KCSE JOINT POSTMOCKS

ALL SUBJECTS

SUBJECTS COMPILED;

Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, History, Geography, Business Studies, Agriculture, French, Homescience, IRE &Computer Studies.

1st Series of Rehearsal practice Tests for TOP NATIONAL SCHOOLS in Kenya.Compilation of most sensitive questions expected in the Final Exams.

SERIES 1

FOR MARKING SCHEMES/ANSWERS
CALL/TEXT/WHATSAPP 0705525657/0707550000

THE KEY TO SUCCESS

COMPILED BY MWALIMU PUBLISHERS
FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

231/1

BIOLOGY

PAPER 1

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

FOR EXAMINER'S USE ONLY:

Question	Maximum Score	Candidate's Score
1 – 28	80	

FOR KCSE POST-MOCKS MARKING SCHEMES
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1. **(i)** What biological knowledge or study is required in dealing with locusts that infest a maize crop. **(1 mark)**

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(ii) State the functions of the following cell structures. **(2 marks)**

(a) Sap vacuole.

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(b) Nucleolus.

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2. Which **two** classes of phylum arthropoda have their head fused with the thorax? **(2 marks)**

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3. **(a)** Name the part of the eye in which the light sensitive cells are located**.** **(1 mark)**

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(b) List the **two** types of sensory cells found in the part named in (a) above. **(2 marks)**

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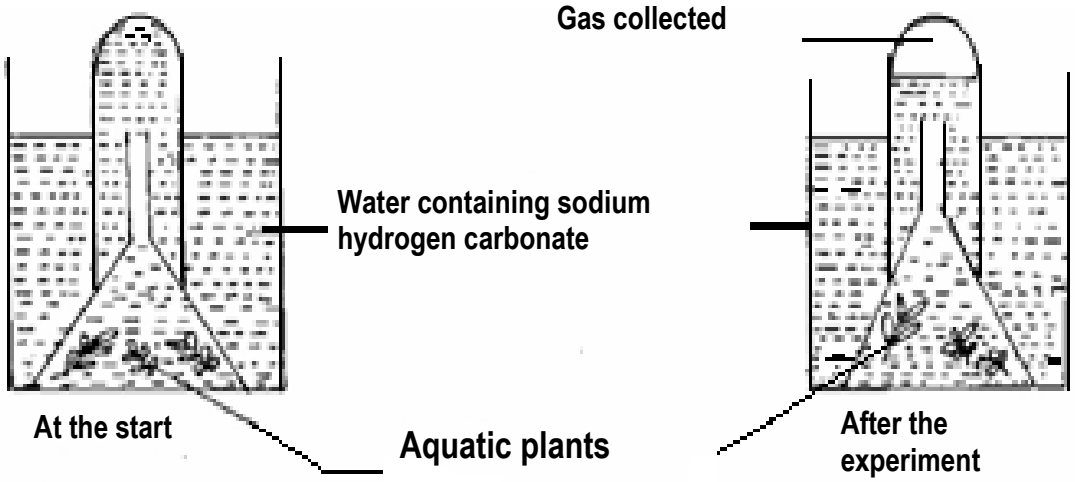
4. **(a)** Name **two** raw materials for the dark stage process of photosynthesis. **(2 marks)**

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(b) The set up shows an experiment to investigate photosynthesis.



(a) What gas was collected in the test tube? **(1 mark)**

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(b) What was the role of sodium hydrogen carbonate in the experiment? **(2 marks)**

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5. State **three** adaptations of the phloem tissue. **(3 marks)**

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6. **(a)** State **one** structural and one functional difference between motor and sensory neurone. **(2 marks)**

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(b) What name is given to the gap between the sensory neurone and intermediate Enzymes. _____

Metal ion _____

8. Name causative agents of each of the following diseases.

(a) Typhoid _____

(b) Malaria _____

9. Name **three** properties of the cell membrane. **(3 marks)**

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10. **(a)** Define the term carrying capacity. **(1 mark)**

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(b) The table below gives information about an aquarium community which is ecologically balanced.

Type of organism	Dry weight (g)
Insect larvae	500
Fishes	5000
Water plants	5000
Bacteria	10

(c) What do you understand by term ecologically balanced? **(1 mark)**

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11. List the changes that takes place during inhalation in the breathing cycle of mammal in the following. **(4 marks)**

(a) Ribcage and thoracic cavity.

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(b) Diaphragm

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(c) External intercostal muscles.

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(c) Internal intercostal muscles.

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12. Name the fins that prevent the following movements of fish during swimming. **(3 marks)**

(i) Yawing _____

(ii) Pitching _____

(iii) Rolling _____

13. **(a)** Give an example of a sex linked trait in humans. **(2 marks)**

Y chromosome.

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X chromosome.

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FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) Write the types of gene mutation represented by the following analogues. (2 marks)

(i) Intended message BRING THERMOS ON OUTING

Actual message BRING MOTHERS ON OUTING

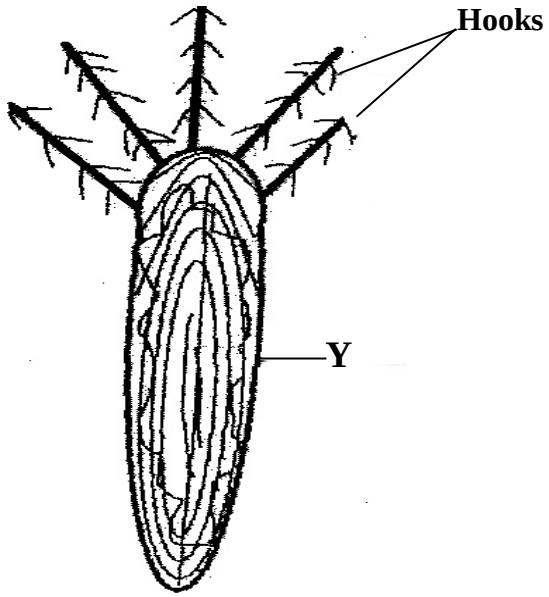
Type _____

(ii) Intended message PLEAS SAY WHERE YOU ARE

Actual message PLEASE STAY WHERE YOU ARE

Type _____

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



(a) Name structure labelled **Y**. **(1 mark)**

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(b) **(i)** State the agent of dispersal for the structure above. **(1 mark)**

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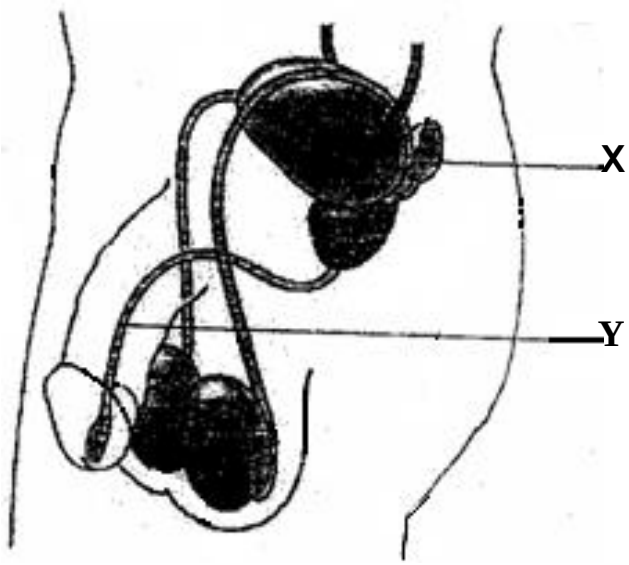
(ii) Give a reason for your answer in b(i) above. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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15. The diagram shown below represents a male reproductive system.



(a) Name the structure labelled **X**. **(1 mark)**

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……

(b) Name **two** substances that pass through structure labelled **Y**. **(1 mark)**

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16. Name the type of response shown by: **(3 marks)**

(a) Leaves of Mimosa pudica when they fold after being touched.

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(b) Sperms when they swim towards ovum.

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(c) Euglena when they swim towards the source of light.

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FOR KCSE POST-MOCKS MARKING SCHEMES
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17. Give **two** reasons why the pressure of blood is greater in the arteries than in the veins in mammals. **(2 marks)**

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18. What happens when respiration exceeds photosynthesis in the guard cells of terrestrial plants? **(3 marks)**

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19. The leaf of a potted green plant which had been kept in dark for 24 hours was smeared with petroleum jelly on its lower surface and then exposed to sunlight for 6 hours. Starch test on the leaf was negative. Account for the observation. **(2 marks)**

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20. State the importance of the structure given below in a seed.

(a) Endosperm. **(1 mark)**

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(b) Testa. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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21. **(a)** State **two** disadvantages of self pollination in plants. **(2 marks)**

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(b) Explain why the tube nucleus disintegrates just before reaching the embryo sac. **(1 mark)**

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22. **(a)** State the circulatory system found in members of the class insecta. **(1 mark)**

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(b) Name the blood vessels that transport blood from: **(2 marks)**

(i) Small intestine to the liver.

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(ii) Lungs to the heart.

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23. Two populations of the same species of birds were separated over a long period of time by an ocean. Both populations initially fed on insects only but later it was observed that one population fed entirely on fruits and seeds although insects were available. Name;

(a) The type of isolation. **(1 mark)**

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……

(b) The type of evolutionary change. **(1 mark)**

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(c) What are vestigial structures? **(1 mark)**

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(d) Name **one** vestigial structure in man. **(1 mark)**

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24. Eight potato cylinder of the same size were used to investigate a certain physiological process. Four of the potato cylinders were placed in solution S. The other four potato cylinders were placed in solution T. After 2 hours, the potato cylinders from solution S were found to longer and stiff, while those from solution T were found to be shorter and flexible. Explain the results in solution S and T. **(2 marks)**

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(b) Distinguish between active transport and diffusion. **(2 marks)**

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25. Why is the pancreas considered a dual gland? **(2 marks)**

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26. List **two** enzyme that are secreted in their precursor forms. **(2 marks)**

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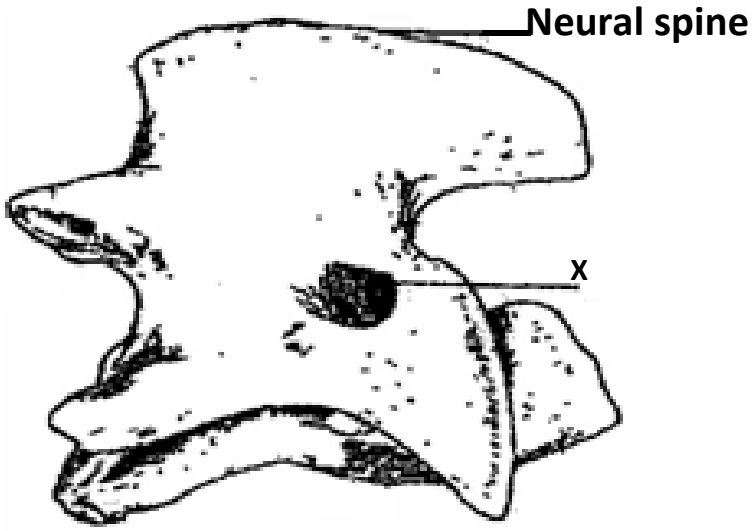
27. State **two** effects of gibberellins on shoots of plants. **(2 marks)**

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28. The diagram below represents a type of bone in the mammalian skeleton.



(a) Identify the bone illustrated in the diagram. **(1 mark)**

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(b) Give a reason for your answer in (a) above. **(1 mark)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

231/2

BIOLOGY

PAPER 2

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

c) *This paper consists of **Two** Sections; **A** and **B**.*

d) *Answer all the questions in Section **A** in the spaces provided.*

e) *In Section **B** answer question **6 (Compulsory)** and either question **7** or **8** in the space provided after question **8**.*

FOR EXAMINER'S USE ONLY:

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'SSCORE
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
Total Score		80	

FOR KCSE POST-MOCKS MARKING SCHEMES
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SECTION A: (40 MARKS)

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

1. Sickle cell anaemia is a hereditary disease due to a recessive gene which changes normal haemoglobin (Hb – A) to abnormal haemoglobin (Hb – S). The red blood cells of people with sickle cell anaemia are sickle shaped.

(a) What are the possible phenotypes of the offsprings of a man who is heterozygous and a woman who is also heterozygous? Show your working. **(5 marks)**

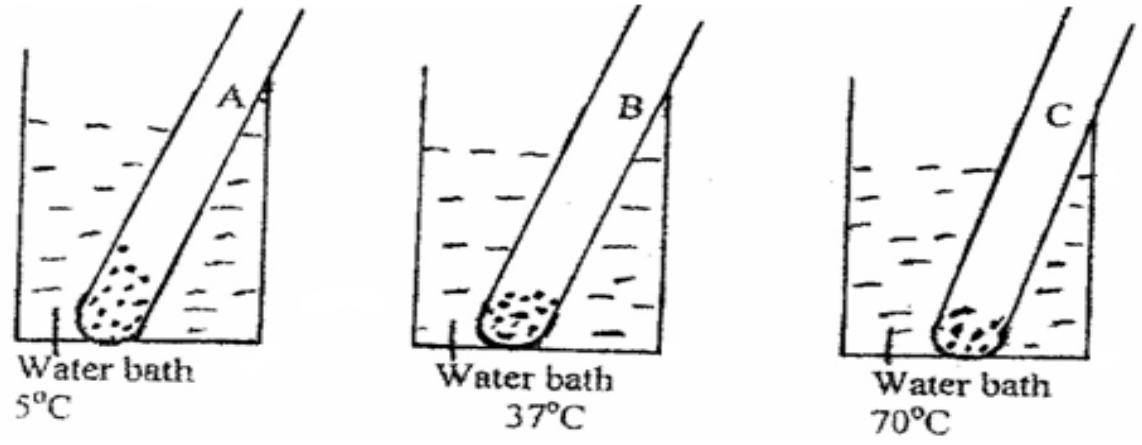
(b) Sickle cell trait is more prevalent in tropical countries than in temperate countries. Give an explanation for this observation. **(3 marks)**

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2. Three tubes each containing 1ml saliva and 1ml water were incubated in water baths at different temperatures as shown in the diagram below for 30 minutes. Another one tube containing 1ml starch solution was incubated for the same length of time in each water bath. The contents of the two tubes in each water bath was then mixed and incubated for further 30 minutes. The content of each tube was then tested for starch using iodine solution.



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

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(b) Why was it necessary to incubate the tubes for 30 minutes before mixing their contents? **(1 mark)**

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(c) State the colour changes you would expect to observe after adding iodine solution. **(3 marks)**

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(d) Account for the expected observations. **(3 marks)**

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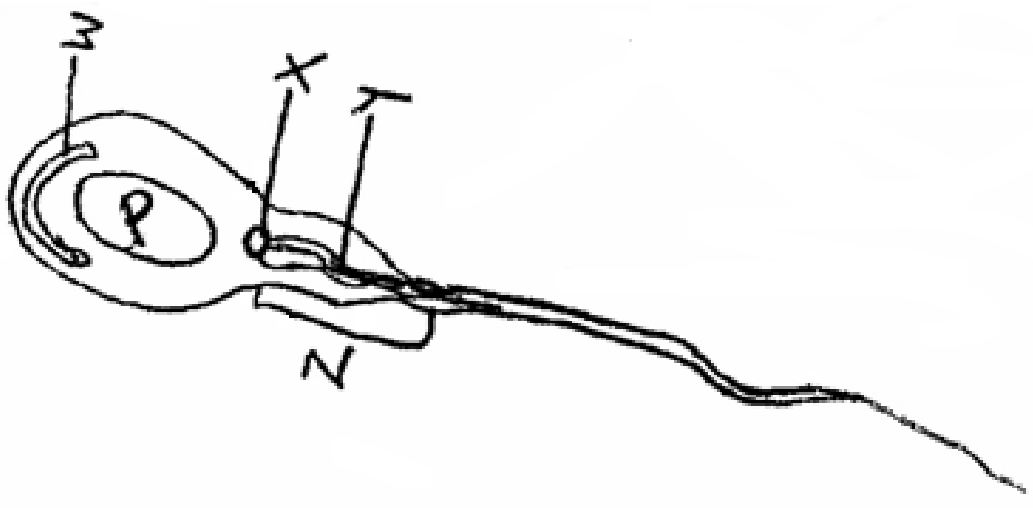
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3. Below is a diagram of a sperm cell.



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(a) Identify parts labeled **X** and **Y**. **(2 marks)**

X _____

Y _____

(b) Explain how parts **W** and **Z** adapt the cell to its function. **(4 marks)**

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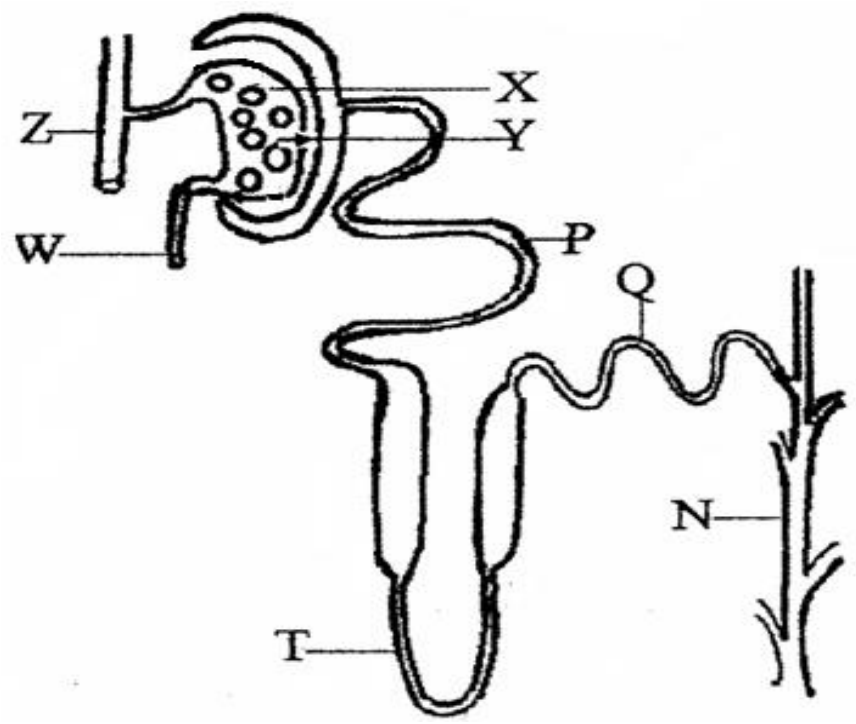
(c) Using letter **P** identify or label on the diagram the part of the cell rich in DNA. **(1 mark)**

(d) State the function of part **X**. **(1 mark)**

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4. The figure shown below represents a kidney nephron. Use it to answer the questions that follow.



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(a) **(i)** **X** is made up of a tuft of capillaries. How do they differ from other capillaries in the body? **(1 mark)**

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(ii) What structural difference exist between **W** and **Z**? **(1 mark)**

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(iii) State the significance of the difference stated in (a) (ii) above. **(1 mark)**

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(b) State **three** adaptations that enable **P** to perform its function. **(3 marks)**

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(c) What is counter flow and in which part of the nephron does it occur. **(2 marks)**

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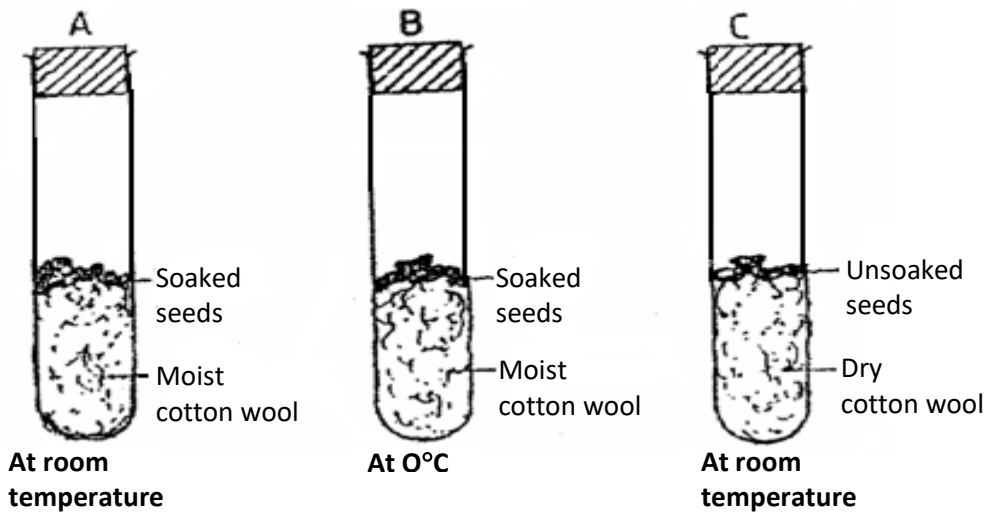
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5. The diagrams below represent a set up to investigate the conditions necessary for seed germination.



The set was left for 7 days.

(a) What conditions were being investigated in the experiment? **(2 marks)**

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(b) State **three** reasons for soaking seeds in set ups **A** and **B**. **(3 marks)**

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(c) What were the expected results after seven days? **(3 marks)**

Step A _____

Step B _____

Step C _____

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SECTION B: (40 MARKS)

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

6. An experiment was carried out to investigate the effect of hormones on growth of lateral buds of three pea plants.

The shoots were treated as follows.

(a) Shoot A – Apical bud was removed.

(b) Shoot B – Apical bud was removed and gibberellic acid placed on the cut shoot.

(c) Shoot C – Apical bud was left intact.

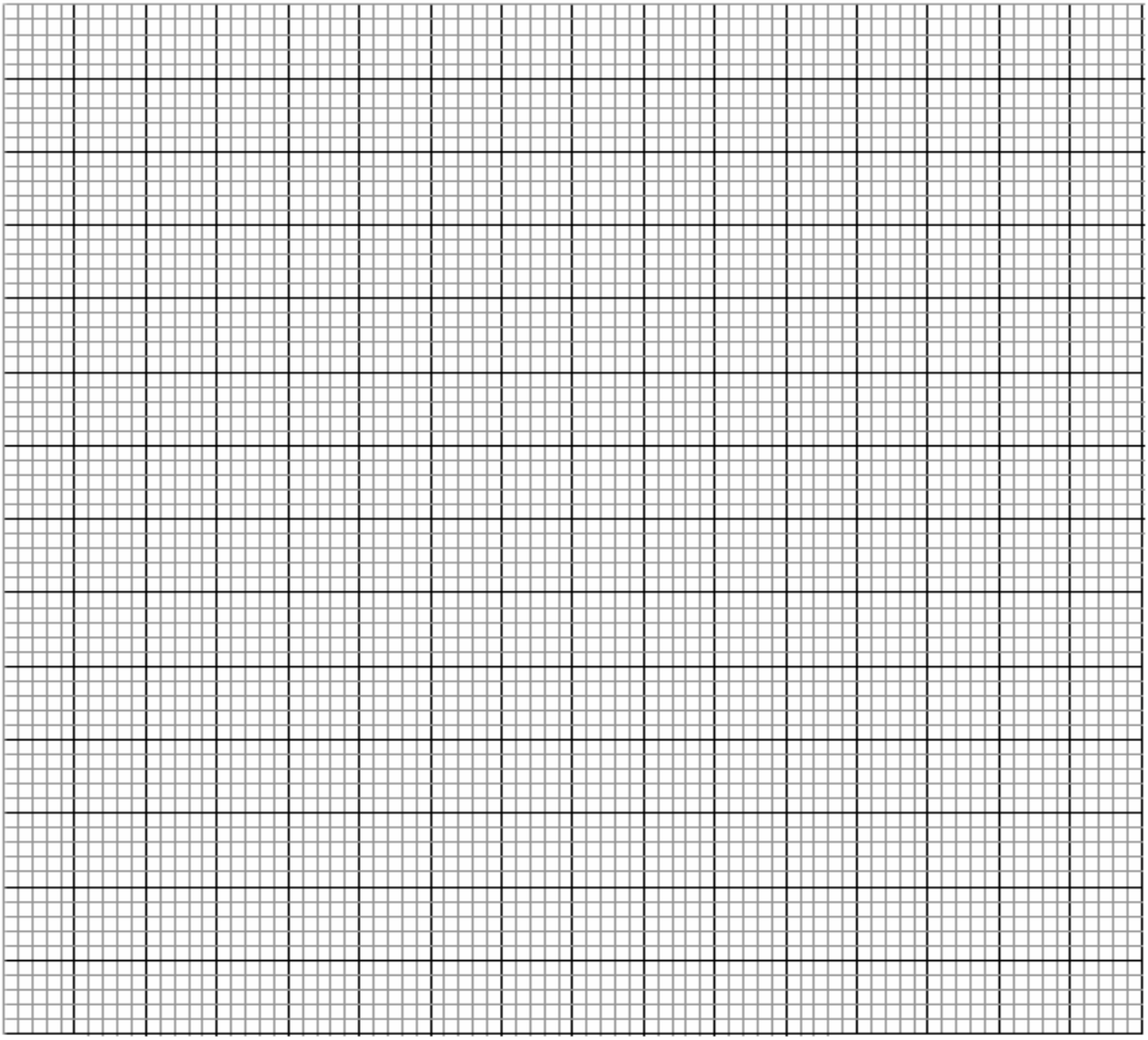
The lengths of the branches developing from the lateral buds were determined at regular intervals. The results obtained are shown in the table below.

Time in days	**Length of branches in millimeters**		
	Shoot A	Shoot B	Shoot C
0	3	3	3
2	10	12	3
4	28	48	8
6	50	90	14
8	80	120	20
10	118	152	26

(i) Using the same axes, draw graphs to show the lengths of branches against time.

(8 marks)

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(ii) **(a)** What was the length of the branch in Shoot B on the 7th day? **(1 mark)**

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(b) What would be the expected length of the branch developing from Shoot B on the 11th day?

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FOR KCSE POST-MOCKS MARKING SCHEMES
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(iii) Account for the results obtained in the experiment. **(6 marks)**

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(iv) Why was Shoot C included in the experiment? **(1 mark)**

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(v) What is the importance of gibberellic acid in agriculture? **(1 mark)**

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(vi) State **two** physiological processes that are brought about by the application of gibberellic acid on plants. **(2 marks)**

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

8. Explain how structures of the human ear are adapted to their functions. **(20 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

SCHOOL……

SIGN…… DATE……

CONFIDENTIAL

BIOLOGY

REQUIREMENTS PRACTICALS

INSTRUCTIONS TO SCHOOLS

(Care must be taken to ensure that the information herein doesn't reach the candidates)

Candidates require the following in the working Bench

- ***(a)*** *Ripe orange fruit-* ***labeled E (Each candidate)***
- ***(b)*** *Scalpel*
- ***(c)*** *1%Cuso4*
- ***(d)*** *10%NaoH*
- ***(e)*** *Distilled water/tap water*
- ***(f)*** *Test tube rack*
- ***(g)*** *Test tube holder*
- ***(h)*** *0.01% Dichlorophenol Indophenol (**DCPIP**) Solution*
- ***(i)*** *Three clean test tubes*
- ***(j)*** *Means of labeling*
- ***(k)*** *Source of heat*
- ***(l)*** *Benedict's solution*
- ***(m)*** *Tripod stand*
- ***(n)*** *Wire gauze*
- ***(o)*** *50ml glass beaker*
- ***(p)*** *Water bath*

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

231/3

BIOLOGY

PAPER 3

PRACTICAL

1 HOUR 45 MINUTES

1. You are provided with specimen labeled E, examine specimen E

a) Giving reasons, identify the type of the fruit? **(2mks)**

b) Cut a transverse section through **specimen E**, make a well labeled diagram **(5mks)**

c) State the type of placentation of **E** **(1mk)**

d) i) Name the agent of dispersal for **E** **(1mk)**

ii) State how **E** is adapted to its mode of dispersal **(2mks)**

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e) Squeeze out the juice from **specimen E** into test tubes and using the regents provided carry out food test and fill in the table below **(6mks)**

Food test	Procedure	Observation	

2. Study the photographs and answer the following questions.



PLATE 5

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PLATE 6 **PLATE 7**

(i) The photograph in Plate **5** shows the germination process in a species of legume.

(a) (i) Name the type of germination shown in the photograph. **(1 mark)**

(ii) Give a reason for your answer. **(1 mark)**

(b) Other than germination the seedling has shown some responses.

(i) Name **two** responses shown in the photograph. **(2 marks)**

(ii) State **one** survival value of each of the response named above. **(1 mark)**

(ii) Examine the photograph in Plate **6** and Plate **7** which show different essential parts of a flower of a species on two different plants.

(a) Name the flower parts shown in Plate **6** and Plate **7**. **(2 marks)**

(b) (i) Name the phenomenon described in the statement above. **(1 mark)**

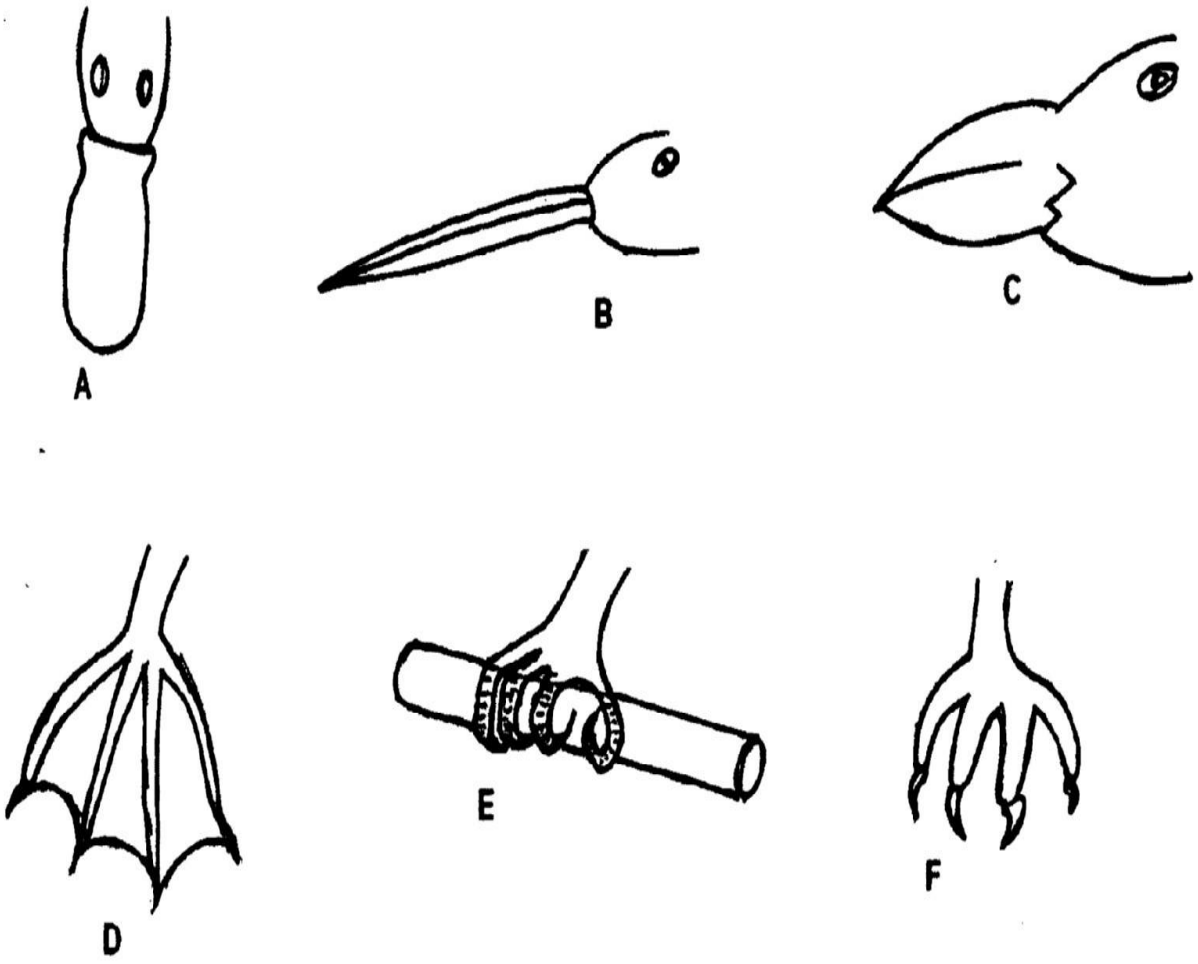
(ii) Explain the significance of the phenomena stated in (a)(i) above. **(1 mark)**

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(c) (i) State the mode of pollination of the flower shown in the photograph. **(1 mark)**

(ii) Give a reason for your answer. **(1 mark)**

. **3.** The diagrams below represent body parts of some organisms (animals). Study them and answer the question that follow.



TWO ZOIS ONLY PORN

(a) i) Suggest the type of food eaten by organisms with the parts labeled A, B, C and F **(4 mrks)**

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ii) With reasons, suggest the likely habitat of the organism from which the parts labeled D and E were obtained. **(4 mrks)**

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(b) (i) Suggest the type of evolution that is exemplified by the organisms labeled D, E and F. Give reason for your answer. The type of evolution **(2mks)**

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(ii) Suggest the significance of the above named type of evolution for the organism **(2mks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

233/1

CHEMISTRY

PAPER 1

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

(iii) *Answer **ALL** the questions in the spaces provided.*

(iv) *Mathematical tables and silent electronic calculators **may be** used.*

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

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

For Examiner's Use Only

Questions	Maximum Score	Candidate's Score
1 – 27	80	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

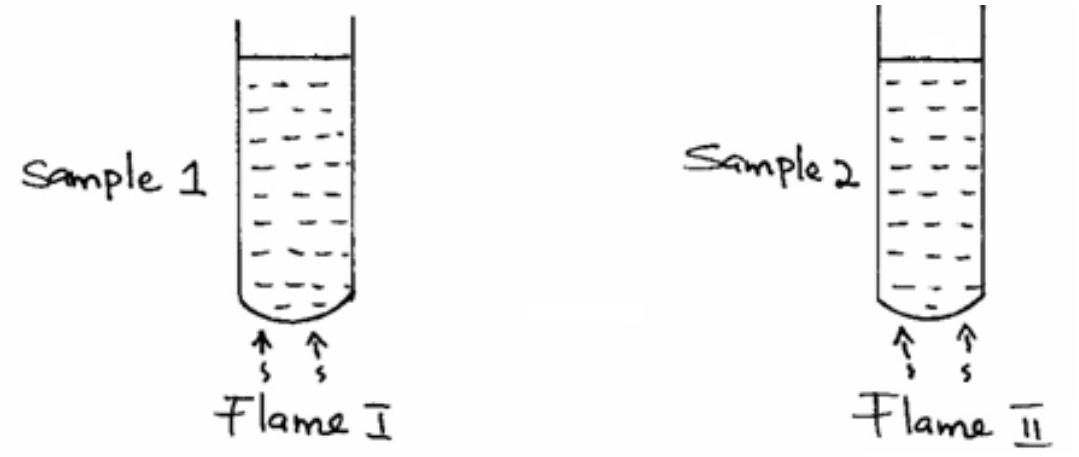
1. **(a)** A patient was given tablets with prescription 2 x 3 on the envelope. Clearly outline how the patient should take the tablets. **(1 mark)**

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(b) Two samples of equal volumes of water were put in 250cm³ beaker and heated for 10 minutes. Sample 1 registered a higher temperature than sample 2.

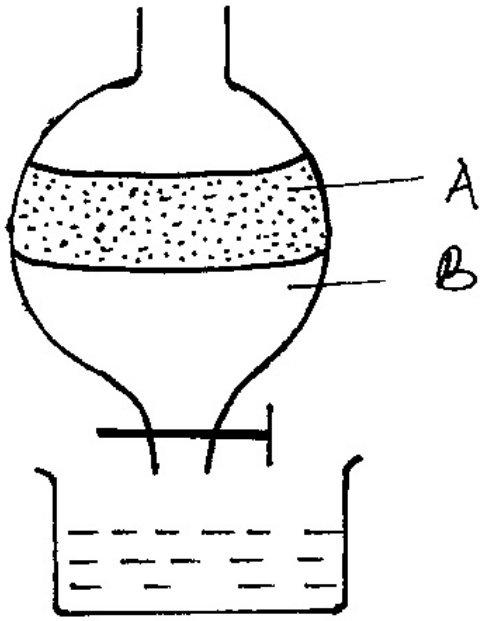


State the conditions under which flame I is produced in Bunsen burner. **(1 mark)**

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2. The apparatus below was used to separate a mixture of liquid A and B.



