MARANDA HIGH SCHOOL MOCK 2024

ALL SUBJECTS

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

443/1

AGRICULTURE PAPER 1

TIME: 2 HOURS

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

INSTRUCTIONS TO CANDIDATES

- Write your name, index number, admission number, school and stream in the spaces provided.
- This paper consists of three sections: **A, B** and **C.**
- Answer **all** the questions in section **A** and **B** and any other **two** in section **C**
- All answers **must** be written in the spaces provided in this booklet

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 - 14	30	
B	15 - 18	20	
C	19 - 21	40	

	TOTAL SCORE	90	

***This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing* SECTION A (30 MARKS)**

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

1. a). Define the term ranching. (1 mark)

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b). State **four**ways in which ranching can be improved. (2 marks)

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2. List **four** reasons for using certified planting materials (2 marks)

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3. State **four** importance of ridging. (2 marks)

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4. a). What are forage crops? (1 mark)

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b). Give **four** factors that affect quality of silage. (2 marks)

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5. State **four** factors that contribute to the competitive ability of weeds. (2 marks)

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6. State **four** factors that influence solifluction. (2 marks)

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7. State **two** functions of polythene sheet when used as a mulching material (1 mark)

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8. a). Define the term opportunity cost. (1 mark)

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b). Give **two** situations in which the opportunity cost would be zero. (1 mark)

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9. State **four** advantages of overhead irrigation. (2 marks)

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10. a). Define the term land reform. (1 mark)

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b). State **four** advantages of communal land tenure system. (2 marks)

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11. State **four** types of financial documents. (2 marks)

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12. Define the following terms as used in agroforestry:

a). Lopping. (1 mark)

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b). Pollarding (1 mark)

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13. State **four** factors that determine the quality of hay. (2 marks)

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14. State **four** characteristics of plants used as green manure. (2 marks)

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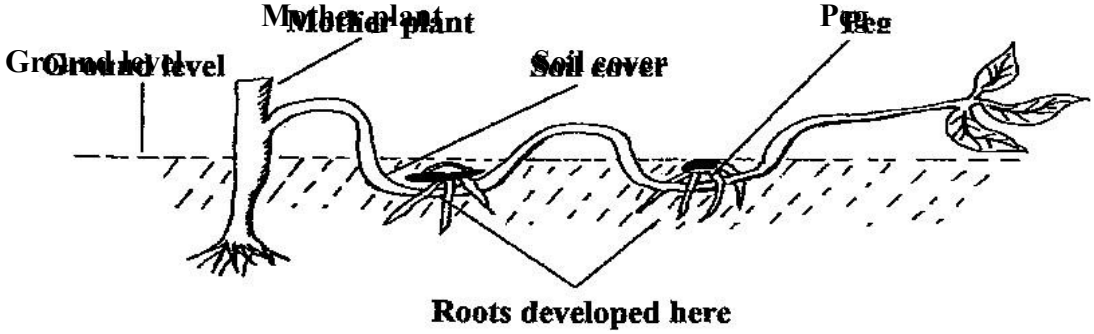
SECTION B (20 MARKS)

Answer ALL questions in this section in the spaces provided.

15. The diagram below represents a method of crop propagation.



a) Identify the method of propagation. (1 mark)

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b) What is the advantage of the above method of crop propagation? (1 mark)

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c) List any **three** processes by which part of a stem is induced to produce roots while attached to the mother plant. (3 marks)

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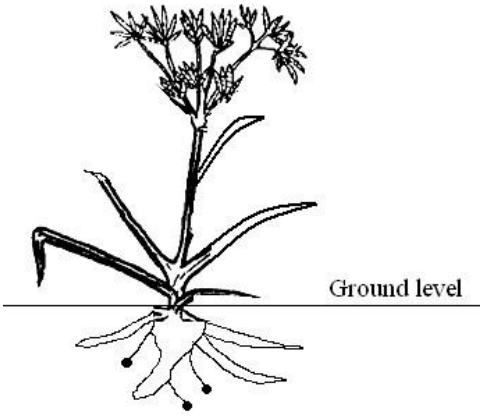
16. The diagram below shows a common weed. Study it carefully and answer the questions that follow.



a) Name the weed (1 mark)

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b) Why is it difficult to control the above weed? (1mark)

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c) State **three** economic importance of the weed. (3marks)

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17. Naliaka is a maize farmer in Mumias. She has been advised by an extension officer to top dress her five hectare maize farm with Calcium Ammonium Nitrate (C.A.N) at the rate of 150kg per hectare. C.A.N has 21%Nitrogen.

a). Calculate the amount of fertilizer that Naliaka would need to top dress his farm adequately. Show your working. (3 marks)

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b). Give **two** types of soil sampling methods. (2 marks)

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18. Below are

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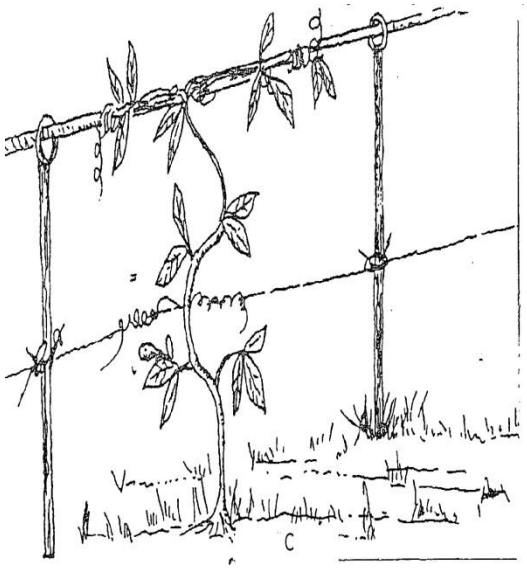
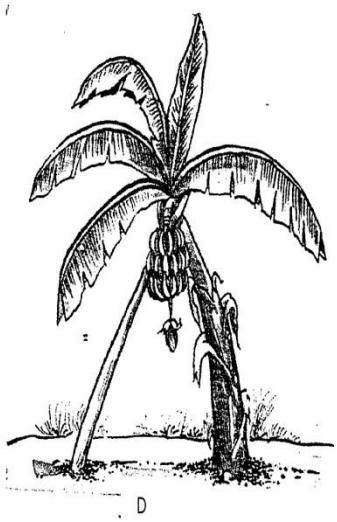
diagrams showing a field practices usually carried out on certain crops. Study them and answer the questions that follow.

a).   Name the practices illustrated above. (2 mark)

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b). Name a crops in which the practice C is carried out. (1 marks)

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c). Give **two** importance of the practice labeled C. (2 marks)

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SECTION C (40MARKS)

Answer any TWO questions in this section in the spaces provided

19. A farmer has 160 ha of land, 60 ha of which is under wheat ,32 ha under maize,12 ha under fodder crops and the rest under pastures. She wishes to know whether replacing 12 ha of maize with Irish potatoes the following year would be worthwhile. The fertilizer would have to be increased from 5 bags per ha for maize to 7 bags per ha for Irish potatoes and an extra 100 man –days casual of casual labour per ha will be necessary as a result of change. The average yields of maize and Irish potatoes is 45 and 115 bags per ha respectively. The prices are shs.1400 per bag for maize and ksh.1200 per bag for irish potatoes. Seed cost seed costs are shs. 2500 per ha for maize and shs.30, 000 per ha for irish potatoes. Fertilizer costs are shs.1300 per bag. Labour is paid at shs.150 per manday. Draw a partial budget and indicate the effects of change (10 marks)

b). Describe **five** ways by which farmers adjust to risks and uncertainties. (5 marks)

c). Explain **five** effects of weeds on pastures. (5 marks)

20. a). Briefly describe factors that influence soil erosion. (8 marks)

b). Explain the importance of a nursery bed in crop production (7 marks)

c). State **five** advantages of timely planting of annual crops. (5 marks)

21. a). Describe **eight** cultural methods of controlling pests. (8 marks)

b). Briefly explain biological factors that influence agriculture. (6 marks)

c). Describe the harvesting of pyrethrum. (6 marks)

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MARANDA BOYS HIGH SCHOOL

Kenya Certificate of Secondary Education
MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

443/2
AGRICULTURE PAPER 2

TIME: 2 HOURS

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

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided
- This paper consists of three sections: **A, B** and **C.**
- Answer **all** the questions in section **A** and **B** and any other **two** in section **C** • All answers **must** be written in the spaces provided in this booklet

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE

A	1 - 15	30	
B	16 - 19	20	
C	20 - 22	40	
	TOTAL SCORE	**90**	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no question is missing

SECTION A (30 MARKS)

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

22. State **four** prophylactic measures of controlling livestock diseases and parasites. (2 marks)

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23. a). Name the hormone that influences milk let-down in lactating cattle. (1 mark)

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b). State **four** factors that trigger milk let-down. (2 marks)

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24. Name a tool used for tightening barbed wires during fencing. (1 mark)

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25. Give the functional difference between a cross-cut saw and a rip saw. (2 marks)

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26. State **four** importance of steaming-up. (2 marks)

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27. Name **four** implements powered by P.T.O. (2 marks)
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28. Give **four** characteristics that make Zebu cattle be more adapted to tropical conditions than exotic breeds. (2 marks)

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29. Define the following terms:

i). "**Hybrid vigour**" as used in livestock breeding. (1 mark)

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ii). "**Cropping**" as used in fish farming. (1 mark)

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30. State **four** control measures of egg eating in layers in deep litter system. (2 marks)

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31. State **four** conditions under which a farmer would use animal power instead of tractor power for seedbed preparation. (2 marks)

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32. State **four** disadvantages of natural mating in dairy cattle. (2 marks)

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33. State **four** factors that determine maintenance ration in livestock production.(2 marks)

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34. State **four** factors to consider when controlling endo-parasites. (2 marks)

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35. Give **four** advantages of using concrete blocks in construction. (2 marks)

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36. State **four** notifiable diseases in livestock. (2 marks)

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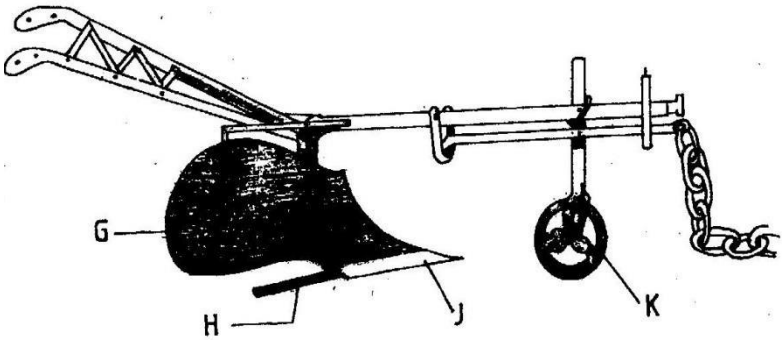
SECTION B (20 MARKS)

Answer ALL questions in this section in the spaces provided.

37. The diagram below shows a farm implement. Study it and answer the questions that follow.



a) Identify the farm implement illustrated above. (1 mark)

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b) Name the parts labeled J and K. (4 marks)

J

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K

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c) State the functions of the farm implement illustrated as G and H. (2 marks) G

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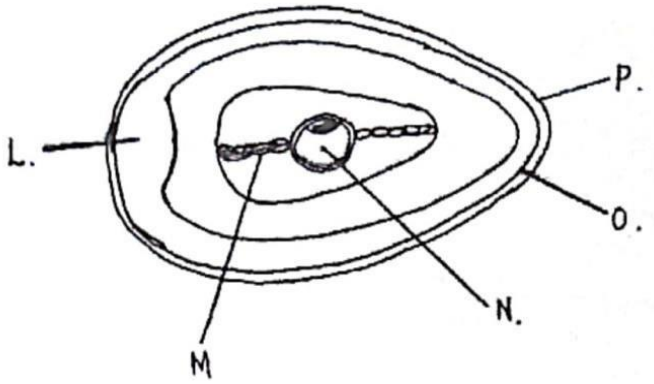
38. Study the diagram of an egg below and answer the questions that follow.



a). Name the parts labeled N and O. (2 marks)

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O:

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b). State the functions of the parts labeled M and L. (2 marks) M:

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c). Give a reason why the egg should be turned regularly during incubation. (1 mark)

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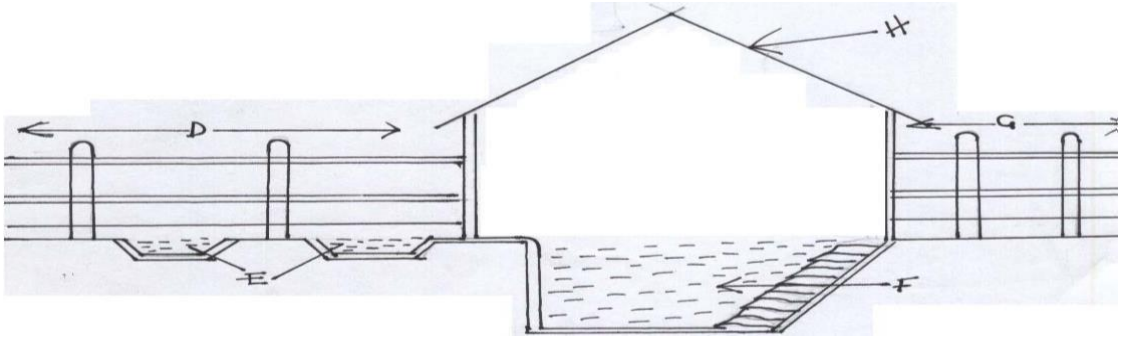
39. Below is a diagram of an animal handling structure. Study it and answer the questions that follow.



a).Identify the farm structure illustrated above. (1 marks)

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b) Name the parts labeled E and G. (2 marks)

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b). Give two functions of the part marked H. (2 marks)

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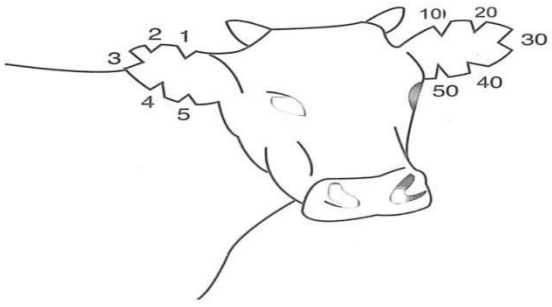
40. Below is an illustration of a rearing practice.



a). Give the name of the identification method shown above. (1 mark)

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b). Using the above formula, illustrate Animal Number 93. (1 marks)

c). Give **two** disadvantages of the method named above. (2 marks)

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d). Name **one** other method of identification. (1 mark)
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SECTION C (40MARKS)

Answer any TWO questions in this section in the spaces provided

41. a). Describe Brucellosis under the following;

i). Casual organism. (1 mark) ii). Symptoms. (3 marks) iii). Control. (5 marks)

b). Describe the life cycle of a two host tick. (6 marks)

c). Outline **five** qualities of clean and high quality milk. (5 marks)

42. a). Describe the artificial rearing of a day old chick to the end of brooding. (10 marks)

b). Explain **six** characteristics of a poor layer that a farmer should look for in a hen during culling. (6 marks) c).Highlight **four** reasons for maintaining tools. (4 marks)

43. a). Highlight **eight** factors that a farmer should consider before buying a tractor for use as a source of farm power. (8 marks)

b). Discuss pre-disposing factors to mastitis. (6 marks)

c). Describe the procedure of establishing a fish pond. (6 marks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

231/3 BIOLOGY paper 3 (PRACTICAL)

CONFIDENTIAL

EACH CANDIDATE SHOULD BE PROVIDED WITH THE FOLLOWING ITEMS;

SOLUTION P 20ml STARCH SOLUTION

SOLUTION R 2ml DIASTASE ENZYME

SOLUTION Z 60ml WATER

SOLUTION Q 3ml EGG WHITE

THREAD

VISIKING TUBING

100 ML BEAKER

STOP WATCH

5 TEST TUBES

5 LABELS

10ml MEASURING CYLINDER

HAVE ACCESS TO;

IODINE SOLUTION

BENEDICT`S SOLUTION

SOURCE OF HEAT

SPECIMEN K-THORACIC BONE

SPECIMEN M- LUMBAR BONE

SODIUM HYDROXIDE

COPPER (II) SULPHATE

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

231/1

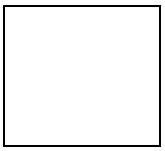
BIOLOGY THEORY PAPER 1

TIME: 2 HRS

INSTRUCTIONS TO CANDIDATES

1. ***Write your name and admission number in the spaces provided.***
2. ***Sign and write date of examination in the spaces provided above.***
3. ***Read all questions and answer in the spaces provided.***
4. ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.***
5. ***No blank spaces should be left during examination as they do not score.***

1	*2*	*3*	*4*		*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*

GRAND TOTAL 

1. (a) State the function of a mirror in a light microscope. (1 mark)

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b) Give one reason why the coarse adjustment knob should not be used to lower the high power objective. (1 mark)

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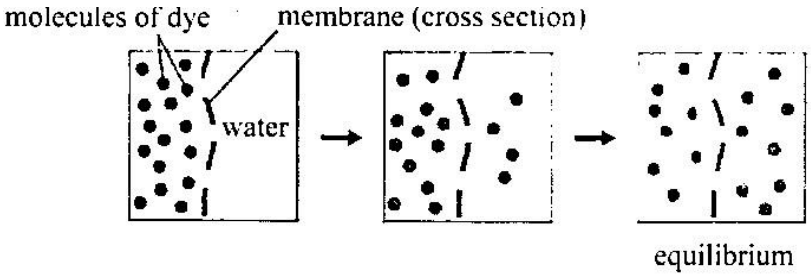
2. The set below illustrates a certain physiological process:



(a) (i) Name the physiological process (1 mark)

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(ii) Give two examples of the process names in (a) (i) above in plants. (2 marks)

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(b) State two ways by which the movement of dye molecules in the set up would be going down. (2 marks)

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3. The table below shows the percentage concentration of certain substances in blood plasma glomerular filtrate and urine in a human being at a particular time.

Percentage concentration			
Substance	Blood plasma	Glomerular filtrate	Urine
Glucose	0.023	0.02	0.0
Water	92.70	92.70	96.08
Protein	5.69	0.0	0.0
Urea	0.087	0.098	2.6

(a) Explain the likely impact on the composition of urine in case of the following: (i) Vigorous physical exercises (2 marks)

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(ii) A meal rich in proteins (2 marks)

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(b) Name the processes responsible for:

(i) Presence of glucose in glomerular filtrate (1 mark)

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(ii) Absence of glucose in urine (1 mark)

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

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5. How does nutrition as a characteristic of living organisms differ in plants and animals? (2 marks)

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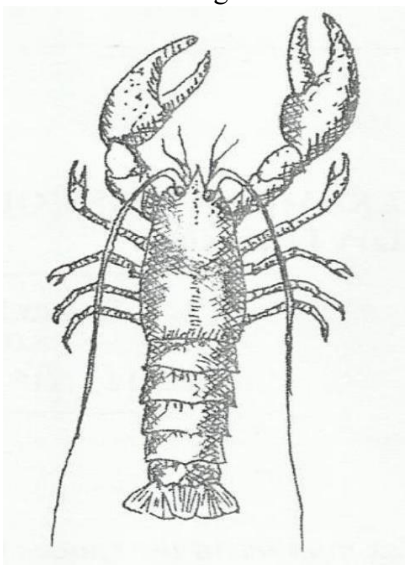
6. The diagram below represents a certain organism collected by a student at the sea shore.



(a) Name the **class** to which the organism belongs. (1 mark)

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(b) Give three reasons for your answer in (a) above. (3 marks)

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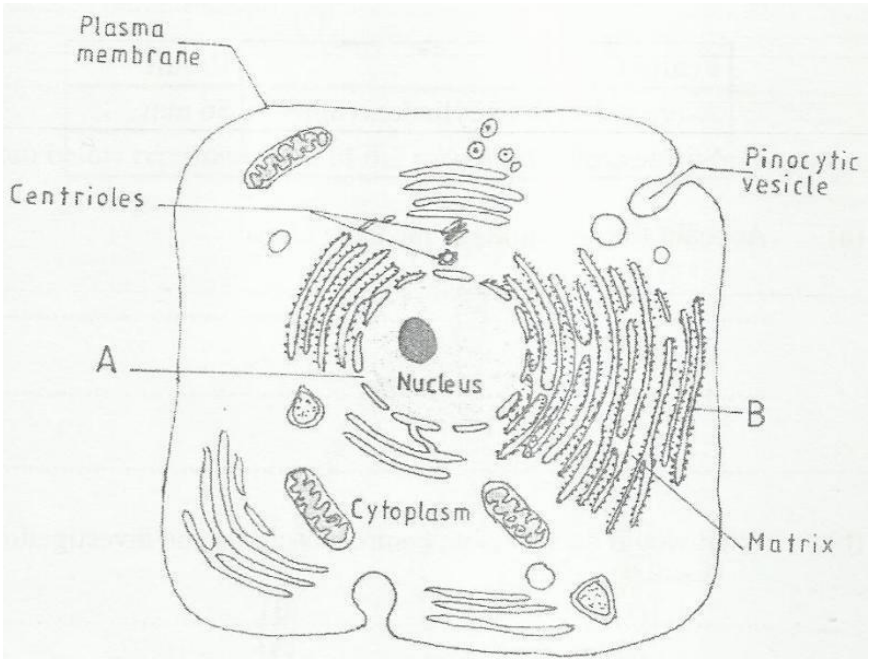
7. The figure below is a fine structure of a generalized animal cell as seen under an electron microscope.



(a) Name the parts labeled A and B. (2 marks)

A

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B

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(b) How is the structure labeled **B** adapted to its function? (2 marks)

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8. In an investigation, a student extracted three pieces of pawpaw cylinders using a cork borer. The cylinders were cut back to 50mm length and placed in a beaker containing a solution. The results after 40 minutes were as shown in the table below.

Feature	Result
Average length of cylinders (mm)	56 mm
Stiffness of cylinders	Stiff

(a) Account for the results in the table above. (3 marks)

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(b) What would be a suitable control set-up for the investigation? (1 marks)

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9. The table below shows results of a study of three plants C, D and E growing in different habitats.

Feature	Plant C	Plant D	Plant E
Number of stomata on upper surface of leaf per square area	4	20	6
Number of stomata on lower surface of leaf per square area	6	0	8
Thickness of leaf cuticle (mm)	0.4	0.1	0.2
Surface area of roots (cm^3)	2000	1000	1200

(a)Which one of the plant C, D and E grows in an area of relatively low water availability?(1 mk)

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(b) Explain your answer in (i) above. (2 marks)

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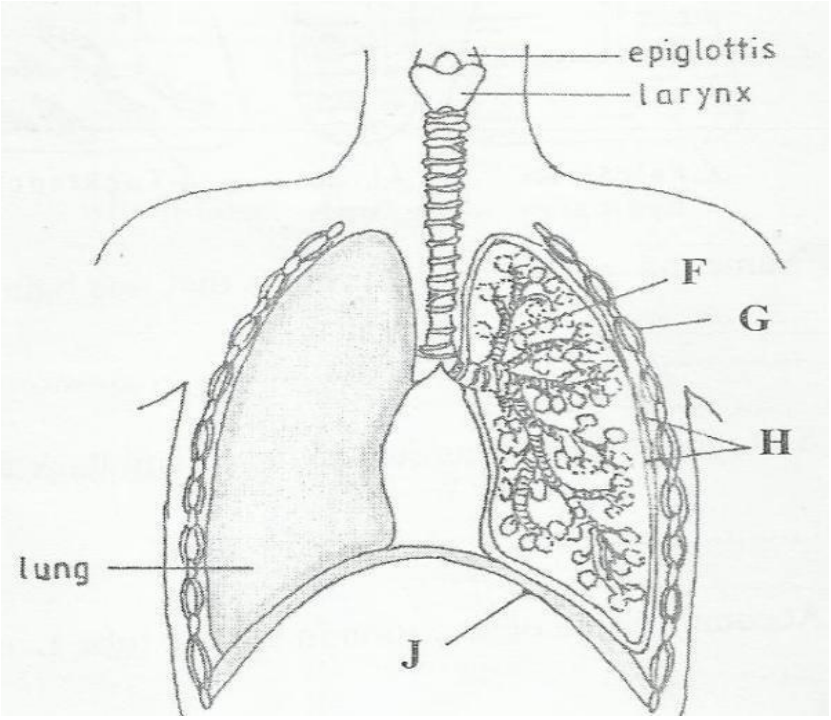
10. The diagram below shows part of the mammalian system



(a) Name the parts labeled F and G. (2 marks)

F

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G

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(b) State one function of each of the parts labeled H and J (2 marks)

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J

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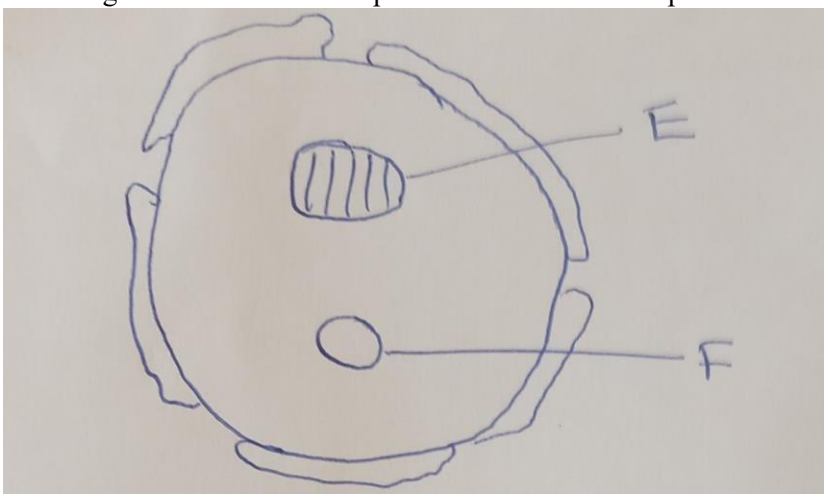
11. The diagram below shows a reproductive structure of a plant.



a) i. Identify the reproductive structure. (1mk)

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ii. In which part of the reproductive system is the structure produced? (1mk)

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b) Name division of the plant that produces the reproductive structure above. (1mk)

c) Name structures E and F (2mks)

E

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F

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12.a) What is pollination? (1mk)

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b) Cross pollination leads to cross fertilization which results to hybrid vigour. State three mechanisms that encourages cross pollination instead of self pollination. (3mks)

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13. Define the terms; (2mks)

i. Ovulation

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ii. Implantation

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14. Explain why

a) A pregnant woman needs to be on a diet rich in **proteins** and **mineral salts** such as calcium. (2mks)

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b) A drop in progesterone levels during pregnancy my cause miscarriage. (2mks)

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15. Outline **two** precautions taken when collecting and observing specimens. (2mks)

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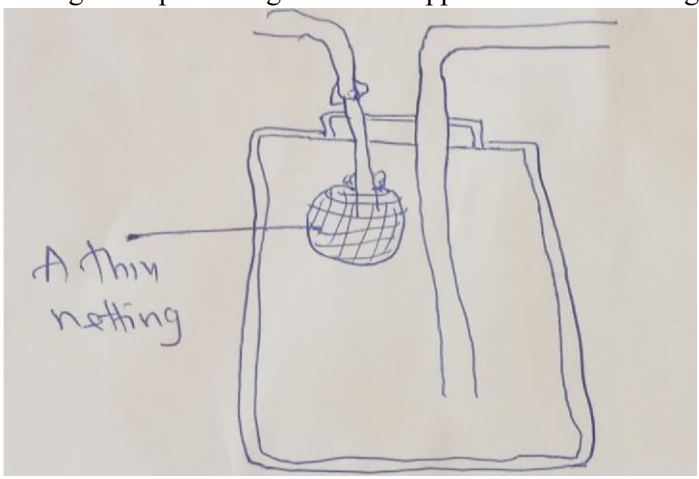
16. Below is a diagram representing one of the apparatus used in biological studies?



i) Identify the apparatus. (1mk)

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ii) Name two animals which require the use of the apparatus during their collection. (2mks)

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17. a) What are the **benefits** of scientific skills acquired in studying Biology? (2mks)

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b) Outline **two** ways in which an aircraft can be compared to a bird apart from flying. (2mks)

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18. Name **two** structures used for gaseous exchange in plants. (2mks)

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19. What is meant by each of the following?

i) Pyramid of biomass? (1mk)

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ii) Pyramid numbers?(1mk)

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20. (a) Name the organism that;

i. Causes malaria (1mk)

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ii. Transmits malaria (1mk)

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b) State **two** control measures for malaria (2mks)

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21. a) What is meant by the term ***binomial nomenclature*** (1mk)

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b) State **two** guidelines that **should** be followed when typing scientific name. (2mks)

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22. An individual is of blood group **B** positive.

a) Name the **antigens** in the individual's blood. (2mk)

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b) Give the reasons why the individual **cannot** receive from a blood group **A** donor. (2mks)

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23. Colour blindness is a sex linked trait controlled by a recessive **b**. If a mother is a carrier and the father is normal, what is the chance that their son will be colour blind**? Show** your working. (3mks)

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24. State **two** advantages of using a coverslips when preparing a specimen for observation under a light microscope. (2mks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

231/2 **BIOLOGY**

(THEORY) Paper 2 **Time: 2 Hours**

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

INSTRUCTIONS TO CANDIDATES

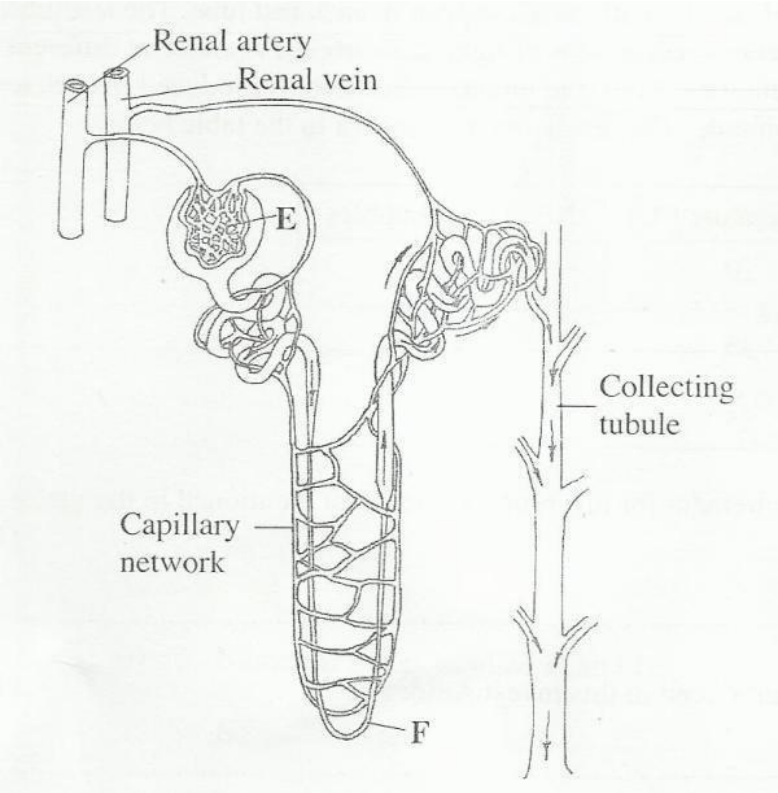
- This paper consists of two sections **A** and **B**.
- Answer **ALL** questions in section **A**
- Answer question **6** (compulsory) and either question **7** or **8** in section **B**. ***For Examiner's Use Only***

Section	*Question*	*Maximum score*	*Candidate's score*
A	*1*	*8*	
	2	*8*	
	3	*8*	
	4	*8*	
	5	*8*	
B	*6*	*20*	
	7	*20*	
	8	*20*	
Total Marks		*80*	

SECTION A (40 MARKS)

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

1. The diagram below illustrates the structure of the kidney nephron.



(a) Name the part labeled E. (1 mark)

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(b)How is the part labeled F adapted to its function? (4 marks)

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(c) State three physiological mechanisms of controlling the human body temperature during a cold day. (3 marks)

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2. The genetic disorder hemophilia is due to a recessive sex linked gene .A man who is hemophilic marries a woman who is carrier for the condition.

(a) Using letter H to represent the gene normal condition and letter h for the gene for hemophiliac condition.

i) What is the genotype for the man and the woman? (2marks)

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ii) Work out a cross between the man and woman (3marks)

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(b) What is the chance that both the first and second sons will be hemophiliac? (2marks)

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(c) Hemophilia is more common in males than in female humans. Explain (1mark)

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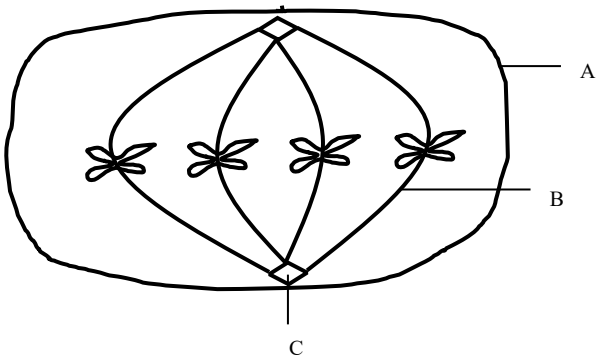
3. The diagram below represents a state in cell division. Study it and answer the questions below.



