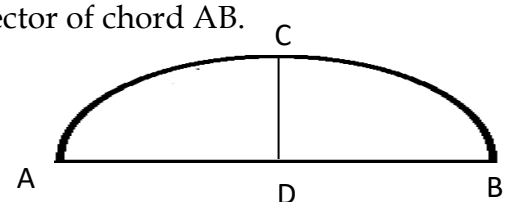
3. A quantity P is partly constant and partly varies as the square of Q. when Q = 2, P = 40 and when Q = 3, P = 65. Determine the equation connecting P and Q (3mks)

4. Expand $(1 - \frac{1}{2X})^6$ up to the fourth term; hence use your expansion to evaluate 0.996^6 correct to 4 decimal places. (4mks)

5. Simplify $\frac{\sqrt{5}+3}{\sqrt{5}-2}$. Give the answer in the form of $a + b\sqrt{c}$ where a, b and c are integers (3mks)

6. Given that **X-5**, **X-3** and **2X-3** are three consecutive terms of a geometric progression, find the possible values of X and the ratio **(2X+1):(X+2)**(4mks)

7. The figure below is a segment of a circle cut off by a chord AB. Line CD is a perpendicular bisector of chord AB.



If AB is 24cm and CD is 8cm, calculate the radius of the circle. (3mks)

8. By completing the square, solve for x in the equation $\mathbf{2x^2 - 6 = x.}$ (3mks)

9. Given that $\mathbf{y = \frac{b - bx^2}{cx^2 - a}}$ make x the subject (3mks)

10. The base and height of a right-angled triangle are 4cm and 5cm respectively. Calculate the percentage error in its area. (3mks)

11. Given that $\mathbf{P} = \begin{pmatrix} \mathbf{5} & \mathbf{3} \\ \mathbf{6} & \mathbf{4} \end{pmatrix}$, find ;
    a. Its inverse (1mk)

    b. The value of x and y if $\mathbf{P}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} \mathbf{3} \\ \mathbf{2} \end{pmatrix}$ (3mks)

12. The equation of a circle is given by $x^2 + y^2 + 6x - 10y - 30 = 0$. Determine the radius and center of the circle (3mks)

13. Find the value of X which satisfies the equation $5^{2x} - 6\times5^{x} + 5 = 0$ (3mks)

14. A scooter mixes oil and petrol in the ratio 5:19. If petrol costs Ksh. 130 per liter and oil costs Ksh. 250 per liter, find the cost of a liter of the mixture. (2mks)

15. Solve the pair of equations simultaneously (4mks)
    $2x - y = 3$

    $x^2 - xy = -4$

16. The cash price of a water pump is Ksh. 38,000. Mr. Ahero opts to buy the pump on hire purchase terms by paying a deposit of Ksh. 6,500 and 24 equal monthly installments. Calculate the amount of each installment, if simple interest of 20% p.a is charged. (3mks)

SECTION II (50 MARKS): Attempt any five questions in this section

17. The first term of an arithmetic sequence is equal to the first term of the geometric sequence. The second term of the arithmetic sequence is equal to the fourth term of the geometric sequence, while the tenth term of the arithmetic sequence is equal to the seventh term of the geometric sequence.

a. Given that a is the first term and d is the common difference of the arithmetic sequence while r is the common ratio of the geometric sequence, write down two equations connecting the arithmetic and geometric sequences.
(2mks)

b. Find the value of **r** that satisfies the geometric sequence
(4mks)

c. Given that the tenth term of the geometric sequence is 5120, find the values of **a** and **d** (2mks)

d. Calculate the sum of the first 20 terms of the arithmetic sequence (2mks)

18. Three quantities R, S and T are such that R varies directly as S and inversely as the square of T.
    a. Given that R = 480 when S = 150 and T = 5, write an equation connecting R, S and T (3mks)

    b. Find,
        i. the value of R when S = 160 and T = 1.6 (3mks)

        ii. the percentage change in R if S increases by 5% and T decreases by 20% (4mks)

19. The table below shows income tax rates

Monthly income in Kenya shillings	**Tax rate % in each**
Up to 9680	10 %
From 9681to18800	15 %
From 18801 to 27920	20 %
From 27921 to 37040	25 %
From 37041 and above	30 %

In that year Okumu's salary amounted to K£ 45,000 p.a and he received allowances totaling Ksh. 300,000 p.a. He was entitled to:-

(i) Monthly personal relief of Ksh. 1,056
(ii) Monthly insurance relief at the rate of 15% of the premium paid
Okumu paid a monthly premium of Ksh. 2,500 towards his life insurance policy

Calculate

(a) His gross monthly income in Ksh (2mks)

(b) The monthly income tax he pays (5mks)

(c) His net monthly income, if his other monthly deductions were: - Ksh. 4,800 to HELB, Ksh. 5,000 to his co-operative and Ksh. 2,800 towards a bank loan repayment. (3mks)

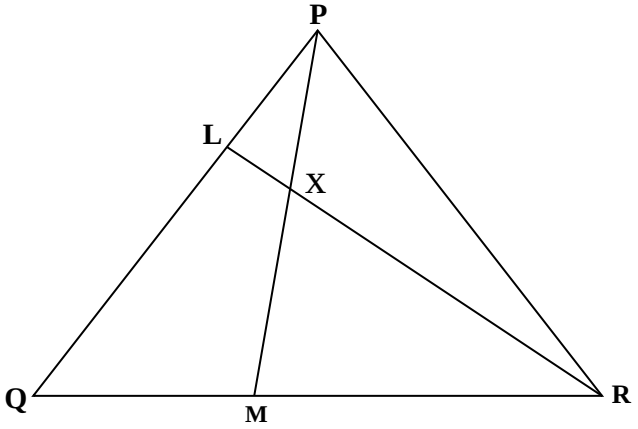
20. Square OABC with vertices O(0,0),A(2,0), B(2,2) and C(0,2) is mapped onto O′(0,0), A′(2,0), B′(5,2) and C′(3,2) by the matrix **T** = $\begin{pmatrix} \boldsymbol{a} & \boldsymbol{b} \\ \boldsymbol{c} & \boldsymbol{d} \end{pmatrix}$

a. Find T (3mks)

b. Draw O′A′B′C′ and reflect it on the line x + y = 0 to obtain O″A″B″C″ (4mks)

c. What single matrix P maps OABC to O″A″B″C″ (3mks)

21. In the triangle PQR below L and M are points on PQ and QR respectively such that PL: LQ = 1:3 and QM: MR = 1:2, PM and RL intersect at X. Given that **PQ = b** and **PR=c**,



a. Express the following vectors in terms of **b** and **c**.

i. **QR** (1mk)

ii. **PM** (1mk)

iii. **RL** (1mk)

b. By taking **PX =** h**PM** and **RX =** k**RL** where $\boldsymbol{h}$ and $\boldsymbol{k}$ are constants find two expressions of PX in terms of *h, k,* b and c. Hence determine the values of the constants $\boldsymbol{h}$ and $\boldsymbol{k}$. (6mks)

c. Determine the ratio **LX : XR** (1mk)