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(a) State two properties of the liquids that make it possible to separate them using such apparatus. **(2 marks)**

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3. Describe how solid samples of salts can be obtained from a mixture of lead (II) chloride, sodium chloride and ammonium chloride. **(3 marks)**

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4. An ion of element χ is represented as:

$$^{24}_{12}X^{2+}$$

(i) Write electronic configuration of ion of χ. **(1 mark)**

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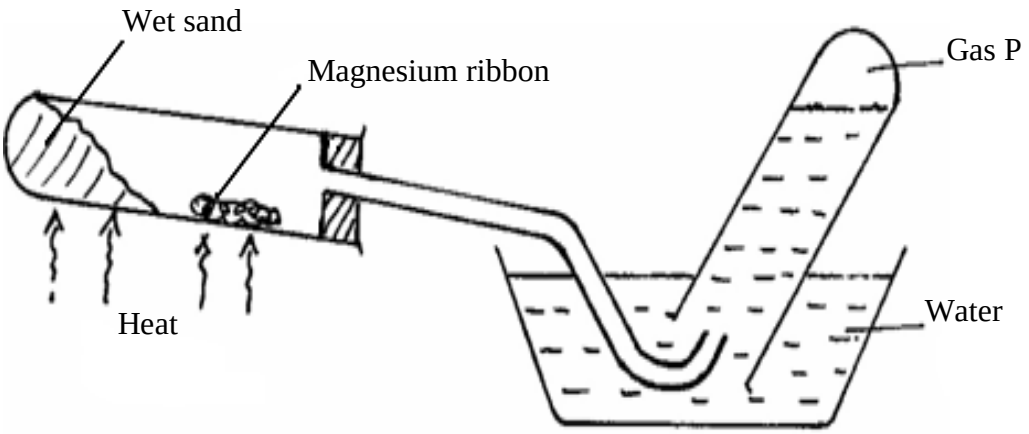
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(ii) To which group does element χ belong? **(1 mark)**

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……

5. The set-up below can be used to study the reaction of magnesium and steam.



FOR KCSE POST-MOCKS MARKING SCHEMES
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(a) Name gas **P**. **(1 mark)**

……

(b) How would you expect copper to behave compared to magnesium in the combustion tube? **(1 mark)**

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……

……

(c) Write the equation for the reaction between magnesium and steam. **(1 mark)**

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……

6. An approximately χ molar solution of potassium managanate (VII) solution was standardized against precisely 0.1M iron (II) ammonium sulphate $[(NH_4)_3\ Fe\ (SO_4)_2.\ 6H_2O]$ solution. 25.0cm³ of the solution of the iron (II) salt Were oxidized by 24.15cm³ of the manganate (VII) solution. The equation of the reaction is:

$$MnO_{4\,(aq)}^{-} + 5Fe_{(aq)}^{2+} + 8H_{(aq)}^{+} \rightarrow Mn_{(aq)}^{2+} + 5Fe_{(aq)}^{3+} + 4H_2O_{(l)}$$

What is the molarity of the potassium manganate (III) solution? **(3 marks)**

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7. During extraction of iron in the blast furnace, state the uses of the following in the furnace.

(a) Molten slag. **(1 mark)**

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(b) Waste gases leaving the furnace. **(1 mark)**

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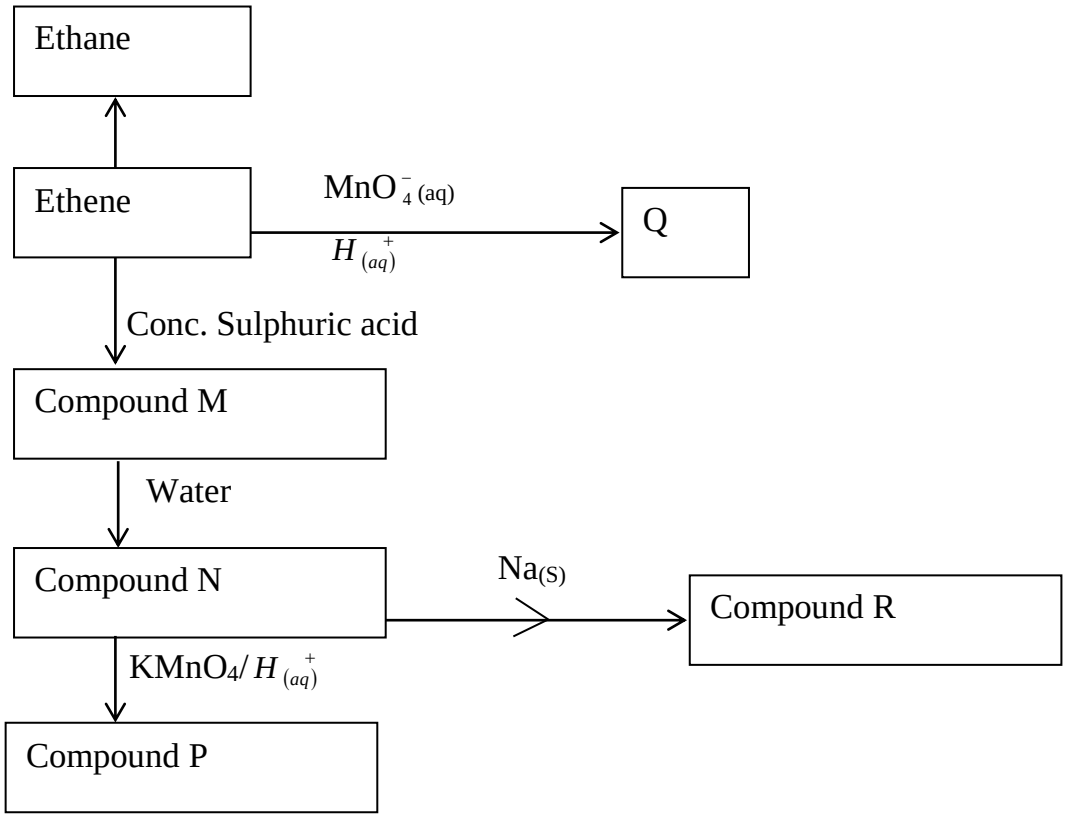
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(c) Limestone. **(1 mark)**

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8. The flow chart below gives some reactions starting with ethane. Study it and answer the questions that follow.



(a) Draw the structure of compounds:

P: **(1 mark)**

Q: **(1 mark)**

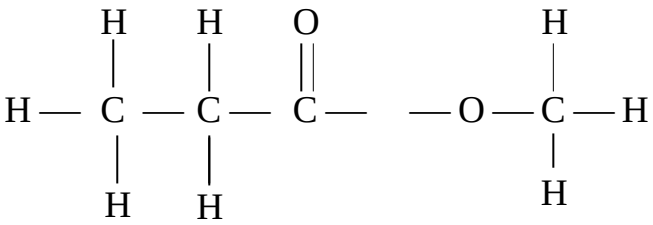
FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) Write the name of Compound R. **(1 mark)**

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……

9. Study the organic compound below:



(a) In which homologous series does the compound belong to? **(1 mark)**

……

(b) Name and draw the structures of two compounds that can be used to prepare the above compound. **(3 marks)**

10. (a) State **one** factor that can determine the stability of an atom. **(1 mark)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

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(b) Radioactive polonium – 216 decay as shown below.

$$^{216}_{90}Po \rightarrow {}^{208}_{82}Pb + M\ \alpha + n\beta$$

Find the value of M and n. **(2 marks)**

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(c) If after 112 days $\frac{1}{16}$ of polonium remained, calculate the half-life of polonium**.**

(1 mark)

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11. A metal oxide has a formula M_2O_3.

(a) Write an equation to show how M form an ion. **(1 mark)**

……

……

(b) Write the formula of the chloride of M. **(1 mark)**

……

……

12. The thermodynamic equation for the formation of ammonia in the Haber process is:

$$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}, \quad \Delta H = -92kJ\ mol^{-1}$$

(a) State and explain one way in which the yield of ammonia can be increased.**(2 mks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

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13. A certain carbonate, JCO_3, reacts with dilute hydrochloric acid according to the equation below.

$$JCO_3 + 2HCl_{(aq)} \rightarrow GCl_{2(aq)} + CO_{2(g)} + H_2O_{(l)}$$

If 1gof the carbonate reacts completely with 20cm³ of 1M hydrochloric acid, calculate the relative atomic mass of J. (C = 12, O = 16). **(4 marks)**

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14. (a) What is meant by the term solubility? **(1 mark)**

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(b) The mass of a solution A is 120g. This solution has 8g of salt A dissolved in it. The solubility of this salt is 25g/100g of water at 30°C. 55g of salt A are added to the solution at 30°C. How much of salt A will remain undissolved**. (2 marks**)

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15. (a) Using electrons in the outermost energy level, draw the dot (•) and cross (X) diagrams to represent bonding in.

(i) C_2H_6 (C = 6, H = 1) **(1 mark)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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(ii) NH4Cl (N = 7, H = l, Cl = 17) **(1 mark)**

(b) The formula of a complex ion is $[Cu(NH_3)_4]^{2+}$ name the type of bond that is likely to exist between copper and ammonia in the complex. **(1 mark)**

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16. (a) State Hess's law. **(1 mark)**

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(b) Study the information below and answer the questions that follow.

$MgCl_{2(S)} \rightarrow Mg^{2+}_{(g)} + 2Cl^{-}_{(g)}, \Delta H_1 = -2487kJ\ mol^{-1}$

$MgCl_{2(S)} + (aq) \rightarrow MgCl_{2(aq)}, \quad \Delta H_2 = -5142kJ\ mol^{-1}$

$2Cl^{-}_{(g)} + (aq) \rightarrow 2Cl^{-}_{(aq)}, \quad \Delta H_3 = -762kJ\ mol^{-1}$

(a) Name the enthalpies H_1 and H_2. **(2 marks)**

H_1_____

H_2 _____

FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) Determine the enthalpy for the reaction: **(2 marks)**

$Mg^{2+}_{(g)} + (aq) \rightarrow Mg^{2+}_{(g)}$

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17. (a) Give two reasons why carbon (IV) oxide is used as a fire extinguisher**. (1 mark)**

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……

(b) State the function of tartaric acid in baking powder. **(2 marks)**

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18. (a) When an electric current of 0.5A was passed through a molten chloride of J for 32 minutes and 10 seconds, a mass of 0.44g of J was deposited at the cathode. (IF = 96500C).

(a) Calculate the quantity of electricity used. **(1 mark)**

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(b) Determine the value of χ if the ion of metal J is represented as $J^{\chi+}$.
(R.A.M of J = 44). **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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19. **(a)** What is meant by the term basicity of an acid. **(1 mark)**

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(b) Describe briefly how potassium sulphate can be prepared using 50cm³ of 1M potassium hydroxide. **(3 marks)**

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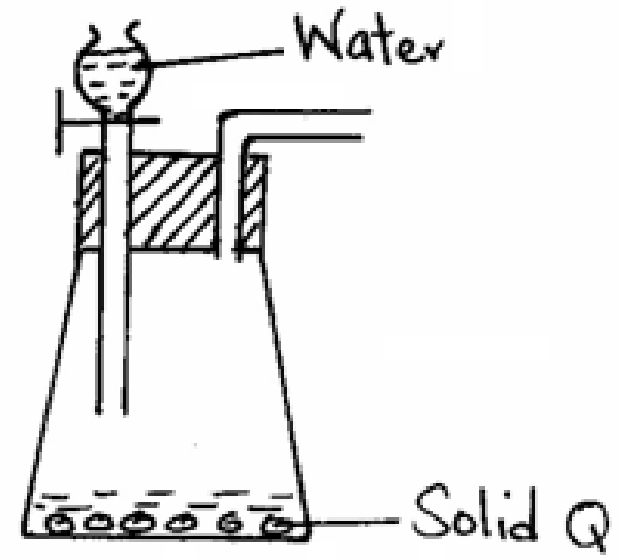
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20. The diagram below represents a set-up used to prepare oxygen gas.



(a) Name substance Q. **(1 mark)**

……

(b) Complete the set-up to show how oxygen gas is collected. **(1 mark)**

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

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FOR KCSE POST-MOCKS MARKING SCHEMES
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21. The table below shows some solutions and their PH values.

Solution	PH value
P	1.5
Q	6.0
R	14.0
S	8.0

Which of the above solution.

(a) Is strongly basic. **(1 mark)**

……

(b) Reacts with sodium carbonate more vigorously. **(1 mark)**

……

(c) Is ammonia solution. **(1 mark)**

……

22. In an experiment, a jar containing sulphur (IV) oxide was inverted over another jar containing hydrogen sulphide gas.

(a) State and explain the observation that was made. **(2 marks)**

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(b) State two conditions necessary for the reaction to take place. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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23. Two reagents that can be used to prepare chlorine gas are potassium manganate (VII) and hydrochloric acid.

(a) Write an equation for the reaction. **(1 mark)**

……

(b) Give the formula of another reagent that can be used instead of potassium manganate (VII). **(1 mark)**

……

……

(c) Using an equation illustrate how chlorine bleach coloured substances.**(1 mark)**

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24. **(a)** Distinguish between ionization energy and electron affinity. **(2 marks)**

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(b) Explain why fluorine is more reactive than iodine. **(2 marks)**

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25. 280cm³ of nitrogen gas diffuse through a porous plug in 70 seconds. How long will it take 400cm³ of carbon (IV) oxide gas to diffuse through the same porous plug.
(C = 12, O = 16, N = 7). **(3 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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26. An iron spoon was to be electroplated with silver. Sketch the set-up that could be used.

(2 marks)

27. Write the equation for decomposition of:

(a) Sodium nitrate. **(1 mark)**

……

……

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

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

233/2

CHEMISTRY

PAPER 2

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

(iii) *Answer **ALL** the questions in the spaces provided.*

(iv) *KNEC Mathematical tables and silent electronic calculators **may be** used.*

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

(vi) *Candidates should answer the questions in English.*

FOR EXAMINER'S USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	13	
2	11	
3	11	
4	11	
5	13	
6	10	
7	11	
Total Score	80	

FOR KCSE POST-MOCKS MARKING SCHEMES
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1. Study the table below and answer the questions that follow. The letters do not represent the actual symbols of the elements.

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

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

……

……

(ii) To which period and group do element **B** belongs. **(1 mark)**

Period

……

Group

……

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

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(c) Write the formula of the compound formed between elements **B** and **G**. **(1 mark)**

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(d) The chloride of **A** has a higher boiling point than that of **C**. Explain. **(2 marks)**

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

FOR KCSE POST-MOCKS MARKING SCHEMES
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(f) Select an oxide that reacts with hydrochloric acid and potassium hydroxide. Explain. **(1 mark)**

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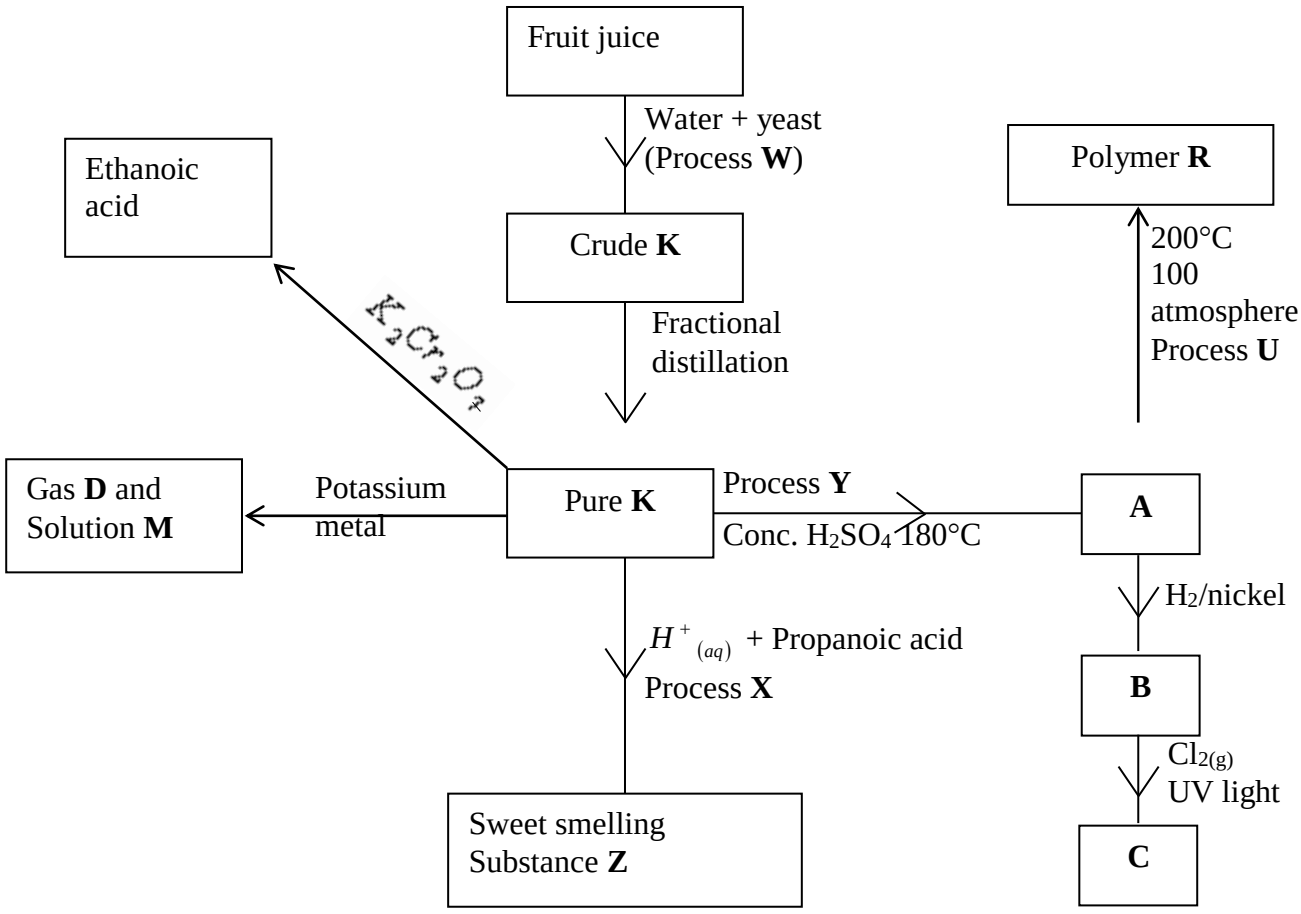
(g) Determine the oxidation state of **F** in its oxide. **(1 mark)**

……

……

……

2. Study the reaction scheme below and answer the question that follows.



(a) **(i)** Give the names of the following substances. **(2½ marks)**

A

……

B

……

FOR KCSE POST-MOCKS MARKING SCHEMES
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C

……

D

……

K

……

(ii) Give the structural formular of substance **M**. **(1 mark)**

(iii) Name the processes marked as: **(3 marks)**

W

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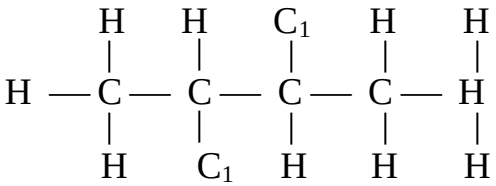
X

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Y

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(b) The compound below was formed when one mole of a hydrocarbon reacted with one mole of chlorine gas.



(i) Give the structure of the hydrocarbon. **(1 mark)**

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(ii) Draw and name two isomers of the hydrocarbon. **(2 marks)**

(c) State **two** uses of ethane. **(1 mark)**

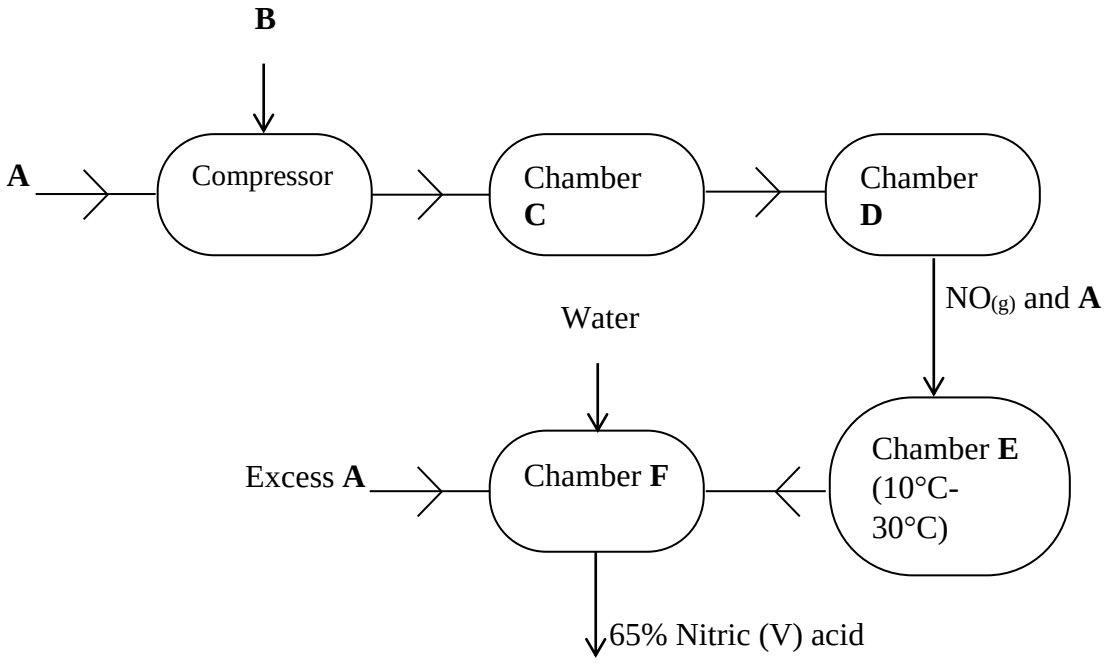
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(d) Draw and name substance **Z**. **(1 mark)**

3. The flow chart below illustrates the major steps in the manufacture of nitric (V) acid. Study it and answer the questions that follow.



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(a) Give reason for purifying the raw materials **A** and **B**. **(1 mark)**

……

……

(b) Name the substances: **(1 mark)**

A……

B……

(c) Name the parts labeled **D**, **E** and **F**. **(3 marks)**

D

……

E

……

F

……

(d) Write chemical equations for the reactions taking place in:

(i) Chamber **D**. **(1 mark)**

……

(ii) Chamber **F**. **(1 mark)**

……

(e) Name any other condition required in chamber **D** apart from maintaining temperature at 900°C. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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(f) A mixture that comes out is 65% nitric (V) acid and 35% water. How could the concentration of nitric (V) acid be increased? **(1 mark)**

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(g) Give **one** use of nitric (V) acid. **(1 mark)**

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(h) When copper metal is reacted with dilute nitric (V) acid, a brown gas is evolved. Explain. **(1 mark)**

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4. 150g of powdered brass (an alloy of zinc and copper) were added to excess 0.5M hydrochloric acid in a conical flask placed on top of a pan balance. The changes in mass of the flask and its contents with time were recorded in the following table. This experiment was carried out at room temperature.

Time (in seconds)	0	10	20	30	40	50	60
Mass in grams of flask and its contents	255.0	253.0	251.9	251.2	251.1	251.0	251.0

(a) Write an equation for the reaction that took place. **(1 mark)**

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(b) State and explain the relationship between the mass of the flask and its contents with time. **(2 marks)**

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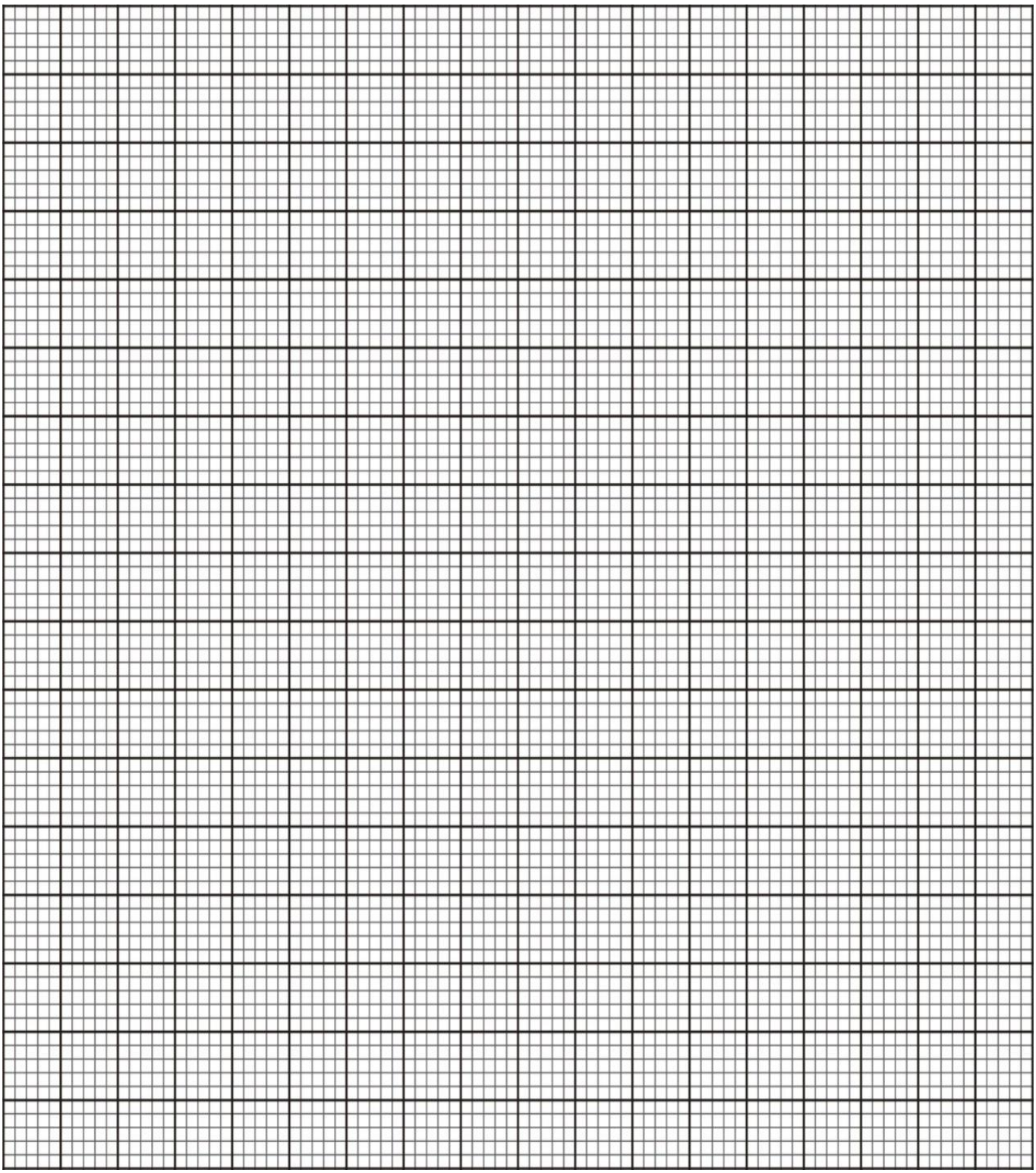
(c) What observations was made in the flask at the end of the reaction? **(1 mark)**

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(d) (i) Plot a graph of mass of the flask and its contents against time. **(3 marks)**



(ii) Using the graph determine rate of the reaction at the 20^{th} second. **(2 marks)**

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(iii) How would the rate in 4d(ii) above be affected if the reaction was carried out using 0.5M hydrochloric acid at 45°C? Explain. **(2 marks)**

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5. **(a)** Use the reduction potentials below to answer the questions that follow.

	E^{θ} (Volts)
$Q^{2+}_{(aq)} + 2e^{-} \rightarrow Q_{(S)}$	-2.38
$B^{2+}_{(aq)} + 2e^{-} \rightarrow B_{(S)}$	-1.14
$D^{2+}_{(aq)} + 2e^{-} \rightarrow D_{(S)}$	$+0.80$
$Fe^{3+}_{(aq)} + 3e^{-} \rightarrow Fe_{(S)}$	-1.66
$C^{+}_{(aq)} + e^{-} \rightarrow C_{(S)}$	-0.76

(i) Select the strongest reducing agent. Explain. **(1 mark)**

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(ii) Calculate the e.m.f value of electrochemical cell obtained when elements **B** and **D** are paired together. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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(iii) Write an ionic equation for the reaction that occurs when metal **Q** is immersed into a solution containing $C^{+}_{(aq)}$ ions.**(1 mark)**

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(iv) State and explain whether the reaction given below occurs or not.

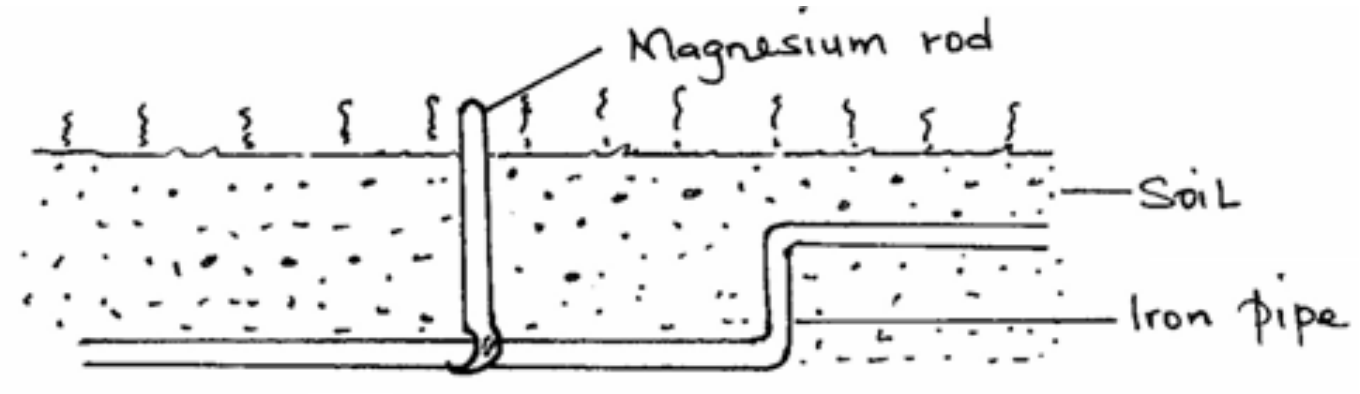
$$3B_{(S)} + Fe^{3+}_{(aq)} \rightarrow Fe_{(S)} + 3B^{+}_{(aq)}$$ **(1 mark)**

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(b) Magnesium metal was connected to an underground pipe made of iron as shown below:



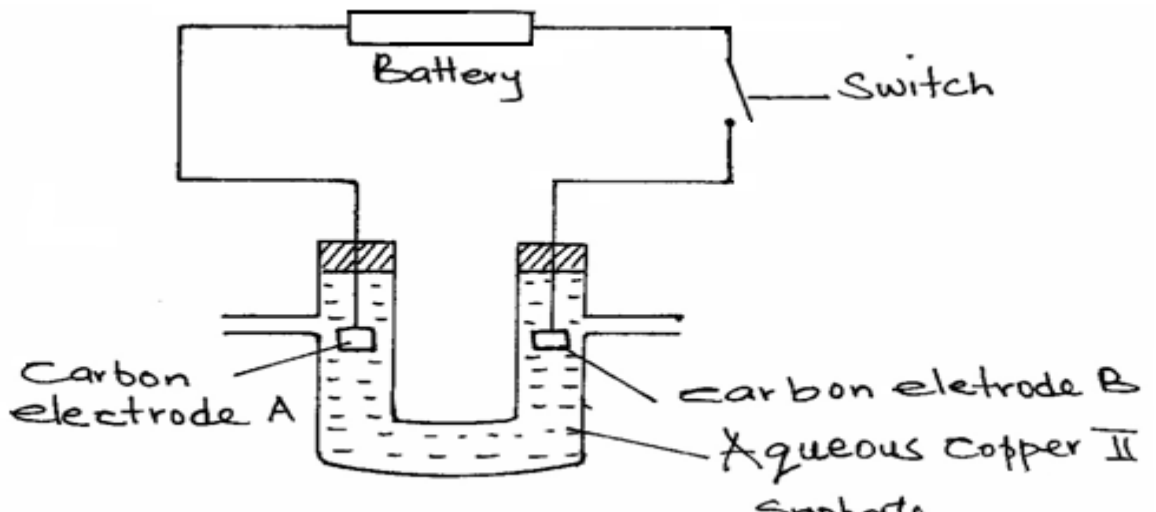
Explain why it is necessary to carry out the process shown above. **(2 marks)**

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(c) Aqueous copper (II) sulphate was electrolysed using the set up shown below.



(i) When the switch was closed, a gas was produced at electrode **B**. Which electrode is the anode?

……

(ii) Write the half equation for the reaction at electrode **B**. **(1 mark)**

……

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……

(iii) State and explain the observation that will be made at electrode **A**. **(1 mark)**

……

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……

(iv) What happens to the PH of the electrolyte above during electrolysis? Explain. **(1 mark)**

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(d) If carbon electrodes were replaced with copper electrodes in the reaction in (a) above, write the equations of the reactions that would occur at the:

(i) Anode. **(1 mark)**

……

……

(ii) Cathode. **(1 mark)**

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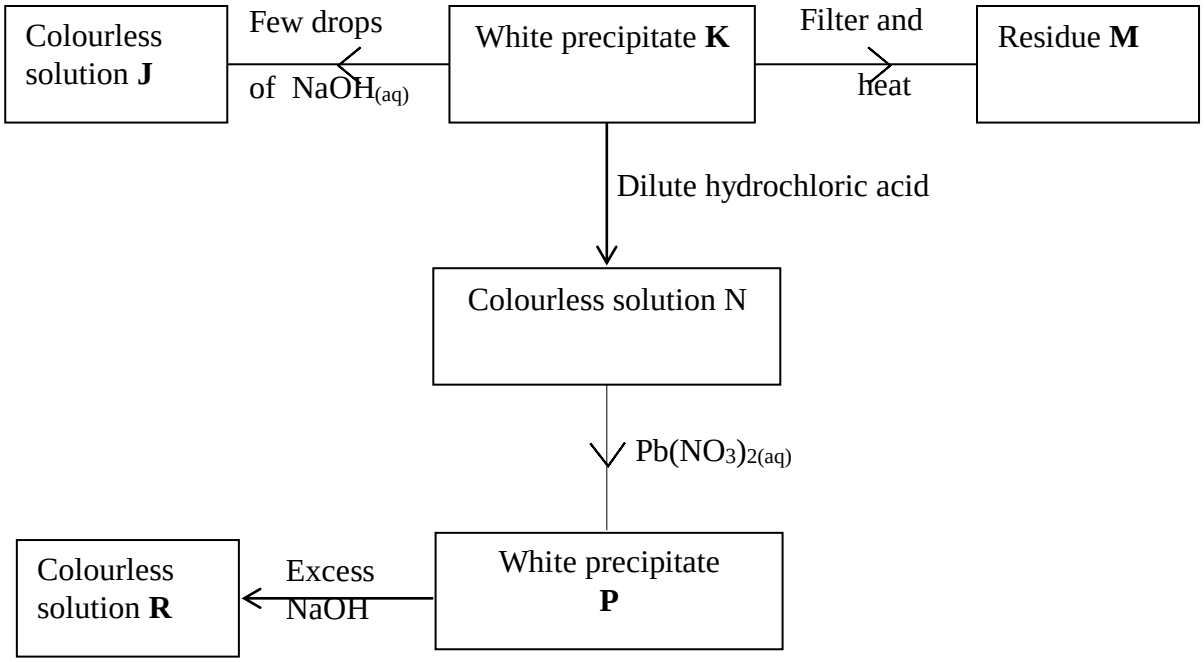
(v) Name **one** industrial application of the above electrolysis. **(1 mark)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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6. Study the flow chart below and answer the questions that follow.



Residue **M** was yellow when hot and white when cold.

(a) **(i)** Identify.

I White precipitate **K** _____**(1 mark)**

II Solution **N** _____**(1 mark)**

III Residue **M** _____**(1 mark)**

(ii) Write an ionic equation for the reaction of solution N with $Pb(NO_3)_{2(aq)}$.**(1 mark)**

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(iii) Write observations that would be made when ammonia solution is added dropwise till in excess to the colourless solution **N**. **(1 mark)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) Ammonia gas bubbled into water forms a solution which conducts electricity whereas the solution formed when it is bubbled through methylbenzene does not. Explain. **(2 marks)**

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(c) Boilers used for boiling hard water are normally covered with boilers scale after sometime.

(i) What is the chemical name for boilers scales? **(1 mark)**

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(ii) How is the boiler scale removed? **(1 mark)**

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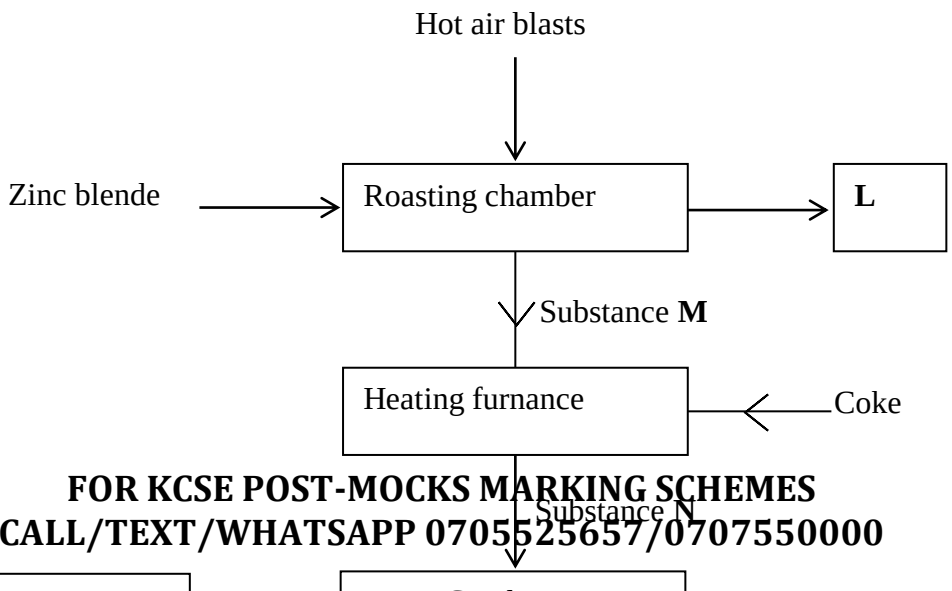
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(d) Write the formula of the anion in solution **J**. **(1 mark)**

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7. The flow chart below illustrates extraction of zinc from zinc blende. Study it and answer the questions that follow.



FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(a) Give an equation for the reaction in the roasting furnace. **(1 mark)**

……

……

(b) Name each of the substances marked **L**, **T**, **N** and **M**. **(2 marks)**

L

……

……

T

……

……

N

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……

M

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……

(c) Why is it necessary to condense substance **N**? **(1 mark)**

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(d) Which other factory can be set up near the zinc extraction plant? Explain.**(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(e) Give **one** use of zinc metal. **(1 mark)**

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(f) **(i)** Zinc sulphide and sulphuric acid react according to the following equation:

$$ZnS_{(S)} + H_2SO_{4(aq)} \rightarrow ZnSO_{4(aq)} + H_2S_{(g)}$$

2.91g of zinc sulphide reacted with 100cm³ of 0.2M sulphuric acid.
Determine the reagent that was in excess. (Zn = 65.0, S = 32.0). **(2 marks)**

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(ii) Calculate the volume of hydrogen sulphide H_2S) gas produced in the reaction above at r.t.p. (Molar gas volume 24dm³). **(2 marks**)

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FOR KCSE POST-MOCKS MARKING SCHEMES
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KCSE JOINT POSTMOCKS

SERIES 001

SCHOOL……

SIGN…… DATE……

CHEMISTRY

PRACTICAL

CONFIDENTIAL

Each Candidate will require:

*1. Solution **A**, 2M Hydrochloric acid*

*2. Solution **B**, 0.2M sodium carbonate solution.*

3. Stopwatch

4. 100ml measuring cylinder

5. 250ml volumetric flask

6. Distilled water in a wash bottle

7. 1 Label

8. 1 50ml burette

9. 1 25mlPipette

10. 1 pipette filler

11. 2 250ml conical flasks

12. Methyl orange indicator

13. A 10ml measuring cylinder

14. 4 pieces of 1cm cleaned magnesium ribbon

15. Retort stand

16. White tile

17. About 0.2g of Solid F (Ammonium Iron (II) sulphate crystals)

18. A metallic spatula

4 Test tubes

FOR KCSE POST-MOCKS MARKING SCHEMES
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19. Test tube rack

20. Source of heat

21. Test tube holder

22. Blue and red litmus paper

23. Distilled water in a wash bottle

24. 2M Sodium hydroxide solution with a dropper

25. 2M Ammonia solution with a dropper

26. Lead nitrate solution

27. Barium Chloride solution

FOR KCSE POST-MOCKS MARKING SCHEMES
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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

233/3

CHEMISTRY

PAPER 3

(PRACTICAL)

Time: 2 ¼ Hours

INSTRUCTIONS TO CANDIDATES

(a) *Write your name and index number in the spaces provided.*
(b) *Sign and write the date of examination in the spaces provided.*
(c) *Answer ALL the questions in the spaces provided in the question paper*
(d) *You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2 ¼ hours*
(e) *allowed for this paper. This time is to enable you to read through the question paper and make sure you have all the chemicals and apparatus required.*
(f) *ALL working MUST be clearly shown where necessary*
(g) *Mathematical tables and non programmable electronic calculators may be used.*

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	27	
2	13	
TOTAL	40	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

1. You are provided with;

- Solution A, Dilute Hydrochloric acid
- Solution B, which is 0.2M sodium carbonate solution.

You are required to determine the concentration of hydrochloric acid solution A and thereafter use the acid to determine the rate of reaction of the acid with magnesium at different concentrations.

PROCEDURE A

Using a 100ml measuring cylinder provided, measure 50cm^3 of solution A and transfer it into the 250ml volumetric flask provided. Add distilled water up to the mark. Shake well to mix the solution then label it solution C. Fill the burette with solution C. Pipette 25cm^3 of sodium carbonate solution B into a clean conical flask. Add two drops of methyl orange indicator and titrate solution C against sodium carbonate solution B. Record your results in table 1 below. Repeat the procedure two more times and complete the table below.

Table 1 **(4mks)**

	1	**2**	**3**
Final burette reading in cm^3			
Initial burette reading in cm^3			
Volume of A used in cm^3			

(a) Determine the average volume of hydrochloric acid in solution C used in the titration. **(1mk)**

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(b) Calculate the number of moles of sodium carbonate 25cm^3 used in the titration. **(2mks)**

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(c) Write an equation for the reaction taking place in the conical flask during the titration. **(1mk)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(d) Calculate:

(i) The number of moles of hydrochloric acid in the average volume of solution C used in the titration. **(1mk)**

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(ii) Number of moles of hydrochloric acid in 250cm^3 of solution C. you prepared. **(1mk)**

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(iii) The concentration of hydrochloric acid in the original solution A in moles per litre.**(2mks)**

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Procedure 2

Using the 10ml measuring cylinder provided, measure 10cm^3 of the acid solution A into a clean boiling tube. Put one piece of magnesium ribbon provided and start the stopwatch immediately. Stop the stop watch as soon as the reaction is complete. Record the time taken for the magnesium to react completely. Repeat the procedure using 8cm^3 of the acid and 2cm^3 of distilled water and complete the table below. (A)

Experiment No.	**1**	**2**	**3**	**4**
Volume of acid used in cm^3	10	8	6	4
Volume of water added in cm^3	0	2	4	6
Time taken in seconds				
Rate of reaction $^1/_{time}$				
Concentration of acid in moles/dm^3				

(5mks)

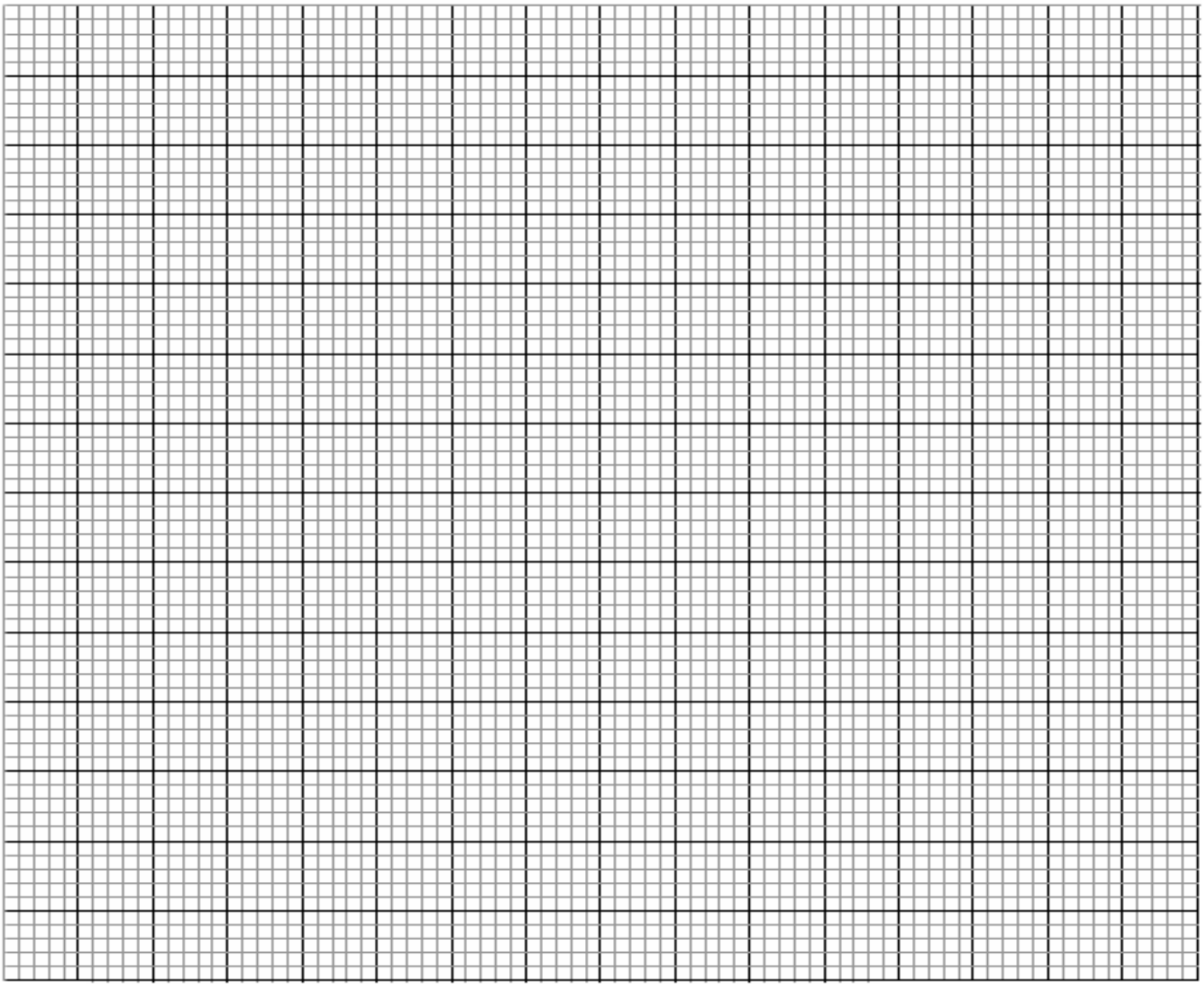
FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(B) Calculate the concentration of the acid used in moles/dm^3 and fill in the table above.

Use the working space in the table below. **(4mks)**

Experiment No.	**1**	**2**	**3**	**4**
Calculation				

C) Using the values obtained in the table above. Draw a graph of Rate of reaction **(y axis)** against concentration in moles per litre **(X axis)** **(3mks)**



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D) Using your graph state the rate of reaction when the concentration of the acid is $0.7 moles/dm^3$ **(1mk)**

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E) What is the relationship between rate of reaction and concentration of the acid? Explain.

(2mks)

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2. You are provided with solid F. Carry out the test below and write down your observations and inferences in the spaces provided.

a) Place a spatula end full of solid F in a dry test tube. Heat gently, then strongly. Test for any gases produced using litmus papers.

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

b) Place the remaining portion in a test tube and add distilled water up to two – thirds Shake well to dissolve the solid.Divide the resulting mixture into five portions.

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

FOR KCSE POST-MOCKS MARKING SCHEMES
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i) Add sodium hydroxide solution to the first portion drop wise until in excess.

Observations	Inferences
(1mk)	(1mk)

ii) Add ammonia solution to the second portion drop wise until in excess

Observations	Inferences
(1mk)	(1mk)

iii) To the third portion, add Lead nitrate solution

Observations	Inferences
(1mk)	(1mk)

iv) Add barium Chloride solution to the fourth portion.

Observations	Inferences
(1mk)	(1mk)

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

232/1

PHYSICS

PAPER 1
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS TO THE CANDIDATE:

*(a) Write your **name** and **index number** in the spaces provided above.*
*(b) **Sign** and write the **date** of examination in the spaces provided above.*
*(c) This paper consists of **two** Sections **A** and **B**.*
*(d) Answer **all** the questions in sections **A** and **B** in the spaces provided.*
*(e) All working **must** be clearly shown in the spaces provided.*
*(f) Mathematical tables and electronic calculators **may be** used.*

FOR EXAMINER'S USE ONLY:

Section	Question	Maximum Score	Candidate's Score
A	1 – 13	25	
	14	11	
	15	9	
B	16	7	
	17	9	
Total Score		80	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

SECTION A: (25 MARKS)

1. A burette has an initial reading of 22.5cm³. Determine the final reading after liquid of volume of 11.3cm³. To removal from the burette. **(2 marks)**

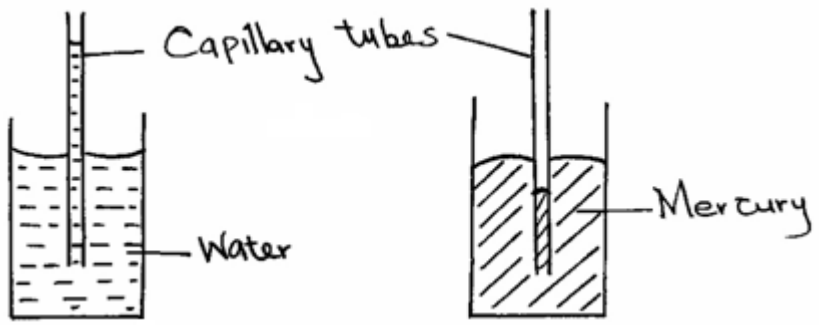
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2. The figures below shows capillary tubes inserted in water and mercury respectively.



It is observed that in water the meniscus in the capillary tube is highter than the meniscus in the beaker, while in mercury the meniscus in the capillary tube is lower than the meniscus in the beaker. Explain them observations. **(2 marks)**

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3. The barometric height in a town is 65cmHg. Given that the standard atmospheric pressure is 76cmHg and the density of mercy is 13600kg/m³, determine the attitude of the town. (Density of air is 1.25kg/m³). **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

4. **(i)** State the Brownian motion. **(1 mark)**

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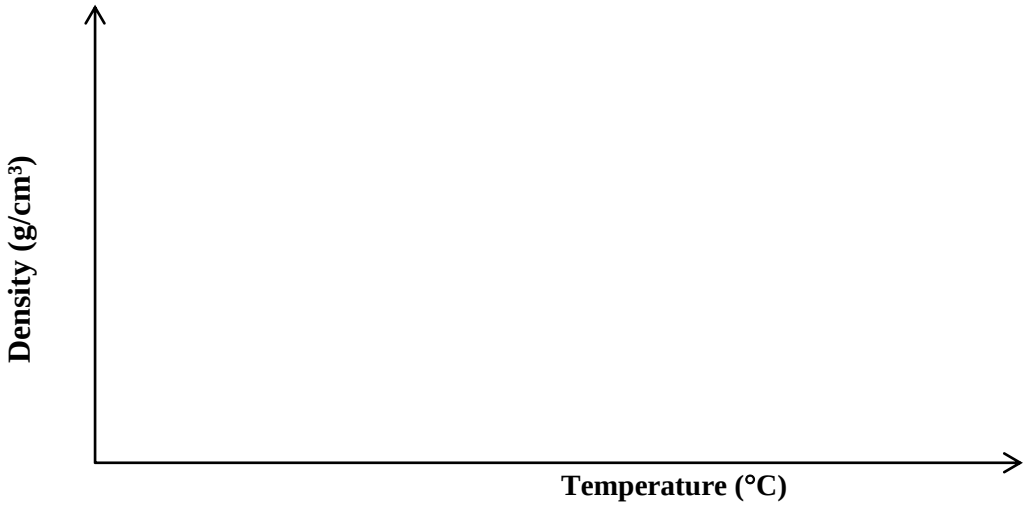
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(ii) Chalk is denser than air. Explain why chalk dust floats in air. **(1 mark)**

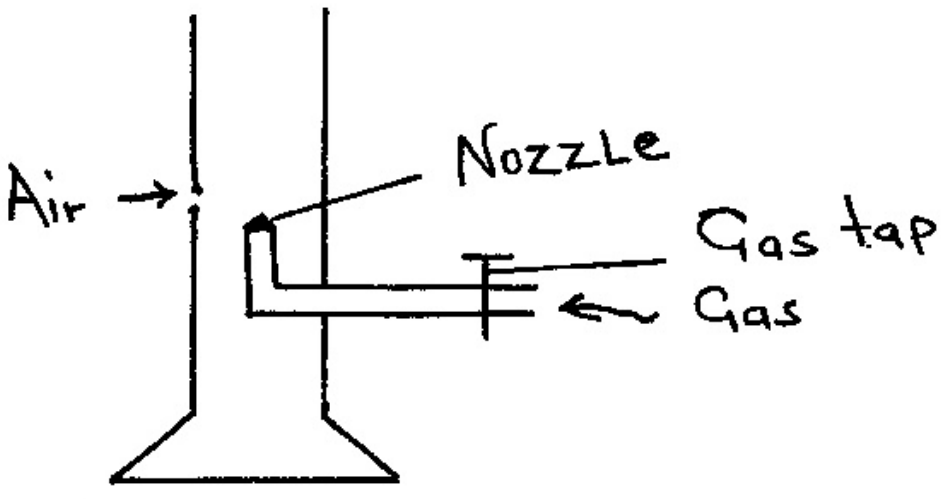
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5. On the Cartesian plan below sketch a graph to show how the density of water varies from O°C to 10°C. **(2 marks)**



6. The figure below shows a Bunsen burner.



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Explain how air is drawn into the burner when the gas tap is open. **(2 marks)**

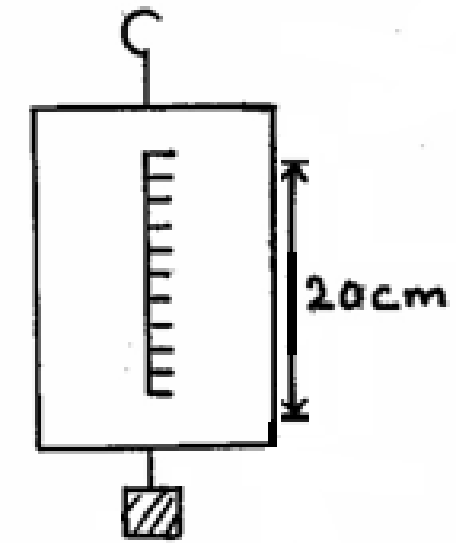
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7. The figure below shows a spring balance, its spring constant is 125N/m. The scale spreads a distance of 20cm.



Determine the maximum weight that can be measured using the spring balance. **(3mks)**

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8. State and explain **one** way in which vacuum flask is adapted to it's functions. **(2 marks)**

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9. A uniform metre rule pivoted at it's 15.0cm mark is balanced by a 2N weight suspended at the 5.0cm mark. Determine the mass of the metre rule. **(3 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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10. State the law of inertia. **(1 mark)**

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11. When the temperature of a gas in a closed container is raised, the pressure of the gas increases. Explain in terms of kinetic energy how the molecules of the gas cause an increase in pressure. **(2 marks)**

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12. What is meant by the term "banking" of the road? **(1 mark)**

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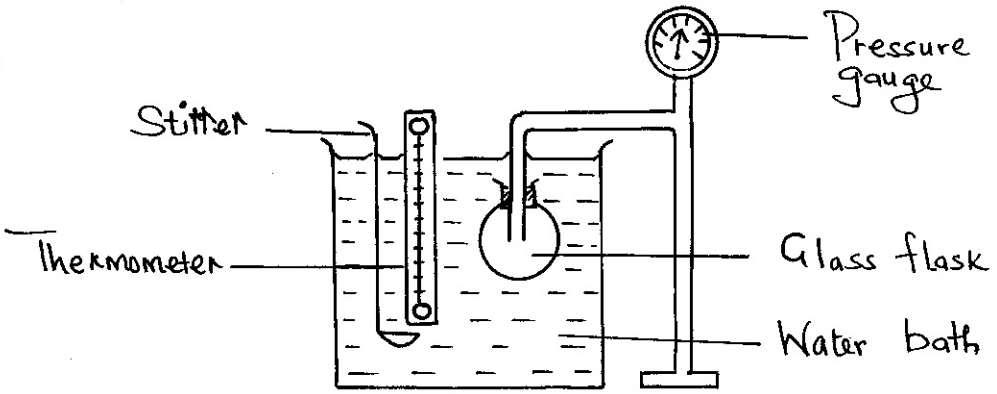
13. State the law of conservation of energy. **(1 mark)**

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SECTION B: (55 MARKS)

14. (a) The figure below shows a set-up that may be used to verify pressure law.



FOR KCSE POST-MOCKS MARKING SCHEMES
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(i) State the measurements that should be taken in the experiment.**(2 marks)**

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(ii) Explain how the measurements in (i) above may be used to verify pressure law. **(3 marks)**

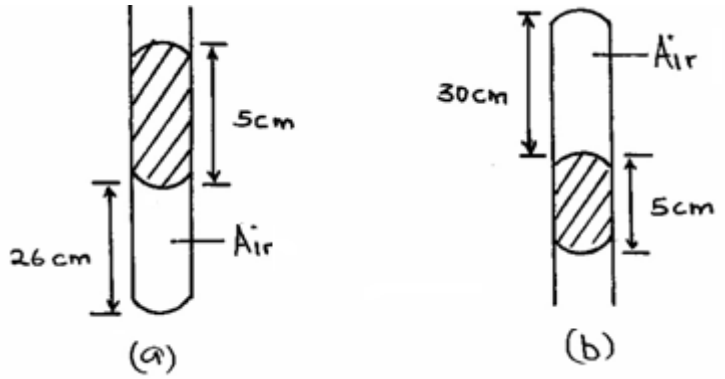
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(b) A column of air 26cm long is trapped by mercury thread 5.0cm long as shown in the figure (a) below. When the tube is inverted as in figure (b) the air column becomes 30cm long. What is the value of atmospheric pressure? **(3 marks)**



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(c) A steel cylinder of capacity 0.5m³ contains nitrogen at a pressure of 30,000Pa when the temperature is 27°C. What will be the pressure of nitrogen if it is allowed to flow into another cylinder of capacity 9.5m³ with the temperature reduced to -23°C? **(3 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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(d) State the difference between the temperature measured in Kelvin scale and Celcius scale. **(1 mark)**

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15. (a) Define the term specific heat capacity. **(1 mark)**

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(b) A block of metal of mass 150g at 100°C is dropped into a lagged calorimeter of heat capacity $40Jk^{-1}$ containing 100g of water at 25°C. The temperature of the resulting mixture is 34°C. (Specific heat capacity of water = $4200Jkg^{-1}$). Determine;

(i) Heat gained by calorimeter. **(2 marks)**

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(ii) Heat gained by water. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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(iii) Heat lost by the metal block. **(1 mark)**

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(iv) Specific heat capacity of the metal block. **(3 marks)**

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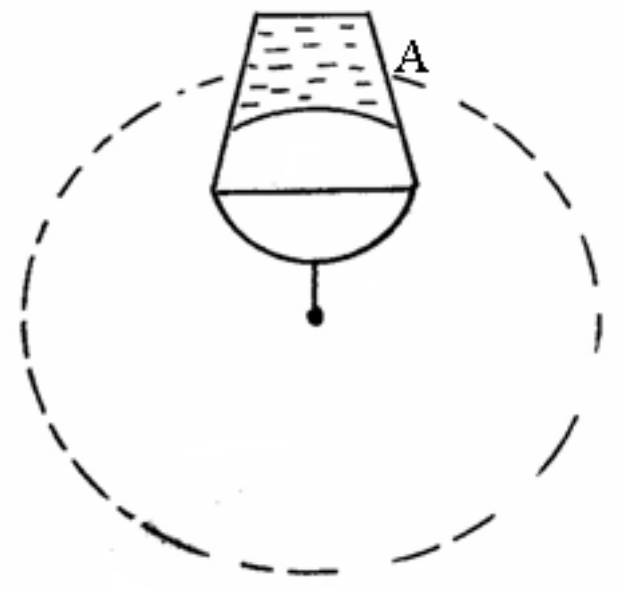
16. (a) The moon goes round the earth at a constant speed. Explain why it is true to say the moon is accelerating. **(1 mark)**

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(b) The figure below shows a pail of water being swung in a vertical circle.



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Explain why the water does not pour out when the pail is at position **A** as shown.

(1 mark)

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(c) A string of negligible mass has a bucket tied at the end. The string it is 60cm long and the bucket has a mass of 45g. The bucket is swing horizontally making 6 revolutions per second. Calculate:

(i) the angular velocity. **(2 marks)**

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(ii) the angular acceleration. **(3 marks)**

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(iii) the tension on the string. **(3 marks)**

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(iv) the linear velocity. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

17. (a) (i) What is meant by perfectly inelastic collision. **(1 mark)**

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(ii) A minibus of mass 1600kg travelling at a constant velocity of 20mls collides with a stationary car of mass 800kg. The impact takes 2 seconds before the two moves together and come to rest after 15 seconds. Determine.

(a) The common velocity.

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(b) The distance moved after the impact. **(2 marks)**

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(iii) The impulse force. **(3 marks)**

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(c) A man uses the inclined plane to lift a 50kg load through a vertical line height of 4.0m. The inclined plane makes an angle of 30° with the horizontal. If the efficiency of the inclined plane is 80%, determine.

(a) The effort needed to move the load up the inclined plane at a constant velocity. **(3 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) The work done against friction in raising the load through the height of 4.0m. (Take g = 10N/kg). **(3 marks)**

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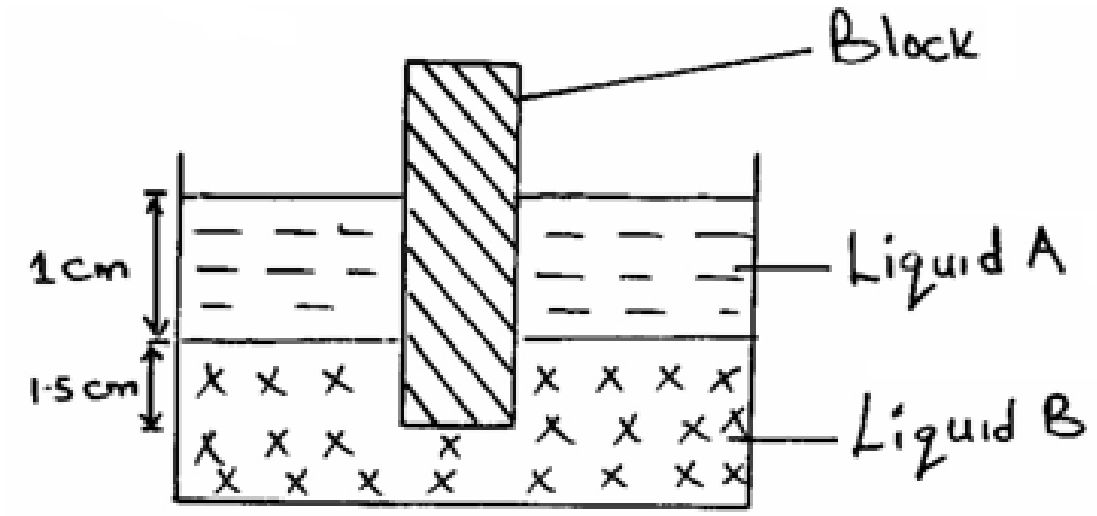
18. (a) State the Archimedes Principle. **(1 mark)**

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(b) The figure below shows rectangular block of height 4cm floating vertically in a beaker containing two immiscible liquid A and B. The densities of the liquid are 8000 kg/m³ and 12,000kg/m³ respectively.



FOR KCSE POST-MOCKS MARKING SCHEMES
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The cross sectional area is $2cm^2$.

Determine.

(i) the weight of the liquid A displaced by the black. **(2 marks)**

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(ii) the weight of the liquid B displaced by the block. **(2 marks)**

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(iii) the mass of the block. **(1 mark)**

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(iv) the density of the block. **2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

232/2

PHYSICS

PAPER 2
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS TO THE CANDIDATES:

*(a) Write your **name** and **index number** in the spaces provided above.*
*(b) **Sign** and write the **date** of examination in the spaces provided above.*
*(c) This paper consists of **two** Sections **A** and **B**.*
*(d) Answer **all** the questions in sections **A** and **B** in the spaces provided.*
*(e) All working **must** be clearly shown in the spaces provided.*
*(f) Mathematical tables and electronic calculators **may be** used*

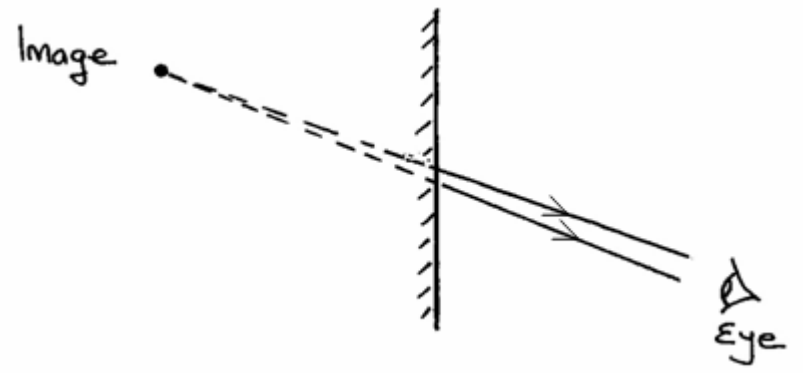
FOR EXAMINER'S USE ONLY:

Section	Question	Maximum Score	Candidate's Score
A	1 – 10	25	
		11	
		9	
B		7	
		9	
Total Score		80	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

SECTION A: (25 MARKS)

1. **(a)** Figure 1 shows an image formed in a plane mirror.



By drawing incident rays for the rays shown, locate the position of the object**.(2 marks)**

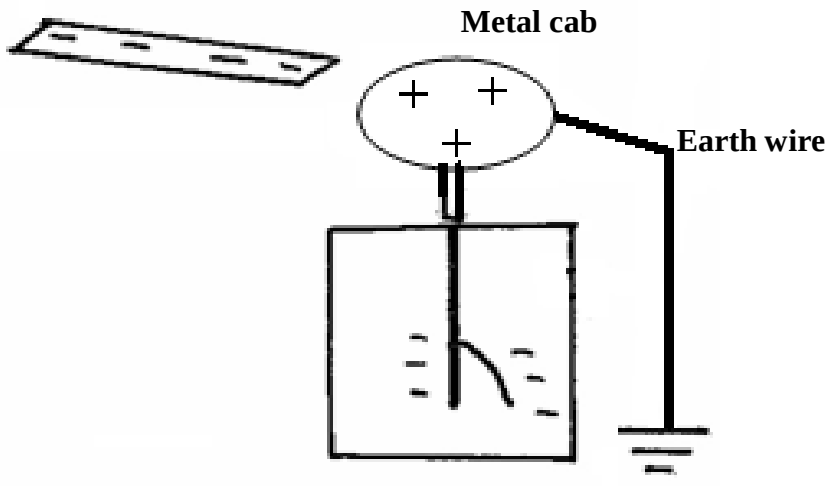
(b) Explain how an enlarged hole in a pin hole camera produces a blurred image. **(1 mark)**

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2. The figure 2 below shows an electroscope being charged by induction.



(i) State the reason why the cap of the electroscope is made circular. **(1 mark)**

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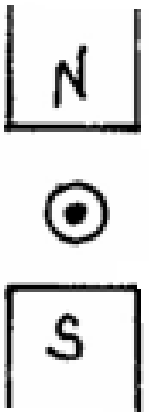
FOR KCSE POST-MOCKS MARKING SCHEMES
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(ii) On the same diagram, show the direction of the flow of electrons on the earth wire.

3. The table below shows the type of radiation detection method and uses of electro-magnetic radiations. Complete the table. **(2 marks)**

Type of radiation	Detection method	Use
	Blackened thermometer	Warming
Microwave		

4. **(a)** Figure 3 below shows a current carrying conductor placed perpendicularly between the poles of a magnet.



(i) Show on the diagram the magnetic field pattern. **(1 mark)**

(ii) The direction of net force on the conductor. **(1 mark)**

5.Using dormain theory, describe how a nail can be magnetised through hammering.**(2 marks)**

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6. **(i)** Define focal plane. **(1 mark)**

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(ii) State **two** properties of an image formed by a concave mirror that makes it suitable for use by barbers. **(2 marks)**

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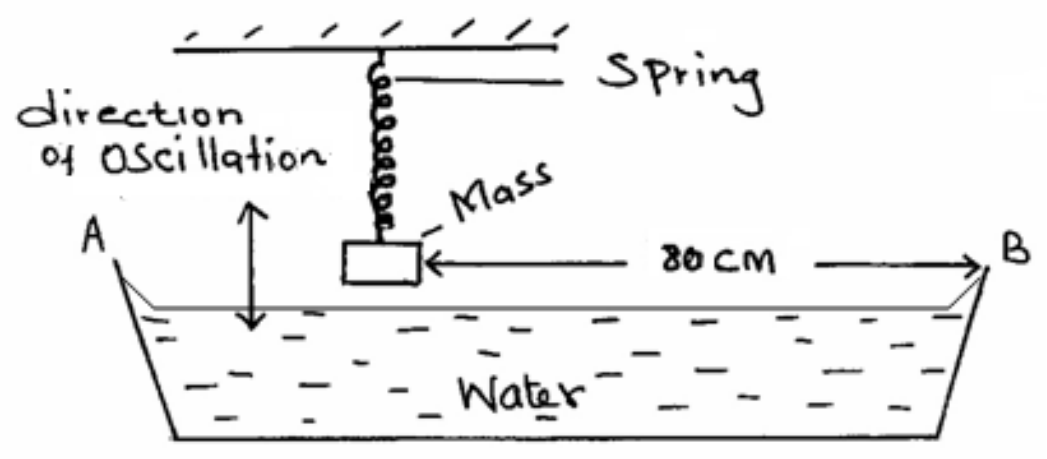
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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

7. A student set up a mass attached to a spring such that when it oscillates, it taps on water surface in a wide shallow tank.



The student measured time for 20 oscillations and found that the mass takes 36 seconds. Given that the student counted four rippies between the mass and end B of the tank. Determine the speed of the waves. **(3 marks)**

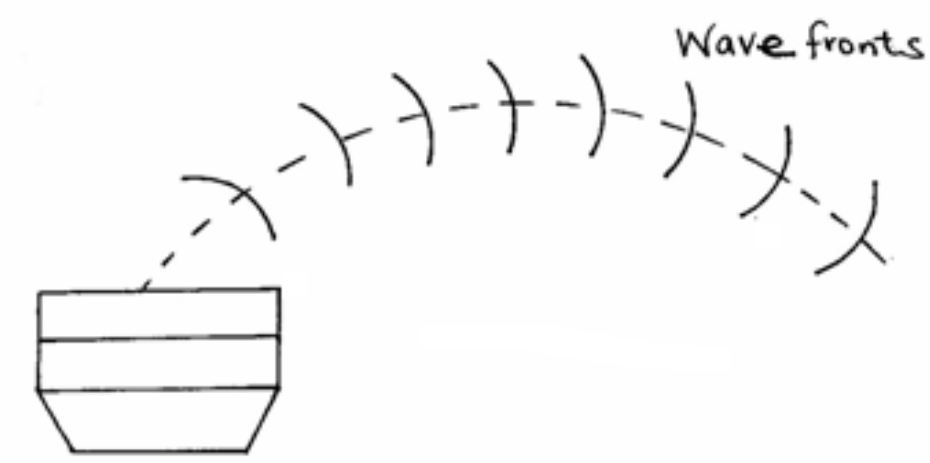
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8. Figure 4 below shows sound waves emitted by a drum struck.



FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

Explain why the wave fronts are directed towards the ground. **(2 marks)**

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9. In a compound microscope, the focal length of the objective lens is 3.0cm and that of the eye piece is 3.2cm and they are placed 10.0cm apart. An object is placed 5cm from the objective lens. Use the lens formular. In turn for each lens to find the position of the final image. **(3 marks)**

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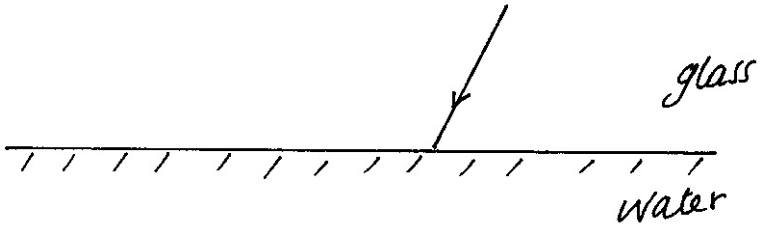
10. (a) Apart from Snell's law, state another law of refraction of light. **(1 mark)**

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(b) A ray of light is incident on a glass-water interface making an angle of 35° with the boundary as shown below.



Calculate the angle of refraction (take refractive of glass and water as $\frac{3}{2}$ and $\frac{4}{3}$ respectively).

(2 marks)

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

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SECTION B: (55 MARKS)

11. **(a)** Two 12V lead-acid accumulator A and B are rated 60Ah and 70Ah respectively.

State **two** physical differences between the two. **(2 marks)**

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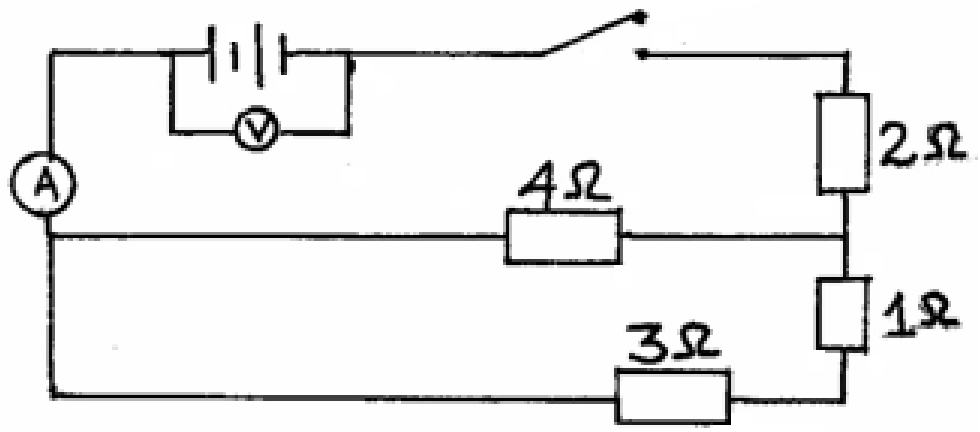
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(b) The figure below shows a net work of resistors connected together in a circuit.

The voltmeter reads 3.0V when the switch is open and 2.4V when switch is closed.



Given that the ammeter reads 0.6A.

Determine:

(i) The net e.m.f of the battery. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(ii) the internal resistance of each cell. **(1 mark)**

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(iii) the potential drop across the 3Ω resistor. **(3 marks)**

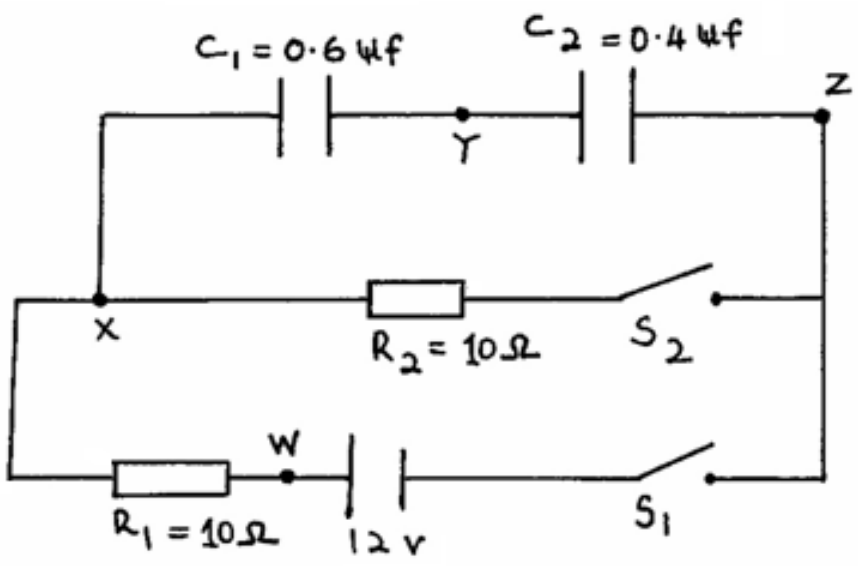
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(c) The diagram below represents an electrical circuit with switches S_1 and S_2 open.