(a) Name the stage of cell division illustrated in the diagram above. (1 mark)

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(b) Name the parts labelled A, B and C (3 marks)

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(c) State **THREE** differences between mitosis and meiosis. (3 marks)

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(d) Name the process during which the exchange of genetic materials occur at prophase 1 of meiosis. (1 mark)

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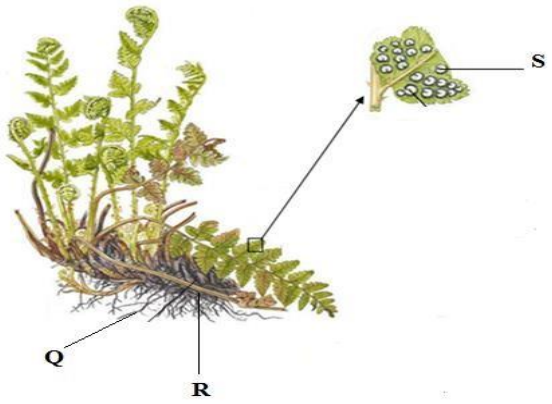
4. The diagram below indicates an organism that grows under shaded places with damp conditions. Study it and answer the questions that follow.



(a) Name the division to which the specimen belongs. (1 mark)

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(b) Name and state the functions of the parts labeled Q, R and S. (6 marks)

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(c) Name the two body forms of the organism in its alternation of generation. (2 marks)

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5. a) Explain how the following meristematic tissues contribute to growth of higher plants

i) Vascular cambium (2marks)

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ii) Cork Cambium (2marks)

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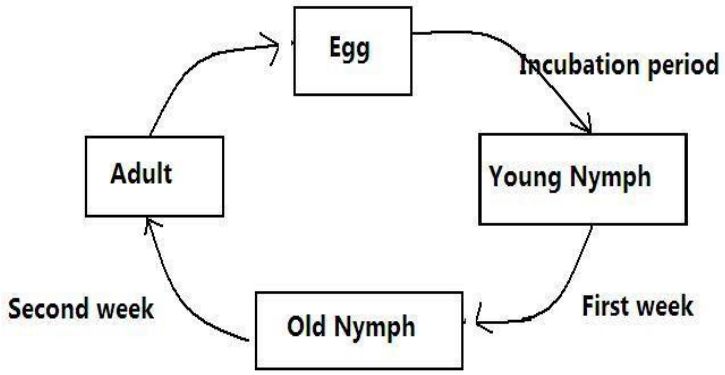
b) The diagram below shows a life cycle of a cockroach



a) Name the hormone that would be at high concentration during.

(i) First week (1mark)

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(ii) Second week (1mark)

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b) Name the structure that produces hormone in a (ii) above (1 marks)

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c) Name the series of stages through which the nymph undergoes to reach adult stage (1 marks)

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SECTION B:(40 MARKS)

Answer question **6 (Compulsory)** and **EITHER** question **7** or **8** in the spaces provided after question **8**.

6. An experiment was carried out in which red blood cells were put in salt solutions of different concentrations. The table below shows the percentage of cells which were destroyed by haemolysis in different salt concentration.

Salt concentration (g/dm^3)	% of RBC destroyed By haemolysis
0	100
1	100
2	100
2.5	100
3.0	100
3.5	96
3.7	80
4.0	60

4.5	16
4.7	0
5.0	0
6.0	0

(a) Draw a graph of percentage of red blood cells haemolysed against salt concentration.(6 marks)

(b) Explain haemolysis of red blood cells. (3 marks)

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(c) From the graph, state:

(i) the salt concentration at which 50% red blood cells were haemolysed. (1 mark)

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(ii) the highest salt concentration when the largest number of red blood cells were haemolysed. (1 mark)

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(d) (i) Suggest the normal salt concentration in the blood of the mammal from which the red blood cells were obtained. (2 marks)

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(ii) Give a reason for your answer in (d) (i) above. (1 mark)

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(iii)

What term is used to describe the solution with equal solute concentration as that of the cell (1 mark)

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(e) Name the process in the human body that ensures that haemolysis of red blood cells is prevented. (1 mark)

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(f) State four roles of osmosis in organisms. (4 marks)

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7. Describe the role of hormones in the mammalian female reproductive cycle. (20 marks)

8. Describe the

(i) Process of inhalation in mammals (10 marks)
(ii) Mechanism of opening and closing of stomata (10 marks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

231/3

BIOLOGY PAPER 3 (PRACTICAL)

Time: 1 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

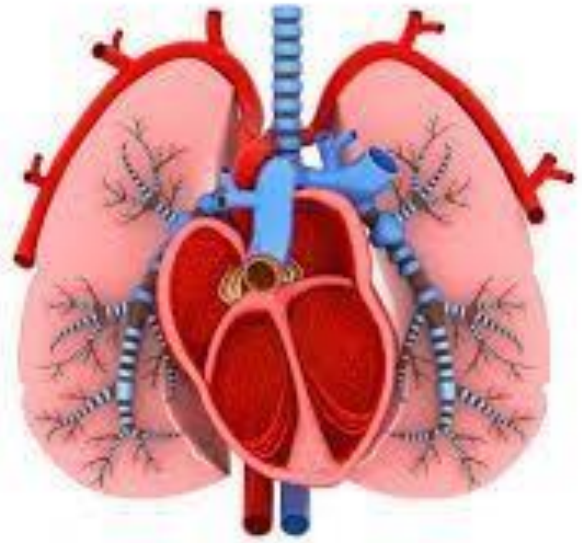
- Answer ALL the questions.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1	12	
2	14	

3	**14**	
Total Score	***40***	

1. Study the photograph below and answer the questions that follow.



a) State two organ systems in which the two organs in the photograph above are found. (2mks)

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b) Label on the photograph the following structures. (4mks)

(i) Bronchi

(ii) Left ventricle

(iii) septum

(iv) trachea

c) State one feature of the following structures identified in(b) above and give the importance of the features. (4mks)

structure	feature	Importance

Left ventricle		
Trachea		

d) Use an arrow to show the flow of carbon (iv) oxide molecule thorough the chambers of the heart towards the lungs. (1mk)

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e) State one observable features of lungs in the photograph above that suits them to their function. (1mks)

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2) You are provided with the following. Solution **P**, **Q** and **Z**.

(a) (i) Put 2 cm^3 of solution **P** into two test tubes labeled **A** and **B**. Add three drops of iodine solution into test tube **A**. Observe and record. **(1 mark)**

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(ii) To test tube **B**, add an equal amount of Benedict's solution. Heat to boil. Record your observation. **(1 mark)**

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(iii) From the results in (a) (i) and (ii), identify solution **P**. **(1 mark)**

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(iv) Put 2cm^3 of solution **Z** into a clean test tube labeled **C**. Add equal volume of Benedict's solution. Heat to boil. Record your observation **(1 mark)**

(v) Open the visking tubing provided and tie one end tightly, Pour solution **P** into the visking tubing and add 1cm^3 of the solution **R**. Tie the other end of the visking tubing and ensure there is no leakage at both ends. Pour solution **Z** into a clean beaker till it is half full. Immerse visking tube in the solution **Z** in the beaker. Allow it to stand for 30 minutes. After 30 minutes, take 2cm^3 of solution **Z** from the beaker into a clean test tube labeled **D**. Add equal amount of Benedict's solution. Heat to boil. Record your observation. **(1 mark)**

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(vi)Account for the observation made in (v) above. **(3 marks)**

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(vii) What is the identity of solution **R?** **(1 mark)**

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(viii) State **one** factor that can affect the process demonstrated in 2a **(v**) above **(1 mark)**

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b) Use the reagents provided to test for the food substance in solution Q.

Food substance	procedure	observation	conclusion

(4mks)

3. The photograph below shows specimen L. You are also provided with other two specimens labeled **k** and **M**. Study them then answer questions that follow:

Photograph L.

a) Identify the specimens. (3mks)

K-

L-

M-

b) State **two** adaptive characteristic features of the specimen **L**. **(2mks)**

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c) State two observable differences between specimen L and M. **(2mks**

Bone L	Bone M

d) (i) Draw and label the anterior parts of specimen K. (3mks)

(ii)State ways by which specimen K is adapted to its functions. (2mks)

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(iii) Name the bone that articulates with specimen K at the:

Proximal end (1mk)

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Distal end (1mk)

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……

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education
MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name and admission number in the spaces provided above.
2. Answer ALL the questions
3. ALL answers must be written in the spaces provided in this booklet.
4. This paper consists of 8 printed pages.
5. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.

FOR EXAMINERS'S USE ONLY

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

Question	13	14	15	16	17	18	19	20	21	22	23	24	25

TOTAL MARKS

1. List four characteristics of direct production.
(4 marks)

a) ……

b) ……

c) ……

d) ……

2. The following features relate to warehousing. Indicate the most suitable type of warehousing.
(4 marks)

	Feature	**Type**
a)	Used to store goods until excise duty is paid	
b)	Most located at strategic points and available at a fee	
c)	Used to store non-dutible goods from within or outside the country	
d)	Usually designed to suit one's specifications	

3. Outline **four** circumstances that would make an office manager to replace an existing machine with a modern one (4 marks)

a) ……

b) ……

c) ……

d) ……

4. The following information relates to Gaturu Traders for the month of July 2013

July 1: Bal b/f: Cash 280,000 (Dr) and Bank 80,000 (Cr)
July 4: Received cheque shs 150,000 from a debtor
July 9: Paid Kelvin shs. 40,000 by cheque for goods bought at shs 66,000 and the balance in cash

July 10: Sold stock worth shs 20,000 cash

Enter the above transaction in relevant cash book (4 marks)

5. State four disadvantages of barter trade (4 marks)

a) ……

b) ……

c) …….

d) …….

6. Antony had the following balances at the end of the trading period on 31st Dec. 2014

Details:	**Ksh.**
Cash	40,000
Creditors	140,000
Premises	400,000
Fixtures	180,000
Bank loan	160,000
Vehicles	100,000
Debtors	70,000

Prepare his balance sheet at the end of the trading period (4 marks)

7. Name the factors of production the following resources relate to (4 marks)

	Description	**Occupation**
a)	Receptionist	
b)	Machinery	
c)	Wind	
d)	Owner	

8. Associate each of the following statements with the correct type of partner described (4 marks)

a) A partner who is under age:

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b) A partner who contributes capital:

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c) A partner who is inactive:

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d) A partner with unlimited liabilities:

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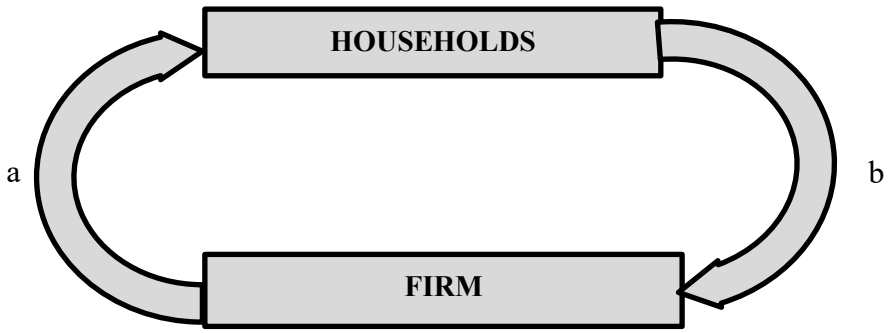
9. The following diagram represents the circular flow of income in a two sector closed economy



Identify two factors represented by each of the arrows labelled a and b (4 marks)

a) ……

b) ……

c) ……

d) ……

10. Name four documents that may be required by the registrar of companies in order to register a public limited company (4 marks)

a) ……

b) ……

c) ……

d) ……

11. State **four** benefits that a trader may get by advertising products in a newspaper. (4 marks)

a) ……

b) ……

c) ……

d) ……

12. State four roles of intermediaries in the chain of distribution. (4 marks)

a) ……

b) ……

c) …….

d) …….

13. By use of the book keeping equation, determine the missing values in the table below.

(4 marks

Assets (Ksh.)	**Capital (Ksh.)**	**STL (Ksh.)**	**LTL (Ksh.)**
2,052,500	900,900	151,600	**a)** **……..…**
2,766,450	**b)……..……**	350,850	1,821,250
c)……..……	1,010,000	464,030	200,000
2,770,970	1,260,860	**d)……..…**	932,000

14. The national income is measured using the expenditure method given as; ***Y=C+I+G+(X-M)***

State what each of the following letters represents (4 marks)

C……

I……

G…….

(X-M)…….

15. Murang'a Traders had the following information for the month ending 31st Jan 2015 **Sh.**

Opening stock	200,000
Closing stock	300,000

Purchases	500,000
Margin	20%

Prepare: Murang'a Traders Trading Account for the year ended 31st Jan, 2015 (4 Marks)

16. Outline four factors that may limit a country's ability to attain its budgetary estimates (4 marks)

a) ……

b) ……

c) …….

d) …….

17. Outline **four** characteristics of a good business opportunity. (4 marks)

a) ……

b) ……

c) …….

d) …….

18. State **four** principles of public expenditure (4 marks)

a) ……

b) ……

c) ……

d) ……

19. Outline four negative effects of overpopulation in a nation (4 marks)

a) ……

b) ……

c) ……

d) ……

20. The table below shows the price for a 2kg packet of Unga for various months in the year 2010. Calculate the consumer price index for each month (4 marks)

	Month	**Price (Shs)**	**Consumer price index**
a)	January	100	
b)	February	80	
c)	March	120	
d)	April	140	

21. List four forms of retail shops that a school leaver may engage in (4 marks)

a) ……

b) ……

c) ……

d) ……

22. Highlight four importance of Subsidiary Books (4 marks)

a) ……

b) ……

c) ……

d) ……

23. State four reasons why short message services (sms) is replacing letters as a way of communication (4 marks)

a) ……

b) ……

c) ……

d) ……

24. Highlight **four** disadvantages of cartage transport (4 marks)

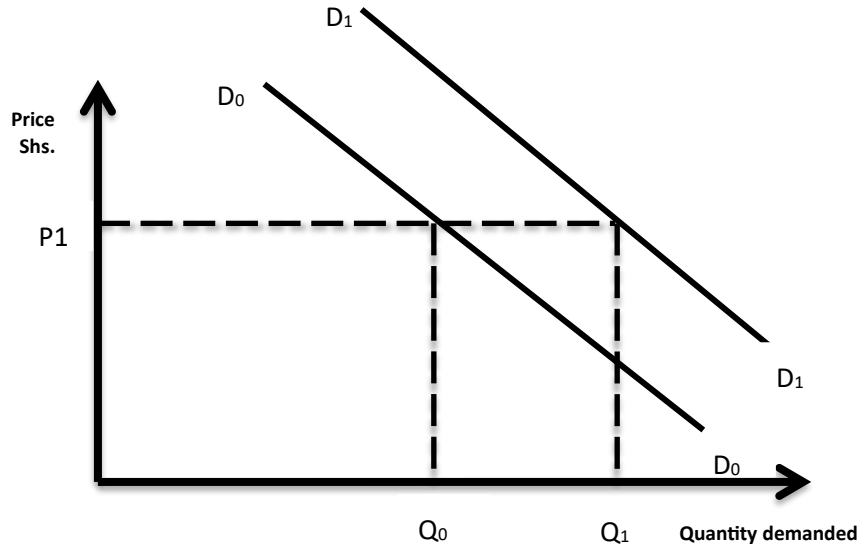
a) ……

b) ……

c) ……

d) ……

25. The figure below shows a shift in demand for a commodity from D_0D_0 to D_1D_1. (4 marks)



State four possible causes of this situation (4 marks)

a) ……

b) ……

c) ……

d) ……

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

DATE……EXAM SCORE……SIGN……..

565/2

BUSINESS STUDIES PAPER 2

TIME: 2 ½ HOURS

Kenya Certificate of Secondary Education

Instructions to candidates

- ***Write your Name, IndexNumber and School in the spaces provided.***
- ***Sign and Write the date of the examination in the spaces provided above,***
- ***This paper consists of SIX questions.***
- ***Answer any FIVE questions,***
- ***All questions carry equal marks.***
- ***Candidates should check if all questions are printed.***
- ***Candidates should answer all questions in English.***

FOR OFFICIAL USE ONLY

Question	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
TOTAL		

1. (a) Explain **five** documents that are sent by the seller to the buyer in home trade. (10 marks)

(b)Explain**five** disadvantagesofusingabankoverdraftasasourceoffinances(10marks)

2. (a) Explain **four** factor to be considered when evaluating a business ideas. (8marks)

(b) On 1st July 2021, Omari Traders had Shs.36,500 at bank and cash in hand Shs. 250. During the month the following transactions took place.

July 2 Cash sales Shs.42,630 paid directly to the bank.

July 3 Received a cheque for Shs.14,100 from Mkora in full settlement of a debt.

July 7 Credit sales Shs. 15,500 to Otonglo

July 8 Bought goods for Shs.26,240 on credit from Mali Mali Enterprises.

July 12 Cash sales Shs.42,450.

July 14 Paid Mwema by cheque Shs.23,750 in full settlement of his account after deducting 5% cash discount.

July 15 Paid wages Shs.24,000 in cash.

July 16 Withdrew Shs.36,000 from the bank for office use.

July 17 Cleared Mali Mali account of Shs. 26,240 in cash less 12.5% discount.

July 18 Otonglo cleared her account of Shs 15,500 in cash less 11.5% discount.

July 20 Cheque received from Mkora was dishonoured.

July 28 Paid salaries by cheque Shs.48,600.

July 30 All cash was banked except Shs.5,000.

Required: Prepare a three column cash book. (12 marks)

3. *(a) Explain **five** roles of stock exchange as a market for securities. (10 marks)*

*(b) Explain**five** waysinwhichthegovernmentofKenyacanreducethelevelof unemployment. (10 marks)*

*4. (a) Explain **five** negative effects of controlling inflation in an economy. (10 marks)*

*(b) Explain **five** features ofmonopoly. (10 marks)*

5. (a) Describe**five** factors that could affect the quantities of cabbages supplied in a market (10 marks)

   (b) Explain five elements of effectivecommunication. (10 marks)

6. (a) Explain five measures that the government uses to create an enabling business environment for businesses in the country. (10 marks)

   (b)ThefollowingtrialbalancewasextractedfromthebooksofAwendo Traders31st *December2010.*

AWENDO TRADERS

TRIAL Balance as at 31st December,2010

Details	Dr. (shs)	Cr. (sh)
Gross profit		*380,000*
Closing stock	*274,000*	
Capital		*259,000*
Drawings	*83,000*	
Creditors		*93,000*
Premises	*103,000*	
Debtors	*123,000*	
Cash at bank	*33,000*	
Bank loan (2 years)		*50,000*
General expenses	*54,000*	
Commission received		*20,000*
Wages and salaries	*132,000*	
	802,000	*802,000*

***Prepare**:*

i) Profitandlossaccountfortheyearended31st December2010.(4mks)

ii) Balancesheetasat31st December2010. (6mks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

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

1. 2.1g of solid F ($NaHCO_3$) weighed accurately and supplied in a dry stoppered container.
2. About $60cm^3$ of solution G(2M HCl)
3. About $130cm^3$ of solution of sodium hydroxide solution.(0.1M)
4. One thermometer -10^0C – 110^0C
5. One stop watch/ clock
6. One 100ml plastic beaker
7. One burette 0 – 50ml
8. One pipette 25ml
9. One 250ml volumetric flask
10. About $500cm^3$ of distilled water supplied in a wash bottle
11. One label or means of labelling
12. One pipette filler
13. Two conical flasks
14. Clamp and stand
15. About 0.2g of solid A (Na_2SO_3)supplied in a stoppered container
16. 0.2g of solid B (maleic acid)
17. Six clean dry test-tubes and One boiling tube
18. One metallic spatula
19. Glass rod
20. About 0.2g of sodium carbonate(solid)
21. 2cm piece of pH paper

ACCESS TO

1. Means of heating.
2. 2M aqueous sodium hydroxide supplied with a dropper
3. Acidified potassium manganate (VII) supplied with a dropper
4. Phenolphthalein indicator supplied with a dropper

5. Full range pH chart
6. Lead (II) nitrate supplied with a dropper(0.5M)
7. Barium (II) chloride supplied with a dropper(0.5M)
8. 2M hydrochloric acid supplied with a dropper

NOTES

1. Solution G is prepared by adding 172.0cm^3 (1.28g/cm^3) of concentrated hydrochloric acid to about 500cm^3 of distilled water and diluting to one litre of solution. (2M HCI)
2. Acidified potassium manganate (VII) is made by dissolving 3.16g of the solid in about 500cm^3 of 2M H_2SO_4 and diluting to one litre of solution. (0.02M $KMnO_4$)
3. Sodium hydroxide is prepared by dissolving 4g of the solid in about 700cm^3 of water then diluting to one litre.(0.1M NaOH)

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education
MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

DATE……EXAM SCORE……SIGN……..

233/1

CHEMISTRY PAPER 1 (THEORY)

TERM TWO, TIME: 2 Hours Instructions

to Candidates

- *Write your name, admission number in the spaces provided above*
- *Answer all the questions in the spaces provided*
- ***KNEC** Mathematical tables and silent electronic calculator may be used.*
- *All the working must be shown clearly where necessary*
- *Candidates should answer questions in English.*
- *this exam consists of 11 printed pages*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1-29	80	

1.a) Define the term fuels (1mk)

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b) State two reasons why hydrazine is used as rocket propellant (2mks)

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2. Hydrogen can be placed in group VII and group I of the periodic table respectively. Use equations to explain (3mks)

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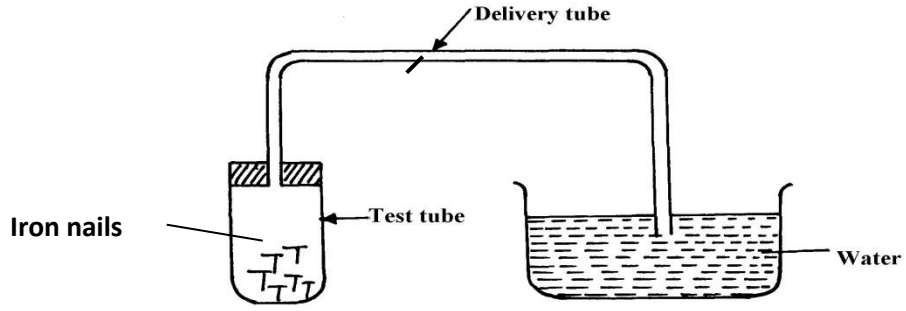
3. Study the set-up below and answer the questions that follow:-



a) Name the process being investigated (1mk)

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b) State **two** observations that would be made after one week. Explain (2mks)

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4.i) Apart from water softening list two other uses of sodium carbonate (2mks)

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ii) Using an ionic equation show how sodium carbonate is used to soften hard water (1mks)

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5. A form four student from Orawa secondary school found a white solid in a beaker that had two labels of zinc sulphate and aluminium sulphate respectively. Briefly explain how the student would test whether it was a compound of zinc or aluminium (3mks)

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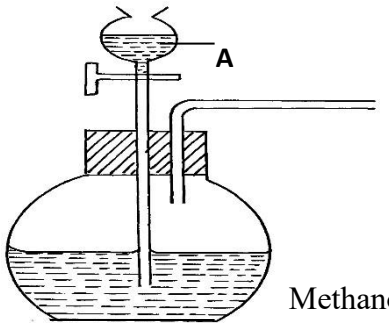
6. The set-up below was used to prepare a carbon (II) oxide gas.



Methanoic acid

(a) Give the name ~~of~~ substance **A**

……(1/2mk)

(b) Complete the diagram to show how the gas can be collected (11/2mks)

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(c)Write the equation for the reaction (1mk)

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7. A certain gas A was passed over a hot black metal oxide B, a brown solid was formed and a colorless liquid C that boiled at 105 ºC, the liquid also changed a blue anhydrous cobalt (II) chloride paper to pink.

i. Name

a) Gas A……..($^1/_{2}$mk)

b)Metal oxide B……..($^1/_{2}$mk)

c)Colourless liquid C……($^1/_{2}$mk)

ii. State and explain a reason why the colourless liquid C boiled at 105ºC (1mk)

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8. The following elements belong to the same group of the periodic table. (Letters do not represent the actual symbols)

Element	Atomic radius (nm)	Ionic radius (nm)	First ionization Energy (KJ mol^{-1})
A	0.136	0.065	736
B	0.089	0.031	900
C	0.174	0.099	590

(i) Are the elements metals or non-metals? Explain (2mks)

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(ii) Which of the elements is the most reactive? (1mk)

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9. Zinc reacts with HCl according to the equation below.

$Zn(s) + 2\ HCl(aq) \rightarrow ZnCl_2(aq) + H_2\ (g)$

Complete the table to show how the factors given affect the rate of reaction above and give explanation (2 mks)

Factors	**Effect on rate**	**Explanation**
Using Zinc powder instead of granules		
Heat the reactants		

10. Which allotrope of sulphur:

a. Is stable at room temperature ……..(1mk)

b. Has prismatic crystals …….(1mk)

c. Has higher density ……..…(1mk)

11. A certain flower was suspected to contain red and yellow pigments. Describe how the pigments could be separated (3mks)

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12. A certain element has two isotopes with atomic mass 6 and 7 respectively. Given that the relative atomic mass is 6.94. Calculate the relative abundance of each isotope (2mks)

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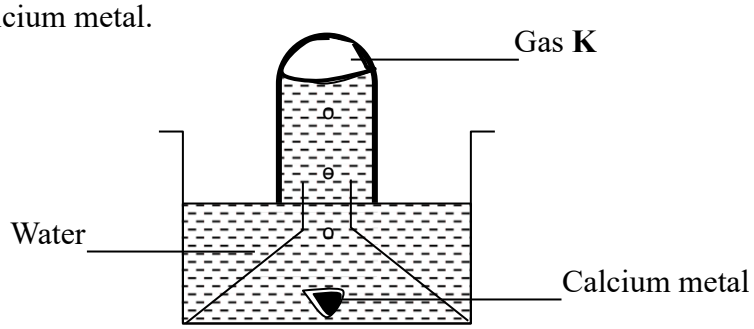
13. The set up below was used to collect gas **K,** produced by the reaction between water and calcium metal.



i. State two observations made during the experiment (2mks)

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ii. Write an equation for the reaction taking place. (1mk)

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14. State the properties of concentrated sulphuric (vi) acid demonstrated in the following reactions

i. Reacts with sodium chloride to form hydrogen chloride gas (1mk)

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ii. Reacts with copper metal to form sulphur (iv) oxide (1mk)

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15. 1.0g sample of limestone was allowed to react with $100cm^3$ of 0.2M hydrochloric acid. The excess acid required $24.8cm^3$ of 0.1M sodium hydroxide solution for complete neutralisation.

Calculate the percentage of calcium carbonate in the limestone

(3mks)

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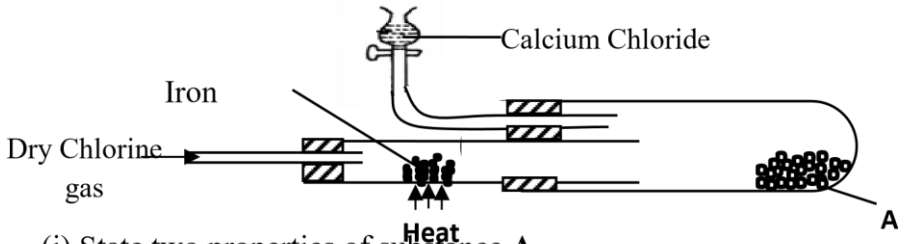
16. In an experiment, dry chlorine gas was reacted with aluminium as shown in the diagram below



(i) State two properties of substance **A** (2mk)

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(ii) Write an equation for the reaction that took place in the combustion tube (1mk)

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17. State one use each of the following apparatus in the laboratory (3mks)

i. Desiccator

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… ii. Crucible

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… iii. Deflagrating spoon

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18. Using dots and crosses to represent electrons draw diagrams to represent bonding in (2mks)

i. H_3O^+(H=1,O=8)

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19. Carbon powder and copper (ii) oxide are both black in colour. Suggest two reactions that can be used to differentiate them and state the observation in each case.
(3mks)

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20. Starting with sodium metal explain how sodium hydrogen carbonate crystals can be prepared (3mks)

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21. i) Define the term simple acid base-indicator (1mk)

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… ii. State two disadvantages of using simple acid-base indicators (2mks)

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22. i State two applications of complex ions in industries
(2mks)

23. What do the following abbreviations stand for? (2mks)

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IUPAC……...……

DDT……...……

24.i. Differentiate between nuclear fission from nuclear fusion (2mks)

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ii. A radioactive cobalt ($_{28}^{61}Co$) undergoes decay by emitting a beta particle and forming Nickel atom. Write a balanced decay equation for the above change (1mk)

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25. The following are heats of combustion of carbon, hydrogen and ethanol the following substances calculate the heat of formation of ethanol

$C_{(s)} + O_{2\,(g)} \longrightarrow CO_{2\,(g)}$; $\square H = -393KJmol^{-1}$

$H_{2\,(g)} + ½\ O_{2\,(g)} \longrightarrow H_2O_{(l)}$; $\square H = -286KJmol^{-1}$

$\longrightarrow$

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$CH_3CH_2OH_{(l)} + O_{2\,(g)}$ $2CO_{2\,(g)} + 3H_2O_{\,(l)}$; $\Delta H = 1386 KJmol^{-1}$

a) Draw an energy cycle diagram to represent the heat of formation of ethanol (1mk)

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b) Calculate the heat of formation of ethanol (2mks)

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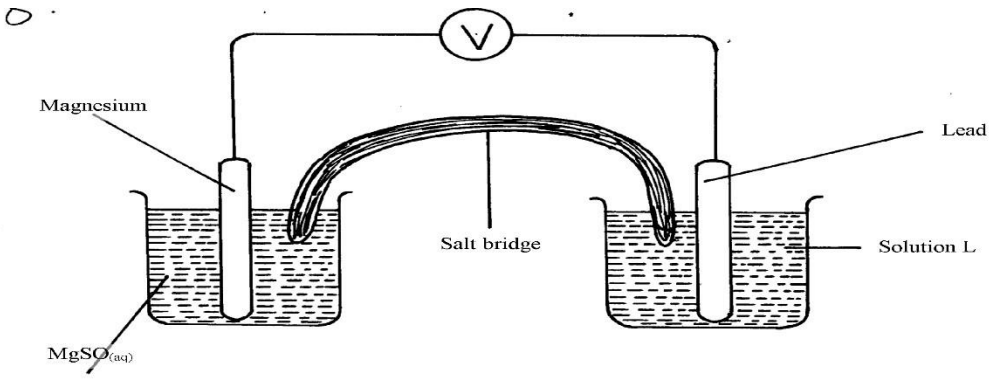
26. The diagram below shows an electrochemical cell:



(aMgSO) Give the formula of the possible salt $_{4(aq)}$ **L**

a) Give the formulae of the possible salt L (1mk)

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(b) On the diagram show the direction of movement of electrons (1mk)

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(c) Write the cell representation (1mk)

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27. a) State the Graham's law (1mk)

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b). 100cm^3 of Carbon (IV) oxide gas diffused through a porous partition in 30seconds. How long would it take 150cm^3 of Nitrogen (IV) oxide to diffuse through the same partition under the same conditions? (C = 12.0, N = 14.0, O = 16.0) (2mks)

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28. A compound Q was oxidised by acidified potassium dichromate (vi) to form substance Z. Substance Z reacts with Q to form a pleasantly smelling compound ethylethanoate.

i. Name substance Q and Z (1mk)

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… ii. Write an equation for the reaction between

a. Substance Q and potassium metal (1mk)

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b. Substance Z and sodium carbonate (1mk)

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29. i. State two distinctive features of a dynamic equilibrium. (2mks)

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ii. Explain the effect of increase in pressure on the following equilibrium (1mk)

$N_2(g) + O_2(g) \text{ ===== } 2NO(g)$

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

233/2 CHEMISTRY PAPER 2 (THEORY)

TIME: 2 Hours

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.
(c) Answer all the questions in the spaces provided
(d) KNEC Mathematical tables and silent electronic calculator may be used.
(e) All the working must be shown clearly where necessary (f) Candidates should answer questions in English.

