FRM 3 MIDTERM 2 EXAM

ALL SUBJECTS

SERIES 2

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KENYA EDUCATORS CONSULTANCY

KENYA CERTIFICATE OF SECONDARY EDUCATION

AGRICULTURE PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

Write your name and admission number in the spaces provided above.
Sign and write the date of examination in the spaces provided above.
*This paper consists of **THREE** Sections A, **B** and **C**.*
*Answer all questions in Section A and **B** and any **Two** in Section **C**.*
All answers must be written in the spaces provided.

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum Score	Candidate Score
A	1 – 18	30	
B	19 – 21	20	
C	22 - 24	40	
	Total Score	**90**	

Agriculture Paper 1   *Turnover*

SECTION A: (30 MARKS) Answer all the questions in the spaces provided:

1. Define the following terms as used in horticultural production.   (1mk)
    (a)   Pomoculture

    _____

    _____

    (b)   Olericulture.

    _____

    _____

2. State **four** benefits of optimum temperature in crop production.   (2mks)

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3. Outline **three** harmful effects of poor soil aeration to the growth of crops.   (1½mks)

    _____

    _____

    _____

4. State **two** conditions that necessitate clearing of land.   (2mks)

    _____

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    _____

5. State **four** features that should be considered when choosing water pipes for use on the farm. (2mks)

    _____

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6.   State **two** methods of sub-surface drainage methods.   (1mk)

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7.   State **four** characteristics of a productive soil.   (2mks)

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8.   Give the meaning of the following terms:
      (a)   Nitrogen fixation into the soil.   (1mk)

      _____

      _____

      _____

      (b)   Phosphorous fixation in loss of soil fertility.   (1mk)

      _____

      _____

      _____

9.   Calculate the amount of P_2O_5 in 300kg of a compound fertilizer 25: 10: 5.   (2mks)

10. State **two** reasons for chitting potato setts. (1mk)

_____

_____

_____

11. (a) Name **two** field management practices that are carried out to obtain optimum plant population in a crop field. (1mk)

_____

(b) Explain how each of the practices named in (a) above achieves optimum plant population. (1mk)

_____

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12. Give **four** advantages of staking tomatoes. (2mks)

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13. Give **four** reasons for settlement and resettlement. (2mks)

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14. State **two** conditions when opportunity costs are zero   (2mks)

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15. Define the term "Economic Injury Level" of a crop.   (1 mark)

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16. State four management practices in a vegetable nursery   (2 marks)

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17. Give **two** roles of agriculture in industrial growth   (1mks)

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18. Name a chemical used to achieve the following during water treatment.
    (a)Coagulation of solid particles   (½mark)

…………………………………………………………………………   (½mark)
    (b)Softening of water

……………………………………………………………………..

    (c)Killing pathogens   (½mark)

……………………………………………………………………..

SECTION B: (20 MARKS)

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

19. **Below** is a diagram of a young orange tree.
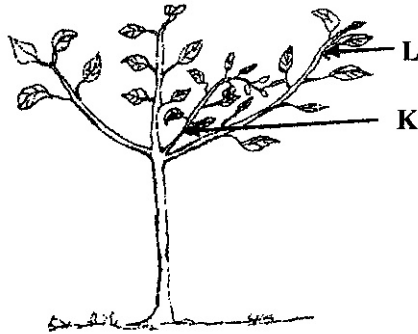
(i)   Which one of the branches labeled **K** and **L** should be pruned?   (1mk)

_____

_____

(ii) Give **three** reasons for your answer in (a)(i) above.   (3mks)

_____

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_____

_____

(iii) Name the **correct** tool for pruning the branch.   (1mk)

_____

20. Study the following field practice
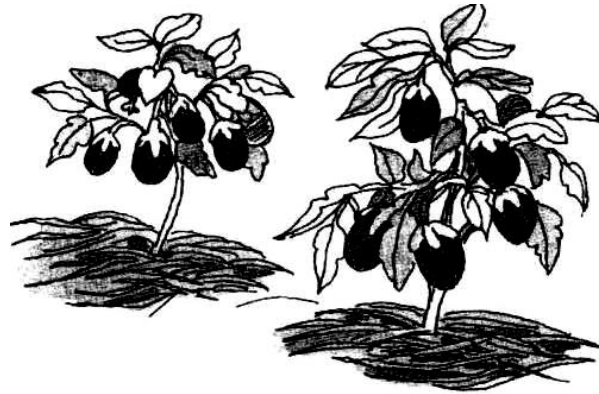
a) Identify the practice carried out in the above diagram. (1marks)

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(b)Give five reasons for carrying out the above practice. (5marks)

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(c)Give four limitations of the above practice. (4marks)

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21.   The diagram **below** illustrates the soil from the surface downwards. Study it and answer the questions that follow.
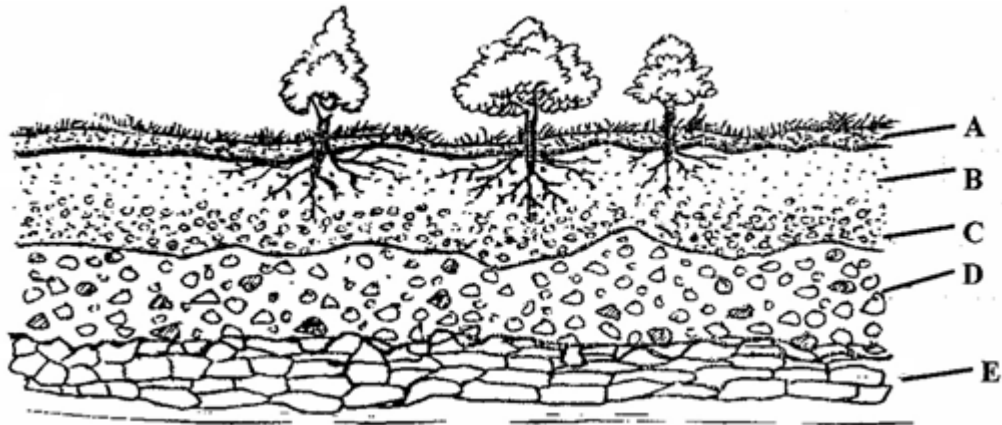
(a)   Identify the structure illustrated.   (½mk)

_____

(b)   Name the parts labeled **A** – **E**.   (2½mks)

A _____

B _____

C _____

D _____

E _____

(c)   Outline **four** ways through which the above illustration influence crop production.(2mks)

_____

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22.   (a)   Outline **five** ways in which wind affects agricultural production.   (5mks)

    (a)   Give the practices that a farmer should carry out to ensure uniform
        germination of seeds.   (5mks)

    c)   Explain any **five** factors considered when spacing crops.   (10mks)

23.(a) Outlines six benefits of practicing minimum tillage.   (6mks)

  (b) Give the **main** reasons for practicing crop rotation.   (6mks)

  (c) Outlines the **benefits** of primary cultivation.   (4mks)

  (d) Outline **four** importance of organic matter in the soil.   (4mks)

24.   (a)   Outline **five** reasons for keeping breeding records on the farm.   (5mks)

    (b)   Discuss the importance of drainage.   (5mks)

    (c)State and explain five biotic factors influencing agriculture.   (10mks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

AGRICULTURE PAPER 2 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

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

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

- *This paper consists of **THREE** Sections **A**, **B** and **C**.*

- *Answer all questions in Section **A** and **B** and any **Two** in Section **C**.*

- *All answers must be written in the spaces provided.*

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum Score	Candidate Score
A	1 – 18	30	
B	19 – 21	20	
C	22 - 24	40	
	Total Score	**90**	

Agriculture Paper 2
    Turnover

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SECTION A: (30 MARKS) Answer all the questions in the spaces provided:

1. Name **four** methods of dehorning in cattle   (2mks)

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2. State the function of the following parts of a poultry digestive system   (1mk)

    Crop-

…………………………………………………………………………………………….

    Gizzard-

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

3. State **two** functions of protein in animal nutrition   (1mk)

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4. Name four bacterial diseases   2mks

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5. Name two meat breeds of goat   1mk

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6. Give four characteristics of a large white breed of pig   (2mk)

……..

……..

7. State **four** ways of restraining cattle during routine management   (2mks)

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8. What is meant by the following terms as used in livestock health?

(a) Incubation period   (1mk)

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....

(b) Mortality rate   (1mk)

....

9. Define the following terms as used in livestock rearing   2mks

    a) Pullet…………………………………………………………………………………

    b) Cockerel…………………………………………………………………………………

    c) Piglet…………………………………………………………………………...………

    d) Sow…………………………………………………………………………………

10. What is creep feeding?   (2mks)

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11.State two meat breeds of sheep   1mk

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....

12. Give microbial activities that takes place in the rumen   2mks

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13. (a) State 2 functions of cobalt in animal's body   1mk

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(b)Name two classes of feedstuff   1mk

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14. Give 4 mechanical method of tick control   2mks

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15. State four structural requirements of a pig house   2mks

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16. State 4 disadvantages of using spray race over cattle dip   2mks

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17. Give the uses of the following farm tools and equipment   2mks

i) strip cup

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ii) milk strainer

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Iii) Hacksaw

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iv) Centre punch

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SECTION B: (20 MARKS) Answer all the questions in this section in the spaces provided:
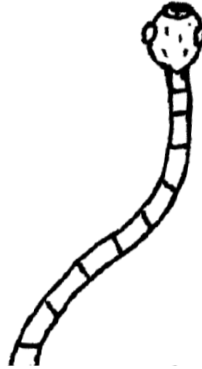
18. Diagram **G**, **H** and **J** illustrates some livestock parasites
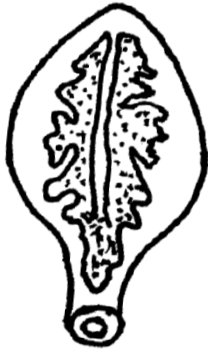
G   H   J

(a) Identify parasites **G,H** and **J**   (3 mks)

G……………………………………………………………………………………….…….

H……………………………………………………………………………………….…….…

J…………………………….....………………………………………………...............................

(b) Name the parts of the host body where parasites **G** and **J** are found   (1mk)

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

(c) Name the intermediate host of parasites **G** and **J**   (2mks)

G……………………………………………………………………………………………...

J……………………………………………………………………………………………...

(d) Outline **four** symptoms of attack in livestock by parasite J   (2mks)

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19. The diagram below illustrates a person inspecting a dairy cow in a show Study it carefully and answer the questions
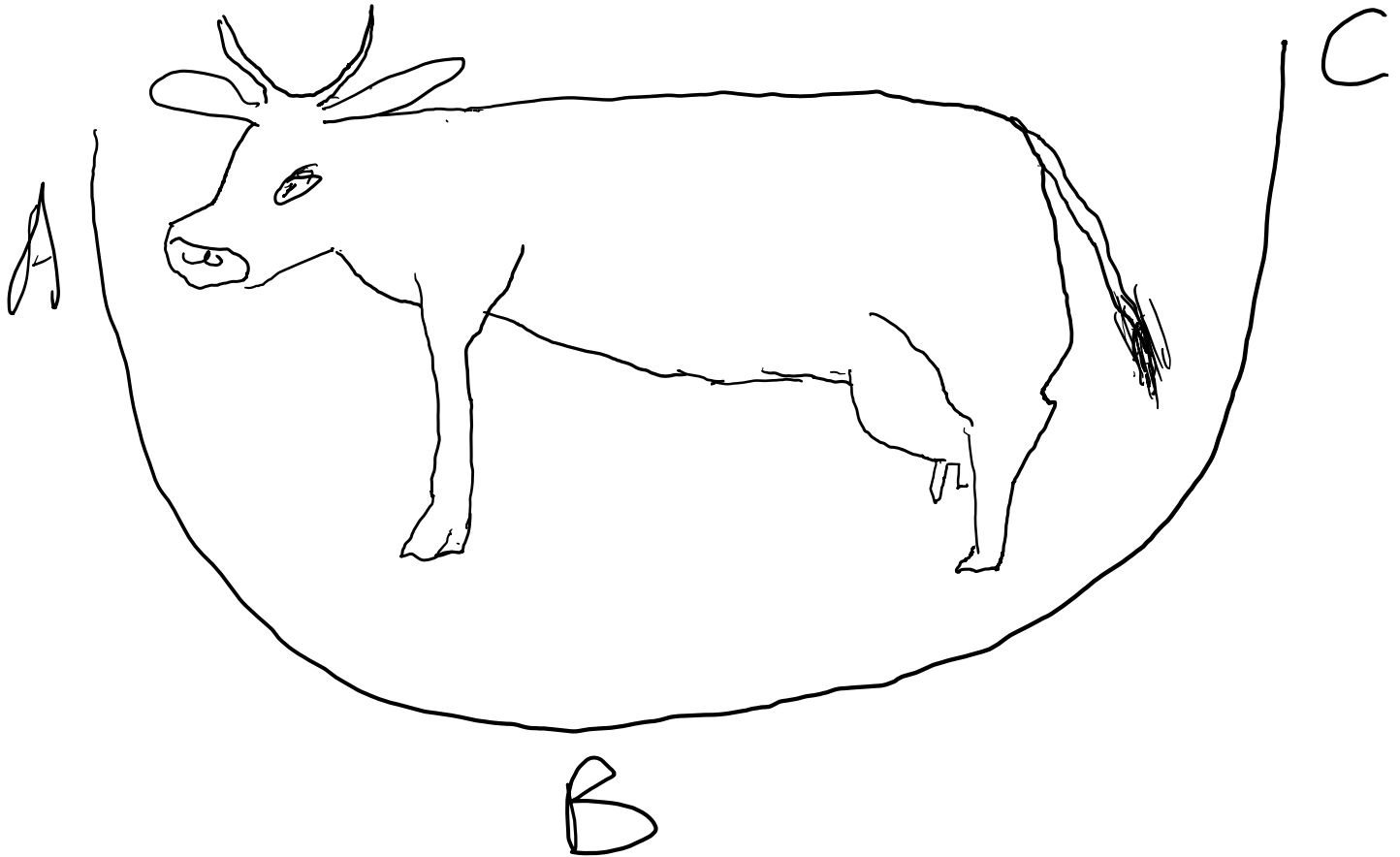
a) State two ideal features in each place that would be observed if the person was standing at

    i.   A   (1mk)

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………..

………..

    ii.   B   (1mk)

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iii.   C   (1mk)

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b) Mark on the diagram with X and Y are you likely to observe the following types of ticks   (2 mks)
   i.   X
   ii.   Y

20. Study the diagrams of workshop tools shown below
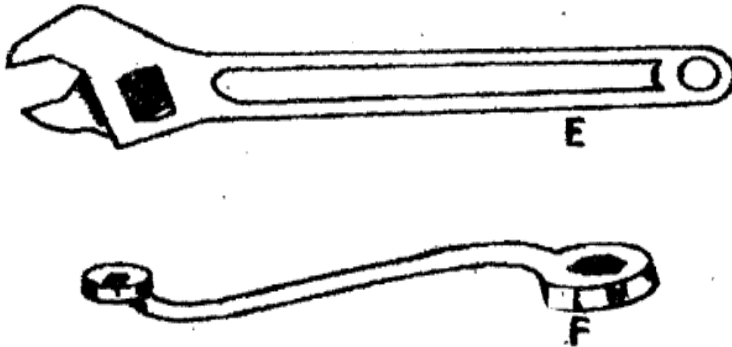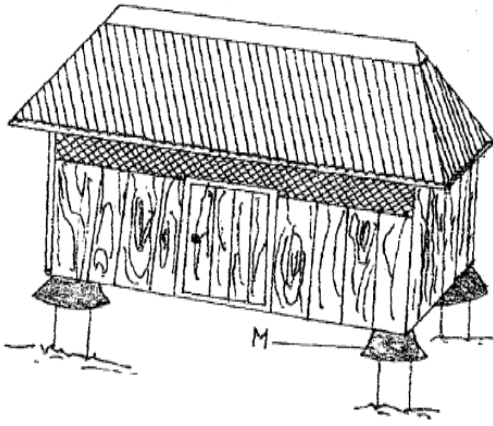

(a) Identify the tools labeled **E** and **F**   (2mks)

E...

F...

(b) What functional advantage does tool **E** have over tool **F?**   (1mk)

....

....

(c) Below is a diagram of a farm structure for storing grains. Study it carefully and answer the question that follows

    i.   State the function of the part labeled **M**   (1mk)

....

....

   ii.   State **two** maintenance practices that should be carried out on the farm structure illustrated above in readiness for grain storage   2mks

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....

  iii.   Give one disadvantage of the structure above   (1mk)

....

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SECTION C: (40 MARKS) Answer any two questions from this section Either 22,23 or 24.

22(a) i) Describe seven signs of ill-health in livestock   7mks

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(ii) Outline five uses of a crush in livestock rearing   5mks

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(iii) Describe the life cycle of a three-host tick   (8mks)

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23. (a) Describe the procedure of processing honey (8mks)

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(b) Outline four harmful effects of lice in livestock (4mks)

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(c) State five advantages of the top bar beehive   (5mks)

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(d) State three disadvantages of a log hive   (3mks)

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24.   (a)   Give four signs of heat in pigs   (4mks)

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       (b)   Explain six advantages of artificial insemination (A.I) in livestock breeding.   (6mks)

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       (c)   Give 5 categories of farm tools and equipment   (5mks)

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(d) Outline five differences between Bactrian camel and Dromedary camel   (5mks)

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End

KENYA CERTIFICATE OF SECONDARY EDUCATION

BIOLOGY PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES.

1.   Answer all questions in this paper in the spaces provided after each question.

2.   Candidates should answer the questions in English.

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Questions	Maximum score	Candidate's score
1- 28	80	

This paper consists of 7 printed pages.
Candidates should check to ensure that all pages are printed as indicated and no questions are missing

1.   (a) Explain why lysosomes are sometimes called 'suicidal bags'   1 mark

……...

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(b) Why are lysosomes more frequent in the phagocytotic cells than in other cells? 2 marks

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2. Sugar was detected in the urine of a patient during a laboratory test.

(a) Name the type of sugar that was detected 1 mark

……...

(b) Name the hormone that is likely to have been deficient. 1 mark

……...

(c) What is the name given to the condition the person was suffering from? 1 mark

……...

3. Name the causative agent of the following human diseases. 2 marks

i) Pneumonia

……...

ii) Cholera

……..

4. Name **two** classes of phylum Arthropoda which have a cephalothorax. 2 marks

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……..

5. State **three** adaptations of the proximal convoluted tubule to its function. 3 marks

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6. (a) What is single circulatory system? 1 mark

……...

……...

   (b) Name an organism which has single circulatory system. 1 mark

……...

   (c) Name the opening to the chamber of the heart of an insect 1 mark

……...

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7. (a) State the meaning of the following terms used in floral biology: 3 marks

(i) Incomplete flower

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

……..

(ii) Actinomorphic flower

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……..

(iii)Zygomorphic flower

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8. State how alveolus of the lungs of a mammal is adapted to its function. 2 marks

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9. (a) Name **three** types of cells that carry out photosynthesis. 3 marks

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10. (a) What is environmental degradation? 1 mark

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(b) State **three** cases of environmental concern that have resulted from the increased human population in recent years 3 marks

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11. What is the role of vascular bundles in plant nutrition? 3 marks

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………...

12. Enzyme + Substitute ⇌ Enzyme + Product

From the equation above name **two** properties of enzymes exhibited in the equation   2 marks

………...

………...

13. For each of the following types of cells state **one** way in which it is different from a typical animal cell.

State the function of each type of cell.

a. Cell lining the trachea (windpipe)   1 mark

………...

………...

………...

b. Red blood cell   2 marks

………...

………...

………...

14. Give reasons why a woman excretes less urea when she becomes pregnant   2 marks

………...

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15. State the functions of the following parts of the microscope   2 marks

c. (i) Condenser

………...

………...

(ii) Mirror

………...

………...

d. State the importance of the following in microscopy: 2 marks

(i) Cutting thin sections

………...

………...

………...

(ii) Staining

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16. State **two** ways in which protein are important to plant. (2marks)

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17. The diagram **below** represents a cell organelle.
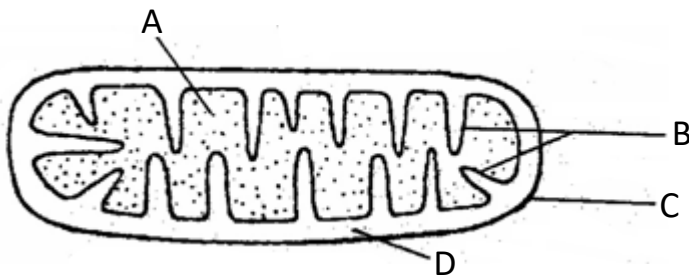
(a)   Identify the organelle.   (1 mark)

……

(b)   Name the part labeled **B**.   (1 mark)

………

(c)   State the function of part labeled **A**.   (1 mark)

………..

18. Explain why tropical forests do not have undergrowth   (2marks)

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……………………………………………………………………………………………

19. How is blood pressure generated and maintained in a vein?   (2marks)

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20. What is the role of light energy in autotrophic nutrition in spermatophyte?   (2 marks)

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21. How is fur important to desert animal, other than in the regulation of their body temperature?

(1mark)

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22. A form one student trying to estimate the size of onion cells observed the following on the microscope's field of view.
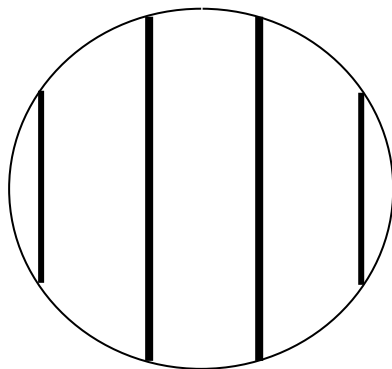
(a)   Define the term resolving power.   (1 mark)

(b)   If the student counted 20 cells across the field of view calculate the size of one cell in micrometers.   (2 marks)

23. Define peristalsis and state its importance in the nutrition of mammals. (2 marks)

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……

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

24. State the importance of cytoplasmic filaments in sieve tube elements.   (1 mark)

……

……

……..

25. The diagram **below** shows the exchange of gases in alveolus.
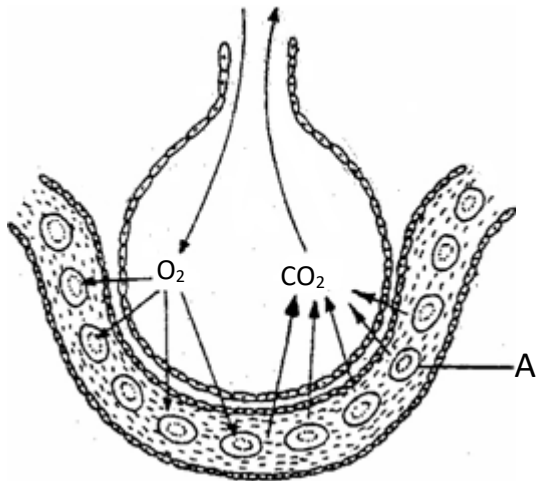
(a)   State how the alveoli are adapted to their function.   (3 marks)

………

……

………..

………..

(b)   Name the cell labeled **A**.   (1 mark)

……….

26. What are the external conditions needed, by root hair cells, for the uptake of mineral salts ions from

the soil?   (2 marks)

……

……

………..

27. The diagram below represents a pyramid of biomass derived from a certain ecosystem

producer

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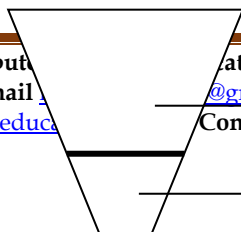
(a) Suggest the type of ecosystem from which the pyramid was derived (1mk)

…………………………………………………………………………………………………

(b)State the significance of short food chains in an ecosystem (1mk)

……

……………………………………………………………………………………………….

28. Suggest two reasons for the appearance of glucose in the urine of a man. (2 marks)

……

…………………………………………………………………………………………………

29. Account for the thick wall and narrow lumen of an artery. (2marks)

……

…………………………………………………………………………………………………

30. How do pathogens that enter the body through the respiratory tract in man prevented from causing diseases? (1mark)

……

…………………………………………………………………………………………………

31. Where does the detoxification of ammonia take place in mammals? (1mark)

……

…………………………………………………………………………………………………

32. Name the processes that take place in the grana of chloroplast. (1mark)

……

……

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33. Name the causative organism of the following diseases

   (i) Malaria   (1mk)

   ……………………………………………………………………………………..

   (ii) Bilharzia   (1mk)

   ……………………………………………………………………………………

34. State two features in a kidney nephron that facilitates ultra-filtration. (1mk)

   ……….