Switch S_1 is closed and the circuit, left undisturbed for a few minutes.

Determine:

(i) the potential difference between **W** and **X**. **(1 mark)**

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(ii) the magnitude of charge on each plate of capacitor C_1 in SI units. **(3 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(iii) the potential difference between **Z** and **Y**. **(2 marks)**

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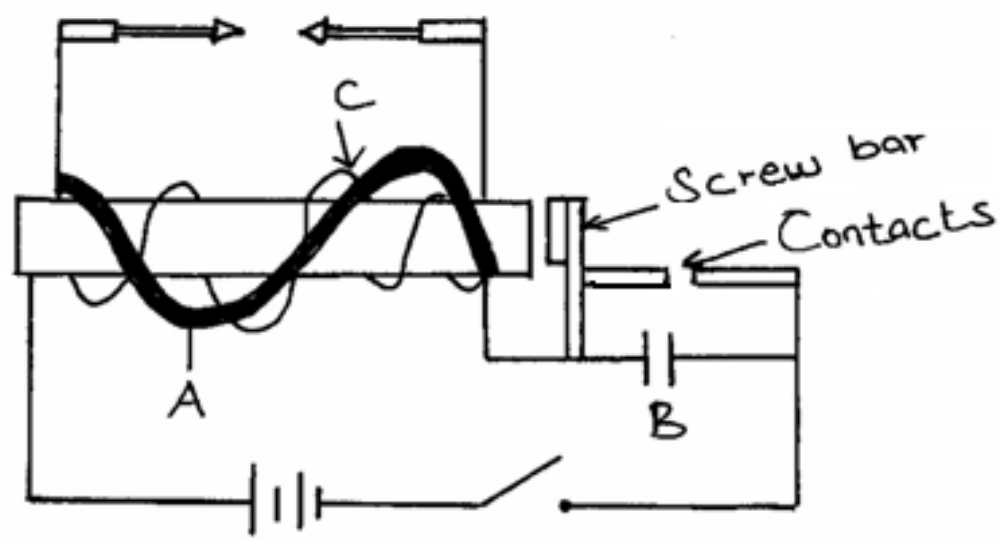
12. **(a)** State the Faraday's law of electricity. **(1 mark)**

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(b) The diagram below shows an induction coil used to produce sparks.



(i) Name the part labelled **C**. **(1 mark)**

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(ii) Explain why the part labelled **A** is thicker than **C**. **(1 mark)**

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……

……

(iii) State the purpose of part labelled **B**. **(1 mark)**

……

……

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(c) (i) A transformer is used on a 240V a.c supply to deliver 12A at 120V to a heating coil. If 20% energy is lost at the transformer, calculate the current in the primary coil.

(3 marks)

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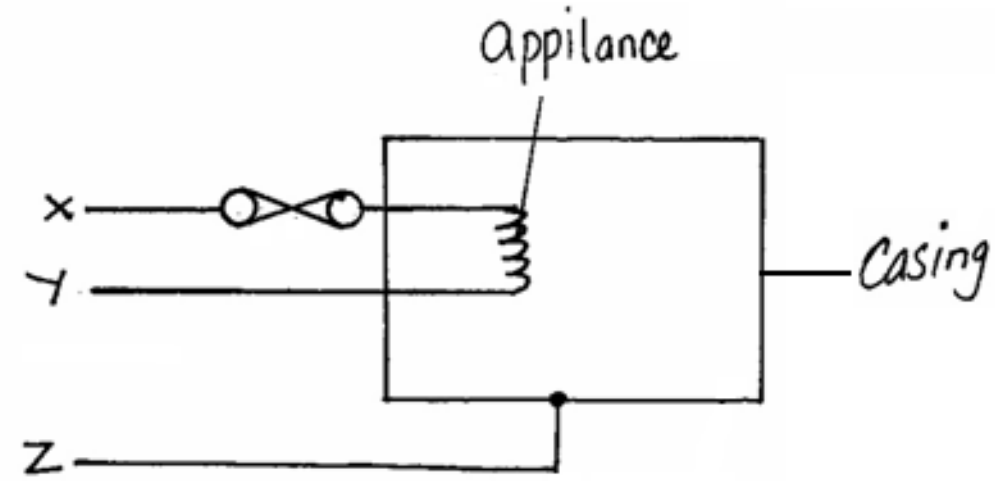
(ii) State the adjustments that can be made on a d.c generator to produce alternating current. **(1 mark)**

……

……

……

(d) (i) The figure below shows the wiring in a modern main appliance**.(1 mark)**



Identify the colour of wires **Y** and **Z**. **(2 marks)**

Y

……

……

Z

……

……

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(ii) A cooker rated 2.0KW was operated for 35 minutes each day for 30 days.
If the cost of each unit is Sh.12.5 Calculate the cost of electricity used**.(3 mks)**

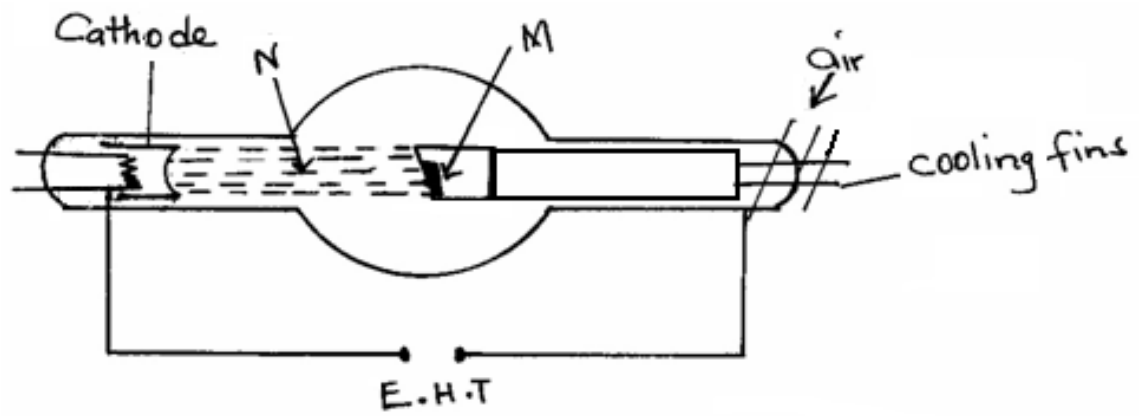
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13. (a) The figure below shows an X-ray tube.



(i) Why is **M** set at an angle of 45° relative to the electron beam? **(1 mark)**

……

……

(ii) State one property for parts labelled **M** and **N**. **(2 marks)**

M

……

……

N

……

……

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(b) The tube above is operated at an anode potential of 12KV and a current of 10.0mA, determine.

(i) number of elections hitting the target per second. **(2 marks)**

……
……
……
……

(ii) Velocity with which the electrons strike the target (electron charge = 1.6 x 10^{-19}C mass of an electron = 9.11 x 10^{-31}kg). **(3 marks)**

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(c) When the time-base is off, the length of the line on a CRO screen is 4cm peak to peak for an AC voltage 400V. Determine the sensitivity setting. **(2 marks)**

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……

14. Uranium – 235 isotope has the symbol ${}^{236}_{92}\text{U}$. When bombarded by a neutron, it splits to give substance X and Y and 2 neutrons as shown in the equation below.

$${}^{236}_{92}\text{U} + {}^{1}_{0}\text{n} \rightarrow {}^{95}_{56}\text{X} + {}^{a}_{b}\text{Y} + 2\,{}^{1}_{0}\text{n}$$

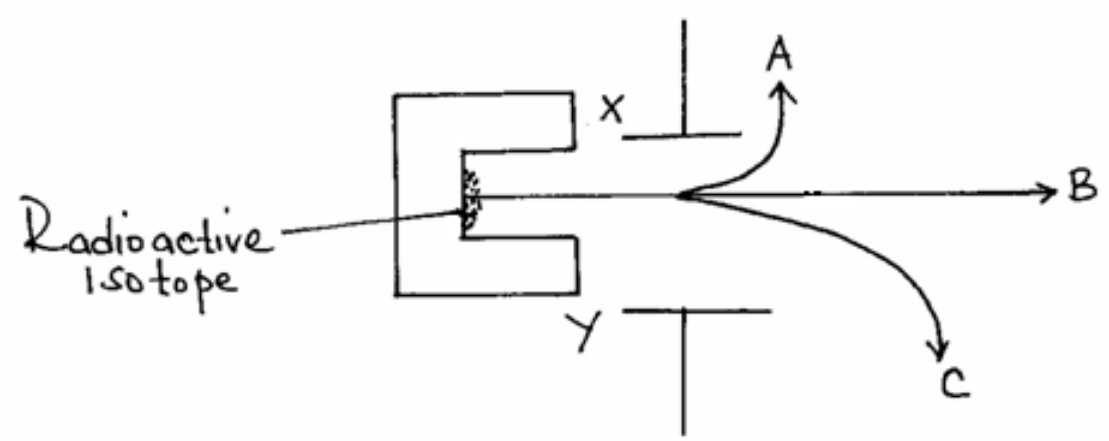
Find the value of **a** and **b**. **(2 marks)**

a

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

b _

(b) The diagram in figure below shows paths followed by three radiations **A**, **B** and **C** from a radioactive isotope through an electric field.



(i) Identify radiation **A**. **(1 mark)**

……

……

(ii) Give a reason why **C** deviates more than **A**. **(1 mark)**

……

……

……

……

(iii) Give **one** property of radiation **B**. **(1 mark)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

……

……

(c) For a certain radioactive material, the average count-rate is found to be 82 counts per second. After 210 seconds, the count rate had dropped by 63 counts per second. The average background count-rate remained constant at 10 counts per second.

What is the half-life of the material? **(3 marks)**

……

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……

15. (a) A clean zinc plate is placed on top of the cap of a negatively charged gold leaf electroscope as shown.

When U.V light is shone on the zinc plate, the leaf is found to fall. Explain**.(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

(b) An certain metal surface has a work function of 2.04 x 10^{-19}J. Calculate the maximum kinetic energy in electron volt of the liberated elections when the metal is illuminated by light of wavelength 4.5 x 10^{-7}m. **(3 marks)**

$\begin{pmatrix} h = 6.63 \times 10^{-34}\ JS & C = 3.0 \times 10^{8}\ m/s \\ e = 1.6 \times 10^{-19}\ J & \end{pmatrix}$

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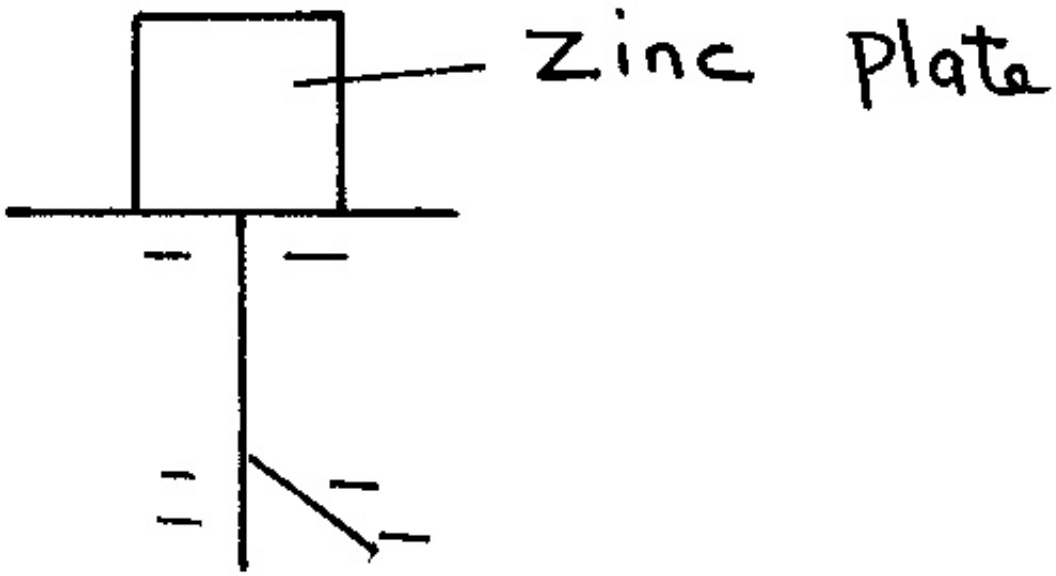
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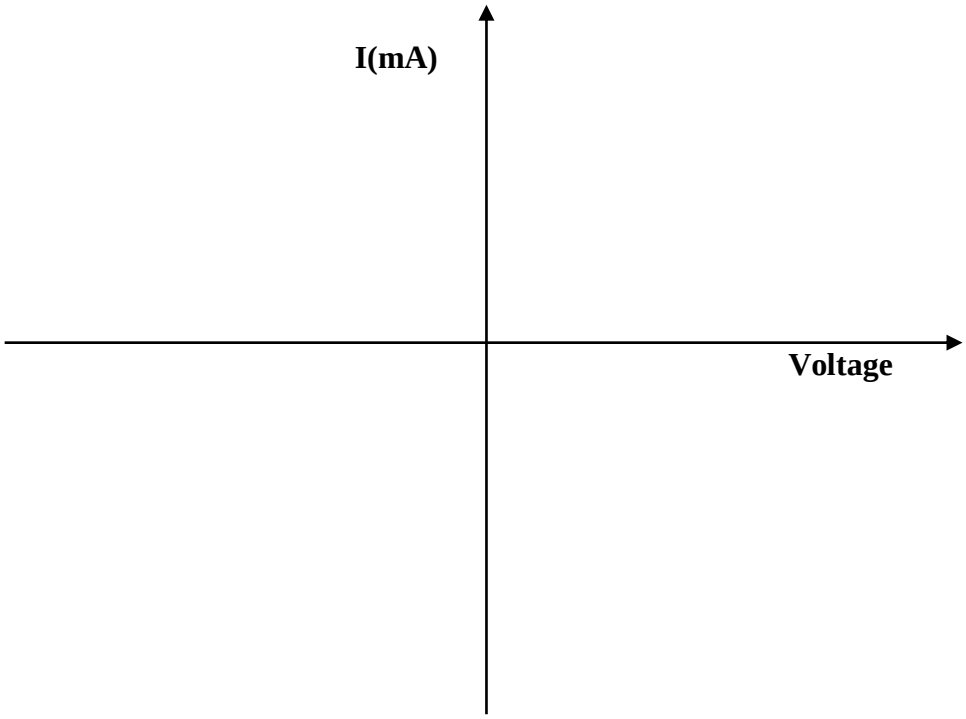
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(c) **(i)** The figure below shows a P-N function diode connected to a dry cell.



FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

On the axis provided plot the I.V characteristic of diode. **(1 mark)**



(ii) A piece of phosphorous crystal is added in the structure of silicon, state the minority charge carrier of the semiconductor formed. **(1 mark)**

……

……

(iii) In the space below, draw a circuit of showing full-wave rectification using a bridge rectifier. **(2 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… INDEX NO……

SIGN…… DATE……

CONFIDENTIAL

232/3

PHYSICS

PRACTICAL

PAPER 3

INSTRUCTIONS TO SCHOOLS

1. The information contained in this paper is to enable the head of school and the teacher in charge of Physics to make adequate preparation for this year's Physics practical examination. **NO ONE ELSE** should have access to this paper or acquire knowledge of its contents. Great care **MUST** be taken to ensure that the information herein does not reach the candidates either directly or indirectly.
2. The apparatus required by each candidate for the Physics Practical examination are set out on page 2. It is expected that the ordinary apparatus of a Physics laboratory will be available.
3. The **Physics teacher** should note that it is his/her responsibility to ensure that each apparatus acquired for this examination agrees with the specifications on page 2.
4. The question paper will not **be** opened in advance.

NB: Any use of apparatus other than the ones specified may lead to candidates being penalized.

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

QUESTION 1

Each candidate is required to have the following

- Two dry cells (1.5V size D Eveready)
- An ammeter (0-1A)
- A voltmeter (0-5v)
- A cell holder
- Six connecting wires, two with crocodile clips
- A jockey
- A nichrome wire (SWG 28) mounted on a mm scale and labeled PQ
- A Switch

QUESTION 2

- Candle
- A lens holder
- A convex lens focal length 10 cm.
- A white screen
- A metre rule
- A knife edge about 7 cm high
- One 50 g mass and 100 g mass
- Two pieces of thread about 20 cm
- Some water in a beaker
- Liquid L in a beaker (Liquid L is Kerosene)
- A piece of tissue paper

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

KCSE JOINT POSTMOCKS

SERIES 001

NAME……

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SIGN…… DATE……

232/3

PHYSICS

PRACTICAL

Paper 3

Time: 2 ½ Hours

INSTRUCTIONS TO THE CANDIDATES:

- *Write your **name** , **admission number** and **index number** in the spaces provided above.*
- *Answer **all** questions in the spaces provided in the question paper.*
- *You are supposed to spend the first 15 minutes of the 2 ½ hours allowed for this paper reading the whole paper carefully.*
- *Marks are given for a clear record of the observation actually made, their suitability, accuracy and the use made of them.*
- *Candidates are advised to record their observations as soon as they are made.*
- *Mathematical tables, slide rules and calculators may be used.*

For examiner's use only

Question 1

	a	c	d	e	f	g	TOTAL
Maximum score	1	7	5	3	2	2	20
Candidate's score							

Question 2

	a	b i	b ii	b iii	c	d	e	f	g	TOTAL
Maximum score	1	5	4	2	1	1	2	3	1	20
Candidate's score										

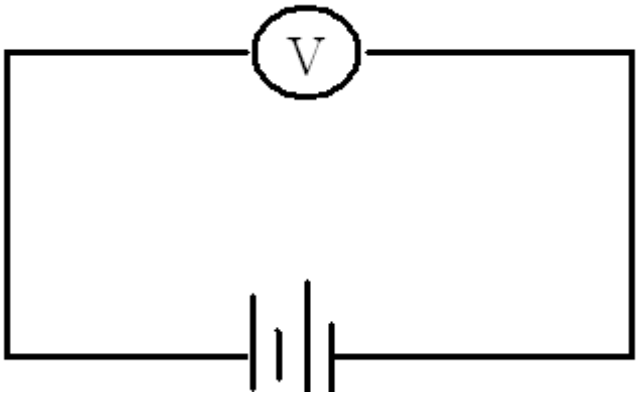
FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

1. ***You are provided with:***

- A resistance wire mounted on millimeter scale
- Two dry cells in a cell holder
- A voltmeter
- A switch
- Six connecting wires, two with a crocodile clip at one end

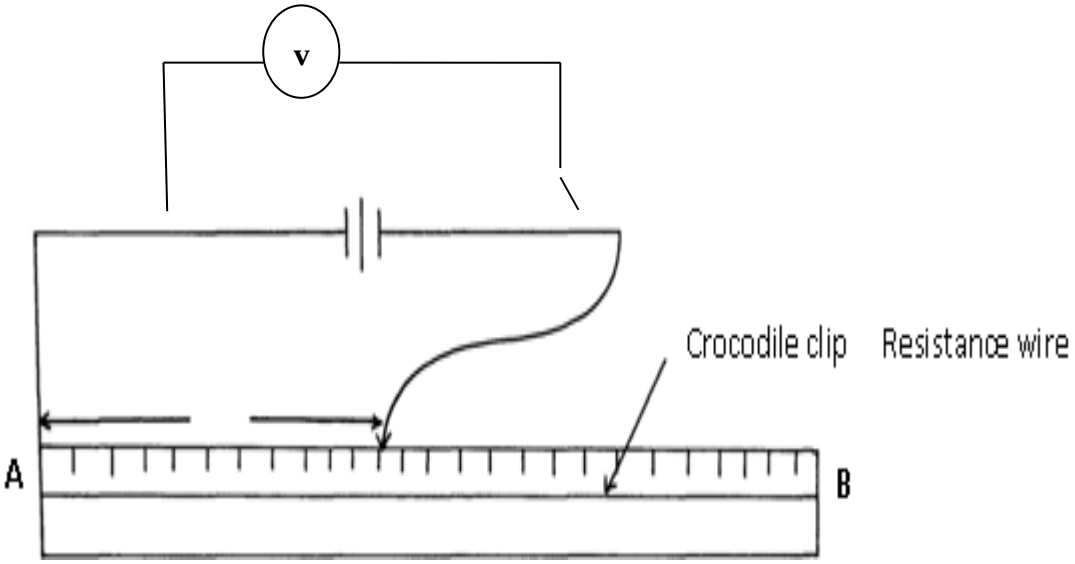
Proceed as follows:-

(a) Set up the circuit as in the figure below and determine the total electromotive force E, of the cells.



Electromotive force E, of thecells **……..…….** Volts. **(1 mark)**

(b) Set up the circuit shown in the figure below, connect the wire with clip on the mounted wire at a length (L) of 10cm from the end marked A. Record the voltmeter reading in the table provided in part (c) below:

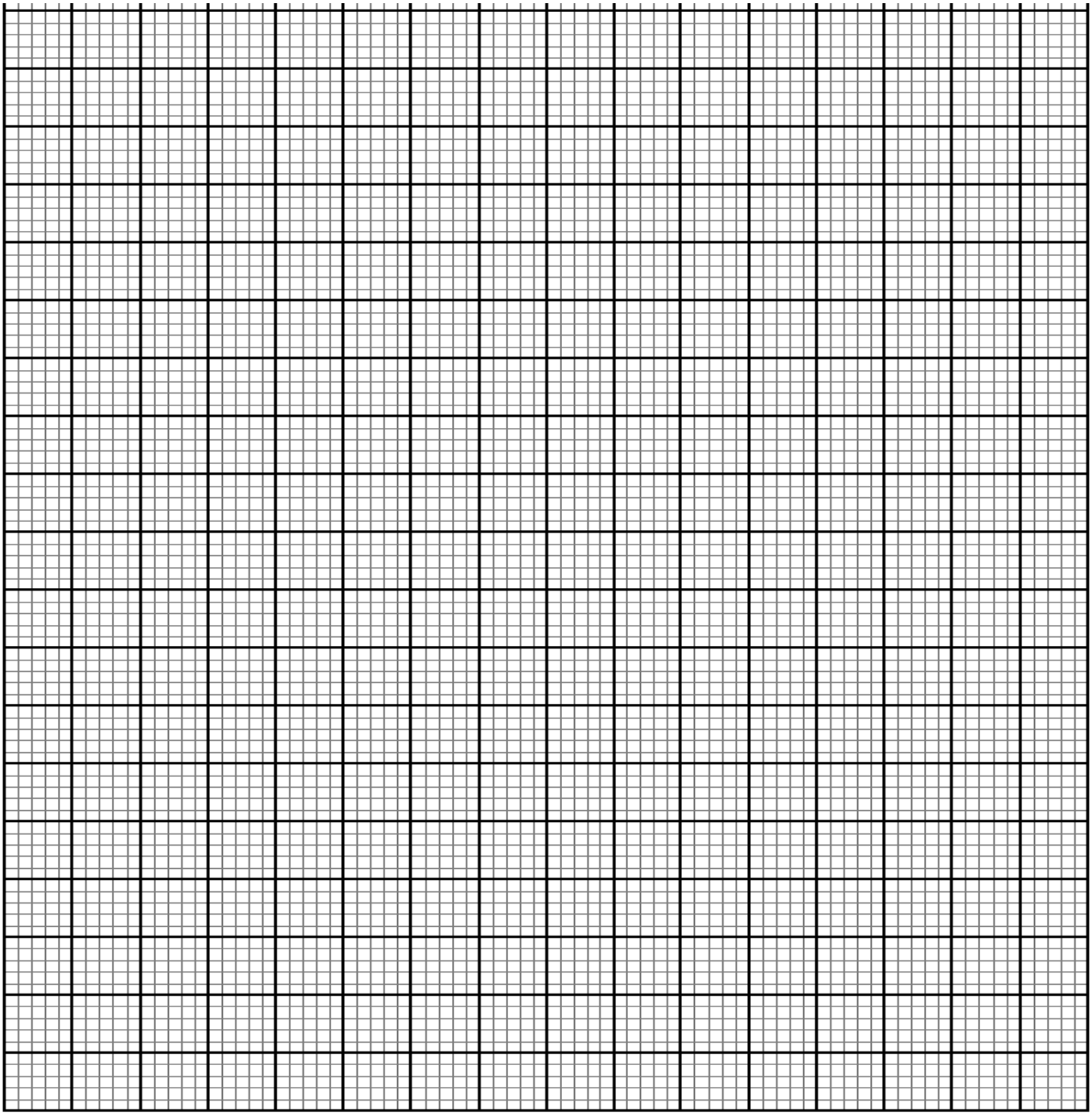


FOR KCSE POST-MOCKS MARKING SCHEMES
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(c) Repeat the procedure in (b) above for the following values of **L**

L(cm)	**V(volts)**	**E-V(volts)**	$\frac{\mathbf{V}}{\mathbf{E-V}}$
10			
20			
30			
40			
50			
60			

(d) Plot a graph of $\frac{V}{E-V}$ against L (cm) **(5marks)**



FOR KCSE POST-MOCKS MARKING SCHEMES
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(e) Determine the slope of the graph. **(3marks)**

(f) Given the equation $\frac{V}{E-V} = K_1L_1 + K_2$

Determine the values of K_1 and K_2 **(2marks)**

K_1……

K_2…….

(g) Given that $4K_2r = 10$ where r is the internal resistance of the cells. Determine the value of r. **(2marks)**

QUESTION 2

PART A

2. ***You are provided with the following apparatus***:

- A candle
- A lens holder
- A convex lens
- A screen
- A metre rule
- An object

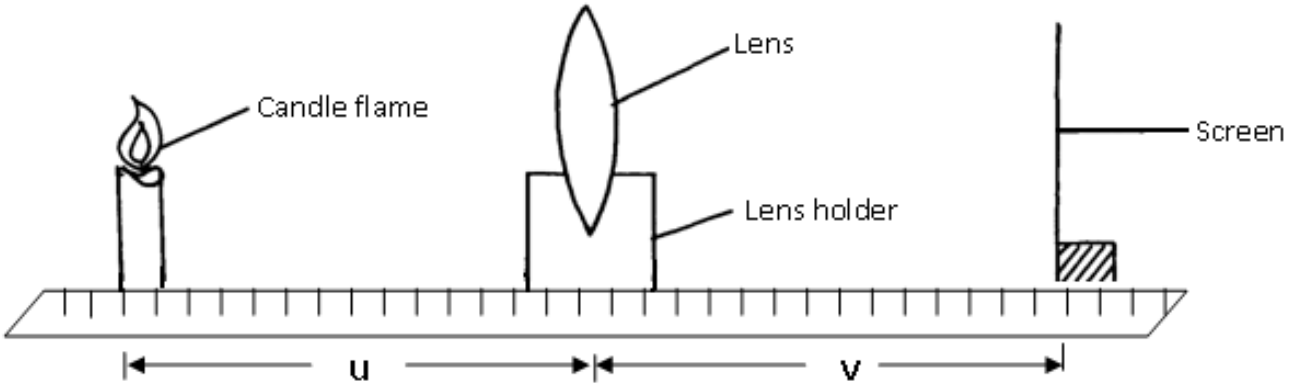
FOR KCSE POST-MOCKS MARKING SCHEMES
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Proceed as follows:

Using an object infinity outside the room, focus its image on the screen provided. The image should be as sharp as possible and inverted. Measure the distance from the lens to the screen h cm.

h……..cm (1 mark)

Arrange the candle flame, the lens, and the screen as shown in the diagram below:

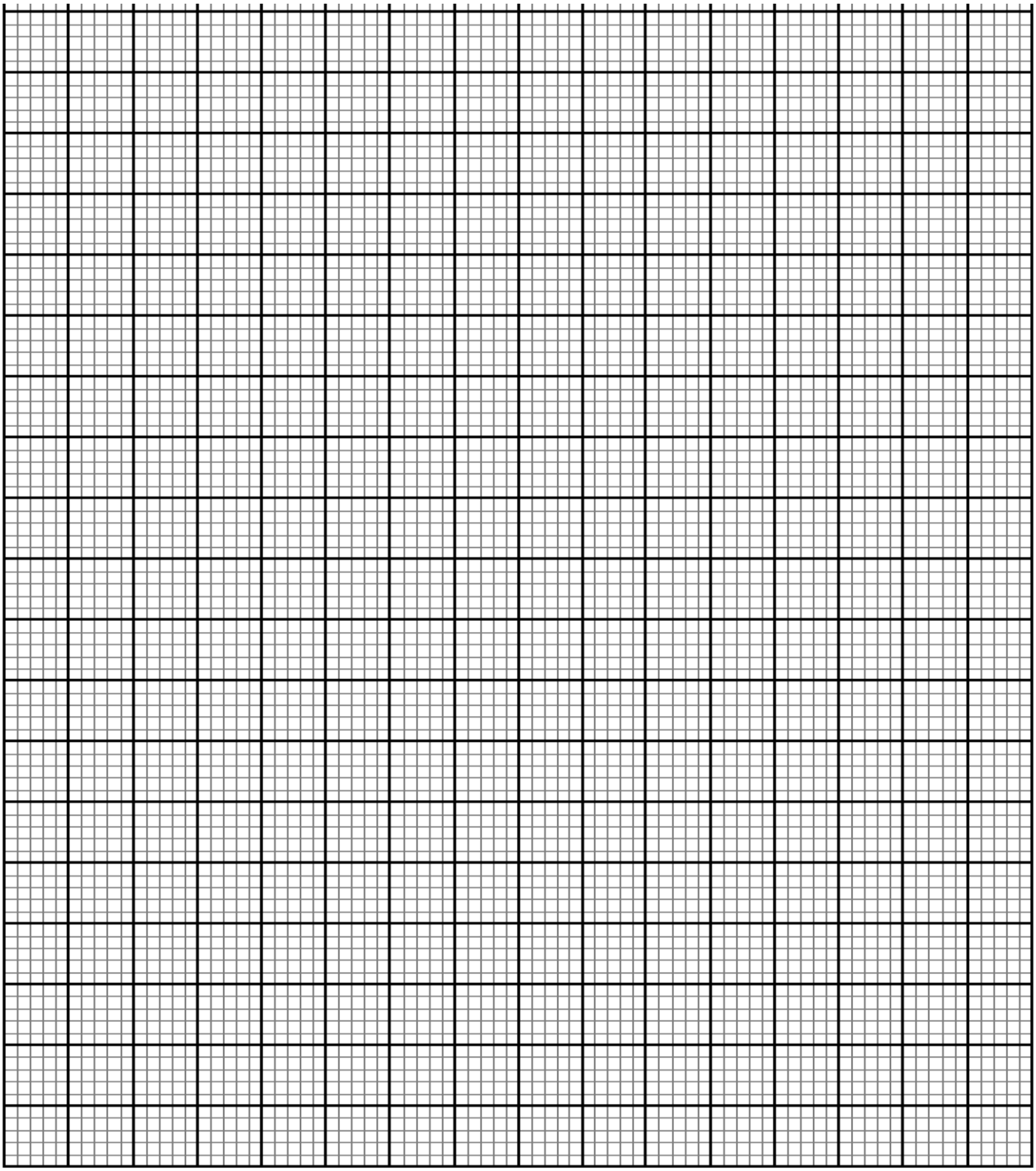


b) i) For particular value of u, adjust the position of the screen until a sharp image appears on the screen. Measure distance Vcm. Repeat the experiment for each of the other values of u, and enter the results in the table below: **(5mks)**

Distance u(cm)	**Distance V(cm)**	**uv(cm^2)**	**U + v (cm)**
12			
15			
18			
21			
24			
27			

FOR KCSE POST-MOCKS MARKING SCHEMES
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(ii) Plot a graph of uv cm^2 against u + v cm **(4 marks)**



iii)Determine the slope of the graph **(2 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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PART B

You are provided with the following:

- A metre rule.
- A knife edge.
- One 50g mass and a 100g mass.
- Some thread.
- Some water in a beaker.
- Liquid L in a beaker.
- Tissue paper.

Proceed as follows:

(c) Balance the metre rule on the knife edge and record the reading at this point.

Balance point **…….. cm** **(1 mark)**

For the rest of this experiment the knife edge must be placed at this position.

(d) Set up the apparatus as shown in the figure 1. Use the thread provided to hang the masses such that the positions of the support can be adjusted.

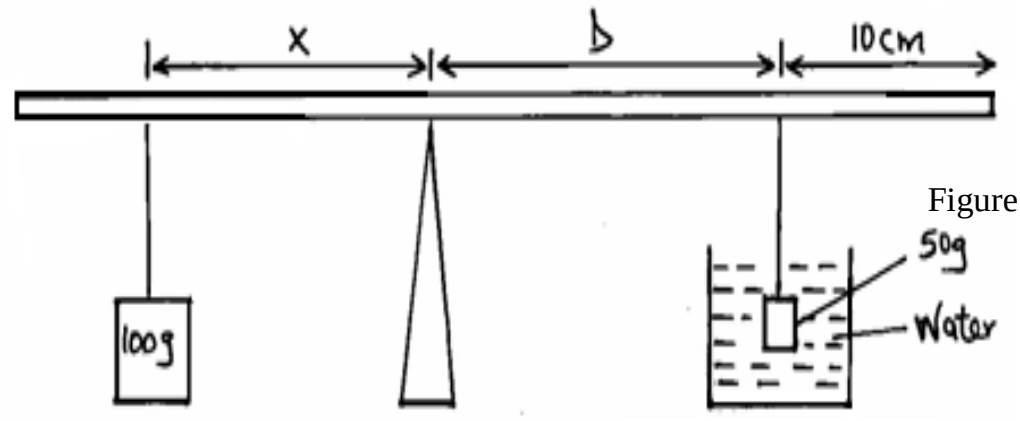


Figure 1

The balance is attained by adjusting the position of the 100g mass. Note that the distance **X** and **D** are measured from the knife edge and the 50g mass is fully immersed in water. Record the values of **X** and **D**.

X = …….. cm **(1 mark)**

D = …….. cm

FOR KCSE POST-MOCKS MARKING SCHEMES
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e) Apply the principle of moments to determine the weight W_1 of the 50g mass in water and hence determine the upthrust U_w in water. **(2 marks)**

W_1= ……
……..
…… N

U_w = ……
…… N

Remove the 50g mass from the water and dry it using tissue paper.

(f) **(i)** Now balance the metre rule when the 50g mass is fully immersed in the liquid L. Record the value of the distance χ.

χ = ……..cm **(1 mark)**

(ii) Apply the principle of moments to determine the weight W_2 of the 50g mass in the liquid L and hence determine the up thrust U_L in the liquid.

W_2= ……(1 mark)

U_L= …… (1 mark)

(g) Determine the relative density R.D of the liquid L, given that: **(1mark)**

$$R.D = \frac{U_L}{U_w}$$

Hence determine the density of liquid χ in kg/m³. (Given that density of water in 1000kg/m³).

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

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565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

*This paper consists of **25** questions.*

*Answer **ALL** the questions in the spaces provided **below** each question.*

FOR EXAMINER'S USE ONLY:

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Marks														

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

FOR KCSE POST-MOCKS MARKING SCHEMES
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1. State whether each of the following activities would satisfy basic or secondary wants.

(4 marks)

	Activities	**Basic**	**Secondary**
(a)	Buying clothes for the family.		
(b)	Transporting milk.		
(c)	Providing food for school children.		
(d)	Entertaining the President.		

2. Outline **four** reasons why a new business may fail. **(4 marks)**

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3. Outline **four** advantages a consumer enjoys when he/she buys directly from a manufacturer. **(4 marks)**

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4. Highlight **four** reasons that make a current account popular among the business people.

(4 marks)

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

5. Boda boda/motorcycles have become popular in Kenya today. Outline **four** demerits of this mode of transport. **(4 marks)**

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6. Highlight **four** circumstances under which deferred payment is acceptable to a trader. **(4 marks)**

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7. Give **four** reasons why the government should impose taxes upon its citizens apart from raising revenue. **(4 marks)**

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8. State the best type of machine one would use to perform the following tasks.**(4 marks)**

(a)	**Function**	**Type of machine**
(b)	To trim papers to the required sizes.	
(c)	To fold documents, put them in envelopes and seal team.	
(d)	To make exact copies of a certain original document.	
	To arrange papers in a required order.	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

9. Outline **four** factors that may cause the supply curve to shift to the left. **(4 marks)**

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10. Kiganjo Traders had the following balances as at 31st December, 2014.

	Sh.
Capital (1st December, 2014)	350,000
Additional investments	100,000
Drawings each month	48,000
Capital (31st Dec' 2014)	470,000

Determine the profit for the year. **(4 marks)**

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11. Outline **four** features of direct production. **(4 marks)**

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12. State **four** ways in which, the government of Kenya may reduce the level of unemployment. **(4 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

13. State **four** benefits of registering a company with the stock exchange market. **(4 marks)**

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14. The following balances relates to the retail business of Omondi for the month of July 2012.

Sales 50,000

Expenses 10% of sales

Cost of goods sold 40,000

Calculate:

(i) Mark up. **(1 mark)**

(ii) Margin. **(1 mark)**

(iii) Total expenses. **(1 mark)**

(iv) Net profit. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

15. State **four** uses of a bill of lading in international trade. **(4 marks)**

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16. Outline **four** circumstances under which insurance companies in Kenya may reinsure. **(4 marks)**

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17. For each of the following transactions, state the account to be debited and account to be credited. **(4 marks)**

	Transactions	**A/c debited**	**A/c credited**
(i)	The owner brought in cash from private sources.		
(ii)	Bought goods and paid by cheque.		
(iii)	Withdrew cash for personal use.		
(iv)	Paid a creditor by cheque.		