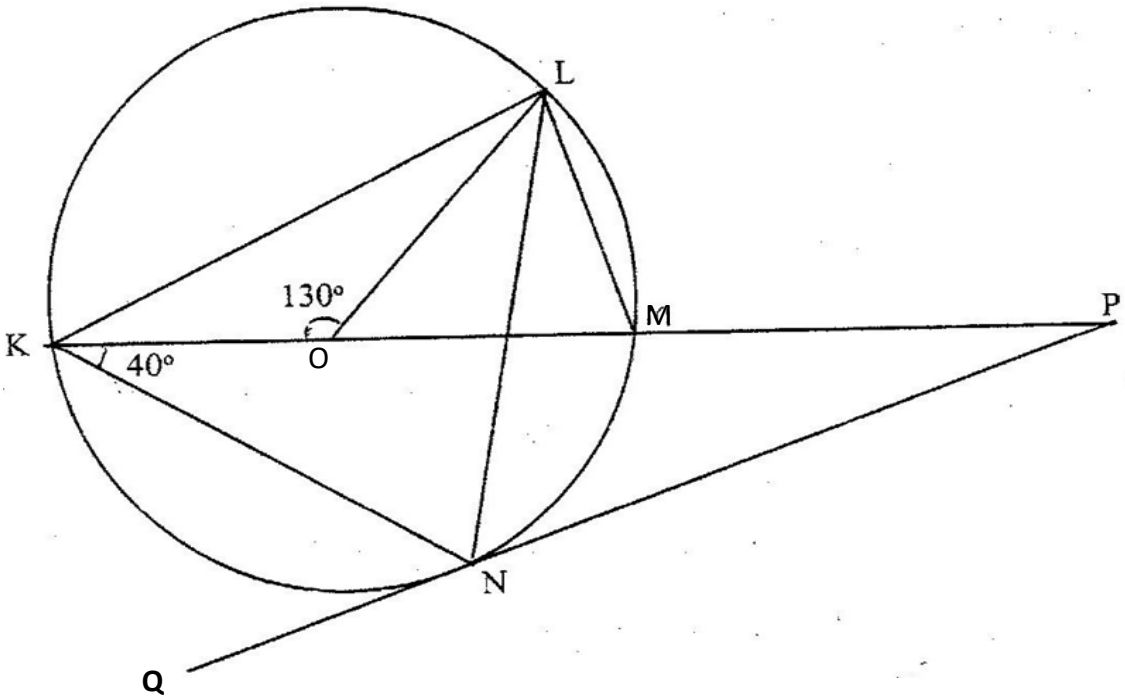
22. During a traffic crackdown, 1,000 motor cycles were sampled. 250 of these were found to lack necessary driving gear, 200 had no valid insurance and 300 lacked the driving license. Taking the sample to represent all motorcycles in the country;
    a. Represent the information in a tree diagram (3mks)

    b. Find the probability that, a motorcyclist at any given time
        i. Has no driving license (3mks)

ii. Lacks a valid insurance but is in proper driving gear and has a valid driving license (2mks)

iii. Has none of the offence (2mks)

23. In the figure below, K L M and N are points on the circumference of a circle centre O. The points K, O, M and P are on a straight line. PQ is a tangent to the circle at N. Angle KOL = 130^0 and angle MKN = 40^0



Find the values of the following angles, stating the reasons in each case:

a. <MLN (2mks)

b. <OLN (2mks)

c. < LNP (2mks)

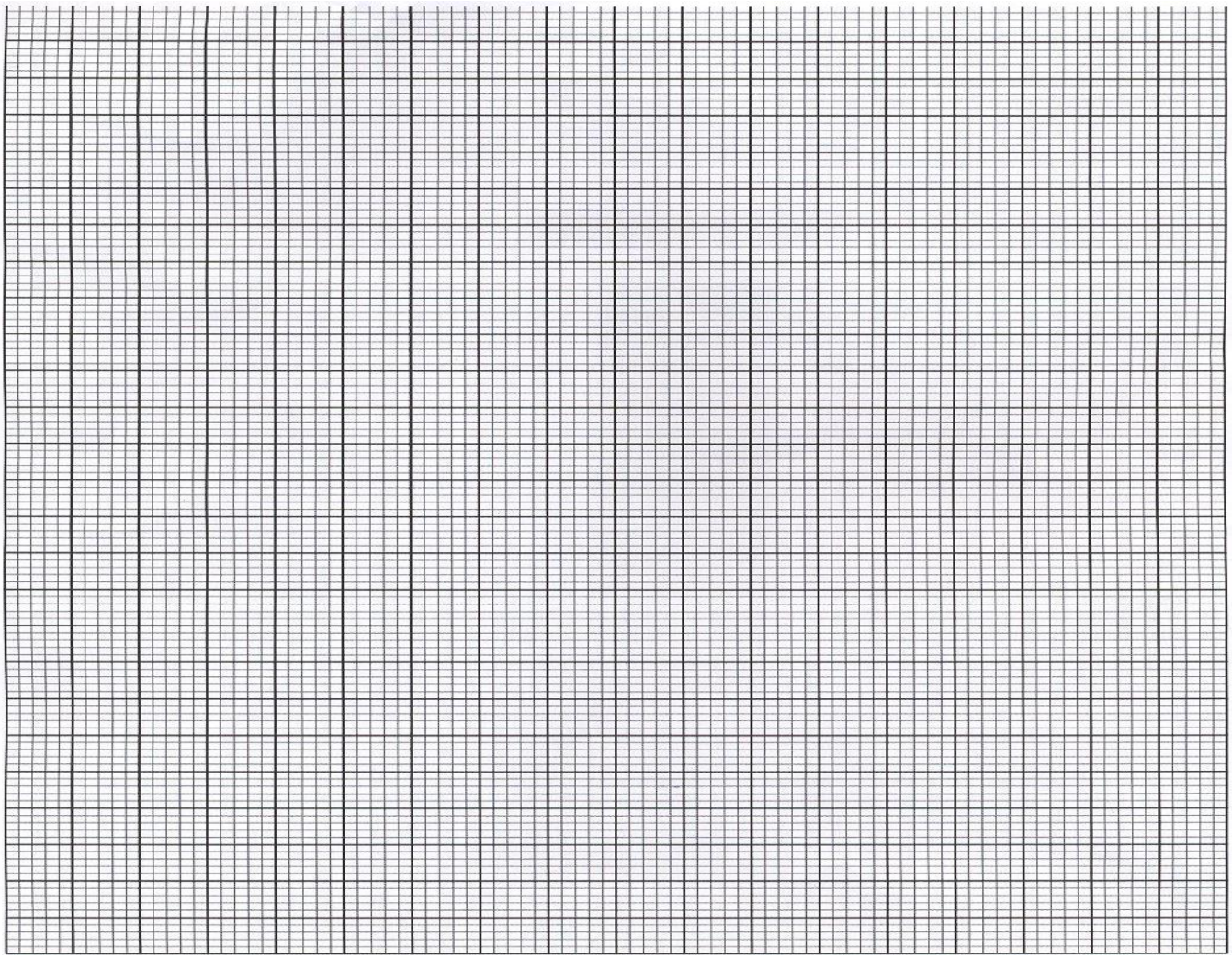
d. <MPQ (2mks)

e. <KNQ (2mks)

24. Complete the table below for y = Sin 2x and y = Sin$(2x+30)^0$ giving values to 2 d.p (1mk)

X^0	0^0	15^0	30^0	45^0	60^0	75^0	90^0	105^0	120^0	135^0	150^0	165^0	180^0
Sin 2x	0.00				0.87				-0.87				0.00
Sin $(2x+30)^0$	0.50				0.50				-1.00				0.50

a. Draw the graph of y = Sin 2x and y = Sin$(2x+30)^0$ on the same axis (4mks)



b. Use your graph to solve $\sin(2x+30)^0 - \sin 2x = 0$ (1mk)

c. Describe the transformation which maps the wave Sin 2x onto the wave Sin (2x +30) (2mks)

d. State the amplitude and period of y = a cos (bx +c) (2mks)

NAME……ADM NO……

SCHOOL……DATE…….. SIGN……

FORM4

PHYSICS

PAPER 1

232/1

2 HOURS

MID TERM 2 EXAM

INSTRUCTIONS TO STUDENTS

Write your name and adm number in the spaces provided above

*Attempt **ALL** questions in sections A and B.*

All your answers must be written in the spaces provided in this question paper.

All working must be clearly shown

Non programmable silent electronic calculators and KNEC mathematics table may be used except where stated otherwise

For Examiner's Use Only

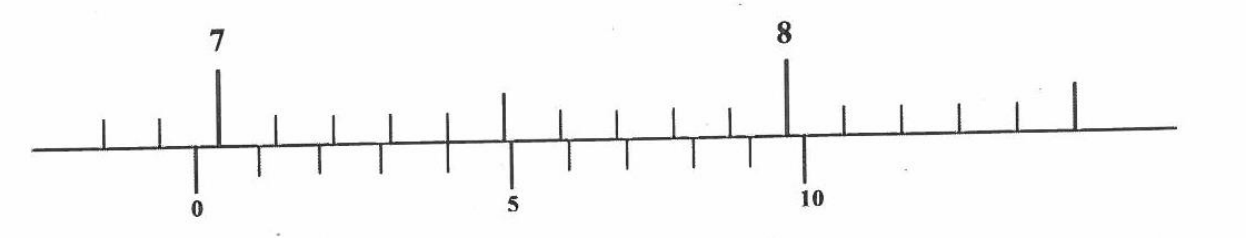
Section	Question	Maximum Score	Candidates' Score
A	Q1 – Q12	25	
B	Q13	9	
	Q14	11	
	Q15	9	
	Q16	10	
	Q17	10	
	Q18	6	
		80	

This paper consists of 14 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing

SECTION A (25 MARKS)

Answer all the questions in this section

1. **Figure 1** below shows a scale of vernier calipers when measuring the width of a meter rule.