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AGRICULTURE PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Each candidate should have the following;
- Irish potato tuber labeled J
- Pestle and mortar
- Scalpel
- A ruler
-2 ml Iodine solution.
-8 ml Benedict's solution.
- 10ml Hydrogen peroxide
- Water in wash bottle
-4 test tubes.
- Boiling tube
-Test tube holder.
-2 droppers.
-Measuring cylinder (10-20ml).
-Means of heating/Bunsen burner.
-*Bryophyllum* leaf labelled **Specimen P.**
-*Lantana* leaf labelled **Specimen Q.**
-*Euphorbia* twig with some leaves labelled **Specimen R.**
-*Acacia* twig with some leaves and thorns labelled **Specimen S.**

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KENYA CERTIFICATE OF SECONDARY EDUCATION
BIOLOGY PAPER 3 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

- *.Write your **name, index number** and **school** in the spaces provided above.*
- ***Sign** and write the **date of examination** in the spaces provided above.*
- *You are required to spend the first 15 minutes of the $1^3/_4$ hours allowed for this paper reading the whole paper carefully before commencing your work.*
- *Answer **ALL** the questions in this paper in the spaces provided.*
- *Candidates **should** answer the questions in English.*

FOR   EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1	16	
2	09	
3	15	
Total	40	

This paper consists of 5 printed pages.
Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.

1. You are provided with specimen **J**. Peel off the outer cover of the specimen and obtain eight cubes from it each measuring approximately 1cm³.

(a)(i) Place two cubes into a boiling tube and add hydrogen peroxide that is sufficient to completely submerge the cubes. Record your observation.   (1 mark)

………

………

(ii) Name the biological process under investigation in this experiment.   (1 mark)

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……

(iii) Write a word equation for the reaction in (a)(i) above. (1 mark)

……

……

(b)(i) Crush two other cubes into small pieces using a mortar and pestle. Place the pieces into a boiling tube and add hydrogen peroxide that is sufficient to completely submerge the cubes. Record your observation in relation to that in (a)(i) above. (1 mark)

……

……

(ii) Account for your observation in (b)(i) above. (2 marks)

……

……

……

(c)(i) Place two other cubes into a boiling tube and add 5 ml of water then boil for two minutes. Remove the cubes and place them into an empty boiling tube. Add hydrogen peroxide that is sufficient to completely submerge the cubes. Record your observation. (1 mark)

……

……

(ii) Account for your observation in (c)(i) above. (2 marks)

……

……

……

(d) Place two other cubes into a mortar and crush them using a pestle. Add 4ml of water and stir using the pestle and obtain an extract. Using the reagents provided, test for the food substances in the extract obtained. Record the test, procedure, observation and conclusion in the table below. (7marks)

Test	Procedure	Observation	Conclusion

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ou are provided with **photographs P** and **Q** of skulls of animals belonging to the
e phylum and class. Study them carefully and answer the questions that follow.

PHOTOGRAPH P
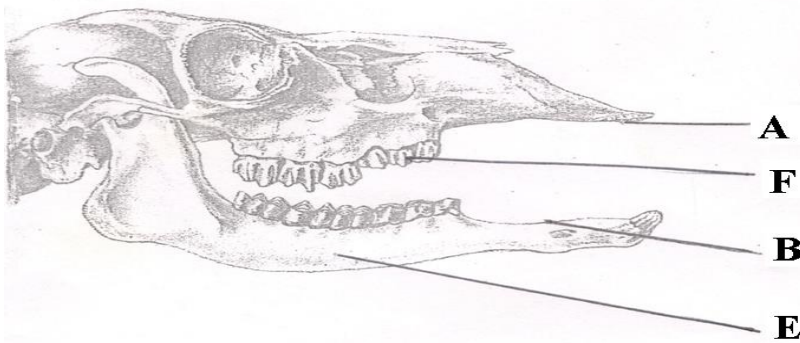
PHOTOGRAPH Q
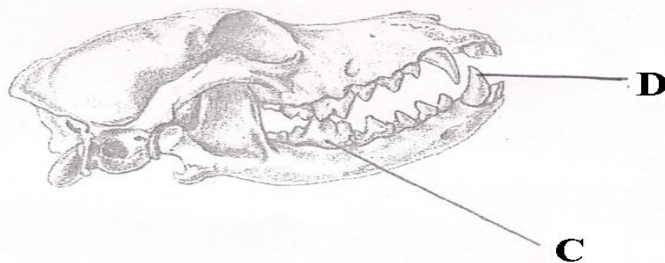
(a) (i) Name the class to which the animals belong.   (1mar

....

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

....

(b)(i) State the diet of the animals whose skull is shown in photograph P.   (1ma

....

 (ii) Give **one** reason for your answer in (b)(i) above.   (1ma

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

(c) Identify the parts labelled **C, E** and **F**.   (3mar

    C...

    E...

    F...

(d)State the functions of parts labeled **A** and **B**.   (2mar

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3. You are provided with specimens labelled **P, Q, R** and **S** which were obtained from different plants.

(a)(i) Using observable features only, state **three** similarities between specimens **P** and **Q.**   (3 marks)

……

……

……

(ii) Using observable features only, state **four** differences between specimens **P** and **Q.**   (4 marks)

……

……

……

……

……

(b) Suggest the habitats of specimens **Q** and **R**.   (2 marks)

(i) Habitat of **Q**…………………………………………………………………………………………..

(ii) Habitat of **R**…………………………………………………………………………………………..

(c) Name the subdivision to which the specimens **P, Q, R** and **S** belong.   (1 mark)

……

(d) How is

(i) specimen **Q** adapted for photosynthesis?   (2 marks)

……

……

……

(ii) specimen **R** adapted to conservation of water?   (2 mark)

……

……

……

(iii) specimen **S** adapted to protection?   (1 mark)

……

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KENYA CERTIFICATE OF SECONDARY EDUCATION
BUSINESS STUDIES PAPER 1 FORM 3 MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES
- Answer all questions in the spaces provided.

FOR EXAMINERS USE ONLY

QUESTION	1	2	3	4	5	6	7	8	9	10
MARKS										

QUESTION	11	12	13	14	15	16	17	18	19	20	21	22
MARKS												

TOTAL MARKS

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1. Outline four ways in which the business is expected to be socially responsible to the employees. (4 marks)

a)………………………………………………………………………………………

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

b)………………………………………………………………………………….…

…………………………………………………………………………….…………

c)…………………………………………………………………………….………

……………………………………………………………………………….…………

d)………………………………………………………………………….…………

…………………………………………………………………………….…………..

2. What do you understand by the following terms?

a) Free goods…………………………………………………………………………

………………………………………………………………….…………..(1 mark)

b) Producer goods………………………………………………………..…………….

…………………………………………………………………………………(1 mark)

c) Public goods…………………………………………………………………….…..

…………………………………………………………………………………….(1 mark)

d) Non-material goods

……………………………………………………………………………………………

…………………………………………………………………………………………(1 mark)

3. Outline four ways in which filling of documents facilitates smooth running of an office. (4 marks)

a) ……………………………………………………………………………………

………………………………………………………………………………………...

b) ……………………………………………………………………………………

………………………………………………………………………………………

c) ……………………………………………………………………………………

………………………………………………………………………………………

d) ……………………………………………………………………………………

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4. Outline four circumstances under which a pro forma invoice may be used. (4 marks)

a)………………………………………………………………………………………………

…………………………………………………………………………………………………

b)………………………………………………………………………………………………

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

c)………………………………………………………………………………………………

…………………………………………………………………………………………………

d)………………………………………………………………………………………………

…………………………………………………………………………….…………………

5. Draw four differences between a quasi partner and a general partner. (4 marks)

Quasi Partner	General Partner
a)	a)
b)	b)
c)	c)
d)	d)

6. State four advantages of cart transport. (4 marks)

a)………………………………………………………………………………………………

…………………………………………………………………………………………………

b)………………………………………………………………………………………………

…………………………………………………………………………………………………

c)………………………………………………………………………………………………

…………………………………………………………………………………………………

d)………………………………………………………………………………………………

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7. Highlight four causes of breakdown in communication. (4 marks)

a)………………………………………………………………………………………………

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

b)………………………………………………………………………………………………

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

c)………………………………………………………………………………………………

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

d)………………………………………………………………………………………………

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

8. Outline four features of a bonded warehouse. (4 marks)

a)………………………………………………………………………………………………

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

b)………………………………………………………………………………………………

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

c)………………………………………………………………………………………………

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

d)………………………………………………………………………………………………

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

9. Name the factor that each of the following resources relate to. (4 marks)

Resource	Factor of production
a) Manager	a)
b) Vehicle	b)
c) Owner	c)
d) Water	d)

10. Highlight four circumstances under which a co-operative society may be dissolved.

(4 marks)

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a)………

……

b)………

……

c)………

……

d)………

………..

11. The figure below shows an increase in supply for a commodity from SS to S_1S_1.
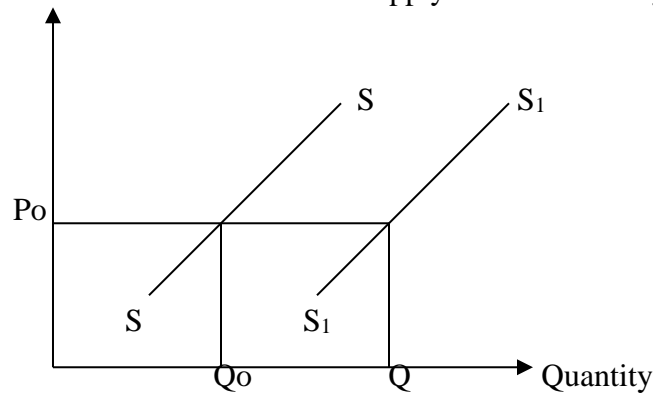
State four possible causes that have led to this situation. (4 marks)

a)………

………..

b)………

……

c)………

………..

d)………

………..

12. Highlight four problems associated with the output approach in the measurement of national income. (4 marks)

a)………

………..

b)………

……

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c)...
....
d)...
....

13. State four role played by intermediaries in the distribution channel. (4 marks)

a)...
....
b)...
....
c)...
....
d)...
....

14. State four factors that determine fertility rate in a country. (4 marks)

a)...
....
b)...
....
c)...
....
d)...
....

15. Mention four types of unemployment. (4 marks)

a)...
....
b)...
....
c)...
....

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d)…………………………………………………………………………………………………

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

16. Outline four features of a monopoly. (4 marks)

a)……………………………………………………………………………………………………

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

b)……………………………………………………………………………………………………

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

c)……………………………………………………………………………………………………

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

d)……………………………………………………………………………………………………

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

17. Give 4 gaps which exist in the market that an entrepreneur can use to identify a viable

business opportunity.   (4mks).

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

 i)……………………………………………………………………………………………………

iii)……………………………………………………………………………………………………

v)……………………………………………………………………………………………………

18. Apart from demand and supply forces outline four other methods of price determination.

(4mks).

i)……………………………………………………………………………………………………

ii)……………………………………………………………………………………………………

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

iv)……………………………………………………………………………………………………

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19. State four advantages of mail order service to the customer. (4mks).

i)……………………………………………………………………………………………

ii)……………………………………………………………………………………………

iii)……………………………………………………………………………………………

iv)……………………………………………………………………………………………

20. Give 4 reasons why a person may prefer to run a business as a sole proprietor. (4mks).
i)…………………………………………………………………………………………….
ii)……………………………………………………………………………………………
iii)……………………………………………………………………………………………
iv)……………………………………………………………………………………………

21. A potential manufacturing firm of domestic products would like to introduce new products in the market. Explain five factors that would influence their decision on what goods to produce. (10 marks)

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22.	Describe the procedure that should be followed when taking an insurance policy	(10mks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

BUSINESS STUDIES PAPER 2 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

- Answer any FIVE questions.
- Write your answers in the answer sheet provided
- All questions carry equal marks

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1. a) Explain **five** benefits that would accrue to a businessman who uses a Liner rather than Tramps Steamers. (10mks)
    b) Using a diagram, describe the effects of outward shift in supply curve on equilibrium price and quantity. (10mks)
2. a) Explain *four* measures that may be taken by the government to promote her export. (8mks)
    b) The following Trial Balance was extracted from the books of Kisumu Auto spares as at 31stOct 2011

Kisumu Auto Spares
Trial Balance
As at 31st Oct 2011

	DR	CR
Capital		653,560
Motor vehicle	603,000	
Equipment	200,600	
Furniture	94,400	
Debtors	75,900	
Creditors		74,300
Carriage on sales	14,400	
Discount Received		26,400
Salaries	12,400	
Rent Income		12,600
Sales		319,400
Purchases	300,000	
Advertising	22,200	
Rates	9,400	
Stock 1-11-2010	61,500	
Bank		412,600
Cash	105,060	
TOTAL	**1,498,860**	**1,498,860**

Stock on 31stOctober 2011 was sh. 80,200

Required,
(i)   Prepare Trading ,Profit and Loss account for the year ended 31stOct 2011
(ii) Prepare Balance sheet as at 31stOctober 2011 (12mks)
3. a) Explain **Five** circumstances under which a manufacturer would find it advisable to distribute his goods through wholesalers. (10mks)
    b) Explain *five* functions of the central bank of Kenya in the Economy. (10mks)
4. a) Distinguish between shares and debenture as a source of finance. (10mks)
    b) Outline five circumstances under which a firm will be located near the market for its products. (10mks)
5. a) The following information relates to Bizna Distributor Company for the year ended 31stDec 2009

	shs
Gross profit	600,000
Opening stock	285,000
Sales	2,400,000
Purchases	1,830,000
Expenses	360,000
Closing stock	315,000
Fixed assets	400,000
Debtors	900,000
Bank	35,000
Current liabilities	438,000

Required calculate
i) Margin (2 ½ mks)
ii) Rate of stock turnover (2 ½ mks)
iii) Return on capital employed (2 ½ mks)
iv) Current ratio (2 ½ mks)
    b) Explain **five** ways in which the Entrepreneur contributes to the production of goods. (10mks)
6. a) Describe **five** means of payment that a trader may use to settle business debts. (10mks)
    b) Explain **five** indicators of under development in Kenya. (10mks)

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CHEMISTRY PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

..**INSTRUCTIONS TO CANDIDATES**

a)   Write your name, class and house in the spaces provided above

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

c)   Answer **ALL** the questions in the spaces provided in the question paper.

d)   KNEC mathematical tables and electronic calculators may be used.

e)   All working **MUST** be clearly shown where necessary.

f)   **This paper consists of 11 printed pages**

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

h)   **Candidates should answer the questions in English.**

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1 – 16	80	

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1) The set up below can be used to prepare oxygen gas. Study it and answer the questions that follow:
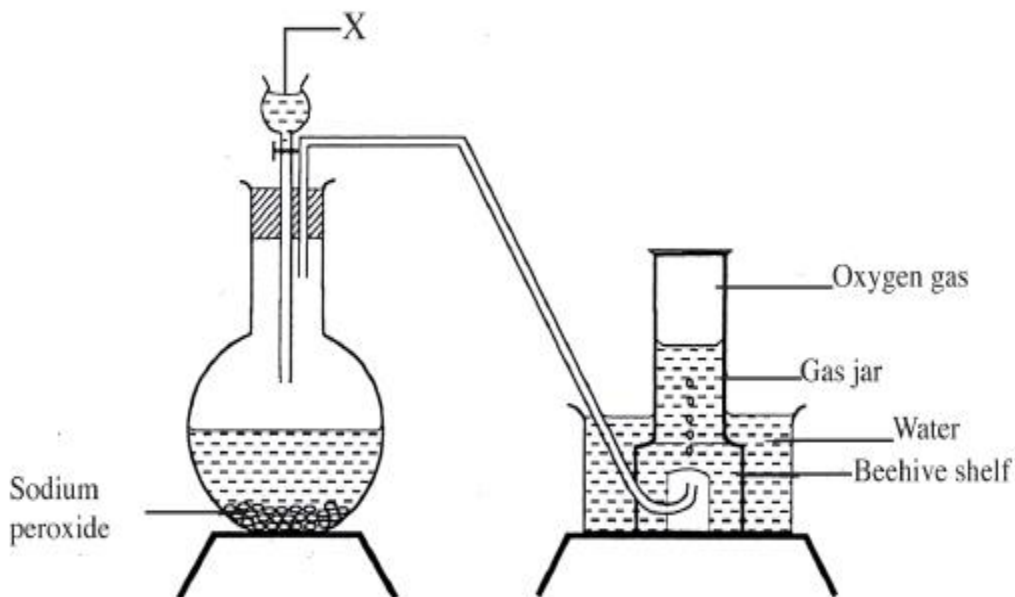
a) Identify **X**. _____   (1 mk)

b) What property of oxygen makes it possible for it to be collected as shown in the above set-up?

_____ (1mk)

c) State **two** uses of **oxygen gas**.   (1 mk)

_____

_____

2) Write equations to show the effect of heat on each of the following:

a)   **Sodium hydrogen carbonate**   (1mk)

_____

b)   **Silver nitrate**   (1 mk)

_____

c)   **Anhydrous Iron (II) Sulphate**   (1 mk)

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_____

3) Describe an experimental procedure that can be used to **extract oil from nut seeds**. (2 mks)

_____

_____

_____

_____

_____

4) In terms of **structure and bonding**, explain the following observations:

      a) the **melting point** of Aluminium is higher than that of Sodium (1 ½ mks)

_____

_____

_____

      b) the **melting point** of Chlorine is lower than that of Sulphur. (1 ½ mks)

_____

_____

_____

5)   a) What would be observed if Sulphur (IV) oxide is bubbled into a solution of acidified potassium manganate (VII)? (1 mk)

_____

    b) In an experiment, Sulphur (IV) oxide was dissolved in water to form solution **L**.

        i) What would be observed if a few drops of barium nitrate solution were immediately added to solution **L**? (1 mk)

_____

_____

        ii) Write an **ionic equation** for the reaction that occurred between solution **L** and aqueous Barium nitrate in (b) (i) above.   (1 mk)

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6) The scheme below shows a reaction sequence starting with Solid **N**. Study it and answer the questions that follow.
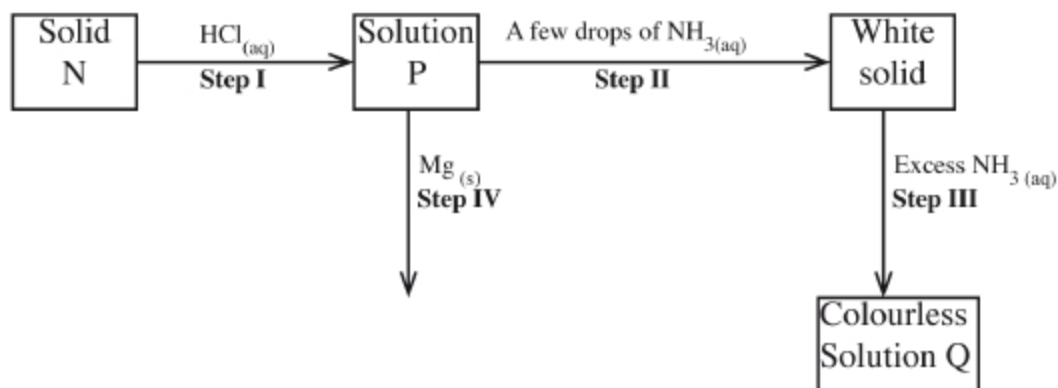
a)   Write the formula of the complex ion in **Solution Q**.   (1 mk)

_____

b)   Write a *stoichiometric equation* for the reaction in **Step (IV).**   (1 mk)

_____

7)   a)   State *Charles' Law*.   (1 mk)

_____

_____

_____

b)   A certain mass of gas occupies **146 dm³** at **291K** and **98.31kPa**. What will be its temperature if its volume is reduced to **133 dm³** at **101.325kPa**?   (2 mks)

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8) Diamond and graphite are *allotropes* of carbon.

a) What is meant by the term *allotrope*?   (1mk)

_____

b) Explain why graphite can be used as a lubricant while diamond cannot.   (2 mks)

_____

_____

_____

9) On heating a pale green solid **K**, Carbon (IV) oxide gas and a black solid **M** were formed. On reacting **K** with dilute Hydrochloric acid, Carbon (IV) oxide gas and a green solution **S** were formed. When excess aqueous ammonia was added to solution **S**, a deep blue solution was formed.

a)   Identify the *cation* in Solid **K**.   (1 mk)

_____

b)   Identify two *anions* in Solution **S**.   (2 mks)

_____

10) A student investigated the effect of an electric current on substances by passing a current through some substances.   The student used inert electrodes, and a bulb in the circuit. The table below shows the substances used and their states.

Experiment	Substance	State
1	Potassium carbonate	Solid
2	Copper (II) sulphate	Solution
3	Sugar	Solution
4	Lead (II) iodide	Molten

a) In which experiments did the bulb **not** light?   (1 mk)

_____

b) Explain your answer in (a) above. (2 mks)

_____

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11) Element **J** has two isotopes namely **J-39** and **J-40**. It's relative atomic mass is **39.07**. Calculate the percentage relative abundance of each isotope. (3 mks)

12) Starting with Zinc carbonate describe how would you prepare hydrated Zinc sulphate. (4 mks)

_____

_____

_____

_____

13) A Form 3 student was provided with the following solutions; Study the information and answer the questions that follow.

Solution **A** was made by dissolving **10.6g** of a metal carbonate, **X_2CO_3** in distilled water and made up to 1 litre of the solution.

Solution **B** is a **0.25M** of Hydrochloric acid.

20.0 cm³ portions of solution **A** were titrated with solution **B** from the burette and the following results were obtained.

Volume of the pipette used _____ cm^3 (Solution **A**)   (1 mk)

Titration	1	2	3
Final burette reading (cm^3)	16.6	32.6	
Initial burette reading (cm^3)			
Volume of Solution B (cm^3)	16.6	16.0	16.0

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a) Complete the table above   (4 mks)

b) Calculate the average volume of solution B used.   (1 mk)

c)Name a suitable indicator for this reaction.   (1 mk)

_____

d) Write a stoichiometric equation for the reaction taking place.   (1 mk)

_____

e) i) Calculate the moles of Solution **B** used.   (2 mks)

ii) Determine the number of moles of solution **A** used in the reaction. (2 mks)

_____

_____

_____

iii) Calculate the concentration of Solution **A** in **moles/litre**. (1 mk)

_____

_____

_____

iv) Calculate the **Relative Atomic mass** of **X** in Solution X_2CO_3 (H=1; C = 12; O = 16)
(2 mks)

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

				N	P	T		
M								
R								

i)   Select a letter which represents an element that loses electrons most readily. Give a reason for your answer.   (2 mks)

_____

ii)   Explain why the atomic radius of P is found to be smaller than that of N. (2 mks)

_____

_____

b) Use the information in the table below to answer the questions that follow. The letters are not the symbols of the elements.

