KCSE 2024 JOINT MOCK

ALL SUBJECTS

Compilation of Second Trial Joint mock examinations for select National Schools in the Republic of Kenya.

SUBJECTS TESTED;

Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, Geography, History, Business Studies, Home-science, Agriculture & Computer Studies.

SERIES 2

For Marking Schemes

Mr Isaboke 0746 222 000 / 0742 999 000

MWALIMU CONSULTANCY

KCSE 2024 JOINT MOCK EXAM

SERIES 2

231/1

BIOLOGY

PAPER 1 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Write your name and admission number in the spaces provided.*
- *Answer **all** questions in the spaces provided.*
- *Candidates should check the question paper to ascertain all the pages are printed as indicated and no questions are missing.*

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDIATES SCORE
1 -30	80	

*Answer **all** questions in the spaces provided.*

1. Name one chemical used to immobilize highly mobile animals during collection in field for **study** **(1 mark)**

……

2. Give a name for a branch of biology which deals with; **(2 marks)**

a) Study of cells

……

b) Study of internal structure of living organisms.

……

3. Conjugated proteins are proteins which combine with non- protein compound. Name non-protein compound in the following conjugated **proteins** **(2 marks)**

a) Mucus

……

b) Haemoglobin

……

4. State **two** differences between smooth muscles and skeletal **muscles** **(2marks)**

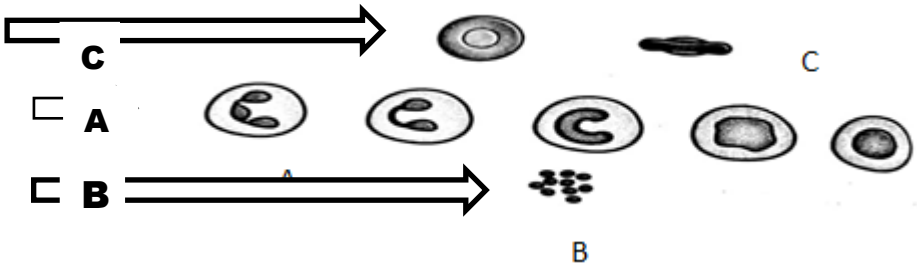
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5. Study the diagram below and answer questions that follows



a) Highlight the type of tissue **illustrated** **(1mark)**

……

b) Name the cells labeled **(2marks)**

A-……

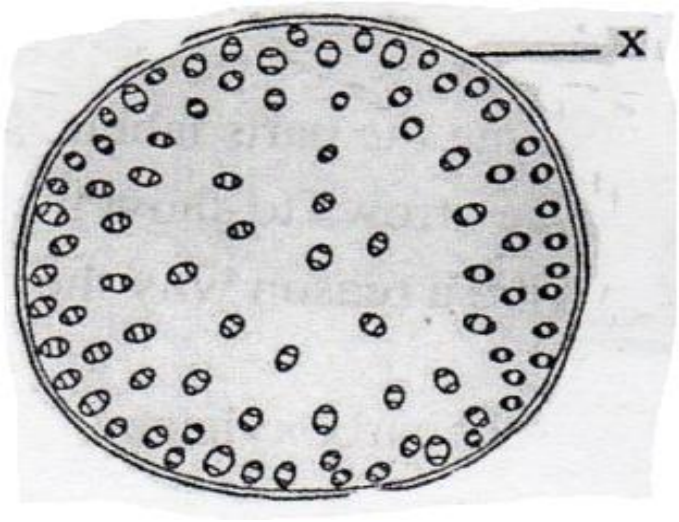
B-……

c) Give one adaptation of cell C to its function **(1mark)**

……

……

6. The diagram below shows a transverse section of a plant organ



a) Name the plant organ from which the section was **obtained** **(1 mark)**

……

b) (i) Name the class of the plant from which the plant organ was obtained. **(1 mark)**

……

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

……

……

c) Name the part labeled **X** **(1 mark)**

……

7. State a characteristic that is common to all cervical **vertebrae** **(1 mark)**

……

……

8. a) Name a protein and vitamin involved in blood clotting.

i) Protein. **(1mark)**

……

ii) Vitamin **(1mark)**

……

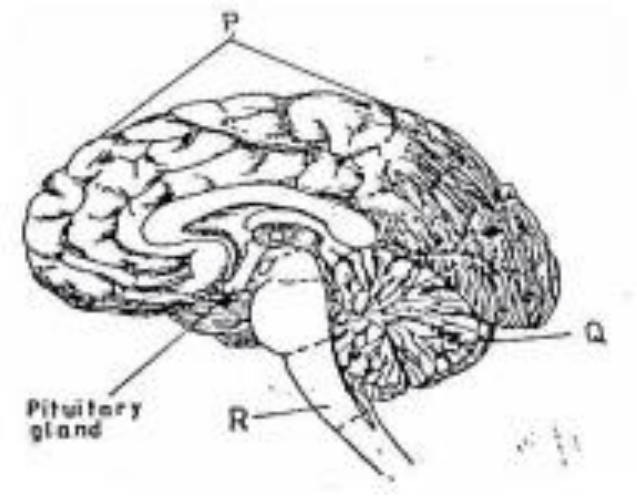
b) Explain why blood is not normally used for transfusion after one month. **(1mark)**

……

……

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9. The diagram below represents a section of the human brain.



i) Name the structure labelled **P .** **(1marks)**

……

ii) State one function of the part labelled **R**. **(1mark)**

……

……

iii) Give a disease which is caused by bacteria infection on brain membranes **(1 mark)**

……

10. The reaction represented by the equation below occurs in the body.

$$\text{Hydrogen peroxide} \xrightarrow{\text{Enzyme } \mathbf{Y}} \text{Oxygen + Water}$$

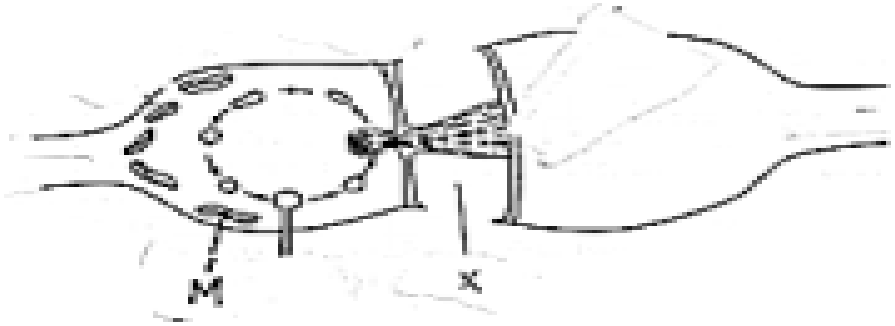
(a) Name enzyme **Y.** **(1mark)**

……

(b) Name an organ in the body where the reaction occurs. **(1mark)**

……

11. The diagram below represents a neuro-junction/synapse



a) Name the:

i) Structure labeled **M.** **(1mark)**

……

……

ii) Enzyme responsible for reconstitution of transmitter substance labeled X. **(1mark)**

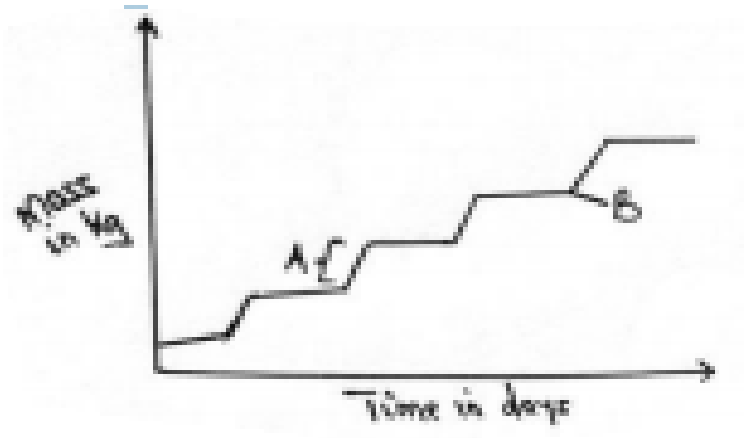
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b) On the diagram, show the direction of the nerve impulse transmission. **(1mark)**