18. State **four** ways in which the utility of a commodity can be increased. **(4 marks)**

……

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

19. Identify **four** benefits that may accrue from political stability in a country. **(4 marks)**

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20. List **four** ways in which the government creates an enabling business environment.

(4 marks)

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21. State four features of an oligopoly market structure. **(4 marks)**

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22. Give **four** disadvantages of public warehouses to traders. **(4 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

23. Put down **four** functions of the Kenya Bureau of Standards. **(4 marks)**

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24. Outline **four** external factors that may influence the operations of a business negatively.
(4 marks)

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25. Highlight **four** limitations of using after-sale services as a method of promoting products.
(4 marks)

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

565/2

BUSINESS STUDIES

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

(a) *This paper consists of **SIX** questions.*

(b) *Answer any **FIVE** questions.*

(c) *Write your answers in the answer booklet provided.*

(d) *All questions carry equal marks.*

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

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

1. **(a)** Explain **five** features that differentiate a public corporation from a private limited company form of business unit. **(10 marks)**

(b) Explain **five** factors that one needs to consider when selecting an office layout. **(10 marks)**

2. **(a)** Explain **five** benefits that a country derives from transporting oil through pipeline. **(10 marks)**

(b) Explain **five** reasons why citizens may experience low standards of living despite improvement in the per capita income. **(10 marks)**

3. **(a)** Explain **five** methods of price determination other than price mechanism in a market. **(10 marks)**

(b) Explain the following types of unemployment.

(i) Cyclical unemployment.

(ii) Structural unemployment.

(iii) Frictional unemployment.

(iv) Seasonal unemployment.

(v) Involuntary unemployment. **(10 marks)**

4. The following trial balance was extracted from the books of Okumu traders as at 31/12/2012.

	Dr. (Shs.)	**Cr. (Shs.)**
Opening stock	30,000	
Purchases/sales	275,000	390,000
Debtors	47,000	
Commission received		36,000
Returns	10,000	6,000

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

Carriage inwards	16,000	
Bad debts	3,000	
Wages	20,000	
Rates	12,000	
Buildings	450,000	
Furniture	180,000	
Bank overdraft		210,000
Insurance	19,000	
Discounts	5,000	7,000
Drawings	25,000	
Creditors		52,000
Cash at bank	250,000	
Cash at hand	40,000	
Capital		689,000
	1,390,000	**1,390,000**

Additional information:

1. Closing stock Sh.50,000
2. Carriage outwards Sh. 8,000

Required:

(i) Prepare Okumu traders trading, profit and loss account for the period ended 31/12/2012.

(ii) Balance sheet as at 31/12/2012. **(10 marks)**

(b) Explain **five** monetary policies that the Kenyan government uses to control the supply of money in an economy. **(10 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

5. **(a)** Kenya is a member of EAC. Explain **five** problems the member countries are likely to encounter that may hinder them from achieving their objectives. **(10 marks)**

(b) The following were the balances of Kiboko Traders as at 1st January 2009. Cash Sh.40,000, bank overdraft Sh.17,000. During the month the following transactions took place.

January 2nd : Mutiso a debtor settled his account of Sh.32,000 by cheque of Sh.30,000

4th : Paid salaries amounting to Sh.16,000 by cash.

10th: Deposited Sh.12,000 into the business bank account from the cash till.

14th: Settled Wayua's account of Sh.40,000 and she was allowed a discount of 1% through a cheque.

16th: Deposited Sh.56,000 in the bank from private resources.

17th: Sold goods for cash Sh.24,000.

20th: Mutua, a debtor, settled his account by a cheque of Sh.16,000 having been allowed a discount of 2%.

24th: Purchased furniture Sh.10,400 paying by cheque.

26th: Received Sh.7,200 cash from Odhiambo.

30th: Banked all the available cash except Sh.3200.

Required: Prepare a three column cash for Kubuka Traders. **(10 marks)**

6. **(a)** Explain **five** factors that have led to the survival of small scale retailers despite competition from supermarkets. **(10 marks)**

(b) Kenya is looking forward to the realization of vision 2030. Explain the obstacles that may hinder the efforts made towards this dream. **(10 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

*(c) This paper consists of **THREE** Sections **A**, **B** and **C**.*

*(d) Answer **ALL** questions in Section **A** and **B**.*

*(e) Answer **ANY Two** questions in Section **C** in the spaces provided.*

FOR EXAMINER'S USE ONLY

Section	Question	Maximum Score	Candidate's Score
A	1 - 16	30	
B	17 - 21	20	
C	22 - 24	40	
Total Score		90	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

SECTION A: (30 MARKS)

Answer all questions in this section in the spaces provided.

1. Agriculture is viewed as an Art and a Science. State **four** practice in the farm that makes Agriculture an Art. **(2 marks)**

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2. State **four** ways in which a farmer can improve the structure of a water logged clay soil. **(2 marks)**

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3. Despite efficient water supply to his tomatoes, Mr. Gikandi still noted wilting of some plants. Suggest **two** possible causes of this wilting. **(1 mark)**

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4. Outline the stages undergone in the development of a gully. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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5. **(a)** Explain why zone 2 in the zones of production is called a Rational Zone**. (1 mark)**

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(b) Differentiate between a complete budget and a partial budget. **(1 mark)**

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6. **(a)** State **four** deficiency symptoms that would be seen in crop lacking potassium. **(2 marks)**

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(b) A farmer was advised to apply 150kg of CAN of maize. Calculate the amount of Nitrogen applied per Hectare if CAN contains 21%N. **(1 mark)**

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7. List down **three** types of Nurseries. **(1½ marks)**

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8. State **four** achievements that can be made with high level of education and technology in agriculture. **(2 marks)**

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9. Name **four** examples of liabilities in a balance sheet. **(2 marks)**

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10. State **four** ways in which a farmer can increase labour productivity in the farm. **(2 marks)**

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11. Give **four** farming practices that may help in achieving minimum tillage. **(4 marks)**

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12. State **four** reasons why timely weed control is advisable in cop production. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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13. Give **two** forms of collective land tenure system in Kenya. **(1 mark)**

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

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15. State **three** characteristics of shifting cultivation. **(1½ marks)**

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16. Name the disease that is characterized by mass of dark spores on the flowering part of maize.

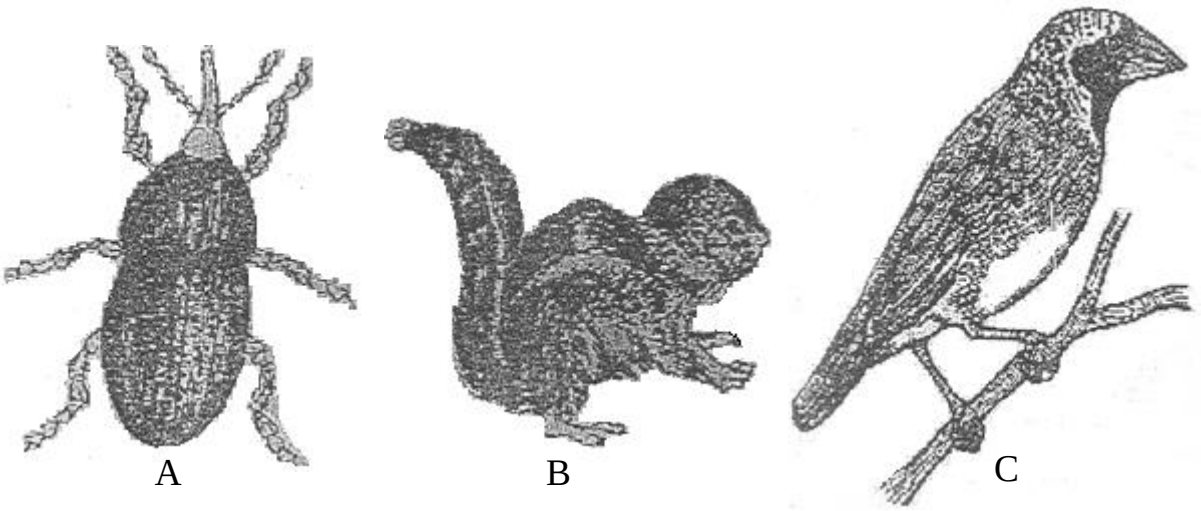
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CALL/TEXT/WHATSAPP 0705525657/0707550000

SECTION B: (20 MARKS)

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

17. Three maize pests are shown in the diagram below. Study them and answer the questions that follow.



A B C

(a) Identify the pests in the diagrams labeled **A**, **B** and **C**. **(2 marks)**

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(b) At what stage of maize production does pest **A** and **B** damage the crop**? (2 marks)**

A _____

B _____

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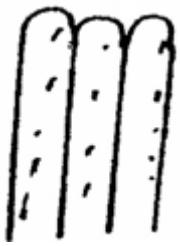
(c) Give **two** ways in which **C** causes loses in field crops. **(2 marks)**

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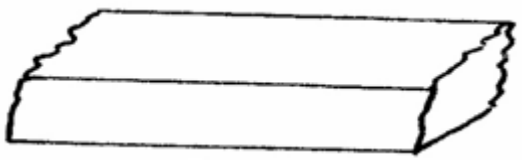
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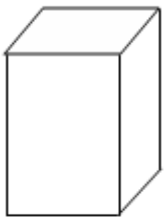
18. Study the following types of soil structures and answer the questions that follow.



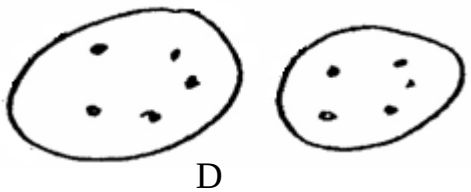
A



B



C



D

(a) Identify the type of soil structure labeled. **(2 marks)**

A _____

B _____

C _____

D _____

(b) Which type of soil structure is best suited for farming. **(1 mark)**

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(c) Identify **four** characteristics which make the soil structure named in (b) above suitable for farming. **(2 marks)**

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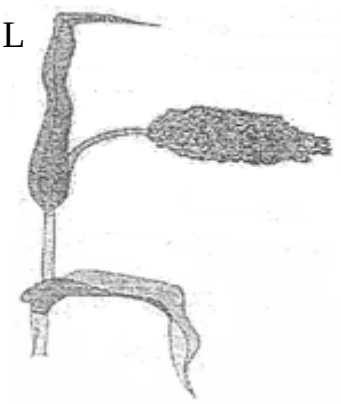
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CALL/TEXT/WHATSAPP 0705525657/0707550000

19. The diagram below shows panicles of two sorghum varieties. Study the diagrams and answer the questions that follow.

L



M



(a) Identify varieties **L** and **M**. **(2 marks)**

L _____

M _____

(b) Which of the two varieties of sorghum is less likely to be damaged by birds? **(1 mark)**

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(c) Give a reason for your answer in (b) above. **(1 mark)**

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20. Differentiate between a Hybrid and a composite as applied in maize production. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
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21. Why are the following weeds difficult to control?

(a) Couch grass. **(1 mark)**

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(b) Oxalis latifolia. **(1 mark)**

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(c) Double thorn. **(1 mark)**

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SECTION C: (40 MARKS)

Answer any two questions in this section in the spaces provided after question 24.

22. **(i)** Explain **five** structural structures used to control soil erosion. **(10 marks)**

(ii) State and explain **five** factors which may influence the spacing of crops. **(10 marks)**

23. **(a)** Describe **ten** cultural methods used in controlling crops pests. **(10 marks)**

(b) Describe production of paddy rice under the following sub headings:

(i) Land preparation. **(3 marks)**

(ii) Water control. **(3 marks)**

(iii) Role of irrigation water. **(3 marks)**

(iv) Sighs of maturity. **(1 mark)**

24. Using the data below answer the questions that follow.

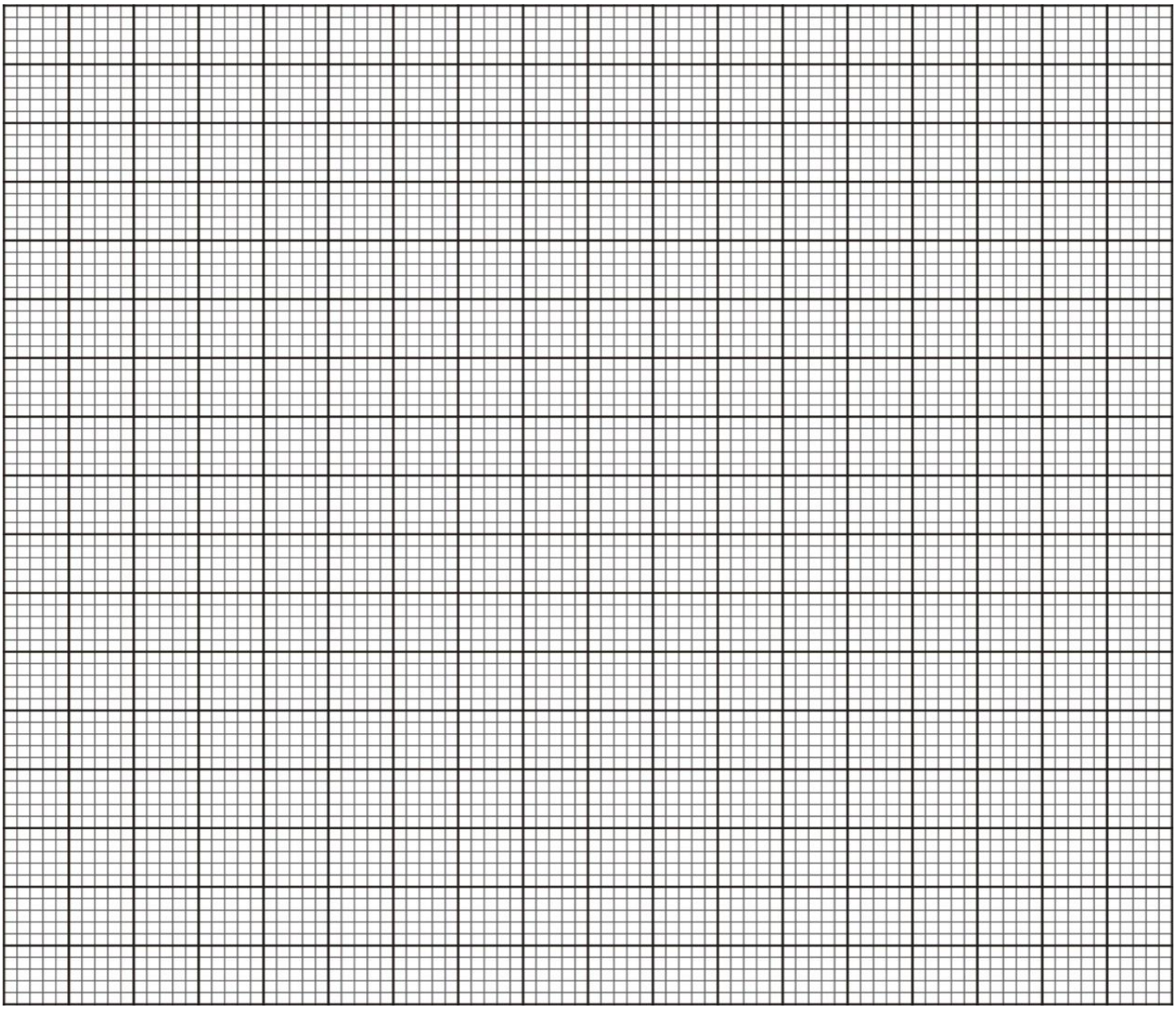
(a) Work out the Marginal revenue, Marginal cost and Net revenue at all levels of production and complete the table **(7 marks)**

Fertilizer input (Bags)	Maize output (Bags)	Total Revenue Kshs.	Total Cost Kshs.	Marginal Revenue Kshs.	Marginal Cost Kshs.	Net Revenue Kshs.

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0	0	0	0	0	0	0
2	14	28000	5600	-	-	-
4	39	78000	11200	-	-	
6	61	122000	16800	-	-	-
8	78	156000	22400	-	-	-
10	87	174000	28000	-	-	-
12	88	176000	23600	-		

(b) On the graph paper provided, draw a graph of output against input. **(4 marks)**



(c) From the graph, work out the maize output at the input levels 3 and 9**.(2 marks)**

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(d) State the level of input where maximum profit is realized and give a reason. **(2 marks)**

(e) What is elasticity of demand? (Ed) **(1 mark)**

(f) Enumerate the factors that determine the elasticity of demand. **(4 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

(c) This paper consists of **THREE** Sections **A**, **B** and **C**.

(d) Answer **ALL** questions in Section **A** and **B.**

(e) Answer **ANY Two** questions in Section **C** in the spaces provided.

FOR EXAMINER'S USE ONLY

Section	Question	Maximum Score	Candidate's Score
A	1 - 21	30	
B	22 - 26	20	
C	27 - 29	40	
Total Score		90	

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

SECTION A: (30 MARKS)

Answer all questions in this section in the spaces provided.

1. State the major physical difference between a Landrace and a Large White Pig.

(2 marks)

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2. **(a)** Name **two** livestock diseases that are controlled through use of same vaccine.

(2 marks)

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(b) Name the vaccine as in 2 (a) above. **(½ mark)**

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3. Name **two** diseases that attack bees. **(2 marks)**

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4. State **two** distinguishing external characteristics of Californian White Rabbit. **(2 marks)**

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5. State the functions of the following hormones in livestock.

(a) Oxytocin. **(1 mark)**

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(b) Stilboesterol. **(1 mark)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

6. Name **four** species of fresh water fish reared in Kenya. **(2 marks)**

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7. Give **three** methods of feeding colostrums to a Newly Born Calf. **(1½ marks)**

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8. State **four** advantages of using Kenya Top Bar Hive over Log Hive. **(2 marks)**

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9. List **four** factors that would ensure clean milk production. **(2 marks)**

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10. State **two** reasons for clipping the Upper Beak in poultry management. **(1 mark)**

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11. State **two** ways of preventing predation in a fish pond. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

12. Differentiate between crutching and ringing. **(1 mark)**

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13. Name **two** major physical differences between Dromedary and Bacterian Breeds of camel. **(2 marks)**

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14. State **four** major Routes of Administering vaccines in a day old chick. **(2 marks)**

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15. State **four** measures that prevent egg eating in poultry. **(2 marks)**

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16. Give **four** factors determining the amount of water taken by an animal. **(2 marks)**

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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

17. List **two** factors considered in sorting and grading eggs for market. **(2 marks)**

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18. List any **four** predisposing factors of livestock diseases. **(2 marks)**

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19. **(a)** Define the term immunity as used in livestock health. **(1 mark)**

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(b) List **four** causes of livestock diseases. **(2 marks)**

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20. Name **two** structures used in the control of ticks. **(1 mark)**

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21. **(a)** State **two** possible causes of soft shelled eggs. **(1 mark)**

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(b) State **two** qualities of good eggs for incubation. (1 mark)

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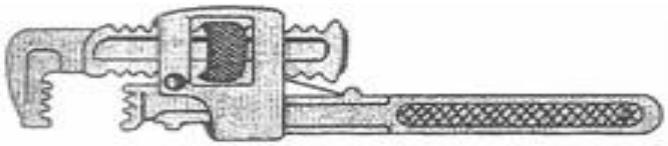
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SECTION B: (20 MARKS)

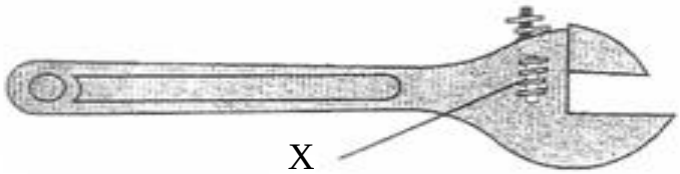
Answer all questions in this section in the spaces provided.

22. The diagram below show some workshop tools. Study the diagrams and answer the questions that follow.

A



B



C



(a) Identify tools labelled. **(3 marks)**

A _____

B _____

C _____

(b) What functional advantage does the tool labelled **B** have over tool **C**?**(1 mark)**

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(c) State the function of the tool labelled **A**. **(1 mark)**

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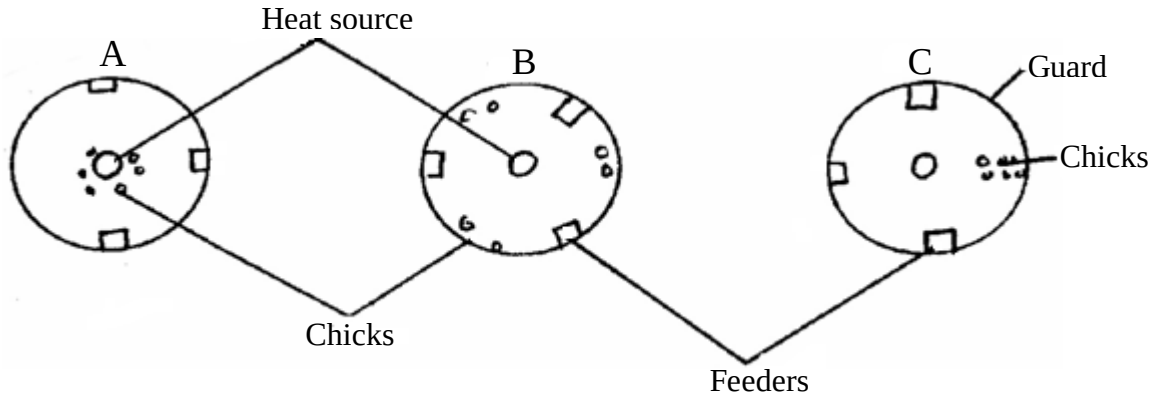
(d) State the function of part **X** in the tool labelled **B**. **(1 mark)**

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23. Below are diagrams illustrating the behaviour of chicks in various brooders.
Study the diagrams and answer the questions that follow.



(a) State the environment problem in each brooder as illustrated by the behaviour of the chicks. **(3 marks)**

A _____

B _____

C _____

(b) State **one** way of solving the problem in B. **(1 mark)**

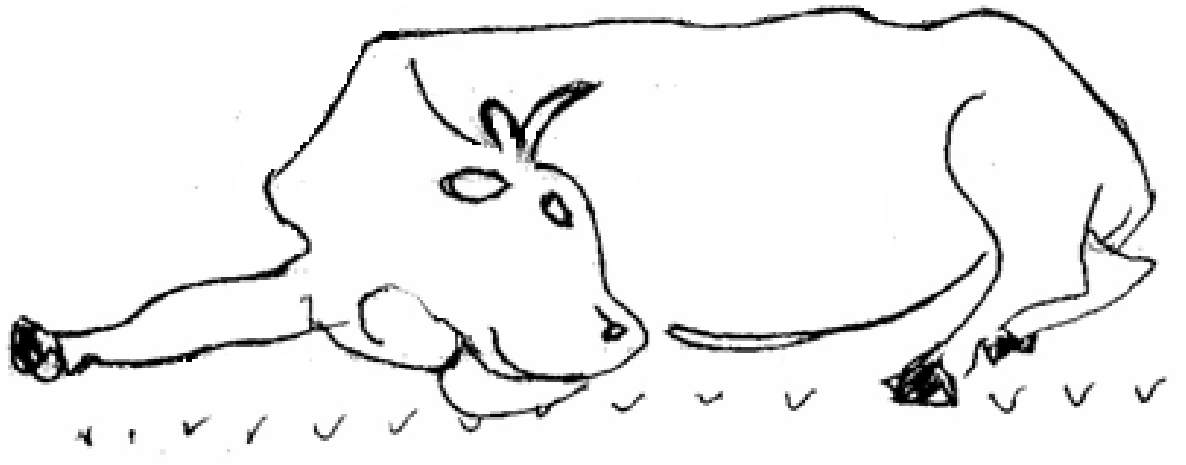
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FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

24. Study the illustration shown below and answer the questions that follow.



(a) Name the condition shown above. **(1 mark)**

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(b) What causes the condition shown in **24(a)** above? **(1 mark)**

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(c) Explain the treatment of the condition named in **24(a)** above. **(2 marks)**

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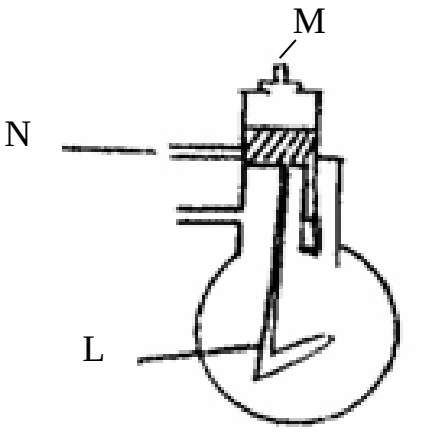
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25. A farmer computed 100kg ration with 20% DCP from oats which contains 10% DCP and simsim seed cakes containing 60% DCP. Using the Pearson Square method, calculate the amount of each feedstuff in the ration. **(5 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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26. Below is a diagram of two stroke engine cylinder.



Name **one** farm machine where the above engine is used. **(1 mark)**

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SECTION C: (40 MARKS)

Answer any two questions in this section in the spaces provided after question 29.

27. **(a)** Describe the management practices that should be carried out on a sow and piglets during the furrowing period. **(12 marks)**

(b) Explain **five** reasons why a breeding boar may be culled. **(5 marks)**

(c) State **four** maintenance practices of forked jembe. **(3 marks)**

28. **(a)** Describe how the transmission system of a tractor transmits power that is developed in a cylinder to the wheels for motion. **(15 marks)**

(b) Describe **five** long term tractor services and maintenances. **(5 marks)**

29. **(a)** State **six** features of an ideal calf pen. **(6 marks)**

(b) Describe the uses of fences in the farm. **(8 marks)**

(c) State **six** factors considered when siting farm structures. **(6 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

313/1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

*(a) This paper consists of **six** questions.*

*(b) Answer any **FIVE** question in the answer booklet provided.*

(c) Each question carries 20 marks.

1. **(a)** State how the teaching of C.R.E promote National unity. **(7 marks)**

(b) Outline **eight** reasons why the Bible had to be compiled into its present form by early Christians. **(8 marks)**

(c) State the ways in which the church is spreading the word of God today. **(5 marks)**

2. **(a)** Narrate the call of Abraham (Genesis 12: 1-9). **(8 marks)**

(b) Show how baptism is a modern form of covenant. **(6 marks)**

(c) State **six** challenges that Christians face while practicing their faith in Kenya today. **(6 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

3. **(a)** Outline **six** promises that God gave David. **(6 marks)**

(b) Explain why the Israelites demanded for a king. **(8 marks)**

(c) Why should Christians fight devil worship in Kenya today? **(6 marks)**

4. **(a)** Identify the visions of Amos and state their significance. **(10 marks)**

(b) State how the wealthy merchants cheated in business during the time of Prophet Amos. **(5 marks)**

(c) State **five** reasons why it is difficult to wipe out forms of social injustices in the society today. **(5 marks)**

5. **(a)** Describe the call of Jeremiah. Jeremiah 1: 1-19. **(8 marks)**

(b) List down the evils condemned by Prophet Jeremiah during the temple sermon. **(7 marks)**

(c) State **five** ways on how Christians practice hypocrisy today. **(5 marks)**

6. **(a)** Outline factors considered when naming a baby in African traditional society. **(7 marks)**

(b) Explain the importance of veneration of ancestors in African traditional society. **(7 marks)**

(c) Highlight **six** ways on how the traditional concept of the community has changed in the society today. **(6 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

*(a) This paper consists of **six** questions.*

*(b) Answer any **FIVE** question in the answer booklet provided.*

(c) Each question carries 20 marks.

1. **(a)** From the infancy narratives, what shows that the birth of Jesus Christ was extra-ordinary. **(8 marks)**

(b) What lessons do Christians learn from the lives of Zechariah and Elizabeth. **(6 marks)**

(c) In what ways can Christian respond to childlessness in marriage today. **(6 marks)**

2. **(a)** Relate the story of the raising of the widows son at Nain Luke 7: 11-17. **(8 marks)**

(b) What do the miracles of Jesus teach about His mission and ministry? **(7 marks)**

(d) Outline ways through which the church continues with the healing ministry of Jesus. **(5 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

3. **(a)** Outline **seven** signs that would mark the end of times as foretold by Jesus. **(7 marks)**

(b) Relate **seven** events that took place at Mt. Olives before the arrest of Jesus Luke 22: 39-53. **(7 marks)**

(c) List down **six** reasons why Christians take part in the lord supper. **(6 marks)**

4. **(a)** Explain the teachings of Jesus about the unity of believers from the vine and the branches John 5: 1-10. **(8 marks)**

(b) State how the use of the gifts of the Holy Spirit brought disunity in the church at Corinth. **(7 marks)**

(c) Give ways through which Christians can promote unity among themselves in Kenya today. **(5 marks)**

5. **(a)** Identify **five** sources of Christian ethics. **(5 marks)**

(b) Outline **eight** Christian teachings on human sexuality. **(8 marks)**

(c) Give **seven** reasons why Christians in Kenya condemn human sexuality. **(7 marks)**

6. **(a)** Describe how wealth is acquired in traditional African communities. **(8 marks)**

(b) Explain how the introduction of money economy has undermined the principle of Christian living. **(7 marks)**

(c) Give reasons why it is important for members of a family to discuss how to spend their money. **(5 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

311/1

HISTORY AND GOVERNMENT

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

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

SECTION A: (25 MARKS)

*Answer **ALL** questions in this section.*

1. Define the term government as a subject in secondary schools. **(1 mark)**

2. Give the **MAIN** method used by the archaeologists to gather their historical data. **(1 mark)**

3. Name the **MAIN** source of historical information used in grouping the language groups in Kenya. **(1 mark)**

4. Give **two** reasons for the migration of the Borana from Ethiopia into Kenya. **(2 marks)**

5. Name **two** councils of elders among the Nandi in the 19th century. **(2 marks)**

FOR KCSE POST-MOCKS MARKING SCHEMES
CALL/TEXT/WHATSAPP 0705525657/0707550000

6. Which community of East Africa was the most active in the long distance trade in the 19th century. **(1 mark)**

7. State **one** reason why the government may limit the freedom of speech. **(1 mark)**

8. State **two** advantages of using arbitration as a method of resolving conflict. **(2 marks)**

9. Give **two** reasons why the constitution of Kenya as important. **(2 marks)**

10. Mention **one** type of representative democracy. **(1 mark)**

11. Name the document that contains the rights of the child in Kenya. **(1 mark)**

12. Give the **MAIN** reason why poll tax was introduced in Kenya during the colonial period. **(1 mark)**

13. Give **two** reasons why Africans were reluctant to provide labour during the colonial period. **(2 marks)**

14. State **two** recommendations of the Lyttelton constitution of 1954. **(2 marks)**

15. Give the composition of County Assembly. **(2 marks)**

16. State **two** ways in which the government of Kenya has promoted the culture of the people of Kenya since independence. **(2 marks)**

17. Identify the **MAIN** political challenge facing the government of Kenya today. **(1 mark)**

SECTION B: (45 MARKS)

*Answer **ANY three** questions from this section.*

18. **(a)** Outline **five** reasons for the migration of the Luo from their ancestral homeland. **(5 marks)**

(b) Describe the political organization of the Mijikenda during the pre-colonial period. **(10 marks)**

19. (a) Identify **three** contributions of the European missionaries to the exploration of East Africa in the 19th century. **(3 marks)**

(b) Explain **six** factors which promoted missionary activities in East Africa in the 19th century. **(12 marks)**

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20. **(a)** Identify **three** problems that the independent schools faced during the colonial period. **(3 marks)**

(b) Explain **six** results of the establishment of independent churches in Kenya during the colonial period. **(12 marks)**

21. **(a)** State **five** main features of African socialism. **(5 marks)**

(b) Explain **five** economic effects of African socialism. **(10 marks)**

SECTION C: (30 MARKS)

Answer two questions from this section.

22. **(a)** State any **three** ways in which the Kenya constitution promotes National unity. **(3 marks)**

(b) Explain **five** peaceful methods of resolving conflicts. **(10 marks)**

23. **(a)** Identify **five** challenges Kenya faced in the process of making a new constitution. **(5 marks)**

(b) What were the main terms of the National Accord and Reconciliation Act 2008 **(10 marks)**

24. **(a)** Outline the composition of the County Executive Committee. **(3 marks)**

(b) Explain how multipartism has promoted democracy in Kenya. **(10 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

311/2

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

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

SECTION A: (25 MARKS)

*Answer **ALL** questions in this section.*

1. Give **two** contributions of Archaeology to the study of History. **(2 marks)**

2. Which is the title of the tools made by the New Stone Age Man? **(1 mark)**

3. Give the **MAIN** reason why early agriculture developed in Egypt. **(1 mark)**

4. Give **two** inventions that led to the Agrarian Revolution in Britain. **(2 marks)**

5. Name **one** metal that was used as currency in pre-colonial Africa. **(1 mark)**

6. State **one** advantage of pipeline over vehicles in transporting oil. **(1 mark)**

7. Give **two** challenges faced by space explorers. **(2 marks)**

8. State **one** disadvantage of using wood as a source of energy. **(1 mark)**

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9. Give **one** invention that revolutionalized food preservation during the nineteenth century. **(1 mark)**

10. Identify **one** use of steel during the industrial revolution. **(1 mark)**

11. Give **two** social functions of the ancient city of Athens in Greece. **(2 marks)**

12. Give **one** way in which public opinion in Europe contributed to the colonization of Africa. **(1 mark)**

13. State **one** way in which African collaboration with Europeans hastened colonization in Africa. **(1 mark)**

14. Identify **two** differences between British and French colonial administration.**(2 marks)**

15. Mention **two** ways in which the treaty of Versailles signed in 1919 affected Germany. **(2 marks)**

16. State **one** condition that a country should fulfill inorder to become a member of the Non-Aligned Movement. **(1 mark)**

17. Identify **two** ways in which the congress checks the powers of the President of USA. **(2 marks)**

SECTION B: (45 MARKS)

*Answer **ANY three** questions from this section.*

18. **(a)** State **five** reasons why early people domesticated crops and animals**. (5 marks)**

(b) Explain **five** causes of food shortages in Africa today. **(10 marks)**

19. **(a)** Give **three** problems faced by factory workers in Europe during the industrial revolution. **(3 marks)**

(b) Why did the industrial revolution take place in Britain ahead of other European countries. **(12 marks)**

20. **(a)** Name **three** political parties in South Africa. **(3 marks)**

(b) Explain **six** factors that led to the development of African Nationalism in Ghana. **(12 marks)**

21. **(a)** Give the achievements of ECOWAS. **(5 marks)**

(b) Explain **five** challenges faced by Non-Aligned Movement since its formation. **(10 marks)**

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SECTION C: (30 MARKS)

*Answer **two** questions from this section.*

22. **(a)** Describe the social organization of the shona during the pre-colonial period. **(5 marks)**

(b) Explain the political organization of the Mwene Mutapa Kingdom during the pre-colonial period. **(10 marks)**

23. **(a)** Give **five** reasons why the central powers were defeated in the First World War. **(5 marks)**

(b) Describe **five** social effects of the Second World War. **(10 marks)**

24. **(a)** State **five** merits of the federal government of the United States of America. **(5 marks)**

(b) Explain **five** reasons why parliament is the supreme institution in Britain. **(10 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

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312/1

GEOGRAPHY

PAPER 1

TIME: 2¾ HOURS

INSTRUCTIONS TO CANDIDATES:

(a) *This paper has **two** Sections **A** and **B**.*

(b) *Answer all the questions in Section **A**.*

(c) *In Section B, answer question **6** and any other **two** questions from Section **B**.*

(d) *All answers must be written in the answer booklet provided.*

SECTION A: (25 MARKS)

*Answer **all** questions from this section.*

1. **(a)** What is the relationship between Geography and Physics. **(2 marks)**

(b) Name the **three** main layer at the atmosphere from the earths surface upwards. **(3 marks)**

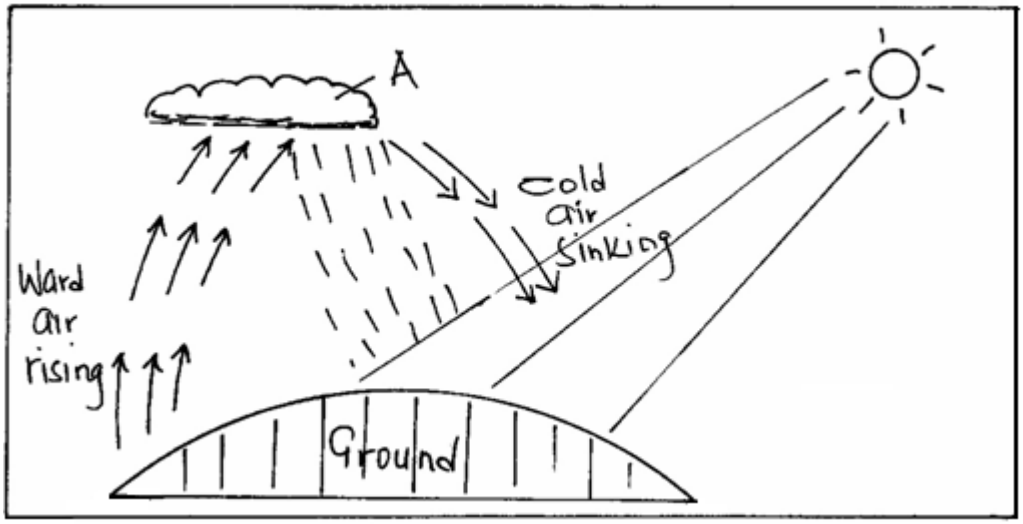
2. **(a)** Name **three** types of coral reefs. **(3 marks)**

(b) What are the benefits of coral reefs in the areas they have developed**?(2 marks)**

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3. The diagram below show the formation of some type of rainfall.

Use it to answer question (a) and (b).