Element	State of oxide at room temperature	Type of oxide	Bonding in oxide
U	Solid	Acidic	Covalent
W	Solid	Basic	Ionic
X	Liquid	Neutral	Covalent
Y	Gas	Neutral	Covalent

Identify a letter which represents an element in the table that could be Calcium, Carbon or Sulphur. Give a reason in each case.

        i)   **Calcium**   _____ (1 mk)

        Reason: _____(1 mk)

        ii)   **Carbon**   _____(1 mk)

        Reason: _____(1 mk)

        iii)   **Sulphur**   _____(1mk)

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Reason: _____(1mk)

15) a) The diagram below shows the Frasch process used for extraction of Sulphur. Use it to answer the questions that follow.
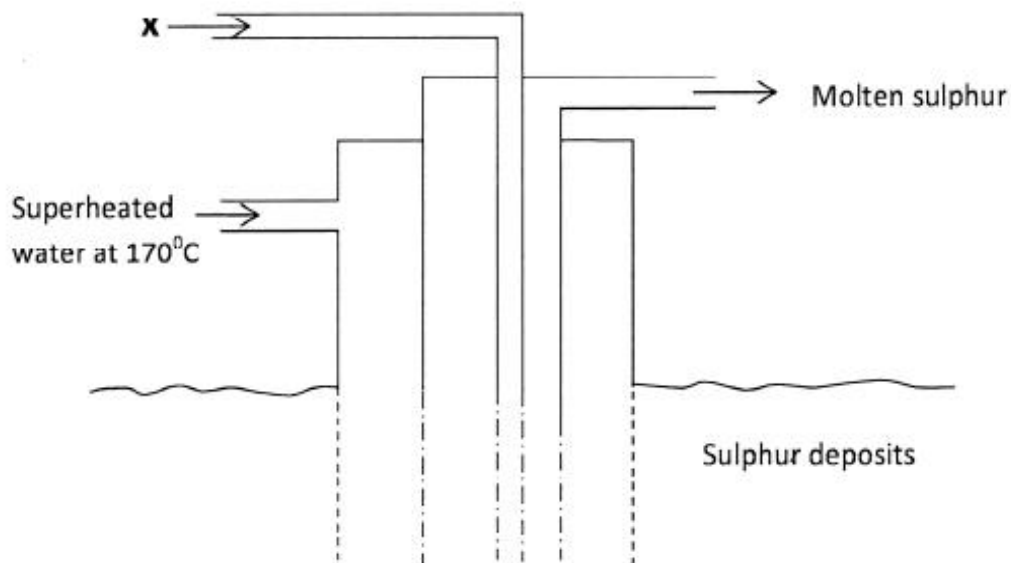
i) Identify **X**   (1 mk)

_____

ii) Why is it necessary to use superheated water in this process?   (1 mk)

_____

iii) State **two** physical properties of Sulphur that makes it possible for it to be extracted by this method.   (2 mks)

_____

iv) Which allotrope of Sulphur:

I) is a stable at room temperature? _____ (1 mk)

II) has prismatic crystals? _____(1 mk)

III) has higher density? _____(1 mk)

b) The diagram below shows part of the processes in the manufacture of Sulphuric (VI) acid. Study it and answer the questions that follow:

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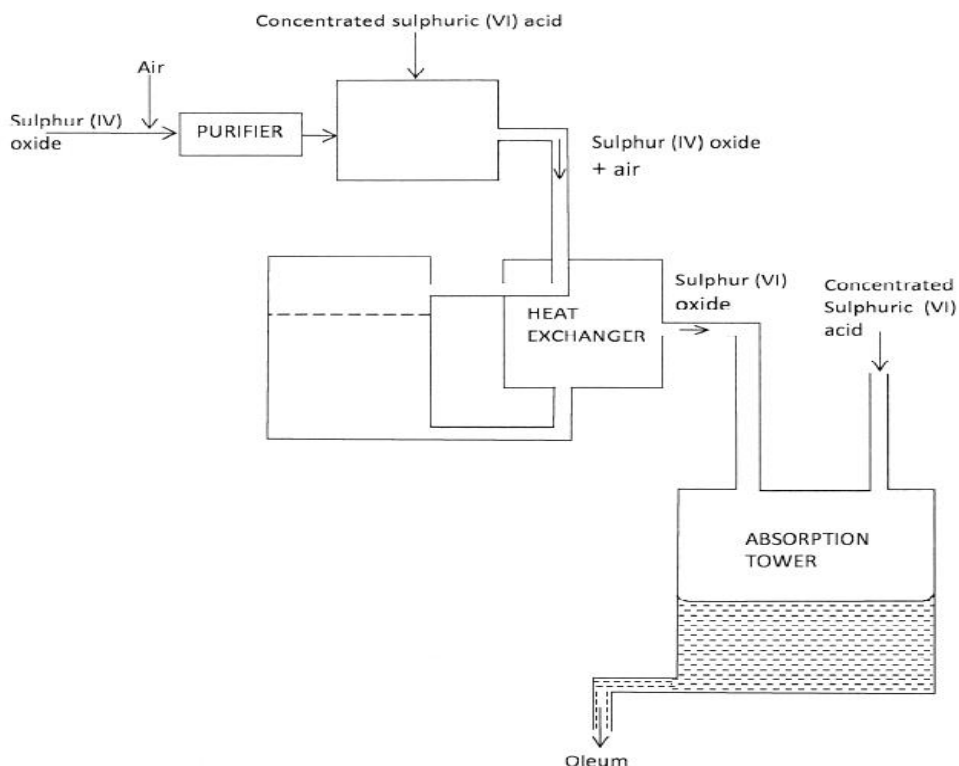
i) Write an equation for the formation of Sulphur (IV) oxide from Sulphur. (1 mk)

_____

ii) What is the role of the concentrated Sulphuric (VI) acid in chamber **A**? (1 mk)

_____

iii) Name **two** catalysts that can be used in the catalytic chamber **B**. (2 mks)

_____

_____

iv) State **two** roles of the heat exchanger   (2 mks)

_____

_____

c) Explain **one** way in which Sulphur (IV) oxide is a pollutant.   (1 mk)

_____

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d) What observation will be made when a few drops of concentrated Sulphuric (VI) acid are added to crystals of sugar? Explain your answer.   (2 mks)

16) A sample of **2.34 g** of a metal P displaced **3.20 g** of Copper from excess aqueous Copper (II) Sulphate (P = 69; Cu = 64)

   a) Determine the charge on an ion of metal P.   (3 mks)

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

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KENYA CERTIFICATE OF SECONDARY EDUCATION
CHEMISTRY PAPER 2 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instructions to Candidates

- ❖ Write your **Name, Class** and **Adm no** in the spaces provided above.
- ❖ Answer all the questions in the spaces provided
- ❖ Mathematical table and electronic calculator may be used
- ❖ All working must be clearly shown where necessary.

For examiner's use only

Question	Maximum score	Candidates score
1	11	
2	13	
3	11	
4	11	
5	10	
6	13	
7	11	
TOTAL	**80**	

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1. (a) **Draw structures** and **write molecular formula** the of the following compounds

      (i)   2 – bromo – 4 – methylpentane   (2marks)

      (ii)   3 – methylheptane.   (2 marks)

(b) **Draw** and **name** all possible isomers of C_5H_{12} (3 marks)

(c) The set up Study the flow chart below and answer the questions that follow
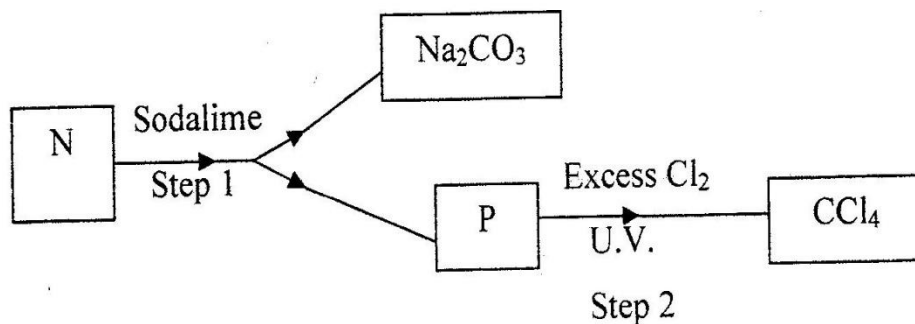
  (a) Identify **N** and **P**   (2 marks)

   N…………………………………………………………………………………………

   P ………………………………………………………………………………............

  (b) Write a balanced equation for the preparation of gas **P**.   (1 mark)

…………………………………………………………………………………………………

  (c) What is the function of calcium oxide in soda lime?   (1 mark)

……………………………………………………………………………………………….

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2. a) Study the table below and complete it. (**P^{3+} & Q^{2-}**) are not the actual symbols of the ions.

(2 marks)

Ion	Number of protons	Number of neutrons	Mass number	Electron arrangement
P^{3+}		14		2.8
Q^{2-}	16		32	

b) You are provided with information of elements in the same period. Study it and answer the questions that follow.

Element	Ionic radius (nm)	Atomic radius (nm)
X	0.102	0.136
Y	0.134	0.099
Z	0.202	0.181
W	0.170	0.175
Q	0.076	0.065

(i) Which is the most reactive non-metal? Explain. (2 marks)

……

……

(ii) Which elements are metals? (1 mark)

……

c) (i) Write the chemical formula for the compound formed when element **Q** which is in

group VI and sodium metal react. (1 mark)

……

(ii) What type of bond & structure is formed in **c (i)** above. (2 marks)

……

……..............

(iii) Does the compound in **c (ii)** above conduct electricity? Explain. (2 marks)

…….

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

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

c) Element **Z** has atomic number 6.
(i) Draw dot (.) and cross (x) diagram of its most stable oxide. (2 marks)

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(ii) State the nature of the oxide formed in **c (i)** above. (1 mark)

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

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

3. (a) Set up below shows laboratory preparation and properties of chlorine gas. Use it to answer the questions that follow.
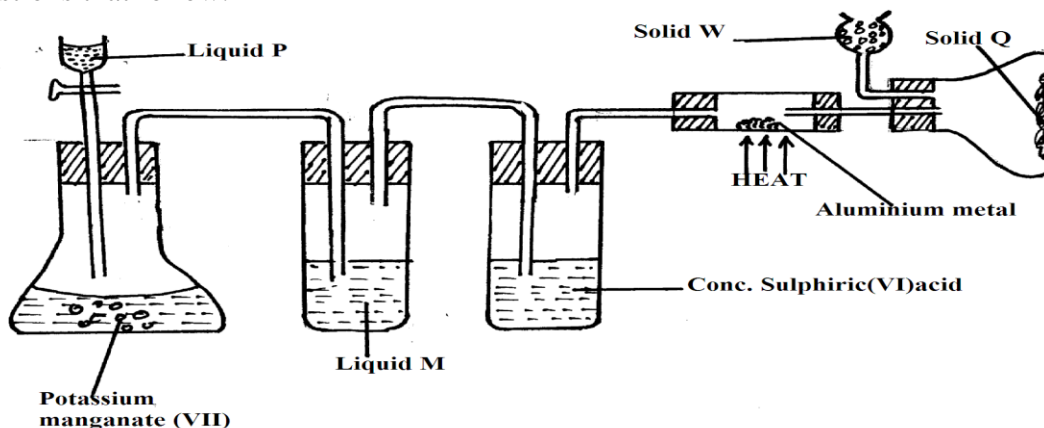
(i) Name liquid: (2 marks)

   P…………………………………………………………………………….

   M…………………………………………………………………………

(ii) What is the function of concentrated sulphuric (VI) acid in the set-up? (1 mark)

………

(iii) Suggest the most suitable reagent that can be used as solid **W**. (1 mark)

………

(iv) State two roles of solid **W** in the set-up. (2 marks)

………

………

………

(v) State why solid **Q** collect further away from heated aluminium metal (1 mark)

………

(vi) Write an equation that took place in combustion tube to form solid **Q**. (1 mark)

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………

(vi) In the reaction above, 0.645g of aluminium metal reacted completely with 900cm^3 of chlorine gas at room temperature. Determine the molecular formula of solid Q, given that its relative formula mass is 267 (Al = 27.0, Cl = 35.5, molar volume of gas at r.t.p is 24.0 litres)

(3marks)

4. a) A group of form three students from Kenya High School used the set below to prepare nitric (V) acid in the laboratory. Use it to answer the questions that follow.
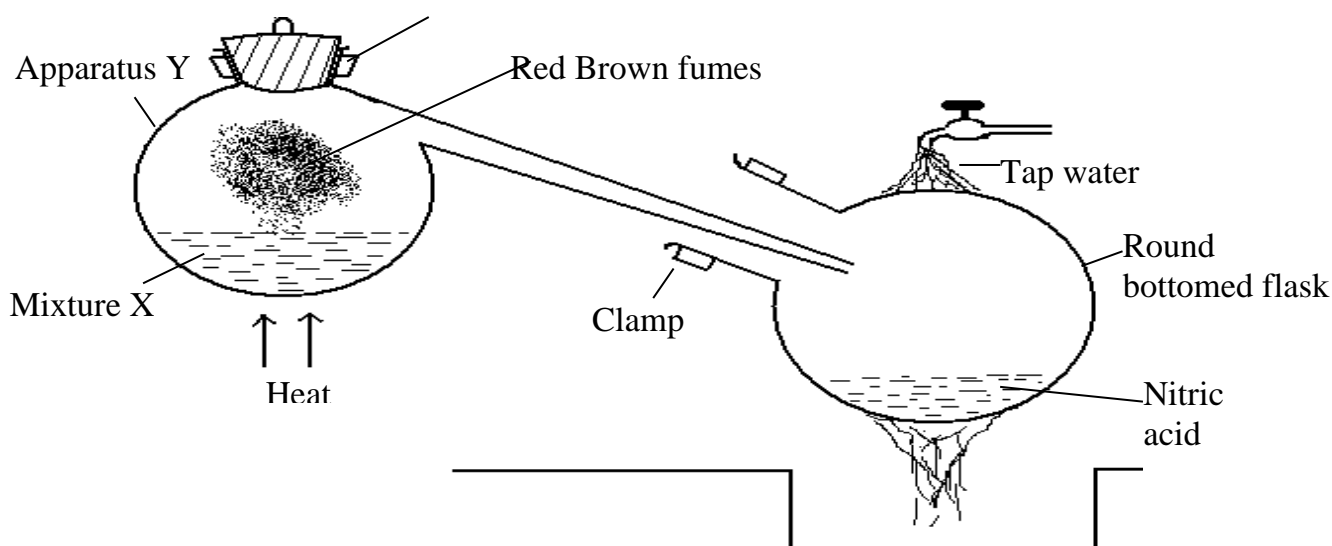
i. Name the apparatus **Y**.   (1 mark)
   ………………………………………………………………………………………………………

ii. Name the *reagents* in mixture **X**.   (1 mark)
……
……

iii. Write an equation for the reaction which takes place in apparatus **Y**.   (1 mark)
……
……

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iv. State the property of concentrated sulphuric (VI) acid shown by the reaction in (b) (ii) above. (1 mark)

…………………………………………………………………………………………………

v. Explain why the apparatus for this reaction is all glass. (1 mark)

…………………………………………………………………………………………………

…………………………………………………………………………………………………

vi. Explain why nitric (v) acid is stored in brown bottles. (1 mark)

…………………………………………………………………………………………………

…………………………………………………………………………………………………

vii. State two uses for nitric (v) acid. (2 marks)

…………………………………………………………………………………………………

…………………………………………………………………………………………………

b. A factory uses nitric (v) acid and ammonia gas as the only reactants for the preparation of ammonium nitrate. If the daily production of the ammonium nitrate is 4800kg, calculate the mass of ammonia gas used daily. (N=14.0, O = 16.0 H= 1.0)
(3 marks)