12. The graph below represents the growth of animals in a certain phylum. Study it and answer the questions that follow



a) Name the type of growth pattern shown on the graph **(1mark)**

……

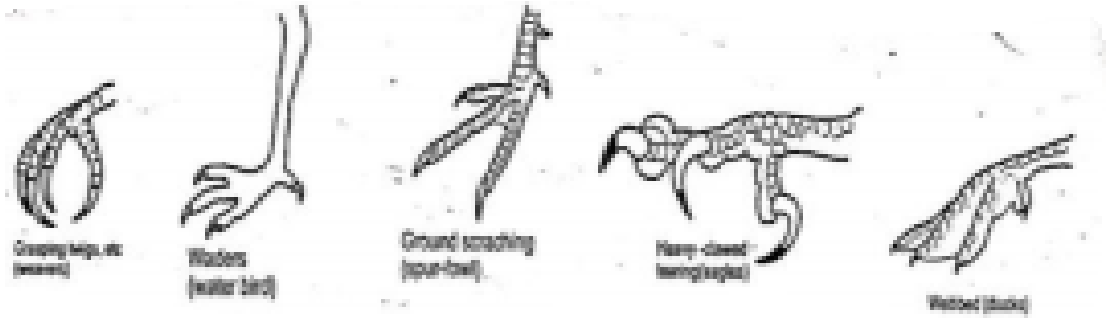
b) Identify the process represented by letter B **(1mark)**

……

c) Name the hormone responsible for the process in (b) above **(1mark)**

……

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



a) What type of evolution is illustrated by the limbs **(1mark)**

……

b) What does the origin of the limbs suggest about the ancestry of these animals **(1mark)**

……

14. Compare the blood in the umbilical artery and umbilical vein in placenta **(2marks)**

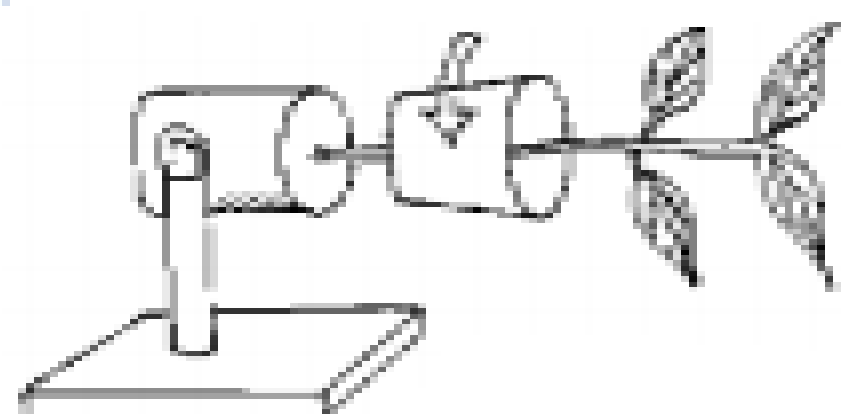
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15. Carefully study the figure which rotates making one resolution in 15 minutes. A seedling With a straight radicle and plumule was attached to the apparatus as shown below.



a) What is the name of the apparatus shown **(1mark)**

……

b) Make a drawing of how the seedling might have appeared after one week. Explain **(2mark)**

c) State the type of response being investigated in the experiment above. **(1mark)**

……

……

16. (a) Why is sexual reproduction important in evolution of plants and animals **(1mark)**

……

……

(b) The calyx cells of a certain plant has 22 chromosomes. State the number of chromosomes present in plants **(2marks)**

(i) Endosperm

……

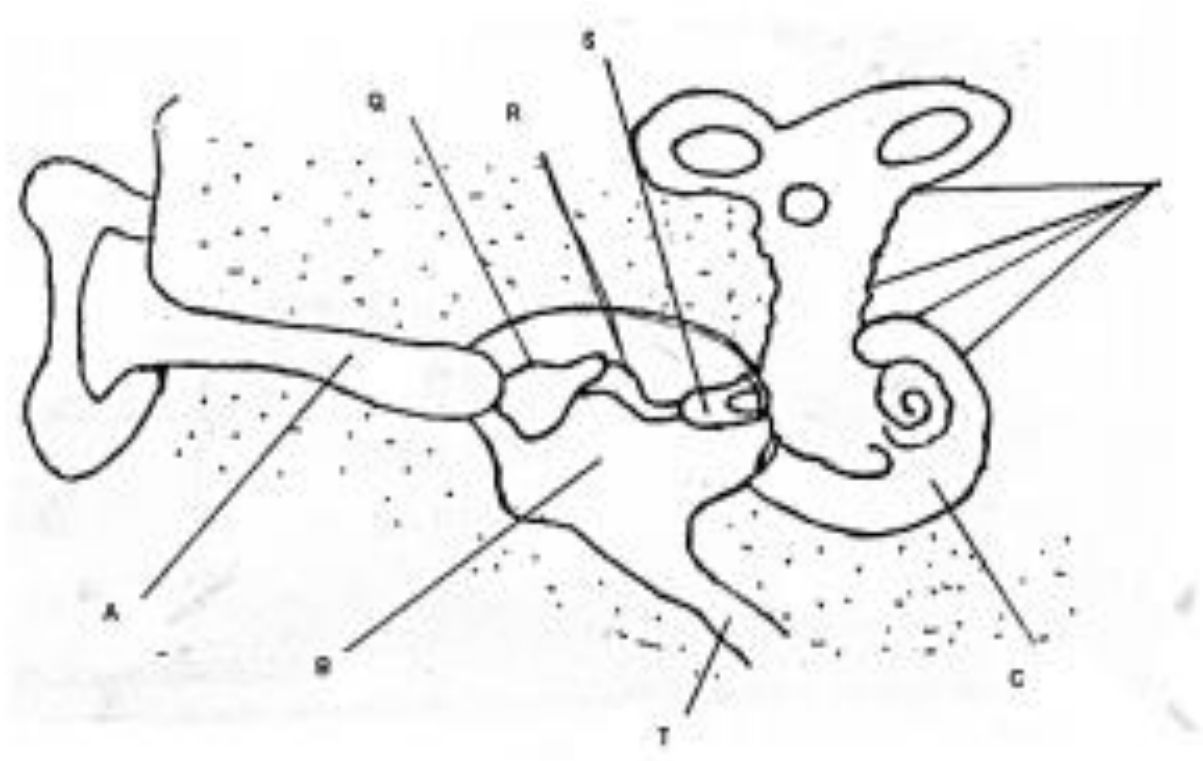
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(ii) Ovule cell

……

……

17. The diagram below shows the internal structure of the mammalian ear



a) Name the part labeled Q **(1mark)**

……

b) Explain what would happen if the part labeled T is blocked **(2marks)**

……
……
……

18. (a) State the functions of olecranon process. **(2marks)**

……
……
……

(b) Which type of joint is found at the articulation of:

(i) Pelvic girdle and femur **(1mark)**

……

(ii) Humerus and ulna **(1mark)**

……

19. State three adaptations of aquatic plants to photosynthesis. **(3 marks)**

……
……
……
……
……

20. Distinguish between haemolysis and plasmolysis. **(2marks)**

……
……
……
……

21. State two adaptations of respiratory surface to gaseous exchange **(2marks)**

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……

……

22. State two roles of hydrochloric acid in the digestion of food. **(2marks)**

……

……

23. a) Name the blood vessels that link arterioles with venules **(1mark)**

……

b)How are the blood vessels above suited to carry out their functions **(2marks)**

……

……

……

24. Explain how the following adaptations will reduce the rate of transspiration. **(2marks)**

i.Sunken stomata

……

……

……

ii. Leaf folding

……

……

……

25. a) Name two structures for gaseous exchange in amphibians **(2marks)**

……

……

b) What is the effect of relaxation of diaphragm muscles during breathing in mammals? **(2marks)**