(a) **(i)** Name the type of rainfall shown by this diagram. **(1 mark)**

(ii) Name the type of cloud marked **(A)**. **(1 mark)**

(b) List **three** weather conditions associated with the above name **(a)** type of rainfall. **(3 marks)**

4. **(a)** **(i)** State the plate tectonic theory. **(1 mark)**

(ii) State **one** feature formed when:

(i) Tectonic plates move towards each other. **(1 mark)**

(ii) The plates move away from each other at the boundary.**(1 mark)**

(b) State **three** effect of climate change. **(3 marks)**

5. **(a**) What is a lake? **(2 marks)**

(b) Identify **two** reasons why most lakes within the Rift Valley are salty**?(2 marks**)

SECTION B: (75 MARKS)

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

6. Study the map of **Migwani 1:50000, (Sheet 151/1)** provided and answer the following questions.

(a) Citing evidence from the map, name **three** hydrographic features. **(3 marks)**

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(b) Draw a rectangle measuring 10cm by 8cm to represent the area enclosed by Easting 90 and 00, and Northings 62 and 70. **(1 mark)**

On the rectangle, mark and name the following features.

(i) Musenyo School. **(1 mark)**

(ii) Road E742. **(1 mark)**

(iii) Kitui Hills. **(1 mark)**

(c) **(i)** Describe the relief of the area covered by the map. **(4 marks)**

(ii) Citing evidence from the map, state **three** social services offered at Mutito trading centre. **(3 marks)**

(d) Students of a school at Itoloni carried a field study at Gwani town.

(i) Name **two** types of road they used to travel to Gwani. **(2 marks)**

(ii) Name **one** man-made feature they found on the way to Gwani. **(1 mark)**

(iii) State **three** functions at Gwani town they identified. **(3 marks)**

(e) Describe **five** characteristics of the long profile of river Ikoo. **(5 marks)**

7. **(a)** **(i)** Differentiate between rocks and minerals. **(2 marks)**

(ii) Give **three** ways in which rocks can be classified. **(3 marks)**

(b) **(i)** Name **one** example at each of the following types of sedimentary rocks.

- Chlorides. **(1 mark)**

- Arenaceous. **(1 mark)**

- Carbonaceous. **(1 mark)**

(ii) Describe how sedimentary rocks are formed through physical processes. **(4 marks)**

(c) (i) State **three** changes that occur in rocks during metamorphism. **(3 marks)**

(ii) Give **two** reasons why sedimentary rocks are dominant along the Kenyan Coasts. **(2 marks)**

(d) Students from Buma School carried a field study on rocks in their county.

(i) State **three** reasons why it would be necessary for them to conduct a reconnaissance to the study area. **(3 marks)**

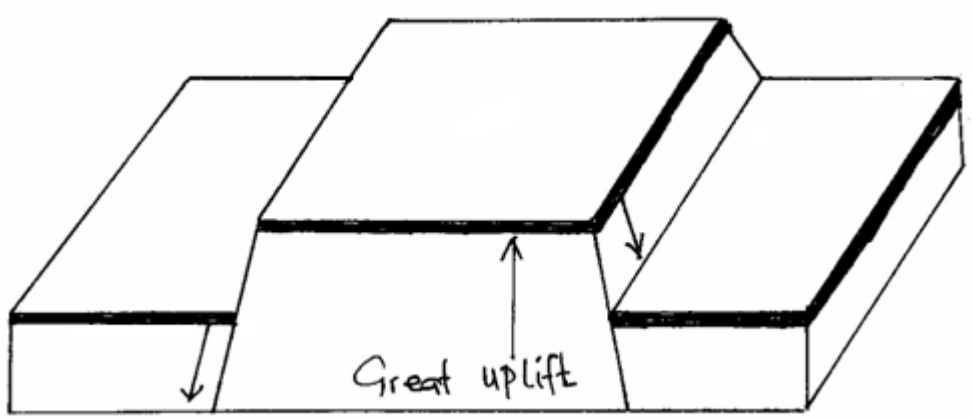
(ii) Give **two** methods they used to record data. **(2 marks)**

(iii) State **three** importance of rocks they identified. **(3 marks)**

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8. **(a)** In aid of a well labelled diagrams describe the formation of the rift valley by tension. **(8 marks)**

(b) The diagram below represents a feature formed by faulting.
Use it to answer the question that follow.



(i) Name the feature represented by the above diagram. **(1 mark)**

(ii) Describe the formation of the above mentioned feature. **(5 marks)**

(c) You are supposed to carry out a field study in an area affected by faulting.

(i) Apart from the Rift Valley name **three** other features that you are likely to identify. **(3 marks)**

(ii) State **two** methods you will use to collect data. **(2 marks)**

(iii) Explain **three** economic benefits of faulting they are likely to identify. **(6 marks)**

9. **(a)** (i) What is a desert? **(2 marks)**

(ii) Name **two** types of deserts landscapes. **(2 marks)**

(b) Describe how wind transport materials on the desert surface using the following processes.

(i) Surface creep. **(2 marks)**

(ii) Saltation. (2 marks)

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(c) Using well labelled diagram(s) explain how Barchan is formed. **(8 marks)**

(d) You intend to carry out a field study in an arid area near your school.

(i) State **two** reasons for carrying out a pre-visit. **(2 marks)**

(ii) Apart from Brarchan state **three** depositional features they are likely to have identified. **(3 marks)**

(iii) State **four** positive effects of deserts features to man that you are likely to identify. **(4 marks)**

10. (a) (i) Define term soil conservation. **(2 marks)**

(ii) State **two** methods that assist in soil conservation. **(2 marks)**

(b) Explain how the following factors influence the soil formation.

(i) Climate. **(3 marks)**

(ii) Topography. **(3 marks)**

(c) (i) Describe how laterisation occurs. **(4 marks)**

(ii) State **two** ways in which humus improves the quality of soil. **(2 marks)**

(iii) State **four** characteristics of desert soils. **(4 marks)**

(d) (i) Describe how gulley erosion occurs. **(3 marks)**

(ii) State **two** economic uses soils. **(2 marks)**

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SERIES 001

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312/2

GEOGRAPHY

PAPER 2

TIME: 2¾ HOURS

INSTRUCTIONS TO CANDIDATES:

(a) *This paper has **two** Sections **A** and **B**.*

(b) *Answer all the questions in Section **A**.*

(c) *In Section B, answer question **6** and any other **two** questions from Section **B**.*

(d) *All answers must be written in the answer booklet provided.*

SECTION A: (25 MARKS)

*Answer **all** questions from this section.*

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

(b) State **three** characteristics of nomadic pastoralism. **(3 marks)**

2. State **five** factors which influence nucleated settlement pattern. **(5 marks)**

3. **(a)** What is a cottage industry? **(2 marks)**

(b) Give **three** reasons why the government of Kenya encourages the establishment of Jua Kali Industries. **(3 marks)**

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4. **(a)** What is air pollution? **(2 marks)**

(b) State **three** negative effects of uncollected garbage on the environment**.(3 marks)**

5. **(a)** Name **two** main reclamation projects in the Netherlands. **(2 marks)**

(b) State **three** reasons for reclaiming swamps in Kenya. **(3 marks)**

SECTION B: (75 MARKS)

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

6. The table below gives the figures for the 2009 population census per county for the central region of Kenya.

COUNTY	POPULATION
Kiambu	1623282
Murang'a	942581
Nyeri	693558
Nyandarua	596268
Kirinyaga	528054

(a) **(i)** Besides bar graphs, name three other methods that can be used to represent the above data. **(3 marks)**

(ii) Draw a simple bar graph to represent the data in the table above. Use a scale of 1cm to represent 200,000 persons. **(6 marks)**

(iii) State **four** advantages of using bar graphs to represent statistical data. **(4 marks)**

(b) Calculate the population density for Kiambu County, given that its area is 2543.4 square kilometers. **(2 marks)**

(c) Give **two** reasons why census is necessary. **(2 marks)**

(d) Explain **four** reasons for the high population density in Kiambu County**.(8 marks)**

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7. (a) (i) What is reafforestation? **(2 marks)**

(ii) State **four** reasons why afforestation should be encouraged in Kenya. **(4 marks)**

(b) (i) Name **two** main exotic softwood trees grown in Kenya. **(2 marks)**

(ii) State **five** characteristics of softwood forests in Canada. **(5 marks)**

(c) Explain **three** problems which hinder the Kenya government's effort to manage and conserve her forests. **(6 marks)**

(d) Compare forestry in Kenya and Canada under the following headings:-

(i) Transportation of the logs. **(2 marks)**

(ii) Felling of trees. **(2 marks)**

(iii) Tree species. **(2 marks)**

8. (a) (i) What is sedentary farming? **(2 marks)**

(ii) Name **three** main types of agriculture. **(3 marks)**

(b) (i) Name **four** horticulture farms in Kenya. **(4 marks)**

(ii) State **five** reasons for growing flowers under green houses. **(5 marks)**

(c) Name **three** vegetable horticultural crops grown in Kenya. **(3 marks)**

(d) Explain **four** reasons why horticulture farming is more developed in the Netherlands than in Kenya. **(8 marks)**

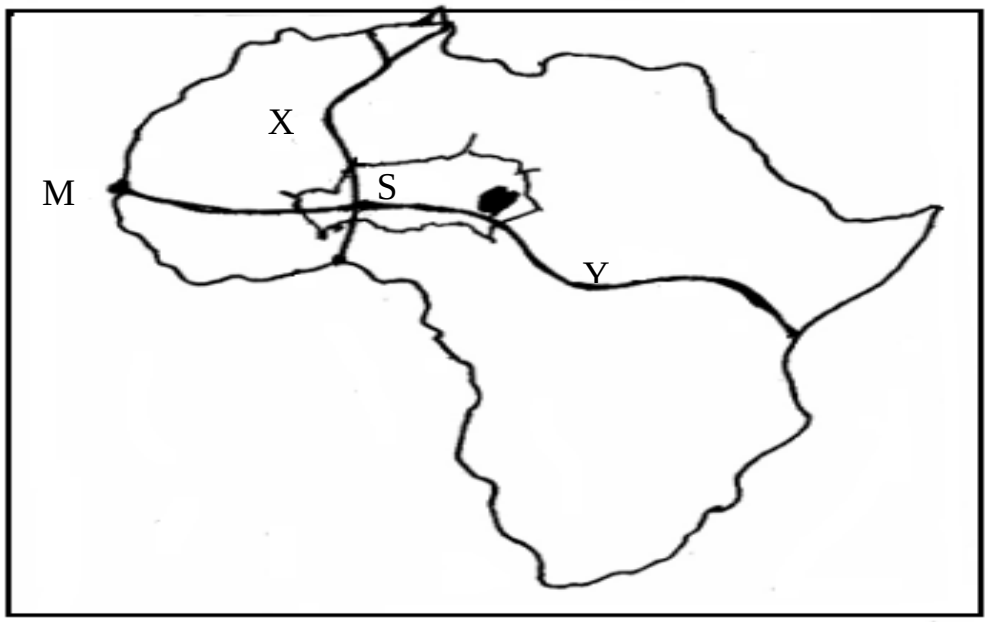
9. (a) (i) Name **three** modes of transport in Kenya. **(3 marks)**

(ii) State **four** problems facing communication in Kenya. **(4 marks)**

(b) Explain **four** advantages of rail transport over road transport. **(8 marks)**

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(c) Use the map of Africa below to answer the following questions.



(i) Name the highways marked **X** and **Y**. **(2 marks)**

(ii) Name the port marked **M**. **(1 mark)**

(iii) Name the country marked **S**. **(1 mark)**

(d) (i) Give **two** reasons why it is difficult to transport goods from Mombasa to Lagos by road. **(2 marks)**

(ii) State **four** efforts that have been made to improve transport in Africa. **(4 marks**)

10. (a) (i) Define international trade. **(2 marks)**

(ii) Name **three** major imports from Europe to Kenya. **(3 marks)**

(b) States **four** factors that influence external trade in Kenya. **(4 marks)**

(c) Explain **four** ways through which Kenya will benefit from renewed East African Co-operation. **(8 marks)**

(d) Explain **four** negative effects of international trade. **(8 marks)**

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SERIES 001

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101/1

ENGLISH

(FUNCTIONAL SKILLS)

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

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

(d) *All your answers must be written in the spaces provided in this question paper.*

(e) *Candidates must check the question paper to ascertain that all pages are printed as indicated and that no question are missing.*

FOR EXAMINER'S USE ONLY:

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

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1. FUNCTIONAL SKILLS. (20mks)

Imagine that you have just celebrated your 17th birthday together with friends. You served them fried rice with chicken. One of them (your friends) called back to appreciate the meal and asked you to send the recipe for fried rice. Your secretary received the call on your behalf.

(a) Design the telephone message left to your secretary on your behalf. **(8mks)**

(b) Write the recipe for fried rice you sent to your friend. **(12mks)**

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2. CLOZE TEST (10mks)

Fill in the blank spaces, with the most appropriate word.

Sister Stefani (1) _____ sent to serve with other nuns at Gikondi Parish as a nurse. She (2) _____herself to caring for the sick. It is said by (3) _____ of her contemporaries that many were the (4) _____ that she spent entire days (5) _____ eating so as to serve her many patients. Because of this loving service (6) _____ dedication, the people of that (7) _____ nicknamed her as "Nyaatha" which means "a merciful person."

According to the document that missionaries kept in Gikondi Parish, there was an (8) _____ of plague and Sister Stefani (9) _____ the disease as she was treating one of her patients. Other nuns had requested her not to attend to the patient to avoid being (10) _____.

3. ORAL SKILLS (30mks)

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

Thou art indeed just, Lord, if I contend
With thee; but, sir, so what I plead is just.
Why do sinners way prosper? and why must
Disappointment all I endeavour end?
Wert thou my enemy O thou my friend
How wouldst thou worse, I wonder, than thou dost
Defeat, thwart me? Oh, the sots and thralls of lust
Do spare hours more thrive than, that spend,
Sir, life upon thy cause. See, banks and breaks
Now, leavèd how thick! lacèd they are again
With fretty cherril, look, and fresh wind shakes
Them; birds build – but not I build; no, but strain,
Time's enough, and not breed one work that wakes.
Mine, O thou lord of life, send my roots rain.

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Questions

(i) Identify **four** examples of assonance in the poem. **(2mks)**

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(ii) Write out and describe the rhyme scheme of the poem. **(2mks)**

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(iii) How would you perform the last line of the poem? **(2mks)**

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(iv) Indicate whether the following lines in the poem would be said with a falling or rising intonation. **(2mks)**

(a) Why do sinners way prosper?

……

(b) Disappointment all I endeavor end?

……

FOR KCSE POST-MOCKS MARKING SCHEMES
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(b) **Complete the following sentences by giving another word pronounced in the same way as the word underlined.** **(5mks)**

Around this place you are not allowed to play the music (i) _____.
The (ii) _____ caused havoc to the house of our aunts. We could not bar the children to touch the bear with (iii) ____ hands. By six o'clock, the men who (iv) _____ bread had not said bye to their colleagues. The (v) _____ is full of nonsensical statements. They dry (vi)_____ was pounded to fine floor.

(c) A leader of a theatre group is visiting your school to arrange for the staging of some set books. You have been appointed by your class to negotiate for favourable entry fees for your class and you are meeting the leader for the first time.

(i) State any **three** points of procedure you would follow before the actual negotiations. **(3mks)**

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(ii) Explain any **three** negotiation skills that you would employ to ensure successful negotiations. **(3mks)**

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(d) (i) Underline the stressed syllable in the words below. (3mks)

(a) Sin.cere

(b) Re.serve

(c) In.deed

FOR KCSE POST-MOCKS MARKING SCHEMES
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(ii) List **three** non-verbal cues of communication. **(3mks)**

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4. You attend a public lecture on how to prevent cheating in exams on a very hot afternoon.

How would you ensure you pay attention despite the heat and congestion? **(3mks)**

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5. Underline the odd one out in each set of words according to the pronunciation of the underlined letter. **(2mks)**

(i) Change, chic, chauvinist

(ii) Stir, word, star

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SERIES 001

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101/2

ENGLISH

Paper 2

(Comprehension, Literary Appreciation and Grammar)

2 ½ Hours

INSTRUCTIONS TO CANDIDATES.

1. *Write your **name, class, Admission number, signature and date** in the spaces provided above.*
2. *Answer **ALL** questions in this question paper.*
3. *Write **ALL** your answers in the spaces provided.*
4. *Write legibly and neatly preferably in **blue ink.***

For Examiner's use only.

Question	Maximum Score	Student's Score
1. Unseen Passage	20	
2. Extract	25	
3. Oral Literature	20	
4. Grammar	15	
Total	80	

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COMPREHENSION

Read the passage below and answer the questions that follow

Even though tattoos are sometimes associated with rebellion, they have long standing history among community. Tahitians, for instances used tattoos as a permanent way of preserving their culture and to show social ranking. Early Christians, on the other hand, often had the sign of a cross tattooed on their bodies, particularly their faces and arms, representing a permanent mark of the believer's faith.

The word 'tattoo' is derived from a Tahitian word tatau that means to mark. Tatau has been suggested to be the onomatopoeic sound tap, tap made by the tapping of a tattoo instrument as it works on skin while 'au' is associated with the cry of pain a person gives when being tattooed.

The first ever tattoo to be found on a human being was found on a mummified iceman in 3,300BC with 58 tattoos on his body, which contained lines and dots. This is nothing, however, compared to Scottish Tom Leopard, recorded as the world's most tattooed person, with 99.9 percent of his body covered in leopard, skin design. Guinness world records record that the only part of his body that remained is the skin between his toes and inside of his ears.

When receiving a tattoo, the skin is pierced between 50 to 3,000 times per minute by a needle in the tattoo machine. Most tattoo machines consist of four parts: the needle, the tube that holds thje ink, an electric motor, and a foot pedal that controls the movement; almost similar to how a sewing machine works.

Sterilization and disposable materials are crucial to tattooing because tattoos are created by thousands of puncture marks to the skin, each of which could be infected. The autoclave is a safe popular way to sterilize any tattoo equipment that is not disposable. A combination of heat, steam and pressure kills all bacterial and organisms to prevent infection.

In the 18th and 19th centuries, tattoos were dangerous to have. European 'head hunters' caused a terror by collecting tattooed Maori heads. As the odd sport became popular, more Maoris were murdered to meet the demand. In the time, slaves began being tattooed so that their heads could be cut off and sold. Luckily, however, Christian missionaries in the cook island condemned the practice of tattooing quoting the Bible "....do not cut your bodies for the dead or put marks on yourself....."They tried to stamp out the custom going as far as trying to remove tattoos by rubbing the skin with sandstone in a practice was known as 'holy stoning'. This was the primitive forerunner to modern tattoo removal known as dermabrasion, where the skin is 'sanded' to remove layers, dermabrasion has now largely given way to laser surgery as a popular means of tattoo removal.

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While tattoos bring colour to humanity, research has shown that unclean tattooing practices can transmit diseases such as hepatitis B. Some pigments used in tattoos contain metals that can cause pain during a Magnetic Resonance Imaging (MRI) test, or even affect the resulting MRI image. Because of the possible negative effects tattoos pose to humans, those keen on getting one have to be very careful before they get one. That said, it is important to note that presently, many tattoo artistes earn a good living out of the art.

QUESTIONS

a) From paragraph one; state two historical uses of tattoos. (3mks)

b) According to the writer state the origin of the word tattoo. (1mk)

c) What is most striking about Tom leopard? (2mks)

d) Explain the meaning of the following words as used in the passage. (4mks)

-Mummified

-Sterilize

-Pigment

-Earn a good living.

e) What was the risk associated with tattooing in the 18^{th} and 19^{th} centuries. (2mks)

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f) State two modern ways of tattoo removal. (2mk)

g) Many tattoo artists earn a good living out of the art. (Add a question tag) (1mk)

h) In note form state the negative effects of tattooing. (3mks)

i) What are the benefits of tattooing as suggested in the passage? (2mks)

2. *<u>Read the excerpt below and then answer the questions that follow.</u>* (25 marks)

Krogstad: Are you aware that is a dangerous confession?

Nora: In what way? You shall have your money soon.

Krogstad: Let me ask you a question: Why did you not send the paper to your father?

Nora: It was impossible: papa was so ill. If I had asked him for his signature, I should have had to tell him what the money was to be used for: and when he was so ill himself, I couldn't tell him that my husband's life was in danger – it was impossible.

Krogstad: It would have been better for you if you had given up your trip abroad.

Nora: No, that was impossible. That trip was to save my husband's life. I couldn't give that up.

Krogstad: But did it never occur to you that you were committing a fraud on me?

Nora: I couldn't take that into account: I didn't trouble myself about you at all. I couldn't bear you, because you put so many heartless difficulties in my way, although you knew what a dangerous condition my husband was in.

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Krogstad : Mrs. Helmer, you evidently do not realise clearly what it is that you have been guilty of. But I can assure you that my one false step, which lost me all my reputation, was nothing more or nothing worse than what you have done.

Nora: You? Do you ask me to believe that you were brace enough to run a risk to save your wife's life?

Krogstad: Foolish or not, it is the law by which you will be judged, if I produce this paper in court.

Nora: I don't believe it. Is a daughter not to be allowed to spare her dying father anxiety and care? Is a wife not to be allowed to save her husband's life? I dont know much about law: but I am certain

that there must be laws permitting such things as that. Have you no knowledge of such laws – you who are a lawyer? You must be very poor Mr Krogstad.

Krogstad: Maybe. But matters of business – such business as you and I have had together – do you think I don't understand that? Very well. Do as you please. But let me tell you this – if I lose my position a second time, you shall lose yours with me. (He bows and goes out through the hall) Nora (appears buried in thought for a short time, then tosses her head) Nonsense! Trying to frighten me like that! – I am not so silly as he thinks. (begins to busy herself putting the children's things in order) And yet-? No it's impossible! I did it for love's sake.

Questions:

a) Briefly describe the dangerous confession Nora admits to in the onset of the excerpt. (3 marks)

b) Explain why Nora did not send the paper to her father for signing.(3 marks)

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c) Explain **two** themes evident in the excerpt above. (4 marks)

d) Contrast Krogstad's and Nora's views on the law (2 marks)

e) How is Krogstad portrayed in the excerpt (2 marks)

f) The law cares nothing about motives. (Add a question tag) (1 mark)

g) Krogstad informs Nora that "one false step, lost him all reputation." Briefly explain how. (2 marks)

h) "…….If I lose my position a second time, you shall lose yours with me." From elsewhere in the play, show the truth of this statement (2 marks)

i) What is the general tone in this excerpt? Explain your answer.(3 marks)

j) Explain the meaning of the following words as used in the excerpt.
(2 marks)

(h) defiantly

(ii) false step

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3. ***Read the poem below and answer the questions that follow***

The in mates
Huddled together
Cold biting their bones,
Teeth chattering from the chill,
The air oppressive,
The smell offensive
They sit and they reflect

The room self-contained,
At the corner the 'gents' invites
With the nice fragrance of ammonia,
And fresh human dung,
The fresh inmates sit thoughtfully.

Vermin perform a guard of honour,
Saluting him with a bite here,
And a bite there,
'Welcome to the world, they seem to say.

The steel lock of the door,
The walls insurmountable
And the one torching tortorous bulb
Stare vacantly at him.
Slowly he reflects about the consignment
That gave birth to his confinement
Locked in for conduct refinement
The reason they put him in the prison.

The clock ticks
But too slowly
Five years will be a long time
Doomed in the dungeon
In this hell of a cell

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QUESTIONS

a) Who is the persona in the poem? (1mk)

b) Briefly explain what the poem is about. (2mks)

c) Identify and illustrate three a aspects of style in the poem. (6mks)

d) Give evidence from the poem which indicates the inmates are suffering. (3mks)

e) Why is the fresh inmate in prison? (2mks)

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f) Identify and explain the mood of the new convict. (2mks)

g) Explain the me

aning of the following lines as used in the poem

i) That gave birth to his confinement. (1mk)

i) The room is self contained. (1mk)

h) What does the steel lock of the door and the insurmountable walls suggest? (2mks)

GRAMMAR

A) ***Rewrite the following sentences according to the instructions given.*** **(3mks)**

i) It is not necessary for my parents to come. (Begin: There is.....

ii) I am sorry you missed lunch. (Begin: I regret.....

iii) But for my daughters prompt action, I would be dead by now.(Begin: Had

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it.....

b) Change the following sentences into the passive. (3mks)

i) The farmer had planted the beans

ii) The principal gave the education officer the forms

iii) We expect the strike to end soon.

c) Fill in each blank space using the correct form of the words in brackets (3mks)

i) The hen had.....eggs in the bushes near the house. (lay)

ii) Tell me, ...a wise person search for knowledge? (do)

iii) The watchman.....the lamps when he heard commotion behind the office. (light)

d) Change the following sentences from direct speech. (2mks)

i) "You are invited to my birthday on Sunday,"Mwikali told me.

ii) "I will cook supper," Wangui offered.

e) Fill in the blank spaces with the appropriate form of the word in brackets. (2mks)

i) His.....is amazing high. (popular)

ii) The shepherd travelled.....in search of pasture. (east)

f) Rewrite the following sentences replacing the underlined idiomatic expressions. (2mks)

i) His friends <u>made him lose heart</u> on carrying out the project

ii) He was <u>green with envy</u>

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NAME……

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101/3

ENGLISH

PAPER 3

TIME: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

- *Answer **three** questions only*
- *Questions **one** and **two** are compulsory.*
- *In question three choose **only one** of the optional texts, for which you have been prepared.*
- *Where a candidate presents work on more that one optional text, only the first to appear will be marked*
- *Each of your essay must not exceed **450** words*

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IMAGINATIVE COMPOSITION (20MARKS)

Either

1. a) Write a composition beginning with the following statement.

By the time we reached the scene of accident we realized……

Or

b) Write a composition advising the youth on how to benefit from the technological advancement.

2. The Compulsory Set Text

Alienation is a theme that runs through the novel, *Blossoms of the Savannah.* Discuss.

3. Optional set text

Answer any of the following questions

EITHER

Inheritance by David Mulwa

Write an essay on the admirable character traits of King Kutula XV basing your arguments on the play, *Inheritance* by David Mulwa.

OR

Memories We Lost and other Stories

With illustrations from Siddartha Gigoo;s Stories, *Umbrella Man,* discuss how symbolism has been developed.

OR

The Pearl

"Behind every successful man is a woman." Basing your illustrations on the character of Juana, assess the validity of this statement.

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102/1

KISWAHILI

INSHA

KARATASI YA KWANZA

MUDA: SAA 1 ¾

MAAGIZO

1. *Andika insha mbili.*

2. *Insha ya kwanza ni ya lazima.*

3. *Chagua insha nyingine moja kutoka hizo tatu zilizosalia.*

4. *Kila insha isipungue maneno 400*

5. *Kila insha ina alama 20.*

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1. Wewe ni katibu wa kamati iliyoteuliwa na rais kuchunguza chanzo cha kudorora kwa usalama nchini. Kamati imepewa muda wa miezi mitatu kuwasilisha ripoti. Andika ripoti miliowasilisha.

2. Utelekezaji wa mtoto wa kiume katika nchini ni janga kuu. Jadili.

3. Mpiga mbizi nchi kavu huchunua usowe.

4. Andika insha inayomalizia kwa:

…. Alianza kubabaika kijasho kikaanza kumtoka kwapani. Nikatambua moja kwa moja kuwa yeye ndiye mkosa!

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102/2

KISWAHILI

Karatasi ya Pili

(LUGHA)

Muda: Saa: 2½

MAAGIZO

1. Karatasi hii ina maswali manne (Ufahamu, Ufupisho, Lugha na Isimujamii)

2. Jibu maswali yote kwenye nafasi zilizoachwa baada ya kila swali.

KWA MATUMIZI YA MTAHINI PEKEE

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

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1. **UFAHAMU (ALAMA 15)**

Soma kifuatacho kisha ujibu maswali.

Lugha inaweza kuelezwa kwa jumla kuwa ni mfumo wa kueleza chanzo au kiini cha mawasiliano na sote tunakubaliana kuwa matumizi yake yameanza tangu kuumbwa kwa binadamu kwani ni vigumu kukisia kuwepo kwa jamii ya watu bila lugha ya mawasiliano yoyote ile.

Katika taifa lolote,huwepo na lugha moja au hata zaidi ya moja ambayo huwa ndicho chombo zatika cha mawasiliano ya taifa katika nyanja za:elimu, maandishi, siasa na biashara.Kwa mfano mataifa ya Kanada hutumia lugha mbili kwa usawa kama lugha za taifa na za kikazi. Maana ya lugha ya taifa ni lugha moja ambayo huteuliwa kutumika katika shughuli zote za taifa hasa katika nchi yenye lugha nyingi za kikabila. Lugha ya taifa ni muhimu sana kwa maisha na maendeleo ya taifa lolote lile.Lugha hii huwa ndiyo kiungo cha kueneza umoja na uelewano miongoni mwa jamii nyingi tofauti na huwa kama kitambulisho kwao kwa kuwa wao ni ndugu wa jamii moja kubwa, yaani taifa lao.

Kenya ni mfano mzuri wa taifa lenye lugha nyingi zinazozidi 40 za vikundi vidogo vidogo vya kikabila.Hapo kabla ya miaka mia moja hivi iliyopita kila kimojawapo cha vikundi hivi kilijitambulisha kama taifa huru.Baada ya kuja kwa serikali ya kikoloni na hasa baada ya Kenya kujinyakulia uhuru,haja ya kuunganisha raia wote chini ya taifa moja lenye uongozi na shabaha moja lilikuwa ndilo jambo lililozingatiwa sana.Kwa hivyo utamaduni wa taifa la Kenya ni mchanganyiko wa tamaduni za watu wengi wenye mila,desturi,imani na itikadi tofauti. Utamaduni humaanisha jumla ya amali na tabia za watu wa jamii fulani. Amali hizi zinafungamanisha fikira, ustaarabu, mila, taasisi na sanaa za aina zote za jamii inayohusika. Ili kujieneza na kujiimarisha,taifa huhitaji chombo hicho kuwasiliana na kuwaunganisha watu wake wenye asili mbalimbali.Chombo hicho huwa ni lugha ambayo siyo tu kwamba ni sehemu ya utamaduni wa jamii bali pia ni njia muhimu sana ya kutawanyia na kustawishia ule utamaduni.

Katika taifa lenye lugha nyingi kama Kenya kwa mfano,lugha ya taifa inayozungumzwa na kueleweka na idadi kubwa ya raia ambayo imekiuka mipaka na tofauti za kikabila ni njia muhimu sana ya kueneza maongozi ya taifa, bendera ya taifa, ndicho kielelezo cha taifa lolote lile lililo huru. Lugha kama hiyo huvunja na hukomesha hisia za kibinafsi na kikabila na badala yake kuunda moyo wa uaminifu wa kitaifa.

Zaidi ya kuwa chombo cha mawasiliano, lugha ni kielelezo cha fikira na hisia za binadamu.Lugha ya watu fulani haituelezi tu ujuzi au maarifa yao bali pia mtazamo wao

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kimaisha, falsafa na mawazo yao. Kwa ufupi lugha hutufahamisha namna akili za watu waizungumzayo ile lugha zinavyofikiri na kutafanya maazimio.Lugha ni sehemu ya utamaduni wa taifa ilimozaliwa na lazima lugha hiyo ifunzwe katika muktadha wa maisha ya jamii ihusikayo.Utamaduni wa jamii havitenganiki na lugha yake.

MASWALI

(a) Ni nini fasiri ya neno lugha? **(alama 2)**

.....

.....

(b) Tofautisha baina ya lugha ya taifa na lugha ya kikazi. **(alama 2)**

.....

.....

(c) Kwa nini lugha ya taifa huhitajika sana katika nchi kama Kenya? **(alama 2)**

.....

.....

.....

.....

(d) Taja kazi **tatu** kuu zinazotekelezwa na lugha ya taifa. **(alama 3)**

……..……

……..……..

……

(e) Eleza maana ya msamiati ufuatao kulingana na taarifa. **(alama 3)**

(i) Haiyamkiniki: **……**

……

(ii) Amali na tabia za watu **:…….....**

…….....

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(iii) Kielelezo**:**……..……

……

(iv) Muktadha wa maisha ya jamii: **…….**

…….....

(f) Eleza majukumu mawili ya lugha kwa ujumla. **(alama 2)**

…….....

……

2. **UFUPISHO: (ALAMA 15)**

Soma kifungu kifuatasho kisha ujibu maswali.

Kwa kawaida, binadamu huishi kwa kutangamana na binadamu wenzake. Katika kutangamana huku, watu huathiriwa kitabia, kifikira, kimavazi na kimaisha kwa jumla. Watu wote katika jamii wana uwezo wa kuathiri na kuathiriwa na wenzao wa umri mmoja. Hata hivyo, walio katika hatari ya kuathiriwa zaidi na mahirimu wao ni vijana. Hali hii ya kuathiriana huitwa shinikizo-rika au shinikizo-marika. Vijana huaminiana na kuthaminiana sana. Kwa sababu hiyo, ni rahisi sana kuingizwa katika mitego na wenzao. Isiaminiwe kuwa vijana pekee ndio wanaoathiriwa na shinikizo-rika. La hasha! Watu wazima pia huwafuata wenzao mithili ya bendera kufuata upepo. Mwenzake akinunua gari, yeye pia hukimbilia mkopo kununua gari la sampuli iyo hiyo bila kuwazia kima cha kibindo chake.

Wataalamu wa saikolojia husema kuwa kukabiliana na tatizo la shinikizo-rika si rahisi kwa sababu shinikizo-rika huleta mtafaruku wa kinafsi akilini mwa anayeathiriwa. Nafsi moja humshawishi kufuata wenzake huku nyingine ikimnasihi kuandamana upekee au ubinafsi wake. Shinikizo-rika huathiri sana mahitaji ya kisingi ya binadamu. Ikumbukwe kuwa mahitaji haya ya kimsingi ni ya kila mwanadamu, nayo ni kama vile kupata lishe, hewa safi, kupenda na kupendwa miongoni mwa mengine. Kila mtu hutaka kujihusisha na kundi la watu ambao watamfanya kuhisi kuthaminiwa na kukubalika. Kutokana na haja ya kutaka kukubalika, anayetaka kutambuliwa huridhia matakwa ya wenzake bila hata kuyawazia.

Shinikizo-rika hujittokeza kwa sura nyingi. Mathalani, vijana huwafanya wenzao kuona kuwa wana hatia wasipoafiki kutekeleza kama wanavyoshinikizwa. Kauli kama vile ‘tulifikiri wewe ni mmoja wetu’ au ‘usiposhirikiana nasi utakuwa umetuvunja moyo’

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hutamalaki. Wanaokataa kushinikizwa hubezwa na kufanyiwa stihizai na wenzao na hata kutengwa. Vitisho hutolewa, wakati mwingine, na anayeshinikiswa akidinda, mabavu hutumika.

Ni muhimu kwa watu, hasa vijana, kufahamu kuwa shinikizo-rika lipo na wanapokabiliwa na tatizo hilo, watambue kuwa wana haki ya kusimama kidete kutetea msimamo wao dhidi ya wenzao. Kumbuka, baridi huwazizima kondoo kwa namna tofauti.

Kama njia moja ya kukabiliana na shinikizo-rika, wanasaikolojia wanapendekeza watu kujiamini na kuelewa kwamba wana haki ya kuwa tofauti na kuwa na upekee wao. Mtu anapojiamini na kushikilia msimamo wake, anaweza kujiepusha na madhara yatokanayo na shinikizo-rika. Asiyejiamini huwa mwepesi sana wa kuingizwa katika lindi la mashaka na wenzake.

Maswali

(a) Bila kupoteza maana, fupisha aya ya kwanza na ya pili kwa **maneno (40)**.

(alama 8, 1 ya utiririko)

Nakala chafu

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……
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……
……

Jibu

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(b) Fupisha mambo muhimu ambayo mwandishi amezingatia katika aya tatu za mwisho.

(maneno 30)

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Jibu

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3. MATUMIZI YA LUGHA: (ALAMA 40)

(a) Tofautisha kati ya: (i) / e / (ii) / u / **(alama 2)**

……

……

(b) Onyesha **muundo** wa **silabi** ya kwanza katika maneno yafuatayo: (alama 2)

(i) Nyakua

(ii) Chura

……

……

(c) Tunga sentensi kwa kutumia kibadala cha kiasi jumla. **(alama 2)**

……

……

(d) Changanua sentensi ifuatao kwa kutumia **jedwali**. **(alama 4)**

Mkongojo mrefu sana ulioletewa babu utauzwa na fundi mcheshi.

(e) Andika **kinyume** cha sentensi ifuatayo:

Mtoto msichana anathema dawa. **(alama 2)**

……

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……

(f) Kanusha: (alama 2)

Nikimpiku masomoni nitatuzwa zawadi.

……
……

(g) Andika katika usemi halisi. (alama 3)

Chifu wetu alitwambia kuwa watu wanaopenda kukaa bwerere huishia kuwa wezi wa mabavu.

……
……
……
……

(h) Nyambua vitenzi vifuatavyo katika kauli zilizo mabanoni. **(alama 2)**

(i) (-la) (kauli tendeshea)

(ii) Toa (tendeka)

……
……

(i) Eleza matumizi ya alama zifuatazo za uakifishi. **(alama 2)**

(i) **!**

……

……

(ii) **?**

……

……

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(j) Bainisha mofimu **–Li-** katika tungo hili. (alama 3)

Alivyolikimbilia

……
……
……
……

(k) Tunga sentensi moja yenye shamirisho hizi. (alama 3)

(i) Kipozi

(ii) Kitondo

(iii) Ala

……
……
……

(l) Ainisha vishazi. (alama 2)

Mhamiaji haramu aliyeshikwa amefikishwa mahakamani.

……
……

(m) Andika katika wingi <u>karibu</u>. (alama 2)

Mtu yuyo huyo aliubeba mzigo uo huo licha ya kukanywa.

……
….....