For Examiner's Use Only

Questions	Maximum Score	Candidate's Score
1	12	
2	12	
3	8	
4	10	
5	14	
6	14	
7	10	
TOTAL SCORE	**80**	

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

M								
							B	
G	T		H			J	L	R
							V	
S								

a. An element X forms a divalent cation with the electron configuration 2.8.8. Place element X in its position on the grid (1 mark)

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b. Element G was put in a trough with cold water containing phenolphthalein indicator

i. State two observations made during the reaction (2 marks)

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

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iii. Compare the reactivity of G and S with cold water. Explain (2 marks)

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c. Draw dot(o) and cross (x) diagram showing bonding when element T and element L combine to form a compound. (1 mark)

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d. Kamau accidentally mixed a chloride of S, iron (III) chloride and an oxide of H. Describe how he obtained a solid sample of each. (3 marks)

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e. Explain why at room temperature, an oxide of G is a solid while an oxide of J is gaseous. (1 mark)

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f. State one use of element R (1 mark)

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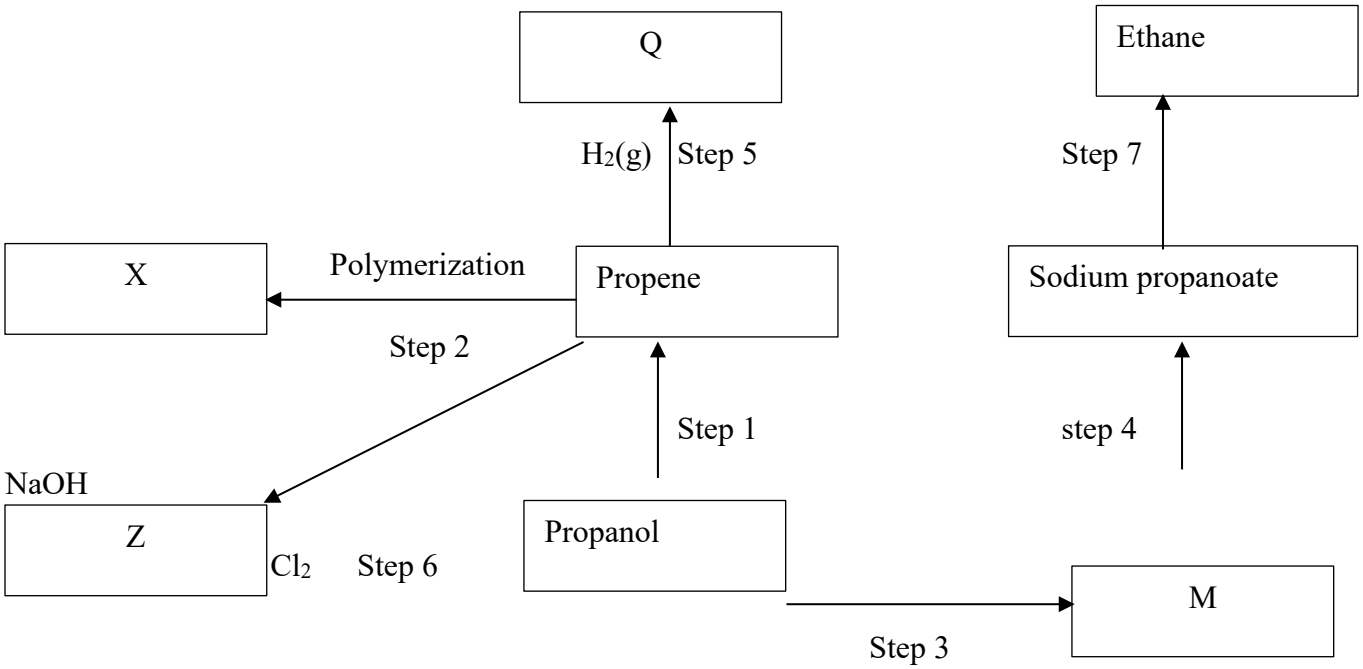
2. The flow diagram below shows reactions starting with propanol. Study it and use it to answer the questions that follow.



a. Name the process in (1 mark)

i. Step 1

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ii. Step 3

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b. State the condition in (2 marks)

i. Step 1

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ii. Step 5

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c. Draw the structure of substance (2 marks)

i. X

ii. Z

d. Name the reagent used in

(2 marks) i.

Step 7

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ii. Step 3

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e. Identify substance (1 mark)

i. M

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ii. Q

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f. Describe an experiment used to distinguish between the product in step 1 and step 2 (2 marks)

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… g. Write an equation for the reaction of

i. Propanol with potassium (1 mark)

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…… ii) Propene with oxygen

(1 mark)

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3. A student reacted 6g of magnesium ribbon with 50 cm^3 of 0.1M Hydrochloric acid and measured volume of hydrogen gas given off every 10 seconds for 60 seconds. The table below gives the results obtained.

Volume of hydrogen gas (cm^3)	0	9	15	19	20	20	20

Time taken (seconds)	0	10	20	30	40	50	60

a. On the grid below, plot a graph of Volume of hydrogen gas (y – axis) against time (x – axis) (3 marks)

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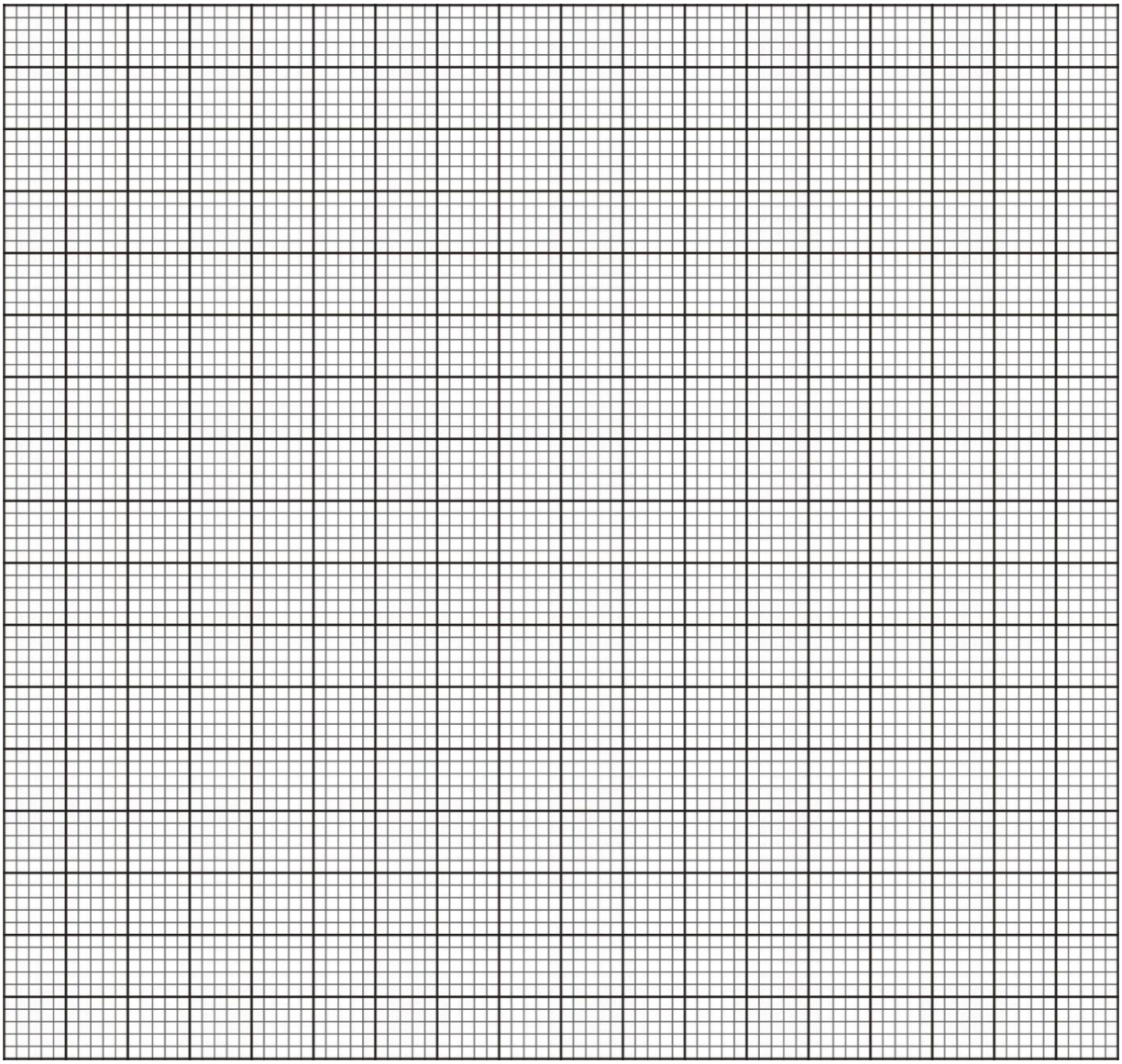

b. From the graph determine:

i) Volume of gas produced at time 25 seconds ……(1 mark)

ii) Time taken for 12 cm^3 of hydrogen gas produced ……(1 mark) c.

Explain the shape of the curve between 40 – 60 seconds (1 mark)

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d. The experiment was repeated using 1M Hydrochloric acid.

i) On the same axes sketch the curve that would be obtained (1 mark)

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…… ii)

Explain your answer in d(i) above (1 mark)

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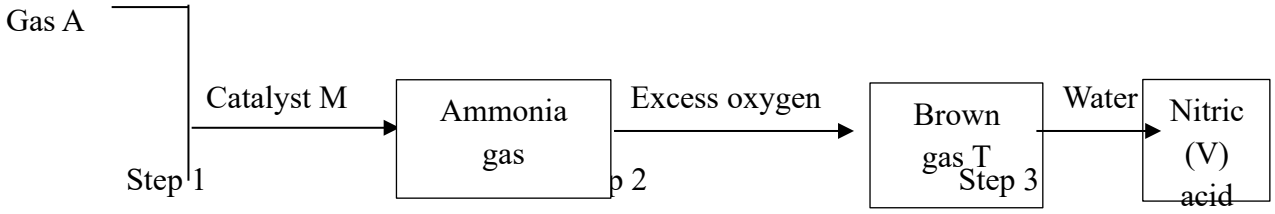
4. Study the flow diagram below and use it to answer the questions that follow



Hydrogen Catalyst B

a. Name; (2 marks) iii. Gas A

……

……

iv. Catalyst M

……

……

v. Catalyst B

……

……

vi. Gas T

……

……

b. Write an equation for: (2 marks)

i) Step 1

……

……

……

ii) Step 3

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c. Name the main source of gas A (1 mark)

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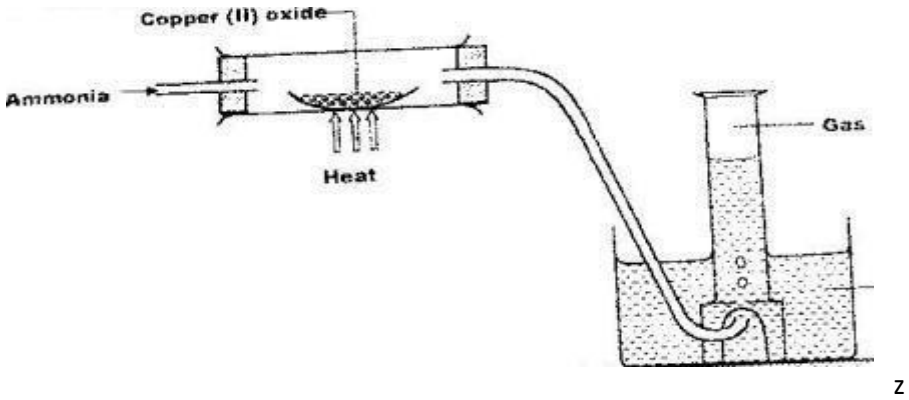
……

d. Ammonia gas was passed through a combustion tube containing heated copper (II) oxide as shown in the diagram below.



z

i) State and explain one observation made in the combustion tube (2 marks)

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Identify gas Z (1 mark)

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ii) What property of ammonia is being investigated? (1 mark)

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iii) Name a suitable drying agent for ammonia gas (1 mark)

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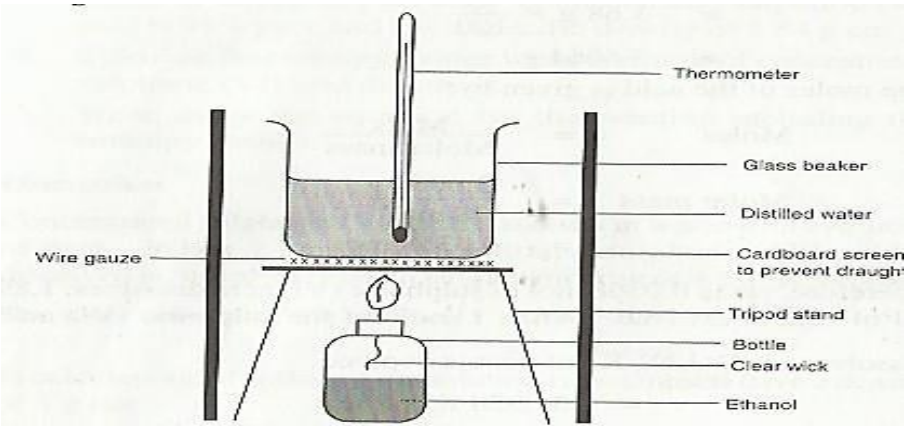
5. The diagram below shows the set – up used to investigate enthalpy of combustion of ethanol when 450cm^3 of water was heated



The data below was obtained during the experiment

Volume of water = 450 cm^3

Initial temperature of water = 23.0 ^0C

Final temperature of water = 41.0 ^0C

Mass of the lamp + ethanol before heating = 141.7g

Mass of the lamp + ethanol after heating =140.2 g

Density of water = 1g/cm^3

Specific heat capacity = 4.2 Kj Kg^{-1} K^{-1}

a. Calculate;

i) Heat evolved during the experiment (2 marks)

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ii) Moles of ethanol that reacted (C=12.0, H= 1.0, O=16.0) (1 mark)

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iii) Molar heat of combustion of ethanol (2 marks)

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b. Write a thermochemical equation for the reaction (1 mark)

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c. The theoretical molar enthalpy of combustion of ethanol is – 1260 kJ/Mol. Give two reasons why the experimental value is less (2 marks)

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d. Name two factors to consider before choosing a fuel (2 marks)
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e. Study the information below and use it to answer the questions that follow

ΔH^{θ} lattice $= MgCl_2$ $-2477 kjmol^{-1}$

ΔH^{θ} hydration Cl^{-1} (aq) $-363 kjmol^{-1}$

ΔH^{θ} hydration Mg^{+2} (aq) $-1891 jmol^{-1}$

i) Define the molar enthalpy of solution combustion of a substance? (1 mark)

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ii) Using the above information Draw an energy level diagram to represent the heat of solution of Magnesium Chloride (1 mark)

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iii) Calculate the heat of solution of Magnesium Chloride (2 marks)

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6. Use the reduction potentials below for P, Q, R, S and T to answer the questions that follow.

Reaction	E ^{o} value (V)
$P^{2+}(aq) + 2e^{-} \rightarrow P(s)$	– 0.79
$2Q^{+}(aq) + 2e^{-} \rightarrow Q_2(s)$	0.00
$R^{2+}(aq) + 2e^{-} \rightarrow R(s)$	+ 0.45
$S^{2+}(aq) + 2e^{-} \rightarrow S(s)$	– 0.21
$\frac{1}{2} T_2(g) + 2e^{-} \rightarrow T^{-}(aq)$	+ 2.91

a. Identify;

i) The element that is likely to be hydrogen (1 mark)

……

……

ii) The strongest reducing agent (1 mark)

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b. The half cells of P and R were combined

i) Draw the electrochemical cell formed (3 marks)

ii) Calculate the e.m.f. of the cell formed (1 mark)

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c. During the extraction of sodium using the Down's cell, molten sodium chloride is electrolyzed.

i) State the role of the following in the cell (2 marks)

Calcium chloride

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Steel diaphragm

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ii) State the observation made at the anode (1 mark)

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iii) Write an equation for the reaction at the cathode (1 mark)

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iv) 2A was passed through molten sodium chloride for 2 hours and 35 minutes. Calculate the mass of sodium metal formed (1F= 96,500C, Na=23, Cl=35.5) (2 marks)

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d. State two applications of electrolysis (2 marks)

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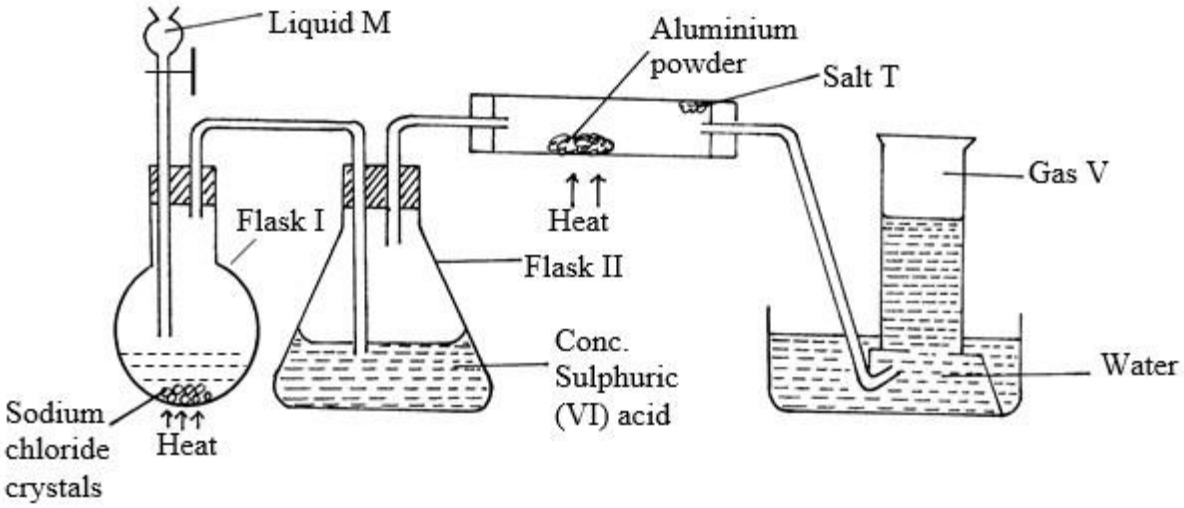
7. The set up below was used to prepare hydrogen chloride gas and salt T.



a.

Identify the following

i) Liquid M (1 mark)

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ii) Gas V (1 mark)

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iii) Salt T (1 mark)

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b. Write balanced chemical equations for reactions that occur at:

i. Flask I (1 mark)

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ii. Combustion tube. (1 mark)

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c. Name the process that formed salt T as shown in the diagram. (1 mark)

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d. Sulphuric (VI) acid is used as a drying agent in this experiment. Explain why calcium oxide is unsuitable for the same purpose in this reaction. (1 mark)

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e. The water in the trough was found to have a pH of 2.0 at the end of the experiment. Explain. (1 mark)

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f. In the space provided below, draw a well labelled diagram showing how you would dissolve hydrogen chloride gas in water. (1 mark)

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g. Explain why hydrogen chloride gas dissolved in methylbenzene does not react with calcium carbonate. (1 mark)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

233/3

CHEMISTRY PAPER 3

TIME: 2¼ HOURS

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES (a) Write your name and admission number in the spaces provided above.

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

(c) Mathematical tables and silent non-programmable electronic calculator many be used.

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

FOR EXAMINER'SUSE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	21	
2	11	
3	8	

TOTAL SCORE	40	

This paper consists of 6 printed page *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.*

You are provided with: •

Solid F

- 2.0 M hydrochloric acid solution G
- 0.1 M sodium hydroxide

You are required to determine the;

i) Enthalpy change ΔH, for the reaction between solid F and one mole of hydrochloric acid

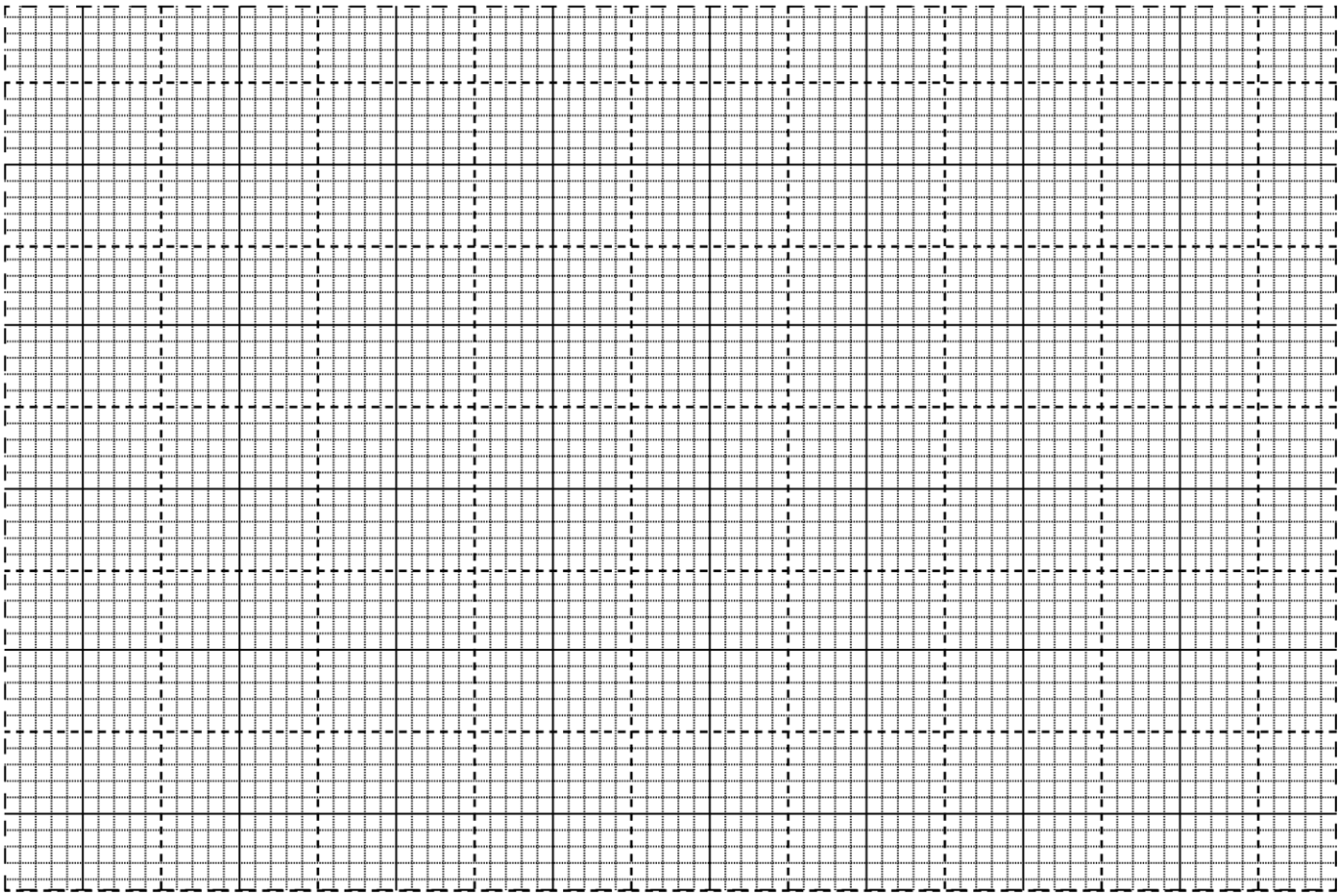
Procedure:

I. Using a burette place 20.0cm^3 of 2.0M hydrochloric acid, solution G in a 100ml beaker. Measure the initial temperature of the solution after every ½ minute and record the values in table 1 below. At exactly 2 minutes, add all of solid F to the acid. Stir the mixture gently with the thermometer. Measure the temperature of the mixture after every halfminute and complete the table. **(Retain the mixture for use in procedure II)**

Table 1 (5 marks)

Time (min)	0	½	1	1½	2	2½	3	3½	4	4½	5
Temperature (^{o}C)											

a) Plot a graph of temperature (y-axis) against time. (3 marks)



b) From the graph determine the change in temperature ΔT (1mark)

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c) Calculate the heat change for the reaction (Assume the specific heat capacity of the mixture is 4.2 J g^{-1} K^{-1} and the density of the mixture is 1g/cm^3) (1mark)

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Procedure II

Rinse the burette thoroughly and fill it with sodium hydroxide. Transfer all the contents of the 100ml beaker from procedure I above into a 250ml volumetric flask, add distilled water to make up to the mark. Label this solution H. using a pipette and a pipette filler, place 25cm3 of solution H into a 250ml conical flask. Add two to three drops of phenolphthalein indicator and titrate against sodium hydroxide. Record your results in table 2. Repeat the titration two more times and complete the table.

Table 2 (4 marks)

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

Calculate the;

I. Average volume of sodium hydroxide used (1mark)

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II. Number of moles of:

i) Sodium hydroxide used (1 mark)

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ii) Hydrochloric acid in 25cm^3 of solution H (1 mark)

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iii) Hydrochloric acid in 250cm^3 of solution H (1 mark)

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iv) Hydrochloric acid in 20cm^3 of solution G (1 mark)

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v) Hydrochloric acid reacted with solid F (1 mark)

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c. Calculate the enthalpy of reaction between solid F and one mole of hydrochloric acid.

(Show the sign of ΔH) (1 mark)

2. You are provided with solid A. Carry out the tests described below and write your observations and inferences accordingly.

i. Dissolve solid A in about $10cm^3$ of distilled water in a boiling tube divide the resulting solution into five portions.

Observations	Inferences
(1 mark)	(1 mark)

ii. To the first portion and 5 drops of 2M sodium hydroxide solution

Observations	Inferences
	(1 mark)
(1 mark)	

iii. To the second portion dip a glass rod to one of the remaining portions and heat it in a nonluminous flame.

Observations	Inferences
(½ mark)	(½ mark)

iv. To the third portion add 2 or 3 drops of lead (II) nitrate solution

Observations	Inferences
(1 mark)	(1 mark)

v. To the forth portion add 2 or 3 drops of barium (II) chloride followed by $2cm^3$ of 2M hydrochloric acid. Shake the mixture well.

Observations	Inferences
(1 mark)	(1 mark)

vi. To the fifth portion add 3 drops of acidified potassium manganate (VII) solution

Observations	Inferences
(1 mark)	(1 mark)

3. You are provided with substance B.

Carry out the tests described below and record your observations and inferences accordingly.

Procedure

(i) Place a little amount of substance B in a metallic spatula and ignite it in a blue bunsen burner flame.

Observations	Inferences

(1 mark)	(1 mark)

(ii) Place a spatulaful of substance B in a boiling tube. Add about $20cm^3$ of distilled water and shake well. Divide the solution into three portions. Test the pH of one portion of the solution above using a full range pH chart.

Observations	Inferences
(1 mark)	(1 mark)

(iii) Add the sodium carbonate provided to the second portion.

Observations	Inferences
(1 mark)	(1 mark)

(iv) Add a few drops of potassium manganate (VII) solution to the third portion and warm mixture.

Observations	Inferences
(1 mark)	(1 mark)

THIS IS THE LAST PRINTED PAGE

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

451/1
COMPUTER STUDIES PAPER 1 (THEORY)

TIME: 2 ½ hours

Instructions to Candidates

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

(b) This Paper consists of two sections **A** and **B**.

(c) Answer **ALL** the questions in section A.

(d) Answer **question 16** (compulsory) and any other **THREE** questions from section **B**. (e) **All** answers should be written in the spaces provided.

(f) This paper consists of **12** printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Section	Questions	Candidate's score
A	1- 15	
B	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

Section A (40 Marks).

Answer all questions in the spaces provided

1. i) Define the term computer booting. (1 mark)

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ii) State three reasons that can make a user to warm boot a computer (3 marks)

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2. Direct data capture is one major way of inputting data into computers. State Three advantages for using an optical bar recognition. (3 marks)

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3. State the function of the following keyboard keys. (2 marks) i) Scroll Lock

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ii) Num Lock

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4. Explain why powder and liquid fire extinguishers are not recommended in a computer laboratory. (2 marks)

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5. Distinguish between relative cell referencing and absolute cell referencing as used in computing giving an example in each case (2 marks)

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6. Computer technology has evolved from the first to the fifth generation computers. Name the technology, memory and programming language used in the 2nd generation computer. (3 marks)

Technology

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Memory

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programming language

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7. Describe each of the following computer cables

i) Universal serial Bus cable (USB) (2 marks)

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…… ii)

Serial cable (2 marks)

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8. i) Define the term proofreading as used in word processing (1 mark)
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ii) Name **four** types of proofreading tools used in word processing (2 marks)

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9. A computer system needs a stable power supply. To filter out power problems such as black out, brownout, power surge and power sag, connect your computer to an interruptible power supply (UPS).

What do you understand by the following terms? (3 marks)

i) Power sag

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ii) Power surge

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iii) Brownout

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10. Define the term networking as used in computing. (1 mark)

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11. Differentiate between softcopy output and hard copy output in computers. (2 marks)

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12. Explain the following monitor terminologies as used in computing. (3 marks)

i) Resolution

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…… ii) Color depth

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iii) Pixels

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13. Differentiate between registers and Buses as used in computing. (2 marks)

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14. Explain the following types of memories . (2 marks) i) Buffer memory

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ii) Cache memory

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15. a) Define the term troubleshooting as used in computing. (1 mark)

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b) State Three problems that may be experienced when using windows operating system (3 mrks)

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Section B (60 Marks).

Answer Question 16 and Any Other Three Questions from this Section

16. While developing software, the source code must be converted to object code, so that the computer can understand and execute the instructions; that process is called **translation**.

a) List **two** translating programs required to do that process. (2 marks)

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b) State **two** reasons why some programming experts prefer low-level languages over high-level languages while developing programs for use in a computer. (2 marks)

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c) A MOKASA class sat for a test in eight subjects. A student must get an average of 60% in all subjects in order to pass. A program is needed to accept data, process and generate a report that will show the **name**, **marks** obtained by each student per subject, the **average** mark and whether the student has **passed** or **failed**.

(i) **Write** a pseudocode used to solve this problem. (5 marks)

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(ii) Draw a flowchart for the above program. (6 marks)

17. (a) Define the term data processing (1mk)

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(b) Distinguish between the following sets of terms as used in data processing

(i) Indexed sequential and Serial file organization (2mks)

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(ii) Interactive and Batch processing modes (2mks)

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(iii) Master file and Report file (2mks)

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(c) Explain Three computer crimes that compromise data integrity (6mks)

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(d) Explain WORM with respect to viruses. (1mk)

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(e) Identify the name given to the type of error that results from an arithmetic operation failing to produce an expected result (1mk)

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18. a) i) Describe how data is represented in an optical storage device. (2 marks)

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b) i) Convert the decimal number 38.625_{10} to binary (2 mrks)

ii) Convert the Hexadecimal number $DA3.BC_{16}$ to Octal (2 mrks)

c) i) Letter N is represented by 1001110 using a certain coding scheme. Identify the type of coding scheme used (1 mark)

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ii) Using the same coding scheme named in C (i) above , show how letter K can be represented (2 marks)

d) Using twos complements, 8-bit representation, subtract 43_{10} from 27_{10} giving your answer in decimal notation (5 marks)

e) Using Binary coded decimal (BCD), find the value of 234_{10} (1 mark)

19. (a) Explain the following functions of operating system

(i) Memory management (2mks)

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(ii) Input/Output management (2 marks)

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(b) Maria, the school secretary prefers to compress her disk instead of using it in its original form. Give Two reasons for her preference (2 marks)

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(c) Identify two ways in which operating system organizes information in a computer (2 marks)

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(d) Distinguish between portability and authenticity in relation to computer software (2mks)

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(e) A file is a group of related data designated by file name and the extension. The table below shows the file extension and the description of the file. Fill the blank spaces (2 marks)

File extension	**File description**
.Sys	System file containing commands loaded during boot up
.txt	_____
_____	Ms-word document file

f) i) Differentiate between Firmware and Utility software (2 marks)

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ii) Name the application software used to create presentations inform of slides (1 mark)

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20. A school wishes to be connected to the internet to enhance its service delivery.

a) State any **two** internet connectivity requirements that should be considered for the school to get connected. (2 marks)

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b) Nashipae wants to download a music album from a website to her computer. State **two** factors that determine the time taken to complete the download. (2 marks)

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c) The figure below shows an extract from compose e-mail window. Use it to answer questions that follow.

(i) Name the icon labeled **X** and explain its purpose in e-mail. (2 marks)

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(ii) Write in full the meaning of the abbreviations **Cc** and **Bcc** respectively. (1 mark)

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d) One advantage of a database management system is centralization of data and enforcement of integrity.

(i) Explain what is meant by enforcing integrity in databases. (1 mark)

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(ii) Identify the type of database models depicted in each of the figures Q and R below. (2 marks)

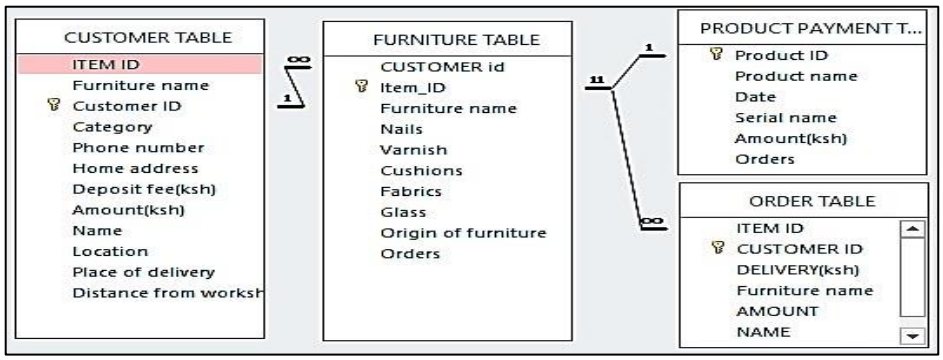

Figure Q

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Pilot_Name	Abdul Mohammed
Emp_Number	KQ649
Total Pay	680,000
Number of flights	100
Flight Hours	68
Position	Lead Pilot

Figure R

e) **(i)** Define the following terms as used in desktop publishing. (2 marks)

- Master page

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- Cropping

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(ii) State **three** factors considered when choosing a desktop publishing software. (3 marks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

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451/2 COMPUTER STUDIES Paper 2

PRACTICAL

21/2 Hours

INSTRUCTIONS TO CANDIDATES

Type your name and Adm No. at the top right hand corner of each printout.