……

……

……

26. The equation below represents a process that occurs in plants.

$C_6H_{12}O_6 \longrightarrow$ [B] $+ C_2H_5OH +$Energy

a) Name the process **(1mark)**

……

b) Name the product B **(1mark)**

……

c) State the economic importance of this process **(2marks)**

……

……

27. State the role of the following bacteria in the Nitrogen cycle.

(i) Nitrosomonas……**(1mark)**

(ii) Nitrobacter……..……..**(1mark)**

28. State the structures that adapt the fish for: **(2marks)**

a) Forward movement……

b) Fast movement……

29. Name the organelled that:-

a) Manufacture and transport lipids and steroids in a cell. **(1mark)**

……

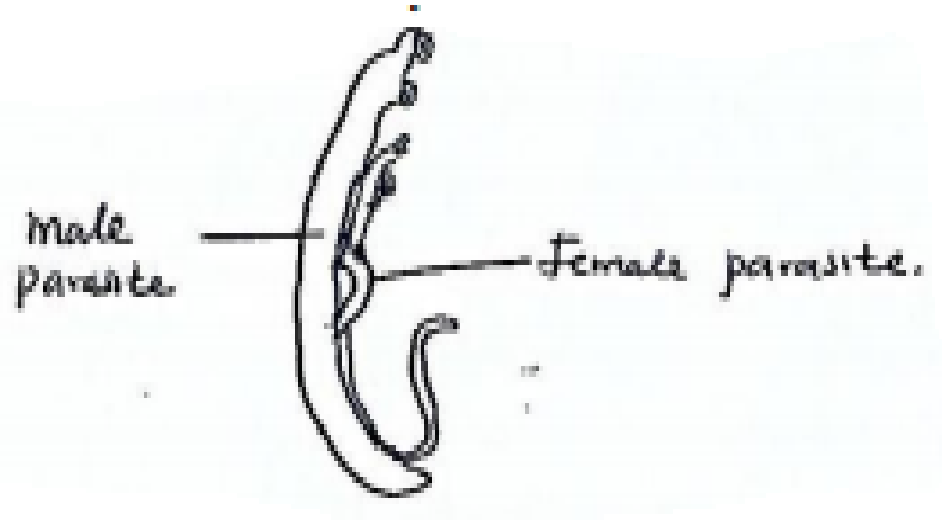
b) Contain enzymes that are capable of destroying old damaged cells. **(1mark)**

……

c) Form cilia and flagella in cells that have them. **(1mark)**

……

30. A patient blood was found to have the parasite below:



a) Name the parasite; **(1mark)**

……

Name the disease the patient was suffering from; **(1mark)**

……

b) State **one** way the above disease can be controlled**.** **(1mark)**

……

……

THIS IS THE LAST PAGE PRINTED.

KCSE 2024 JOINT MOCK EXAM

SERIES 2

231/2

BIOLOGY

PAPER 2 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

1. *Write your name and Admission Number in the spaces provided above.*
2. *Sign and write the date of examination in the spaces provided above.*
3. *This paper consists of two sections: **A** and **B**. Answer **ALL** questions in section **A** in the spaces provided. In section **B,** answer question 6 (**compulsory**) and either question 7 or 8 in the spaces provided after question 8.*

For Examiners' use only

Section	Questions	Maximum Score	Candidate's Score
A	1 - 5	40	
B	2	20	
	3	20	
	4		
Total Score		**80**	

SECTION A (40 MARKS)

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

1. Pure breed of red cows and pure breed of white bulls were crossed to give F_1 calves which had a mixture of red and white coat known as roan. The F_1 were selfed.

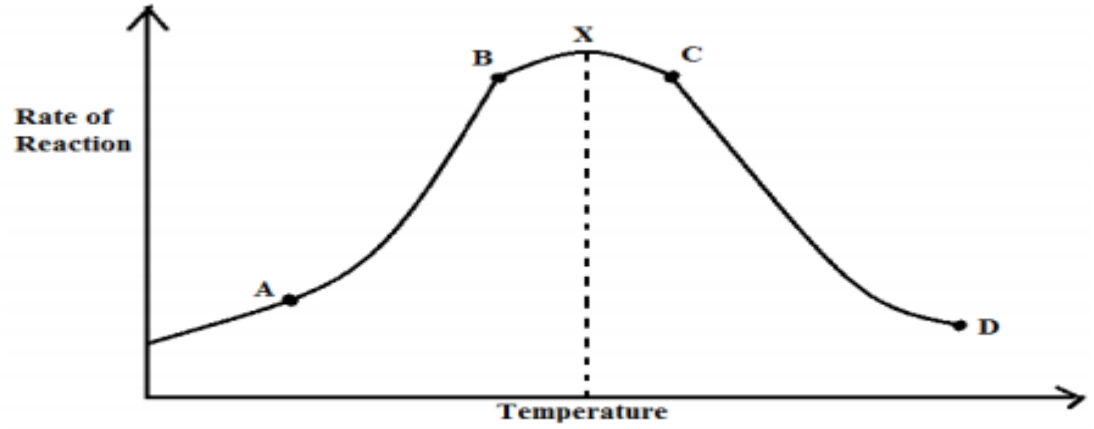
(a) Using letter R to represent gene for red colour and W to represent gene for white colour work out the phenotypic ratio of F_2. **(4 marks)**

(b) Work out the genotypic ratio of a cross between F_1 offspring and white bull.**(3 marks)**

(c) Comment on the gene(s) controlling the colour of coats in cattle mentioned above.

(1 marks)

2. The graph below show the effect of temperature on an enzyme catalysed reaction.



(a) Account for the shape of the curve between:

(i) A and B **(3 marks)**

……

……

……

……

(ii) C and D **(2 marks)**

……

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(b) What does the point marked X represent? **(1 mark)**

……

(c) Apart from temperature. State two other factors that affect the rate of enzyme-controlled reaction. **(2 marks)**

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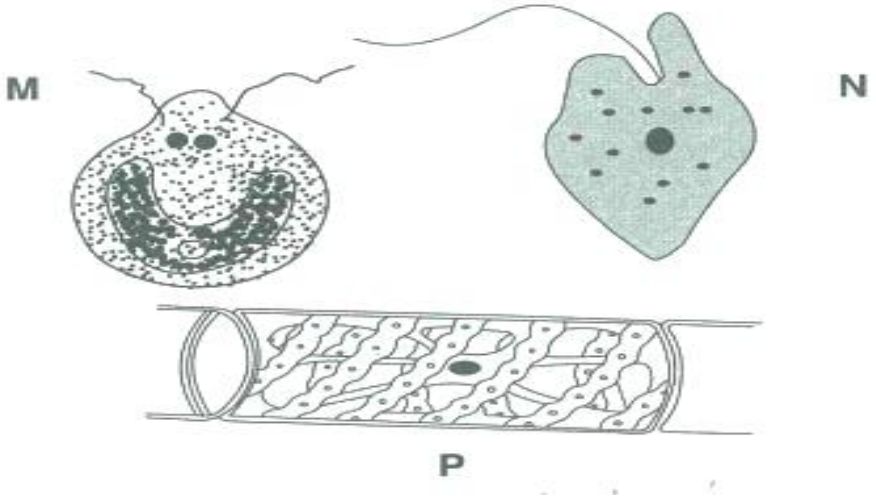
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3. (a) The scientific name *Lantana camara* refers to a green herbaceous plant. Other related plants include *Lantana trifoliate* and *vitex rifoliate*.

(i) From the list, identify the plants belonging to the same genus. **(1 mark)**

(ii) From the name *Lantana camara*, which name represents the genus name? **(1 mark)**

(b) During a taxonomical study of pond water, pupils observed the following organisms:



(i) Identify organisms M, N and **P.** **(3 mark)**

M

N

P

(ii) All the three organisms above belong to the same kingdom. Name the kingdom to which they belong. **(1 mark)**

……

(iii) State two main observable features of the kingdom you have named in (ii) above.