What is the actual width of the meter rule if the calipers has a zero error of + 0.6mm.? (2mks)

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2.A clinical thermometer has a constriction in the bore just above the bulb. State the use of the constriction. (1mk)

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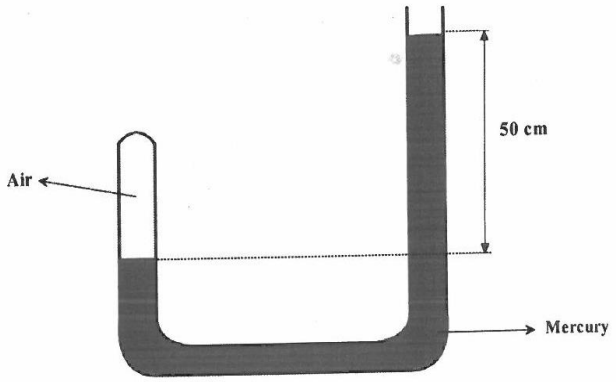
3.Figure 2 below shows air trapped by a column of t6he mercury in a U-tube . The atmospheric pressure is 76 cm Hg.



At what pressure in mmHg is the enclosed air?

(3mks)

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4.A girl of mass 50 Kg runs up a flight of height 4m in 4 seconds . Calculate the power she developed in this time (2mks)

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5. Name the transducer in the following energy conversions.

i).Kinetic to electrical (1mk)

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ii).Solar to heat (1mk)

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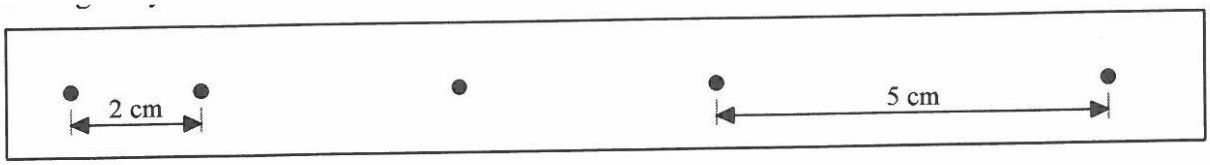
6.Figure 3 below shows dots produced on a tape pulled through a ticker timer by a moving body .



The frequency of the ticker –timer is 50 Hz. Calculate the acceleration of the body.

(3mks)

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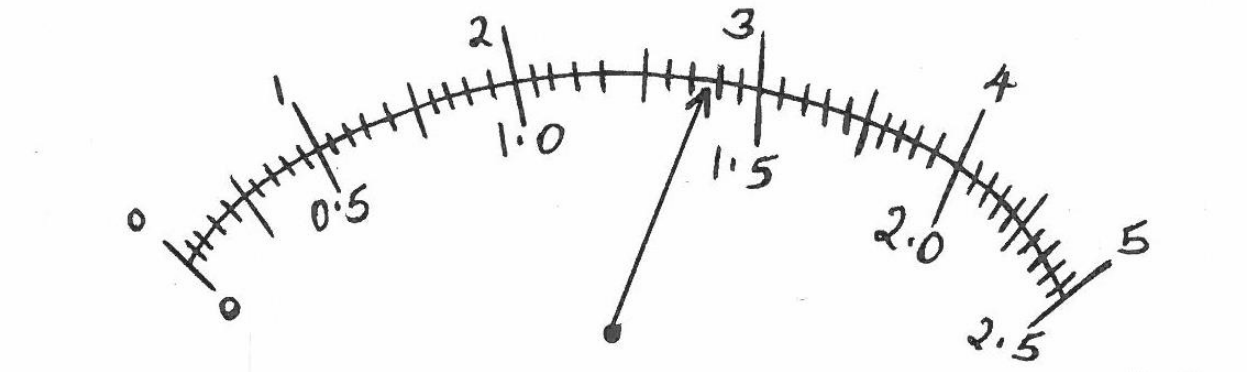
7.Figure 4 below shows an ammeter used to measure current through the conductor .The student used the lower scale.



State the reading from the meter

(1mk)

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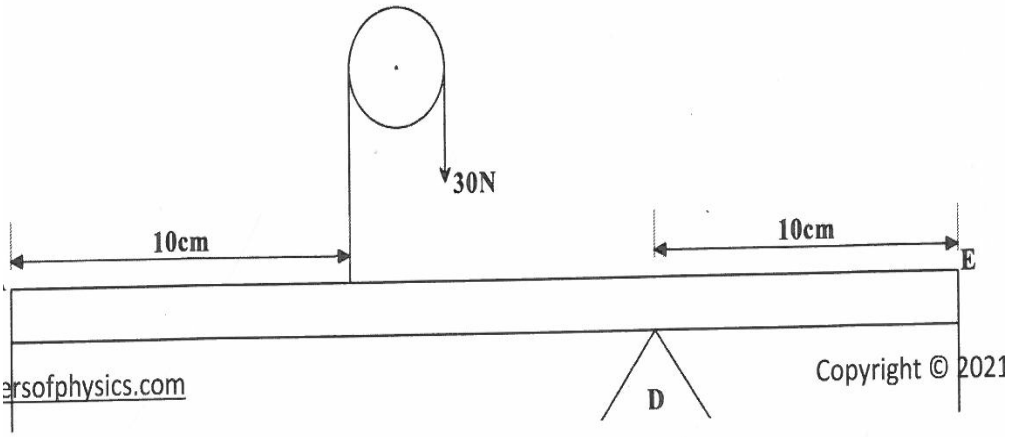
8. Figure 5 below shows a uniform rode AE which is 40 cm long. It has a mass of 2Kg and pivoted at D. If 2N is acting at point E , and 30N force is passed through a frictionless pulley.



Find the force X acting at end A. (3Mks)

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9. Convert -200°C into Kelvins (1mk)

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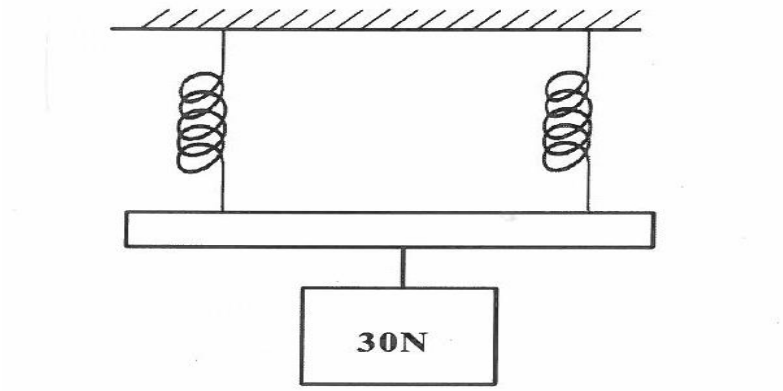
10.Figure 6 below shows two identical springs constant 3N/cm supporting a load of 30N.



Determine the extension of each spring (3mks)

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11. Explain why a bus should not carry standing passengers. (1mk)

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12. State TWO reasons mercury is preferred as a barometric liquid and not water . (2mks)

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SECTION B (55MARKS)

Answer all questions in this section

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

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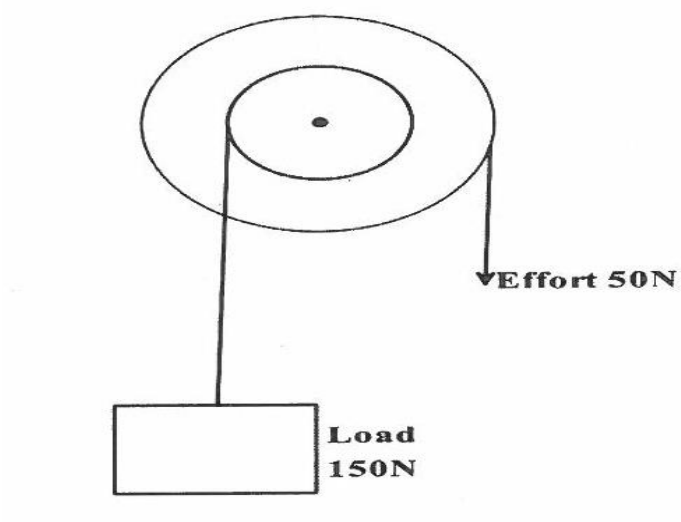
b) **Figure 7** below shows the cross –section of a wheel and axle of radius 6.5 cm and 1.5 cm respectively used to lift a load. Use it to answer the question that follow.