Passwords should NOT be used while saving in the CD.

Answer all questions

All questions carry equal marks

FOR OFFICIAL USE

QUESTION	MARK AWARDED
1	
2	
TOTAL	

QUESTION 1

a) Type the document below exactly as it appears using word processing package and save it as **MY VISA** in the document created **(16mks)**

TO WHOM IT MAY CONCERN:

~~Please accept this Letter of Invitation for:~~

Halver Fitspatrick
Passport #: $\mathbf{2^3 4_5 6^7}$
PO BOX 444,
NAIROBI
02/02/2022

<< First Name>> <<Middle Name>>
PO BOX <<Address>>
<<Town>>

Dear <<Title>> <<Middle Name>>

Mr. Halver is employed by Kenyan's Purse as an international General Manager for the aviation unit and is based in North Wilkesboro, NC USA. As part of management duties, Mr. Halver is required to travel overseas where the aviation programs are based.

The Kenyan's Purse has an aviation program in Kenya, Tanzania and Uganda serving Kenyan's Purse South Sudan flight needs and he is visiting the program between from<<Date>> . Mr. Halver is scheduled to travel to South Sudan to observe the operations and meet with the staff.

This aviation program helps Kenyan's Purse successfully carry out its relief operations in East and Central Africa.

The address while in Kenya;

- Koka Gardens, Elgon view, house number 67
- Tel +254735678676
- C/O Jayden Kwamboka
- Phone: +254 733 444 555

Please be assured that Kenyan's Purse will assume responsibility for all costs associated with Mr. Halver's test, travel, and accommodations. Thank you for extending to Mr. Halver every courtesy and consideration.

Sincerely,

Country Director

b) Insert the following as the footer

'Relief operations in East and Central Africa. **(2mks)**

c) Format the heading of the **TO WHOM IT MAY CONCERN** as **(3mks)**

Alignment :Centre
Font style : Algerian
Font size : 16

d) Drop the first letter of the paragraph starting with the word **'The Kenyan's'** by four lines

(2mks)

e) Set the margin as follows **(2mks)**

Top 1.0cm
Left 1.0 cm

f) Set the line spacing of the paragraph starting with the word '**Please be assured'** to 2.0

and convert the paragraph to two columns

(3mks)

g) Create a table at the end of the document above and enter the following **(5mks)**

Serial number	Country	Budget
1.	Kenya	2400000
2.	Sudan	6000000
3.	Tanzania	4500000

h) Use the formula to find the **total** and **average** budget of the three countries" **(4mks)**

Table 1 shows details about the individuals who will receive the letter **MY VISA.** Create a data source to store information in the table and save it as **CC** **(5mks)**

Title	First name	Middle Name	Passport	Address	Town	Date
Mr	**Cosmas**	**Matendechere**	**2890**	**563**	**Kisumu**	**23/02/2022**
Mrs	**Faith**	**Mukami**	**3456**	**129**	**Nairobi**	**5/03/2022**
Mr	**Amos**	**Shikwekwe**	**5678**	**432**	**Eldoret**	**9/04/2022**

i) Using mail merge feature merge the files **MY VISA** and **CC** and save the file as **MYVISACC**
(5mks)

(j Insert page numbers at the top right hand side in the merged document saved in (i) above **(2mks)**

(k Print

i. MY VISA
ii. MYVISACC addressed to Mukami Faith **(2mks)**

2. A student welfare organization maintains its records in a spreadsheet for the number of registrations on a termly basis for some selected schools as shown in the table below in the year 2021.

	A	B	C	D	E	F

1	School	Term 1	Term 2	Term 3	Total Registrations	
2	Boma	100	902	906		
3	Kabarak	123	502	609		
4	Sacho	540	110	120		
5	Moi Girls	592	109	121		
6	Sunshine	512	807	916		
7	Nakuru	320	177	172		
8	Kabarnet	379	818	917		
9	Nairobi	560	250	200		
10						
11						
12	**Total Termly**					
13						
14	**% Increment**	**7%**				
15						
16						
17						

a) Enter the data shown above in a spreadsheet and save it as **WELFARE REG**.

(14 marks)

b) (i) Use a function in column E2 to calculate the total number of registrations per school in that year. You are also required to calculate the total registrations from all schools. (3 marks)

(ii) Use a function to calculate the Total number of registrations for each term.

(3 marks)

c) Using appropriate formulae, calculate the average number of registrations for each term in column F.

(2 marks)

d) Name the sheet as **Reg 1**.

(1 mark)

e) (i) In a column, use the "IF" function to display the following expectations on the registration targets per school in the year.
(4 marks)

Number of registrations expected	**Comments**
• Greater or equal to 1500	Optimum

- Greater than 700 and less than 1500 Fair
- Less than 700 Too low

(ii) Use a function to display the number of schools who managed to have a fair registration. (1 mark)

f) Format the worksheet as follows:
- Resize the column heading to fontsize 16 and apply bold. (2 marks)
- Apply borders to all cells containing data. (1 mark)
- Apply grey background colour to all column headings. (1 mark)

g) Given that the Term 1 number of registrations were 7% less the number of registrations for Term 3 2020 in all the schools;

(i) Enter the label % increment in cell A16 and a value 7 in cell B16 as shown; (1 mark)

(ii) Insert a column before Term1 and use absolute cell referencing to calculate the total number of registrations for Term 3 2020. Label the column as **T3-2020**. (3 marks)

h) Using a function in cells B17 and B18 respectively determine;

(i) the number of schools whose total number of registrations were above 1500 in that year. (2 marks)

(ii) the minimum number of registrations for Term 2. (2 marks) **i)** Copy data in sheet 1 to sheet 2 and rename it as **Graph**. (2 marks)

j) Create a bar graph on a new sheet to show the schools names and their respective number of registrations from the three terms and label the chart as follows. (5 marks)
- Chart title: Welfare Registrations 2021
- Y-axis: Total Number of Registrations
- X-axis School Name
- Legend Position: Right

k) Print the following; (2 marks)
- Reg 1 sheet.
- CHART

END

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

DATE……EXAM SCORE……..SIGN……..

KENYA CERTIFICATE OF SECONDARY EDUCATION
313/1 CHRISTIAN RELIGIOUS EDUCATION PAPER 1
2½ HOURS

Instruction 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 **SIX** questions
(d) Answer any five questions in the spaces provided at the end of question 6
(e) Each question carries 20 marks
(f) This paper consists of _____ pages
(g) Do not remove any pages from this booklet
(h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
(i) Candidates should answer the questions in English.

For examiner's use only

Question						Candidate's Total Score
Candidate's Score						

1.
a) Outline six similarities in the Biblical stories of creation in Genesis 1 and 2 (6mks)

b) With reference to the story of the fall of human beings in Genesis 3 state four effects of sin on Adam and eve (8mks)

c) Identify six causes of evil in Kenya today .(6mks)

2.

a) State the activities carried out by the Israelites on the night of the Passover Exodus 12 1-32 (7mks)

b) What lessons would Christians learn from the incident when the Israelites worshiped the golden calf while at mount Sinai (7mks)

c) List six forms of worship that were practiced by the Israelites in the wilderness which are found in christen worship today (6mks)

3.

a) State the characteristics of the Canaanite religion (7mks)

b) Explain the circumstances that lead to the rapid spread of idolatry in Israel at time of Prophet Elijah. (8mks)

c) What is the relevance of prophet Elijah's prophetic mission to Christians today (5mks)

4.

a) Describe the call of Amos to become a prophet of God (6mks)

b) Outline the teaching of prophet Amos on social justice and responsibility (8mks)

c) How is the church promoting social justice in Kenya today (6mks)

5.

a) Explain the different occasions when Nehemiah prayed. (8mks)

b) Give six reasons why Nehemiah carried out religious reforms in Judah (6mks)

c) What is the importance of prayer in the life of a Christian today (6mks)

6.

a) Identify eight places used for worship in traditional Africa Communities (8mks)

b) Give reasons why sacrifices are made in traditional African Communities (6mks)

c) How do Christians in Kenya show respect for places of worship (6mks)

MARANDA HIGH SCHOOL

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MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

DATE……EXAM SCORE……SIGN……..

KENYA CERTIFICATE OF SECONDARY EDUCATION

313/2 CHRISTIAN RELIGIOUS EDUCATION PAPER 2

2½ HOURS

Instruction 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 **SIX** questions
(d) Answer any five questions in the spaces provided at the end of question 6
(e) Each question carries 20 marks
(f) This paper consists of _____ pages
(g) Do not remove any pages from this booklet
(h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
(i) Candidates should answer the questions in English.

For examiner's use only

Question						Candidate's Total Score
Candidate's Score						

1.

a) With reference to the Old Testament prophesies about the Messiah, outline the Jewish expectation concerning the Messiah (7mks)
b) State the similarities in the announcement of the birth of John the Baptized and Jesus Christ (6mks)
c) Identify six qualities shown by Jesus when he accompanied his parents to the Temple at the age of the twelve (7mks)

2.

a) Describe the healing of the Garasene demoniac (Luke 8:26-39) (7kms)
b) Explain the importance of the transfigurationof Jesus to Christians (8mks)
c) What lessons would Christians learn from transfiguration of Jesus (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) (7mks)
b) Give 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 Christi (7mks)

4.

a) Outline Saint Paul's teachings on love (1 Corinthians 13) (8mks)
b) Give five examples of relationship based on false love in Kenya today (5mks)
c) Explain the role of the Holy Spirit in the church today (7mks)

5.

a) Outline six roles of a professional code in a work place. (6mks)
b) State seven similarities in the traditional African Communities and Christian community view on work (7mks)
c) Give seven reasons why Christians condemn idleness in the society (7mks)

6.

a) Outline the Traditional Africa Communities concept of wealth (6mks)

b) Give reasons why corruption is widespread in Kenya today (8mks)

c) Explain six ways through which the church eradicates poverty in Kenya (6mks)

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MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……..

DATE……EXAM SCORE……SIGN……..

101/1 **ENGLISH**

Paper 1 **(Functional Skills)**

Time: 2 Hours

Kenya Certificate of Secondary Education

Instructions to candidates

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

*Answer **ALL** the questions in this paper.*

(a) All your answers must be written in the spaces provided in this question paper.
*(b) This paper consists of **7** printed pages.*
(c) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
*(d) Candidates **MUST** answer the questions in English.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	10	
3	30	
TOTAL	**60**	

1. Imagine you are the secretary of the Debate Club in your school, recently the club held a meeting and the following issues were discussed;

- Election of new officials
- Income generating activities for the club
- Preparation for the Great Debaters' Contest.

In the meeting, 8 members were present, 3 members including the vice chairperson sent apologies and the whereabouts of 2 members was unknown. The club patron also attended the meeting. Apart from the main issues, two issues arose from the previous meeting. Write down the **minutes** of the meeting. (20 marks)

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2. ***Read the passage below and fill in each blank space with the most appropriate word. (10 marks)***

Drug addiction is not about just heroin, cocaine, (**i**)..... other illegal drugs. You can get (**ii**) ..... to alcohol, nicotine, sleep and anti-anxiety medications, and other legal substances. You can (**iii**) ..... get addicted to prescription or illegally obtained narcotic pain medications, or opioids. (**iv**) ..... problem is at epidemic levels in the United States. In 2018, opioids played a role in two-thirds of all drug (**v**) ..... deaths. At first, you may choose to take a drug (**vi**) ..... you like the way it makes you feel. You may think you can (**vii**) ..... how much and how often you use it. But (**viii**) ..... time, drugs change how your brain works. (**ix**) ..... physical changes can last a long time. They make you lose control and can (**x**)..... to damaging behaviour.

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

The Fox and the Crow.

One bright morning as the Fox was following his sharp nose through the wood in search of a bite to eat, he saw a Crow on the limb of a tree overhead. This was by no means the first Crow the Fox had ever seen. What caught his attention this time and made him stop for a second look, was that the lucky Crow held a bit of cheese in her beak.

"No need to search any farther," thought sly Master Fox. "Here is a dainty bite for my breakfast."

Up he trotted to the foot of the tree in which the Crow was sitting, and looking up admiringly, he cried, "Good-morning, beautiful creature!"

The Crow, her head cocked on one side, watched the Fox suspiciously. But she kept her beak tightly closed on the cheese and did not return his greeting.

"What a charming creature she is!" said the Fox. "How her feathers shine! What a beautiful form and what splendid wings! Such a wonderful Bird should have a very lovely voice, since everything else about her is so perfect. Could she sing just one song, I know I should hail her Queen of Birds."

Listening to these flattering words, the Crow forgot all her suspicion, and also her breakfast. She wanted very much to be called Queen of Birds. So she opened her beak wide to utter her loudest caw, and down fell the cheese straight into the Fox's open mouth.

"Thank you," said Master Fox sweetly, as he walked off. "Though it is cracked, you have a voice sure enough. But where are your wits?"

i. You have been asked to narrate the above story to your classmates. What **four** things would you do to attract their attention? (4 marks)

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If you were narrating the above story to young children, how would you ensure you sustain their attention throughout the entire course of the narration? (3 marks)

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How would you say the line, "But where are your wits?" (2marks)

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ii. The words '*one*', '*through*', '*seen*' and '*caw*' have been used in the narrative. Provide another word that is pronounced same as each of the given words. (4 marks)

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(b) In the words given below, underline the part that should be stressed. (4 marks)

i) Approach.....

ii) Illegal.....

iii) Clever.....

iv) Curtail.....

(c) You have been selected to represent your school in the forthcoming Great Debaters' Contest. Explain how you would prepare so as to make your presentation effective. (4 marks)

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(d) *Read the conversation below between two friends fromMsingi High School and then answer the questions that follow:* (9 marks)

Annette: (*Shortly after receiving her premock exam results*)

Good morning Brenda. How are you fairing on with your studies?

Brenda: Good morning too Annette, I don't even wish to talk about my performance. I didn't get the score I had expected.

Annette: Come on Bree, you are taking your failure too much to heart. I know it is a great disappointment to score a grade below what you expected in the pre-mocks and I sympathize with you but you must not allow it to make you so unhappy.

Brenda: (*Looking sullen*) it is all very well for a lucky lass like you, Annette. You have passed. I am sure had you failed, you would not have been happy.

Annette :(*Leaning forward*) I know, but you must pull yourself together, and purpose to do well in the next exam. Remember the old saying, "If at first you don't succeed, try, try, try again!

Brenda: I think the other version of the saying has more sense to it. "If at first you don't succeed, quit, quit, quit at once!

Annette :(*Nodding her head disapprovingly*) Mmm…… **Brenda:**

I should just give up Ann...

Annette: Oh nonsense! You'll never do anything if you don't persevere. Now why do you think you failed?

Brenda: Last term was very challenging for me. I was down with Covid-19 for three weeks and I could not prepare for my exams properly.

Annette: I am sorry about what happened. Nevertheless, that is behind us now. I am sure you will do well in the mocks and National Exams.

Brenda: I wish I had your willpower. Still, I will take your advice and put more effort.

Annette: That's the way to go my dear friend.

i. Identify and explain three strengths in Annette's conversational skills. (6marks)

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ii. Although interrupting a speaker is often considered impolite, there are times when such interruption would be welcome. Cite **three** such instances. (3 marks)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

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101/2

ENGLISH Paper 2 (Comprehension,

Literary Appreciation and Grammar)

Time: 2½ hours

Kenya Certificate of Secondary Education

Instructions to candidates

(e) Write your name, index number and class in the spaces provided above.
*(f) Answer **ALL** the questions in this paper.*
(g) All your answers must be written in the spaces provided in this question paper.
(h) This paper consists of 7 printed pages.
(i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
*(j) Candidates **MUST** answer the questions in English.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	25	
3	20	

4	15	
TOTAL	**80**	

1. Read the passage below and then answer the questions that follow. *(20 marks)*

Many students think that learning only takes place in class. If students use two extra steps, most students will not forget what they learned in class. To achieve effective learning, students need to follow two extra steps in the three strategic learning processes.

The key to success is by following these three strategies. Review is essential to student success. Unless content is reviewed by students shortly after it is learned, it will soon be forgotten. To avoid forgetting what you learned, it is recommended to review daily.

It is also recommended to reduce large volumes of notes into point form and to paraphrase what you have learned. Other helpful tips include creating concept maps and diagrams; creating fact, concept or vocabulary cards and using visualization to better connect to what you learned. These are all important tools to helping students better understand and memorize lesson content.

The key to achieving academic success cannot be directly **correlated** to one specific area. Rather it requires students to be all-rounded in many different aspects. This includes attending class regularly to keep pace with the lessons. Falling behind in studies or homework can be **detrimental** to academic success and can induce stress onto students. Participating in class activities and discussions are also vital parts of learning and applying concepts learned. On the other hand, taking good, concise notes will always help in the long run when revising for tests and exams. To sum it all up, strategic learning is the password for many academic achievements.

Being exposed to knowledge is the first step in the journey, the fact that young scholars can learn and be a part of history is a phenomenal step in furthering their search to success. Reviewing notes, in the way the young individual wishes, by him/herself, or with a good friend, will help him/her to understand what has been learned in a way s/he understands. Lastly practice is a great way to memorize what has been learned, when practice achieves its full potential, the individual will not only be guaranteed a good mark, but also a way to view, wonder and think of things. Those three

attributes will help scholars become more successful, but it is important to one as it is to the other, and every person should find the learning strategies **effectual** for him/herself and in extremely **exceptional** occasions even invent or innovate new strategies.

(a) What does the writer fault in the students thinking according to the first paragraph? (2 marks)

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(b) Explain the **three** strategies that are key to success. (6marks)

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(c) Unless content is reviewed by students shortly after it is learned, it will soon be forgotten.

(Rewrite the sentence beginning with: If...) (2 marks)

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(d) Describe the tone of the passage above (3 marks)

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(e) According to the passage, how does practice help memorize what has been learned? (3 marks)

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(f) Explain the meaning of the following words as used in the passage. (4marks)

i) Detrimental.....

ii) Correlated.....

iii) Effectual.....

iv) Exceptional.....

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

Read the excerpt below and answer the questions that follow. (25 marks)

"Mathematics at a summit!" complained the other heads of state. "What next?"

The old rogue knew they were having trouble understanding his equations. Yet did he offer them any help? No. He wanted to enjoy the moment.

When he had enjoyed it for long enough, he offered the help he had withheld.

"Here is what those equations tell to you, Excellencies. They say you I will toss this coin twice.

"He held high the coin that he was talking about. "If coin land..."He broke off again. "How you say 'pile ou face' in English?

"Heads or tails," obliged President Gamlozi.

"Senks,"acknowledged the old man. "So, if coin land heads for first toss, then first equation - in first row, first column, of The Choice Matrix-is telling to you: Choose Way Omega for another toss and forget all about Path Alpha. But if coin land tails, then second equation- in first row, second column-is saying you: Choose Path Alpha and forget Way Omega instead." The old man looked at his audience. "Questions?" he asked.

"YES!" shouted Minister Zinto, already up on his feet. "With all due respect, President Bangoura, I think what you are suggesting now is total nonsense." "QUOI? WHAT?

"Mr President, real summits don't decide by flipping coins."

"I see. And I suppose, *Cher le Ministre,* Dear Minister, you going make same protestation, with as much vigour, when your Way Omega get win." The summit hall rocked with laughter.

"Order!" demanded the Chair. "Order, Excellencies, order! We will have order. As for you, Minister Zinto, you will speak only when I say so. Do you understand-yes? Then sit down!"

The minister sat down.

Dr Afolabi rose. “Mr Chairman, I think the minister has a point," he said. "My advice here would be.

The old man cut him off. "Your advice here would be what? That we utilise your method of “this on one hand and that on other hand'? Ha! We would still be here next year, admiring our hands if we were to do so.

“Again the summit hall rocked with laughter”

"Order, please! Excellencies, order!" the Chair reminded everyone. "As for you, Dr Afolabi, if I find I need your

a) What happened immediately before this excerpt? (3 marks)
b) What do we learn about African Heads of state in this excerpt? (4 marks)
c) Identify and illustrate three features of style employed in this excerpt. (6 marks)
d) What does the chair mean when he asks Abiola if he wanted them to utilize his method hand
e) What happens immediately after this excerpt? (3 marks)
f) Give the meaning of each of following words as used in this excerpt. (5 marks) (i) Flipping

(ii) Rogue

(iii) Protestation

(iv) Utilize

(v) obliged

3. ***Read the poem below and answer the questions that follow.*** ***(20 marks)***

Sympathy by Paul Laurence Dunbar

I know what the caged bird feels, alas!
When the sun is bright on the upland slopes;
When the wind stirs soft through the springing grass,
And the river flows like a stream of glass;
When the first bird sings and the first bud opens,
And the faint perfume from its chalice steals— I
know what the caged bird feels!

I know why the caged bird beats his wing
Till its blood is red on the cruel bars;
For he must fly back to his perch and cling
When he fain would be on the bough a-swing;
And a pain still throbs in the old, old scars
And they pulse again with a keener sting— I
know why he beats his wing!

I know why the caged bird sings, ah me,

When his wing is bruised and his bosom sore,—

When he beats his bars and he would be free;

It is not a carol of joy or glee,

But a prayer that he sends from his heart's deep core,

But a plea, that upward to Heaven he flings—

I know why the caged bird sings

(Adapted from the poem by Paul Lawrence Dunbar

In American Negropoetry, edited by Arna Bontemps.

New York: Hill and Wang, 1974)

a) In your own words briefly explain, what the poem is about. (3 marks)

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b) In **note form**, state what the poem talks about in each of the three stanzas. (3 marks)

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c) What is the persona's attitude towards the caged bird? (2 marks)

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d) Discuss any **two** themes as brought out in the poem above? (4 marks)

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e) Comment on any **three** aspects of style used in the poem above. (6 marks)

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f) Explain the meaning of the following lines: (2 marks)

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(i) "And the faint perfume from its petals steals".

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(ii) "And they pulse again with a keener sting"

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4. *a) Rewrite the following sentences according to the instructions given after each, Do not change the meaning. (5 marks)*

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i. She left the village crying with regret and shame. (*Begin* : Crying ...)

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ii. The country has experience a bad drought this year. (Rewrite in the Superlative)

iii. I do not want any more tea. (*Begin*: I would rather ...)

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iv. She would have won the race were it not for the injury. (*Begin*: But ...)

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v. All the candidates passed their examinations. (*Begin*: Not ...)

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b) *Complete each of the following sentences using the correct form of the word in brackets.*

(4 marks)

i. The artistes are .....people about the importance of maintaining peace during elections. (sensitive)

ii. The newly elected Member of Parliament was .....grateful to the constituents for electing him. (true) iii. Justice Maraga is known for his strict.....to the rule of law. (adhere)

iv. It is against our culture to treat older people..... (respect)

c) *Complete each of the following sentences by filling in the blank spaces with the correct preposition. (3 marks)*

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i. The government plans to build a new bridge .....the Indian Ocean.

ii. The Chief Justice will preside .....the swearing-in ceremony. iii. The ceremony was conducted in accordance..... the regulations.

d) *Rewrite the following sentences, replacing the underlined word with a phrasal verb that has the same meaning. (3 marks)*

i. Mutua needs to reduce his monthly expenses if he is to save anything.

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ii. She reported to the police that her house was burgled last night.

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iii. Incidences of poll violence have decreased because of the peace awareness campaigns across the country.

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

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101/3

ENGLISH Paper 3

(Creative Compositions and Essays Based on Set Texts)

Time: 2½ hours

Kenya Certificate of Secondary Education

Instructions to candidates

(k) Write your name, index number and class in the spaces provided above.
*(l) Answer **three** questions **ONLY**.*
*(m) Question **1** and **2** are **compulsory.***
*(n) In question **3**, choose only **one** of the optional set texts you have prepared for.*
(o) Where a candidate presents work on more than one optional set text, only the first one to appear will be marked.
*(p) Each of your essay must **not** exceed **450** words.*
*(q) This paper consists of **2**printed pages.*
(r) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
*(s) Candidates **MUST** answer the questions in English.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	

TOTAL	**60**	

*Answer **three** questions only*.

1. Imaginative Composition. (Compulsory) (20 marks)

Either

a) Write a story beginning:

He steadily walked towards me with a broad, warm smile, but as we shook hands, I realized he was avoiding eye contact…

Or

b) Write a composition to illustrate the saying: "Do not count your chicks before they are hatched"

2. The Compulsory Set Text. (20 marks)
The Samaritan by John Lara

.State and explain the character traits of Mossi in the text, The Samaritan by John Lara

3. The Optional Set Texts. (20 Marks)

Answer any one of the following questions.

Either

Silent songs

In the face of affliction, faith is essential for man's survival. Write an essay to validate this statement in reference to Leo Tolstoy s God Sees the Truth, but Waits. (20 marks)

Or

With illustrations from *An Artist of the Floating World,* show why Ono is so upset by his grandson's pretend games and how this proves that there is a generational gap. (20mks)

MARANDA HIGH SCHOOL

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MOCK EXAMINATIONS 2024

CONFIDENTIAL GEORAPHY

312/1

Nyeri 1:50000 (sheet No. 120/4)

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MOCK EXAMINATIONS 2024

NAME.....ADM..... PREV EXAM MARKS.....TARGET.....INDEX.....

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312/1
GEOGRAPHY PAPER 1

TIME: 2 ¾ HOURS **KENYA CERTIFICATE**

OF SECONDARY EDUCATION

INSTRUCTIONS TO CANDIDATES.

Write your name, admission number and class

- *This paper has **two** sections **A** and **B***
- *Answer **ALL** the questions in section **A**.*
- *In section **B** answer questions **6** and any other **TWO** questions.*
- *All answers should be written in **English**.*
- *Candidates should check to ascertain that all pages are printed and that no questions are missing.*

SECTION A	QUESTION 1-5	MAX	SCORE
SECTION B	QUESTION 6	25	
	QUESTION 7	25	
	QUESTION 8	25	
	QUESTION 9	25	
	QUESTION 10	25	
TOTAL		100	

SECTION A (25MKS)

Answer all questions in this section.

1. a. Distinguish between physical and human environment. (2mks)
   b. State **two** importance of studying geography. (2mks)
2. a. State **two** ways in which aspect affect weather. (2mks) b. Give **three** evidences of the effects of climate change. (3mks)
3. a. Name **two** examples of mechanically formed Sedimentary rocks. (2mks)
   b. State **three** ways by which rocks are weathered. (3mks)
4. a. What is mass wasting? (2mks)
   b. Give **three** examples of slow mass wasting. (3mks)
5. a. State **three** significance of the hydrological cycle. (3mks)
   b. Give **three** factors which influence the rate of evaporation. (3mks)

SECTION B: (75 MARKS)

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

6. a. Study the map of NYERI 1:50,000 (sheet 120/4) provided and answer the following questions.
   i. Give the longitudinal extent of the map of Nyeri provided. (2mks) ii. Find the bearing of the Ark Lodge in grid square 5661 from the Forest Guard Post in grid square 6156. (2mks)

   b. Calculate the area of Aberdare National Park west of easting 55 and north of northing 60. Give your answer in square Kilometres. (2mks)

   c. Describe the relief of the area covered by the map. (7mks)

   d. Describe the drainage of the area east of easting 70. (6mks)

   e. Citing evidence from the map; identify **three** social services offered in Nyeri Municipality. (6mks)

7. a. Name **two** types of faults. (2mks)

b. Using well labelled diagram(s), describe how the Rift Valley was formed by Tensional forces. (8mks)

c. Besides the rift valley, name **two** other features formed through faulting. (2mks)

d. Describe **three** ways by which faulting influences drainage. (3mks)

e. Explain **four** significances of faulting to human activities. (8mks)

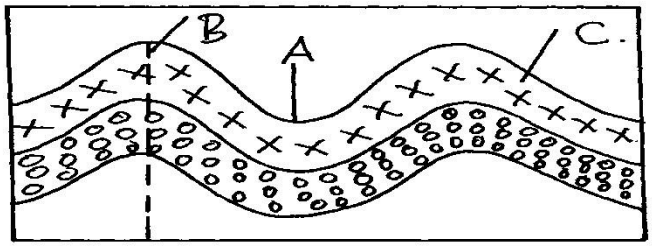
f. You are planning to carry out a field study on faulting,

i. Name **two** methods you are likely to use to collect data. (2mks)

ii. Give **two** problems you might encounter while on your study. (2mks)

8. a. Name **two** fold mountains in Africa. (2mks)

b. Use the diagram below to answer the questions that follow.



i. Name the part of the fold marked A, B, and C (3mks)

ii. Using suitable diagram(s) describe how Fold Mountains formed. (8mks)

Iii Give **one** landform associated with folded regions (1mk)

c. Besides Fold Mountains, name **three** other features that result from folding. (3mks)

d. Explain **four** benefits of folding to human activities. (8mks) 9. a.

What is soil? (2mks)

b. Describe a simple soil profile. (5mks)

c. Explain how the following leads to soil degeneration. (9mks) i.

Soil erosion.

ii. Monoculture

iii. Leaching.

d. Give **four** economic benefits of soil. (4mks)

e. Describe **five** ways of conserving soil. (5mks)

10. a. Name **two** types of waves at the coast. (2mks)

b. Describe how waves erode through; (8mks)

i. Corrosion.

ii. Hydraulic action.

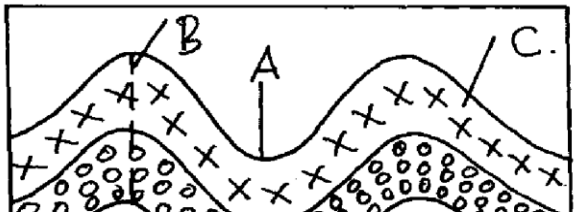
iii.Solution.

iv. Attrition.

c. Describe how a wave-cut platform is formed.(4mks)

d. Explain **four** benefits of oceans to human beings.(8mks)

e. Give **three** main types of coral of coral reefs. (3mks)



MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education
MOCK EXAMINATIONS 2024

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312/2
GEOGRAPHY Paper 2
Time: 2¾ hours

Kenya Certificate of Secondary Education

INSTRUCTIONS TO STUDENTS

- *This paper has **two** sections **A** and **B***
- *Answer **ALL** the questions in section **A**. In section **B** answer questions **6** and any other **TWO** questions.*

SECTION A

*Answer **all** the questions in this section.*

1. a) Give the relationship between Geography and Economics. (2mks)

b) Give three reasons for studying Geography in secondary schools. (3mks)

2. (a) State ***three*** reasons why it is important to introduce drought resistant crops as a method of land reclamation in Kenya. (3 mks)

(b) Give ***two*** benefits of Zuider Zee project. (2 mks)

3. a) What is wildlife (1 mks)

b) Give two reasons why national parks have been establishment in the East African countries. (2 mks)

c) Explain two effects of forest fires on wildlife in Kenya (2 mks) 4.

(a) Name ***two*** navigable rivers in Africa. (2 mks)

(b) State ***three*** recent developments that have been taken by the Kenyan government to improve communication. (3 mks)

5. (a) Give ***two*** types of environmental hazards. (2 mks)

(b) State ***three*** significance of conserving the environment. (3 mks)

SECTION B

*Answer question **6** and any other **TWO** questions from this section.*

6. The table below shows the prices of sugar in Kenya Shillings per ton in some countries in Africa. Use it to answer question a.(i)

YEAR	KENYA	SOUTH AFRICA	TANZANIA	ZAMBIA
2014	95,400	61,927	68,702	84,447
2015	111,713	67,462	66,985	93,798
2016	110,878	65,173	90,649	86,832

(a) (i) Draw a divided rectangle 16cm long to represent the prices of sugar in the year2016. (8 mks)

(ii) State two advantages of using compound bar graph to present statistical data. (2 mks)

(b) State three physical conditions thatfavors cocoa farming in Ghana. (3 mks)

(c)Describe stages involved in processing of cocoa from harvesting to marketing. (8 mks)

(d)Apart from making oil give four other uses of oil palm. (4 mks)

7. a. i) What is Agro-forestry? (2 mks)

b. i) State <u>five</u> reasons why agro-forestry is being encouraged in Kenya. (5 mks)

ii) Explain how the following factors influence distribution of forests.

iii) Altitude. (2 mks)

iv) Soils. (2 mks)

v) State <u>four</u> characteristics of tropical hardwood forests. (4 mks)

c. i) Give the differences between forestry in Kenya and Canada under the following headings:-

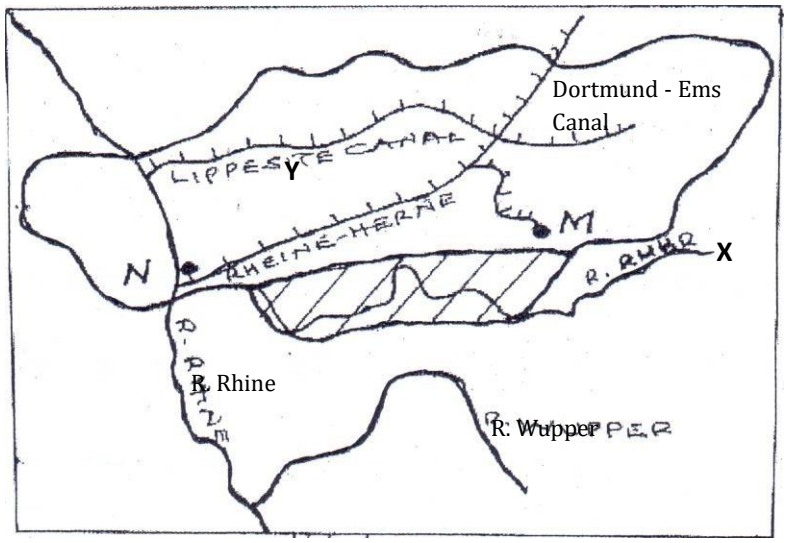
- Tree harvesting. (2 mks)
- Transportation. (2 mks)
- Marketing. (2 mks)

ii) Give <u>four</u> reasons why Kenya should conserve her forests.(4 mks)

8. (a) (i) What are Agricultural food processing industries? (2 mks)

(ii) Name ***three*** Agricultural non-food processing industries.(3 mks)

(b) Study the map of the Ruhr industrial region and use it to answer the questions that follow.