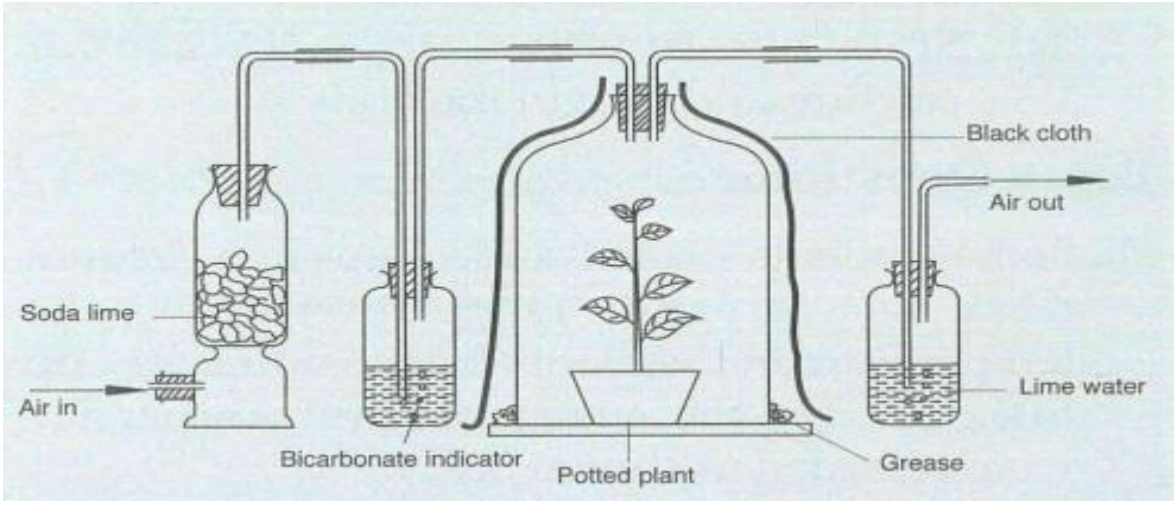
(2 marks)

……

……

……

4. The apparatus below were used to investigate a certain physiological process in plants.



(a) State which physiological process was being investigated. **(1 mark)**

(b) Give the function of the following in the experiment:

(i) Soda lime **(1 mark)**

(ii) Bicarbonate indicator **(1 mark)**

(iii) Black cloth **(1 mark)**

(iv) Grease **(1 mark)**

(c) (i) Suggest a possible observation that would be made at the end of this experiment.**(1 mark)**

……

……

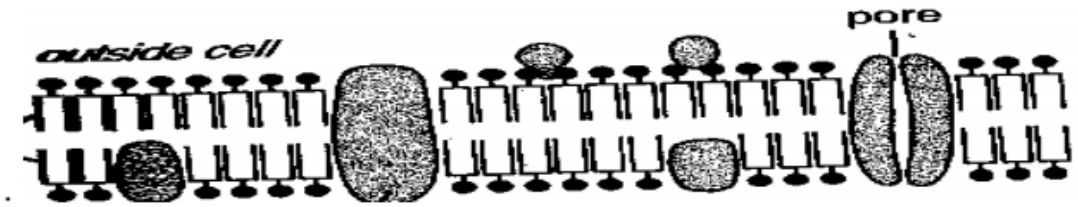
(ii) Give reasons for your answer in (c (i) above. **(2 marks)**

……

……

……

5. Below is a diagram of a structure found in Eukaryotic cells. Study it and answer the questions that follow.



(a) Identify the structure. **(1 mark)**

(b) State two functions of the structure. **(2 marks)**

(c) (i) Name one organelle found in animal cells but **absent** in plant cells. **(1 mark)**

(ii) State one function of the organelle you have named in(c) above. **(1 mark)**

(d) Briefly explain cell biology as evidence of evolution. **(3 marks)**

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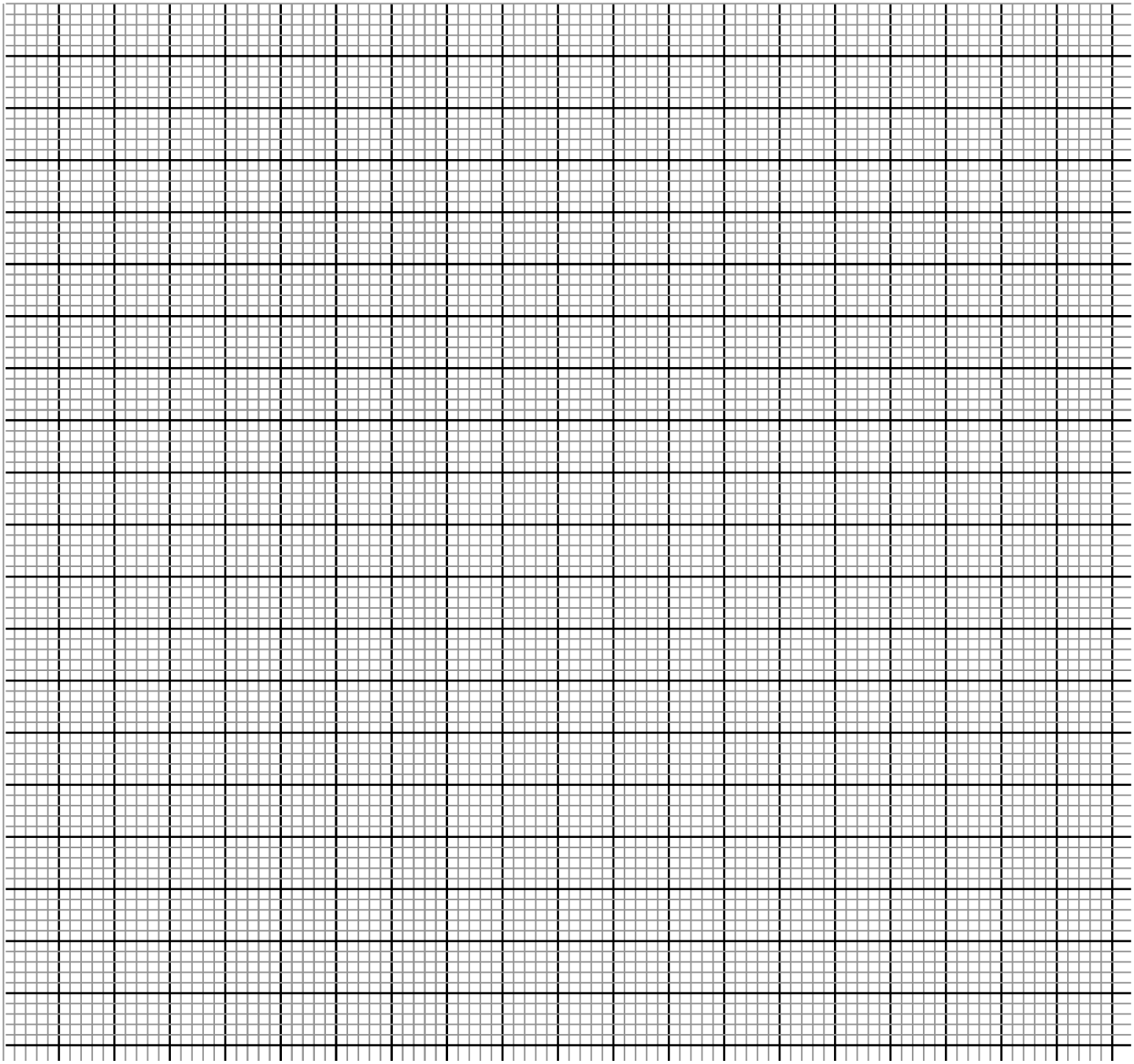
SECTION B (40 MARKS)

Answer question 6 (compulsory) and either question 7 or 8

6. The pressure in the flow of blood in a mammal was determined at two different vessels. The data was taken within a period of one minute and was presented as follows.