5. The scheme below shows the preparation of a certain salt. Study it and answer the questions that follow

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```
        ┌─────────┐                    ┌─────────┐
        │ Sodium  │                    │  Zinc   │
        └────┬────┘                    └────┬────┘
             │ Water                         │ Dilute H₂SO₄(aq)
        ┌────▼─────────┐              ┌──────▼───────┐
        │  Solution A  │              │  Solution B  │
        │      +       │              │      +       │
        │   Hydrogen   │              │    Gas C     │
        └────┬─────────┘              └──────┬───────┘
             │                               │
             └──────────────Mixed────────────┘
                          │
                 ┌────────▼─────────┐
                 │ White Precipitate D │
                 └────────┬─────────┘
                          │ Dilute HCl(aq)
                 ┌────────▼─────────┐
                 │ Colourless Solution E │
                 └──────────────────┘
```
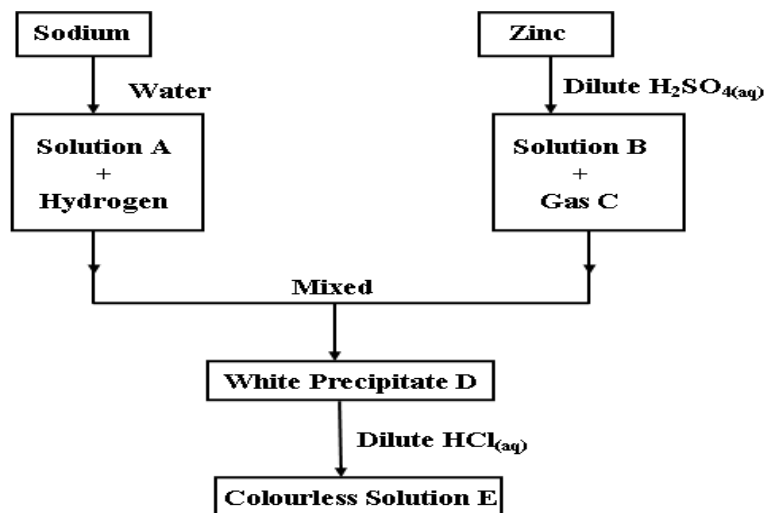
a) Give the name and the formula of the following;

    i)   Solution A   (1mark)

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

    ii)   Precipitate D   (1 mark)

………………………………………………………………………………………….

b) Give the equation for the

    i)   Formation of B and gas C   (1 mark)

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

    ii)   Formation of colourless solution E   (1 mark)

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

c) How can gas C be tested?   (1mark)

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

d) Give the observations made when sodium reacts with water   (2 marks)

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

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

e) Explain how you can obtain from solution E.

    i)   A hydrated salt   (1 mark)

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

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

    ii)   Anhydrous salt   (1 mark)

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

f) Using an equation, give another method of preparing the same salt.   (1mark)

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

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6. a) The diagram below shows some processes that take place during the industrial manufacture of sulphuric (VI) acid.
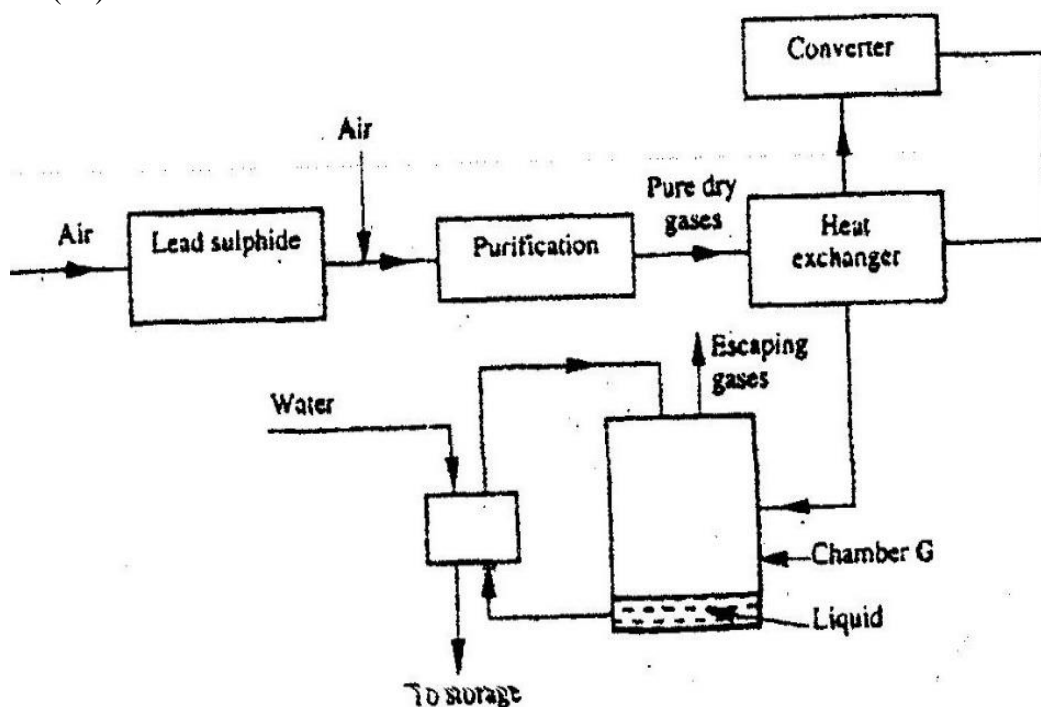
(i) Write an equation for the reaction in which sulphur (VI) oxide gas is produced. (1 mark)

……

(ii) Name one impurity removed in the contact process. (1 mark)

……..

(iii) Write an equation that takes place in chamber G. (1 mark)

...……..

b) (i) Name;

    I.   Two catalyst used in contact process. (2 marks)

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

    II. The gases that escaped into the environment. (1 mark)

………

    III.   State the harmful effect on the environment of one of the gases. Named in (i) II above

(1 mark)

……...………

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

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c) Give a reason why sulphur (IV) oxide is **not** dissolved directly in water to form the acid.

(1 mark)

…………………………………………………………………………………………………

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

d) (i) Complete the table below to show the observations made when concentrated sulphuric (VI) acid is added to the substances shown. (2 marks)

Substance	Observation
Copper turnings	
Hydrated copper (II) sulphate	

(ii)   Give reasons for the observations made using:

I   Copper turnings   (1 mark)

…………………………………………………………………………………………………

II   Hydrated copper (II) sulphate   (1 mark)

…………………………………………………………………………………………………

(c)   Name one fertilizer made from sulphuric acid.   (1 mark)

…………………………………………………………………………………………………

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

7. (a) Describe a process by which Nitrogen is obtained from air on a large scale.   (4 marks)

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

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…………………………………………………………………………………………………

…………………………………………………………………………………………………

(b) Study the flow chart below and answer the questions that follow.
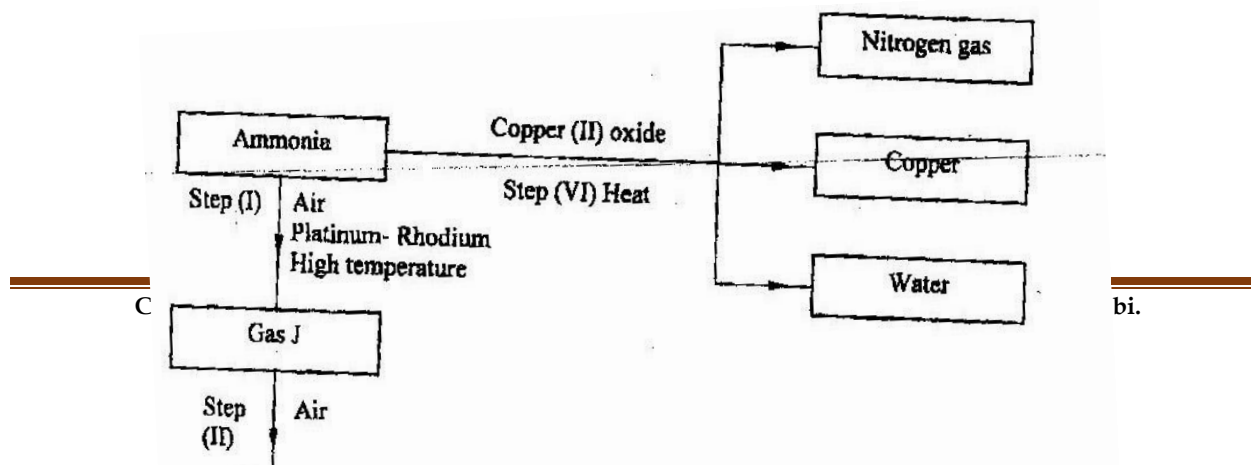
(i) Identify gas **J**.   (1 mark)

……

(ii) Write the equations for the reaction that occurs in;   (2 marks)
     I Step (V)

……

     II Step VI

……

(iii) Give a reason why excess air was used in **step I**.   (1 mark)

……

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

(iv) Give one use of ammonium nitrate.   (1mark)

……

(c) One of the pollutants from the exhaust fumes of vehicles is nitrogen (IV) oxide. Explain how nitrogen (IV) oxide, is produced from the internal combustion engines.   (2 marks)

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

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CHEMISTRY CONFIDENTIAL FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

In addition to the fittings and apparatus found in a Chemistry laboratory, EACH candidate will require:

1. One Burette, 0-50ml.
2. One 25ml Pipette.
3. Three 250ml Conical Flask
4. One complete Retort Stand
5. One White Tile
6. One Pipette Filler
7. One Test-tube Rack
8. Six Test-tubes
9. Two Boiling tubes
10. Filter paper *2
11. Filter funnel *1
12. Measuring cylinder 100ml.*1
13. Measuring cylinder 10ml. *1
14. Wash bottle filled with distilled water
15. 100cm^3 Solution FA2
16. 110cm^3 Solution FA3
17. 10 cm^3 of Solution FA6
18. About 25cm^3 2M Sodium hydroxide solution

ACCESS TO
1. 2M Hydrochloric acid
2. Phenolphthalein indicator
3. 2M Acidified Barium chloride
4. 2M Sodium hydroxide solution
5. 2M Ammonia solution
6. 2M Nitric acid solution. *i.e. about 15cm^3 per student*

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<u>NOTES</u>

- 100cm^3 Solution FA2 is a 0.0984M Hydrochloric acid solution.
- 110cm^3 Solution FA3 is a 0.0984M sodium hydroxide solution.
- **solid FA6** = **Al$_2$ (SO$_4$)$_3$+ CuCO$_3$** mixture in the ratio of 1:1

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CHEMISTRY CONFIDENTIAL FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

In addition to the fittings and apparatus found in a Chemistry laboratory, EACH candidate will require:

1. One Burette, 0-50ml.
2. One 25ml Pipette.
3. Three 250ml Conical Flask
4. One complete Retort Stand
5. One White Tile
6. One Pipette Filler
7. One Test-tube Rack
8. Six Test-tubes
9. Two Boiling tubes
10. Filter paper *2
11. Filter funnel *1
12. Measuring cylinder 100ml.*1
13. Measuring cylinder 10ml. *1
14. Wash bottle filled with distilled water
15. 100cm^3 Solution FA2
16. 110cm^3 Solution FA3
17. 10 cm^3 of Solution FA6
18. About 25cm^3 2M Sodium hydroxide solution

ACCESS TO
1. 2M Hydrochloric acid
2. Phenolphthalein indicator
3. 2M Acidified Barium chloride
4. 2M Sodium hydroxide solution
5. 2M Ammonia solution
6. 2M Nitric acid solution. *i.e. about 15cm^3 per student*

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NOTES

- 100cm^3 Solution FA2 is a 0.0984M Hydrochloric acid solution.
- 110cm^3 Solution FA3 is a 0.0984M sodium hydroxide solution.
- **solid FA6** = **Al$_2$ (SO$_4$)$_3$+ CuCO$_3$** mixture in the ratio of 1:1

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KENYA CERTIFICATE OF SECONDARY EDUCATION
COMPUTER STUDIES PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES

- Write your Name and Admission Number in the spaces provided above.
- This paper consists of **TWO** sections: **A** and **B**
- Answer **ALL** questions in section **A**
- Answer question 16 and any other **THREE** from section **B**
- All answers should be written in the spaces provided in the question paper

For Examiner's use only.

Section	Question	Candidate's Score
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
	Total Score (100)	

This paper consists of 10 Printed pages.
Candidates should check the question paper to ensure that all the
Papers are printed as indicated and no questions are missing

SECTION A (40 marks)

Answer all the questions in this section.

1. Define the following terms   (2marks)
   a) Amplitude

_____

_____

   b) Frequency

_____

_____

2. Mention three functions of Database Management Software   (3marks)

_____

_____

_____

_____

3. State two functions of a query (2marks)

_____

_____

_____

4. Define the following terms as pertaining computer software (2marks)
   (a) User friendliness

_____

_____

   (b) Portability

_____

_____

5. Mention three characteristics of a computer infected by computer virus(3marks)

_____

_____

_____

_____

6. Give three reasons that might have necessitated the development of Second generation computers(3marks)

_____

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7. Give two reasons for using octal and hexadecimal number system **(2marks)**

_____

_____

8. Describe three spelling and grammar checkers option available in ms-word **(3marks)**

_____

_____

_____

_____

9. Differentiate between bound and unbound control **(2marks)**

_____

_____

_____

10. Explain the above E.R. Diagram below. **(2marks)**

_____

_____

_____

_____

11. Represent -21 in three ways in 8 bit binary **(3marks)**

_____

_____

_____

_____

12. List **three** advantages of computerized filing system. **(3marks)**

_____

_____

_____

_____

13. (a) Define the term Key field   **(1mark)**

_____

_____

    (b) Describe a property that a field must satisfy to qualify as a primary key **(2marks)**

_____

_____

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14. A computer is idle but the hard disk light is blinking, indicating some activity . State two possible causes of this (2marks)

_____

_____

_____

_____

15. a) What is real time processing   (2marks)

_____

_____

_____

   b) Mention three application areas of real time processing (3marks)

_____

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SECTION B (60 marks)

Answer questions 16 and any other three questions from this section.

16.
   (a) Describe how the following terms are used in programming (**3marks**)
      (i) Programming
_____
_____

      (ii) Machine Independent
_____
_____

      (iii) Debugging
_____
_____

   (b) Mention three disadvantages of low level programming languages (**3marks**)
_____
_____
_____
_____
_____

   (c) Describe three methods of testing a computer program (**3marks**)
_____
_____
_____
_____
_____

   (d) Study the pseudocode below and draw flowchart that can be used to represent it
       Start
               Q=5
               P=6
               Enter N
               IF N<=0 Then
               K=P*Q
               M=P-Q
               S=P+Q+K+M
               Else
               K=P
               M=K+P
               S=N
               Endif
               Print K, M, S

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Stop

17. (a) Convert the following numbers
    (i) 101010.01011_2 to Decimal (**3marks**)

_____

_____

_____

_____

_____

_____

    (ii) 671_8 to Decimal (**3marks**)

_____

_____

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    (iii) ADFH to Octal (**3marks**)

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    (iv) Evaluate $10101110_2 + 110001_2 - 10101_2 + 1111_2$ (**3marks**)

_____

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(b) Use twos compliment to subtract 16_{10} from 5_{10} and write you answer in decimal notation (**3marks**)

_____

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_____
_____
_____

18.

(i) The following records were entered in a database

Date	Class	Registration No
1/1/2007	East	1425-A
1/1/2008	North	1426-A
12/1/2008	North	1426-B

(a) Suggest a validation rule for date given that it should be not before 1/1/2006   (2marks)

_____
_____

(b) List the records that will be displayed after running the following criteria?   (2marks)

   i. <>#1/1/2008 on date

_____
_____

   ii. 1426-A on class

_____
_____

(c) Write the input mask for registration No   (1mark)

_____
_____

(d) Explain the following terms as used in Word Processing *(3marks)*

   i) Word Wrap

_____
_____

   ii) Orientation

_____
_____

   iii) Indenting

_____
_____

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(e) Explain **three** ways in which the contents of a spreadsheet may be prevented from unauthorized editing (3marks)

_____

_____

_____

_____

(f) A worksheet contains the data as shown below.

	A	B	C	D	E	F	G
1	8		20				
2	11		45				
3	14		52				
4							
5							
6							
7							
8							

(i) The formula = COUNTIF (CI:C3, "20") was entered at GI. Write down the value that was displayed. (1mark)

_____

_____

_____

(ii) Write down the formula that would be entered at cell B7 to sum the values in column A whose values are greater or equal to 5. (2marks)

_____

_____

(iii) The formula = $C2 + C$3 is entered in cell C5 and then copied to Dl 0. Write down the

Formula as it appears in the destination cell. (1mark)

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_____

_____

19.

  (a) Define the following terms in relation to internet **(3marks)**

    (i) Hyperlink

_____

_____

    (ii) Surf

_____

_____

    (iii) Uploading

_____

_____

  (b) During Covid-19 pandemic most learning institutions were using videoconferencing technologies to teach their learners while at home. State three elements that learners were expected to have in order to attend the virtual classes **(3marks)**

_____

_____

_____

_____

_____

  (c) Describe three services offered by the internet **(3marks)**

_____

_____

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_____

  (d) Name three human attributes that is usually used to authenticate users with the help of biometric system **(3marks)**

_____

_____

_____

  (c) Explain the following terms as used in data security and control **(3marks)**

    (i) Social engineering

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_____

_____

    (ii) Industrial Espionage

_____

_____

    (iii) Patches

_____

_____

_____

20.

  (a) Describe the following features with regard to DTP **(3marks)**

    (i) Master page

_____

_____

    (ii) Text tool

_____

_____

    (iii) Toolbox

_____

_____

  (b) Describe three ways in which computer technology is used by the police **(3marks)**

_____

_____

_____

_____

_____

  (c) Helmer would like your advice on measures to put in place so as to protect computer users from unhealthy effects of computer usage. Highlight any three **(3marks)**

_____

_____

_____

_____

  (d) An accountant in a company is entitled to creating a payroll list organized in order in which they were employed for the purpose of job promotion and replacement

    (i) State the most appropriate file organization used by the Accountant **(2marks)**

_____

_____

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(i) Name the best storage media that will support the method in (i) above **(1mark)**

_____

_____

(ii) State one advantage and one disadvantages of the method mention in (i) above **(2mark)**

_____

_____

_____

(iii) Identify the best data processing mode the accountant should use to process the employee's salaries **(1mark)**

_____

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KENYA CERTIFICATE OF SECONDARY EDUCATION
CRE PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

1) Write your name and index number in the spaces provided above.
2) This paper consists of **FIVE** questions.
4) Answer all five questions on the foolscaps provided.
5) Each question carries 20 marks.

For Examiner's Use Only

Questions	1	2	3	4	5	TOTAL
Score						

1 a) Explain six benefits of learning Christian Religious Education in Secondary schools. **(6mks)**

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b) State seven teachings about man from the Genesis stories of creation.   **(7mks)**

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c) State the importance of reading the bible today.   **(7mks)**

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2 a) State eight promises that God made to Abraham in Haran and Canaan   **(8mks)**

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b) How did God instil confidence to Moses so as to accept his call   **(5mks)**

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c)Identify seven attributes of God learnt by Christians from the ten plaques.   **(7mks)**

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3 a) Identify four ways in which king Solomon fulfilled the prophesies of Samuel on kingship in Israel

         (8mks)

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b) Outline the success of Elijah as a Prophet of God   **(5mks)**

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c) Give seven ways in which Christians fight corruption in Kenya today   **(7mks)**

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4 a)Using examples give six reasons why Jesus faced opposition from the Jewish religious leaders in Galilee   **(6mks)**

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b) Identify seven teachings of Jesus on Eschatology   **(7mks)**

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c) Identify six signs that confirmed the coming of the Holy Spirit on the day of Pentecost   **(6mks)**

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5 a) Identify seven methods used by the Old Testament prophets to pass their messages.   **(7mks)**

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 b) Describe the call of Prophet Jeremiah   **(7mks)**

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 c) How do Christians play the role of Amos today   **(6mks)**

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CRE PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Answer All Questions

1a) Explain **six** expectations of the Jews concerning the messiah.   (6marks)

b) Outline the similarities between the annunciation of the birth of John the Baptist and
     that of Jesus Christ.   (8marks)

 c) State **six** New Testament teachings about children.   (6marks)

2.a) Describe the call of the first disciples according to (Luke 5:1-11).   (8marks)

   b) Explain the reasons why Jesus chose the 12 disciples.   (7marks)

   c) State **five** ways in which Christians demonstrate true discipleship.   (5marks)

3. (a) Describe what happened to Jesus from the time of his arrest to his death on the cross Luke
22: 47- Luke 23:48   (8mks)

(b) Give **five** reasons why it was difficult for the disciples to believe that Jesus had resurrected
(5mks)

 (c) Outline the importance of resurrection of Jesus to Christians today   (5mks)

4.a) Highlight the message of Peter on the day of Pentecost (Acts 2:14-40).   (8mks)

  (b) State **seven** teachings of Jesus on the role of the Holy Spirit. (7mks)

  (c) State **five** problems of spreading the Gospel today. (5mks)

5. a) State **seven** fruits of the Holy Spirit according to Galatians 5:6-26   (7mks)

  b) Explain **seven** ways in which the gifts of the Holy Spirit is misused in Christians churches
         today (7mks)

c) State any **six** characteristics of love according to **1st Corinthians 13(6mks)**

6. Identify five symbolic expressions used in teaching the unity of believers in the apostolic
Church (5mks)

Identify factors which cause disunity among the Christians today.(8mks)

.Give **five** ways in which Christians show their trust in God.(7mks)

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ENGLISH PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS

1.   Write your name index number in the spaces provided.
2.   Answer all questions in this paper
3.   All answer must be written in the spaces provided in this question paper

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM	SCORE
1	20	
2	10	
3	30	
Total Score	60	

1.   You are a young investigative journalist; you've just visited a welfare organization that received funds from a donor. The organization however feels that the funds can't suffice their plans and therefore appeals for more funds from the donor. Write a report.

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2. CLOZE TEST   (10mks)
Fill in each blank space in the following passage with a suitable word.

Can you _____1_____ a basic standard two test? You may be schooled but you are
not_____2_____ this, a woman' s baby is dying _____3_____! Picture this, a woman' s baby is on
the _____3_____   a disease and a nearby poster On the _____4_____   gives details on how to
prevent or _____ 5_____ it, yet _____6_____   cannot interpret it despite having attended primary
school. This is part of a dilemma that a group of education researchers are out to ____7_____: Weather
Kenya' s _____8_____can be read but cannot process information._____9_____Education
researchers have designed a unique test _____10_____ at reviewing Kenyans? Ability to read and
write   completely, despite, going through a rigorous school system.

3. ORAL SKILLS   (30mks)
a)   Read the oral narratives below and answer the questions that follow.

Once upon a time, a woman who was pregnant and about to give birth went to the bush to collect
firewood. On went to the bush to collect firewood. On reaching the bush, she suddenly gave birth
to a baby boy who was so deformed and ugly that she decided to exchange it for another baby. A
normal – looking one she found abandoned and crying in a nearby thicket. She didn' t know that
this baby was a spirit called Ekipie by the Turkana.

 The woman returned home with the baby and since it was evening time, she had to milk   the
cows. So as usual, she took three gourds and filled them with milk from the numerous cows they
owned. She put the milk containers in her hut where her eldest daughter was minding the new
baby. Then she went out again to complete some of her other chores.

Later, when she returned to the hut where she had left the baby, she found to her dismay, that
there was no milk at all. All the three guards were empty. Surprised, and shocked, she questioned
her daughter about the milk and what had happened to it. The girl replied;

" The baby has drunk it all" .

" I cant belief such a tale. It' s ridiculous for you to say such a thing" , She scolded her daughter.

" Don' t tell lies. Admit you are just imagining things. Who drank the milk?"

The woman persistent in questioning her daughter in questioning her daughter who swore it was
the baby.

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Strange as it may sound to you, the same thing happened again the following day and a several consecutive days. The woman grew puzzled and confused. Her husband too began to complain about the non – availability of milk in the household. Now, the woman had no alternative but to tell him the truth.

Questions

i)   What would you do to prepare your audience to listen to the above story?   (2mks)

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ii)   What two things would indicate to you that the audience is following the story?   (2mks)

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iii)   What two oral devices would you use in narrating this story?

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iv)   How would you perform the reply of the girl" The baby has drunk it all"

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b)   Provide homophones for the following words.

i)   Know..

....

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ii)   Scene...

    ....

        ....

    ....

iii)   Sight...

    ....

    ....

    Iv.

    Blew...

    ....

    ....

    .v.

Ewe...

....

c)   Explain the difference in meaning between the following sentences.

                                        (2mks)

    i)   The <u>thief</u> entered this house

    ....

    ....

    ii)   The thief entered <u>this</u> house

    ....

    ....

d)   In the following paragraph, the writer has utilized one of the genres of oral literature to express
        his feeling about the subject. Answer the following question based on it.

    The prince was <u>their</u>, <u>idol</u>

    Through he was enjoying the <u>peas.</u>

    He was bored and need parrying,

    The regency took the <u>queue</u>

    To enjoy from the generous <u>air,</u>

    The kind <u>sun</u> of the kingdom.

        (Karnabomain)

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Replace the underlined words with those that have the same sounds to bring out the intended surface/ literal meaning. (3mks)

i)...
....

ii)..
....

iii)...
....

iv)..
....

v)...
....

e)   " Your Bob owes our bob. If your Bob doesn't give our Bob the bob owes our Bob, Our Bob will   give your Bob a bob in the eye?

i)   Identify the genre above (2mks)

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

ii)   Give one characteristic feature of the genre above. (2mk)

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f)   Mrs. Jabali of Upendo High School asked her class to decide which of the set books in their syllabus they should perform for the rest of the school. Read the form Four champions discussion below and then answer the questions that follow.

Mrs Jabali: Rose, Would you lead the discussion?

Rose: Aha,Ok. The question is, What play should we pick for our class play?

Does anyone have suggestions? Mercy?

Mercy: I suggest we do an Enemy of the people.

Sharon: How about shreds of Tenderness?

Rose: No, I dislike Shreds of Tenderness Passionately.

Kaunda: I love the River Between.

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Mercy:	No way! That would make a stupid play! let's do An Enemy of the people.
Rose:	Sasha!
Sasha:	I have never watched Shreds of Tenderness but ....
Joy:	It is a super barb play.
Rose:	Joy, Please let Shasa finish then it is your turn.
Joys:	Sorry
Sasha:	Anyway, I have never seen a play on An Enemy of the People but I have watched a movie and I loved it.
Rose:	Lilian
Lilian:	I just wanted to say that I like think Shreds of Tenderness is really good play.
Rose:	Naom?
Naom:	I saw the Movie An Enemy of the people too, and I really liked it. I loved the part where Catherine storms the........
Rose:	Excuse me, Naom, But we should talk about that after the discussion is over. Does anyone have any other suggestions? No? Ok.Mercy proposed An Enemy of the People, Sharon like Shreads of Tenderness and Kaunda wants the River Between. Has anybody seen or read all three? No? Ok. I suggest that we read them and then continue the discussion in a couple of days. Is that okay with everyone? Ok. The discussion is over.

i)   In terms of effective communication identify five things some members of form four champions did wrong in the discussion.   (5mks)

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ii)   Mention three aspects or etiquette displayed by some members during the discussion.   (3mks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

ENGLISH GENERAL PAPER FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES.

    (a) Write your Name and Adm Number in the spaces provided.

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

    (c) Answer all questions in this paper.

    (d) All your answers must be written in the spaces provided.

    (e) This paper consists of **12** printed pages.

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

    (g) Candidates **must** answer all the questions in English.

The paper consists of FOUR sections as follows

SECTION 1	WRITING	20MKS
SECTION 2	COMPREHENSION	20MKS
SECTION 3	ORAL SKILLS	25MKS
SECTION 4	GRAMMAR	15MKS
	TOTAL	**80MKS**

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1. FUNCTIONAL WRITING   20 MARKS

You are the secretary of the Students' Council in your school. After a consultation with the chairperson, who is the senior school captain, you call for a second meeting for the year. During the meeting, six members managed to attend, three were absent but sent their regret but two never attended and never bothered to send apologies. The school principal and the school deputy principal in-charge of Administration also attended the meeting. Some of the issues discussed include;

      i.   Codes of conduct of school captains
      ii.   Trip to Nairobi
      iii.   Awards
      iv.   AOB

Write the minutes.

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2. COMPREHENSION   20 MARKS

Read the passage below and answer the questions that follow.