(i) Name the River marked **X**. (1 mk)

(ii) Name the Canal marked **Y**. (1 mk)

(iii) Apart from iron and steel industries, name ***three*** other industries in theRuhr region. (3 mks)

(iv) Explain ***four*** physical factors which led to the growth of the Iron and Steel industry in the Ruhr region. (8 mks)

(c) You intend to carry out a field study on vehicle assembly in Thika Town.

(i) Apart from content analysis, give ***two*** other methods of data collection. (2 mks)

(ii) State ***two*** advantages of library research in data collection.(2 mks)

(iii) State ***three*** follow-up activities after the field work. (3 mks)

9. (a) (i) Define the term mining? (2 mks)

(ii) Give four methods of underground mining. (4 mks)

(b) Explain how the following factors influence mining:

(i) Level of technology (4 mks)

(ii) Quality of the ore (2 mks)

(c) Explain **four** benefits of trona mining at Lake Magadi to Kenya. (8 mks)

(d) State **five** negative effects of mining on the environment. (5 mks)

10. (a) (i) What is fish farming? (2 mks)

(Ii) Explain *four* ways through which fish farming contributes to theeconomy of Kenya. (8 mks)

a) (b) (i)Give three methods used to preserve fish in Kenya (3 Mks)
(ii)State four problems experienced by fishermen in Lake Victoria (4 Mks) b)

Outline four differences between fishing in Kenya and Japan (8 Mks)

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311/1

HISTORY AND GOVERNMENT PAPER 1

2 ½ HOURS

Instruction to candidates:

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

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

c) Answers to all Questions must be written in the Answer booklet provided.

d) Answer all questions in English

For Examiner's use only

SECTION	Question	Candidate's Score
A	**1 - 17**	
B		
C		
	TOTAL	

Section A (25 marks)
Answer all questions in this section in the answer booklet provided

1. Name *one* remnant of the hunter and gatherer community in Western Kenya. (1 mark)
2. State *two* economic results of the migration and settlement of the Kenyan communities during the pre-colonial period. (2 marks)
3. Give *one main* reason why the Portuguese conquered East Africa so easily? (1 mark)
4. State *two* ways in which the constitution promotes national unity (2 marks)
5. Name the treaty that marked the end of the scramble and partition of East Africa. (1 mark)
6. State *two* methods used by the colonial government to promote settler farming in Kenya. (2 marks)
7. What was the *main* outcome of the Devonshire White Paper of 1923? (1 mark)
8. Give *two* common characteristics of the political parties formed after 1945. (2 marks)
9. State *two* ways in which the trade union movement contributed to the struggle for independence. (2 marks)
10. What *major* political change was introduced during the Limuru Conference of 1966? (1 mark)
11. Identify two occasions when the president attends parliament in Kenya. (2 marks)
12. Give the main outcome of the first Lancaster house conference of 1960 (1 mark)
13. State how the citizens of Kenya participate in their government. (1 mark)
14. Give *two* political rights of the youth guaranteed in the New Constitution of Kenya. (2marks)
15. Name the national philosophy introduced by President Daniel Arap Moi. (1 mark)
16. Identify *two* political events that threatened the stability of Kenya between 1975 and 1978. (2 marks)
17. Name the fund into which all government revenue is paid. (1 mark)

Section B (45 marks)

Answer any three questions from this section in the answer booklet provided

18. (a) Give *five* reasons for the migration of Somali into Kenya. (5 marks)
    (b) Describe the social organization of the Nandi during the pre-colonial period. (10 marks)
19. (a) State three functions of fort Jesus during the Portuguese rule. (3 marks)
    (b) Explain *six* positive effects of missionary activities in East Africa. (12 marks)
20. (a) Give *three* ways in which the Kenya Uganda railway promoted economic growth in colonial Kenya. (3 marks)
    (b) Explain the effects of land alienation in Kenya during the colonial period (12 marks)
21. (a) State *three* roles of Wangari Maathai in the history of Kenya. (3 marks) (b) Explain six methods that the colonial government used to discourage Mau Mau activities in kenya. (12 marks)

Section C (30 marks)

Answer any two questions from this section in the answer booklet provided

22. (a) Identify *three* importance of democracy in Kenya. (3 marks)
    (b) Explain *six* rights of an accused person in Kenya. (12 marks)
23. (a) State *five* features of the Independence constitution of 1962. (5 marks)
    (b) Explain *five* functions of the Cabinet in Kenya. (10 marks)
24. (a) Give the composition of the county assembly. (3 marks)
    (b) Explain six ways in which the county government raises its revenue. (12 marks)

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311/2

Paper 2

HISTORY AND GOVERNMENT

Instructions to candidates

a) *Write your name and index number in the spaces provided*
b) *Sign and Write the date of examination in the spaces provided above*
c) *This paper consists of three section; A, B and C*
d) *Answer ALL the questions in section A, three questions from section B and two questions from section C*
e) *Candidates should check the question paper to ascertain that all the number are printed as indicated*
f) *Candidates MUST answer the questions in English*

Section	Question	Maximum Score	Candidate's Score
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
		Total Score	

SECTION A (25 MARKS)*Answer all questions in this section*

1. State ***one*** chemical dating method used in archaeology. (1 Mark)
2. Identify two urban centers which sprang as a result of early agriculture in Mesopotamia.(2 Marks)
3. Identify the ***main*** item of trade obtained from West Africa during the trans-Saharan trade.(1 Mark)
4. Give the contribution of Henry Ford in the development of transport. (1 Mark)
5. Identify ***two*** disadvantages of human porterage as a means of transport.(2 Marks)
6. Give two uses of electricity as a source of energy. (1 Mark)
7. State two factors for the decline of early urban centers in Africa. (2 Marks)

8. Give two activities during the Odwira festival among the Asante in pre colonial Africa.(2 Marks)
9. Give two features of a good constitution.(2 Marks)
10. Give two ways in which industrial revolution contributed to European invasion of Africa.(2 Marks)
11. Give the main reason why British used direct rule to administer colonies in Africa. (1 Mark)
12. Identify two political parties that were used in liberation movement in Ghana.(2 Marks)
13. Name two leaders involved in the formation of the League of Nations in 1919.(1 Mark)
14. Provide one military organization formed during cold war. (1 Mark)
15. Identify two challenges facing New East African Community today.(2 Marks)
16. State two ways in which President Nyerere promoted education in Tanzania.(1 Marks)
17. Mention one way of becoming a prime Minister in India. (1Mark)

SECTION B (45 MARKS) ***Answer any three questions in this section***

18 (a) State ***three*** theories that explain the origin of man. (3 Marks)

(b) Describe the culture of man during the middle Stone Age period.(12 Marks)

19 (a) State ***five*** effects of railway transport in Britain.(5 Marks)

(b) Explain ***five*** reasons for the decline of the trans-Atlantic trade.(10 Marks)

20 (a) State ***three*** uses of coal during the industrial revolution in Europe. (3Marks)

(b) Describe the social organization of the Buganda kingdom during the pre-colonial period.(12Marks)

21 (a) State ***three*** economic reasons why the Europeans scrambled for colonies in Africa.(3 Marks)

(b) Explain ***six*** reasons why the French policy of assimilation failed in Senegal.(12 Marks)

SECTION C (30 MARKS)*Answer any two questions in this section*

22 (a) Outline three functions of the United Nations General Assembly. (3 Marks)

(b) Explain ***six*** effects of World War I.(12 Marks)

23 (a) Outline five aims of Organisation of African Unity (O.A.U)(5 marks)

(b)Explain ***five*** political challenges facing Democratic Republic of Congo since independence.(10 Marks)

24 (a) Outline the composition of the executive organ of the government of USA. (3 Marks)

(b) Explain ***six*** roles of state governments in United States of America. (12 Marks)

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441/1 **Home science**

Paper 1

(THEORY) 21/2 HOURS

Kenya certificate of secondary examination

Instructions to candidates

a) Write your name and admission no in the spaces provided.

b) Answer all the questions in section A and B and any two from section C.

c) Answers to all questions must be written in the spaces provided.

For examiners use only.

Section	***Question***	***Maximum score***	***Candidates score***
A	***1-40***	***40***	
B	***41***	***20***	
C	***42-44***	***40***	
	Total score	***100***	

SECTION A (40MARKS)

1. The choice of cooking method to use depends on some factors. State two such factors.(1mk)

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2. List the two forms of malnutrition.(1mk) ----------

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3. During digestion, sucrose is broken down by digestive enzymes. Name the two molecules produced.(1mk)

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4. Outline two ways of providing variety in a meal.(1mk)

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5. Outline two main categories of flour mixtures.(1mk)

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6. Name two ingredients added to starch to improve lustre and water repellent properties in laundry.(1mk)

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7. Mention two types of stains that can be removed by methylated spirit.(1mk)

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8. Differentiate washing from dry cleaning in removing dirt from different fabrics(1mk)

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9. Name two classifications of metals used for making kitchen equipment(1mk)

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10. Outline two characteristics of wooden spoons that makes them more suitable for kitchen use .(1mk)

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11. Soapless detergents are available in various forms. Give two examples (1mk)

---

12. Differentiate ironing from pressing in finishing process of laundry(1mk)

---

13. State two rules of patching in repair of clothes and household articles(1mk)

---

14. Mention two vaccines administered at the age of 9months (1mk)

---

15. Define ante-natal care(1mk)

---

16. State two importance of immunization to an individual(1mk)

---

17. Mention two ways of helping a child play and learn properly(1mk)

---

18. Outline one cause of the following accidents;(1mk)

a. Sprain

---

b. Bruise

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19. State two disadvantages of bungalows(1mk)

---

20. Outline two importance of breastfeeding to the mother(1mk)

---

21. Mention two possible causes of stomach upsets to a weaning baby .(1mk) ----------

22. Differentiate fixed expenses from flexible expenses(1mk)

23. State two disadvantages of cash buying(1mk)

24. Name two forms of advertisement(1mk)

25. List two reasons for educating a consumer(1mk)

26. List two forms of credit buying(1mk)

27. Explain time as a factor influencing consumer buying (1mk) ----------

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28. Highlight two ways on how geography is related to home science(1mk)

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29. Outline two ways one can take care of their teeth (1mk)

---

30. State two reasons why adolescent should maintain high standards of personal hygiene (1mk)

---

31. Outline two ways one can misuse cosmetics(1mk)

---

32. Give two points to note when making stitches(1mk)

---

33. Describe two remedies of missing stitches in machine sewing(1mk)

---

34. Mention two types of pleats(1mk)

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35. Give two advantages of drafting own patterns (1mk)

---

36. Outline the other two names for seam line (1mk)

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37. State two points to observe when taking body measurement(1mk)

---

38. Mention two methods of neatening seams (1mk)

---

39. List two categories of seams .(1mk)

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40. State two points on the choice of a good needle for sewing (1mk)

SECTION B (20 MARKS)

41. Your aunt who is resting after a long journey has requested you to do the following tasks;

a) Improvise a suitable cleaning abrasive and use it to thorough clean the aluminum sufuria used to cook ugali (7mks)
b) Treat/special clean a white cotton kitchen towel (7mks)
c) Thorough clean the top of the plain wooden kitchen table (6mks)

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SECTION C (40 MARKS)

42.

a. State four points to consider when packing food for a picnic. (4mks)

b. State four precautions taken when laundering loose colored articles.(4mks)

c. Outline four signs and symptoms of pregnancy .(4mks)

---

d. Discuss the four roles of advertisement.(4mks)

e. Explain 4 points that determine the choice of repair method to be used.(4mks)

43.

a. Mention 4 points on how vitamin C can be preserved during cooking(4mks)

b. State 4 points to consider when choosing brooms and brushes used for cleaning(4mks)

c. Briefly explain the four types of play a child is involved in. (4mks)

d. Explain 4 steps involved in preparing a home budget (4mks)

e. Outline the 4 factors that influence choice of a method for controlling fullness(4mks)

44.

a. State four advantages of stewing foods (4mks)

b. Draw and interpret 4 drying symbols under laundering of different fabrics(4mks)

c. Explain two ways of managing a foreign body in the ear (4mks)

d. Discuss 4 principles/ guidelines that will enable a consumer to buy wisely(4mks)

e. Explain 4 points to observe when making seams(4mks)

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HOME SCIENCE
CLOTHING CONSTRUCTION

441/2 PAPER 2

Kenya Certificate of Secondary Education
Time: 2 ½ hours

This paper consists of 3 printed pages Candidates should check the question paper to ensure that all pages are printed as indicated and that no questions are missing. A pattern for a girl's skirt is provided. You are advised to study the patterns, the sketches and the questions carefully before starting the exam**.**

Materials provided

1. Pattern pieces
   - A Skirt Front
   - B Skirt Back
   - C Front Yoke
   - D Frill
   - E Waistband
   - F Pocket
2. Plain light weight cotton fabric 45cm long by 90 cm wide
3. Cotton thread to match the fabric.
4. Embroidery thread
5. One A4 envelope

THE TEST

Using the materials provided, cut out and make the **LEFT HALF** of the skirt to show the following process:

a) Cutting out. **(21mks)**

b) Making of the dart on skirt back. **(7mks)**

c) Joining the skirt front to front yoke using double stitched seam**. (9mks)**

d) Embroidering the curved line on the joined front yoke and front skirt. **(10mks)**

e) Joining the back skirt to the joined front yoke and front skirt using an open seam. **(9mks)**

f) Preparation and attachment of the frill to the joined skirts to include:

   i) Making of the inverted pleat. **(3mks)**

   ii) Joining the frill to the joined skirts using an overlaid seam. **(11mks)**

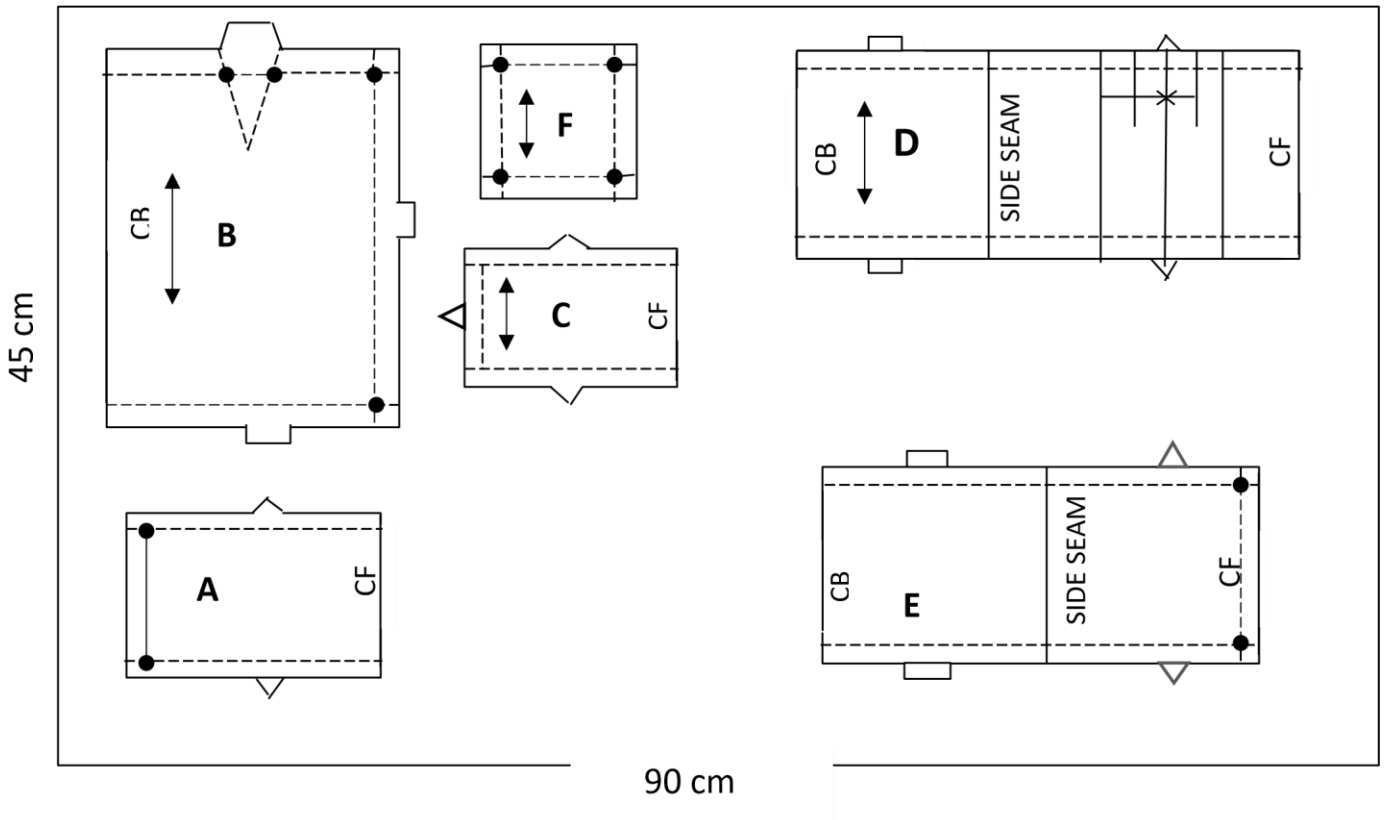
g) Management of the hem at the lower edge of the frill using hemming stitches. **(14mks)**

h) Presentation. **(6mks)**

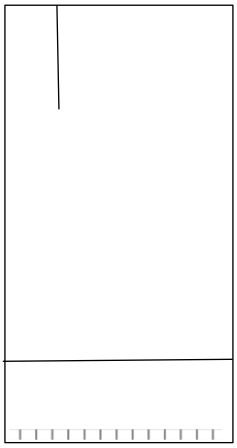
NOTE: OMIT Preparations and attachment of the pocket and waistband

At the end of the practical sew in a label bearing your name, class and admission number. Fold it and put in the envelope provided. Do not put in the scrape materials.

LAYOUT (NOT DRAWN TO SCALE)



VIEWS



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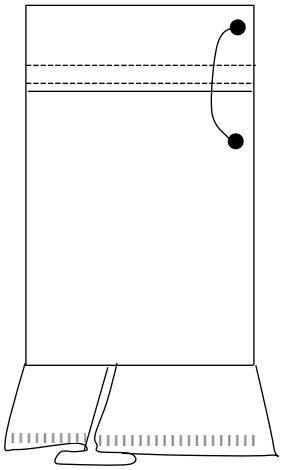

F R O N T

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441/3

HOME SCIENCE (FOODS AND NUTRITION) Paper 3

(PRACTICAL)

1 ¾ hours

Instructions to candidates

PLANNING SESSION: 30 minutes
PRACTICAL TEST SESSION: 1 ¼ hours

(a) Read the test carefully.
(b) No stationery is provided.
(c) Write your name and index number on every sheet of paper used.
(d) Textbooks and recipes may be used during the planning session as reference materials.
(e) You will be expected to keep your order of work during the practical session.
(f) You are only allowed to take away your reference materials at the end of the planning session
*(g) You are **not** allowed to bring additional notes to the practical session.*
(h) This paper consists of 2 printed pages.
(i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no page is missing.
(j) Candidates should answer the questions in English.

THE TEST

Your best friend is paying you a visit this coming weekend. Using all the ingredients listed below, plan, prepare, cook and serve a one course lunch for the two of you. Include a nutritious drink.

Ingredients

Cabbage/kales

Pilipili hoho

Sugar

Rice

Onions

Tomatoes

Beef

Mango/orange

Cooking oil/cooking fat Beef

masala.

Salt

PLANNING SESSION – 30 MINUTES

Use separate sheets of paper for each task listed below and carbon paper to make duplicate copies. Then proceed as follows;-

1. Identify the dishes and write down their recipes
2. Write down your plan/order of work.
3. Make a list of foodstuffs, materials and equipment you will require.

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102/1 - KISWAHILI - Karatasi ya 1 INSHA
Muda: - Saa 1¾

Maagizo

a) Andika jina na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
c) Andika insha **mbili**. Insha ya **kwanza** ni ya **lazima**. Chagua insha ya **pili** kutoka zile **tatu** zilizosalia. Kila insha isipungue **maneno 400**. Kila insha ina alama 20
d) Insha zako ziandikwe katika karatasi zilizoambatanishwa kwenye karatasi hii ya maswali.
e) Majibu yote **lazima** yaandikwe kwa lugha ya Kiswahili.
f) Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.
g)Karatasi hii ina kurasa 2 zilizopigwa chapa.
h) Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo. Kwa Matumizi ya Mtahini Pekee

Swali	Upeo	Alama
1	20	
2, 3 au 4	20	

Jumla	**40**	

1. LAZIMA

Visa vya kuwatelekeza wakongwe vimeongezeka sana katika eneo lenu la Telekeza. Andika tahariri kwa *Gazeti la Mzalendo* ufafanue mifano ya visa hivi huku ukipendekeza namna mbalimbali za kukabiliana na tatizo hili.

2. Jadili jinsi mbalimbali za kuboresha mshikamano wa kitaifa.

3. Ukupigao ndio ukufunzao.

4. Andika kisa kinachomalizika kwa maneno haya:

"…tangu siku hiyo sitawahi kumwamini mtu yeyote nisiyemfahamu vyema."

Huu ndio ukurasa wa mwisho uliochapishwa.

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KIDATO CHA NNE 2024

102/2 - KISWAHILI - Karatasi ya 2

LUGHAMuda: - Saa $2\frac{1}{2}$

Maagizo

a) Andika jina na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
b) Tia sahihi yako 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 ukurasa wowote kutoka kwenye kijitabu hiki.
g) **Karatasi hii ina kurasa 12 zilizopigwa chapa.**
h) **Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.**

Kwa Matumizi ya Mtahini Pekee

Swali	Upeo	Alama
1	15	
2	15	

3	**40**	
4	**10**	
Jumla	**80**	

1. Ufahamu **(Alama 15)**

Soma makala halafu ujibu maswali yanayofuatia.

Leo Mwalimu Bidii amerauka kama ada yake kwa ajili ya kutekeleza wajibu wake kwa wanafunzi wake Shuleni Mwera. Anaelewa barabara kwamba mchapuko wa ghafla wa gonjwa la korona kule Uchina, ulitikisa na kuvuruga dunia nzima katika nyanja zote za maisha ya binadamu. Miongoni mwa nyanja zilizoathiriwa zaidi ni elimu ambayo huongoza nyanja zingine za maisha. Awali, taasisi zote za elimu zilifungwa kama hatua muhimu ya kudhibiti msambao wa uwele huu. Baadaye afueni ilipodhihiri, na ushauri kutolewa na wataalamu wa afya, mataifa mbalimbali yalibuni taratibu za kurejelewa kwa shughuli za masomo katika taasisi zote. Labda marejeleo haya hayakuwa na ugumu kama ilivyokuwa namna ya kufidia na kurejelewa kwa mfumo wa kawaida shuleni. Naam, mwiba uchomeapo ndipo utolewapo na tiba mjarabu ni ile itokayo kwa mwele mwenyewe. Wizara ya elimu nchini iliratibu mihula upya na kuvuruga mazoea. Hii ni hatua iliyowasababishia **bughudha** washikadau wote; sio walimu, wazazi, wauzaji na wanafunzi. Sijui mizani gani iliyotumiwa kupima, lakini watu wengi walihisi kwamba ni walimu waliokumbwa na usumbufu mkubwa zaidi.

Iliwabidi walimu wafaragueue na kuongeza ubunifu wao ili kukamilisha mitaala ya masomo katika muda mfupi kuliko ule ulioratibiwa na wakuzaji mitaala. Mathalani, vipindi vilianza mapema kuliko kawaida yake na kuendelea hadi kupita saa kumi jioni na kuzima michezo ya baada ya madarasa. Mwalimu Bidii hakuwa na budi ila kujitoma ndani ya kinyang'anyiro hiki kwa vile hakupenda kuachwa nyuma. Hii ndiyo sababu ilimfanya kurauka kila siku. Lakini leo matarajio yake ya kuwahi kipindi cha saa kumi na mbili alfajiri yanaelekea kuyeyuka na kutokomea mithili ya theluji inavyoyeyuka na kugeuka kuwa maji yanayateremka kutoka milimani kufaidi walio mabondeni na kuviacha vileleta vya milima na kiu. Usiku uliopita ilikunya kidindia ungedhani ilikuwa mashindanoni. Barabara iliyotamani kutiwa sakafu tangu nchi ijinyakulie uhuru hadi sasa ikanyonya, ikameza na kutapika maji yakaloa kote. Wajuao chuku ya lugha walisema kilichozaliwa barabarani kilikuwa mama ya tope wala sio tope tu. Tazamo hili lilikejeli ile pikipiki aina ya 'Honda' aliyokuwa ameitumia Mwalimu Bidii kwa miongo miwili u nusu sasa – pikipiki aliyonunua baada ya kuomba mkopo kutoka kwenye chama cha ushirika cha akiba na mikopo baada ya miaka mitatu ya ajira. Ilimchukua miaka mitano kulipia mkopo wake.

Ilikuwa dhahiri tangu aiguse barabara hii kwamba alikuwa anajenga nyumba ya karata. Utelezi wa barabarani uliongezwa na magurudumu yaliyolika meno na kubwagwa chini halikuwa tukio lililokuwa ng'ambo ya utendekaji kamwe. Mara mojamoja ilimbidi Mwalimu Bidii kusalimu

amri. Si hoja kwamba hakupiga hatua za maana kupunguza kitalifa cha kilomita kumi baina ya shule na nyumba yake ya kukodisha. Muda huu wote manyunyu ya mvua yalikuwa yanaendelea kudondoka ni kama yalikuwa na kinyongo na mzalendo huyu **aliyejitolea sabili** kuhudumia nchi yake. Alizidi kupambana akihema kama punda aliyebandikwa mzigo uliozidi uwezo wake akijaribu kuelekeza chombo chake **kisiende pewa** topeni. Kwa kweli hakuenda popote heri ule mfano wa simulizi ya Sofokile kumhusu mbingirisha mwamba kuupandisha kwenye mlima ulioteleza. Ingawa alishindwa kuukwea mlima, angaa angerudi nyuma sio kama mwalimu. Mwalimu alisakamwa kabisa; mbele na nyuma hakukuendeka!

Mbele yake kidogo alimwona mtu aliyemjua akiwa amevua viatu na kuvishika mikononi ili alikabili tope barabarani. Huyu alikuwa afisa wa maabara kwenye Zahanati ya Nafuu iliyokuwa karibu na Shule ya Mwera. Muala Mutia alipambana na hali yake bila kutazama nyuma aone dhiki alizokuwa anapitia mwalimu. Aliogopa kuchelewa kupokezwa zamu na mwenzake aliyehudumu usiku huo. Hakupenda nuksani za asubuhi ambazo Kechi angemzulia lau angechelewa hata kwa dakika chache tu. Kechi alikuwa mbali sana na ungwana na wenzake kazini waliepuka kumkorofisha kwani hakuna neno ambalo ulimi wake haungelitaja faraghani na hadharani. **Hakuwa na kaba ya ulimi**. Kama alikuwa na marafiki, achana na wandani, hawakujulikana pale zahanatini. Mutia aliambaa shari ili imwambae. Lakini leo ilikuwa muhali kwani hangeweza kukamilisha umbali wa kilomita tisa kwa miguu katika nusu saa iliyosalia kabla ya muda wa kupokezwa zamu. Na hakika lisilo budi mja muungwana hupatana nalo wala hapingani nalo.

Hatua kadhaa mbele yake alimpata yule mchuuzi anayewasambazia maziwa zahanatini amebwagwa chini na pikipiki yake na mitungi ikafunguka na kurembesha barabara kwa maziwa yaliyokuwamo. Kiplimo, jamaa aliyestawisha kilimo cha ufugaji katika Kijiji cha Kaplel, leo ameambulia hasara. Atarejea nyumbani mikono mitupu. Alisakama pale matopeni hadi Mutia alipomfikia na kuinua pikipiki iliyokuwa imeumbana mguu wake wa kulia asitoke.

“Hawa viongozi wetu wanahujumu maendeleo yetu kabisa! Mbona miaka hii yote barabara hii haijabandikwa lami?” Kiplimo akamaka baada ya kusimama.

Mutia akamkumbusha, “Lakini si ni nyinyi mna mazoea ya kukubali visenti vichache wakati wa uchaguzi ili kuwachagua wanafiki hawa? Kisha kuna wengine ambao husema ‘Tunachagua mtu wetu’, ‘mtu wetu’ ambaye sasa hana mwao kuhusu kero tunazopitia! Na wengine kama yule jirani yetu upande wa kusini haendi kupiga kura akidai kuwa kura yake moja haiwezi kuleta tofauti yoyote. Ni janga tumelichuma wakati wa uchaguzi sasa tuvumilie kulila. Wajua tangu kale, mwiba wa kujidunga huambiwi pole.”

Mwalimu Bidii naye, baada ya kughairi nia, alikuwa ameegesha ‘Honda’ yake kando ya kigingi cha ua uliozingira shamba la yule mkwasi ambaye wengi hawakumjua ila walimsikia tu, akawa anamfuata Mutia akitumainia usaidizi wake. Alipowakaribia na kusikia malumbano yao, akatupa nukuu aliyowahi kuisikia kwa mtu asiyemkumbuka, “*Choices have consequences*!” Wale wawili wakaitikia kama ngonjera, “Ni kweli mwalimu!”

Maswali

a) Mikakati ya kukamilisha mitaala ya masomo iliwaathiri washikadau kwa namna mbalimbali. Taja athari **tatu** kwa wanafunzi. (alama 3)

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b) Orodhesha changamoto **nne** zinazowatanza wahusika katika kutekeleza shughuli zao katika makala haya. (alama 4)

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c) Thibitisha ukweli wa kauli kwamba ‘uamuzi una athari zake’ kwa kurejelea matukio **matatu** kuwahusu wananchi kama inavyosimuliwa katika kifungu hiki. (alama 3)

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d) Nakili kisawe cha ‘**bughudha**’ kutoka kifunguni. (alama 1)

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e) Andika visawe vya nahau zifuatazo: (alama 2)

(i) aliyejitolea sabili

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(ii) kisiende pewa

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f) (i) Bila kukanusha, eleza maana ya '**Hakuwa na kaba ya ulimi.'** (alama 1)

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g) Andika methali moja inayoasa kuhusu ulimi. (alama 1)

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2. Ufupisho **(Alama 15)**

Fupisha kifungu hiki kulingana maagizo yanayotolewa mwishoni mwake.

Katika karne ya kumi na tisa bara la Afrika lilivamiwa na nchi za Ulaya kama vile Uingereza, Ufaransa, Ujerumani, Ubelgiji, Italia, Ureno na kadhalika na kutwaliwa. Uingiliaji huu haukuhusu Afrika pekee bali mataifa mengine katika ule ulioitwa ulimwengu usiostaarabika kama India. Kwa mujibu wa wanahistoria, Uingereza ndilo taifa lililojitwalia idadi kubwa ya nchi za ulimwengu chini ya mfumo wa kiutawala ulioitwa ukoloni labda kwa sababu kwamba Uingereza ni taifa lililokuwa limefikia ustawi mkubwa katika Ulaya nzima wakati huo. Bila shaka huu ulikuwa muktadha uliostahili matumizi ya usemi kuwa mwenye nguvu hupishwa na mataifa mengine ya Ulaya hayakuwa na budi ila kuipisha Uingereza ijilimbikizie mataifa ya ulimwengu na kuyaweka chini ya kwapa zake. Jambo lingine lililoiwezesha Uingereza kuyapiku mataifa mengine ya Ulaya katika kujipakulia koloni ulimwenguni ni kwamba Waingereza walitakadamu katika uvumbuzi wa vyombo vya usafiri wa majini na kwa hivyo waliweza kuzuru nchi za ulimwengu kwa wepesi zaidi na katika kipindi kifupi. Licha ya Uingereza kuwa katika nafasi bora ya kutwaa koloni ulimwenguni, mataifa mengine ya Ulaya hayakusubiri kugawiwa bali hayo pia yaling'ang'ania kumega sehemu fulani ya koloni. Huu mng'ang'anio ulikuwa

kinyang’anyiro halisi ambacho kilimithilishwa na watu wanaogawana kipande cha mkate au nyama; kila mmoja akijikatia kadiri ya uwezo wake na makali ya kisu chake.