Time (seconds)	Blood vessel A	Blood vessel B
0	160	320
10	165	360
20	170	320
30	180	400
40	170	360
50	160	320
60	160	360

(a) Plot a graph of blood pressure in both vessels against time on the same axis. **(8 marks)**



(b) Describe the trend of each curve. **(2 marks)**

……

……

……

……

(c) From the graphs, suggest the possible identity for:

(i) Blood vessel A. **(1 mark)**

(ii) Blood vessel B. **(1 mark)**

(d) Give reasons for your answer in (c) (i) and (ii) above. **(2 marks)**

……

……

……

(e) Explain a factor that would result to an increase in blood pressure in both blood vessels above. **(2 marks)**

……

……

……

(f) State three structural differences between the two vessels mentioned in (c) above. **(3 marks)**

……

……

……

……

(g) Name a nerve that is responsible for the increase of the rate of heartbeat. **(1 mark)**

……

7. (a) Describe the digestion of a starchy meal along the human alimentary canal. (**13 marks)**

(b) Describe the process of urea formation. **(7 marks)**

8. Discuss the effects of drugs abuse on human health**.** **(20 marks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

231/3

BIOLOGY

PAPER 3

TIME: 1¾ HOURS

SCHOOL…… **SIGN……**

(Kenya Certificate of Secondary Education)

CONFIDENTIAL

You are provided with the following;

- Visking tubing
- 2 pieces of thread
- Distilled water
- Glass rod
- Stop watch or clock
- White tile
- Spatula
- Measuring cylinder
- Scapel
- Hydrogen peroxide about 8ml.
- Mortar and pestle
- Magnifying lens
- Specimens labeled as K, L, M, S
    - K-(Green pea pod)
    - L-(Ripe banana)
    - M-(Black Jack)
    - S-(potato)

- Empty 100ml beaker
- 100ml beaker with iodine
- Ruler
- 4 test tube rack
- Test tube holder
- source of heat
- 3 labels

KCSE 2024 JOINT MOCK EXAM

SERIES 2

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

TIME: 1¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Answer all the questions in the spaces provided*
- *You are required to spend the first 15 minutes of the $1\frac{3}{4}$ hours allowed for this paper reading the whole paper carefully before commencing your work. Answers **must** be written in the spaces provided in the question paper. Additional pages must not be inserted.*

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1.	19	
2.	13	
3.	08	
Total score	40	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. You are provided with specimen labeled K, L and M. Examine the external features of the specimens and answer the questions that follow.

a) Giving a reason, identify the type of fruit represented by; **(4mks)**

Fruit	Identity	Reason
K		
L		

b) Carefully open specimen K longitudinally to expose the inner parts.

i) State the type of placentation in the specimen. **(1mk)**

……

ii) State the mode of dispersal of specimen K and M.

K (1mk)

……

M.(1mk)

……

iii) Draw and label specimen M. **(2mks)**

c) Make a transverse section of specimen L, cutting it into two equal halves.

i) Identify the type of placentation in specimen L. **(1mk)**

ii) Slice off about 3cm thick disc from the specimen and peel it. Place the piece on a white tile and smash it into a paste using the glass rod provided. Put the paste into a 100ml beaker followed by 20ml of distilled water and stir. Transfer the contents into the visking tubing provided and tie it tightly on both ends using the threads provided. Ensure there is no leakage at both ends of the visking tubing. Rinse the outside of the tubing with water. Immerse the visking tubing with its contents in a 100ml beaker containing iodine solution. Allow the set-up to stand for 20minutes. Record your observations in the table below. **(4mks)**

Experiment	**Extract inside the visking tubing**	**Iodine solution outside the visking tubing**
Before the experiment		
After the experiment		

d) Which physiological process was being investigated? **(1mk)**

……

e) Account for the results obtained from the table above. **(4mks)**

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2. You are provided with photographs labeled 1, 2 and 3. Use them to answer the questions that follow.

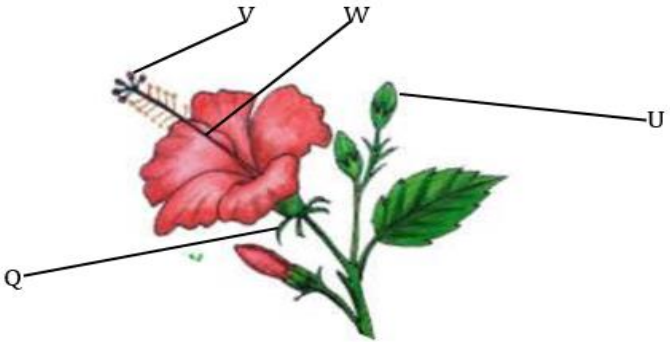
Photograph 1



Photograph 2



Photograph 3



a(i) State the division and sub-division which the photographs belongs to; **(2mks)**

Division……

Sub-division……

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

……

……

b) Identify the class that specimen in photograph 2 belongs to and give a reason for your answer. **(2mks)**

Class……

Reason

……

……

……

c) With a reason, suggest the agent of pollination for the three specimens. **(2mks)**

Agent…….

Reason……

……

d) Identify the parts labeled V, W and P. **(3mks)**

V……

W……..

P……

e(i) Identify the developmental stage represented by

U…… **(1mk)**

ii) State the significance of the part labeled Q **(1mk)**

f) Describe the floral parts labelled X **(1mk)**

3. Using a scalpel, obtain three peeled cubes from specimen S measuring about 1cm by 1cm by 1cm. For the first cube, you are required to boil it in water for five minutes. For the second cube, you are required to crush it into a paste. For the third cube, you are required to use it as it is.

Label three test tubes A, B and C and put 2ml of hydrogen peroxide in each test tube. To test tube A, add the boiled cube and record your observation.

To test tube B. add the crushed paste and record your observation.

To test tube C, add the third cube and record your observation.

a) Complete the table below **(3marks)**

Test tube	**Observation**
A	
B	
C	

b) Explain your observation in test tube A **(1mark)**

……

……

c) Between test tubes B and C, in which test tube was the volume of foam produced the highest? Explain (**3marks)**

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d) Apart from temperature, state one other factor that affect the rate of enzyme controlled reactions **(1marks)**

……

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

233/1

CHEMISTRY

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES:

*(a)Write your **name, class** and **admission number** in the spaces provided above.*

*(b)Answer **ALL** the questions in the spaces provided in the question paper*

(c) KNEC Mathematical tables and electronic calculators may be used for calculations

*(d) All working **MUST** be clearly shown where necessary*

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

(f) Candidates should answer the questions in English

FOR EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1-29	80	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. An element Y has the electronic configuration 2.8.5

a) Identify its period **(1mk)**

……

b) Write a formula of the most stable anion formed when Y ionizes. **(1mk)**

……

c) Explain the differences between the atomic radius of element Y and its ionic radius. **(2mks)**

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2. The table below shows tests carried out on a sample of water and the results obtained.

	Test	**Results**
I	Addition of sodium hydroxide solution	White precipitate which dissolves in excess
II	Addition of excess aqueous ammonia	Colourless solution obtained
III	Addition of dilute hydrochloric acid and barium chloride	White precipitate

a) Identify the anion present in the water. **(1mark)**

……

b) Write an ionic equation for the reaction in **III.** **(1mark)**

……

3. Solutions can be classified as acids bases or neutral. The table below shows solutions and their pH values.

Solution	PH - VALUES
K	1.5
L	7.0
M	14.0

(i) Select any pair that would react to form a solution of pH 7. **(1mark)**

……

(ii) Identify two solutions that would react with aluminum hydroxide. Explain. **(1marks)**

……

……

4. a) State Graham's Law of diffusion. **(1mk)**

……

……

b) $60cm^3$ of oxygen gas diffused through a porous partition in 50 seconds. How long would it take for $60cm^3$ of sulphur (IV) oxide gas to diffuse through the same partition under the same conditions? (S = 32.0, O = 16.0) **(3 marks)**

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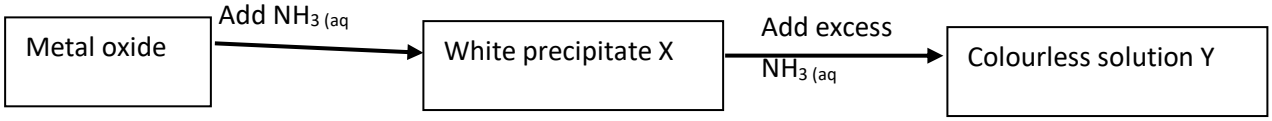
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5. Study the flow chart below and answer the questions that follow.



a) Identify the metal oxide. **(1mk)**

……

b) Write an ionic equation leading to the formation of the white precipitate X. **(1mk)**

……

……

c) Give the formula of the ions responsible for the colourless solution Y. **(1mk)**

……

……

6. Two compounds of barium are barium sulfide and barium chloride.

(a) The hazard symbol shown in Figure below is on bottles containing barium metal.