The issue of integrity among our leaders has been a concern to me for a long time but recent political developments especially since the referendum campaigns have promoted me to reflect on this topic. The behavior of our leaders over the last couple of months makes me wonder if integrity was ever a consideration in the appointment of, or the voting to office for our leaders. Some of our members of parliament ought not to be in the August House for the simple reason that they cannot pass the integrity test.

What saddens me most is that our leaders are supposed to be our role models, yet some have lifestyles, beliefs and practices that should not be emulated. It's sad to note that many have no integrity and are not worth in the positions of power they hold .They are a shame to the nation and an embarrassment and let down to our children .

Integrity: 1. adherence to moral principles; honesty 2. the quality of unimpaired; soundness.3.unity wholeness. When you have integrity your words and your deeds <u>match up.</u> You are who you are, no matter where you are or whom you are with.

Sadly, integrity is a vanishing commodity in our country today .Politicians top the list of those I consider to have little integrity .But lack of integrity is also evident in our relationships, at home, at our places of work and even in faith based organizations. Personal standards have <u>crumbled </u>as we have taken to personal pleasure and shortcuts to success. Money and power seem to be the two most sought after commodities and in the scramble to get them <u>integrity has taken a back seat.</u> You have seen people become overnight millionaires through corrupt deals and politicians following their stomachs as they move from one camp to another. A person of integrity does not have divided loyalties no does he or she pretends to be who they are not. People who have integrity are 'whole' people who are identified by their single- mindedness and <u>unwavering</u> commitment to what is right. They have nothing to hide and nothing to fear. Their lives are open books. A person of integrity has established a morally right system of values against which all of life is judged.

Integrity is not what we do as much as who we are, which in turn influences what we do. It determines what is important to us and guides our priorities in life. We are all faced with conflicting desires at different points in life. No one, no matter how 'spiritual' can avoid this battle. Integrity is the foundation that determines what we stand for and fall for. We struggle daily with situations that demand decisions between what we want to do and what we ought to do. Integrity establishes the standards and rules by which we resolve these conflicts.

Integrity will not allow our lips to <u>violate </u>our hearts. When integrity is the referee, we will be consistent; and our beliefs will be mirrored by our conduct. There will be no discrepancy between what we appear to be and what others know we are, whether in times of prosperity or diversity.

Integrity allows us to predetermine what will be regardless of circumstances, persons involved, or the places of our testing. Integrity frees us to be ourselves no matter what comes our way.

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Integrity also determines our credibility and the more credible we are the more confidence others place in us, thereby allowing us the privilege of influencing their lives. The supreme quality for any leader, parents included, should be unquestionably integrity. Without integrity, no real success in leadership or parenting is possible.

Most of us live only for ''image'' seeking to be seen as particular people when we are not what we project of ourselves. A person of integrity is an authentic and honest person. If you have integrity, you are sincere and don't have to advertise the fact .It is visible in your actions and soon becomes common knowledge to everyone.

Integrity is not a given factor in everyone's life .It is a result of self-discipline, inner trust and a decision to be relentlessly honest in all situations in our lives .Unfortunately, today strength of character is a rare commodity .The meaning of integrity has been eroded .Can you stand up and be counted as a man or woman of integrity? If you can't, then make it your New Year's resolution to be a person of integrity.

Questions

a) What reasons does the author advance to doubt the credibility of some of our members of parliament? (2marks)

-

_____

_____

_____

_____

b) When you have integrity your words and deeds match up (Rewrite replacing match-up with one word)   (1mark)

_____

_____

_____

_____

c) Why is the author saddened by our leaders?   (3marks)

_____

_____

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_____

_____

d) The writer thinks that integrity is a vanishing commodity in our country today. Give reasons.
(3marks)

_____

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e) A person of integrity does not have divided loyalties, nor does he or she pretend to be who they are not. (Begin neither)   (1mk)

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f) In about 40 words write a summary on the characteristics of a person of integrity. (4marks)

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g) What is the author's attitude towards our leaders? (2marks)

_____

_____

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_____

h) Explain the meaning of the following words and phrases as used in the passage (4marks)

i) Crumbled-

_____

_____

ii) Integrity has taken a back seat

_____

_____

iii)Unwavering_____

_____

iv)Violate_____

_____

3. ORAL SKILLS   25 Marks

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

I WANT TO DIE WHILE YOU LOVE ME

I want to die while you love me,

While yet you hold me fair,

While laughter lies upon my lips

And lights are in my hair.

I want to die while you love me,

I could not bear to see,

The glory of this perfect day,

Grow dim- or cease to be.

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I want to die when you love me,

Oh! Who would care to live,

Till love has nothing more to ask,

And nothing more to give.

I want to die while you love me,

And bear to that still bed

Your kisses, turbulent, unspent,

To warm me when I am dead.

I. Describe the rhyme scheme in the poem above.   (2marks)

_____

_____

ii. Identify and illustrate 2 sound devices used in the poem above.   (4marks)

_____

_____

_____

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_____

iii. You have been asked to present this poem to the audience. How would you make the presentation lively?   (2marks)

_____

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iv. How would you perform the last line of this poem?   (2marks)

_____

_____

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_____

_____

b. **Underline the silent letter in each of the following words.**
   (4marks)
   i.   Briton
   ii.   Thyme
   iii.   Apropos
   iv.   Tourism

c. **Which word is pronounced the same as the ones below?**   **(3marks)**
   i.   One-
   ii.   Fur-
   iii.   Key –

d. You have been invited to be the guest speaker in your friend's graduation ceremony. How would you deal with fear and anxiety so that you deliver your speech effectively? (4marks)

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e. Imagine you were to perform an oral narrative at the County Drama Festival Competition. What accompaniment would make your audience remember your performance for a long time? (4marks)

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4.   GRAMMAR   15 MARKS

1. Choose the correct pronoun in the brackets to fill in the blanks below.   (2marks)

i. He was asked to select between Jeremy and _____ (I/me)

ii. The boy had forgotten _____ he gave the money. (who/whom)

2. Fill in the blank spaces using the correct form of the verb in brackets.   (2marks)

a. If I had money, I _____(buy) a car.

b. If she _____ (be) honest, I would stay with him.

3. Choose the correct form of words in brackets to complete each of the sentences below.   (2marks)

i. Who broke the handle_____ (off, of) this cup?

ii. Choose _____ (among, between) these eight phones.

1. **Use the comparative form of the word in brackets to fill the blank spaces below.**

                                                              (3marks)

   a.   George could not have been _____ about our visit. (happy)
   b.   Last year, we had the _____ of our lives. (bad)
   c.   This fruit has a _____ flavor than the one you bought yesterday. (rich)

2. **Fill in the blanks below with appropriate propositions   (2marks)**

   i.   They prohibited _____ parking cars at the gate.
   ii.   The meat weighed _____ three hundred kilograms.

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3. **Change the following sentences into passive.**   **(2marks)**

    i.   Kimani wrote the best essay

    _____

    ii.   Mrs. Onyango bought the beautiful car over the there.

    _____

4. **Rewrite the following sentences adding appropriate question tags.**   **(2marks)**

    i.   Let's do the assignment

    _____

    ii.   He saw the man run.

    _____

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KENYA CERTIFICATE OF SECONDARY EDUCATION

FRENCH PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instructions to candidates

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

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

Answer all the questions in this paper

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Read the following passages and answer the questions that follow after each passage.

PASSAGE 1

Mon correspondant français habite à Paris. Il apprend l ' anglais. Ses cours commencent en septembre. Il travaille beaucoup comme nous. En février, à Paris, il fait très froid, mais en mai, il fait chaud. Les collégiens travaillent moins, et ils jouent avec leurs copains.

Questions

1.Où habite son correspondant?(1pt)

2.Quel temps fait– il à Paris (1 pt)

(a) en février?

(b) en mai ?

3. Quand commencent ses cours? (1 pt)

PASSAGE II

C'était le premier avril. Une drôle histoire s'est passée au village Kivumbini à Nakuru. Ce jour-là, très tôt le matin, deux hommes sont venus chez Monsieur Kawangware, un contrôleur de matatu et le père d'onze enfants. Les deux visiteurs lui ont dit que le président de la république dînerait chez lui mercredi soir. Pour recevoir dignement le président, le pauvre homme qui ne gagne que 1500 shillings mensuellement a dû en prendre sur son modeste salaire 1000 shillings pour préparer un bon repas. Sa femme était déjà accablée de travail. Hélas ! Les pauvres Kawangwares ont attendu leur visiteur en vain.

1.. Où s'est passée-t-elle cette histoire ? (1/2 point)

2. La famille attendait quel visiteur ? (1 point)

3. Qu'est-ce qu'ils ont préparé pour recevoir le visiteur ? (1 point)

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4. Combien gagne monsieur Kawangware mensuellement ?   (1/2 point)

5. Est-ce que le visiteur est venu ?   (1/2 point)

PASSAGE III

Un événement extraordinaire s'est passé hier soir dans la ville de Sakima.Un pécheur a eu un choc et maintenant hospitalisé après avoir trouvé un grand serpent et ses petits dans un sac. Monsieur Oumar , pécheur et père de trois enfants était allé au Lac Victoria où il avait rempli son sac de poissons .Puis il avait pris un matatu pour rentrer à Kondole, où il vit. . Il est arrivé à la maison et devant sa femme, il a ouvert le sac. Mais hélas ! Au lieu des poissons ,il a trouvé le reptile et sa famille encore vivants. Il est immédiatement tombé par terre et sa femme a dû appeler l'ambulance pour le transporter à l' hôpital. La police a finalement établi que Monsieur Oumar avait pris le sac d' une sorcière sans le savoir.

Questions

1. Où se passe cette histoire?(1 pt)

2.Oumar a été choqué parce qu'il……………………………………………………………………………….(1 pt)

3.Qu 'est – ce qu'il a trouvé au lac ? (1 pt)

4. Où habite Oumar?(1/2 pt)

5.Qu 'a fait sa femme? (1 pt)

6.A qui appartient le sac en question? (1 pt)

GRAMMAR

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A. Rewrite the following sentences in passé composé

a) Je ne fais pas mon devoir.

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

b) Paul et Claude se dépêchent pour aller à la gare.

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

c) Korir choisit une belle chemise.

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

d) Nous achetons des fruits au marché.

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

e) Les trois amis montent la colline.

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

B. Rewrite the following sentences in future proche

1. Un lapin meurt près de chez nous.

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

2. Le weekend nous partons en minibus.

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

3. Je me lève à 06 heures.

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

4. Mes cours commencent en septembre.

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

5. Les maçons construisent une belle maison.

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

C. Match the sentences in column A with the appropriate endings from

column B (3pts)

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Column A	Column B
a) On bloque la rue	i) Parce qu'il y a des blessés
b) On applaudit	ii) Parce qu'il y une incendie
c) On se précipite à l'hôpital	iii) Parce qu'on veut être informé
d) On fête	iv) Parce qu'il fait gris
e) On a des manifestations	v) Parce qu'il y a une noce
f) On écoute la radio	vi) Parce que le concert est très intéressant Parce qu'il y a des précipitations.

D. Rewrite the following sentences as directed. Avoid unnecessary repetition.

1. Monsieur Laroche enseigne le français.

Le français _____

2. Monsieur Abdou chante encore?

Non, il _____

3. Elle habite à Thika. Son frère aussi Wanjiku.

Wanjiku et _____

4. Le directeur parle aux étudiants?

Oui, il _____

5. Voulez-vous de la viande?

Oui, _____

6. Est-ce que Claude va chez le dentiste?

Non, il _____

7. Maina aime -t -il les animaux domestiques?

Oui, il _____

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8. Les enfants visitent parc le samedi?

    Non, ils _____

9. Vas-tu acheter une robe pour noël?

    Non, _____

10. Tu viens de Nakuru Marie?

    Oui, _____

E. Use the words in the frame to complete the sentences correctly.

> **aux oncle petit-fils on père cousin neveu pour on dans**
>
> **formidable bienvenue cousin chez parce que zut de les**

i)   _____ à notre journée française Madame l'inspectrice.

ii)   Christine est ici? Non, elle est _____ elle.

iii)   Nous voudrions des fruits _____ le réfrigérateur.

iv)   J'adore le français. C'est _____!

v)   Nous allons _____ toilettes.

vi)   Le petit-fils de mon père c'est mon _____.

vii)   Onyango fait beaucoup de bruit _____ le professeur est

        absent.

viii)   _____ va au cinéma? Bon, allons

        _____.

ix)   Il parle _____ son lycée.

F. Provide an appropriate question to the following .

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Exemple:….. Où vas-tu?

Je vais au marché

i) Elle va à Paris.

…………………………………………………………………………………

ii) Nous partons à 2h30.

…………………………………………………………………………………

iii) Il y a deux cents étudiants.

…………………………………………………………………………………

iv) Il cherche les visiteurs

…………………………………………………………………………………

v) J'ai trente - deux ans.

…………………………………………………………………………………

G. Rewrite the sentences below in the indirect speech (5pts)

1. Il dit. <Je ne vais pas au lycée aujourd'hui.>

   Il dit……………………………………………………………………………

2. Suzanne et Juliette disent à l' adolescent. <Ne fumes pas des cigarettes.>

   Elles lui dit……………………………………………………………………

3. M. Jules dit à son fils. <Finis ton devoir.>

   Il dit à son fils

   ……………………………………………………………………………

4. Maman me demande. <Es-tu malade?>

   Maman me demande …………………………………………………………

5. Le professeur demande à l'élève. <Où vas-tu?>

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Le professeur demande à l'élève ……………………………………………………

6.Josephine et Hannah : Nous sommes malades.

Leur mère: Que –dites-vous?

Nous disons ……………………………………………………………………………

6. Kasema dit: <Je suis fatiguée>

   Kasema dit……………………………………………………………………………..

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KENYA CERTIFICATE OF SECONDARY EDUCATION
GEOGRAPHY PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instructions to candidates

This paper has **TWO** sections **A,** and **B**

Answer **ALL** questions in sections **A** in section **B** answer question **six** and **any** other **two** questions **ALL** answer must be written in the answer booklet provided.

This paper consists of 4 printed pages
Candidates should check the question paper to ensure that all the
pages are printed as indicated and no questions are missing

SECTION A

Answer ALL the questions in this section.

1. (a) Name the **three** transitional zones of the atmosphere   (3mks)

    (b)   Give **two** reasons why cloud concentration is higher in the troposphere   (2mks)

2. (a) State **three** sources of underground water   (3mks)

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

3.   (a)   What are the conditions for the occurrence of saline lakes in the rift valley (3mks)

      (b)   State **two** ways in which lakes are formed naturally   (2mks)

4.   (a)   Apart from secondary waves name two other types of waves generated by an earth quake

                                                                                                        (2mks)

                  (i)   State two characteristics of **S**-waves generated by an earthquakes   (2mks)
      (b)

                              (ii)   Name the instrument that measures seismic waves.   (1mk)

5.   (a) State two characteristics of the sun.   (2mks)

      (b)   Outline three forces that have influenced the shape of the earth.   (3mks)

      SECTION B

      Answer Question 6 and any other TWO in this section.

6.   Study the map of Kijabe 1:50,000 provided and answer the following questions:

      (a) Give

          (i)the name of the map.   (1mk)
          (ii) title of the map.   (1mk)
          (iii) Name two types of scales used on Kijabe map.   (2mks)

      (b) (i) Give the approximate position of Kijabe Station by latitude and longitude. (2mks)

          (ii) Apart from latitudes and longitudes, give three other methods used on the map to locate
      places.   (3mks)
      (c) (i) Describe the distribution of vegetation in the area covered by the map.   (5mks)

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(ii)Identify the drainage patterns on Kijabe Hill. (2mks)

(iii) Give any two evidences to show that the area receives high rainfall.   (2mks)

(d) (i) Identify activities represented by

- Murram pit in grid square 3190
- Carbacid Plant in grid square 3796

(ii) Draw a rectangle measuring 8cm by 10cm to represent part of the map from 240910 to 280910
and from 240910 to 240960. On it mark and name. (5mks)

(iii) State two physical factors that would make it difficult to construct a road in area found in grid
square 3099. (2mks)

7. (a) Differentiate between aridity and desertification. (2mks)
   (b) Name **three** types of desert surfaces. (3mks)
   (c) Using well labeled diagrams explain the formation of the following desert features

i)Barchan   (3mks)

ii)Zeugens   (3mks)

(d)   (i)   Explain the role played by ocean currents in enhancing aridity.   (4mks)

(ii)   Give three examples of ocean currents and name the arid areas that result from

their influence.   (3mks)

(e)   (i)   Name **three** processes involved in wind erosion in deserts. (3mks)

(ii)   State four significance of desert features to man.   (4mks)

8. (a) State and explain **two** causes of faulting   (4mks)

(b) Explain **three** ways in which faulting can influence drainage system   (6mks)

(c) Describe the effect of a rift valley on the following

(i)   Transport (3mks)

(ii)   Agriculture   (3mks)

(d)   (i)   Describe how block mountains influence climate   (4mks)

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(ii)   Give **three** significances of faulting to human activities   (3mks)

(e)   Differentiate between a symmetrical fold and an asymmetrical fold   (2mks)

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9 (i) State the difference between regolith and talus scree.   (3mks)
(ii) Outline three factors that influence weathering of rocks in Kenyan highlands.
                                                                        (3mks)

b) (i) Explain three physical processes that may lead to breakdown of rocks.
                                                                        (9mks)

(ii) State three ways how rainfall may contribute to the decay of rocks
                                                                        (3mks)
(iii)Name two features which result from weathering.   (2mks)

c) Outline the significance of weathering to:
(i) Farming   (3mks)

(ii) Mining   (2mks)

10   (a) (i) Define a river   (2mks)
(ii)   Explain how a river erodes through the following processes:
•   Hydraulic action
•   Corrasion
•   Corrosion   (6mks)
(b) (i) Differentiate between river capture and river rejuvenation   (2mks)
(ii) Describe the process of river capture with the aid of a well-labeled diagram.   (8mks)
(c) State **three** conditions leading to river rejuvenation.   (3mks)
(d) Your school plans to carry out a field study along a river.
(i)   Name **two** features found at the youthful stage.   (2mks)
(ii)   Give **two** negative effects of rivers they are likely to find out.   (2mks)

Geography 312/1

5

GEOGRAPHY PAPER 2 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Answer All Questions

1. Name three patterns of human settlements. (3mks)
2. i) List any two products from Jua kali industry in Kenya exported to other countries. (2mks)
   ii) Name two renewable sources of energy used in Kenyan industries. (2mks)
3. a) Name three surfaces that are reclaimed in Kenya. (3mks)
   b) Identify the method of reclamation used in each surface mentioned in 3(a) (3mks)
4. Explain how the following practices help in soil conservation
   i) Mulching (2mks)
   ii) Terracing (2mks)
5. a) Describe how deep-shaft mining takes place. (5mks)
   b) Name three products from an oil refinery other than petrol. (3mks)

SECTION B

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

6. The table below shows milk yield in kilograms per dialy cow in Denmark between 1990 and 1995.

Year	1990	1991	1992	1993	1994	1995
Yields in kg	5243	6693	7398	7610	7792	7946

   (a) (i) Draw a divided circle of radius 3-5cm to represent the milk yield in Denmrk,

   Show all your calculations (2mks)

   (ii) State two advantages of using the divided circle to represent data (2mks)

   (iii) Name two other methods, apart from the divided circle, that could be used to represent

the above data. (2mks)

   (b) (i) Explain three physical factors that have favoured farming in Denmark (6mks)

   (ii) State three problems facing dairyFarmers in Kenya (3mks)

   (c) Explain two reasons why beef farming is more developed in Argentina than in Kenya. (4mks)

7 (a) (i) State any two forms in which minerals occur (2mks)

   (ii) Name any three places where limestone is mined in Kenya (3mks)

   (b) Explain how the following factors influence the exploitation of a mineral

   (i) Market (2mks)

   (ii) The quality of ore (2mks)

   (iii) Technology (2mks)

   (c) (i) Name two provinces in south Africa where gold is mined (2mks)

   (ii) Explain three problems facing gold mining in south Africa (6mks)

   (d) Describe the processing of diamond in south Africa.

8 (a) (i) Apart from oil, name **two** sources of non-renewable energy. (2 mks)

   (ii) List **three** advantages of solar energy. (3 mks)

   (b) Explain **four** problems encountered in mineral exploitation in Kenya. (8 mks)

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(c)   Explain the effects of over-relience on oil as a source of energy.   (8 mks)

(d)   State **four** methods the Government of Kenya uses to manage and conserve her energy

resources.   (4 mks)

9   a)   i)   define the term forestry.   (1 mark)

                ii)   Give three differences between natural forest and planted forests.(3 marks)

        b)   Explain FOUR causes of forest depletion in Kenya today.   (8 marks)

        c)   i)   From the map below, give the names of the forests marked A, B ad C
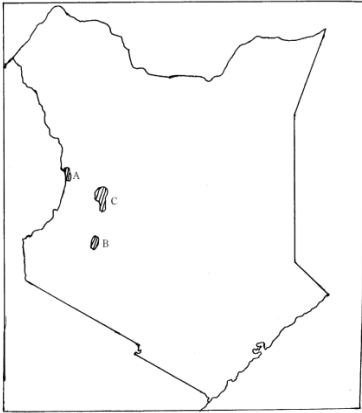
ii)State FOUR measures that are being undertaken by the Kenya Government to conserve forests.
                                                                                                  (4 marks)

d)Explain THREE factors favouring the exploitation of softwoods inCanada(6mks)

End

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KENYA CERTIFICATE OF SECONDARY EDUCATION

HISTORY & GOVERNMENT PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

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

For Examiner's use only

SECTION A	SECTION B			SECTION C		TOTAL
1-17						

SECTION A (25 MARKS) Attempt all the questions from this section.

1. Give the relationship between history and government. (1 mark)
2. State two reasons why Africa is regarded as the cradle of mankind. (2 marks)
3. State two ways in which agrarian revolution led to industrial revolution. (2 marks)

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4. Name one section of the Maasai that strictly practised pastoral economy. (1 mark)
5. Name any two missionaries who worked along the Kenyan Coast by mid-19th C. (2 marks)
6. Identify the major pronouncement of Devonshire White Paper of 1923. (1 mark)
7. Mention the capital of the Buganda Kingdom in the 19th C. (1 mark)
8. Identify the main source of energy used in the early stages of industrial revolution in Europe. (1 mark)
9. State two ways in which the colonial government acquired land for European settlers in Kenya. (2 marks)
10. List down two kingdoms that participated in the Trans – Saharan trade. (2 marks)
11. Name one community which took part in the Chimurenga war of 1896. (1 mark)
12. State two disadvantages of road transport. (2 marks)
13. Mention one ancient urban center in Europe. (1 mark)
14. State two reasons why the Nandi resisted the British for long. (2 marks)
15. State two effects of Land Apportionment Act in Zimbabwe during the colonial period. (2 marks)
16. Give one advantage of dual citizenship. (1 mark)
17. State one example of direct democracy. (1 mark)

SECTION B (45 MARKS) Attempt any three questions from this section.

18. a) State five factors that facilitated the coming of Early visitors to the East African Coast. (5 marks)
    b) Explain five negative effects of Portuguese rule at the East Coast of Africa. (10 marks)

19. a) State five factors for the growth of Trans – Saharan trade. (5 marks)
    b) Explain five reasons for the decline of the Trans – Atlantic trade. (10 marks)

20. a) State three ways in which the colonial administration controlled migration of Africans to urban centers.
                                                                                                    (3 marks)
    b) Explain six consequences of colonial Land Policies. (12 marks)

21. a) State five characteristics of Early political organizations. (5 marks)
    b) Explain five causes of the rise of Independent Churches and Schools. (10 marks)

SECTION C (30 MARKS) Attempt any two questions from this section.

22. a) Give five factors for the growth of Asante Empire. (5 marks)
    b) Describe the political organization of the Buganda. (10 marks)

23. a) State five reasons for using Indirect Rule in Nigeria. (5 marks)
    b) Explain five differences between the British and the French systems of administration. (10 marks)

24. a) State five characteristics of a good constitution. (5 marks)
    b) Explain five importance of the UN Charter on Human Rights. (10 marks)

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HISTORY & GOVERNMENT PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

SECTION A (25 MARKS)
Answer all questions in this section in the answer booklet provided.

1. Give the earliest form of art by early man. (1mk)
2. State two examples of Old wan tools. (2mks)
3. Identify two advantages of the land enclosure system in Britain during the Agrarian revolution. (2mks)
4. Give one result of the invention of the wheel in Mesopotamia. (1mk)
5. State two disadvantages of animal transport. (2mks)
6. Identify two trade goods that originated from Western Sudan during the Trans-Saharan trade. (2mks)
7. Identify two scientific inventions which contributed to food preservation in the 18th century. (2mks)