Determine the

i. Mechanical advantages (M.A) of the system (2mks)

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ii. Velocity ratio (V.R) of the system (2mks)

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iii. Efficiency of the machine (2mks)

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iv. Give one reason why the above machine is not 100% efficient (1mk)

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c) State the law of conservation of energy (1mk)

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14. (a) In inelastic collision , kinetic Energy is lost .Explain . (1mk)

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(b). A Trailer of mass 30 tonnes travelling at a velocity of Km/ her rams onto a stationery bus of mass 10 tonnes . The two move together after impact. Determine the common velocity at which they move after impact. (3 Mks)

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(c) A stone is thrown vertically upward with an initial velocity of 30 M/s

i. Determine the maximum height reached. (2mks)

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ii. Time taken to come back to the point of projection (2mks)

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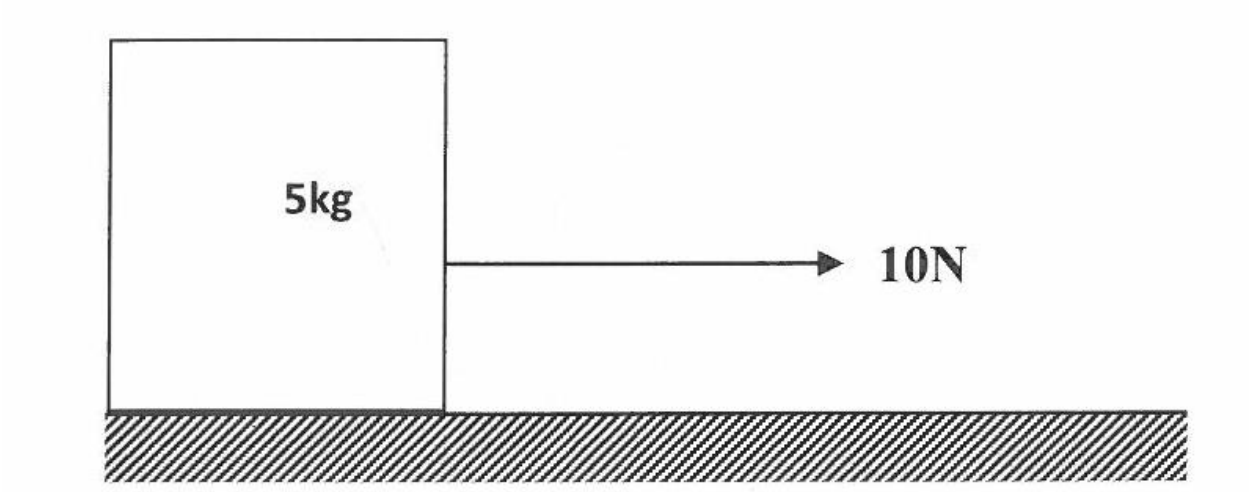
(d) The figure 6 below shows a body being pulled by a constant force of 10N for 4m over wooden surface . The co- efficient of friction is o.03.



Find the acceleration of the body

(3mks)

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15. (a) State Hooke's law (1mk)

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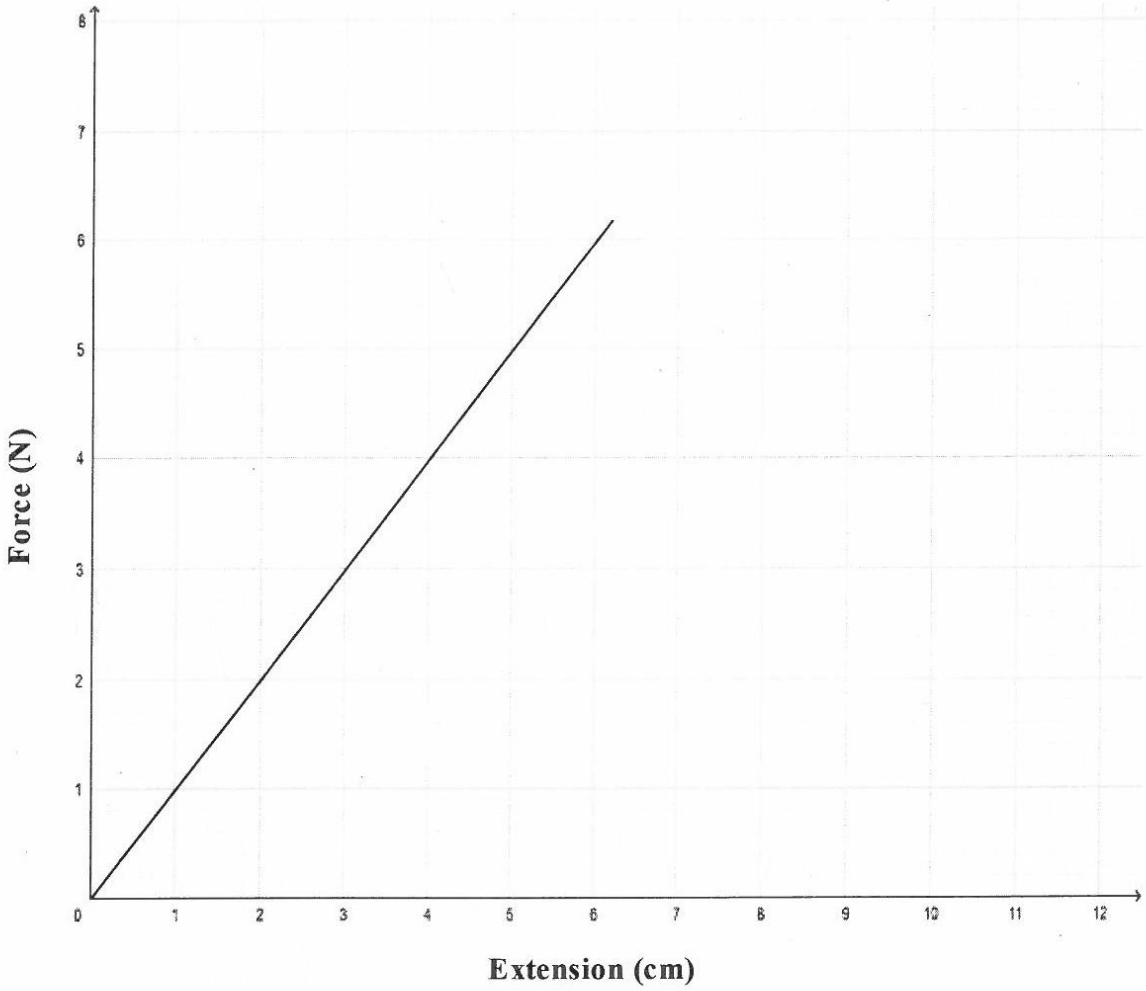
(b) A graph of force (y-axis) against (x-axis) is provided. Use it to answer questions below.



From the graph determine;

i).Work done in stretching the spring by 3cm. (3mks)

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ii).Spring constant .Give your answer in SI Units. (3mks)

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iii).State **two** factors that affect the spring constant. (2mks)

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16. (a) Give reason why ink is likely to ooze a pen when one is up in an airplane. (1mk)

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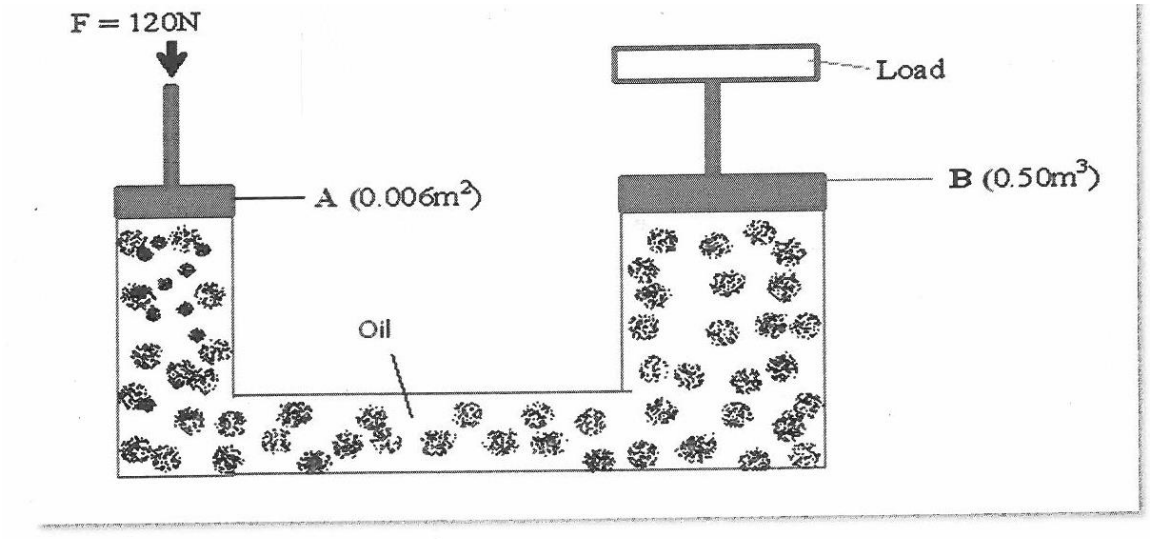
(b) The figure below is a simple hydraulic machine used to raise heavy loads.