State the meaning of this hazard symbol. **(1mk**

……

(b) Give the names of the elements combined in barium sulfide**.** **(1mk)**

……

(c) Hydrogen sulphide gas is highly poisonous. Sate one safety precaution that should be taken when handling hydrogen sulphide. **(1mk)**

……

……

7. Study the information in the table and answer questions that follow:

Isotope ^{69} R_1 ^{71} R_2		
Relative abundance %	61.3	38.7

(a) Determine the number of neutrons of R_1 . **(1mk)**

……

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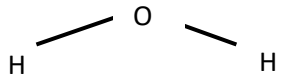
(b) Calculate the relative atomic mass of element **R**. **(2mks)**

……

……

……

8. a) Identify the type of bond formed compound below. **(1mk)**



b) Using dots (•) and crosses (**x**) to represent electrons show bonding in magnesium oxide **(2mks)**

9. Show the products formed when the following salts are heated by writing a balanced chemical equation. **(2 marks)**

(i) $KNO_{3(s)} \xrightarrow{\text{Heat}}$

(ii) $(NH_4)_2\,CO_{3(s)} \xrightarrow{\text{Heat}}$

10. Explain why when one is stung by a bee application of a little solution of sodium hydrogen carbonate helps to relieve the pain. **(2 marks)**

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11. The following table gives the melting point of oxides of the third period elements. Study it and answer the questions that follow.

Formula of oxides	Na_2O	MgO	Al_2O_3	S_iO_2	P_4O_{10}	SO_2
Melting point (^0O)	1190	3080	3050	1730	560	-73

(a) Explain the large difference in the melting points of Na_2O and P_4O_{10}. **(2 mark)**

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(b) Write the equation for the reaction between Al_2O_3 with;

(i) NaOH **(1 mark)**

……

(ii) HCl **(1 mark)**

……

12. A hydrocarbon slowly decolourlises bromine in presence of sunlight but does not decolourise acidified potassium permanganate. Name and draw the structural formula of the fourth member of the series to which the hydrocarbon belongs. **(2 marks)**

13. Distinguish between ionization energy and electron affinity. **(2mks)**

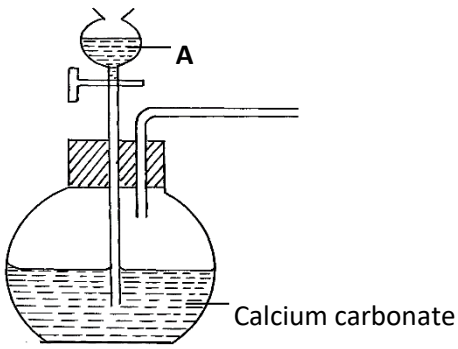
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14. The set-up below was used to prepare a carbon (IV) oxide gas.



(a) Give the name of substance **A** **(1mk)**

……

(b) Complete the diagram to show how the **dry** gas can be collected. **(2mks)**

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

……

……

15. Calculate the mass of sulphur which on complete combustion would yield $7dm^3$ of sulphur (IV) oxide measured at 182^oc and 722 mm Hg pressure. (0=16, S=32, molar gas volume = $24dm^3$ at r.t.p). **(3 mks)**

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16. Form two students from Achiever's secondary school reacted three elements as shown in the table below

Element	Reaction with Oxygen	Reaction with water
X	Formed acidic oxide	No reaction
Y	Formed basic oxide	Formed soluble hydroxide gave off hydrogen gas
Z	Formed acidic oxide	Dissolved to form an acidic solution

Which element (s) is likely to be: **(3mks)**

i) Non-metal (s)

……

ii) Metal (s)

……

iii) Insoluble in water.

……

17. A polymer has the following structure

$$CH_2-CH-CH_2-CH-CH_2-CH$$
$$\quad\;|\qquad\quad|\qquad\quad|$$
$$\quad CN\qquad CN\qquad CN$$

A sample of this polymer is found to have a molecular mass of 5194. Determine the number of monomers on the polymer. (H = 1.0, C = 12.0, N = 14.0) **(2 marks)**

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18.a) State the likely products of the electrolysis of molten potassium chloride at the:-

(i) Cathode …….(½mk)

(ii) Anode ……. (½mk)

b) Write the equations that occur at the anode and cathode. **…….(2mks)**

Anode……...

Cathode……

19. Give two reasons why helium is used in weather balloons. **(2mks)**

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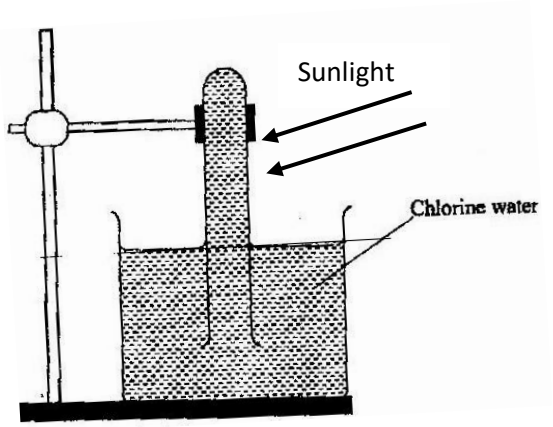
20. A Bunsen burner produces a yellow flame when airhole is close. Explain**.** **(2mks)**

……

……

……

21. In an experiment, a boiling tube full of chlorine gas was inverted into a trough of water as shown below.



a) State and explain the observations. **(2mks)**

……

……

……

b) If the experiment is repeated with tetrachloromethane instead of water.

i) State the observations made**.** **(1mk)**

……

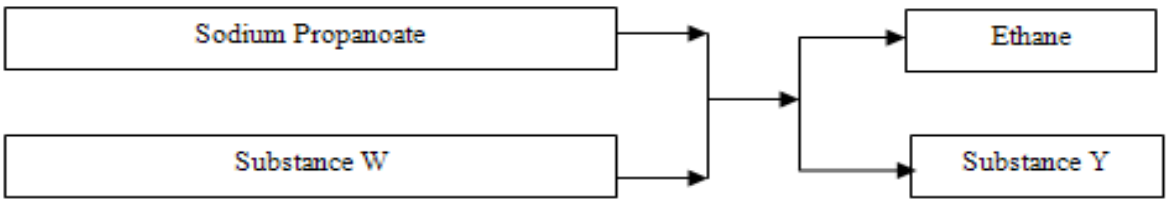
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ii) Explain your observations in b(i) above**.** **(1mk)**

……

……

23. Study the flow chart below and answer the questions that follow.



a) Name substances

W ……..….**(½ mark)**

Y ……..….**(½ mark)**

b) An organic compound K reacted with bromine to form 2,3 – dibromobutane. Draw the structural formula of K**.** **(1mks)**

24. Starting with copper metal describe how a solid sample of copper (II) carbonate can be prepared. **(3 marks)**

……

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……

25. Study the information in the table below and answer the questions that follow. The letters do not represent the actual symbols of the elements.

Element	**Electrical conductivity**	**Ductility**	**Action of water**
A	Good	Good	No reaction
B	Good	Poor	No reaction
C	Good	Good	Reacts

Select the element which is

(a) Likely to be in group II of the periodic table. **(½ mark)**

……

(b) Could be used to make electric cables. **(½mark)**

……

(c) Likely to be graphite. **(½ mark)**

……

26. In an investigation, sulphur (IV) oxide gas was bubbled through acidified bromine water. This was followed by drops of barium nitrate solution.