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(n) Andika sentensi ifuatayo katika watati ujao timilifu. (alama 2)

Mbunge alitawazwa kabla ya mpinzani wake kufika.

……

…...……

(o) Andika kwa wastani. (alama 1)

Magoma haya yatachezwa wanjani.

……

……

(p) Taja na utoe mifano, matumizi <u>mawili</u> ya kiimbo. (alama 4)

……

……

……

(q) Eleza maana mbili za sentensi. (alama 2)

Nenda ukaniletee mbuzi.

……

……

……

4. **<u>SEHEMU YA D: ISIMU JAMII (ALAMA 10)</u>**

(a) Eleza mitazamo mine kuhusu chimbuko la Kiswahili. **(alama 4)**

……

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……..……

……..……

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……..……

(b) Eleza njia za uundaji wa maneno katika lugha ya Kiswahili. **(alama 6)**

……

……

……..……

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……..……

……..……

……..……

……..……

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……..……

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KCSE JOINT POSTMOCKS

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102/3

KISWAHILI

KARATASI YA 3

FASIHI

MUDA: SAA 2 ½

MAAGIZO

Jibu maswali manne pekee.

a. *Swali la kwanza ni la* ***lazima.***

b. *Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani, Ushairi, Riwaya, Hadithi fupi na Fasihi simulizi.*

c. *Usijibu maswali* ***mawili*** *kutoka kwa sehemu moja.*

d. *Karatasi hii ina kurasa nne.*

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SEHEMU A : FASIHI SIMULIZI

1. lazima

(a) Miviga ni nini? (alama2)

(b) Eleza sifa **tano** za Miviga (alama 5)

(c) Fafanua hasara **tatu** za miviga (alama 3)

(d) Eleza changamoto **tano** ambazo mtafiti hukabiliana nazo anpokusanya data ya miviga (alama 10)

SEHEMU B:

TAMTHLIA – Kigogo (Pauline Kea)

2. Onyesha namna mwandishi alivyofanikiwa kukuza maudhui yafuatayo

(i) Elimu (alama 10)

(ii) Ujana (alama 10)

2. Mvunja nchi ni mwananchi ‘Eleza ukweli wa kauli hii kwa kurejelea matukio katika tamthlia ya kigogo (alama 20)

SEHEMU YA C: USHAIRI

B. Moyo wanambia imba,dikteta simwimbie
Moyo wanambia lumba,muhitaji mlumbie
Moyo wanambia chimba,maovu uyachimbue
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia kuwa,ila kasuku usiwe
Moyo wanambia iwa,kunguni ila usiwe
Moyo wanambia pewa,cha mnyonge usipewe
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia nenda,penye dhuluma senende

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Moyo aanambia penda,mnyonyaji simpende
Moyo wanambia ponda,ateswaye simponde
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia tenda,lenye jamala litende
Moyo wanambia unda,lenye faida liunde
Moyo wanambia tunda,lisilo sumu litunde
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia ota,kuwa mwizi usiote
Moyo wanambia kata,marija yote ikate
Moyo wanambia teta,penye dhuluma patete
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia nyosha,penye na kombo panyoshe
Moyo wanambia usha,mateso yote yaushe
Moyo wanambia isha,yenye majonzi yaishe
Moyo wanambia woga,ndio mwazo wa maafa

Moyo wanambia waza,yalopita yawazie
Moyo wanambia kaza,mwovu njia mkazie
Moyo wanambia vuaza,lenye heri tuvyazie
Moyo wanambia woga,ndio mwazo wa maafa

(Shairi la mbegu la E. Kezilahabi, 1988)

(a) Fafanua dhamira ya mtunzi wa shairi hili (alama 2)

(b) Ainisha bahari za ushauri huu kwa kutegemea

(i) Mpangilio wa maneno

(ii) Vipande vya mishororo

(iii) Idadi ya mishororo kwa kila ubeti (alama3)

(c) Tambua aina **<u>moja</u>** ya urudiaji na utolee mfano (alama 2)

(d) changua muundo wa shairi hili (alama 4)

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(e) Andika ubeti wa **tano** kwa lugha ya nathari (alama 4)

(f) Onyesha aina **moja** ya uhuru wa kishairi aliotumia mwandishi katika shairi lake (alama 2)

(g) Eleza maana ya maneno haya kama yalivyotumika katika ushairi (alama 2)

(i) Dikteka

(ii) Kasuku

(iii) Mnyonyaji

USHAIRI

Ni mimi nizamishaye chini Mizizi
kwenye majabali Kufyonza chumvi!

Ni mimi ninyunyizae maji
Ili mimea ifumbue
Nafasi zao hewani
Ili miti ishike mimba kuzaa
Matunda,nafaka,mizizi na viazi Ela
mimi sili hata punje moja Nabaki
mtupu!

Ni mimi tumbo kubwa,
Niliyeshiba madini
Ni mimi ninayechimba
Kupakua raslimali

Dhahabu,chuma,makaa… ela
yote yanaona Yatiririka kwao!
Nabaki mtupu!

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Vyakula vyote nazalisha mimi Na mi’
nabaki na njaa!

Nguo zote nawapa mimi Na
mi’nabaki u tupu!

Madini yote nawapa mimi
Na mi’nabaki kununua vyao!

Kazi zote nafanya mimi Wao
wabaki kunila nguvu!

Wao wanajita bora
Na mi’ nabaki fukara!

(Shairi la S.A Mohamed Jicho la ndani, Longhorn Publishers 2002)

(a) Lipatie shairi hili anwani mwafaka (alama 2)

(b) Fafanua aina moja ya taswira katika shairi hili (alama 2)

(c) Eleza ujumbe mkuu wa mtunzi wa shairi hili (alama 2)

(d) Huu ni ushairi wa aina gani.Toa sababu ya jibu lako (alama 2)

(e) Eleza toni ya ushairi (alama 2)

(f) Mtunzi ametumia mbinu zipi kukuza ujumbe wake (alama 4)

(g) Huku ukitolea mifano onyesha matumizi ya mistari mishata katika shairi hili (alama 2)

(h) Onyesha umuhimu wa kinaya katika shairi hili (alama 2)

(i) Tambua nafsineni katika shairi hili (alama 2)

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SEHEMU D:

Hadithi fupi (Tumbo Lisiloshiba na Hadithi Nyingine)

6 Onyesha namna nafasi ya mwanamke inavyosawiriwa kwa kuzingatia hadithi zifuatazo

(a) Ndoto ya Mashaka

(b) Masharti ya Kisasa

(c) Mapenzi ya Kifaurongo

(d) Shogake Dada ana Ndevu

7. ….Ati umebakwa!Nani akubake wewe? Wapi utakapobakwa mji pasiwe na mtu wa kukuombea?

(a) Eleza muktadha wa dondoo hili (alama 4)

(b) Eleza sifa mbili na umuhimu wa msemaji wa maneno haya (alama 4) (c) Jadili maudhui makuu katika dondoo hili (alama 12 (6 x 2)

SEHEMU YA E:

Chozi la Heri (alama 20)

8. Jadili ufaafu wa anwani ***Chozi la Heri.***

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KCSE JOINT POSTMOCKS

SERIES 001

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MATHEMATICS ALT A

PAPER 1

TIME: 2½ HOURS

INSTRUCTION TO CANDIDATE'S:

(a) Write your name, index number in the spaces provided at the top of this page.
(b) Sign and write the date of examination in spaces provided above.
*(c) This paper consists of **TWO** sections: **Section I** and **Section II**.*
*(d) Answer **ALL** the questions in **Section I** and any **five** questions from Section **II**.*
*(e) **Show all the steps in your calculation, giving your answer at each stage in the spaces provided below each question**.*
(f) Marks may be given for correct working even if the answer is wrong.
*(g) **Non-programmable** silent electronic calculators and **KNEC** Mathematical tables may be used, except where stated otherwise.*

FOR EXAMINER'S USE ONLY:

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

SECTION II

17	18	19	20	21	22	23	24	TOTAL

Grand Total	

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SECTION I: (50 MARKS)

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

1. Evaluate: $\dfrac{44 - -28}{12 \times -2} - \dfrac{8^2 \times -12 - 24}{96 \div -12 \times 9}$ **(3 marks)**

2. A basket ball team play 10 matches in a tournament. The following are scores in each match.

9, 15, 17, 16, 7, 20, 21, 15, 10, 12

Determine:

(a) the mode. **(1 mark)**

(b) the median. **(2 marks)**

3. A wholesaler sold a cell phone to a retailer making a profit of 20%. The retailer later sold the cell phone for Ksh.3120 making a profit of 30% calculate the amount of money the wholesaler had paid for the cell phone. **(3 marks)**

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4. Given that Cos (χ + 20°) = 0.7660, find χ for 0° ≤ χ ≤360°. **(3 marks)**

5. (a) Express 1050 in terms of its prime factors. **(1 mark)**

(b) Determine the smallest positive number such that 1050p is a perfect square.

(2 marks)

6. The exterior angle of a regular polygon is (χ - 50)° and the interior angle is (2χ + 20)°. Find the number of sides of the polygon. **(3 marks)**

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7. A line P passes through the point (-2, 5) and has a gradient of $\frac{-3}{4}$. Another line Q is perpendicular to P and meets it at a point where $y = \frac{1}{2}$ find equation of Q.

(4 marks)

8. Simplify the expression completely.

$$\frac{(x + 2y)(x - 2y) - (x - 2y)^2}{x^2 - 4y^2}$$

(3 marks)

9. The mass of two similar solid are 324g and 768g. Find

(a) height of the smaller solid if the height of the bigger solid is 20cm. **(2 marks)**

(b) the surface area of the smaller solid if the surface area of the bigger solid is 40cm^2.

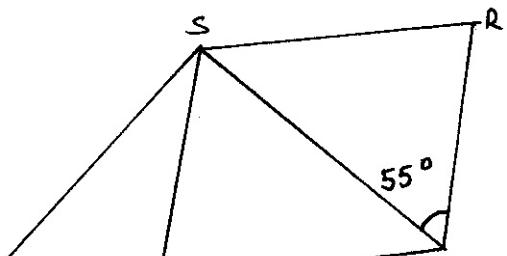
(2 marks)

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10. A cylindrical pipe 5 metres long has an internal diameter 28 millimetres and an external diameter of 42 millimetres. The density of the material that makes the pipe is 1.45g/cm³. Calculate the mass of the pipe in kilograms. $\left(Take\ \pi = \frac{22}{7}\right)$. **(4 marks)**

11. Simplify: $\frac{32^{\frac{-1}{5}} \times 8100^{\frac{3}{4}}}{8^{\frac{-1}{2}} \times 5^{\frac{1}{2}} \times 4^{o} \times 4^{\frac{1}{4}}}$. **(3 marks)**

12. In the figure below PQRS is a rhombus, ∠SQR = 55°, ∠QST is a right angle and TPQ is a straight line.



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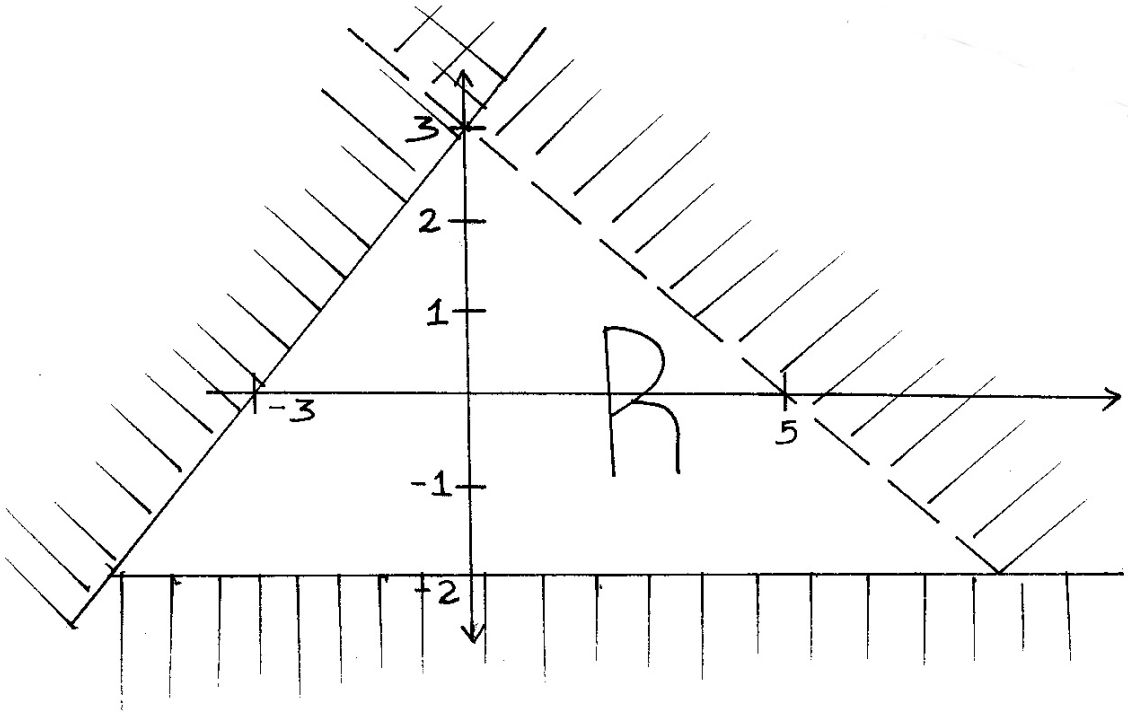
Find the size of the angle STQ. **(3 marks)**

13. 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)**

14. A square toilet is covered by a number of whole rectangular tiles of sides 60cm by 48cm. Calculate the least possible area of the room in square metres. **(3 marks)**

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15. Form the inequalities represented by region R.



16. A point C is on a line PQ where PQ = 9cm. C divides PQ such that $PC = \frac{4}{7}PQ$.

By construction locate C. **(3 marks)**

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SECTION B: (50 MARKS)

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

17. A construction company requires to transport 288 tonnes of stones to sites P and Q. The company pays 48,000 to transport 48 tonnes of stones for every 28km. Joyce transported 96 tonnes to site P, 49km away.

(a) Find how much she was paid. **(3 marks)**

(b) Joyce spends Ksh.6000 to transport every 8 tonnes of stones to site P. Calculate her total profit. **(3 marks)**

(c) Kimani transported the remaining stones to site Q, 84km away. If he made 44% profit, find his transport cost. **(4 marks)**

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18. **(a)** A square carpet is laid on the floor of a room so that one of its sides is against a side of a room. If leaves strips of uncovered floor 1m wide along the two opposite sides and 2m wide along the remaining side. If the area of the room is 64m², find the dimensions of the carpet. **(6 marks)**

(b) Solve the equation: $\frac{y+3}{24} = \frac{1}{y-2}$. **(4 marks)**

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19. A trader bought 8 cows and 12 goats for a total of Ksh.294,000. If he had bought 1 more cows and 3 more goats he would have spend Ksh.337,500.

(a) Form two equations to represent the above information. **(2 marks)**

(b) Use matrix method to determine the cost of a cow and that of a goat. **(4 marks)**

(d) The trader sold the animals he had bought making a profit of 40% per low and 45% per goat.

(i) Calculate the total amount of money he received. **(2 marks)**

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(ii) Determine his profit in Kenya shillings. **(2 marks)**

20. A truck left town X at 11.45am and travelled towards town Y at an average speed of 60km/hr. A car left town X at 2.15pm on the same day and travelled along the same road at an average speed of 100km/hr. The distance between the two towns is 500km.

(a) Calculate the time of the day when the car overtook the truck. **(4 marks)**

(b) The distance from Y when the car overtook the truck. **(3 marks)**

(c) After overtaking the bus, both vehicles continued towards Y at their original speeds. Find how long the car had to wait at town Y before the truck arrived.

(3 marks)

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21. The displacement S metres of a moving particle after t seconds is given by

$S = 2t^3 - 5t^2 + 4t + 2$

Determine

(a) the velocity of the particle when t = 2. **(3 marks)**

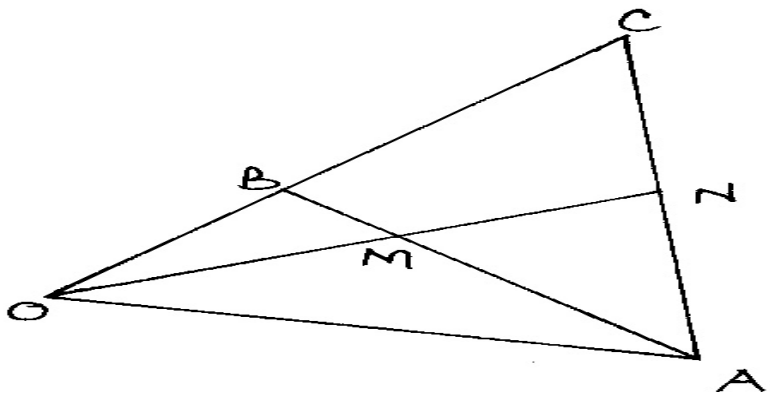
(b) the value(s) of t when the particle is momentarily at rest. **(3 marks)**

(c) the displacement when the particle is momentarily at rest. **(2 marks)**

(d) the acceleration of the particle when t = 5. **(2 marks)**

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22. In the figure below, $\underset{\sim}{OA} = a$, $\underset{\sim}{OB} = b$ and $\underset{\sim}{OC} = 3\underset{\sim}{OB}$.



(a) Express in terms of $\underset{\sim}{a}$ and $\underset{\sim}{b}$.

(i) $\underset{\sim}{AB}$ **(1 mark)**

(ii) $\underset{\sim}{AC}$ **(1 mark)**

(b) Given that $\underset{\sim}{AM} = \frac{3}{4}\underset{\sim}{AB}$ and $\underset{\sim}{AN} = \frac{1}{2}\underset{\sim}{AC}$, express $\underset{\sim}{OM}$ and $\underset{\sim}{ON}$ in terms of $\underset{\sim}{a}$ and $\underset{\sim}{b}$. **(4 marks)**

(c) Hence show that O, M and N are collinear. **(4 marks)**

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23. Triangle ABC has vertices A (1, 2), B (2, 3) and C (4, 1) while triangle $A^1B^1C^1$ has vertices $A^1(1, -2)$, $B^1(2, -3)$ and $C^1(4, -1)$.

(a) Draw triangle ABC and $A^1B^1C^1$ on the same grid. (2 marks)

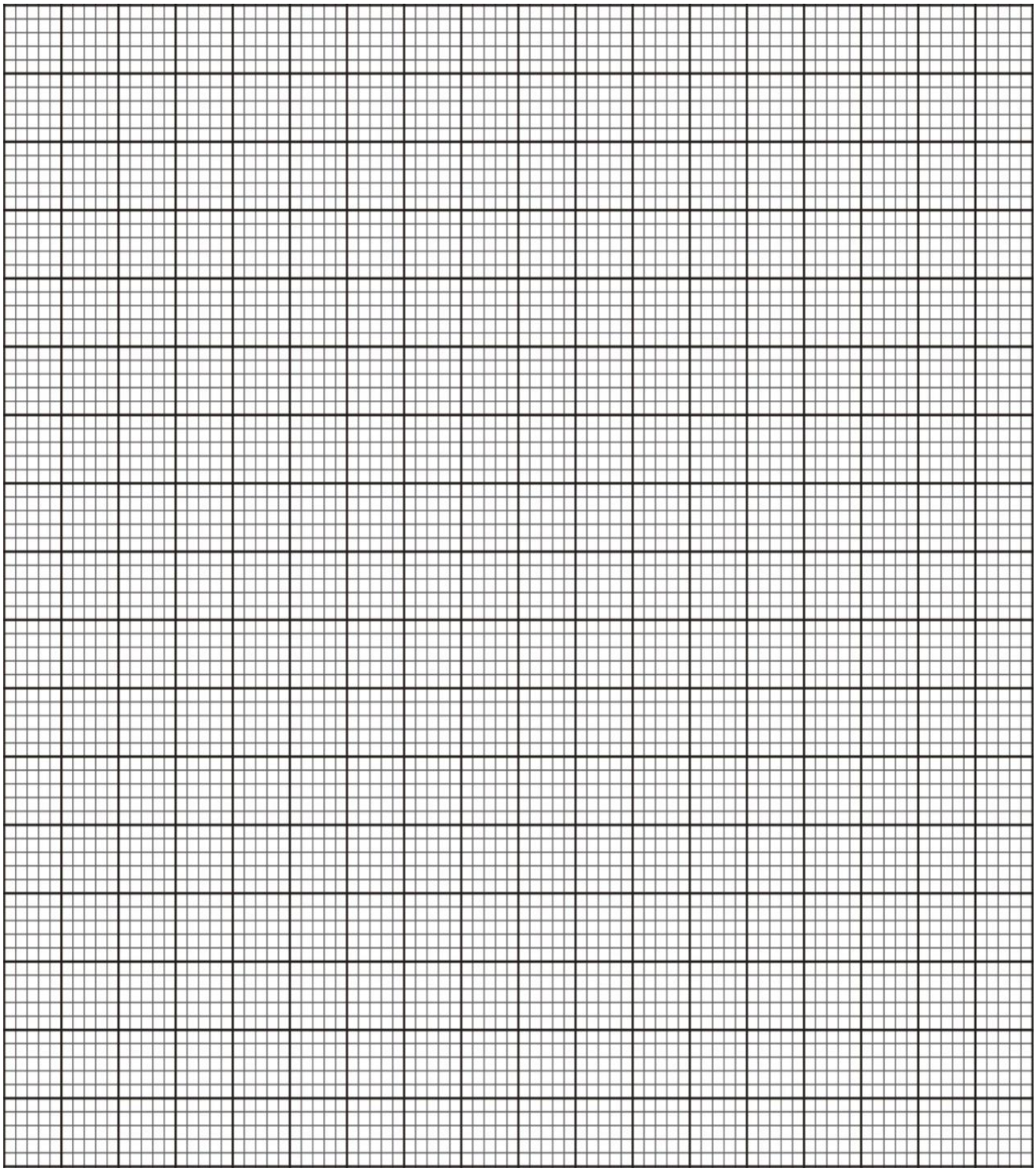
(b) Describe fully a single transformation that maps triangle ABC onto triangle $A^1B^1C^1$. (2 marks)

(c) On the same grid draw triangle $A^{11}B^{11}C^{11}$ the image of triangle ABC under a reflection in line $Y = -\chi$. (2 marks)

(d) Draw $\Delta A^{111}B^{111}C^{111}$ such that it can be mapped onto triangle ABC by a negative quarter turn about the origin. (2 marks)

(e) Find the matrix of transformation that maps triangle ABC onto triangle $A^{111}B^{111}C^{111}$. (2 marks)

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24. Arc of a circle of radius 40cm subtends an angle of 126° at the centre of the circle.

(a) Calculate:

(i) the length of the arc. **(2 marks)**

(ii) the area of the sector. **(2 marks)**

(b) The sector is folded to form a cone.

Calculate:

(i) the radius of the base of the cone. **(2 marks)**

(ii) the height of the cone. **(2 marks)**

(iii) the capacity of the cone in litres. **(2 marks)**

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

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MATHEMATICS ALT A

PAPER 2

TIME: 2½ HOURS

INSTRUCTION TO CANDIDATE'S:

(a) Write your name, index number in the spaces provided at the top of this page.
(b) Sign and write the date of examination in spaces provided above.
*(c) This paper consists of **TWO** sections: **Section I** and **Section II**.*
*(d) Answer **ALL** the questions in **Section I** and any **five** questions from Section **II**.*
*(e) **Show all the steps in your calculation, giving your answer at each stage in the spaces provided below each question**.*
(f) Marks may be given for correct working even if the answer is wrong.
*(g) **Non-programmable** silent electronic calculators and **KNEC** Mathematical tables may be used, except where stated otherwise.*

FOR EXAMINER'S USE ONLY:

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

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SECTION II

17	18	19	20	21	22	23	24	TOTAL

Grand Total

SECTION I: (50 MARKS)

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

1. Simplify: $\dfrac{2\frac{1}{4}-1\frac{2}{3}}{\frac{1}{6}-\left(\frac{-1}{3}\right)^2}-\frac{5}{8}\ of\ 3$. **(4 marks)**

2. (a) Expand $(2+\chi)^4$. **(1 mark)**

(b) Use the expansion in (a) above to. Find the value $(2.01)^4$ to 4d.p.

3. Solve for y in the equation. (3 marks)

$\text{Log}_{10}(3y+2)-1=\text{Log}_{10}(y-4)$.

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4. Make P the subject of the formula. (3 marks)

$E + \chi = \chi + \sqrt{\frac{P - 3u}{y - 3\chi P}}$.

5. Points P, Q and R are points on the circumference of a circle. If PQ = PR = 13cm and QR = 10cm, what is the radius of the circle. (3 marks)

6. Find the radius and the centre of the circle whose equation is: (3 marks)

$3\chi^2 + 3y^2 - 6\chi + 12y + 3 = 0$.

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7. Find C that divide AB externally in the ratio 5: 2, given that
A (3, -6, 9) and B (-15, 3, 12). (3 marks)

8. A two digit number is formed from the first four prime numbers.

(a) Draw the table to show the possible out comes. (2 marks)

(b) Calculate the probability that a number chosen from the two digits is even number. (2 marks)

9. A dam containing 4158m^3 of water is to be drained. A pump is connected to a pipe of radius 3.5cm and machine operate for 8 hours per day. Water flows through the pipe at the rate of 1.5m per second. Find the number of days it takes to drain the dam.
(4 marks

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10. The population of two town Kana and Jane for three years were as follows:

Kana	40,000,	48000,56000
Jane	40,000,	48000,57600

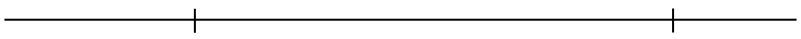
Calculate the difference in population of the two after six years.

11. The gradient of a curve at any point given by 2χ - 1. Given that the curve passes through point (1, 5). Find the equation of the curve. (3 marks)

12. Simplify: $\frac{3}{\sqrt{7}-\sqrt{2}} - \frac{2}{\sqrt{7}+\sqrt{2}}$. (3 marks)

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13. Given that AB = 6cm construct locus of P such that angle $\angle APB = 90$. (2 marks)

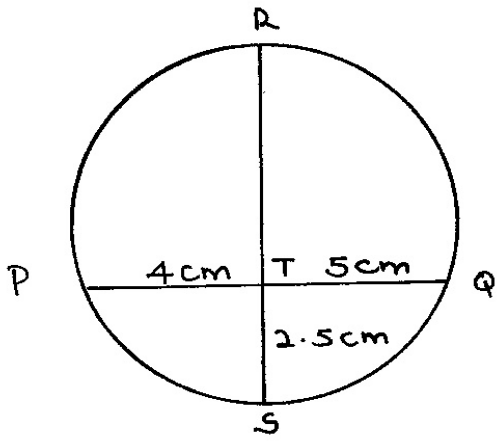


14. A car valued at Ksh.500,000 in January 2008. Each year, it value depreciates at 12%p.a. Find after how long would the value depreciate to Ksh.250,000. (3 marks)

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15. In below figure PT = 4cm and TQ = 5cm and TS = 2.5cm find TR by calculation.

(2 marks)



16. Given that $2 \leq A \leq 4$ and $0.1 \leq B \leq 0.2$. Find the minimum value of $\frac{AB}{A-B}$. (3 marks)

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SECTION B: (50 MARKS)

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

17. Two towns A and B lie on the same parallel of latitudes 60°N. If the longitudes of A and B are 42°W and 29°E respectively.

(a) Find the distance between A and B in nautical miles along the parallel of latitude. (2 marks)

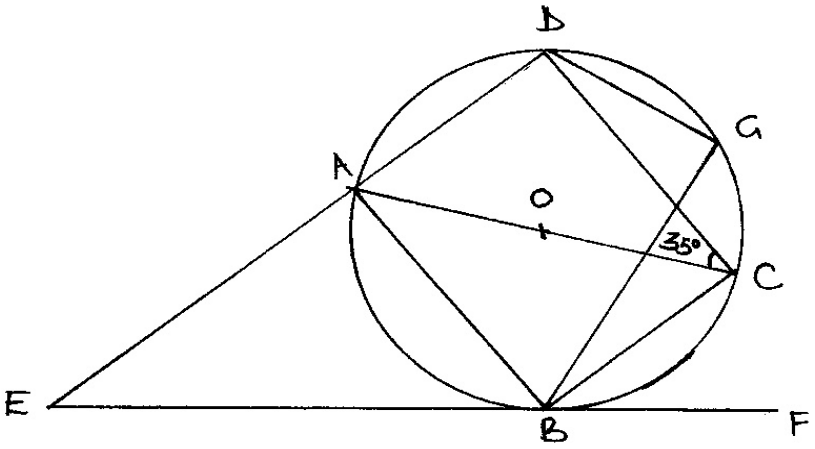
(b) Find the local time at A if at B is 1.00pm. (2 marks)

(c) Find the distance between A and B in km. $\left(Take\ \pi = \frac{22}{7}\ and\ R = 6370km\right)$. (2 marks)

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(d) If C is another town due South of A and 10010km away from A, Find the co-ordinate of C. (4 marks)

18. In the figure below AOC is a diameter of the circle centre O. AB = BC and ∠ACD = 35°, EBF is a tangent to the circle at B. G is a point on minor arc CD.



Calculate the size of the following angles giving reasons in each case.

(a) ∠BCD. (2 marks)

(b) Obtuse angle BOD. (2 marks)

(c) ∠BAD. (2 marks)

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(d) $\angle CGD$. (2 marks)

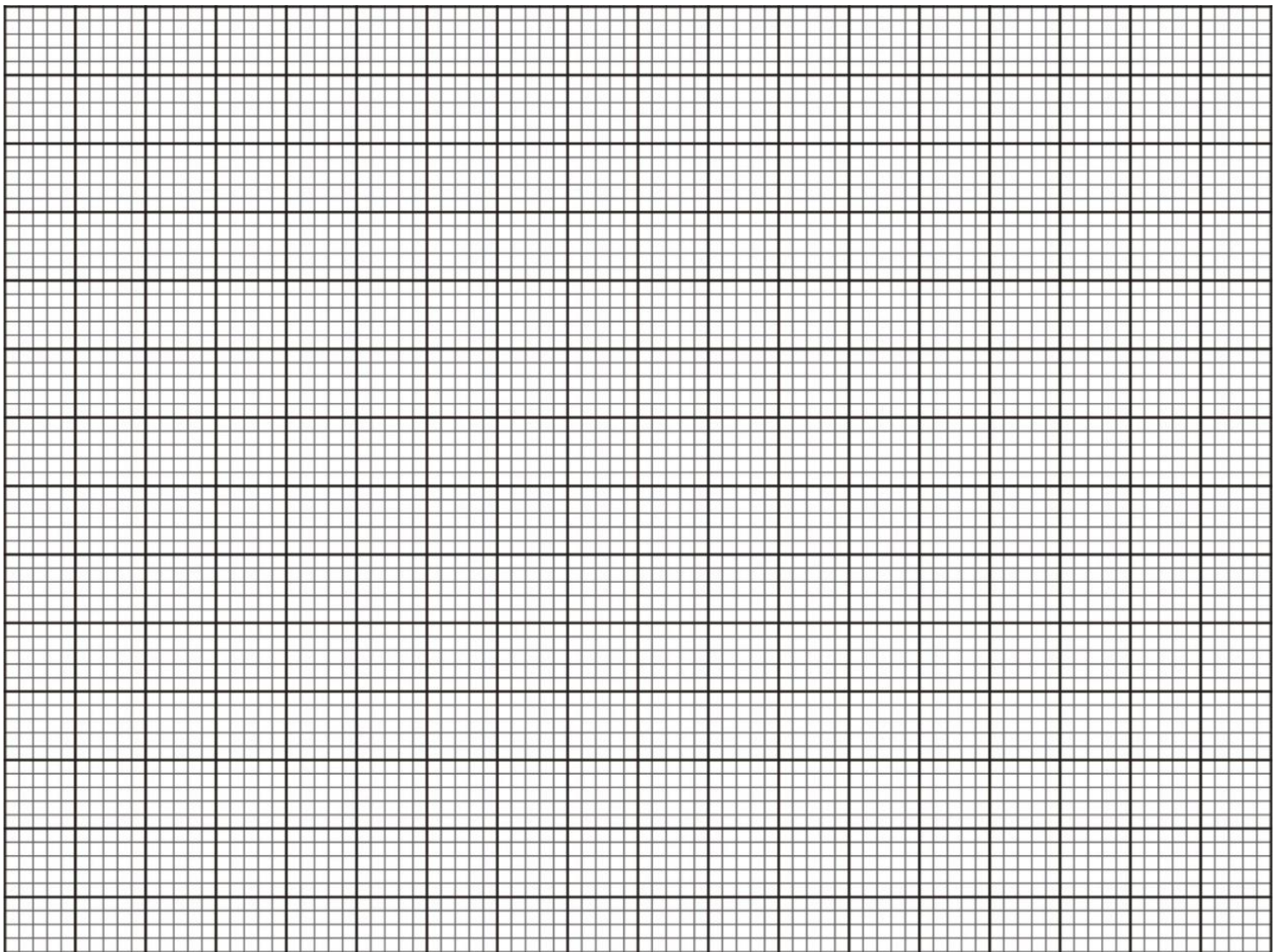
(e) $\angle AEB$. (2 marks)

19. (a) Complete the table below for the function $y = 3\chi^2 - 2\chi - 1$ for $-3 \leq \chi \leq 4$.

χ	-3	-2	-1	0	1	2	3	4
$y = 3\chi^2 - 2\chi - 1$		15				7		

(2 marks)

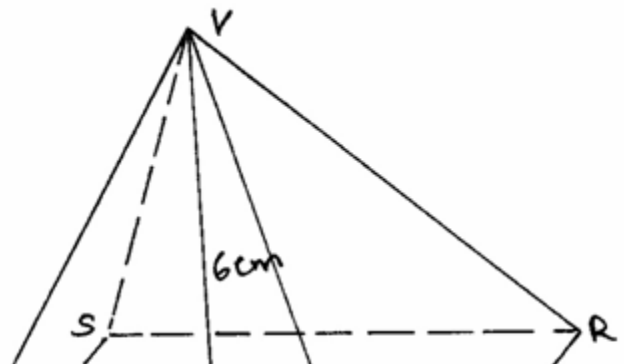
(b) Draw the graph of $y = 3\chi^2 - 2\chi - 1$. (3 marks)



(c) Draw the line $y = 3\chi + 1$ on the same axis hence find the values of χ for which $y = 3\chi + 1$ and $y\ 3\chi^2 - 2\chi - 1$ are equal. (3 marks)

(d) Write down the simplified quadratic equation whose roots are the solutions of the simultaneous equation in (c) above. (2 marks)

20. The diagram below shows a right pyramid VPQRS with V as the vertex and a rectangular base PQRS. PQ = 3cm, QR = 4cm. The height of the pyramid is 6cm.
PM = MQ and OQ = NR.



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(a) Calculate.

(i) the length PV. (3 marks)

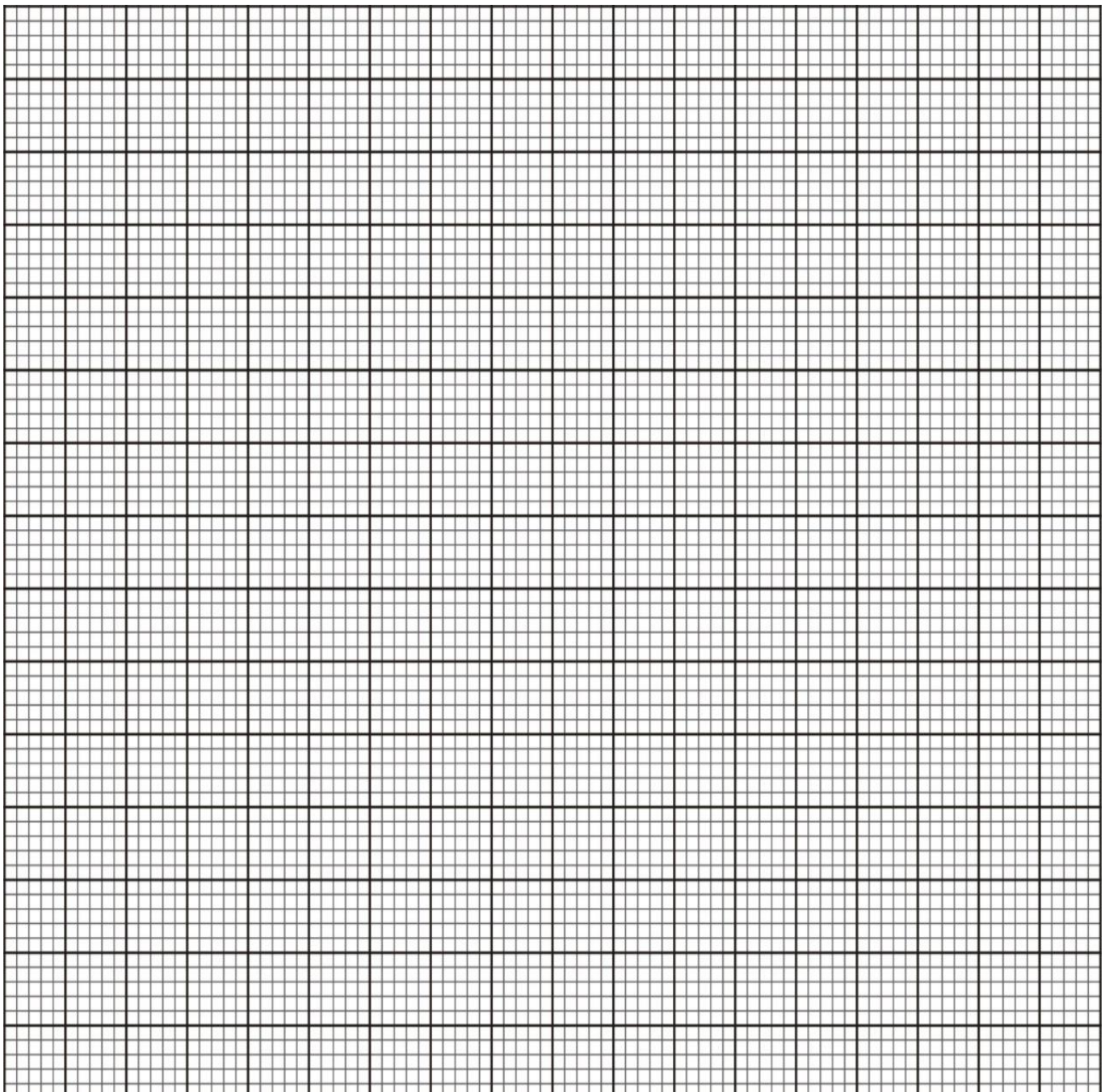
(ii) the angle between face VPQ and the base. (2 marks)

(b) (i) the slant height VM and VN. (2 marks)

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(ii) What is the surface area of the pyramid? (3 marks)

21. On the same axes, draw this graph of $y = 2 \sin \chi$ and $y = 3 \sin (\chi + 30°)$ for the domain $-360° \leq \chi \leq 360°$. (5 marks)



From your graph determine.