Uvamizi huu ulidhihirika kupitia utwaliwaji wa mamlaka ya kiutawala katika mataifa yaliyoathiriwa na kuwekwa chini ya himaya ya taifa husika kutoka Ulaya. Mtindo huu ulikinzana na tawala asilia za jamii mbalimbali za Kiafrika zilizokuwa na falme zao ambazo zilisambaratishwa baada ya kuangikwa kwa bendera ya taifa husika kutoka Ulaya. Hakukuwa na fursa ya kutathmini namna kila jamii katika kila eneo ilivyoendesha serikali yake chini ya viongozi wao mbalimbali. Usishangae kusikia kwamba Wazungu wengi waliipuuzilia mbali hii mifumo ya kiutawala au hata kudai kwamba wenyeji hawakuwa na mfumo wowote wa kujitawala. Uhasama uliokuwepo baina ya jamii tofauti pamoja na upekee wa mila na tamaduni zao zingine, ni mambo yaliyoangaziwa kwa kurunzi kali zaidi na kupuuza ukweli kwamba Waafrika walikuwa na mifumo mbalimbali ya kujiongoza.
Bara la Afrika lilikatwakatwa katika vipande mbalimbali na kugawiwa mataifa tofautitofauti ya Ulaya. Walibuni mipaka kiholela na kuwatenganisha watu wa jamii moja wakajipata kwenye nchi mbili tofauti. Si ajabu kwamba hata katika visa vya kidhalimu watu wa familia moja walitenganishwa kwa kuwekwa katika nchi mbili tofauti. Aidha, hata watu wa ukoo mmoja walitawanywa kimakusudi na kupelekwa katika maeneo mengine ya kijiografia yaliyoitwa nchi. Kadhalika, hata kuna maboma ambayo yalipigwa mpaka katikati na kumega sehemu moja kuitupa katika nchi tofauti na nyingine. Na kwa kweli asiyekujua hakudhamini. Watu walioathirika na tendo hili la kiholela waliona ugumu mkubwa kutii mipaka ya aina hii na kunao waliokaidi mipaka na kuendelea kutagusana na kutangamana na jamaa zao kokote walikopelekwa.

Tahakiki za wanahistoria hudai kwamba uvamizi wa Wazungu katika bara la Afrika, kwa kiwango cha juu zaidi uliletwa na msukumo wa kutaka kunyakua maliasili kochokocho iliyojaa katika maeneo mengi. Madini kama chuma, makaa, shaba, almasi, dhahabu na mengine mengi yalijaa tele na viwanda vilivyokuwa vimestawishwa kutokana na Mageuzi ya Kiwanda ya Karne ya 19 vilihitaji mali ghafi na madini kwa wingi. Afrika illikuwa na hazina ya hiyo mali ghafi na ilifaa kutwaliwa bila pingamizi. Njia ya pekee ya kujihakikishia kuwepo mfululizo kwa bidhaa hii ilikuwa kuziweka nchi hizi chini ya himaya za serikali zao za Ulaya. Sina shaka walielewa msemo kwamba pavumapo palilie nao wageni wavamizi iliwabidi walilie bara lenye maliasili nyingi sana.

Licha ya majilio ya Wazungu barani Afrika kuangaziwa kwa uhasi, ni kweli kwamba kuna mambo mengi mazuri ambayo hayangetokea lau hawangalikuja. Ustawishaji wa miundomsingi, hasa njia, uliwezesha maeneo ya ndani kufikiwa bila bughudha nyingi. Ikumbukwe kwamba njia ya reli ya Kenya – Uganda, iliyojengwa mwanzoni mwa karne ya ishirini ilirahisisha kufanywa kwa shughuli katika maeneo ya ndani ya nchi. Kuna taasisi za matibabu, shule na vyuo vya mafunzo anuai katika taaluma mbalimbali vilivyojengwa na wakoloni. Hata viongozi wa kwanza baada ya nchi hizi kurejeshewa utawala wao, walisomea kwenye taasisi hizi. Mgala muue na haki yake mpe kwani ni stahili yake.

Maswali

a) Kwa maneno kati ya 80 – 90, andika hoja muhimu katika **aya mbili za kwanza**. (alama 8)

Matayarisho

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Nakala safi

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b) Fupisha aya za **tatu, nne** na **tano** ukizingatia athari hasi za ukoloni, kichocheo cha chake na manufaa ya ukoloni barani Afrika. (maneno 50) (alama 6)

Matayarisho

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Nakala safi

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3. Matumizi ya Lugha **(Alama 40)**

a) Andika maneno yenye vitamkwa vya sifa zifuatazo: (alama 2)

(i) kikwamizwa sighuna cha kaakaa gumu, irabu ya nyuma juu, kikwamizwa ghuna cha kaakaa laini, irabu ya nyuma juu, kilainisho na irabu ya mbele juu

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(ii) nazali ya midomoni, irabu ya mbele kati, nazali ya menoni na irabu ya nyuma wastani

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b) Taja sifa zinazoonyesha usawa baina ya kila jozi ya sauti hizi. (alama 1)

(i) /m/ na /w/

……

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(ii) /t/ na /ch/

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c) Eleza maana **mbili** zilizo katika sentensi: (alama 2)

Usijadili mtihani unaoendelea wakati huu.

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d) Tumia wingi kuandika sentensi zifuatazo.

(i) Mkulima alilima ucheu ili kujiandaa kwa msimu wa upanzi wa nafaka. (alama 2)

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(ii) Shauri lake liliniepusha na janga la uwele hatari unaosambaa haraka. (alama 2)

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e) Onyesha katika sentensi **moja** matumizi **mawili** ya ritifaa (‘) katika lugha. (alama 2)

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f) Zingatia maagizo katika mabano mwishoni mwa kila sentensi kuziandika upya.

(i) Wangia alipata mafunzo murua chuoni. Wangia ni stadi katika Kifaransa.

(Unganisha ukianzia: Mafunzo…) (alama 2)

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(ii) Sherehe nyingi zilifanywa ili kuadhimisha ushindi wa Pute. (Tumia vitenzijina badala ya maneno yaliyopigiwa mistari.) (alama 2)

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(iii) Mari alinunua simutamba mpya kwa shilingi elfu kumi na kumtunza mwanafunzi bora.

(Anza na shamirisho ala.) (alama 2)

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g) Ainisha mofimu katika maneno yafuatayo:

(i) katika (kitenzi) ……... (alama 1)

(ii) achaguliwaye …… (alama 2)

h) Tunga mfano **mojamoja** wa sentensi kwa kila muundo.

(i) S - KN (Ɵ)+KT(Ts+T+H+N) (alama 1)

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(ii) S - KN (W+V)+KT(t+N+V) (alama 2)

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i) Bainisha kiima, kiarifu na chagizo katika sentensi hii. (alama 3)

Mhandisi shupavu atakagua ujenzi wa ghorofa hatua kwa hatua.

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j) Eleza matumizi ya kiambishi **-o** katika sentensi ifuatayo: (alama 1)

Waliofanikiwa walifanya makadirio mazuri.

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k)Tambua kisha ainisha nomino katika sentensi hii: (alama 2)

Mashabiki wengi walipiga vigelegele Kocha Manoa alipotaja kikosi cha wachezaji wake.

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l) Vishazi tegemezi vina dhima za kivumishi na kielezi. Tunga sentensi **mojamoja** kuonyesha kila dhima. (alama 2)

(i) kivumishi:

……

……

(ii) kielezi:

……

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m) Onyesha maana **mbili** za neno '**bunda**' kwa kutungia sentensi **mbili** tofauti. (alama 2)

(i)

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(ii)

n) Kwa kutumia sentensi **moja**, onyesha miundo **miwili** ya virai husishi. (alama 2)

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o) Akifisha. siku ya kiswahili duniani iliadhimishwa na wengi ilifana

(alama 2)

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p) Jaza mapengo kwa maneno yanayostahili. (alama 1)

Kinza ni kwa pinga na tambua ni kwa …….. ilhali nata ni kwa

…….

r) Onyesha katika sentensi maana ya nahau: '**shika shokoa**'. (alama 1)

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s) Kasura aligundua kwamba Ogina alikuwa na uwezo mwingi wa kukabili Somo la Hisabati na akaamua kwenda mara kwa mara kupewa ushauri na Ogina hata akaimarika. Taja methali inayoweza kutumiwa kuafiki muktadha wa Karusa. (alama 1)

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t) Kwa kuzingatia maana, sentensi ifuatayo inaweza kuwa katika **aina mbili**. Zitaje. (alama 1)

Mkiondoka wawiliwawili, mtafika haraka.

(i)

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(ii)

4. Isimujamii **(Alama 10)**

a) Eleza sifa **tano** za lugha ambayo wewe kama mnyapara wa kiwanda cha kusaga miwa cha Kimatuni utatumia ukiwahutubia wafanyakazi walio chini yako. (alama 5)

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b) *Soma kifungu kifuatacho kisha ujibu maswali.* (alama 5)

“Polepole, Mama Mercy! Unajua si kupenda kwangu. Tena si hali itakayodumu milele. Baada ya siku chache tu, tutakuwa tumekamilisha mradi huo wenye dharura. Kisha tutakuwa na muda wa kila kitu. Hili, Mama Mercy, ni kile tunaita *bad coincidence*… nimebanwa na kazi. Unanielewa …?

“Dadii…njaa…sana!”

Fafanua sifa **tano** za lugha inayotumika katika huu muktadha wa familia. (alama 5)

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Huu ndio ukurasa wa mwisho uliopigwa chapa.

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KIDATO CHA NNE 2024

102/3- KISWAHILI - Karatasi ya Tatu

FASIHIMuda: - Saa $2\frac{1}{2}$

Maagizo

a) *Andika jina lako, nambari ya usajili, mkondo, sahihi na tarehe katika nafasi ulizoachiwa hapo juu.* b) *Jibu maswali* ***manne****pekee.*

c) *Swali la kwanza ni la****lazima****.*

d) *Maswali hayo mengine mawili yachaguliwe kutoka sehemu nne zilizobaki yaani Tamthilia, Hadithi Fupi, Riwaya na fasihi simulizi.*

e) *Usijibu maswali mawili kutoka sehemumoja.*

f) *Majibu yote lazima yaandikwe kwa lugha ya Kiswahili.*

g) ***Karatasi hii ina kurasa 04zilizochapishwa maswali.***

h) ***Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yoteyamo.***

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEo	ALAMA
1	20	
	20	
	20	
	20	

JUMLA	80	

1.SEHEMU YA 'A': USHAIRI (LAZIMA)

Eti
Mimi niondoke hapa
Niondoke hapa kwangu
Nimesaki, licha ya risasi
Vitisho na mauaji, siondoki

Mimi
Siondoki
Siondoki siondoki Niondoke
hapa kwangu!
Kwa mateke hata na mikuki
Marungu na bunduki, siondoki

Hapa Siondoki
Mimi ni
Pahame!
Niondoke hapa kwangu!
Fujo na ghasia zikizuka
Na kani ya waporaji, siondoki

Haki
Siondoki Kwangu
siondoki Niondoke hapa
kwangu!
Nawaje; waje wanaokuja
Mabepari wadhalimu, siondoki

Kamwe
Siondoki Ng'oo hapa
kwangu!
Katizame chini mti ule!
Walizikwa babu zangu, siondoki

Sendi Nende
wapi?
Si hapa kitovu changu
Niondoke hapa kwangu
Wangawa na vijikaratasi

Si kwamba hapa si kwangu, siondoki

Katu
Siondoki
Sihitaji karatasi
Niondoke hapa kwangu
Yangu mimi ni ardhi hii

Wala si makaratasi, siondoki

Maswali

a) Shairi hili ni la aina gani? Kwa nini? (alama 2)
b) Taja masaibu anayopitia mzungumzaji. (alama 4)
c) Eleza toni ya shairi hili. (alama 2)
d) Eleza muundo wa shairi hili. (alama 3)
e) Tambua matumizi ya mbinu ya usambamba. (alama 2)
f) Andika ubeti wa tano kwa lugha nathari . (alama 4)
g) Tambua idhini moja ya mtunzi. (alama 1)
h) Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi. (alama 3)
(i) karatasi
(ii) nimesaki
(iii) kitovu

SEHEMU YA B:TAMTHILIA: *BEMBEA*

Timoty M Arege

2. Kwa kurejelea tamthilia hii eleza namna mila na desturi zinavyoweza kuzua migogoro katika jamii.

(alama 20)

3. A. Soma dondoo lifuatalo kisha ujibu maswali.

"La! Kila mbegu ipandwayo haina budi kuzaa na izaapo mazao yake huvunwa. Mtu huitakasa sahani akijua itamfaa tena. Kinacholelewa hakina budi kulea."

a) Fafanua muktadha wa mancno haya. (alama 4)

b) Taja mbinu nne zilizotumika hapa. (alama 8)

c) Eleza sifa nne za mnenaji (alama 8)

SEHEMU YA C:RIWAYA: <u>NGUU ZA JADI</u>

CLARE MOMANYI

4..Jadili jinsi mwandishi wa riwaya ya nguu za jadi ameangazia dhana ya matumaini (al 20)

5. fafanua maudhui ya ajira ya kazi yanavyojitokeza riyawani ala 20

SEHEMU YA D: Hadithi Fupi
MAPAMBAZUKO YA MACWEO

Jibu swali la 6 au 7

6.Urumo umekita mzizi katika jumuiya ya Mapambazuko ya Machweo. Jadili alama 20

7.Miti katika misitu ilizidi kuangamizwa kwa makali ya shoka lakini miti ilizidi kulifurahia shoka...miti ikafikiri shoka ni mmoja wao!"
A]..Liweke dondoo hili katika muktadha wake (alama 4)
B].Bainisha mbinu zozote mbili katika mkutadha huu. (alama 4)
C]Eleza sifa mbili za shoka. (alama 2)
D].Kwa kurejelea hadithi ya msiba wa kujitakia, jadili mbinu zinazotumiwa na viongozi kuingia mamlakani. (alama 10)

SEHEMU YA E: FASIHI SIMULIZI

8. a) Eleza maana ya vipera vifuatavyo vya fasihi simulizi. (alama 8)
(i)misimu
(ii)ngomezi
(iii)miviga
(iv)maapizo

b) (i) Fafanua dhima **sita** za miviga katika jamii yako. (alama 6) (ii) Tambulisha sifa zozote **sita** za misimu. (alama 6)

Huu ndio ukurasa wa mwisho uliopigwa chapa maswali.

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121/2
MATHEMATICS PAPER 2
TIME: 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES:

- Write your **name**, **admission numbe**r and write **date** of examination in the spaces provided
- The paper contains **two** sections. Section I and Section II.
- Answer **ALL** the questions in section I and any **five** questions in section II.
- Answers and working **must** be written on the question paper in the spaces provided below each question.
- Show all steps in your calculations below each question.
- Marks may be given for correct working even if the answer is wrong.
- Non programmable silent electronic calculators and KNEC mathematical table may be used, except where stated otherwise.

FOR EXAMINERS USE ONLY

SECTION I

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL
Marks																	

SECTION II

Question	17	18	19	20	21	22	23	24	TOTAL
Marks									

GRAND TOTAL

<u>SECTION I (50MARKS)</u>

Answer ALL Questions in this Section

1. Evaluate the following; **(3 marks)**

$$\frac{2}{3} - 1\frac{1}{4} + \frac{5}{6}$$

~~7~~2 + ~~3~~15 78 1~~1~~6 —

□□51 + 9 □□ *of* □

−□ 3 10□

2. Use square roots, reciprocal and square tables to evaluate to 4 significant figures the expression; **(3 marks)**

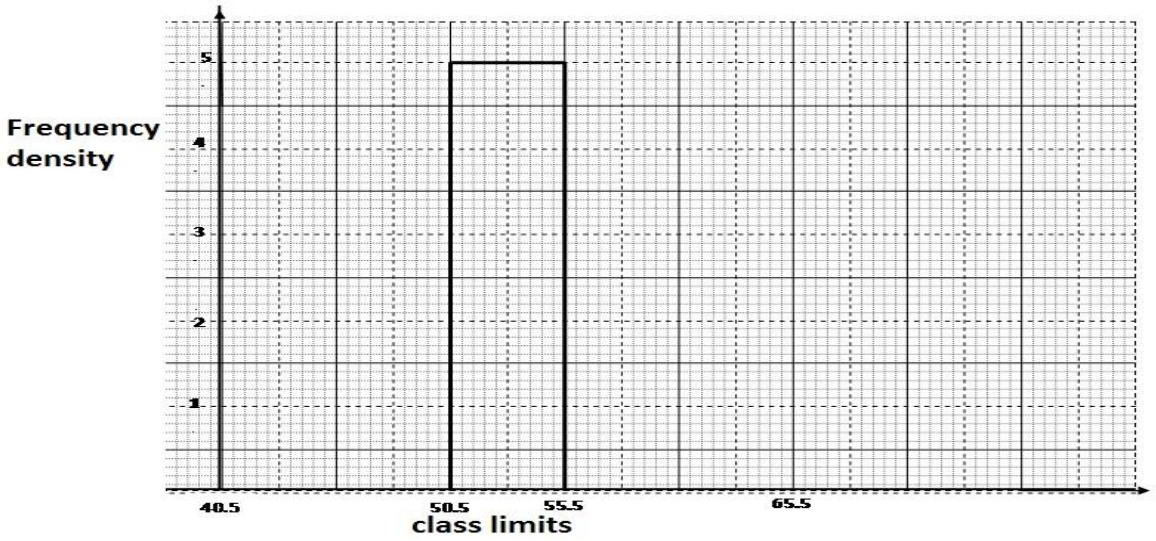
$$(0.06458)^{\frac{1}{2}} + \left(\frac{2}{0.4327}\right)^{2}$$

3. Solve for x in the equation $\frac{1}{2}\log_2 81 + \log_2(x^2 - \frac{x}{3}) = 1$ **(3marks)**

4. A farmer has a piece of land measuring 840m by 396m. He divides it into square plots of equal size. Find the maximum area of one plot. **(3 marks)**

5. The following data was obtained from the mass of a certain animal. Complete the tableand the histogram below. **(3 marks)**

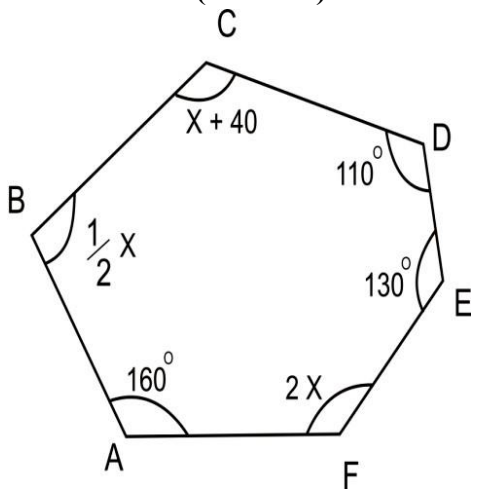
Mass(kg)	frequency
41-50	20
51-55	
56-65	40



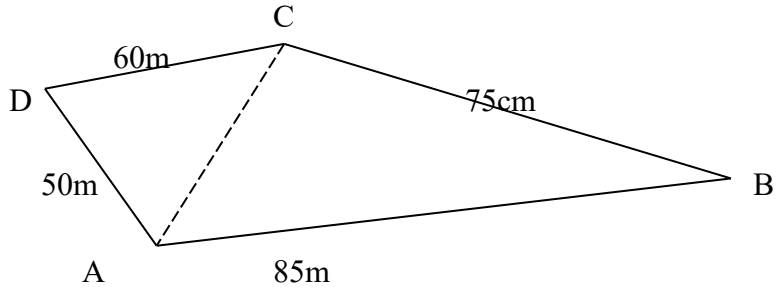
6. Solve the following inequalities and state the integral values **(3 marks)** $2x - 2 \leq 3x + 1 < x + 11$

7. The figure below shows a regular polygon A B C D E F with the interior angles indicated. Find the value of the smallest angle in the polygon.

(3 marks)



8. The figure below represents a plot of land ABCD such that AB=85m, BC=75m, CD=60m, DA=50m and angle ACB = 90^0. (Not drawn to scale).



Determine the area of the plot, in hectares, correct to two decimal places.

(3marks)

9. A rectangular tank has a hole in it such that $11cm^3$ of water leaks out every 5 seconds. Using π as 3.142. Calculate:-

(i) The capacity of the water lost from the tank every hour. **(2marks)**

(ii) The time it takes to fill a cylindrical tank of radius 30cm and height 30cm into which the leaking water drains; in hours to 4 significant figures. **(2marks)**

10. Find the value of x if. **(3 marks)**

$$\left(\frac{27}{8}\right)^{x+7} = \left(\frac{4}{9}\right)^{-3x}$$

11. The image of a point K(1,2) after translation is K^1 (-1,2). What is the coordinate of the point R whose image is R^1 (-3,3) after undergoing the same translation. **(3 marks)**

12. Mugo, a fruit vendor obtained a total of Kshs. 6144 from her sales of oranges on Monday at Kshs. 8.00 each. She had bought 560 more oranges to add to what had remained on Sunday where she had sold 240 more oranges than on Saturday. She had sold 750 oranges on Saturday. Calculate the total number of oranges Mugo had bought on Saturday.

(4 marks)

13. Simplify the following expression by reducing it to a single fraction. **(3 marks)**

$$\frac{2x-3}{3} \quad \frac{x-2}{2} \quad \frac{1-x}{4}$$

14. Water and ethanol are mixed such that the ratio of the volume of water to that of ethanol is 3: 1. Taking the density of water as 1 g/cm^3 and that of ethanol as 1.2g/cm^3, find the mass in grams of 2.5 litres of the mixture. **(3 marks)**

15. A Kenyan bureau buys and sells foreign currencies as shown below

	Buying (In Kenya shillings)	Selling (In Kenya Shillings)
1 Hong Kong dollar	9.74	9.77
100 Japanese Yen	75.08	75.12

A tourists arrived in Kenya with 105 000 Hong Kong dollars and changed the whole amount to Kenyan shillings.While in Kenya, she pent Kshs 403 897 and changed the balance to Japanese Yen before leaving for Tokyo. Calculate the amount, in Japanese Yen that she received. **(3 marks)**

16. Draw triangle ABC such that AB=4.4cm, BC=4cm and angle ABC=120^0, construct an orthocenter of the triangle ABC and mark it X. **(3 marks)**

SECTION II (50 MARKS)

Answer FIVE questions ONLY from this section

17. A line L_1 passes through the points $(-2, 3)$ and $(-1, 6)$ and is perpendicular to L_2at $(-1, 6)$.

a) Find the equation of L_1. **(2 marks)**

b) Find the equation of L_2 in the form $ax + by - c = 0$ where a, b and c are constants. **(2 marks)**

c) Given that another line L_3 is parallel to L_1 and passes through point $(1,2)$, find the x and y intercepts of L_3 . **(3 marks)**

d) Find the point of intersection of $L_2$and L_3. **(3 marks)**

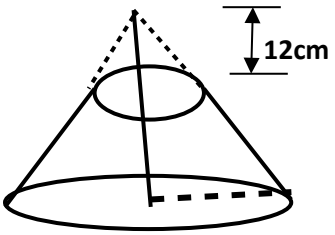
18. A sector of angle 108^0 is cut from a circle of radius 20 cm. It is folded to form a cone. Calculate to 1 decimal place: **(use $\pi = \frac{22}{7}$)**

(a) The curved surface area of the cone. **(2 marks)**

(b) The base radius of the cone. **(3 marks)**

(c) The vertical height of the cone. **(2 marks)**

(d) If 12 cm of the cone is chopped off to form a frustum as shown below.



Calculate the volume of the frustum formed. **(3 marks)**

19. A village Q is 7 km from village P on a bearing of 045^0. Village R is 5 km from

village Q on abearing of 120^0 and village S is 4 km from village R on a bearing of 270^0. a)

Taking a scale of 1 m to represent 1 Km, locate the three villages. **(3 marks)**

b) Use the scale drawing to find the:

i. Distance and bearing of the village R from village P. **(2 marks)**

ii. Distance and bearing of village P from village S. **(2 marks)**

c) Calculate the area enclosed by the three villages **(3 marks)**

20. The floor of a rectangular room can be covered completely by a carpet costing sh. 200 per square metre. The total cost of the carpet would be sh. 5600. Taking the length of the room to be x m;

a) Express width of the room in terms of x **(2marks)**

b) If a uniform width of $\frac{1}{2}$ m is left uncovered all round. The cost is sh. 2000 less. Form and solve an equation to determine the value of x. **(5marks)**

c) Later it was decided that the floor left uncovered in (b) above should also be covered. However the cost of the carpet had then gone up by sh. 150 per square metre. Determine the cost in covering the previously uncovered region.

(3marks)

□2 3□ $^{-1}$, the inverse of A. **(2 marks)**

21. a)Given that the matrix A=□□3 4□□□ , find A

□

b) Kariuki bought 400 goats and 600 sheep for a total of Kshs 1,700,000. Maina bought 180 goats and 240 sheep for a total of Kshs 720,000. If the price of a goat is sh. X and that of a sheep is shs y,

i) Form two equations to represent the above information. **(2 marks)**

ii) Use the matrix A^{-1} to find the price of one goat and one sheep. **(3 marks)**

c) John bought 450 goats and 720 sheep. He was given a total discount of shs 66,600.

If the discount on the price of a goat was 2%, calculate the percentage discount on the price of a goat.

(3 marks)

22. The distance between two towns A and B is 460 km. a minibus left town A at 8.45 am and travelled towards Bat an average speed of 65km/hr. A matatu left B at 10.55 am on the same day and travelled towards A at an average speed of 80km/hr.

(a) How far from town B did they meet? **(4 marks)**

(b) At what time did the two vehicles meet? **(2 marks)**

(c) A motorist started from his home at 9.15am on the same day and travelled to B at an average speed of 120km/hr. he arrived at the same time as the minibus. Calculate the distance from B to his home. **(4 marks)**

23. Three partners Mutua, Muthoka and Mwikali contributed Sh. 600,000, Sh. 400,000 and Sh. 800,000 respectively to start a business of a matatu plying Mbumbuni – Machakos route. The matatu carries 14 passengers with each paying Sh. 250. The matatu makes two round trips each day and ever full. Each day Sh. 6000 is used to cover running costs and wages.

(a) Calculate their net profit per day. **(2 marks)**

(b) The matatu works for 25 days per month and is serviced every month at a cost of KSh.10,000. Calculate their monthly profit in June. **(1 mark)**

(c) The three partners agreed to save 40% of the profit, 24% is shared equally and the rest to be shared in the ratioof their contribution. Calculate Muthoka's share in the month of June. **(4 marks)**

(d) The matatu developed mechanical problems and they decided to sell it through an agent who charged a commission of 5% on selling price. Each partner received KSh. 475,000 from the agent after he had taken his commission. Determine the price at which the agent sold the matatu. **(3 marks)**

24. The displacement S metres of a body moving along a straight line after t seconds is given by

$S = -2t^3 + \frac{3}{2}t^2 + 3t$

(a) Find its initial acceleration. **(3 marks)**

(b) Calculate:-

(i) The time when the body was momentarily at rest. **(3 marks)**

(ii) Its displacement by the time it comes to rest momentarily **(2 marks)**

(c) Calculate the maximum velocity attained **(2 marks)**

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

121/2
MATHEMATICS PAPER 2
TIME: 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES:

- Write your **name**, **admission numbe**r and write **date** of examination in the spaces provided
- The paper contains **two** sections. Section I and Section II.
- Answer **ALL** the questions in section I and any **five** questions in section II.
- Answers and working **must** be written on the question paper in the spaces provided below each question.
- Show all steps in your calculations below each question.
- Marks may be given for correct working even if the answer is wrong.
- Non programmable silent electronic calculators and KNEC mathematical table may be used, except where stated otherwise.

FOR EXAMINERS USE ONLY

SECTION I

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	**TOTAL**

Marks																	

SECTION II

Question	17	18	19	20	21	22	23	24	TOTAL
Marks									

GRAND TOTAL

SECTION I (50 MARKS)

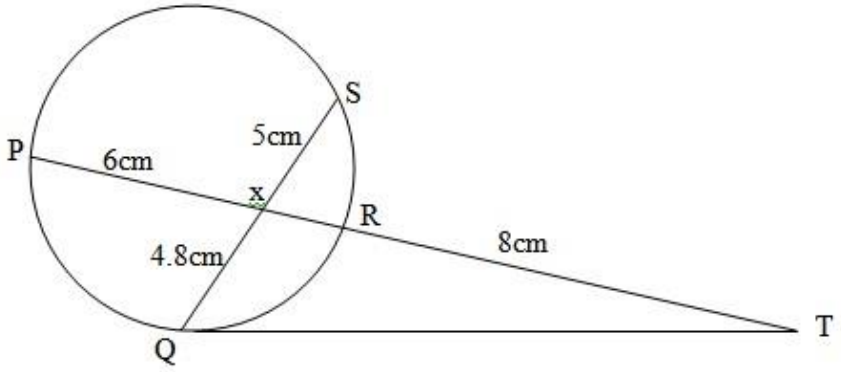
Answer all the questions from this section

1. Use Logarithms correct to four significant figures to evaluate. (4marks)

$$\sqrt[3]{\frac{24.36 \times 0.066547}{1.48^2}}$$

2. Find the value of x given that the matrix $\begin{bmatrix} x+7 & 4 \\ -3 & x \end{bmatrix}$ is singular (3 marks)

3. In the figure below QT is a tangent to the circle at Q. PXRT and QXS are straight lines.
PX = 6cm, RT = 8cm, QX = 4.8cm and XS = 5cm.



Find the length of QT (3 marks)

4. Use the trapezium rule with seven ordinates to find the area bounded by the curve $y = x^2 +$ 1 lines x = -2, x = 4 and x – axis (3 marks)

5. Given that $x = \sqrt{\frac{tp}{2\,m+\ p}}$ make p the subject of the formula (3 marks)

6. (a) Construct triangle PQR such that PQ = 7cm, QR = 5cm and $< PQR = 30°$ (2 marks)

(b) Construct the focus L_1 of points equidistant from P and Q to meet the locus L2 of points equidistant from Q and R (2 marks)

7. The points (5, 5) and (-3, -1) are ends of a diameter of a circle centre A. Determine:

a) The coordinates of A. (1 mark)

b) The equation of a circle expressing it in form $x^2 + y^2 + ax + by + c = 0$ (2 marks)

8. A transformation is represented by the matrix $\begin{bmatrix} 1 & 3 \\ 4 & 2 \end{bmatrix}$. This transformation maps a triangle ABC of the area 12.5cm^2 onto another triangle A'B'C'. Find the area of triangle A'B'C'. (3marks)

9. Pipe A can fill a tank in 2 hours, pipes B and C can empty the tank in 5 hours and 6 hours respectively. How long would it take

a) To fill the tank if A and B are left open and C closed (2 Marks)

b) To fill the tank with all the pipes open (2 Marks)

10. i) Expand and simplify $(1-3x)^5$ upto the term in x^3 (2 marks)

ii) Hence use your expansion to estimate $(0.97)^5$ correct to 4d.p. (2 marks)

11. Solve for x in the equation:

$2cos4x = -1$ for $0^0 \leq x \leq 180^0$ (3 marks)

12. Wanjiku pays for a car on hire purchase in 15 monthly instalments. The cash price of the car is Ksh.300, 000 and the interest rate is 15%p.a. A deposit of Ksh.75, 000 is made. Calculate her monthly repayments. (3 marks)

13. The gradient function of a curve is given $\frac{dy}{dx} = 3x^2 - 8x + 2$. If the curve passes through the point, (2, – 2), find its equation. (3 marks)

14. Simplify the following surds leaving your answer in the form $a + b\sqrt{c}$ (3marks)

$$\frac{\sqrt{5}}{2\sqrt{2} - \sqrt{5}} + \frac{\sqrt{2}}{2\sqrt{2} + \sqrt{5}}$$

15. The sum of two numbers is 24. The difference of their squares is 144. What are the two numbers? (3marks)

16. The data below represents the marks scored by 9 form 4 students in an exam:
40, 37, 39, 40,41,43,44, 37,44
Calculate the interquartile range of the above data (3 marks)

SECTION II (50 MARKS)

Answer five questions only from this section

17. The following table shows the rate at which income tax was charged during the year 2021

Monthly taxable income in Ksh.	Tax rate %
0 – 9860	10
9861 – 19720	15
19721 – 29580	20
29581 – 39440	25
39441 – 49300	30
49301 – 59160	35
over 59160	40

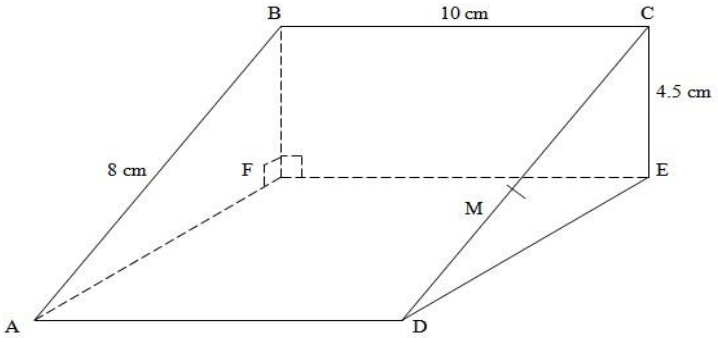
Maina earns a basic salary of Ksh.42000 and a monthly house allowance of sh.13000. He contributes 7.5 % of his basic salary to pension scheme. This contribution is exempted from taxation. He is entitled to a personal relief of sh.2400 per month. Calculate:

a) His monthly Taxable income (2 marks)

b) Calculate his net monthly tax (6 marks)

c) Maina's monthly salary (2 marks)

18.