Calculate;

i. The pressure exerted on the oil by the force applied at A (2mks)

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ii. The load raised at B

(2mks)

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iii. Give two properties which make the oil suitable for use in this machine . (2mks)

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(c) The barometer reading at the base of the mountain is 60cm/ Hg while at the top is 50 cm/Hg. If the densities of air and mercury are 1.25kgm-3 and 13,600kgm-3 respectively. Calculate the height of the mountain. (3mks)

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17.(a) Distinguish between streamline and turbulent flow.

(2mks)

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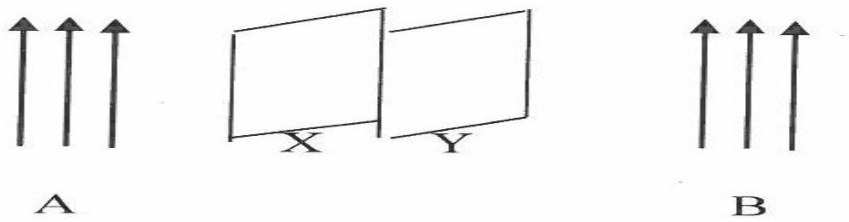
(b)Figure below shows two light sheets of paper arranged as shown



Explain the observation made when air is blown at the same time at point A and B.

(2mks)

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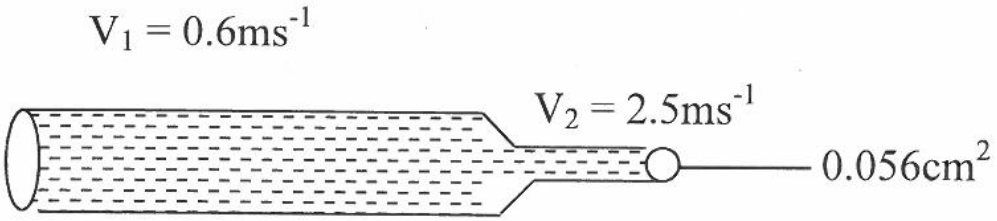
(c) Figure 12 below shows an incompressible fluid moving through a tube of varied cross-section area. If the area of the small tube is 0.05m2, Calculate the area of large tube in cm2.

(3mks)



(d) State the Bernoulli's principle (1mks)

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(e) State any **TWO** assumptions made when deriving the equation of continuity (2mks)

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18. a) State the **principal of moments** (1mk)

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b) A uniform metal strip is 3.0cm wide, 0.5 cm thick and 100 cm long. The density of the metal is 2.7 g/cm3. Determine

(i) The weight of the Metal strip.

(2mks)

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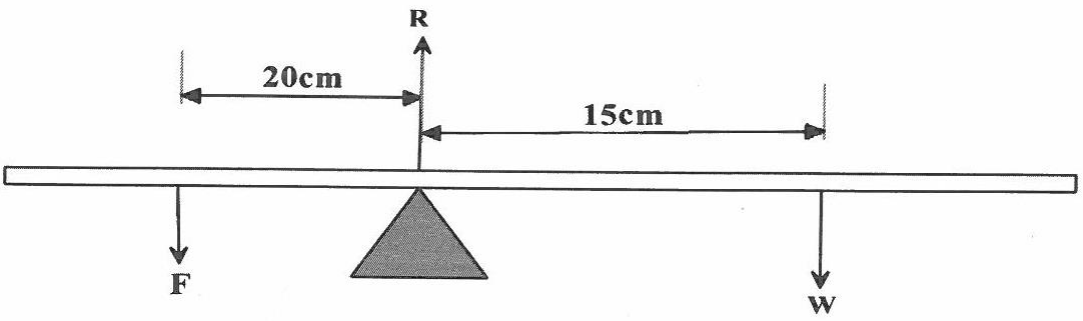
The strip is placed on a pivot and kept in equilibrium by forces in the figure below.



(ii) Determine the value of F . (3mks)

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NAME: …… **INDEX NO: ……**

SCHOOL: …… **DATE: ……..**

SIGNATURE: ……

232 / 2
PHYSICS
PAPER 2
THEORY
TIME: 2 HOURS

MID TERM 2 EXAM

INSTRUCTIONS TO CANDIDATES:

(a) *Write your Name and Index Number in the spaces provided above.*

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

(c) *This paper consists of two sections A and B.*

(d) *Answer all questions in Section A and B in the spaces provided below all questions.*

(e) *All working MUST be clearly shown.*

(f) *Non-programmable silent electronic calculators and KNEC Mathematical tables may be used.*
Take g = 10Nkg^{-1}

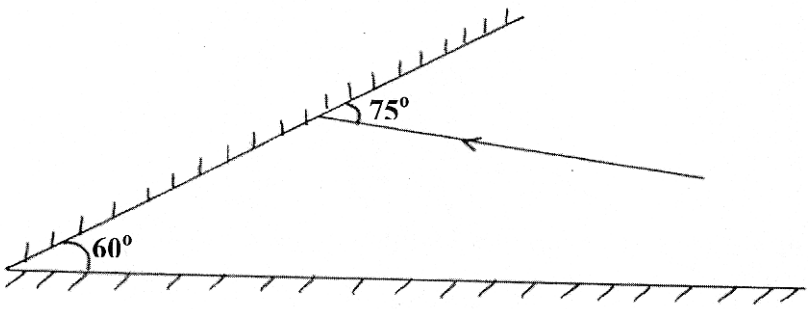
FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAX. SCORE	CANDIDATE SCORE
A	1 - 12	25	
B	13	12	
	14	09	
	15	11	
	16	11	
	17	12	
TOTAL SCORE		**80**	

SECTION A (25 MARKS)
Answer ALL questions in this section in the spaces provided

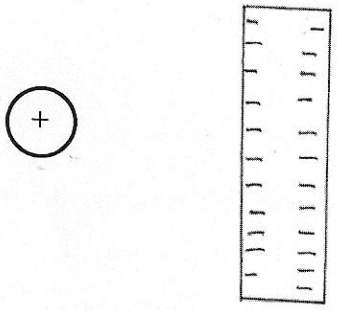
1. Figure 1 below shows a ray of light incident to the first of the two mirrors inclined at an angle of 60^0. Complete the path of the ray after reflection from the mirror. (1mk)

Fig. 1



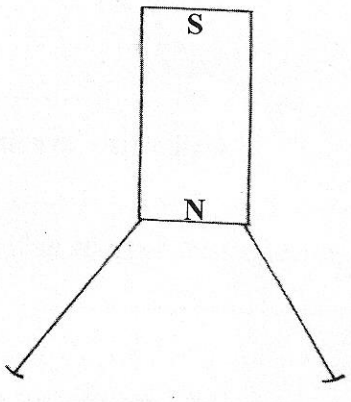
2. Figure 2 below shows a positive charge near a plate carrying negative charge. Draw the electric field between them. (2mks)

Fig.2



3 Two pins are hanging from a magnet S shown in diagram below figure 3.

Fig. 3



Explain why the nails do not hang vertically downwards. (2mks)

4Draw diagrams to illustrate what happens when plane waves are incident on a slit.