(a) State the property of sulphur (IV) oxide under investigation. **(½ mark)**

……

……

(b) i) State the observation that were made on addition on sulphur (IV) oxide into the bromine water. **(1mk)**

……

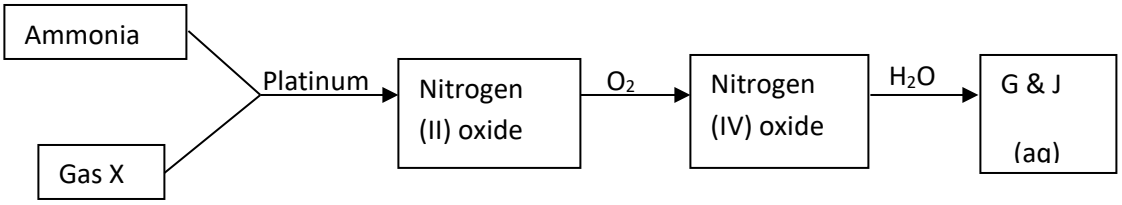
……

ii) Explain the observation. **(1mk)**

……

……

27. Study the flow chart below and answer the questions that follow



a) Identify gas X **(1mk)**

……

b) Write an equation for the reaction between ammonia and gas X **(1mk)**

……

……

c) Write an equation to show the formation of G and J **(1mk)**

……

……

28. (a) Define pollution. **(1 mark)**

……

……

(b) Mention **one** pollutant that is

(i) A Particle **(½ mark)**

……

(ii) Gaseous **(½ mark)**

……

29. Hydrogen gas was burnt in air to form a colourless liquid.

a) Describe a chemical test to identify the colourless liquid. **(2mk)**

……

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b) State how the purity of the colourless liquid can be determined**.** **(1mk)**

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

233/2

CHEMISTRY

PAPER 2 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

*(a)Write your **name, class** and **admission number** in the spaces provided above.*
*(b)Answer **ALL** the questions in the spaces provided in the question paper.*
(c) KNEC Mathematical tables and electronic calculators may be used for calculations.
*(d) All working **MUST** be clearly shown where necessary.*
*(f) Candidates should check the question paper to ascertain that **all the pages are printed** as indicated and that **no questions are missing.***
(g) Candidates should answer the questions in English.

FOR EXAMINERS' USE ONLY.

Questions	Max-score	Candidates score
1	13	
2	10	
3	08	
4	14	
5	11	
6	13	
7	11	
Total score = 80		

1. The grid below represents part of the periodic table. Study it and answer the questions that follow.

The letters do not represent the actual symbols of the elements.

				D		**G**		
	B			**E**	**F**		**H**	**J**
A	**C**							
							I	

a) State the elements that can form ions with a charge of -1. Give a reason for your answer.

(**2 marks)**

……

……

……

b) What type of structure exists in the oxide of A. Give a reason for your answer? **(1 mark)**

……

……

c) How does the reactivity of I compare with that of H. Explain. **(1 mark)**

……

……

d) The oxide of D has a low melting point than the oxide of element C. Explain. **(1 mark)**

……

……

e) With a reason choose the most;

i) Electropositive element **(2 marks)**

……

……

ii) Electronegative element **(2 marks)**

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……

f) Compare the atomic radius of;

i) B and H **(1 mark)**

……

……

ii) D and E **(1 mark)**

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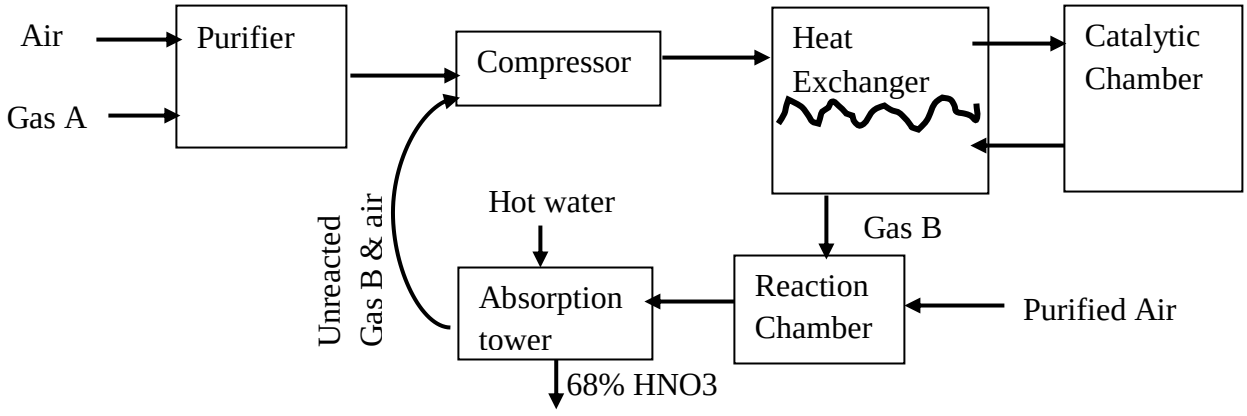
g) State and explain the observations made when concentrated Nitric (V) acid is added to turnings of copper**.** **(2 marks)**

……

……

……

2. The flow chart below shows how nitric (v) acid is produced on a large scale. Study it and answer the questions that follow.



a) State the functions of:

(i) Purifier **(1mark)**

……

(ii) Heat exchanger **(1mark)**

……

b) Identify

(i) Gas **A** **(½mark)**

……

(ii) Catalyst C **(½mark)**

……

c) Write equations for the reaction that take place;

(i) in catalytic chamber. **(1mark)**

……

……

(ii) in absorption tower. **(1mark)**

……

……

d) Calculate the molarity of the commercial nitric (v) acid, given that it is 68% pure and has a density of 1.42g/cm^3. (N=14, H=1,)=16) **(3mark)**

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(e).(i) State the observation made when concentrated nitric (v) acid is added to acidified sulphur powder and warmed**.** **(1mark)**

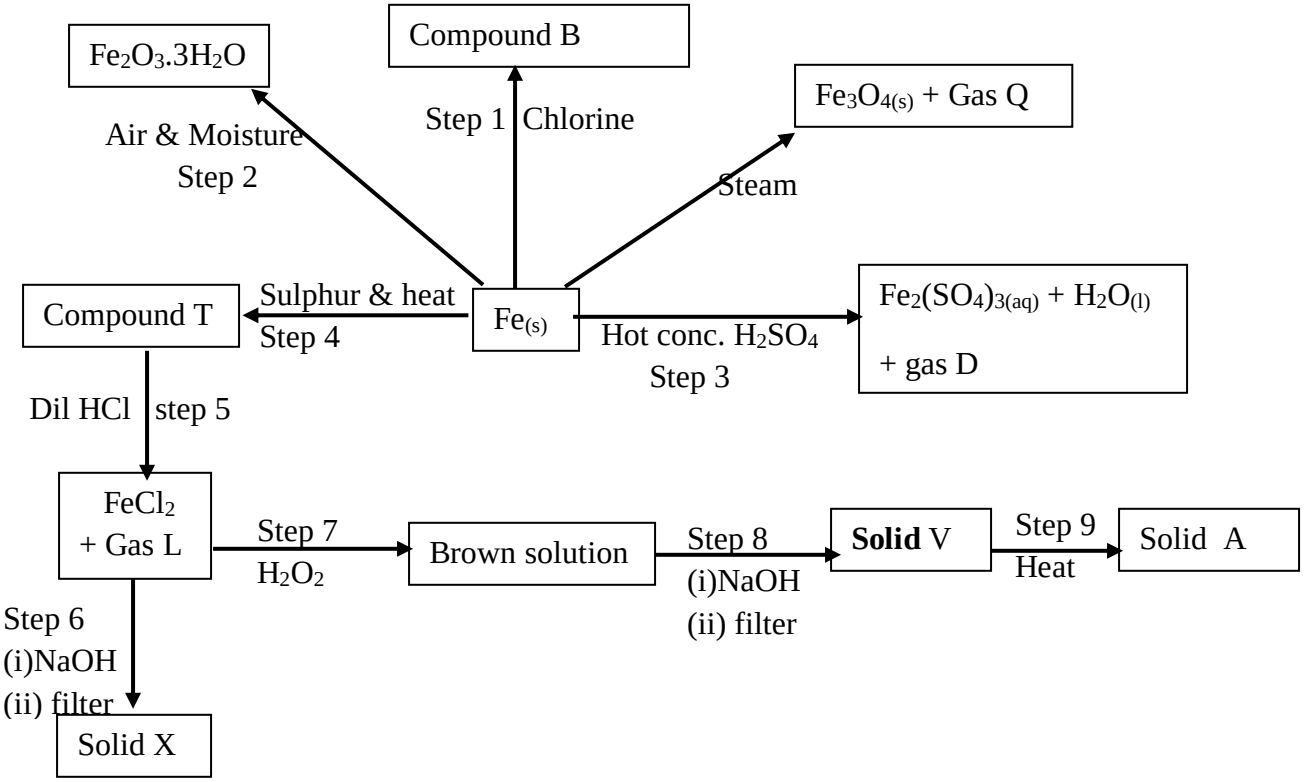
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ii) Give a reason for the answer given in c (i) above**.** **(1mark)**

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……

3. Study the flow chart below starting from iron metal.



(a) Name gases **(1½mk)**

D……

L……....