The above diagram represents a wooden prism. ABCD is a rectangle. Points E and F are directly below C and B respectively. M is the mid-point of CD. AB = 8 cm, BC = 10 cm and CE = 4.5 cm.

(a) Calculate the size of angle CDE (2 marks)

(b) Calculate the

(i) Length of AC (2 marks)

(ii) Angle AC makes with the plane ADEF (2 marks)

(c) Find the:

(i) Length of MB (2 marks)

(ii) Angle CBM (2 marks)

19. An aeroplane left town $P(65^oN, 15^oE)$ to another town $Q(65^oN, 165^oW)$ at a speed of 200 knots using the shortest route. ($Take\ \pi = \frac{22}{7}$, $R = 6370km$)

a) Find

i) The shortest distance travelled in nautical miles. (3 marks)

ii) The time taken from P to Q in hours. (2 marks)

b) Another plane left P at 1.30 p.m local time and travelled to T (650N, 60 ^{0}E) along the parallel of latitude. Find

i) The distance between P and Q to the nearest kilometres. (3 marks)

ii) The local time of arrival at T if the plane flew at 470km/hr. (2 marks)

20. The probability that a student goes to school by a boda-boda is $\frac{2}{3}$ and by a matatu is $\frac{1}{4}$. If he uses a boda-boda the probability that he is late is $\frac{2}{5}$ and if he uses matatu the probability of being late is $\frac{3}{10}$. If he uses other means of transport the probability of being late is $\frac{3}{20}$.

a) Draw a tree diagram to represent this information. (3marks)

b) Find the probability that he will be late for school. (3marks)

c) Find the probability that he will be late for school if he does not use a matatu.

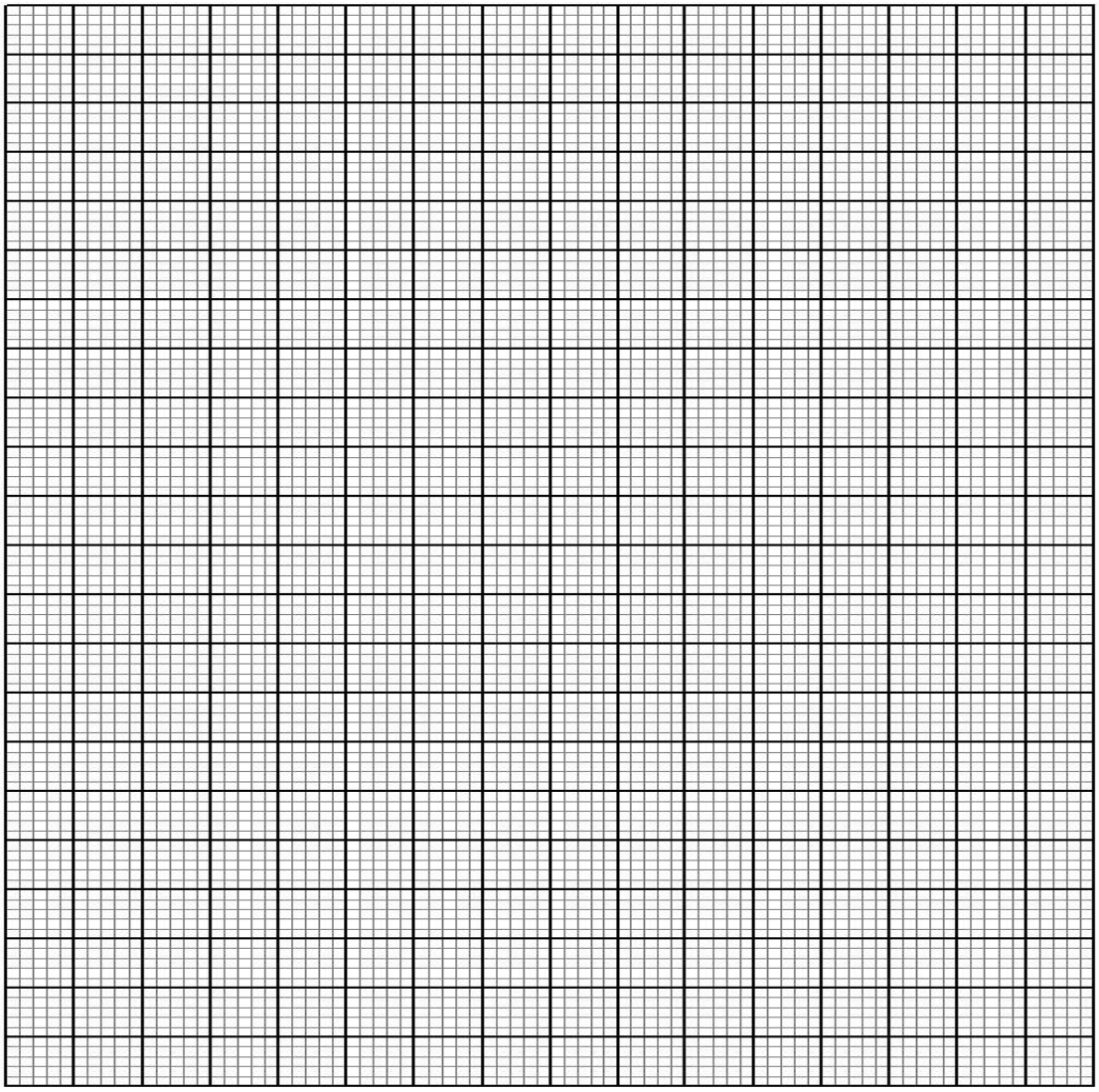
(2marks)

d) What is the probability that he will not be late to school? (2marks)

21. A farmer has 50 acres of land. He has a capital Shs. 2,400 to grow carrots and potatoes as cash crops. The cost of growing carrots is Shs.40 per acre and that of growing potatoes is Shs.60 per acre. He estimates that the respective profits per acre are Shs.30 (on carrots) and Shs. 40 (on potatoes). By letting x and y to represent the acres of carrots and potatoes respectively:-

a) Form suitable inequalities to represent this information. (4marks)

b) b) By representing this information on a graph, determine on how many acres he should grow each crop for maximum profit (4marks)



c) Find the maximum profit. (2marks)

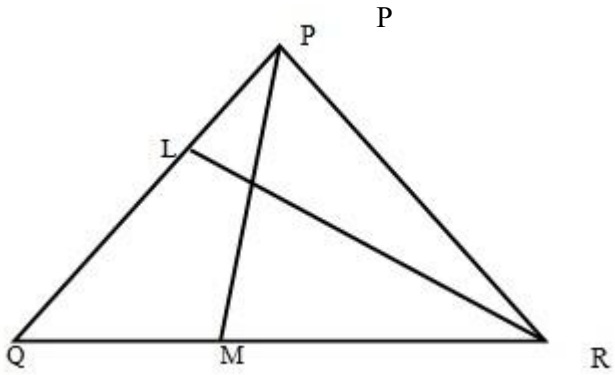
22. The 2nd and 5th terms of an arithmetic progression are 8 and 17 respectively. The 2nd, 10th and 42nd terms of the A.P. form the first three terms of a geometric progression. Find

(a) the 1st term and the common difference. (3marks)

(b) the first three terms of the G.P and the 10^{th} term of the G.P. (4marks)

(c) The sum of the first 10 terms of the G.P. (3marks)

23. 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** (1mark)

(ii) **PM** (1mark)

(iii) **RL** (1mark)

(b) By taking PX = h**PM** and RX = k**RL** where h and k are constants find two expressions of PX in terms of h, k, **b** and **c**. Hence determine the values of the constant h and k.

(6marks)

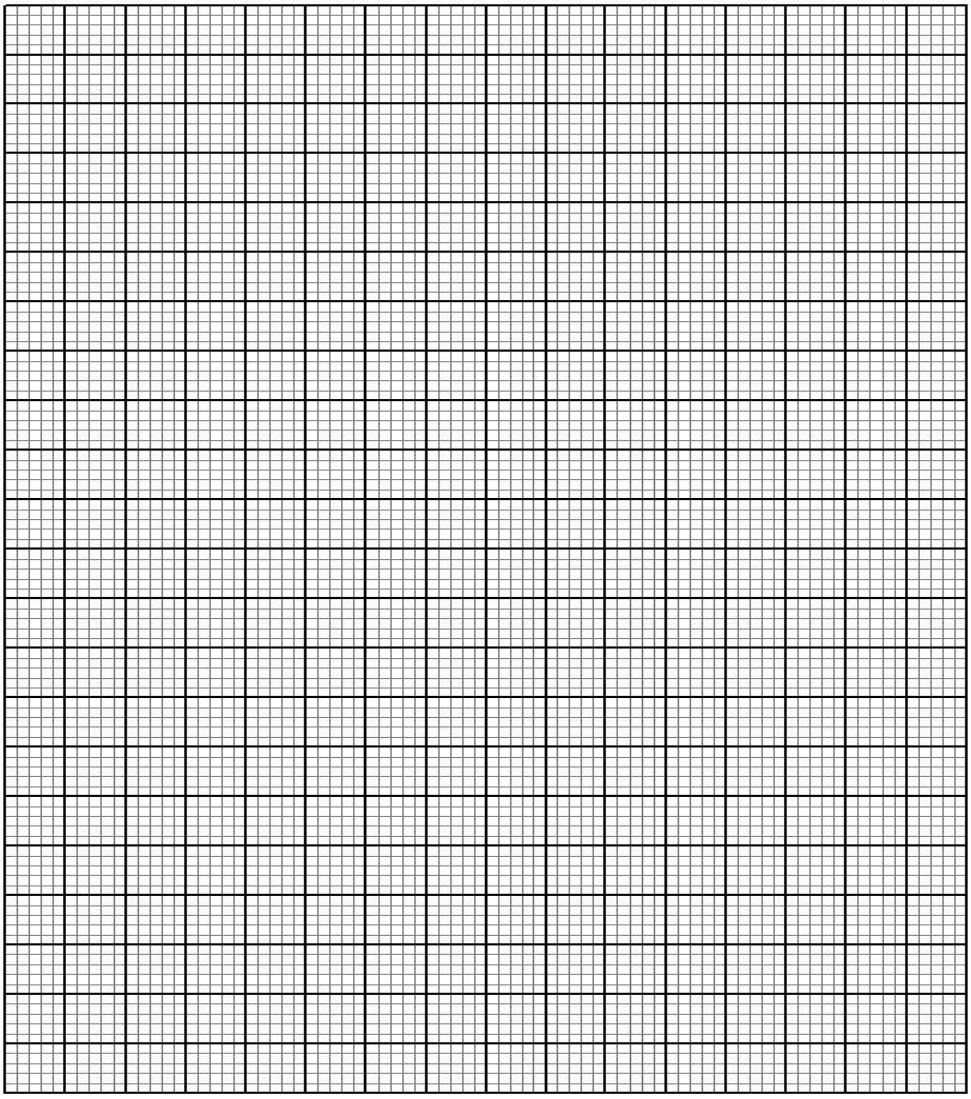
(c) Determine the ratio LX:XR (1mark)

24. Given that $y = 2\sin 2x$ and $y = 3\cos (x + 45)^o$

(a) Complete the table below. (2mks)

X	0^0	20^0	40^0	60^0	80^0	100^0	120^0	140^0	160^0	180^0
$2\sin 2x$	0		1.97		0.68	-0.68	-1.73		-1.29	0.00
$3\cos (x+ 45^0)$	2.12	1.27		-0.78		-2.46			-2.72	-2.12

(b) Use the data to draw the graphs of $y = 2 \sin 2x$ and $y = 3 \cos (x + 45^o)$ for $0^o \leq x \leq 180^o$ onthe same axes. (4marks)



a. State the amplitude and period of each curve. (2marks)

b. Use the graph to solve the equation $2 \sin 2x - 3\cos (x + 45_0) = 0$ for $0_0 \leq x \leq 180_0$

(2marks)

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

232/3

PHYSICS

CONFIDENTIAL

Question 1

- One jockey or crocodile clip
- Two new dry cells (size D)
- An ammeter 0 – 1A
- A voltimeter 0 – 5V
- A cell holder
- Switch, S
- Six connecting wires at least three crocodile clips at one end.
- A resistance wire mounted on a mm scale (SWG 28)

Question 2

- Candle wax
- Source of heat
- Stop watch
- Boiling tube
- Thermometer
- Cork with a hole or cardboard with hole
- Water
- Tripond stand
- Test Tube holder
- A candle
- Metre rule
- White screen
- Lens holder
- Convex lens of focal length 20cm

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

PREV EXAM MARKS.....TARGET.....INDEX.....

DATE.....EXAM SCORE.....SIGN.....

232/1 Time: 2Hrs.

The Kenya Certificate of Secondary Education

PHYSICS Paper 1

Instructions:

- *This paper consists of **TWO** Sections: **A** and **B**.*
- *Answer **ALL** the questions in sections **A** and **B** in the spaces provided.*
- ***ALL**__workings__**MUST** be clearly shown.*
- *Mathematical tables and electronic calculators may be used.*

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 – 10	25	
B	11	12	
	12	5	
	13	12	
	14	10	
	15	7	
	16	9	

TOTAL SCORE	**80**	

SECTION A (25 Marks)

1. The load carried by a truck loader was measured to be 65,000 grams. Convert the mass of the load into milligrams and express the answer in standard form. (2 Marks)

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2. A form one girl observed that when mercury is put into a glass it does not wet the glass. Explain the observations made by the girl. (2 Marks)

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3. In using the lift pump to raise water from a bore hole. It is observed that practically the height the water is raised cannot be 10m and more. Give two reasons for this observation. (2 Marks)

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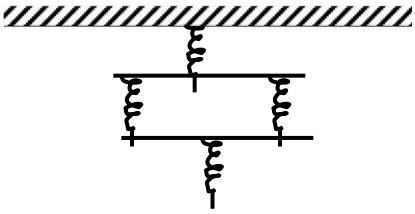
4. When a mass of 2kg is hang from a single spring, the spring extends by a distance x. Determine the total extension in the set up below. (2 marks)



2 Kg

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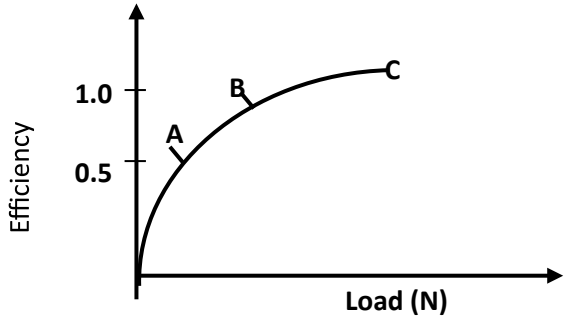
5. The sketch below shows the relationship between the efficiency and the load for a pulley system.



Explain the shape of the curve (2 Marks)

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(b) State a reason why the efficiency of a machine is always less than 100% (1 Mark)

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6. (i) Explain why bodies in circular motion undergo acceleration even when their speed is constant. (1 Mark)

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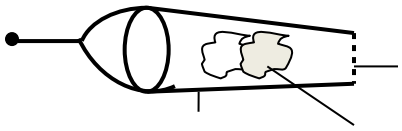
(ii) The figure below shows a container with small holes at the bottom in which wet clothes have been put.



Container Wet clothes

When the container is whirled in air at high speeds, it is observed that the clothes dry faster. Explain how the rotation of the container causes the clothes to dry faster. (2 Marks)

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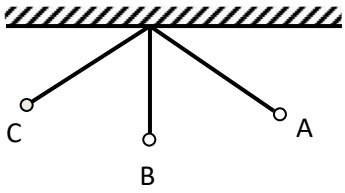
7. The diagram below shows a swinging pendulum.



(i) Which position does the bob have the:

(a) Maximum momentum (1 Mark)

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(b) Minimum kinetic energy (1 Mark)

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(ii) What basic physical quantity can be measured using a single pendulum. (1 Mark)

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8. (a) State the principle of moments (1 Mark)

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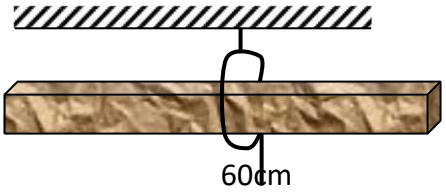
(b) A uniform 1m wooden bar with uniform cross-sectional area of 2.5cm by 2.5cm is suspended at the 60cm mark and kept balanced by hanging a mass 450g at 100cm mark.



Determine

(i) The density of the material of the metre rule (2 Marks)

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(ii) The tension T in the string (1 Mark)

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9. Explain the term sea breeze (3 Marks)

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10. State two factors which affect the rate of diffusion in gases (2 Marks)

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SECTION B – 55 Marks

Answer all the questions in this section in the spaces provided

11. (a) State two characteristics of perfectly inelastic collisions (2 Marks)

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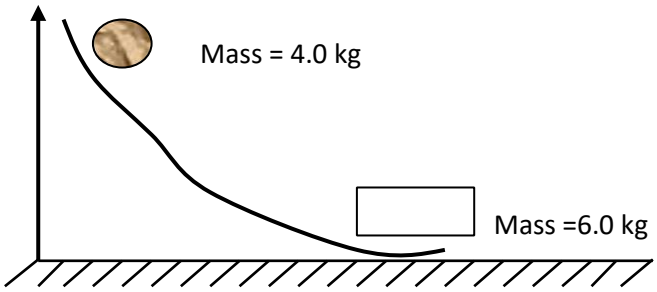
(b) A body of mass 4.0 kg held at a vertical height of 500cm is released to travel along a frictionless curved path as shown in the figure below.



The 4.0kg mass strikes body of mass 6.0kg at rest immediately it reaches the horizontal. The bodies stick together and move in the same direction. Determine the velocity of the bodies immediately after collision (4 Marks)

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…… (c)

(i) A matatu whose mass is 2500kg is lifted with a jack screw of 10mm pitch. If the handle is 30cm from the screw, find force applied (Neglect frictional force) Take $\pi = 3.14$ (3 Marks

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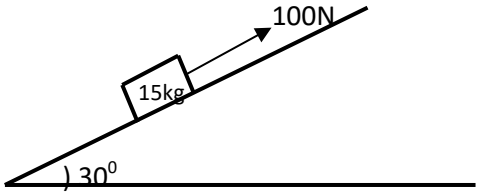
(ii) The figure below shows an inclined plane and a load of mass 15kg pulled by an effort of 100N.



Find the efficiency of the machine (3 Marks)

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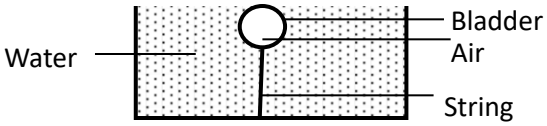
12. (a) The diagram below shows a rubber bladder filled with air and fixed to the bottom of a water

container with a string.



Explain why the tension in the string increases when the water is heated (3 Marks)

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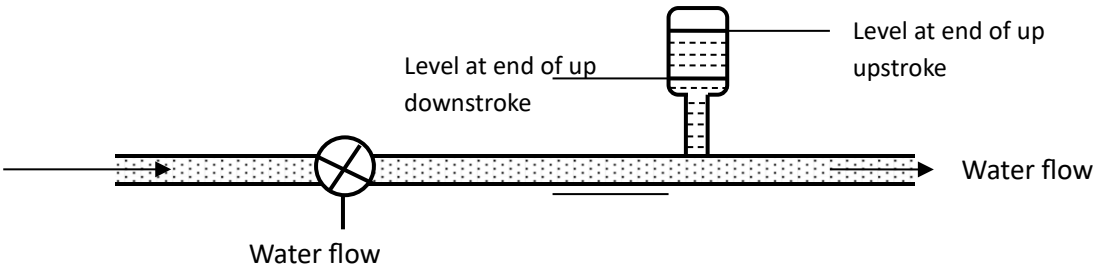
(b) The figure below shows water pump which forces water through a hydraulic system. An air chamber is used to maintain a continuous flow of water during both the upstroke and down stroke of the piston.



Explain how the continuous flow of water is maintained (2 Marks)

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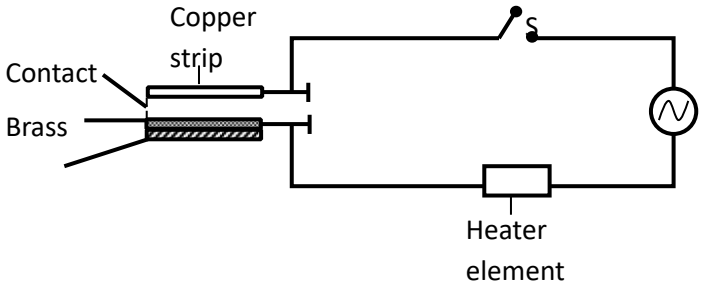
13. (a) The figure below shows a circuit diagram for a device for controlling the temperature in a room.



(i) Explain the purpose of the bimetallic strip. (2 Marks)

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(ii) Describe how the circuit controls the temperature when the switch S is closed. (3Marks)

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(b) (i) Define the term specific latent heat of vaporization of a substance (1 Mark)

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(ii) An electric kettle rated 2.5kW is used to raise the temperature of 3.0kg of water through 50^0C.

Calculate the time required to effect this (Specific heat capacity of water is 4200j/kgK) (3 Marks)

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(c) A 12.9 gram sample of unknown metal at 26.5^0C is placed in a Styrofoam cup containing 50.0 grams

of water at 88.6^0C. The water cools down and the metal warms up until thermal equilibrium is

achieved at 87.1^0C. Assuming all the heat lost by the water is gained by the metal. Determine the

specific heat capacity of the unknown metal. (Specific heat capacity of water is 4.18j/g/^{0}C) (3 Marks)

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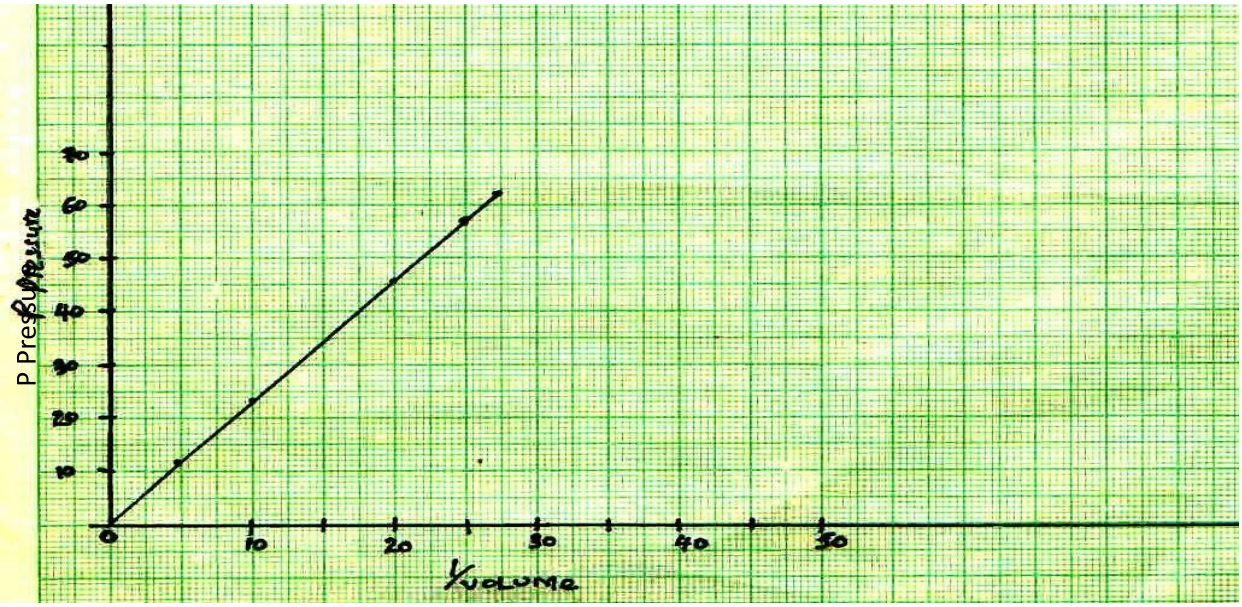
14. (a) The graph below represents the relationship between $\frac{1}{Volume}$ and pressure at constant temperature.



(i) With the aid of a labelled diagram describe the apparatus and arrangements used in getting the results used to plot the graph above. (4 Marks)

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(ii) From the graph state the law under investigation. (3Mark

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(iii) State and explain how the graph can be used to verify the law stated in (ii) (3 Marks)

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15. (a) State what is meant by streamline flow (1 Mark)

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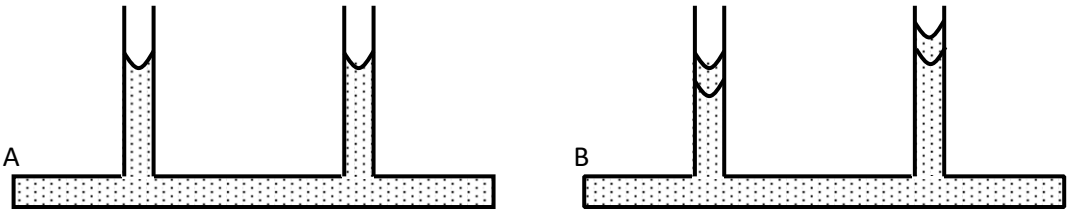
(b) The figure shows the cross section of an aeroplane wing, with the aeroplane moving in the direction shown by the arrow.

Sketch streamlines to show how air flows past the wing as the aeroplane moves (1 Mark)

(c) The diagram below shows two horizontal pipes, A and B. Tube A contains liquid at rest while tube B contains liquid in motion.



(a) Liquid at rest (b) Liquid at motion

(i) Sketch graphs for (a) and (b) to show variation in pressure (2 Marks)

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(d) A jet of water emerges from a hose pipe of cross-sectional area 5.0 x $10^{-3}m^2$ with a velocity of

3.0ms^{-1}. The water strikes a wall at a right angle and comes to rest without rebounding. Determine the mass of water striking the wall per second (Density of water is 1000 kgm^{-3}

(3Marks)

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16. (a) Explain how a hydrometer may be used to test whether a car battery is fully charged (2 Marks)

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(b) A submarine made of iron was observed to float in water while a piece of iron rod sinks in water.

Explain this observation (2 Marks)

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(c) A solid displaces 5.0cm3 of paraffin when floating and 20cm3 when fully immersed in it. Given that the density of paraffin is 0.8g/cm3. Calculate the density of the solid (4 Marks)

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(d) Define the term relative density as used in liquids (1 Mark)

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MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME……ADM……

PREV EXAM MARKS……TARGET……INDEX……

DATE……EXAM SCORE……SIGN……

232/2

PHYSICS PAPER 2

TIME:2 Hours

Kenya Certificate of Secondary Education Physics Paper 2

INSTRUCTION TO CANDIDATES.

. Write your ***name*** and ***admission number*** in the spaces provided above .
This paper contain ***two sections***; Section I and Section II.

. Answer all the questions in section **I** and II. In the spaces provided

. All workings and answers **must** be written on the question paper in the spaces provided below each question.

. Marks may be given for correct working even if the answer is wrong.

. Calculators and KNEC Mathematical tables may be used EXCEPT where stated otherwise.

. Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1-13	25	
B	14	10	
	15	10	
	16	08	
	17	09	
	18	10	
	19	08	
	TOTAL	80	

SECTION A 25 MKS

1. Give a reason when light strikes a mirror at 90^0, it is reflected along the same path (1 mark)

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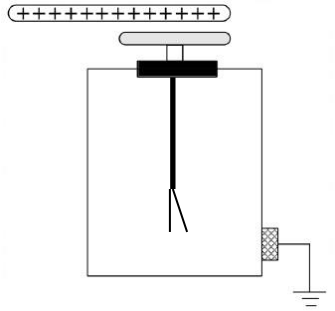
2. The figure below shows an electroscope that is being charged.



If the final charge on an electroscope is positive

a) State the method of charging that produces the above electroscope to be positively charged (1 mark)

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b) Explain how the final charge was acquired (2 marks)

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3. Give the formula relating to the Emf of a cell, the internal resistance, r, and the terminal voltage, V and the current, I in a closed circuit (1 mark)

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4. Give a reason why parabolic reflectors are used as car headlight lamps. (1 mark)

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5. A current of 2A flows through a conductor for 2.5minutes. If the electronic charge is 1.6×10^{-19} C, calculate the number of electrons involved. (3marks)

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6. Give one reason why Ultra sound is used in pulse echo techniques in determining the depth of the sea. (1 mark)

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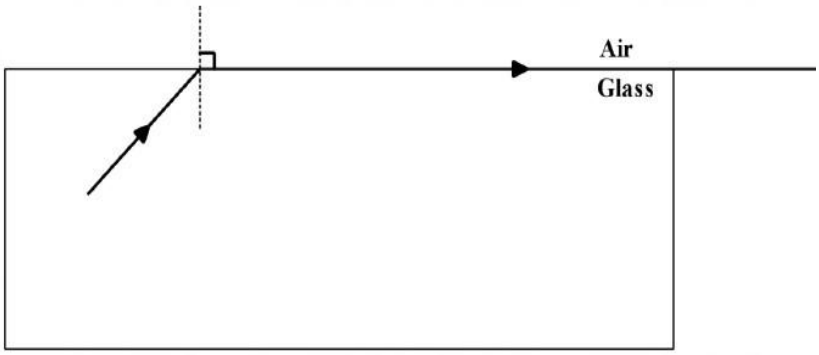
7. The figure below is drawn to scale. Use this information on the figure to answer the questions that follow;



Determine the refractive index of the glass material. (2 marks)

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8. a) i) What is a virtual image? (1 mark)

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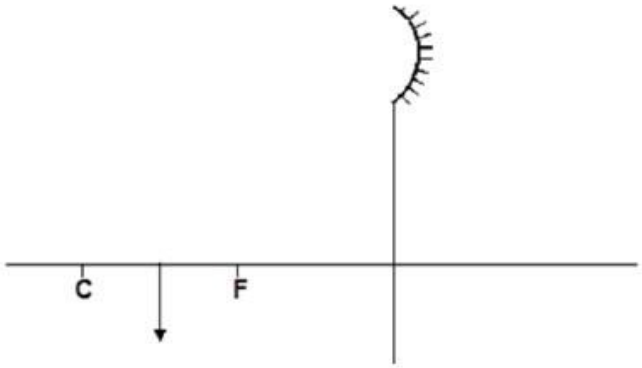
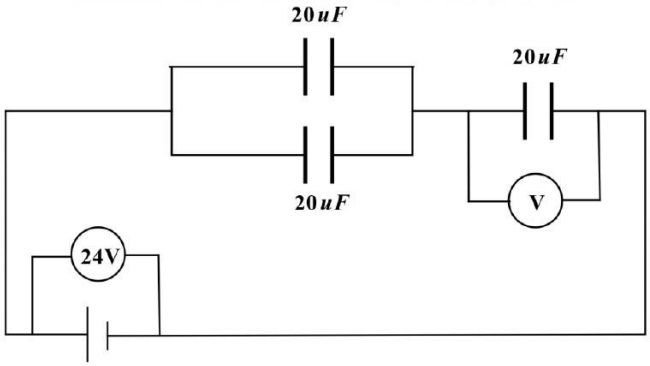
ii) Complete the ray diagram in figure 3 below so as to form an image. (3 marks)



9. Three capacitors of capacitance 20µF are arranged as shown below. Find the Reading on the voltmeter across the 20µF shown in the following diagram. (3 marks)



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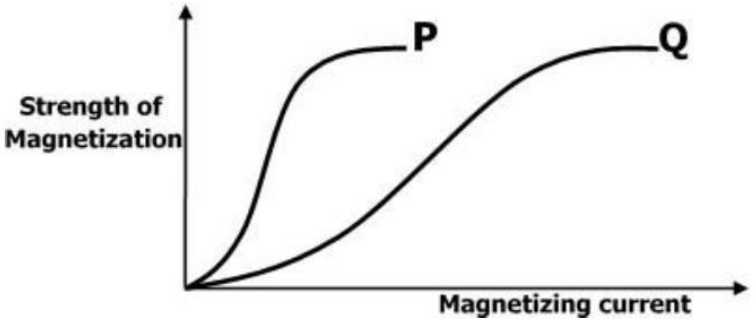
10. In an experiment to magnetize two substances P and Q using electric current, two curves were obtained as shown below. State with a reason which substance will be used as an armature in an electric bell. (2 marks)



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11. State the function Argon and Nitrogen in a fluorescent lamp. (1 mark)

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12. Distinguish between thermionic emission and photoelectric effect. (1mark)

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13. The following is part of a radioactive decay series. $^{234}_{83}Bi \xrightarrow{\beta} {}^{a}_{84}X \xrightarrow{\propto} {}^{230}_{b}Y$

Determine the values of a and b (2mark)

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SECTION B

14. a) Explain in terms of flow of electric charges why a thin wire feels warmer than copper leads in the same current (1 mark)

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b) i) State the main energy changes that take place in a filament lamp (1 mark)

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ii) Name any two factors affecting the heating effect of an electric current (2 marks)

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iii) Give a reason why tungsten wire is used in a filament bulb. (1 mark)

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c) A light bulb is found to have a resistance of 950Ω. When operating normally on a 240V mains.