(i) When the width of the slit is large compared with the wavelength of the waves. (2mks)

(ii) When the width of the slit is small compared with wavelength of the waves. (2mks)

5(i) Arrange the following waves in order of decreasing wavelength; x-rays, infrared, microwaves and visible light. (1mk)

(ii) State **one** application of visible light. (1mk)

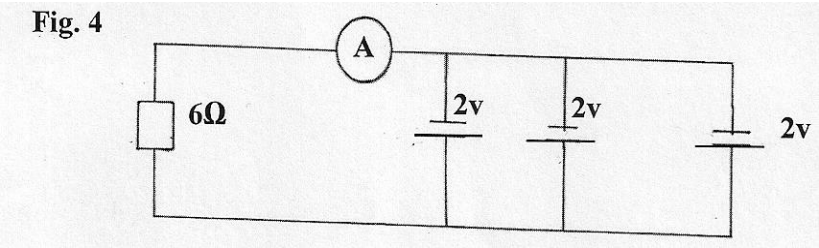
6 State one defect of a simple cell and explain how it can be controlled. (2mks)

7 A girl shouts and hears an echo after 0.6 seconds later from a cliff. If velocity of sound is 330m/s, calculate the distance between her and the cliff. (3mks)

8 Determine the reading of the ammeter in figure 4 below.

(2mks)

Fig. 4



9 A ray of light is incident on a glass-oil interface as shown in fig. 5 below. Determine the value of r. (Take refractive index of glass and oil as $^{3}/_{2}$ and $^{8}/_{5}$ respectively) (1mk)

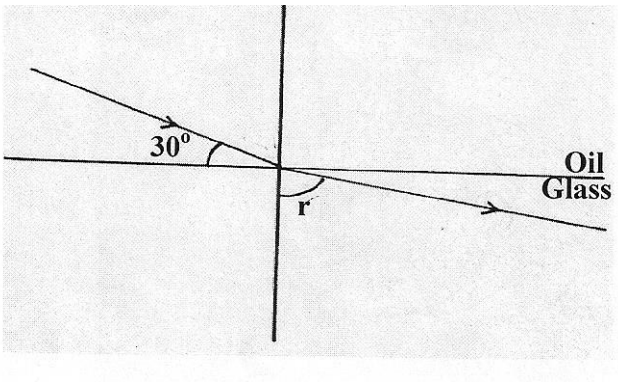


Fig. 5

10 State **two** factors that affect the capacitance of a parallel-plate capacitor.

(2mks)

11 a) state two advantages of an alkaline accumulators over the lead acid accumulators 2mks

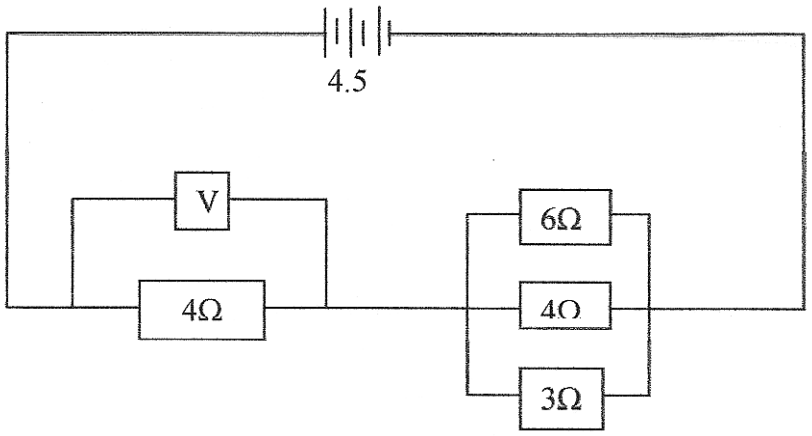
12 An electric bulb is rated 40W ,240v .what is the resistance of the filament 2mks

SECTION B (55 MARKS)

Answer ALL the questions in this section in the spaces provided

13(a) Study the circuit diagram below and answer the questions that follow.

Fig



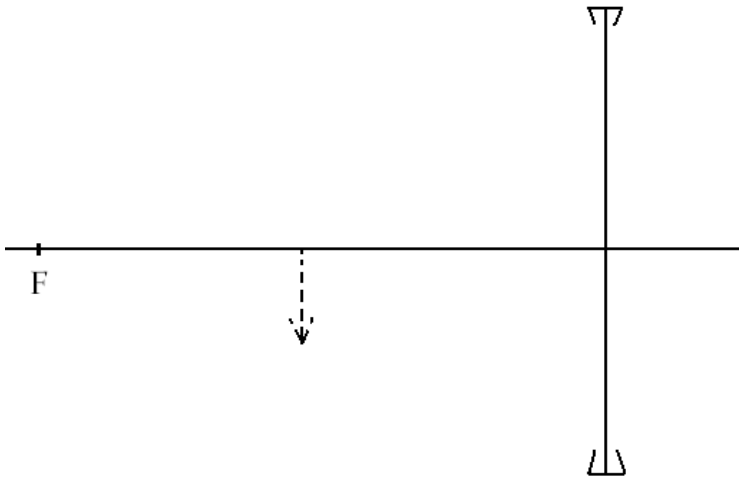
(i) Calculate the effective resistance of the circuit. (3mks)

(ii) Find the voltmeter reading. (3mks)

(b) A cell drives a current of 3.2A through a 2.8Ω resistor. When it is connected to 1.6Ω resistor, the current that flows is 5A. Find the E.m.f. (E) and internal resistance of the cell. (4mks)

14 Complete the diagram below indicating the rays that will lead to the formation of

the image shown below (3marks)



a) A compound microscope with an objective lens L_o of focal length 1.2cm and an eye piece lens L_e of focal length 2.8cm. An object is placed 1.8cm

from the objective lens. The system of lenses produces a final image a distance of 12.0cm from L_e. Determine the distance of separation of lens L_o and L_e. (4 MARKS)

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b) An object is placed 12cm from a convex lens and it forms a virtual image 36cm from the lens. Calculate the focal length of the lens. (3 MARKS)

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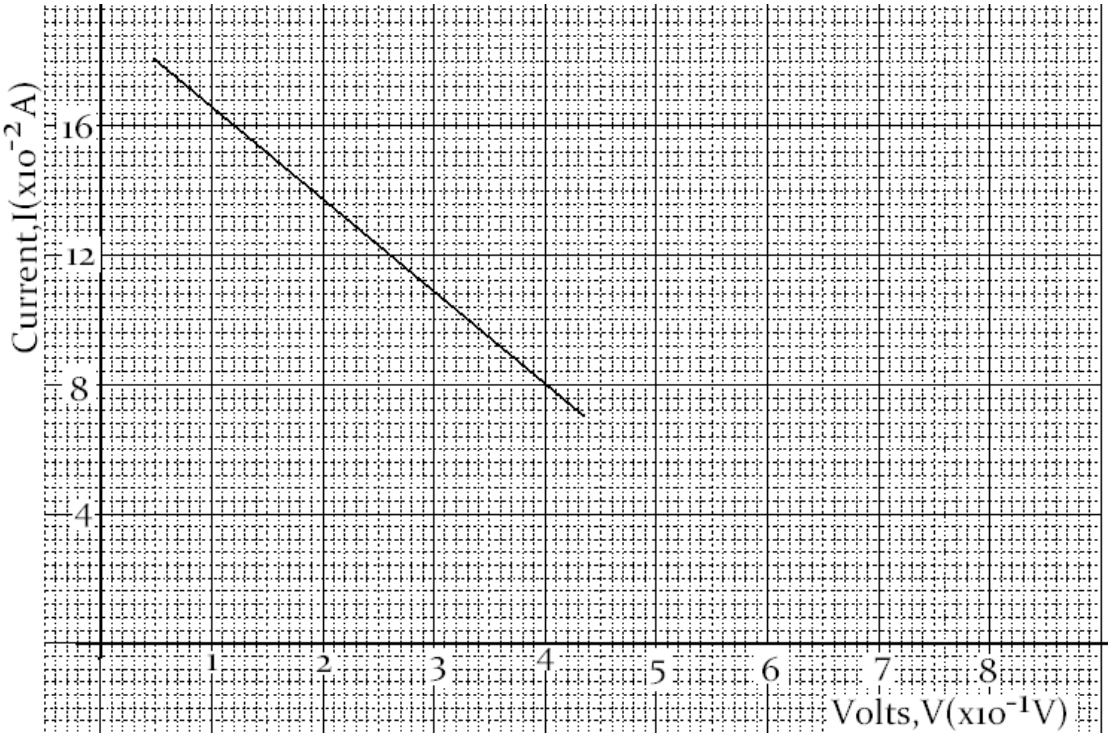
c) The graph below shows the variation of potential difference V with current I for a certain cell.