(a) the period of each of the functions. (1 mark)

(b) the amplitude of each of the functions. (1 mark)

(c) the solution to 2 Sin χ = 3 Sin (χ + 30°). (1 mark)

(d) the transformation that maps the graph of y = 2 Sin χ onto the graph of y = 3 Sin (χ + 30°). (2 marks)

22. The diagram below shows a histogram marks obtained in a certain test.



(a) Develop a frequency distribution table for the data if the first class 5-9 has a frequency of 8. **(3 marks)**

(b) Estimate the mean. (3 marks)

(c) Calculate interquatile range. (4 marks)

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23. The cost C, of producing n items varies partly as n and partly as the inverse of n. To produce two items it cost 50Sh and to produce six items it costs 70Sh. Find

(a) the constants of proportionality and hence write the equation connecting C and n. (5 marks)

(b) the cost of producing 12 items. (2 marks)

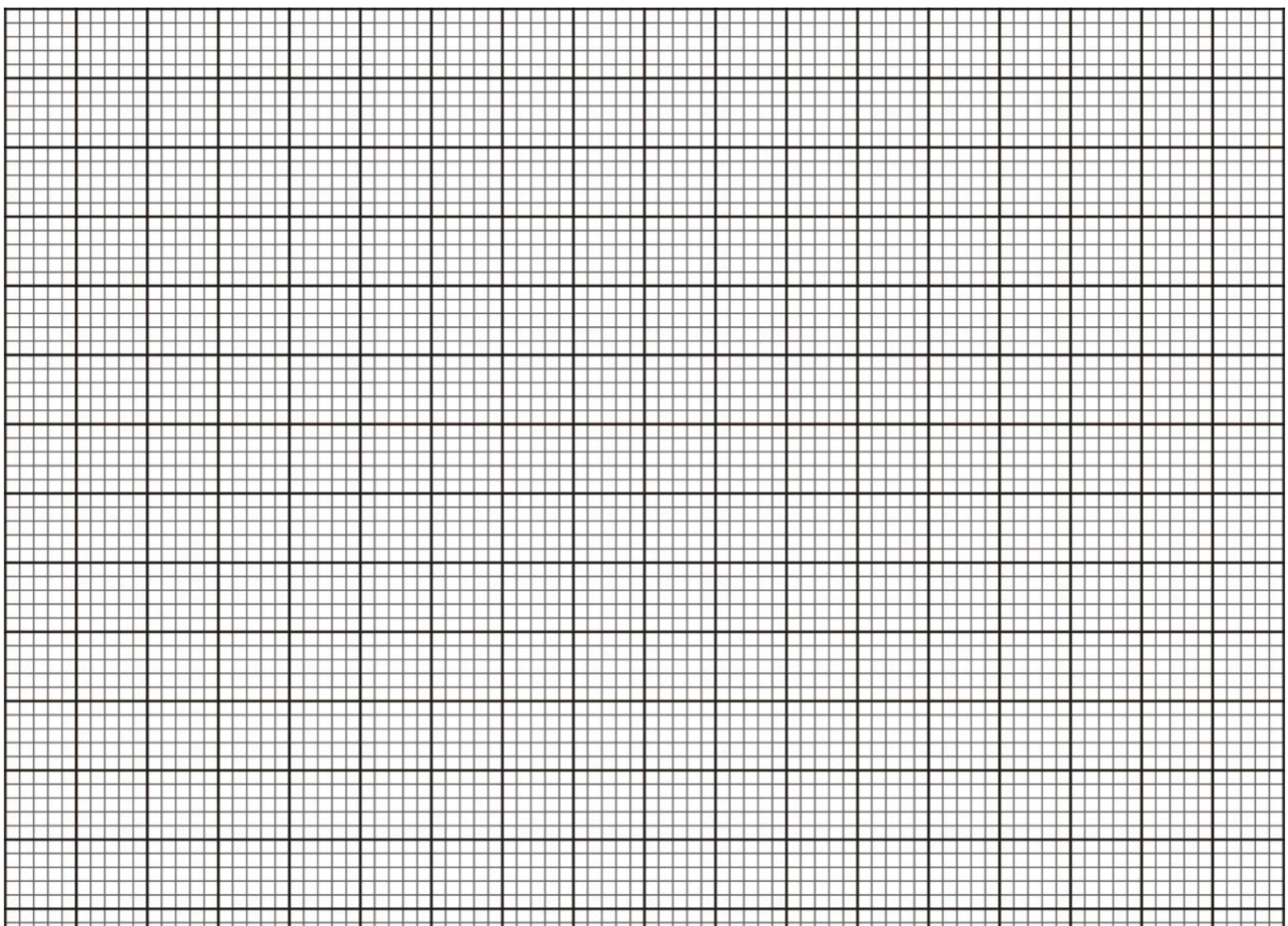
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(c) the number of items produced at a cost of 106Sh. (3 marks)

24. An auto spare dealer sells two types of lubricant A and B in his shop. While purchasing type A cost Sh.40 per 100ml tin and type B cost Sh.60 per 100ml tin. He decided to buy at least 30 tins altogether of type A and B with Sh.1500 available. He decides that at least one third of the tins should be of type B. He buys χ tins of type A and y tins of type B.

(a) Write down three inequalities, which represent the above information.(3 marks)

(b) On a graph paper, draw a graph to show the three inequalities (a) above. (3 marks)



(c) Determine how many tins of each type that he should buy to maximize his profit if he makes a profit of Sh.10 of each type A and a profit of Sh.20 on each type B tin. (2 marks)

(d) Calculate maximum possible profit. (2 marks)

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… INDEX NO……

SIGN…… DATE……

501/1

FRENCH

PAPER 1

(LISTENING COMPREHENSION,DICTATION AND COMPOSITION)

TIME: 2¾ HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

(c) This paper consists **THREE** Sections.

(d) Answer all questions in the spaces provided.

FOR EXAMINER'S USE ONLY

Questions	Maximum Score	Candidate's Score
I	15	
II	05	
III	25	
TOTAL SCORE	45	

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PASSAGE 1

SONDAGE

Fill in the table below by supplying the required information on the person being interviewed.

a)	Nom:…… (½ point)
b)	Age:……. (½ point)
c)	Petit boulot: Le……de……....à……. (1½ points) (le jour) (l'heure)
d)	Détails du petit boulot: i) ……..…… (½ point)
	ii) ……..…. (½ point)
	iii) ……...(½ point)

e) Quel est son avis concernant le boulot en question?

……. (1 point)

PASSAGE 2

FLASH-INFO

Fill in the blanks using **one** word only.

D'après le Flash-info, Madame Chebet qui (i)……. La rue Kimathi s'est cassé le (ii)…… ……. Gauche car le conducteur de la Peugeot (iii)…… .. ne s'est pas arrêté aux (iv)…… …….. rouges. Cet accident a eu lieu à (v)…….. du matin. (2½ points)

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3. **PASSAGE 3**

MESSAGE SUR UN REPONDEUR

Complete the following table. Put an **X** if the answer is **not mentioned** in the recorded text.

a)

i	la personne qui laisse un message	
ii	jour de la sortie	
iii	type de sortie	
iv	lieu	
v	prix	

(2½ points)

b) De quelle nationalité est l'amie de Lucie?

……(½ point)

c) A quelle heure commence la sortie?.....(½ point)

d) Completez le numéro de téléphone: 06…….(1 point)

e) Combien seront-ils en tout?.....(½ point)

4. **PASSAGE 4**

UNE PUBLICITÉ

Answer the following questions.

a) Dans quelle région est-ce qu'on fera la randonnée?

……(½ point)

b) D'où partira la randonnée?

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……(½ point)

c) Combien coûte cette activité?

……(½ point)

d) Citez deux activités par laquelle la journée terminera.

i)……

ii)…….. (1 point)

SECTION II: DICTCÉE

Write the dictation passage in the spaces provided.

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SECTION III: COMPOSITION

1. In **120-150** words write in French on:

   Either

   (a) Une lettre pour invites une école voisine à la jourée Française.

   N'oubliez pas à préparer un programme pour ce jour.

   Or

   (b) Vous avez vu l'annonce suivante dans le journal.

NOUVELLES Le 30 Mars 2014

HOTEL KINAPI
Cherche
MECANICIEN QUALIFIÉ
Diplome de mecanique obligatoire
Expérience souhaitable
ADDRESSE: Monsieur le directeur
HOTAL KINAPI
B.P. 50 MAKUYU.
hotekinapi@gmail.com

FOR KCSE POST-MOCKS MARKING SCHEMES
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Préparez votre candidature et envoyez-le par e-mail.

2. In **150-180** words, write in French, a composition on:

Either

(a) Le dimanche passé, vous avez fêté votre anniversaire de naissance en compagnie de vos ami(e)s intimes. Rapportez cet événement. (15 marks)

(b) Vous avez pris part à fête de marriage de votre grande souer qui a épousé le fils du député de votre circonscription électorale. Quelles sont été vos impressions? (15 marks)

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

501/2

FRENCH

PAPER 2

(READING COMPREHENSION AND GRAMMAR)

TIME: 1½ HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

*(c) This paper consists **two** sections.*

*(d) Answer **all** the questions in all the sections in the spaces provided.*

(e) Check the question paper to ascertain that all sections are present.

.

FOR EXAMINER'S USE ONLY

	MAXIMUM SCORE	CANDIDATE'S SCORE
SECTION I	15	
SECTION II	15	
TOTAL SCORE	30	

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SECTION I: (15 MARKS)

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

PASSAGE A

La réussite du programme d'éducation des adultes prisoniers au Kenya est confirmée par l'enthousiasme des apprenants. Même ceux qui sont condamnés à mort ont manifesté un vif intérêt à participer au programme.

Les apprenants ont manifesté cela, après avoir réussi aux examens nationaux de fin d'études primaries. Mokeira, qui est en prison depuis 1997 pour vol avec violence, a dit qu'elle devait passer son examen étant donné qu'elle perçoit la vie du côté positive. <<J ài toujours eu de l'espoir que je quitterai la prison et que je mènerai une vie normale une fois partie d' ici.>>

Elle dit qu'elle avait abandonné les etudes en sixième primaire, en ajoutant que c' était une joie d'avoir la chance de continuer ses études en prison.

Questions.

1. (a) Pourquoi le programme a-t-il réussi? (½ point)

……

(b) Qui étaient les candidates? (½ point)

……

(c) Pourquoi Mokeira était-elle condamné? (½ point)

……

(d) Qu'est qù elle espère faire après la sortie du prison? (½ point)

……

(e) "Elle perçoit la vie du côté positive" ça veut dire qu'elle est ……

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……...(½ point)

(f) Trouvez dans le texte le synonyme de: (1 point)

(i) épreuve

……

(ii) Montrer

……

PASSAGE B

A l'étalage du marchand de poissons, il y a des crabes de la même espèce. L'un d'eux est plus gros que les autres. Cela indique qu'il est le plus vieux du lot. Le marchand m'explique qu'un crabe grandit toute sa vie. Il change régulièrement de carapace. Celle-ci est une croûte très dure, faite de calcaire trés dure, faite de calcaire. Elle protége le corps mou et fragile de l'animal. Lorsque celui-ci grossit, il doit sortir de sa carapace devenue trop petite. Le crabe se dissimule alors de son mieux, se gonfle d'eau et attend que sa peau fabrique une nouvelle croût.

Lorsqu'on veut acheter un crabe, il faut savoir repérer ceux qui viennent de muer. Ceux-ci ont beaucoup d'eau et peu de chair. Il ne faut donc pas les choisir car ils sont peu appétissants.

Questions.

(a) Où achète-on les crabes? (½ point)

……

(b) Ouest-ce que c ést une carapace? (½ point)

……

(c) Que se passé-t-il quand le crabe deviant grand? (½ point)

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…….

(d) Quels crabes ne sont pas appétissants? (½ point)

……..

(e) Comment distinguer les crabes peu appétissants.

(i) …….(½ point)

(ii) …….(½ point)

PASSAGE C

La vie et la survie de l'humanité passent par la protection de l'environnement. Très peu de notre planète ont compris ce message. Nombreux sont ceux qui s'adonnent à la destruction des forêts, à la pollution des airs et des sources d'eau, à la degradation du relief. Et cela a pour consequences les sécheresses, les famines, la pauvreté qui entraînent la mort d'hommes, d'animaux domestiques et sauvages.

La vie d'un être humain est sacrée et très courte. Elle doit être aisée et heureuse. Il est donc de l'obligation de tous de savoir la protéger par tous les moyens.

(a) Pourquoi devons-nous protéger l'environnement? (1 point)

……..

……

(b) Comment les hommes détruisent-ils l'environnement? (1½ points)

……..

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……

……

(c) Quelles sont les conséquences de la déstruction de l'environnement sur l'être humain? (1½ points)

…….....

……

……

(d) Quelles leçons avez-vous retenues de ce passage? (1 point)

……..

……

PASSAGE D

L'agence Maison-Villa vous propose des offres irrésistibles pour la saison de pâques. Maintenant vous pouvez acheter la maison de vos rêves à demi-prix. Cette offre est valable pour deux semaines seulement. Pour plus de renseignements, contactez-nous en utilisant le numéro: (+254) 20003.

(a) De quoi s'agit-il dans ce texte? (1 point)

……

……

(b) L'offre est valable pour. (1 point)

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……

……

(c) Comment peut-on trouver d'amples informations sur cette offre? (1½ points)

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SECTION II

GRAMMAIRE: (15 POINTS)

1. **Rewrite** the following sentences starting with the words given and making all the **necessary** changes. (7 marks)

(a) Le vieil home a-t-il donné des cadeaux à ses petit fils? (1 point)

Non ……

(b) Il pleut dehors mais il faut sortir pour planter les arbres. (1 point)

Malgré …….

(c) Christine a envie de devenir pilote. (1 point)

Lorsqu'elle était petite, ……

……..

(d) Il n'a pas trouvé un emploi car il n'a pas de qualifications. (1 point)

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Mais au cas où …….

……..

(e) La porte de la maison est cassée. C'est une maison……

……(1 point)

(f) Chaque jour, on prend le petit dejeuner puis on court à l'école. (1 point)

Avant …….

(g) Il a terminé son devoir, puis il est sorti. (1 point)

Ayant ……..

Complete the following text with **ONE** correct word for each blank.

C'est facile (i)_____ dire qu'on est mieux (ii) _____ ses concurrents mais (iii) _____ confiance on ne peut (iv) _____ gagner n'importe (v) _____ concours. (vi) _____ bonne préparation est aussi indispensable. C'est (vii) _____ cas avec les examens comme KCSE:
Même si vous croyez ne plus avoir assez de temps, sachez qu'on dit, <<mieux (viii) _____ tard que jamais.>> (ix) _____ confiants.

Tout (x) _____ bien pendant l'épreuve que vous allez faire.

3. **Match the answers in Column B with the questions in Column A**.

	COLUMN A		COLUMN B
(a)	Qu'est-ce qu'elle va faire en ville?	(i)	Oui, comme d'habitude
(b)	Qu'a-t-elle demandé à l'enfant?	(ii)	Si, j'y suis allé

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(c)	Vous voyez quel qu'un là bas?	(iii)	Parce qu'il a raté le bus
(d)	Pourquoi n'est-it pas venu?	(iv)	Chez le médecin
(e)	Est-ce qu'il joue toujours au football?	(v)	Personne
(f)	Tu n'es pas allé en France?	(vi)	Lundi après-midi
(g)	Où iras-tu lundi après-midi.	(vii)	S'il avait pris le thé
		(viii)	Acheter des légumes
		(ix)	Oui j'y suis allé.

Answers.

a …….....

b ……

c ……

d ……

e …….

f …….

g …….

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

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451/1

COMPUTER STUDIES

PAPER 1

(Theory)

2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided above.*
- *This paper consists of **TWO** sections **A** & **B**.*
- *Answer ALL the questions in section A.*
- *Answer question **16** and any other **THREE** questions from section **B**.*
- *All answers should be written in the spaces provided on the questions paper.*

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Section	Question	Candidate's score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total score		

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SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

1. State **one** function of each of the following.

(a) peripheral devices **(1 mark)**

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……

(b) system software **(1 mark)**

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2. Explain **two** effects of power instabilities in the computer laboratory. **(4 marks)**

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3. Describe future trends in microcomputers in relation to:

(a) hardware **(2 marks)**

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(b) software **(2 marks)**

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4. A form one student in a certain school attempted to switch on her computer. After a while, she realized that the computer had failed to load the GUI desktop despite the monitor being well connected and having been switched on.

State **two** likely causes to the above problem and give **two** possible solutions **(4 marks)**

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5. The table below was created using a spreadsheet program. Use it to answer the questions that follow.

NAME	**CAT1**	**CAT2**	**CAT3**	**TOTAL**
Noah Ojwang'	46	76	67	
Mohamed Ali	54	67	45	
Jepkosgei Pauline	76	34	76	
Atieno Oyoo	56	85	85	
Wafula Joan	87	78	48	
Karanja Emily	59	86	73	
Dennis Mayanja	39	67	82	
Asha Abdi	67	56	39	
Omukhobero Jared	28	59	68	
AVERAGE				

(a) State a formula that can be used to calculate the total for Karanja Emily(2 marks)

……..

(b) It is required that the number of students whose total score is above 200 marks be determined. Write the expression that can be used to accomplish this.

(2 marks)

……..

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6. Explain **two** application areas of video conferencing. **(2 marks)**

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7.Explain **two** ways in which ICT has contributed to the pollution of the environment.(2 mks)

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8. The secretary of a certain institution uses a computer connected to a network to carry out her duties. She realized that some of the information on her computer had been interfered with despite having logged it off before taking her break. She approached the network administrator to assist in identifying the person who may have accessed the computer and tampered with the information.

(a) Describe the method which the network administrator may employ in order to identify the person. **(1 mark)**

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……

……

(b) Name any other measure which the network administrator could use in order to prevent unauthorized access to her computer.

(1 mark)

……

9. A manager of a certain company wishes to replace its old batch processing system for preparing customer accounts by a real time processing.

(i) Describe **three** main areas that should be evaluated to justify replacement.(3 marks)

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(ii) A feasibility report has been accepted by the project steering committee. A system analyst now has to investigate the existing system in detail to find out how it works. Describe **two** methods of fact finding that should be used.

(4 marks)

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(iii) State **two** factors that should be considered when selecting a programming language to be used in constructing the system.

(1 mark)

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10. A computer studies form one student was requested to format his diskette in Windows XP Operating System environment. Instead, he selected and formatted the hard drive by mistake.

(a) Explain why the student had to format his diskette. (1 mark)

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(b) Explain a possible consequence of the mistake made by the student. (1 mark)

……

……

(c) Describe **two** situations when the computer user will be required to format a storage media. (1 mark)

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11. Some devices have a combination of input and output functionality. State **two** such devices.

(1 marks)

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12. State **two** disadvantages of Random Access Memory. (1 mark)

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13. One way in which computing technology has impacted positively on society is the ease of communication through the e-mail. State **two** disadvantages of e-mail.(1 mark)

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14. A student was using a spreadsheet program to prepare his budget. He created a formula to enable him calculate the total amount but after applying the formula, the following error was displayed: #Name? Explain the cause of the error and give a solution.

(1 mark)

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15. Describe **two** features of desktop publishing software that makes it more suitable for producing a school magazine than a word-processing software.

(1 mark)

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SECTION B (60 MARKS)

*Answer question 16 (**compulsory**) and any other **three** questions from this section.*

16. (a) State the function of the following symbols as used in the flowchart.

(i)  (1 mark)

……

(ii)  (1 mark)

……

(b) To maintain a strategic fit Safaricom is introducing a tariff called the mega tariff that will lower costs to Safaricom to Safaricom calls and calls to other networks. Calls to Safaricom networks will be charged according to the time of the day as listed below:

-Between 8am to 12 noon – 6 Ksh

-Between 12 noon to 8pm-0.8 Kshs

-Between 8pm to 1 am -4Kshs

-Between 1 am to 8am- 1Kshs

Internal calls to other networks are charged at a fixed rate of Kshs 7 between 8am to 8pm and Kshs 5 the rest of the day. International calls are charged at a rate of Kshs 25 between 8am to 8pm and Kshs 35 for the rest of the day. All calls are charged per minute usage.

Mr. Wasswa Baale a business man who makes both internal and international calls would like to make maximum use of this tariff.

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(c) Write a pseudo code that would show him know the charges of calls with an appropriate label when he the inputs type of call and the time where appropriate. Use a 24 hour clock. (7 marks)

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(d) Design a flowchart for the pseudo code in 16(a) above. (6 marks)

17. (a) Bidii secondary school uses a computer based system to process student marks. While entering marks a teacher made the following mistakes; typed 150 instead of 50, I0 instead of 10 and typed a student's admission number as 2A34 instead of A234.

Describe **three** validation checks that would have been built into the system to control such errors. (6 marks)

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(b) With the aid of a diagram, describe multiprogramming mode as used in computer data processing. (5 marks)

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(c) Using diagrams describe the following database models:

(i) hierarchical; (2 marks)

(ii) network. (2 marks)

18 a) A company in town A wishes to link its offices that are spread across the city through wireless or fibre optic network media.

(i)State **three** advantages of using wireless over fibre optic network media.(3 marks)

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(ii) Outline **two** wireless communication devices. (2 marks)

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b) (i) Differentiate between Ethernet and token ring topology. (2 marks)

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(ii) List **two** advantages and two disadvantages of mesh network topology. (4 marks)

Advantages

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Disadvantages

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……

……

(c) Describe the following computer network configurations.

(i) Peer-to-peer (2 marks)

……

……

……

……

(ii) Client-server (2 marks)

……

……

……

……

19. (a) The growth and widespread use of computers and its related technologies has led to job displacement, creation and replacement. Define the following terminologies.

(i) Job displacement (1 mark)

……

……

(ii) Job creation (1 mark)

……

……

(iii) Job replacement (1 mark)

……

……

(b) Natural language processing is an area of computer systems evolution.

(i) Differentiate between natural language processing and voice input/output.(2 mks)

……

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……

(ii) State any **two** difficulties of implementing natural language processing. (2 marks)

……

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……

……

(c) (i) Explain **three** ways in which computers and related technologies can increase stress in the workplace. (3 marks)

……

……

……

……

(ii) Suggest **two** ways in which computer related stress in the workplace can be minimized. (2 marks)

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……

(d) State any **three** examples of Internet use that may be considered morally wrong. (3 marks)

……

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……

20 (a) Using two's complement, perform the following arithmetic operations in 8-bit notation.

. (4 Marks)

(a) 33_{10}- 26_{10}

(b) 12-3_{10} (4 marks)

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(c) Work out the decimal equivalent of the following binary numbers.

(i) 101.11_2 (2 marks)

(ii) 111.101_2 (2 marks)

(c) Using an illustration, explain how data is represented on a magnetic media.(3 marks)

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

451/2

COMPUTER STUDIES

Paper 2

(Practical)

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

a) *Indicate your **name** and **Index number** at the top right hand corner of each print out*
b) *Write your **Name**, and **Index Number** on the CD / Removable storage medium provided*
c) *Write the **name** and the **version** of each S/W used for each question attempted in the answer sheet provided.*
d) *Answer **all** the questions*
e) *All questions carry equal marks*
f) *Passwords **should not be used** while saving in the CD/Removable storage medium*
g) *All answers **must** be saved in the CD / Removable storage medium*
h) *Make a printout of answers on the answer sheet provided.*
i) *Arrange your printouts and tie/staple them together.*
j) *hand in all the **printout** and the CD/removable storage medium used*

k) ***This paper consists of 4 printed pages***
l) ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing***

FOR KCSE POST-MOCKS MARKING SCHEMES
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1. Jumia sales and marketing company sells products J, K, L. The table below shows an extract of a spreadsheet for the company`s salespersons and their respective sales in shillings for each product.

	A	B	C	D	E	F	G	H
1	**SALES PERSON**	**PRODUCT J**	**PRODUCT K**	**PRODUCT L**	**TOTAL SALES**	**POINTS**	**CATEGORY**	**TOTL PAY**
2	Jackline	4,000.00	6,230.00	7,500.00				
3	Mary	4,500.00	6700.00	8,000.00				
4	Cantona	5,678.00	10,000.00	7,800.00				
5	Janeth	3,200.00	4,000.00	9,600.00				
6	Maxwell	8,000.00	7,005.00	8,900.00				
7	Nambwa	9,800.00	9,670.00	10,000.00				
8	Kedeki	2,700.00	3,400.00	2,300.00				
9	**TOTAL**							

(a) i) Using a spreadsheet package enter the above information and save it as **SALES_TABLE.** (9 marks)

(ii) Format the worksheet to appear as it is. (4 marks)

(b) (i) Type a formula:

I at cell B9 to compute the total sales for product J; (1 mark)

II at cell E2 to compute the total sales for Thomas . (1 mark)

(ii) Apply the formulae to the appropriate cells. (2 mark)

(c) A Salesperson earns points for the sales of each product based on the following criteria;

- 1 point for every shs. 50 for product J,
- 2 points for every shs.65 for product K
- 3 points for every shs.40 for product L

FOR KCSE POST-MOCKS MARKING SCHEMES
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(i) Type a formula in cell F2 to compute the total points earned by Thomas; (3marks)

(ii) Apply the formula in (c) (i) to the rest of the salespersons. (1 mark)

(d) A salesperson is categorized based on points earned as follows.

POINTS RANGE	**CATEGORY**
Over 1300	Gold
1101-1300	Silver
Up to 1100	Bronze

Those salespersons attaining a Gold category earn a promotion.

(i) Type a formula in G4 to determine Cantona's category. (5 marks)

(ii) Apply the formula in (d) (i) to other appropriate cells. (1 mark)

(iii) Type a formula at G10 to determine the number of Sales who will earn a promotion (4 marks)

(e) Each salesperson earns a total pay of Shs 20,000 plus 2% commission of their total sales. Using absolute referencing, determine the total pay for each salesperson if the value 2 is entered in cell B12. (5 marks)

(f) Create a bar chart showing product J and L sales person. Insert appropriate labels on the chart. (9 marks)

(g) Rename the worksheet containing the data as **SalesData** and the chart sheet as **SalesChart**. (2 marks)

(h) Print the following: (3 marks)

(i) **SalesData**;

(ii) **SalesData** showing the formulae;

(iii) **SalesChart**.

FOR KCSE POST-MOCKS MARKING SCHEMES
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2. ERICK owns houses for rent. The Table below is a record of his tenants' rent payments.

Tenant ID	Tenant Name	House Number	Month	Amount(Ksh)
2019	Maureen	A1	January	3,000
2022	Wekesa	A2	January	4,000
2038	Mary	B1	January	4,500
2059	Mark	B2	January	4,500
2070	Matildah	C1	January	4,000
2090	Maureen	A1	February	3,000
3030	Wekesa	A2	February	4,000
3040	Mary	B1	February	4,500
3025	Matildah	C1	February	4,000
3050	Alice	C2	February	3,500
3055	Wekesa	A2	March	4,000
3090	Alice	C2	March	3,500

(a) Create a database file that can be used to store the above data.
Name the file **Rent.** (2 marks)

(b) Create two tables, one to store tenant details and another to store tenant rent payments. Name the tables '**Tenants**' and '**Payments**' respectively. (9 marks)

(c) Create a relationship between the two tables. (3 marks)

(d) Design a form to be used to enter data into each of the two tables. (7 marks)

(e) Enter the information given into the two tables. (9 marks)

(f) Create a report showing the amount Erick received from each tenant, the total for each month and the total amount he received over the three months. The report should be title 'Rent income'. Save the report as '**Income**'. (8 marks)

(g) (i) Create a query named '**Statement**'to extract Wekesa's records of rent payment. (3 marks)

(ii) Create a report '**Tenant Statement** 'showing Wekesa's rent payment history.The report should be title 'Tenant Statement'. (4 marks)

(h) Print the two tables and the two reports (4 marks)

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **DATE**……

441/1

HOME SCIENCE

Paper 1

Theory

Time: 2½ hours

INSTRUCTIONS TO THE CANDIDATES

- This paper consists of **THREE** sections A, B, and C.
- Answer **ALL** the questions in section A and B
- Answer any **TWO** questions from section C

FOR KCSE POST-MOCKS MARKING SCHEMES
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SECTION A: (40 MARKS)

Answer ALL the questions in this section

1. State **two** qualities of travel wear 2 Marks

2. Give **four** reasons for cleaning a house regularly 2 Marks

3. State **two** limitations of nylon fabric for layette 2 Marks

4. Give **two** reasons why steaming is a ideal working method for invalids 1 Mark

5. State **three** preventive measures you would take to prevent dandruffs 3 Marks

6. State **two** qualities of a good kitchen floor 2 Marks

7. Define food fortification 1 Mark

8. List four laundry process that are harmful to woolen fabrics and in each case state the harm caused 4 Marks

9. State **two** ways of providing variety in colour in meal planning and management 2 Marks

10. Explain **two** reasons for using facings in garment construction 2 Marks

11. Identify **two** uses of lampshades when using lighting fixtures 2 Marks

12. State **two** importance of calcium for a pregnant woman 2 Marks

13. Differentiate between a bias strip and a straight strip 2 Marks

14. While using grease solvents, one should be careful mention two precautionary measures to take 2 Marks

15. Give **four** and symptoms of a person suffering from diabetes mellitus 2 Marks

16. Identify **two** disadvantages of using credit cards 2 Marks

17. Highlight **three** methods of controlling pollution in public places 3 Marks

18. Outline **two** considerations to be made before buying fastenings 2 Marks

19. State **two** reasons for blanching vegetables before freezing 2 Marks

SECTION B: (20 MARKS)

Answer ALL the questions in this section .

20. You are left to take care of the home while your parents are away for a seminar

a. Describe the procedure of cleaning a neglected kitchen sink 9 Marks

b. Explain the cleaning of a wooden framed portrait 8 Marks

c. Wash a polyester pillowcase 3 marks

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SECTION C: (40 MARKS)

Answer any two questions from this section

21. a. Pockets are important features in garments. They can be used for functional and decorative purposes. Suggest **four** factors you would consider when choosing a pocket
4 Marks

b. Briefly explain the procedure of making a hem on a straight skirt 8 Marks

c. Explain **four** ways by which faced – slit opening would be made decorative.
8 Marks

22. a. Discuss **four** points to observe when preparing rechauffe′ dishes 8 Marks

b. Explain **three** general rules on pastry making 6 Marks

c. Give **three** advantages and **three** disadvantages of a gas cooker 6 Marks

23. a. Explain **four** factors that may affect normal foetal development
8 Marks

b. Explain the role of play in child development under the following sub headings

i. Physical development 2 Marks

ii. Social development 2 Marks

ii. Mental development 2 Marks

c. Describe six qualities of a toy suitable for a six month old baby 6 Marks

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KCSE JOINT POSTMOCKS

SERIES 001

NAME……

SCHOOL…… INDEX NO……

SIGN…… DATE……

441/2

HOME SCIENCE

CLOTHING AND TEXTILES

PAPER 2

(Practical)

TIME 2 ½ HOURS

A pattern of dress bodice is provided.

You are advised to study the question paper the sketches and the lay out before you begin the test.

FOR KCSE POST-MOCKS MARKING SCHEMES
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MATERIALS PROVIDED

Pattern pieces for the dress:

1. A- Front
   B – Back
   C - Sleeve
   D – Tie collar
   E – Yoke
   F – Sleeve facing

2. Plain light weight cotton fabric 67cm long by 91cm wide.

3. Sewing thread to match the fabric.

THE TEST

Using the materials provided, cut out and make up the RIGHT HALF of the dress bodice to show the following:

a) The attaching of the back yoke to the back bodice using an overlaid/lapped seam.
b) The working of the waist dart.
c) The neatening of the raw edge of the front facing.
d) Joining of the shoulder seam using any seam.
e) The attaching of the collar including the preparation of the tie collar extension.
f) The joining of the side seam using a neatened open seam.
g) The preparation of the sleeve using a neatened open seam for the underarm seam
h) The preparation and attaching of the sleeve facing to the right of the sleeve.
i) The attaching of the sleeve to the bodice and neatening half of the armhole seam.
j) The working of the top buttonhole.

At the end of the examination, firmly sew on to your work, on a single fabric, a label bearing your name and index number. Remove the needle and pins from your work. Then fold your work carefully and place it in the envelope provided. Do not put scraps of materials in the envelope.

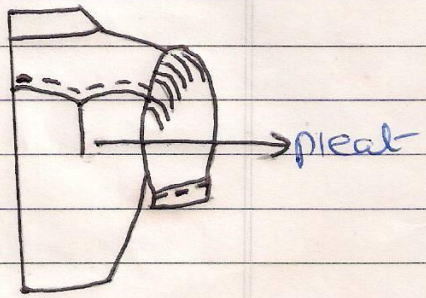
FOR KCSE POST-MOCKS MARKING SCHEMES
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CHILD'S DRESS BODICE:

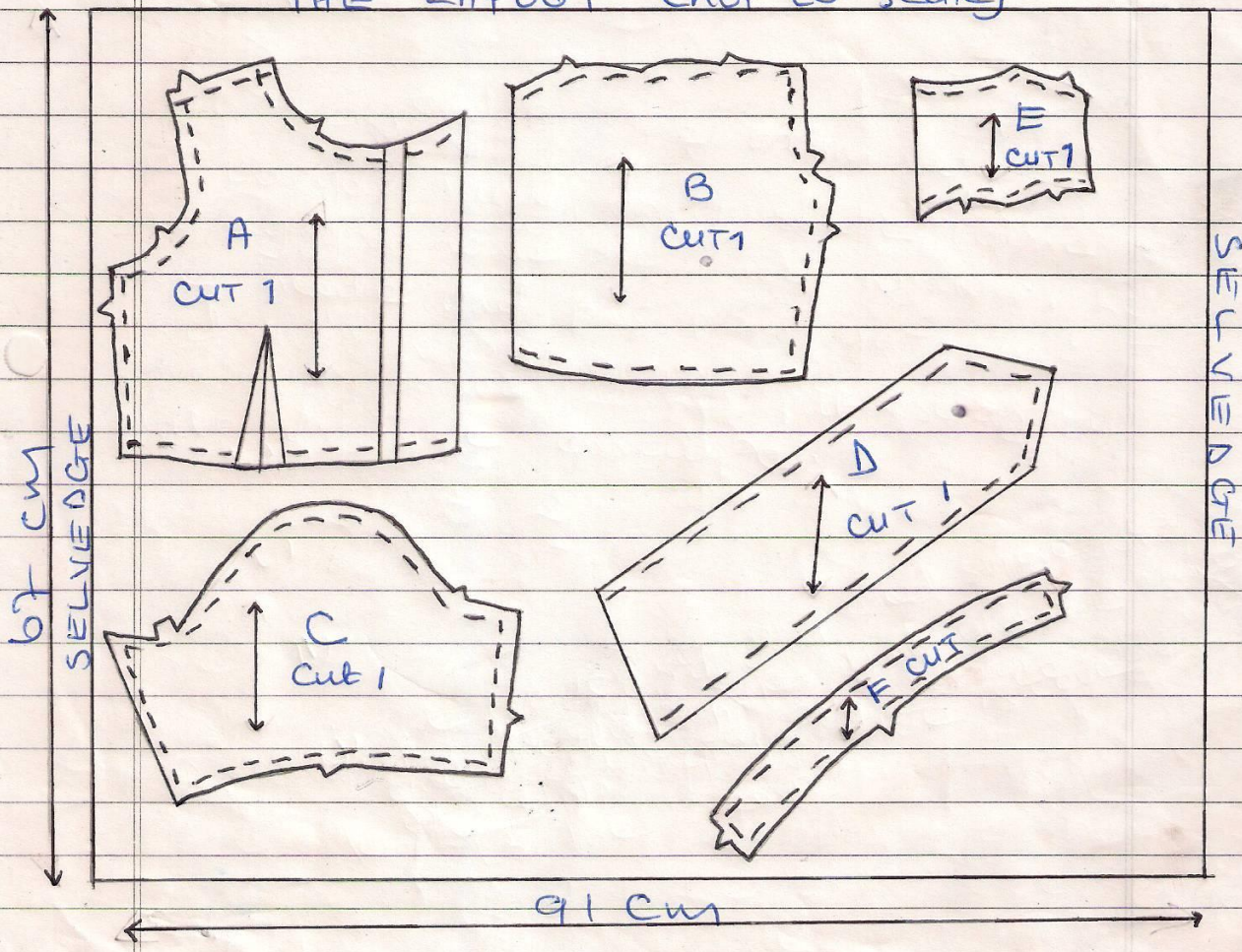
FRONT VIEW



BACK VIEW



THE LAYOUT (not to scale)



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