8. List two factors that led to the expansion of Mwene Mutapa Kingdom. (2mks)
9. Give the importance of the golden stool in the Asante Empire. (1mk)
10. Name one leader who led to the Maji Maji rebellion against the Germans. (1mk)
11. Name one treaty that was signed between the Ndebele and Europeans. (1mk)
12. Give two functions of the Emirs in Northern Nigeria during the colonial administration. (2mks)
13. Identify two uses of copper in Africa during the 19th century. (2mks)
14. Give one negative impact of internet today. (1mks)
15. Name the leader of the British South African Company (BSACO.) in the 19th century. (1mk)
16. Identify one method of colonial administration used by the French in Africa (1mks)
17. State one reasons why early people domesticated crops and animals during the Neo-lithic period. (1mks)

Answer three questions in this section.(45 marks)

18(a) Give five changes marking the Agrarian Revolution in Britain. (5marks)

(b) Explain the effects of the Agrarian Revolution in Britain. (10marks)

19. (a) Give three factors that led to development of urban centers in Africa during the pre-colonial period. (3marks)

b) Explain six consequences of urbanization in Europe during the 19th century (12mks)

20a).Give three reasons why the Ndebele were defeated by the British in 1893 – 1894 (3mks)

(b). briefly describe the results of the Anglo-Ndebele war (Chimurenga) in 1893-1894.

(12mks)

21a) Give three communities that were involved in the Maji Maii Rebellion. (3 marks)

b) What reasons led to the failure of the Maji Maji Rebellion in 1907 (12 marks)

SECTION C
Answer three questions in this section.(30 marks)

22a) State **three** economic effects of partition of Africa. (Marks)

b) Explain **six** causes of Lewanika's collaboration with the British in the 19th century.

(12 marks)

23a) State **five** economic activities of the Shona in the 19th century.(5 marks)

b) Describe the political organization of the Buganda kingdom in the pre-colonial period.

(10 marks)

24a) Give five reasons why the British used Direct Rule in Zimbabwe. (5mks)

(b) Explain five reasons why Samori Toure resisted the French for so long. (10 mks)

HOME SCIENCE PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instructions to students

a) Write your name, admission number and class in the spaces provided
b) Sign and write the date of the examination in the spaces provided
c) This paper consists of **three** sections: **A**, **B** and **C**
d) Answer **all** the questions in sections **A** and **B** and any **two** questions from section **C**
e) Answers to all the questions must be written in the spaces provided in the paper
f) **This paper consists of 15 printed pages**
g) **Students should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing**
h) **Students should answer the questions in English**

For examiner's use only

Section	Question	Maximum Score	Student's Score
A	1- 20	40	
B	21	20	
C		20	
		20	
TOTAL SCORE		100	

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SECTION A: (40 marks)

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

1. Mention **two** ways of providing variety of colour in food. (2 marks)

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    ………
    ………
    ………

2. List **two** methods of steaming food. (1 mark)

    ………
    ………

3. Give **two** ways of encouraging children to play. (2 marks)

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4. State **two** reasons why charcoal must be completely lit before grilling meat. (2 marks)

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5. Mention **three** precautions one should observe when handling glass utensils. (3 marks)

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6. Give **two** reasons why calcium is important in the diet of an expectant mother.   (2 marks)

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7. Mention **two** limitations of dry cleaning at home.   (1 mark)

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8. Give **two** precautions one should take when washing loose coloured clothes.   (2 marks)

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9. State **three** reasons why young people should be encouraged to do physical body exercises.
                                                                                      (3 marks)

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10. Give **two** reasons for blanching vegetables.   (1 mark)

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11. Arrange the following foods into a three course meal.   (3 marks)
    Carrot Rice
    Ice cream
    Steamed Spinach
    Cream of Pumpkin Soup
    Fried Beef
    Vegetable Gravy
    Croutons

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12. Sate **two** importance of ascorbic acid in the body.   (2 marks)

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13. Give **two** possible causes of large holes in a cake.   (1 mark)

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14. Mention **three** points to ensure hygiene during weaning.   (3 marks)

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15. State **two** ways of preventing snake bites. (2 marks)

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16. Give **two** reasons why batter needs to be left for a while before cooking. (2 marks)

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17. Identify **two** fibres with the following characteristics: (2 marks)
    a) Strong when wet and dry.

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    b) Melts when in contact with flame and self-extinguishing.

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18. Mention **two** precautions to observe when using a microwave cooker. (2 marks)

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19. Give **two** ways of making an apron decorative. (1 mark)

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20. Identify **three** qualities of a good kitchen sink. (3 marks)

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SECTION B: (20 marks)
COMPULSORY

Answer question 21 in the spaces provided.

21. You are helping with some odd jobs at home in preparation for Christmas.

    a) Outline the procedure you will follow to clean the blocked kitchen sink.   (8 marks)

    b) Describe how you will launder the white linen table cloth with an old tea stain.

                      (12 marks)

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SECTION C: (40 marks)

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*Answer any **two** questions from this section in the spaces provided at the end of this section.*

22.

    a) Outline **five** rules to observe when setting a table for guests during a dinner. (5 marks)

    b) Mention **four** ways of avoiding nappy rash in babies.   (4 marks)

    c) Mention **five** general causes of malnutrition in a population.   (5 marks)

    d) Citing clear examples, explain **three** reasons for cooking food.   (6 marks)

23.

    a) Explain **three** reasons why silk fabrics are good for making dinner dresses.(6 marks)

    b) Outline **four** rules on the care of a gas cooker.   (4 marks)

    c) Mention f**our** points to observe when laying out pattern pieces on the fabric. (4 marks)

    d) Discuss **three** reasons why a garment care label is important to a consumer. (6 marks)

24.

    a) Give **six** ways of conserving Ascorbic Acid when preparing and cooking cabbages.

                                                (6 marks)

    b) Mention **five** reasons why dish washers are not common in many Kenyan homes.

                                                (5 marks)

    c) Discuss **three** dangers of computer games for children.   (6 marks)

    d) Outline **three** reasons why a recipe is important in cooking.   (3 marks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

IRE PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS:

1. This paper contains five(5) questions.

2. Answer all questions

3. Write your answers in the answer sheet provided.

4. All answers must be in English.

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1 a) Identify five importance of the Holy Qur'an to Muslims (6marks)

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   b) Discuss the circumstances that led to the standardization of the *Holy Quran.* (6marks)

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   c) State the moral teachings of *Suratul Nur* (8marks)

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2. a) Identify six methods used by the prophet to spread his *hadith* and *Sunnah*. (6marks)

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b) Mention eight conditions that a *Hadith* should fulfill before it is accepted as *sahih*.   (8marks)

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c) State six characteristics of the angels of Allah.   (6marks)

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3. a) State six duties of an *Imam* in the Muslim society   (6marks)

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b) Distinguish between *Shariah* and *Fiqh*. (8marks)

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c) State the contributions of *Jafar Assidiq* to the development of *fiqh*. (6marks)

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4. a) Identify five types of sexual perversion practiced in the society. (5marks)

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b) Explain five significance of *Wasiya* in to Muslims. (5marks)

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c) Discuss five importance of marriage in Islam. (10marks)

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5. a) Describe the social practices of Arabs in Arabia during the *Jahiliyya* period. (7 marks)

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b) Explain the factors that facilitated the spread of Islam in pre-colonial East Africa   (6 marks)

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c) Outline the achievements of Sheikh Hassan al Banna in the spread of Islam   (7 marks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

KISWAHILI KARATASI YA 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

MAAGIZO

1. Andika Insha m**bili**
2. Swali la **kwanza** ni la **lazima**
3. Chagua insha nyingine kutoka hizo tatu zilizobaki
4. Kila insha isipungue maneno **400**
5. Kila insha ina alama **20**

Watahiniwa wanastahili kuona kuwa maswali yote yako na hakuna yaliyoachwa.

Jibu maswali mawili, swali la kwanza ni la lazima.

1. Halmashauri ya utunzi wa mitihani nchini imewatahadharisha watahiniwa dhidi ya udanganyifu katika mitihani ya kitaifa. Andika tahadhari hiyo na hatua zitakazochukuliwa dhidi ya watakaozikiuka.

2. Katiba mpya imewapa vijana uhuru wa kujitegemea na kujiendeleza kimaisha. Thibitisha

3. Pilipili usiyoila yakuashiani?

4. Andika hadithi itakayomalizikia kwa:

   ……………kisa hiki kilinifundisha kwamba kuzaliwa masikini si hoja.

KENYA CERTIFICATE OF SECONDARY EDUCATION

KISWAHILI KARATASI YA PAMOJA KIDATO CHA 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Maagizo

(a)   Andika jina lako na nambari yako katika nafasi ulizoachiwa 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.
(e)   Majibu yote ni lazima yaandikwe kwa lugha ya Kiswahili
(f)   Usitoe ukurasa wowote kutoka kwenye mtihani huu.
(g)   Karatasi hii ina kurasa 11 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
A	15	
B	15	
C	40	
D	10	
E	20	
JUMLA	100	

SEHEMU YA A; UFAHAMU (ALAMA 15)

Soma taarifa ifuatayo kasha ujibu maswali yanayofuata.

Mtoto azaliwapo ubongo wake na fikira zake huwa kama ukurasa safi ambao haujaandikwa kitu chochote. Aanzapo kushika, kuona , kupapasa,kunusa na, akili yake huanza kukua. Inasemekana kwa hivyo wazazi wana jukumu kubwa la kumlea mtoto wao wanayotaka. Hasa malezi ya mama ni muhimu mno, kwani mtoto humjua kama rafiki wa kwanza, humwamini sana, humtii anapoanza kufuata amri na humwiga katika mambo yote ayatendayo.

Hivyo basi, mwalimu wa kwanza wa mtoto ni mama kwani yeye ndiye aliye na mvuto mwingi kwake. Hivi si kusema kwamba baba hana dhima katika kumlea mtoto, la! Mazingira ya mtoto yanapopanuka mtoto huanza kuwa na masahibu na walimu wengi wa kuiga. Baba yake na ndugu zake wakimpenda na kumwoyesha ukarimu atakuwa mkarimu, wakimwambia ukweli mtupu atakuwa mkweli, wakisimulia hadithi za ujasiri atakua akiwa na moyo wa ushajaa. Akiwaona ndugu zake wanavyoastahi wazee naye hatakuwa na budi kufanya vivyo hivyo kisha atakuwa mtoto mwenye adabu njema.

Wazazi ndio wanaweza kujenga msingi bora wa nidhamu kwa mtoto wao. Haifai kumwamuru mtoto afanye hivi ama vile na huku wazazi wenyewe wanafanya kinyume. Aghalabu utamsikia baba akimwambia mwanawe asivute sigara, asilewe ama asitukane watu hali yeye mwenyewe anayafanya mambo yayo hayo,tena machoni pa mwanawe!

Mtoto ana imani sana na wazazi wake na ikiwa watakosa adabu, mtoto naye hali kadhalika hatakuwa mwadilifu. Inafaa mtoto atahadharishwe kuwa marafiki wabaya wanaweza kumkokesha adabu. Kwa mfano, mtoto akirejea nyumbani kutoka shule na kalamu au kitabu kisichokuwa chake ni lazima aadhibiwe vikali na aambiwe amrudishe mwenyewe. Akifuatana na watoto wenzake wakaenda katika shamba la jirani na kuchuma matunda yake akayaleta nyumbani, ikiwa wazazi watayala bila kujua ameyapata wapi, na zaidi wamwambie asante, atazidi kuiba vya watu na kuvileta nyumbani na hhatimaye atakuwa pwaguzi katika utu uzima wake.

Inafaa wazazi wapinge tabia zote mbaya kwa maneno na vitendo wakati wa kumlea mwana wao kwani wapaswa kumkunja samaki angali mbichi.

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Kuna hadithi ya mtoto aliyezoea kuiba. Alianzia mayai , akaiba kuku na jinsi alivyokua ndivyo wizi wake ulivyozidi; akiiba mbuzi wa watu, huwatea nyumbani na kuwachinja na mzazi wake akimsetiri kukitokea shitaka.

Siku za mwizi kweli ni arubaini. Ilifika wakati aliponaswa akimchuna ng'ombe wa jiranu ngozi. Alipigwa , akapelekwa katika kituo cha polisi na kiisha akapelekwa mahakamani kushtakiwa. Japo mzazi alifanya juu chini kumtetea kwa usaidizi wa wakili, hakimu aliamuru afungwe jela miaka kumi. Hakimu alimuliza huyo mwizi " una jambo la kusema?" Naye alimsihi amruhusu mzazi wake aje karibu naye amnong;onezee jambo fulani. Mzazi alipofika karibu na kusogeza sikio lake karibu na mdomo wa mtoto wake, mtoto alimhasiri kwa kuliuma sikio lake na kulikata kabisa. Mzazi alilia , "Uuui!" Naam, mchelea mwana kulia hulia yeye.

Wazazi basi hawana budi kuwalea watoto wao wawe wema, wapole, watulivu, karimu, wacheshi na wenye maadili na utu wema. Waepukane na ubaya kama asemavyo mshairi Shaaban: " Utu wema ni rai duniani kila pembe, ubaya ni uadui, huchukiza kila kiumbe."

MASWALI

1. Andika kichwa kinachofaa taarifa hii. (alama 2)

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2. Mwandishi anatoa sababu gani anaposema kuwa mama ni mwalimu wa kwanza wa mtoto. (alama 4)

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3. Baba ana mamlaka gani katika kumlea mtoto? (alama 2)

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4. Eleza kwa maneno yako mwenyewe maana ya: (alama 4)
   "Utu wema ni rai duniani kila pembe,
   Ubaya ni uadui, huchukiza kila kiumbe.

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5. Toa maana ya msamiati huu kama uliyotumiwa katika kifungu hiki. (alama 3)

    i.   Dhima

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    ii.   Masahibu

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    iii.   Wanavyowastahi

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SEHEMU YA B; UFUPISHO. (ALAMA 15)

Licha ya kuwa na historia ya kiasi, maisha ya binadamu ni kioja kikubwa. Hebu jiulize jinsi uhai wako wewe mwenyewe ulivyoanza sembuse unavyokupua na kuishi siku nenda siku rudi.

Dini zimefahamisha kuwa sisi binadamu tumeumbwa na Mwenyezi Muumba. Hata hivyo Muumba hutumia mume na mke kutuanzishia maisha yetu humu duniani. Uhai wa hapa duniani huanzia katika tumbo la mwanamke muda mfupi tu baada ya mume na mke kushirikiana katika tendo la kujamiiana. Katika kujamiiana , mbegu moja ya manii kutoka kwa mwanamume, hudunga na kujiingiza katika yai la mwanamke huku ikilirutubisha. Tangu hapo mtu huwa na mama akawa mjamzito. Hatua ya kwanza ya uhai!

Wanasayansi wametuthibitisha kuwa mbegu katika shahawa kutoka kwa mwanamume ina kromosomu ishirini na tatu (23) nalo yai la mwanamke lina idadi iyo hiyo ya kromosomu. Basi katika hatua ya kwanza ya uhai wake, binadamu ana kromosomu arubaini na sita (46). Kromosomu hizo zote ndizo humfanya mtu kuwa mkamilifu kwa kukadiria mambo mbalimbali adhimu. Kwa mfano, hukadiria kama kiumbe kitakuwa cha kike au cha kiume, mtu mweupe au mtu mweusi, mwerevu au wa wa akili chache, mwenye nywele za singa au za kipilipili, atakuwa na damu ya namna gani, michoro ya vidole vyake itakuwa vipi na hata utu wake utakuwa wa namna gani katika siku za usoni.

Elimu yote anayopata mtu kutoka kwa jamii na mazingira huweza tu kujenga juu ya yaliyokwisha kuanzilishwa na kromosomu katika yai lililorutubishwa tumboni.
Haihalisi kabisa kufikiria kwamba katika hatua za mwanzo tumboni mwa mama kiumbe huwa katika hali ya ukupe. La hasha! Yeye hujitegemea kwa vyovyote na ana upekee wake. Hatangamani na mama yake. Roho yake humdunda mwenyewe na damu yake ambayo huenda ikawa tofauti kabisa na ya mama yake, humtembea na kumpiga mishipani mwake. Isitoshe, yeye si mojawapo katika viungo vya mwili wa mama yake vinavyomdhibiti katika himaya yake ndogo.

Amini usiamini, hapana binadamu hata mmoja amewahi kuwa sawa kimaumbile na mwingine na wala hatakuweko. Hata watoto pacha kutoka yai moja la mama hawawi sawa, lazima watatofautiana. Si nadra kusikia mtu amepata ajali akahitaji msaada wa damu, na pakosekane

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kabisa mtu hata mmoja kutoka jamaa yake wa kumwauni. Basi ukistaajabu ya Musa utaona ya Firauni.

MASWALI

a.   Fupisha aya za mwanzo tatu kwa maneno yasiozidi 100.(Alama 10)

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b.   Kwa maneno 50 Taja majukumu yanayotekelezwa na Kromosomu . (alama 5)

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SEHEMU YA C ; MATUMIZI YA LUGHA (ALAMA 40)

1. a) Ainisha mofimu katika maneno yafuatayo. (alama 2)

    i.   Lililokunjwa

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    ii.   Mikate

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   b) Onyesha miundo miwili ya nomino katika ngeli ya U- I (alama 1)

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c) Onyesha majukumu yanayotekelezwa na kiimbo katika sentensi zifuatazo. (alama 2)

i. Toka nje haraka!

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ii.Nipikie wali tafadhali .

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d) Ainisha virai vilivyopigwa mstari katika sentensi ifuatayo. (alama 2)

Tuwachague viongozi wazuri wenye bidii na uadilifu.

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e) Tumia 'kwa' katika sentesi kuleta dhana zifuatazo. (alama 2)

i. Pamoja na ………..

ii. Sababu ya kutenda jambo……….

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f) Andika kinyume cha: (alama 2)

Mwananume aliyejasirika kuangua bendera haraka amesifiwa

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g) Tunga sentensi yenye muundo ufuatao: (alama 2)

    N+RH+t+ E

h) Andika upya ukifuata maagizo. (alama 3)

i. Maji ambayo wanakunywa ni hatari. (Andika katika hali ya mazoea bila kutumia amba)

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ii.Watu wengi walihasirika bomu lilipolipuka katika jango hilo. (Tumia nomino badala ya vitenzi vilivyopiga mstari)

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iii.Pombe hiyo ilimfanya kuwa kipofu. (tumia kitenzi badala ya neno lilopigwa mstari)

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I)Tunga sentesi ukitumia kishazi tengemezi kinachofanya kazi ya kielezi.   (alama 2)

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j) Taja matumizi mawili ya parandesi. (alama 2)

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k) Andika katika Umoja.

Hao wameharibu nyua zilizotengenezwa kwa mbao. (alama 1)

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L) Nomino zifuatazo ziko katika ngeli gani? (alama 1)

i. Ufizi …….

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ii. Firigisi………..

m) Andika sentensi ifuatayo katika hali timilifu. (alama 1)

Waziri anasoma hotuba yake.

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n) Bainaisha kiima na yambwa katika sentensi ifuatayo. (alama 3)

Mama alimpikia mgeni wetu nyama ya kuku.

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o) Tunga sentensi mbili kuonyesha matumizi mawili ya kiambishi- ka. (alama 2)

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p) Bainisha virai katika sentensi ifuatayo (alama 3)

Pikipiki iliyonunuliwa jana iliharibika karibu na mto.

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q) Taja methali inayoafiki maelezo yafuatayo. (alama 1)

Mtu anayetegemewa katika jamii akiondoka wanaomtegemea huwa mashakani.

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r) Andika sentensi ifuatayo upya kwa kufuata maagizo kwenye mabano. (alama 1)

Mama alimkaripia mtoto mtoro. (anza kwa mtoto……)

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s) Changanua sentensi ifuatayo kwa muundo wa mishale. (alama 3)

Gari mpya aliloletewa baba lilinunuliwa na mwanawe.

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t) Ainisha shamirisho cha chagizo katika sentensi ifuatayo. (alama 4)

Nyanya alijengewa nyumba kwa matofali na baba mwezi jana.

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SEHEMU YA D; ISUMI JAMII (ALAMA 10)

1. Eleza sababu tano zinazofanya mtu kutumia viziada lugha katika mazungumzo yake. (alama 5)

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2.Eleza sifa tano za za lugha ya maabadani. (alama 5)

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SEHUMU YA E; FASIHI SIMULIZI   ALAMA 20

a)Tambua tano sifa bainifu za fasihi simulizi(alama 10)

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b)Tambua changamoto zinazokumba Fasihi simulizi katika jamii ya kisasa.(alama10)

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MATHEMATICS PAPER 1 FORM 3
MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO STUDENTS:

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

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

➢ *The paper contains **TWO** sections: **Section I** and **Section II**.*

➢ *Answer **ALL** the questions in **Section I** and any **five** questions from **Section II***

➢ *All answers and working must be written on the question paper in the spaces provided below each question.*

➢ ***Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.***

➢ *Non – programmable silent electronic calculators and KNEC Mathematical tables may be used, except where stated otherwise.*

For Examiner's Use Only:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	16

17	18	19	20	21	22	23

GRAND TOTAL

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SECTION I: (50 MARKS)

Answer all the question in this section in the spaces provided

1. Evaluate:

$$\frac{\sqrt{\frac{1}{4}} \; of \; 3\frac{1}{2} \; + \; \frac{3}{2}\left(\frac{5}{2} \; - \; \frac{2}{3}\right)}{\frac{3}{4} \; of \; 2\frac{1}{2} \; \div \; \frac{1}{4}}$$

(3marks)

2. The average lap time for 3 cars in racing competition is 36 seconds, 40 seconds and 48 seconds respectively. If they all start the race at the same time, find the number of times the slowest car will have been overlapped by the fastest at the time they all cross the starting point together again. (3marks)

3. Kamau toured Switerland from Germany. In Switzerland he bought his wife a present worth 72 Deutsche marks.   Find the value of the present in
     (a)   Swiss Francs.
     (b)   Kenya shillings correct to the nearest sh, if
               1 Swiss Franc = 1.25 Deutsche marks
               1 Swiss Franc = 48.2 Kenya shillings (3marks)

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4. Solve the following inequalities and represent the solution on a number line and hence state the integral values of x

$7x – 4 \leq 9x + 2 < 3x + 14$ (4 marks)

5.Marwa bought 8 pairs of trousers and six shirts at Sh. 4160. Had he bought twice as many shirts and half as many trousers, he would have saved Sh. 160. Find the cost of each item.

(3 marks)

6. A motorist cycles a certain distance from **X t**o **Y** at 10km/hr, he returns at 12km/hr. The total time taken is 1hr 50min. find the distance **XY**. (3marks)

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7. The interior angle of a regular polygon is 108^0 larger than the exterior angle. How many sides have the polygon? (3 marks)

8. The gradient of a straight line L_1 passing through the points P (3, 4) and Q (a, b) is $^{-3}/_2$. A line L_2 is perpendicular to line L_1 and passes through the points Q and R (2, -1). Determine the values of a and $b.$ (4marks)

9. A mother is now $2\frac{1}{2}$ times as old as her daughter Mary. Four years ago the ratio of their ages was 3:1. Find the present age of the mother. (3 marks)

10. Use the tables of squares, square roots and reciprocals only to find the value of

$$(0.0546)^{\frac{1}{2}} + \left(\frac{1}{4.327}\right)^2$$

(3marks)

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11. Without using tables or calculators, find the value of **t** in

$$\log_8(t + 5) - \log_8(t - 3) = {}^2/_3$$ (3marks)

12. The mass of a mixture A of beans and maize is 72kg. The ratio of beans to maize is 3: 5 respectively. Find the mass of maize in the mixture. (3 marks)

13.   A solid metal cylinder with radius 7cm and height 5cm is melted down and recast into a spherical ball. Calculate to 1 decimal place the surface area of this ball. (4marks)

14. Reduce the following expression onto a single fraction. (3 marks)

$$\frac{4\chi - 5}{2} - \frac{2\chi - 1}{6}$$

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15. The volume of two similar solid spheres are 4752cm³ and 1408cm³. If the surface area of the small sphere is 352cm², find the surface area of the larger sphere. (3marks)

16. The currency exchange rates of a given bank in Kenya are as follows.

Currency	Buying	Selling
1 Sterling pound	135.50	135.97
1 US pound	72.23	72.65

A tourist arrived in Kenya with 5000US dollars which he converted to Kenya shillings upon arrival. He spent Ksh.214,500 and converted the remaining to sterling pounds. How many pounds did he receive? (3 marks)

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SECTION II: (50 MARKS)

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

17.   The table **below** shows the income tax rates for a certain year.

Taxable pay per month (Ksh)	Tax rates
1 – 9,680	10%
9,681 – 18,800	15%
18,801 – 27,920	20%
27,921 – 37.040	25%
37,040 and above	30%

That year Leonard paid net tax of Ksh.5,512 per month. His total monthly taxable allowances amounted to Ksh.15,220 and he was entitled to a monthly personal relief of Ksh.1,162.

Every month the following deductions were made:

-   NHIF – Ksh. 320
-   Union dues – Ksh.200
-   Co-operative shares – Ksh.7,500

(a)   Calculate Leonard's monthly basic salary in Ksh.   (7marks)

(b)   Calculate his monthly net salary.   (3marks)

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18. Three partners Jared, James and Jack contributed Sh. 600,000, Sh. 400,000 and Sh. 800,000 respectively to start a business of a matatu plying Mautano-Embu 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% to be shared in the ratio of their contribution. Calculate James's share in the month of July (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)

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19. The figure below shows two circles of radii 10.5 and 8.4cm and with centres A and B respectively. The common chord PQ 9cm.
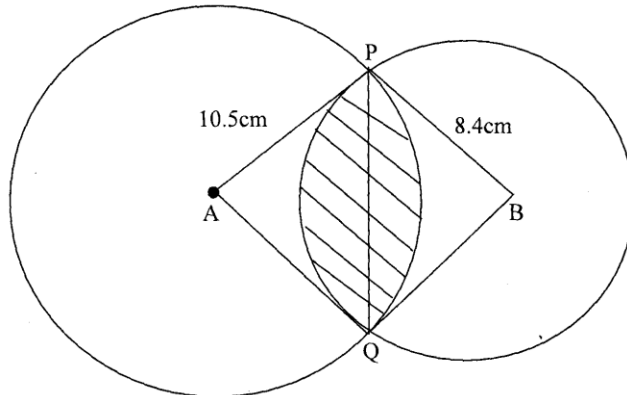
(a)   Calculate angle PAQ.   (2 marks)

(b)   Calculate angle PBQ.   (2 marks)

(c)   Calculate the area of the shaded part.   (6 marks)

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20. The diagram below shows a frustrum of a right circular cone. The radii of the circle at the top and the bottom are 1.5cm and 5cm respectively. The slant edge of the frustrum is 7cm long.
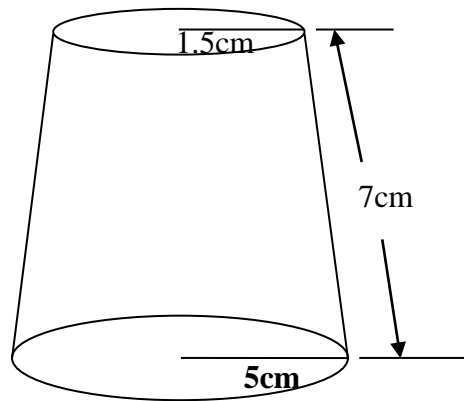
Calculate:
  (a) The height of the frustrum. (4marks)

  (b) The total surface area of the frustrum. (6marks)

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21. The following measurements were recorded in a field book using XY as the base line. XY = 400m.