From the graph determine

i). The internal resistance of the cell (3 marks)

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ii). The e.m.f of the cell (1 mark)

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14 (a) (i) State one cause of energy losses in a transformer and explain how it can

be minimized. (2mks)

(ii)Describe briefly the energy changes involved in the generation of electrical energy at a hydropower station (2mks)

(iii)What are the advantages of transmitting power at:

(I) Very high voltages (1mk)

(II) Alternating voltage (1mk)

(b)(i) Explain how electrons are produced in a cathode ray oscilloscope (CRO) (2 mk

(ii) State two functions of the anodes in a CRO. (2mks)

(iii) At what part of the cathode ray oscilloscope would the time base be connected (1mk)

(iv) State why the tube is highly evacuated (1mk)

15 a) Define the term supersonic speed as used applied in sound waves (1mark)

b) in an experiment to determine the speed of sound in air, a drum at a point 150 m from a vertical wall was struck at varying frequencies while listening to the echo .The echo coincided with sound from the drum at a time when 20 successive strikes were made within a time of 18.5 s.

(I) Determine the time taken for the echo to heard 3marks

(ii) Determine the speed of sound in air at the place 2marks

(iii) What difference would you expect if the experiment was repeated on a colder day 1mark

C) A boy strikes a railway with a hammer. A railway worker 600 m away hears two sound s , One from the railway and the other from the air .If the time intervals between the two Sounds is 1.65s and the speed of sound in air is 340m/s, determine the speed of in the Railway line. 4 marks

16 a) define the term eclipse of the moon 1 mark

b) differentiate between umbra and penumbra as used in the eclipse 2marks

c) an incident ray forms an angle of 45 degrees with the mirror at point of incidence .If The position of the incident ray is kept constant while the mirror is rotated at an angle of 20 degrees .Find the angle through which the reflected ray is rotated 2 marks

d) A tree 25 m high stands , 50 m in front of a pinhole camera whose screen is 30 cm behind the pinhole. What is the height of the image of the tree formed on the screen . 3mks

232/3
PHYSICS PRACTICAL
PAPER 3
CONFIDENTIAL.

MID TERM 2 EXAM

Kenya Certificate of Secondary Education (K.C.S.E.)

INSTRUCTIONS TO SCHOOLS

QUESTION ONE REQUIREMENTS

- Ammeter
- Voltmeter
- Nichrome wire mounted on a millimeter scale (gauge 28)
- Switch
- A new dry cell
- A micrometer screw gauge
- Connecting wires
- A jockey

QUESTION TWO REQUIREMENTS

- A spiral spring (spring diameter =15mm

  Length= 70mm, diameter of spring wire=1.8mm, number of turns=88)
- A complete stand
- 7 masses of 20g each
- A stopwatch
- 2 small pieces of wood for clamping
- A glass block
- 4 optical pins
- A soft board
- One plain paper
- Student to come with geometrical set.

NAME.....ADM NO.....DATE....
232/3
FORM 4
PHYSICS
Paper 3

MID TERM 2 EXAM

INSTRUCTIONS TO CANDIDATES

- **Write your name and index number in the spaces provided.**
- **Mathematical tables and non-programmable calculators may be used.**
- **This paper consists of section A and section B.**
- **Attempt all the questions in the spaces provided.**
- **ALL working MUST be clearly shown.**

For Examiners Use

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	18	
2	22	
TOTAL	40	

This paper consists of 6 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

1. **QUESTION 1**
   You are provided with the following apparatus
   - Ammeter

- A voltmeter
- A wire mounted on a millimeter scale
- A switch
- A new dry cell
- A micrometer screw gauge
- 6 Connecting wires
- A jockey

Proceed as follows

a) Measure the diameter d of the mounted wire at three different points

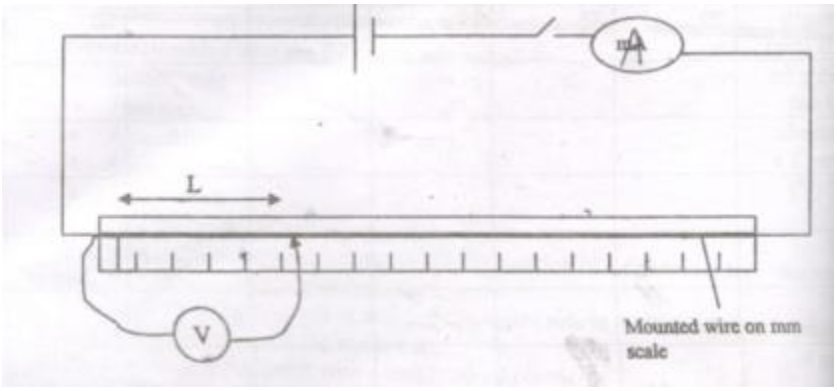
d_1= _____ mm

d_2=_____ mm (½mk)

d_3=_____ mm

Average d = _____ mm (½mk)

b) Set up the apparatus as shown in the circuit diagram.



Close the switch and tap the mounted wire with jockey as shown in the circuit. Ensure that both meters show positive deflection, open the switch.

c) Tap the wire at L= 20cm, close the switch, read and record in the table the ammeter and voltmeter reading.

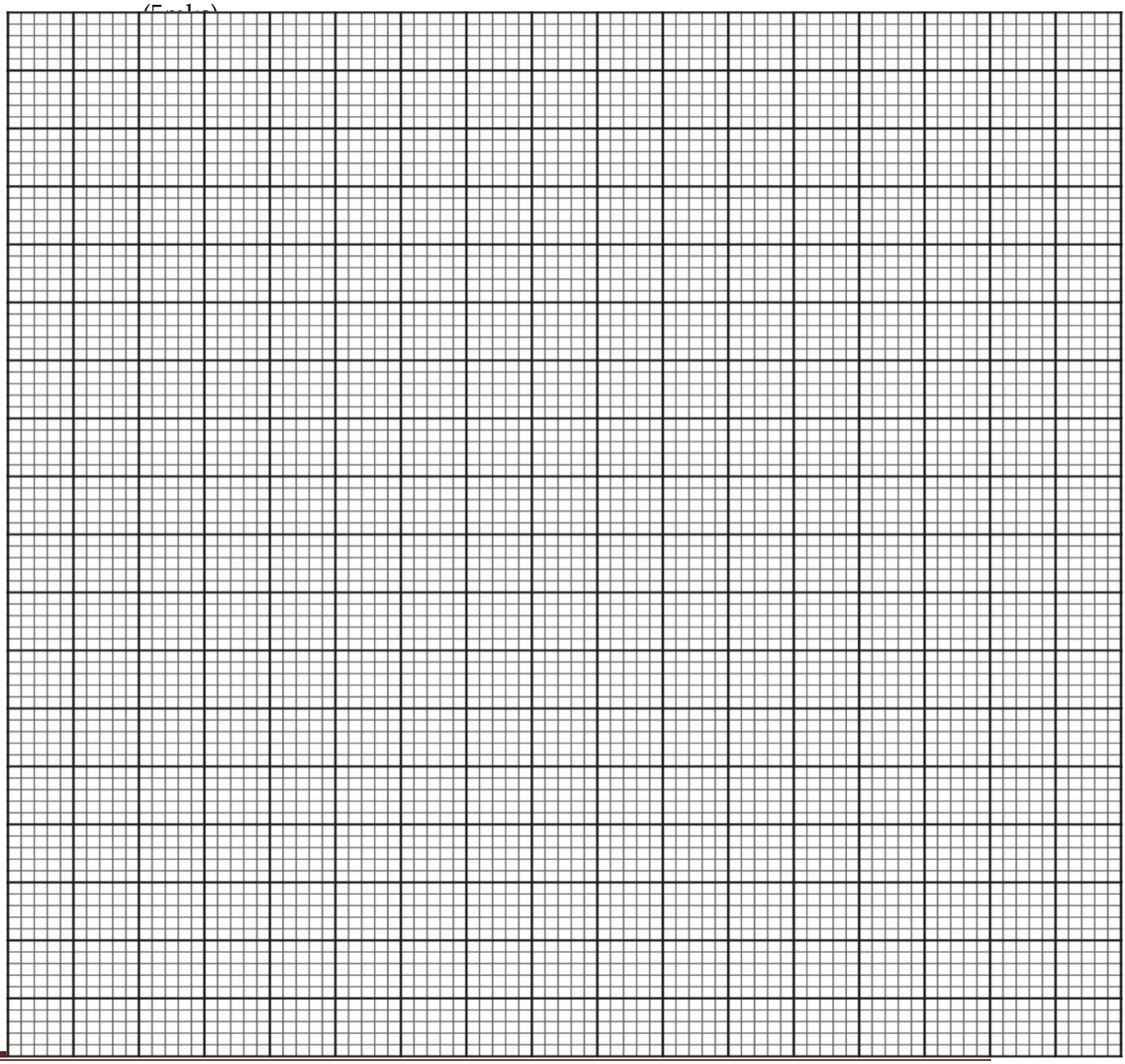
d) Repeat the procedure in (c) for other values of L shown in the table and complete the table.