Calculate

i) Power rating of the Bulb (2 marks)

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ii)Electric energy converted to heat and light when the bulb operates for 2 hours (3 marks)

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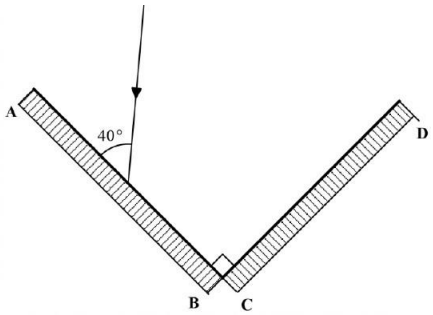
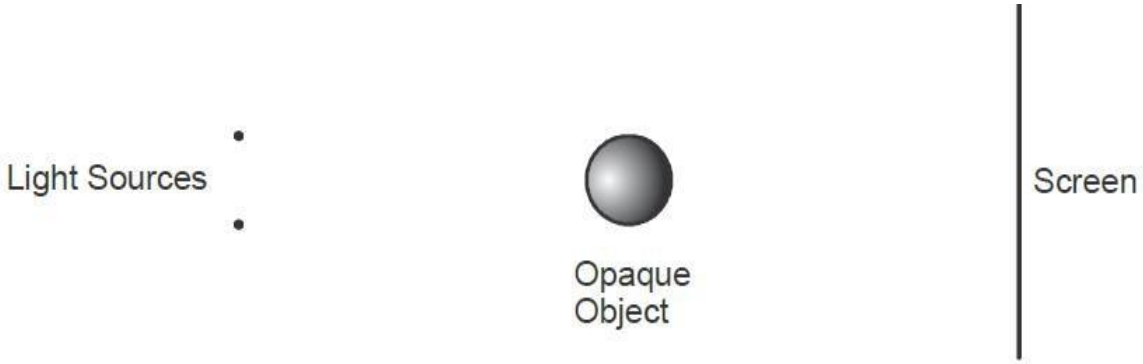
15. (a) The mirror AB and CD are at right angles to each other.



Complete the diagram to show the path taken by the ray PQ after reflection at both mirrors. (2 marks)

(b) The figure below shows two point sources of light with an opaque object placed between them and the screen.



Complete the diagram to show the nature of the shadows formed. Label the shadows. (2 marks)

c) State the changes that would occur in the size and brightness of the image formed if:

i. The object distance is made large (1 mark)

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ii. The length of the camera is made longer (1 mark)

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iii. The single hole is replaced by four pinholes close together (1 mark)

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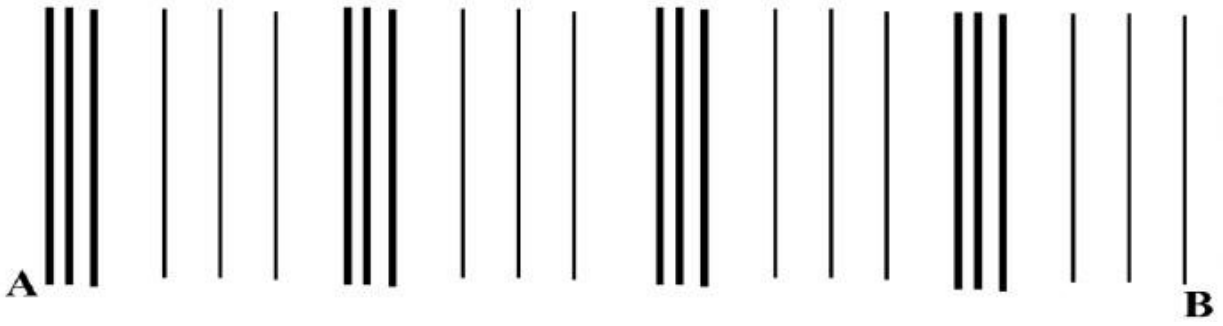
d) The diagram below shows sound waves passing through air. Study it and answer the questions that follow.



Label the following (3 marks) i.

Compression ii. Rarefaction iii. Wavelength

16. a) State the functions of carbon brushes in an electric motor. (1 mark)

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b). Why are carbon brushes and commutators made of graphite in an electric motor? (1 mark)

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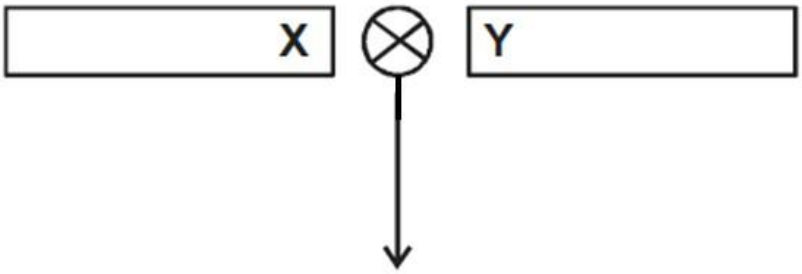
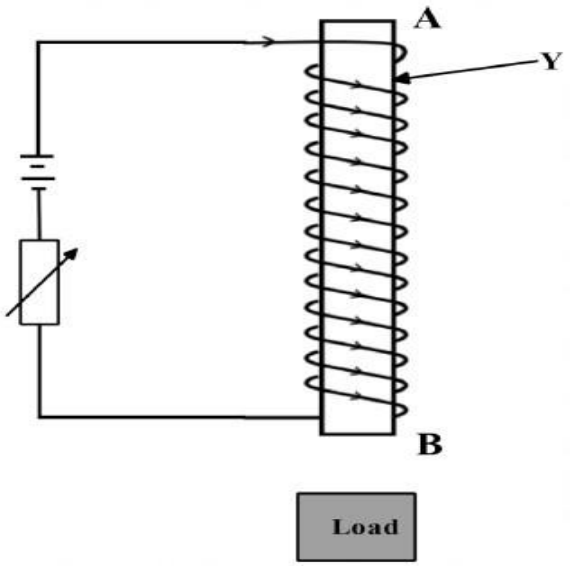
c) The figure below shows a conductor carrying current placed in the magnetic field and moves in the direction shown



Identify the polarity of end X. (1 mark)

X – ……

d) The figure below shows a simple electro magnet for lifting heavier container loads in the kilindini port in Mombasa city in Kenya.



i) Which material is Y made from? Explain why it is a preferred choice for its use in the above diagram? (2 marks)

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…… ii)

State the polarity of B (1 mark)

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iii) Explain one way in which the electromagnet can be made more powerful (1 mark)

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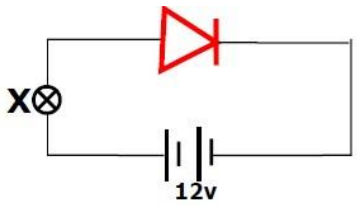
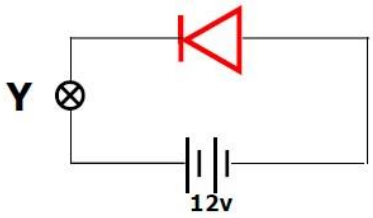
(e) In an experiment on use of semiconductor diodes, it was noted that bulb X in figure below lights while bulb Y does not. Explain. (1mark)





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17. a) State the properties of X-rays, which makes it possible to detect cracks in bones. (1mark)

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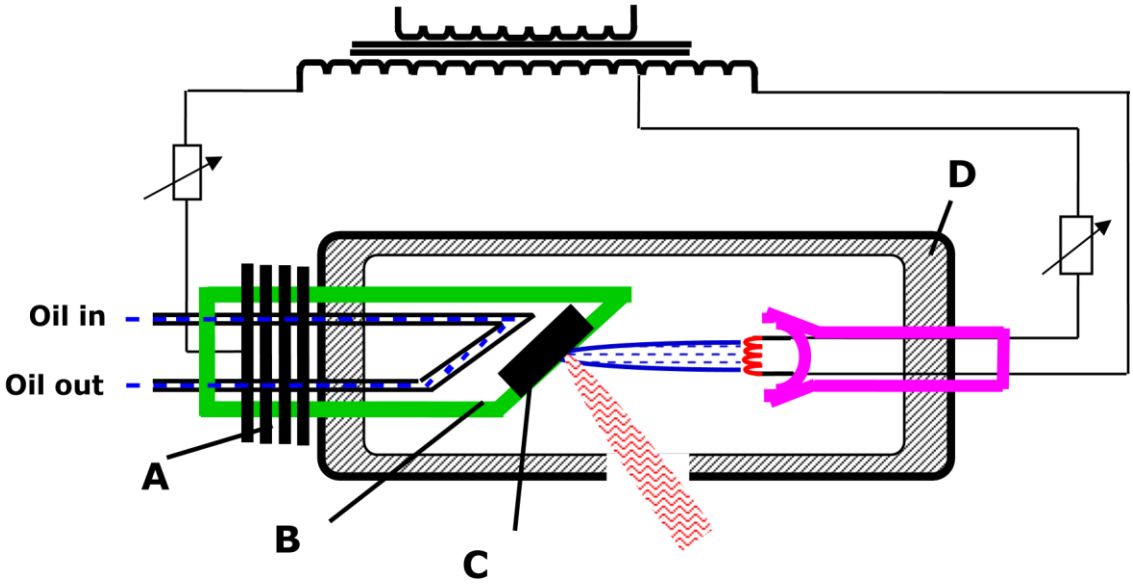
b) Figure below shows the features of an X-ray tube.



i) Name the parts marked with letters A and B (1mark)

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ii) State and explain which material is suitable for part C. (1mark)

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iii) State the reason why the machine should be surrounded by D. (1mark)

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iv) State one way in which cooling is achieved in this X-ray machine. (1mark)

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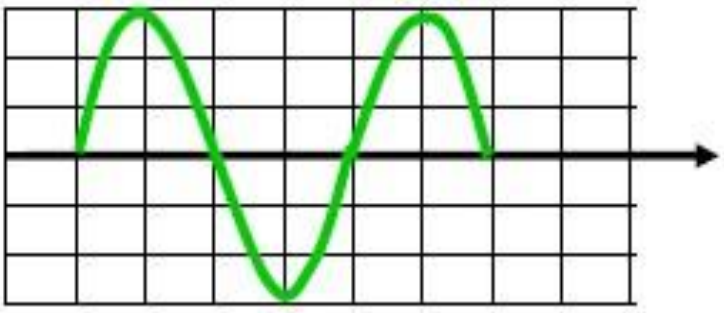
c) The figure below shows the trace on the screen of an a.c signal connected to the y-plates of C.R.O with time base on.



Given that the time control is 5ms/div, and the y-again is at 100V/div, determine:

i) The frequency of the a.c signal. (2marks)

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ii) The peak voltage of the input signal (2marks)

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18. a) (i) Name one type of electromagnetic radiation whose frequency is greater than that of visible light but less than that of gamma rays. (1mark)

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(ii) Arrange the following in order of increasing frequencies: Red, Green, Yellow, Blue. (1mark)

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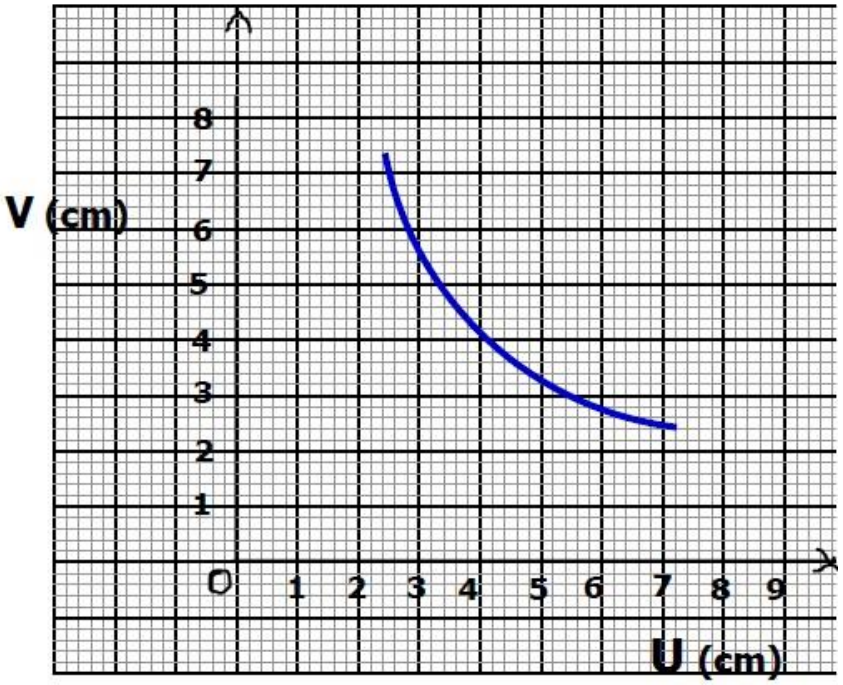
b) The figure below shows an object placed in front of a convex lens.



i) On the same figure indicate a point X where the object distance is equal to the image distance of the lens. (1 mark)

Use the point X in (a) above to determine;

ii) The radius of curvature (2 marks

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iii) Focal length of the lens (1 mark)

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iv) Calculate the magnification of the mirror at point X from the graph (1 mark)

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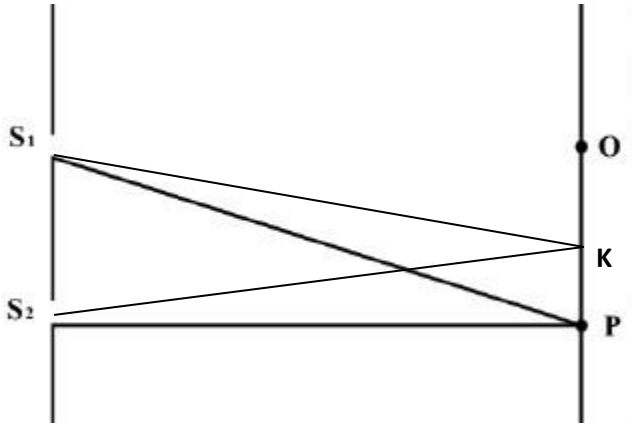
c) The figure below shows the waves starting from two coherent sources S_1 and S_2



What would be observed at K if the waves are;

(i) light waves. (1 mark)

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(ii) Sound waves. (1 mark)

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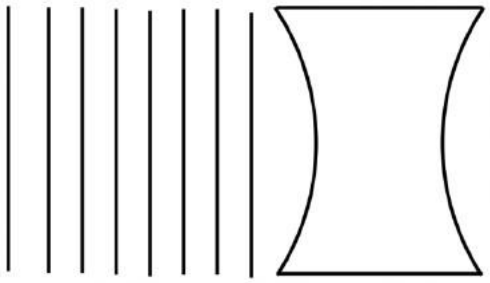
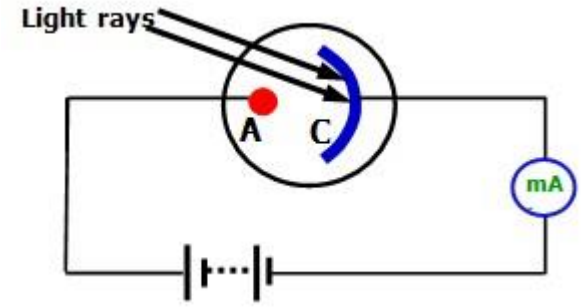
c) Complete how the wave fronts emerge from the concave lens below. (1 mark)



Deep shallow Deep

19. a) The figure below shows a circuit diagram for a photocell.



i) Name the part labeled A (1mark)

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ii) Why is the milliammeter showing a deflection when ultraviolet light is shown on the photocell? (1mark)

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iii) State how the milliameter reading is affected when the intensity of light is increased.

(1mark)

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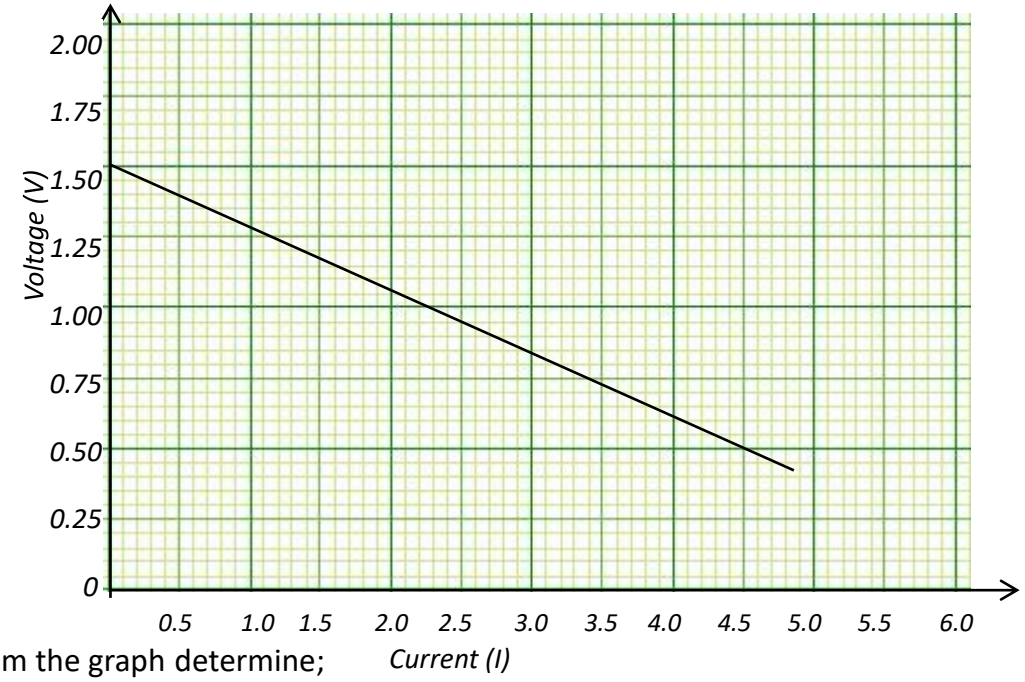
(b) The graph below shows the relationship between the emf (E) and the current I flowing through a cell of internal resistance, r.



From the graph determine;

i) Emf of the cell (1 mark)

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ii) the internal resistance r of the cell (2 marks)

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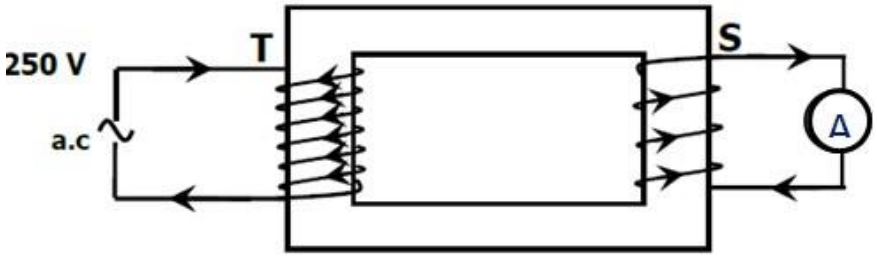
(c) Two coils T and S are wound on a soft iron core as shown. T has 1000 turns while S has 600 turns and resistance of 100Ω



Calculate the maximum current measured by the ammeter. (2marks)

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THIS IS THE LAST PRINTED PAGE

MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

MOCK EXAMINATIONS 2024

NAME.....ADM.....

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DATE.....EXAM SCORE.....SIGN.....

232/3

PHYSICS PRACTICAL PAPER 3

1

TIME: 2 HRS

2

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

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	20	
2	20	
TOTAL	40	

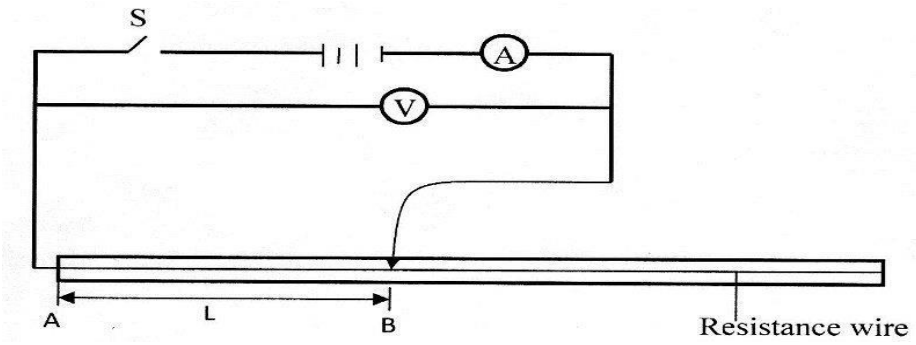
This paper consists of 6 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing

Question 1

1. You are provided with the following
   One jockey or crocodile
   Two new dry cells (Size D)
   An ammeter 0 – 1A
   A voltimeter 0 – 5V
   A cell holder
   Switch, S
   Six connecting wires at least three with crocodile clips at on end A resistance wire mounted on a mm scale.

Proceed as follows

a) Set up the circuit as shown in the figure below.



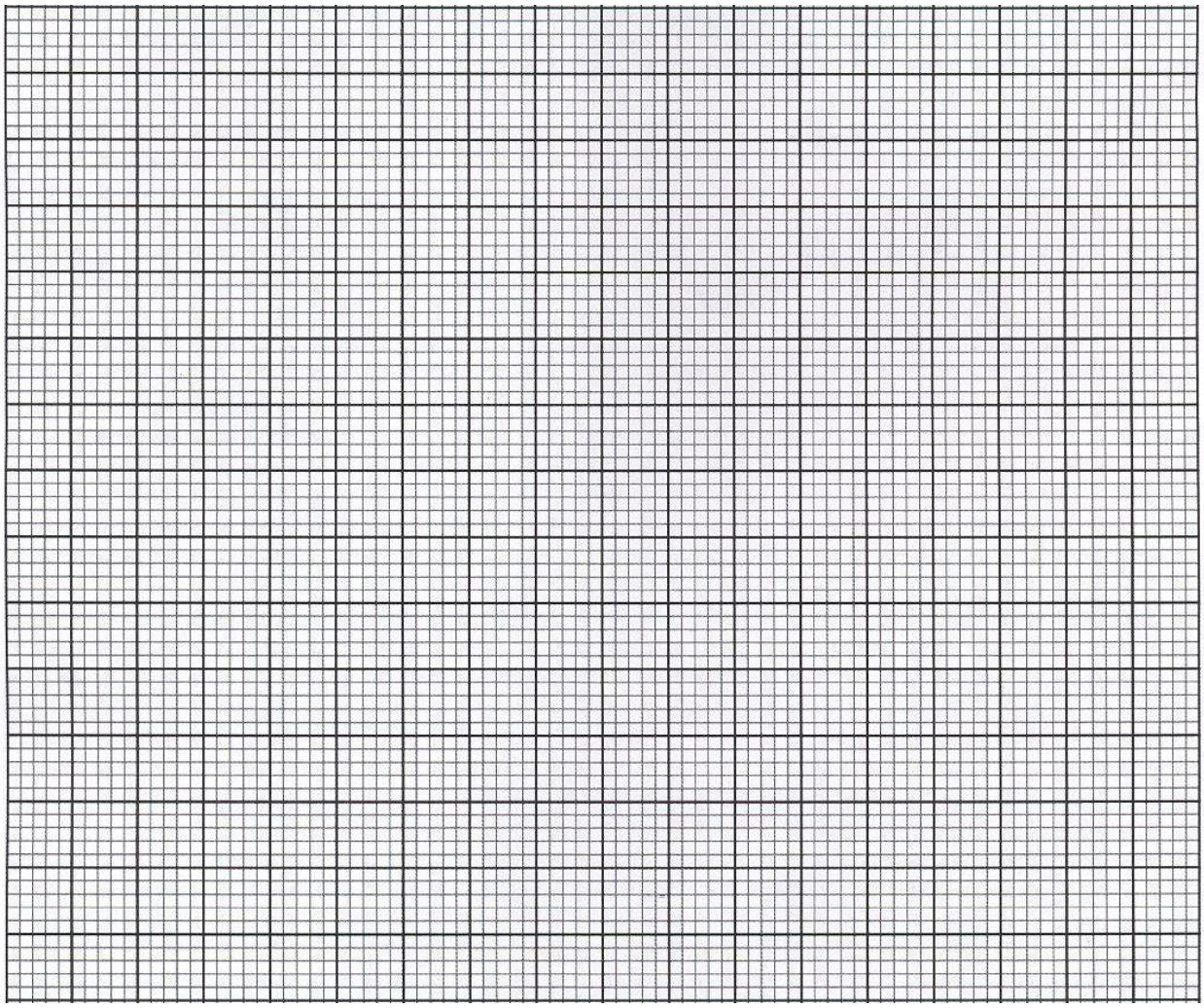
b) Using a micrometer screw guage, measure the diameter d, of the nichrome wire.
   d = ...mm ($^1/_2$mk) d
   = ...mm ($^1/_2$mk)

c) Close the switch and place the jockey/crocodile in contact with the resistance wire such that the length, L of the wire = 0.10m. Measure and record the current, I, through the wire AB and the potential difference, pd, (V) across. Record your results in table 1 below

L (m)	0.1	0.3	0.5	0.7	0.9
p.d (v)					
I (A)					
R = $^v/_I$ (Ω)					
1/I (A^{-1})					

d) Repeat procedure (b) above for the other values of L given in the table 1 above. Read and record corresponding values of I and v in table 1 above

e) Plot a graph of $^{1}/_{I}$ against R (5 mks)



f) Determine the slopes S of your graph (3 mks)

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g) Given that $^{1} = \_^{R} + ^{r}$ determine the value of $I \quad E \quad E$

(i) E (3 mks)

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(ii) r (2 mks)

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QUESTION 2

PART A

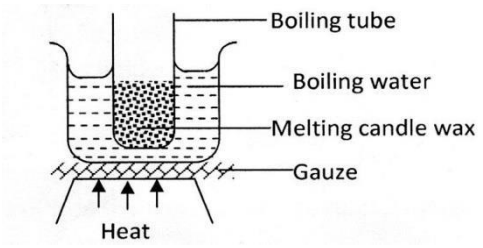
You are provided with the

Candle wax
Source of heat
Stop watch
Boiling tube
Thermometer
Cork with a hole or cardboard with hole
Water
Tripod stand
Tube holder

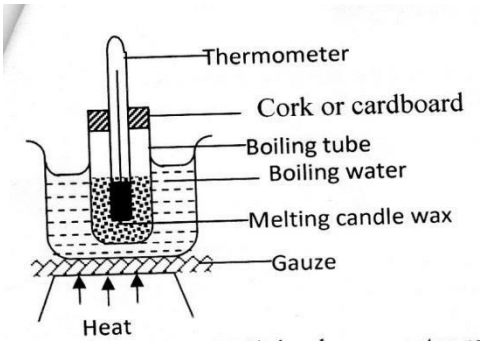
Proceed as follows:

(i) Heat the water in the beaker until it starts to boil

(ii) Place some candle wax in the boiling tube and heat the wax indirectly using the boiling water in beaker as shown in the figure below.



When the wax completely melted, continue heating for about two minutes. Meanwhile insert the thermometer in the boiling tube through the hole or cardboard. Adjust the thermometer until the bulb of the thermometer is completely immersed in melted wax.



Continue heating until the thermometer records no further change in temperature. This the maximum temperature reached. Record this temperature as $T_{max.}$

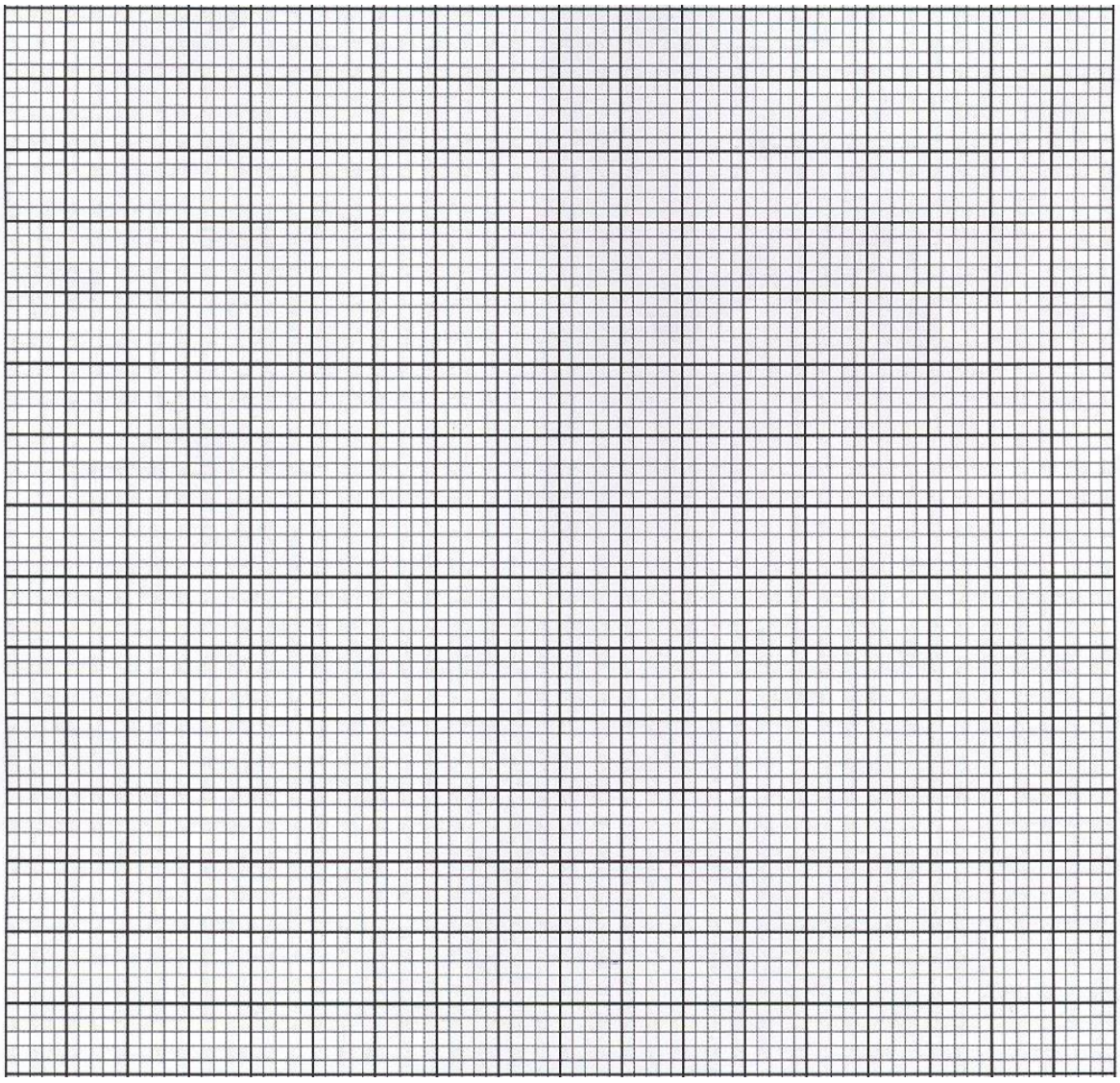
T_{max} = ... ^0C

(iii) Now remove the boiling tube from the boiling water and simultaneously start the stop watch. Record the temperature of the cooling wax at intervals of two minutes. Record and complete Table 2 below.

(5 mks)

Time (min)	0	2	4	6	8	10	12
Temperature (^0C)							

(iv) In the axis below plot a graph of temperature, ^0C against time, t (5 mks



(v) Determine the rate of cooling at t= 5 min. (3 mks)

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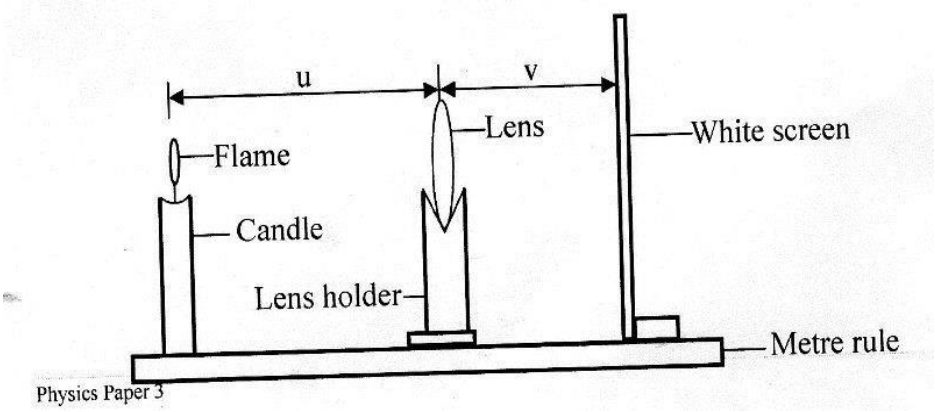
PART B

2. You are provided with the following:
   - A candle
   - Metre rule
   - White screen
   - Lens holder

Convex lens

Proceed as follows:

a) Place the lens on a metre rule. Arrange the set up as shown in the figure below.



b) Adjust the position of the lens so that it is a distance u = 30cm from the candle. Adjust the position of the screen until a well focused image of the flame is formed on the screen. Measure and record in the table 2, the image distance v, between the screen and lens.

c) Repeat part (b) for other values of (u) shown in the table 3 and complete the table.

u (cm)	30	35	40
v (cm)			
$x = \frac{v}{u}$			
$y = \frac{v}{(x+1)(cm)}$			

Determine the mean value of y (2 mks)

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