```
                    Y
        C    60   340
                  300  120  D
                  240  160  E
                  220  160  F
        B   100   140
        A   120    80
                    X
```

(a)   Using a scale of 1: 4000, draw an accurate map of the farm.   (4 marks)

(b)   Determine the actual area of the farm in hectares.   (4 marks)

(c)   If the farm is on sale at sh.80000 per hectare, find how much the farm costs.   (2 marks)

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22. Using a ruler and a pair of compasses only:

(i) Construct a triangle ABC such that AB = 6.5 cm, angle CAB = 60º and angle ABC = 75º.
(3 marks)

(ii) Construct a perpendicular of line AC at C and the perpendicular bisector of line BC and let them meet at pint O. (2 marks)

(iii) Draw a circle radius OB and centre O. The line AB extended meets the circle at point O.

(1 mark)

(iv) Construct a line parallel to line AC and passing through point D. This line meets the circle at point E. (1 mark)

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23.   (a)   A hot water tap can fill a bath in 7 minutes while a cold water tap can fill the same bath in 5 minutes. The drain pipe can empty the full bath in $4^1/_3$ minutes. The two taps and the drain pipe are fully open for 2½ minutes after which the drain pipe is closed. How much longer will it take to fill the bath (6marks)

(b)   Three grades A, B and C of rice were mixed in the ratio 4:3:5. The cost per kg of each of the grades A, B and C were Kshs. 90, kshs. 120 and kshs. 60 respectively. Calculate.

i.   The cost of one kilogram of the mixture   (2marks)

ii.   The selling price of 5kg of the mixture given that the mixture was sold at 8% profit
                                                                                              (2marks)

(v) Measure the sizes of lines DE and BC and hence find the area of BDEC.   (3 marks)

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MATHEMATICS PAPER 2 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES:

- *Write **your name** and **admission number** in the spaces provided above*
- *This paper contains **two sections**; Section **I** and section **II**.*
- *Answer **all** the questions in section **I** and only **five** questions from section **II**.*
- *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 I

Questions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	**TOTAL**
Marks																	

Section II

Questions	17	18	19	20	21	22	23	24	**TOTAL**
Marks									

GRAND

NB.12 Pages are printed

1. Evaluate without using tables or calculators. (3mks)

$$\sqrt{\dfrac{0.8064 \times 6.048}{1.008 \times 0.1344}}$$

2. Evaluate $\dfrac{-4 \text{ of } [(-4 + -5 \div 15) + -3 - 4 \div 6)]}{84 \div -7 + 3 - - 5}$ (2mks)

3. Solve for θ without using table given that $0 \le \theta \le 90^o$ and that sin (2θ - 30º) – cos 4θ =0 (3mks)

4. Solve for x given that $5^{2x+2} – 20 \times 5^{2x} = 625$ (3mks)

5. The angle of a quadrilateral ABCD in order are 2 (x -10), 4 (x + 5), 5(x+4) and (x-20) in degrees. Find the exterior angles of the quadrilateral. (4mks)

6. A radio costing kshs. 1240 is marked to sell at a price calculated to give a profit of 40 %. What will be its selling price in sale when 25% is taken off the marked price? (3mks)

7. Show that if OA = - i+ 7j, OB = 3i – 5j and OC = 4j, then points AB and C are collinear. (4mks)

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8. Four men can dig 2 acres of land in 3 days working 4 hour a day. How many men are required to dig 5 acres of land in 4 days working 3 hours a day at the same rate. (3mks)

9. The surface area of two similar bottles are 12 cm^2 and 108cm^2 respectively. If the larger one has a volume of 810 cm3. Find the volume of the smaller one. (3mks)

10. In the figure given below, AC is an arc of a circle centre B$\angle$ ABD = 60º, AB = BC = 7cm and CD= 5 cm.
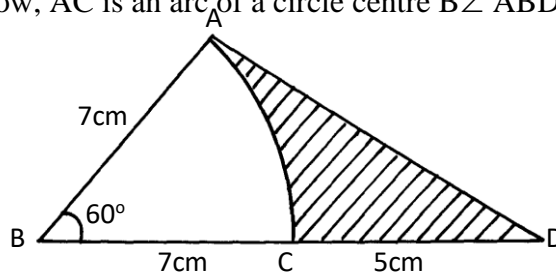
Calculate

a) The area of triangle ADB (2mks)

b) The area of the shaded region. (2mks

11. Solve the inequalitites and represent the information on the number line. (3mks)
    -3+2x<3x+2<4(x-5)

12. Make x the subject of the formula in $3s = 2p\sqrt{\dfrac{x}{3x-5}}$ (3mks)

13. Given x = 13.4cm and y = 4.3 cm. calculate the percentage error in $\dfrac{x}{y}$ correct to 4 d.p(3mks)

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14.   A straight line through the point A (2, 1) and B (4,m) is perpendicular to the line whose equation is 3y = 5 – 2x, Determine the value of m.   (3mks)

15.   Okoth deposited some money at 10% compound interest compounded annually. How long will it take to double the amount to the nearest year?   (3mks)

16.   Chebet has 5 brown chicken and 3 black ones. She picks two of them for slaughter at random, one after the other. What is the probability that the two are of different colours.   (3mks)

SECTION II
Answer only five questions.

17. A bus left Nairobi at 8.00am and traveled towards Busia at an average speed of 80km/hr. At 8.30 am a car left Busia for Nairobi at an average speed of 120km/hr. Given that the distance between Nairobi and Busia is 400km.

Calculate:

   a) The time the car arrived in Nairobi.   (2mks)

   b) The time the two vehicles met.   (4mks)

   c) The distance from Nairobi to the meeting point.   (2mks)

   d) The distance of the bus from Busia when the car arrived in Nairobi.   (2mks)

18. A triangle whose vertices are A (1,4) B (2,1) and C (5,2) is given the following transformation:
   i) Reflection in the line y = -x to $A^1B^1C^1$

   ii) $A^1B^1C^1$ is then given rotation of + 90° about the origin to $A^{11}B^{11}C^{11}$

   iii) $A^{11}B^{11}C^{11}$ is then given a translation vector $\begin{bmatrix} -2 \\ \end{bmatrix}$ to $A^{11}B^{11}C^{11}$

   iv) $A^{11}B^{11}C^{11}$ is then given an enlargement scale factor – 2 centre (0, 0) to $A^{IV}B^{IV}C^{IV}$.

   On the given grid plot a triangle ABC and it's images $A^1B^1C^1$, $A^{11}B^{11}C^{11}$, $A^{111}B^{111}C^{111}$ and $A^{IV}B^{IV}C^{IV}$.

And give coordinates of $A^{IV}B^{IV}C^{IV}$.   (10mks)

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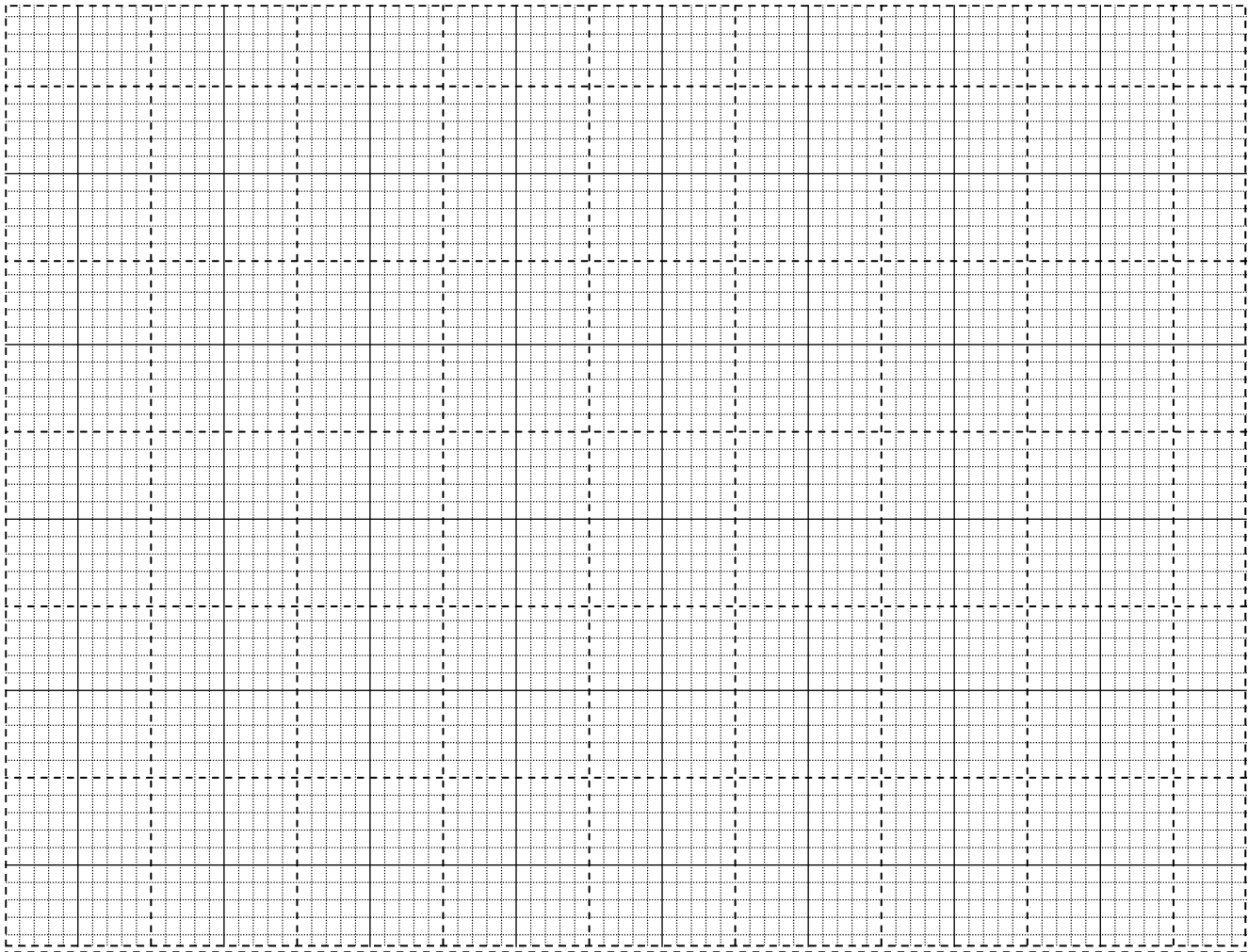
19. A Post OT stand vertically on level ground John moves from O, the foot of the flag post to point R, on the level ground. The points T, O and R from a right angled isosceles triangle whose perimeter is 56m. S is another point on the level ground 35m from O calculate:

a) The angle of elevation of T from S. (6mks)

b) The distance ST. (2mks)

c) Find the maximum possible distance between R and S. (2mks)

20. A salesman received a basic salary of sh. 50,000 a year together with a commission of 6 % on the value of goods sold and a car allowance of sh. 2.50 per km.

a) Find the total amount he received in a year in which he sells goods worth sh. 625,000 and travels 10,000km. (4mks)

b) The next year he travels 12,000km and receives a total of shs. 134,000
   i) Calculate the value of goods sold. (4mks)

   ii) Calculate the percentage increase in the value of the goods sold. (2mks)

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21. Two airports a and B are such that B is 500km due east of A. two plane P and Q take off from A and B respectively and at the same time.

      Plane P files at 360km/hr on a bearing of 030º

      Plane Q flies at 240km/hr on a bearing of 315º

      The two planes land after 90 minutes.

      Using a scale of 1: 10,000,000

  a) Show the positions of the planes after 90 min.   (6mks)

b) Find the distance between the planes after 90 min.   (2mks)

c) Find the bearing of plane Q from plane P after 90 minutes   (2mks)

22. The figure below shows a container in form a frustrum of an open top radius 40cm and base radiu24 cm. the depth is 56 cm.
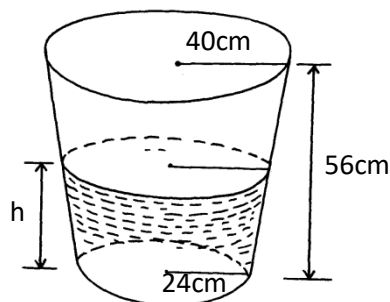
  a) Calculate the volume of the container in litres.   (4mks)

 b) Of the container is ¾ full of water by volume,

  Calculate the radius of the meniscus.   (6mks)

23. The table below shows values *of x* and some values of *y* for the curve $y = x^3 + 2x^2 - 3x - 4$ For $-3 \leq x \leq 2$

X	—3	-2.5	-2	-1.5	—1	-0.5	0	0.5	1	1.5	2

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Y	-4.0	-0.4		1.6	0		-4.0	-4.9			6

Complete the table by filling in the missing values of *y,* correct to 1 decimal place.   (2 marks

b)   On the grid provided, draw the graph of $y = x^3 + 2x^2 - 3x - 4$.

Use the scale: 1 cm represents 0.5 units on *x* axis. 1 cm represents 1 unit on y axis.
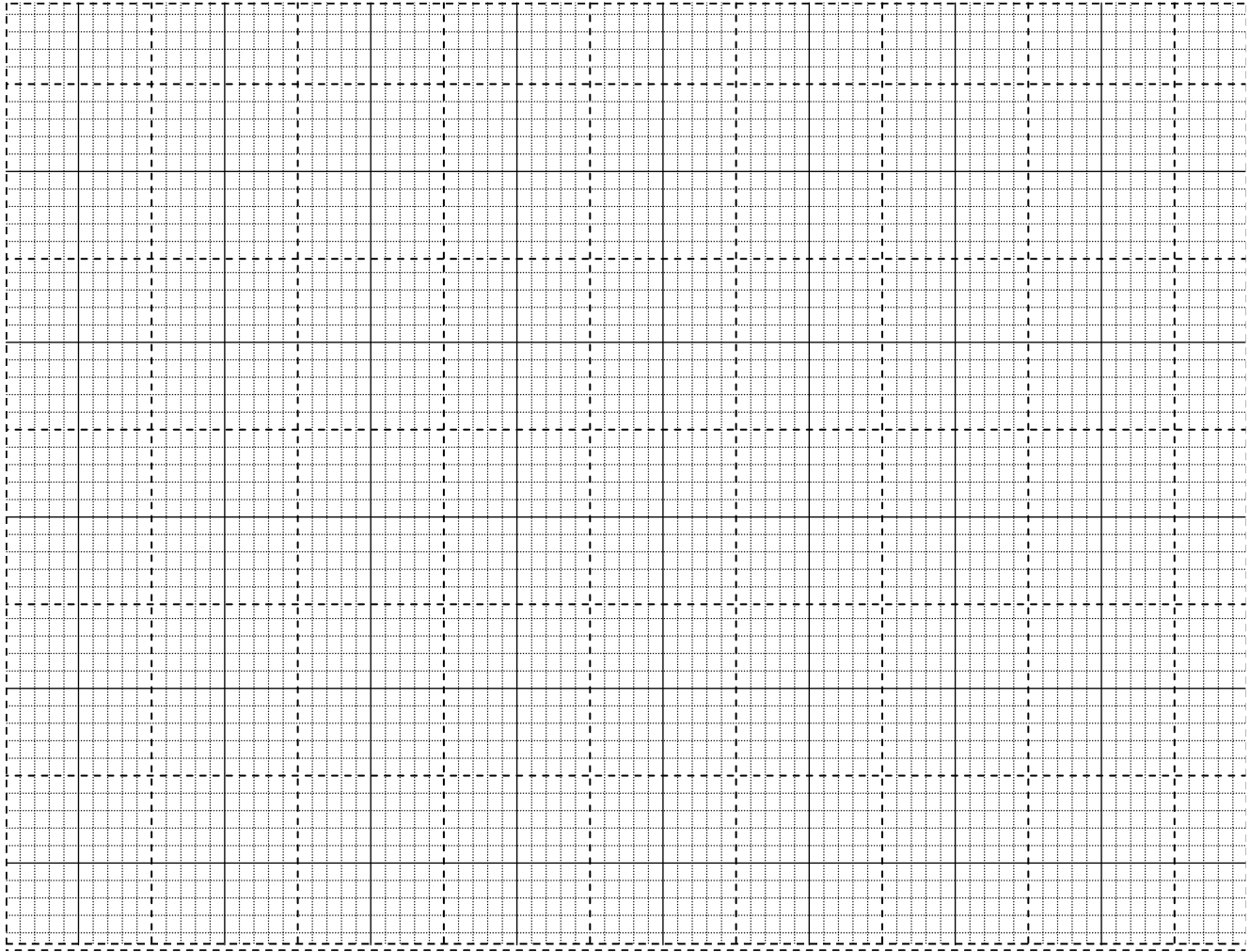
(c)   Use the graph to: (3 marks)

(i)   Solve the equation $x^3 + 2x^2 - 3x - 4 = 0$;   (3 marks)

(ii)   Estimate the coordinates of the turning points of the curve.   (2 marks)

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24. The diagram below shows the graph of a moving matatu from one bus stop to another.
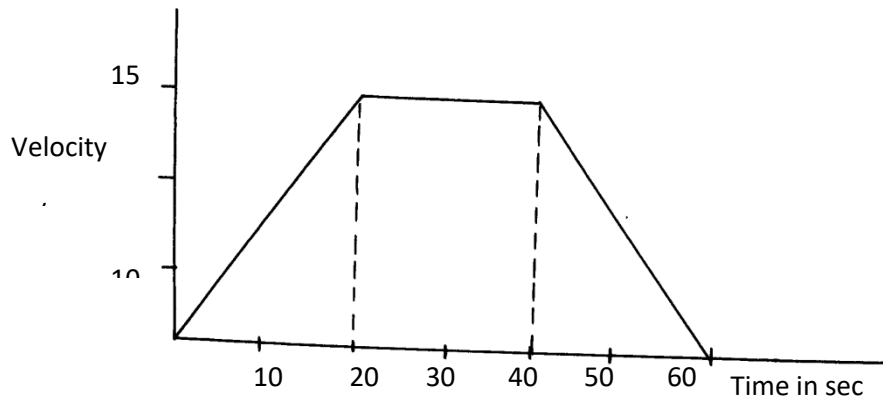
a) Find the acceleration of the matatu.   (2mks)

b) Find the deceleration of the matatu   (2mks)

c) Calculate the distance the matatu while accelerating.   (2mks)

d) Calculate the distance the matatu covered while traveling at an acceleration of $0m/s^2$ (2mks)

e) Find the distance between the two bus stops.   (2mks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

PHYSICS PAPER 1 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instruction to candidates

- This paper consists of two sections: **A** and **B**
- Answer all questions in section **A** and **B** in the spaces provided
- All workings **must** be clearly shown, and Use the **CONSTANTS** given where neccessary.
  - ✓ **Gravitational acceleration, 'g' = 10m/s²**
- Silent, non-programmable calculator may be used

FOR EXAMINER'S USE ONLY:

QUESTION	MARKS	CANDIDATES' SCORE
1-10	25	
11	11	
12	13	
13	11	
14	12	
15	08	
TOTAL	80	

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SECTION A (25 MARKS)

1. Explain the meaning of the term 'thermodynamics' as a branch of physics (1 mark)

2. A wooden block is pulled on the surface of a table by a constant force of 5N as shown in figure 1 below. Other than the weight; Label, on the diagram, any other force which acts on the wooden block (1 mark)

Figure 1

3. The figure 2, below shows the boundary of a school farm. Each square measures 1m². Determine the area of the school farm in square kilometer. (3 marks)

Figure 2

4. The figure 3, below shows a light body floating in an open container as shown.

Figure 3

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State and explain the observation made on the light body when the speed of air is increased (2 mark)

5. A ball is kicked vertically upwards from the ground at a velocity of 20m/s. Sketch a velocity-time graph of the ball for the entire flight period. (3 marks)

6. The figure 4 below shows a flask fitted with a glass tube dipped into a beaker containing water at room temperature. The cork fixing the glass tube is tight.
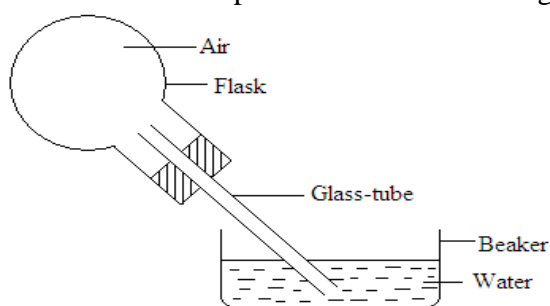
Figure 4

A piece of cloth was dipped into melting ice and then placed in contact with the flask. State and explain the observation made. (2 marks)

7. Explain what is meant by 'derived physical quantity' giving one example from the basic quantity 'time' (2 marks)

8. Figure 5 below shows a uniform metre-rule pivoted at the 70cm mark. It is balanced by a weight of 2N suspended at the 95cm mark.

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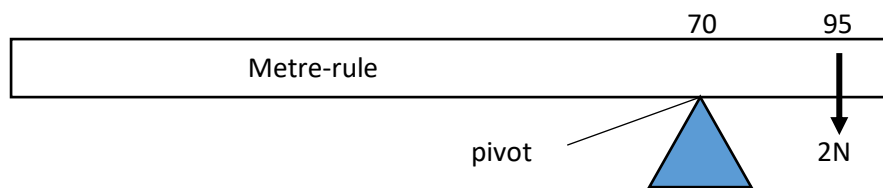
Figure   5

a) Identify all the forces producing anti-clockwise moment   (1 mark)

b) Determine the mass of the metre-rule   (2 marks)

9. A parachute falling through the air attains terminal velocity after a short-time. State the reason why it attains terminal velocity   (2 marks)

10. The figure 6, below shows the scale of Vernier calipers used for measuring the diameter of a ball-bearing. The scale has a zero-error of 0.02cm.
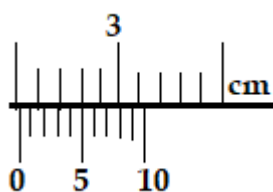
Figure 6

Determine:

a) Diameter of the ball-bearing   (1 mark)

b) the surface area of the ball-bearing   (2 marks)

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SECTION B (55 MARKS)

11.
a) State newton's second law of motion   (1 mark)

b) Define the following terms:
    i.   Impulse   (1 mark)

    ii.   Momentum   (1 mark)

c) An object of mass 150kg moving at 20m/s collides with a stationary object of mass
   90kg.They couple after collision. Determine the:
        i)   Total momentum before collision   (2 marks)

        ii) Total momentum after collision   (1 mark)

        iii) Their common velocity after collision   (2 marks)

        iv) State the assumption made in part (iii) above   (1 mark)

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d) Athletes competing in high-jump during the Olympics are usually made to land on a thick soft mattress. Explain (2 marks)

12.
   a) Distinguish between terminal velocity and uniform velocity (1 mark)

   b) A leaf of tree and a stone of equal masses are both released simultaneously from the same height above the ground. The leaf reaches the ground later after the stone had reached. Explain (2 marks)

   c) A car sets out from rest with constant acceleration of $0.5 m/s^2$ for 10s. It then continues at a constant velocity for further 25s and then decelerates to rest in 5s.
   (i) Draw a velocity-time graph for the whole journey. (2 marks)

   (ii) find the average speed for the whole journey. (3 marks)

   d) Figure 7 shows the motion of a trolley on a ticker timer. The ticker has a frequency 50 Hz.

Figure 7

Determine:

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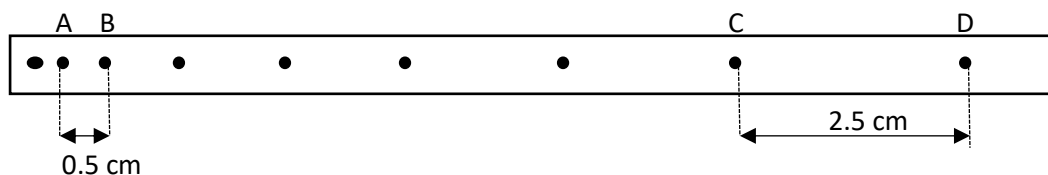
    i.   Initial velocity between A and B   (2 marks)

    ii.   Final velocity between C and D   (1 mark)

    iii.   Acceleration of the trolley during the motion   (2 marks)

13.
   a) In a given machine, state two factors that would determine the size of mechanical advantage of the machine.   (2 marks)

   b) Figure 8 shows an arrangement of pulley systems of a combined velocity ratio 5.

Figure 8

100N
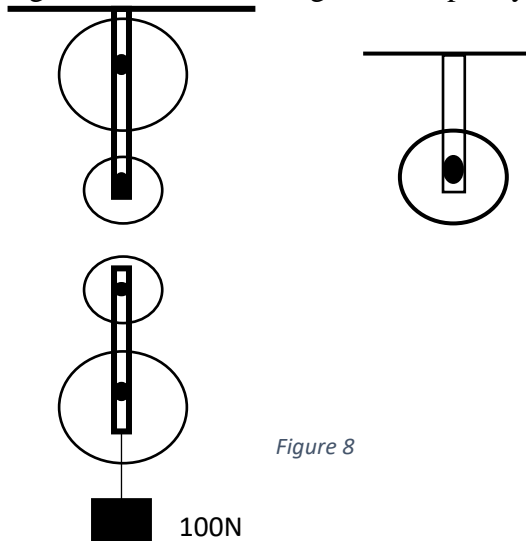
   i.   Complete the pulley arrangement showing how an effort of 50N is applied to lift the load   (1 mark)

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ii. Determine the mechanical advantage and the efficiency of the pulley system

Mechanical advantage   (2 marks)

Efficiency   (2 marks)

iii. If in the pulley system in figure 8, the effort arm moves down by 80 cm, determine the height through which the load would move   (2 marks)

c) A compressed spring with a load attached to one end and fixed at the other end. The spring is released as shown in figure 9.
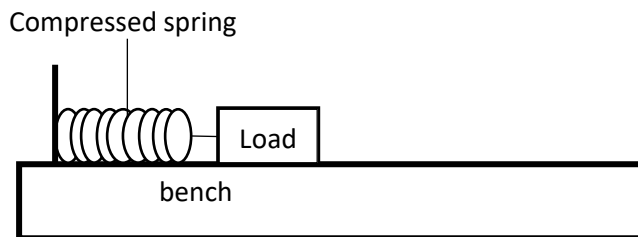
Figure 9

On the same axes, sketch the variation of potential energy, kinetic energy with time   (2 marks)

14.
   a) State Hooke's law.   (1 mark)

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b) You are provided with the following apparatus: a spiral spring with pointer attached at one end, five-20g masses, metre-rule, retort-stand with clamp.

i. Describe an experiment that could be used to verify Hooke's law using the provided apparatus. (6 marks)

ii. The following graph in figure 10, represents an analysis from the experiment in (b, i) above.
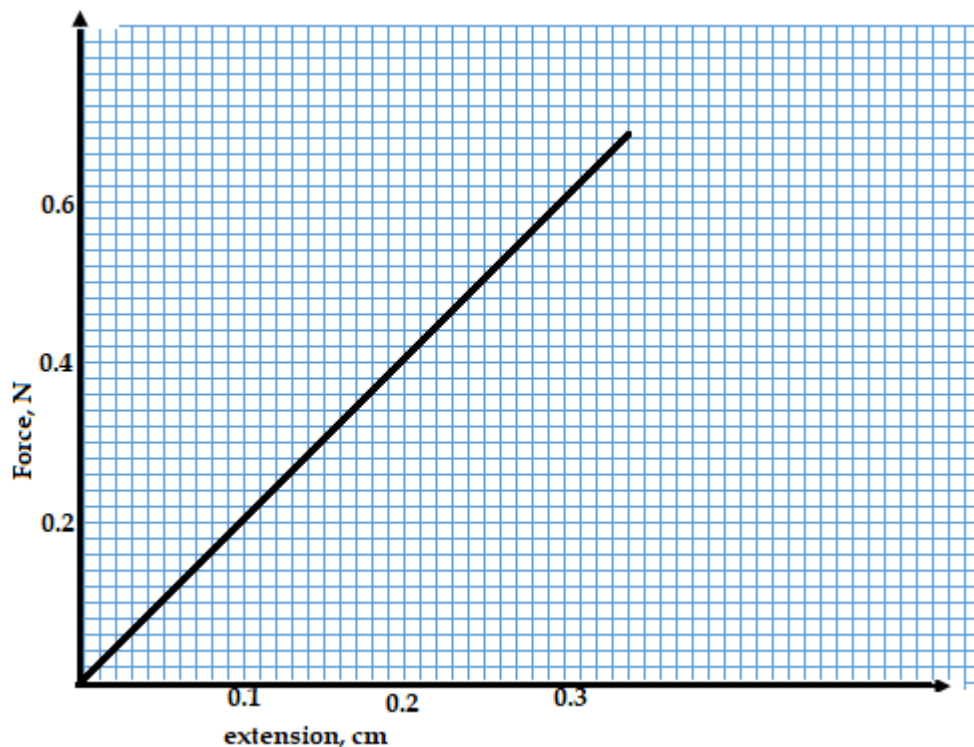
Figure 10

Determine the work-done on the spring when a load of 40g was hung on it. (3 marks)

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c) State any two applications of a compressed spring (2 marks)