L(m)	V(Volts)	I(A)	R=V/I
0.2			
0.3			
0.4			
0.5			
0.6			
0.7			
0.8			

(6mks)

e) Plot a graph of R against L (m).

(5mks)



f) Determine the slope of the graph.
(3mks)

g) Given that R= p$\frac{L}{A}$ where A is the cross-sectional area of the wire and p is a constant for the material of the wire, determine the value of the constant p.
(3mks)

2. QUESTION 2

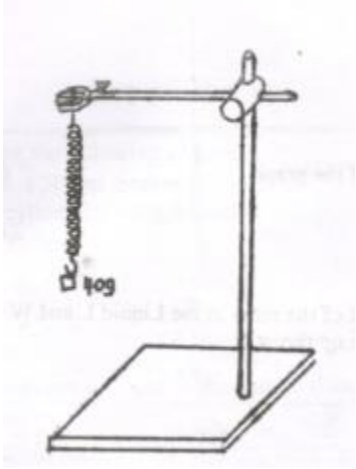
Part 1

You are provided with the following;

- A spiral spring
- A complete stand
- 7 masses of 20g each
- A stop watch
- 2 small pieces of wood for clamping

Proceed as follows

a) Clamp the spiral spring so as to hang from the clamp as shown in the figure below



b) Hang a 40g mass from the spring and displace the mass slightly downwards so that it executes vertical oscillations as shown

c) Measure and record in the table the time for 10 oscillations.

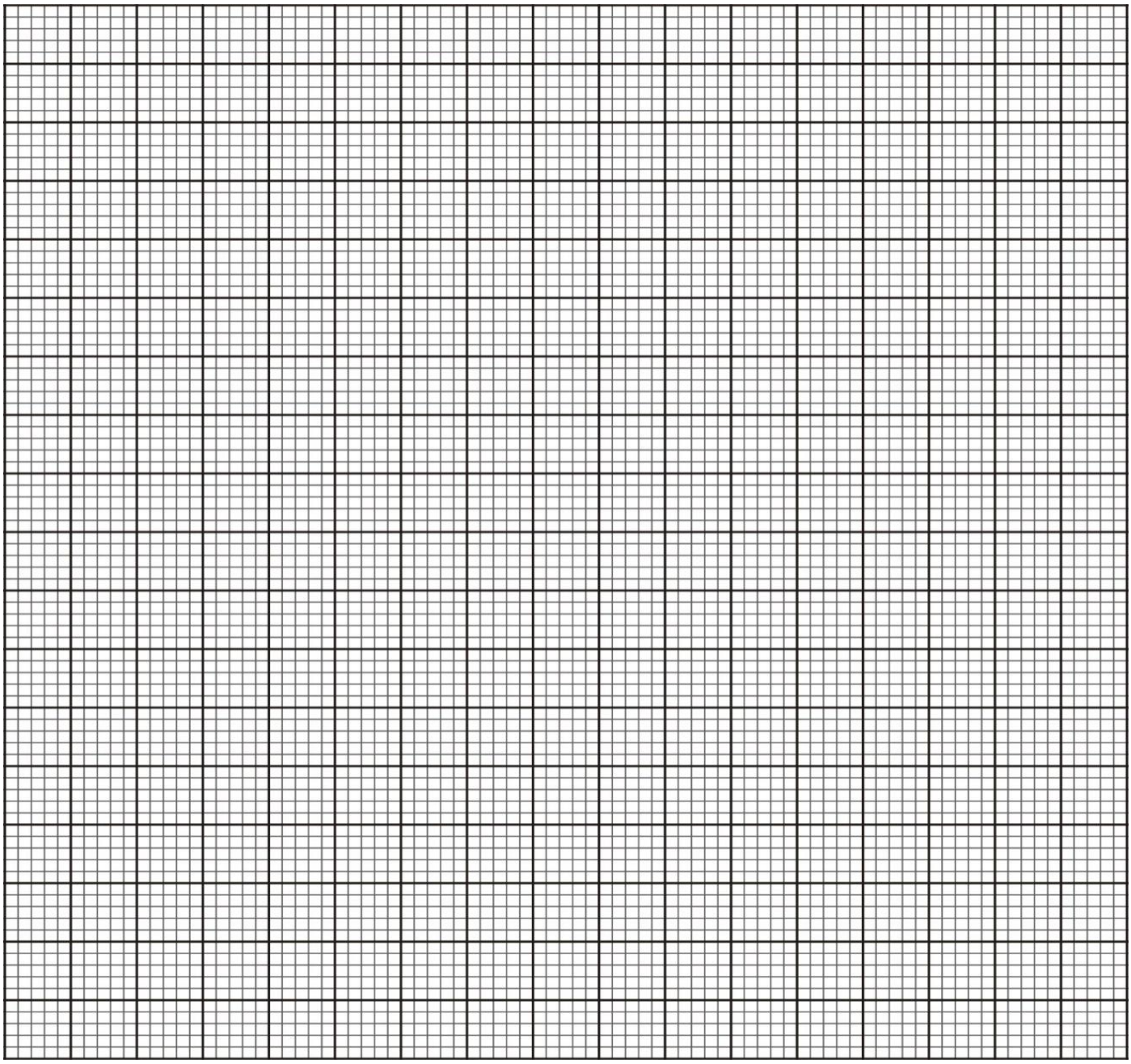
d) Determine the periodic time T in the table.

e) Repeat the experiment for other values of mass m shown in the table. Complete the table below.

Mass (m)g	**40**	**60**	**80**	**100**	**120**	**140**
Mass m (kg)						
Time for 10 osc(s)						
Period T(s)						
T^2 (s^2)						

(6mks)

f) Plot a graph of T^2 (s^2) against mass m(kg). (5mks)



g) Determine the slope of the graph. (2mks)

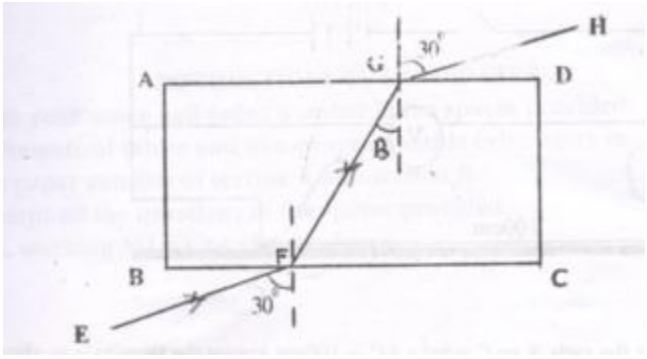
h) Given that the equation of the graph is $\mathbf{T^2=\frac{4\pi^2 m}{w}}$
Determine the value of **w**. (3mks)

Part II

You are provided with a glass block, 4 optical pins, a soft board, one plain paper.

a) Place the rectangular glass block on a sheet of paper fixed on the soft board with one of its longest face uppermost. Mark the outline ABCD as shown in the figure. Remove the glass block and draw a line EF to represent a ray of light making an angle of incidence i=30^0 with the longest side BC of the block.

b) Stand pins p1and p2 on this line as far as possible. Replace the block and mark the emergent ray by looking into the side AD of the block and placing pins p3 and p4 in line with images of p1 and p2 as seen through the glass block. Remove the block and the pins and draw ray EFGH as shown in the figure below.



a) Draw the normal at G as shown.

b) Measure angle B (1mk)
B = ……

c) Given that $\mathbf{k}=\frac{sin\ 30^0}{\sin B}$
Calculate the value of **k**. (2mks)

d) The main paper used should be handed over together with this paper (correct use made of the plain paper) (1mk)