15.
a) State the kinetic theory of matter (1 mark)

b) A partially filled balloon is placed in a bell jar with its open end placed on a thick glass plate as shown in *figure 11.* The contact between the jar and the glass plate is greased to make it air tight:
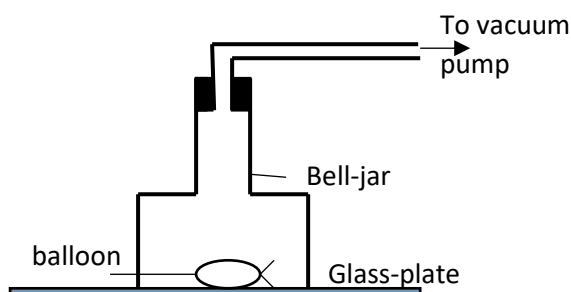
Figure 11

i. State and explain what happens to the balloon when air in the ball jar is slowly evacuated (2 marks)

ii. Two samples of bromine vapor are allowed to diffuse separately under different conditions, one in a vacuum and the other in air. State with reasons the conditions in which bromine will diffuse faster (2 marks)

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c) Give a reason why gases are more compressible than liquids (1 mark)

d) In an experiment to demonstrate Brownian motion, smoke was placed in air cell and observed under a microscope. Smoke particles were observed to move randomly in the cell. State and explain the would be most likely observation if the temperature in the smoke cell was raised. (2 marks)

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KENYA CERTIFICATE OF SECONDARY EDUCATION

PHYSICS PAPER 2 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instructions to candidates

- This paper consists of two sections *A* and *B*.
- Answer **all** the questions in the two sections in the spaces provided after each question
- All working **must** be clearly shown.
- Electronic calculators, mathematical tables may be used.
- All numerical answers **should be expressed** in the **decimal** notations.

For Examiner use only

SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1 – 11	25	
B	12	10	
	13	12	
	14	11	
	15	12	
	16	10	
	TOTAL	80	

This paper consists of 13 printed pages. Candidates should check 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 pinhole camera is used to take a photograph. What happens to the image formed if the hole is:
   (i)   Small   (1 mark)

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   (ii)   Large   (1 mark)

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2. Figure 1 below shows the features of a gold-leaf electroscope
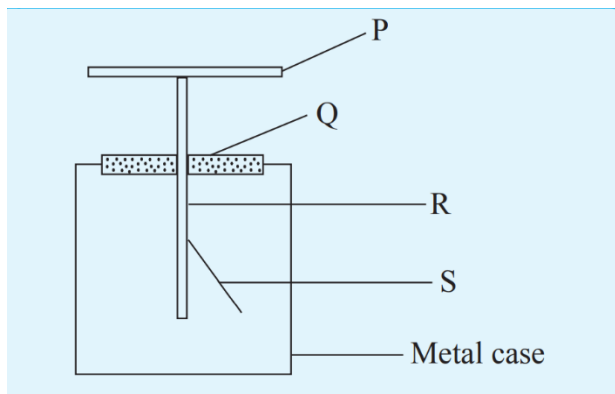
Figure 1

   (i)   Name the parts P and S.   (2 marks)

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   (ii)   Explain the purpose of the metal case.   (1 mark)

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3. Figure 2 below shows the set up for a simple cell.
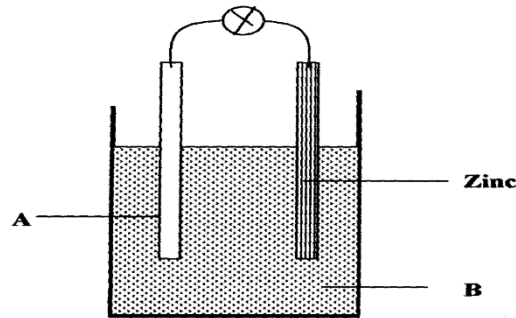
Figure 2

    a) Name the Electrode A and the solution B   (2 marks)

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    b) State two reasons why the bulb goes off after a short time   (2 marks)

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4. State two ways of increasing the strength of an electromagnet   (2mks)

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5. Figure 3 below is used to study sound in vacuum.
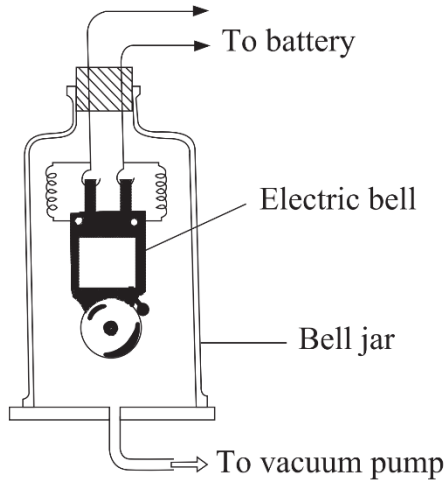
Figure 3

As air is gradually pumped out of the jar, it is noted that the sound from the bell slowly fades away to the extent of almost getting inaudible. Explain.   (1 mark)

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6. A boy stands 190 m from a high wall and claps his hands. If he hears an echo 1.3 seconds later, calculate the speed of sound in air.   (3 marks)

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7. One way of demagnetizing bar is to place it in a solenoid in which an alternating current (ac) flows. How is the demagnetization achieved?   (1 mark)

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8. The frequency of a water wave is 6.4 Hz. If the wave travels a distance of 8 m in 4 seconds, find its wavelength. (3 marks)

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9. State two factors that account for the concave mirror being suitable for use by dentists when inspecting teeth of a patient. (2mks)

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10. The speed of light in air is 3×10^8 m/s. Calculate the speed of light in a glass of refractive index 1.5. (2 marks)

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11. Explain why ammeters are always connected in series and voltmeters in parallel with the components in electrical circuits (2 marks)

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SECTION B: 50 MARKS

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

12. (a) State the laws of refraction   (2 marks)

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(b) The graph in figure 4 below was obtained by form 3 students from an experiment they conducted to verify Snell's Law. Use the graph to determine the refractive index of the transparent material use.

(2marks)

Figure 4

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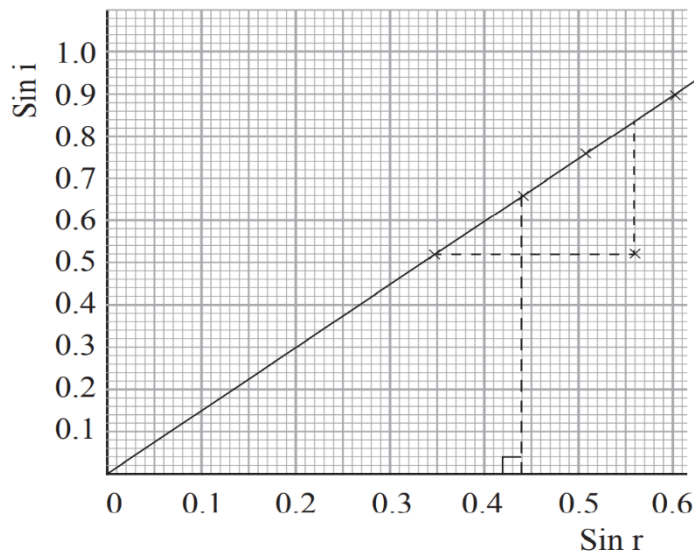
(c)   (i) What do you understand by the term critical angle?   (1 mark)

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(ii)What conditions are necessary for total internal reflection to occur?   (2 marks)

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(iii)   Diamond has refractive index of 2.4. Calculate critical angle.   (2 marks)

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(iv) State one advantage of using glass prisms over mirrors in a periscope.   (1 mark)

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13. (a) State Ohm's law.   (1 mark)

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(b) What would be the effect on the resistance of a metal wire if its diameter is increase?   (1mk)

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(c) A student connected an ammeter and voltmeter in a circuit and obtained the results as shown in the meters below.

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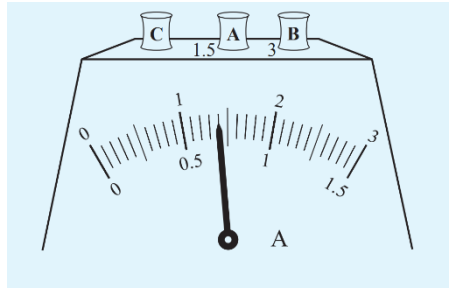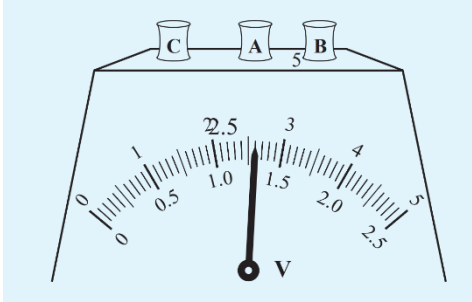
Determine the reading on each of the instruments if he used:

(i)   the common terminal C and terminal A for the ammeter.   (1 mark)

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(ii) the common terminal C and terminal B for the voltmeter.   (1 mark)

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(d) Six resistors are connected in a circuit as shown in the figure 5 below.
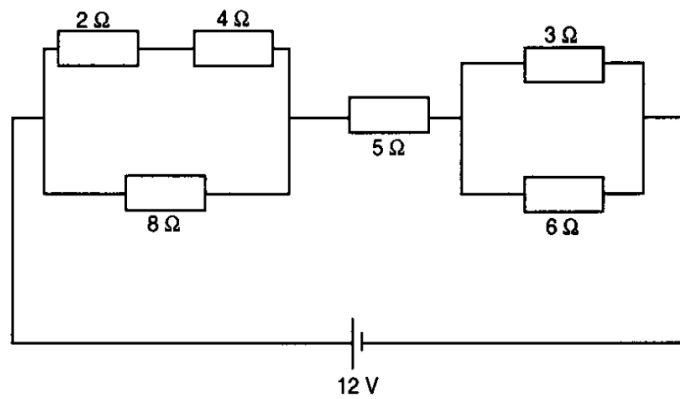
Figure 5

(i)   Calculate total resistance   (3 marks)

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(ii) Total current through the circuit   (2 marks

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(iii)The current through the 8 Ω resistor   (3 marks)

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14. (a) State Fleming's left hand rule.   (1 mark)

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(b) Figure 6 shows a current-carrying conductor, gripped by the right hand. State what the
direction of the thumb and the other fingers indicate. (2 marks)
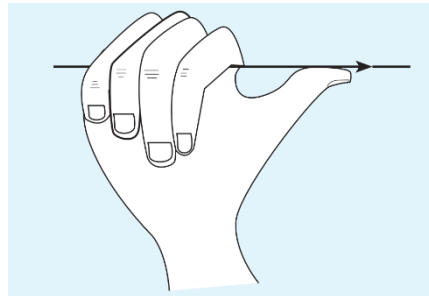
Figure 6

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(c) Describe how the type of polarity of a magnet could be experimentally determined.   (3mks)

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(d) Figure 7 illustrates a circuit diagram of an electric bell.
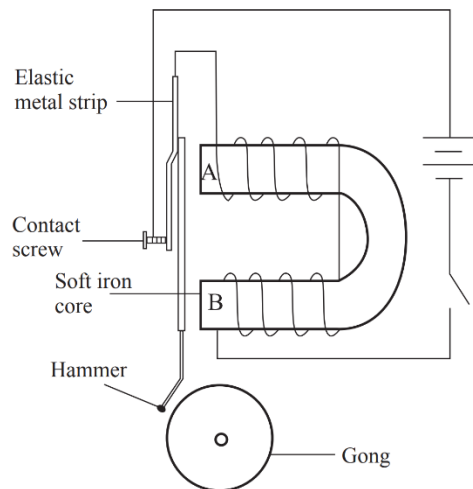
Figure 7

(i)Identify poles A and B of the electromagnet.   (2 marks)

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(ii) Explain how the bell works.   (3 marks)

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15. (a) State the condition under which a concave mirror forms:

(i)A virtual image (1 mark)

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(ii) Image at infinity (1 mark)

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(b) The length of a pinhole camera is 8 cm. It forms an image of linear magnification 0.25. Find the distance between the object and the camera (3 marks)

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(c) Illustrate by ray diagram construction the formation of the image for an object placed before a convex mirror. (3 marks)

(d) An object and its image are on opposite sides of a mirror of focal length15cm.If the image height is 3 times that of the object:

(i) State what type of mirror it is.   (1 mark)

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(ii)   Determine the object and image distance   (3 marks)

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16. (a) Distinguish between longitudinal and transverse waves.   (2mks)

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(b) Figure 8 shows a displacement distance graph of a transverse wave:
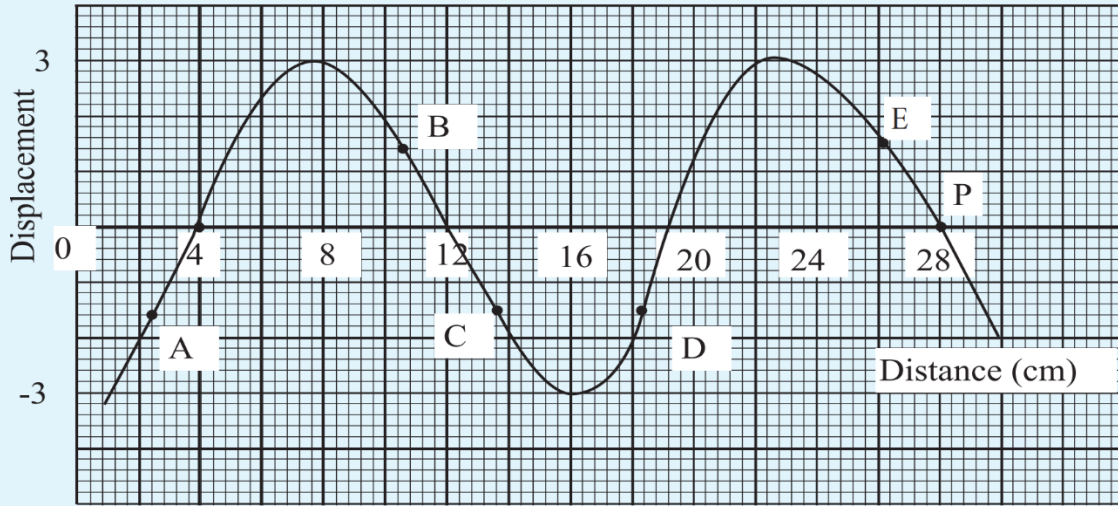
Figure 8

(i)   Find the amplitude.   (1 mark)

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(ii)   Determine wavelength.   (1 mark)

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 (iii) If time taken by the wave to move from O to P is 0.14 seconds, find the frequency of the

wave   (3 marks)

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#END

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PHYSICS CONFIDENTIAL FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

Instruction to the teacher:

Each candidate is expected to be provided with the following apparatus:

QUESTION ONE
- A Marble/bob with a piece of the thread attached. (thread should be at least 50 cm long; bob should be of approximate diameter of 1.2cm)
- Two small wooden blocks for clamping the string on the clamps.
- Clamp, stand & a boss
- Metre rule.
- ½ metre rule supported on a wooden block. (The wooden block should be of approximate dimensions (10cm by 6cm by 6 cm)
- 2 pieces of cello tape. (or plasticine).
- Stop watch.

QUESTION TWO

- Rectangular glass block (approximately 10cm by 6cm by 2 cm)
- Two plain papers
- Four optical pins
- Four paper pins or thumb pins
- Protractor (to be provided by the candidate)
- Half metre rule
- One cell and a cell holder
- Six connecting wires, two with crocodile clips
- A switch
- A 10 carbon resistor labelled, R
- An Ammeter
- A voltmeter

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PHYSICS PAPER 3 FORM 3

MIDTERM 2 SET 2 2023 EXAM

NAME:_____STREAM_____DATE:_____

INSTRUCTIONS TO CANDIDATES

a) Answer all questions in the spaces provided in the question paper.
b) You are supposed to spend the first 15 minutes reading the whole paper carefully before commencing your work.
c) Candidates are advised to record their observations as soon as they are made.
d) Marks are given for observation actually made, their suitability, accuracy and the use made of them.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	20	
TOTAL	40	

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QUESTION ONE

You are provided with;
- A Marble/bob with a piece of the thread attached.
- Two wooden blocks.
- Clamp, stand & a boss
- Metre rule.
- ½ metre rule supported on a wooden block.
- 2 pieces of cello tape.
- Stop watch.

Procedure:

a) Fix the thread between the wooden blocks and fasten in the clamp. Adjust the thread so that the length, L, shown in the figure below is 50cm.

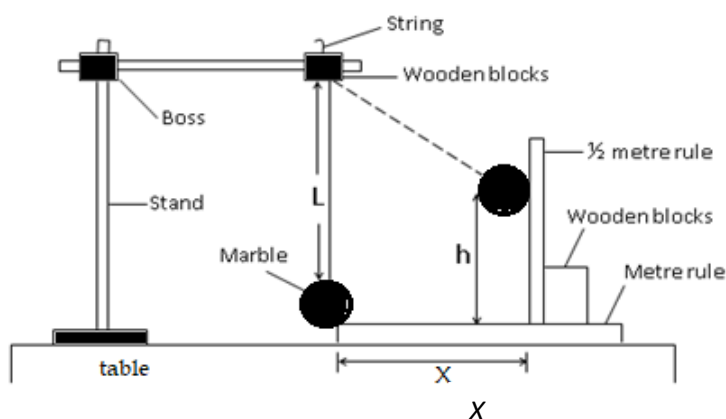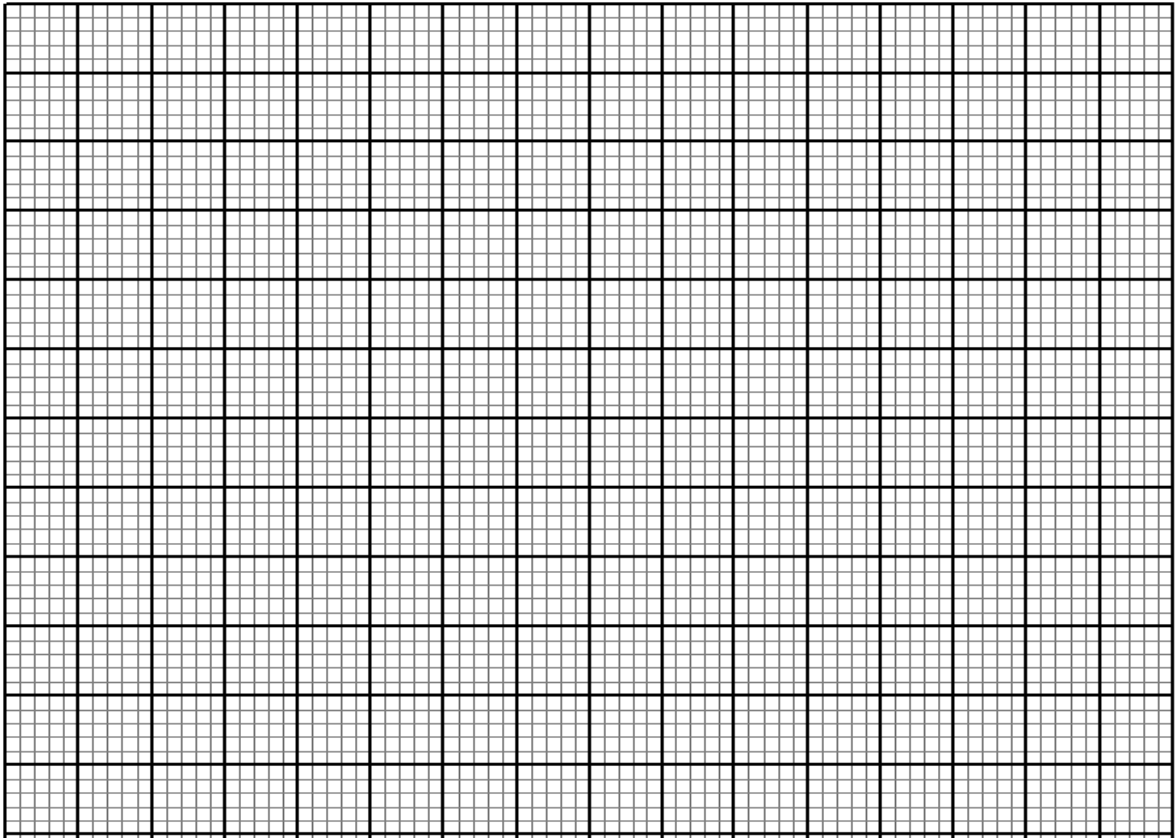b) Fix the metre rule horizontally to the bench using the cello tape provided.

Figure 1

c) Adjust the clamp so that the marble is next to the end of the metre rule as shown above.

d) Displace the marble by a horizontal distance X =20cm and measure the corresponding vertical displacement h =   cm.   (1mark)

e) Repeat the experiment to find h for each of the following values of X and complete the table.
                                                                                                               (6 marks)

X (cm)	h (cm)	X² (cm²)	$\frac{X^2}{h}$ (cm)
20			
25			
30			
35			
40			

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f) plot a graph of $\frac{X^2}{h}$ against h. (5marks)

g) Determine the slope of the graph. (2marks)

h) From the graph find the value of $\frac{X^2}{h}$, when h = 0 (1mark)

i) With the metre rule and half-metre removed — displace the marble through a horizontal distance of about 10cm and let it to swing freely, Time 20 oscillations.

  i. Time, t for 20 oscillations, t = (1 mark)

  ii. Determine periodic time, T

    Periodic time, T = (1 mark)

j) Calculate the value of P from the following equations. (3 marks)

$$T = 2\pi \sqrt{\frac{P}{g}}, \text{ where 'g'} = 10 \text{ m/s}^2$$

QUESTION TWO

You are provided with the following apparatus:

- Rectangular glass block
- Two plain papers
- Four optical pins
- Four paper pins or thumb pins
- Protractor
- Half metre rule

PART A:

PROCEDURE:

a) Place the glass block on the plain paper on its largest area, trace its outline and mark it's sides A, B, C and D. Mark the point, P_0 on the centre of side BC as shown in figure,1 below;
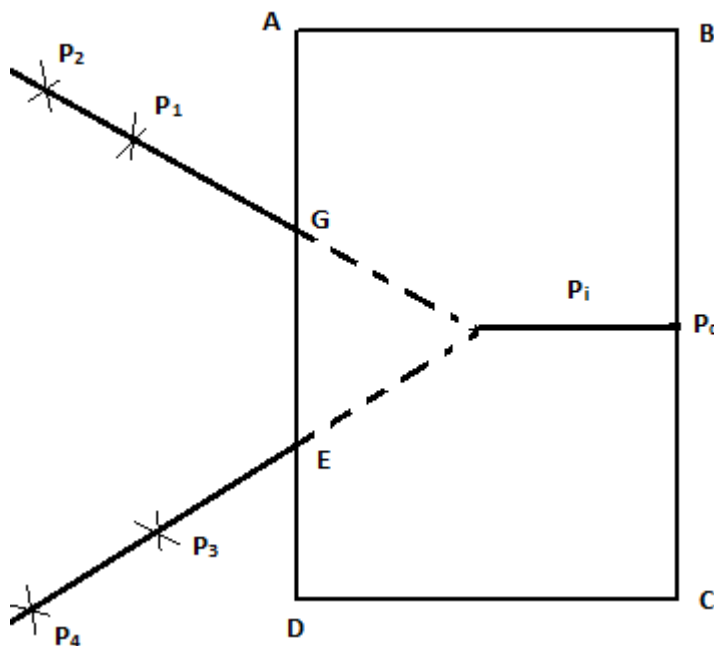
Figure 2

b) Measure the breadth of the glass block.

b =   *cm*   (1mark)

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c) Replace the glass block and fix an object pin at P_0 such that the pin lies along the surface of the glass block.

d) With your eye on the side AD closer to A, fix pins P_1 and P_2 such that they are in line with the image P_1 of P_o as seen from the side AD through the glass block.

e) From the same side AD closer to D, fix pins P_3 and P_4 such that they are in line with the image P_i of P_0 seen through the glass block.

f) Remove the glass block and join P_1 and P_2, and P_3 and P_4 to meet at P_i.

g) Join P_0 to P_1 and measure length P_0P_i

$P_0P_i =$ cm   (1mark)

h) Determine the ratio; $\dfrac{b}{b - P_0 P_i} = n$ (2marks)

(Hand in the outline with the question paper.)   **(2marks)**

PART B:

i) Trace the outline of the glass block again on the second plain paper and label it ABCD as shown in figure 3.

j) Construct a normal on the side AB approximately 3cm from A and measure angle of incidence $i = 30^0$ (secure the plain paper using paper pins).

k) Replace the glass block on the outline and fix pins P_1 and P_2 along the line of 30^0.

l) Viewing from the sides CD through the block, fix pins P_3 and P_4 such that they appear in line with the images of P_1 and P_2. Join P_3 and P_4 and join x and y.

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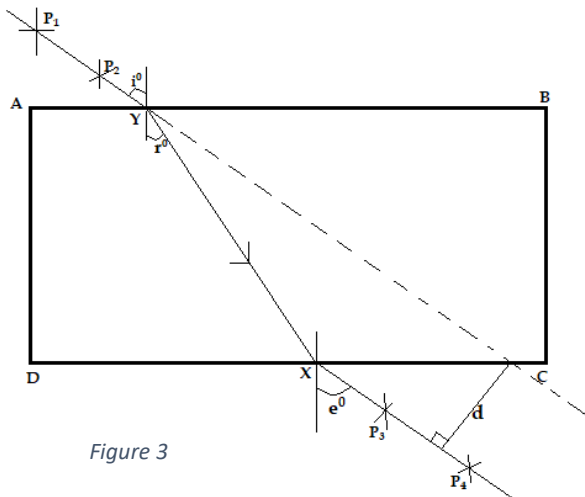www.kenyaeducators.co.ke or Contact 0724333200/0768321553/0795491185

Figure 3

m) Extend the line P_1 and P_2 to obtain lateral displacement as shown in the figure and measure the lateral displacement **d** and angle **r⁰.**

n) Tabulate your results. Repeat the procedure in (i) to (vi) for angles of incidence 40^0, 50^0,60^0 and 70^0.   (6 marks)

(Hand in the plain paper on which you have done your experiment together with the exam paper)   (2marks)

i^0	30	40	50	60	70
r^0					
d(cm)					

PART B
You are provided with the following apparatus:
- One cell and a cell holder
- Six connecting wires, two with crocodile clips
- A switch
- A resistor labelled, R
- An Ammeter
- A voltmeter

Proceed as follows

o) Set up the apparatus as shown below.
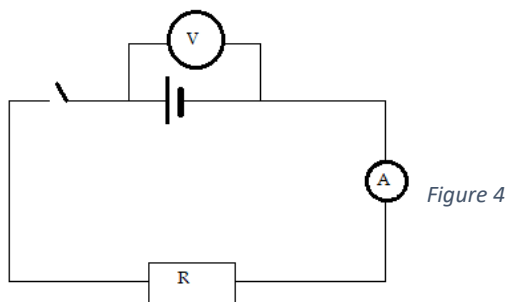

Figure 4

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Record the reading E of the voltmeter E =   volts   (1mark)

p) Close the switch and record the reading, V, of the voltmeter and I the reading of the ammeter

     i.   V = …….   volts   (1mark)

     ii.   I = ……   amperes   (1mark)

q) Determine the value of resistance, R   (1 mark)

r) Given that E = V + Ir, determine the value of r

     r =   (2marks)

This is the last printed page