V…….....

(b) Identify the following substances. **(2 ½mk)**

(i) Compound B…….

(ii) Compound T…….

(iii) Solid A……..

(iv) Solid V……..

(v) Solid X…….....

c) What name is given to the reaction in step 2? **(½mk)**

……

d) State the colour of solid X **(½mk)**

…… …..

e) Write balanced equations for the reactions that occurred in:- **(2mks)**

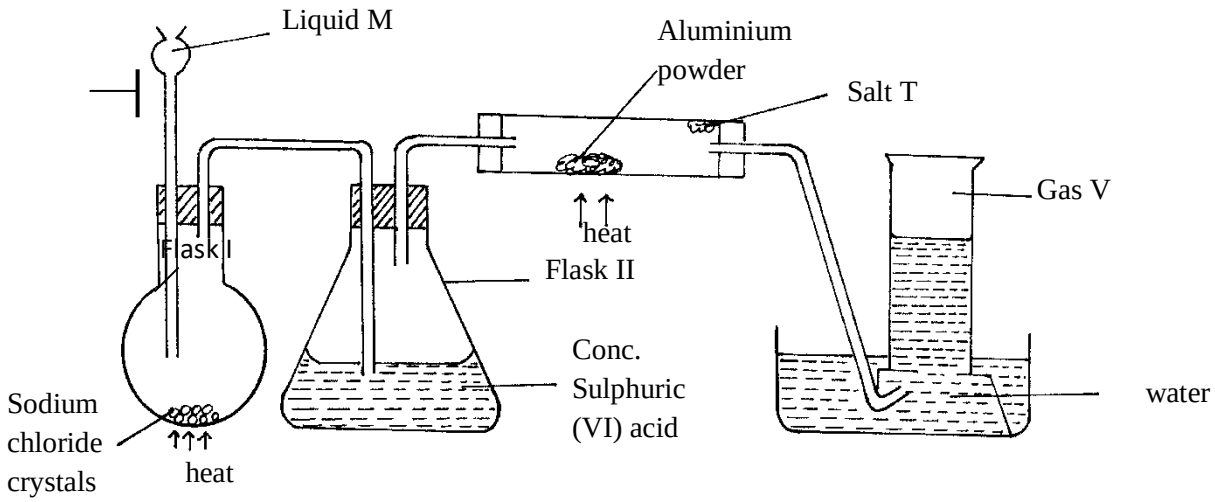
Step 1……...

Step 5……...

f) What property of hydrogen peroxide (H_2O_2) is indicated in step 7 of the flow chart? **(1mk)**

……..

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



a) I. Name the following

i) Liquid M **(½ mark)**

……

ii) Gas V **(½ mark)**

……

II. Write the formula of Salt T **(1mark)**

……

b) Write balanced chemical equations for reactions that occur at

i) Flask I **(1mark)**

……

ii) Combustion tube. **(1mark)**

……

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

……

d) Sulphuric (VI) acid is used as a drying agent in this experiment. Explain why calcium oxide is unsuitable for the same purpose in this reaction **(2marks)**

……

……

……

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

……

……

f) Calculate the mass of salt T formed if 480cm^3 of hydrogen chloride gas measured at r.t.p was reacted with aluminium powder. (Al=27, Cl = 35.5, MGV=24dm^3**)** **(2marks)**

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……

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

h) A solution of hydrogen chloride in methylbenzene does not react with carbonates. However, on adding water and then shaking the resulting mixture, there is vigorous effervescence. Explain the above observation. **(2marks)**

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……

i) Using equation, state the observation made when a gas jar containing hydrogen chloride gas is opened near an open bottle of liquid ammonia. **(1mark)**

……

……

5. Name each of the processes described below which takes place when salts are exposed to air for sometime.

(i) Anhydrous copper (II) sulphate becomes wet. **(1 mark)**

……..

(ii) Common table salt forms an aqueous solution **(1 mark)**

……..

(iii) Fresh crystals of sodium carbonate $Na_2CO_3.10H_20$ becomes covered with white powder of formula $Na_2CO_3.H_2O$ **(1mark)**

……..

(b)Write the formula of the complex ion formed in each of the reactions described below.

(i) Zinc metal dissolves in hot potassium hydroxide solution **(1mark)**

……..……

……..

(ii) Copper hydroxide dissolves in excess ammonia solution **(1mark)**

……..……

……..

(c) A hydrated salt has the following composition by mass. Iron 20.2%, Oxygen 23%, Sulphur 11.5% and water 45.3%. Its relative formula mass is 278. Determine the formula of the hydrated salt. (Fe = 56, S = 32, O = 16, H = 1) **(3marks)**

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(d) Describe how a solid sample of lead (II) chloride can be prepared using the following reagents:- dilute nitric acid, dilute hydrochloric acid and lead carbonate. **(3marks)**

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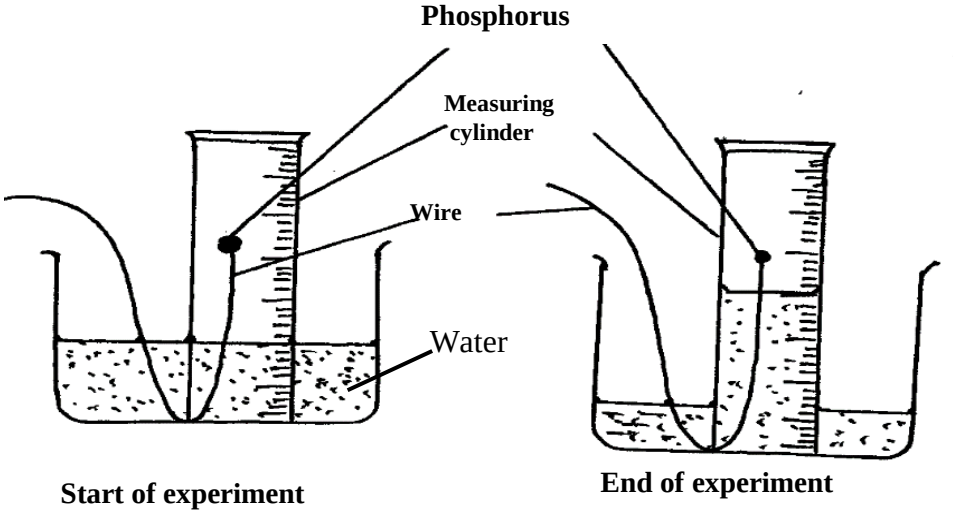
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6. A student set-up the apparatus shown below in order to determine the percentage by volume of oxygen in the air. Study it and answer the questions that follow.



(a)(i) State one observations made in the measuring cylinder at the **start** of the experiment.

Explain**.** **(2mks)**

……

……

……

(ii) The PH of the contents of the beaker at the end of the experiment was found to be 4.

Explain the observation. **(2marks)**

……

……

……

(iii) The volume of air in the measuring cylinder at the end f the experiment was measured.

study the data given below and answer the questions that follow.

-Volume of air at start of the experiment = 30.65 cm^3

-Volume of air at the end of the experiment = 24.28 cm^3

Determine the percentage volume of oxygen in the air. **(2marks)**

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(b)State and explain the observation made when a mixture of zinc powder and copper (II) oxide is heated in a crucible. **(2marks)**

……

……

……

(c) State **two** air pollutants produced by motor vehicles. **(1mark)**

……

……

(d) A group of students burnt a piece of magnesium ribbon in air and its ash collected in a Petri dish. The ash was found to comprise of magnesium Oxide and Magnesium nitride

(i) Write an equation for the reaction leading to formation of the magnesium nitride**. (1mk)**

……..

(ii) A little water was added to the products in the Petri dish. State and explain the observation made. **(2mks)**

……..……

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(iii) A piece of **blue** litmus paper was dipped into the solution formed in (b) above. State the observation made. **(1mk)**

……..

7(a) A compound has an empirical formula $\mathbf{C_3H_6O}$ and a relative formula mass of 116.

i) Determine its molecular formula. (H =1, C = 12, O =16) **(2 marks)**

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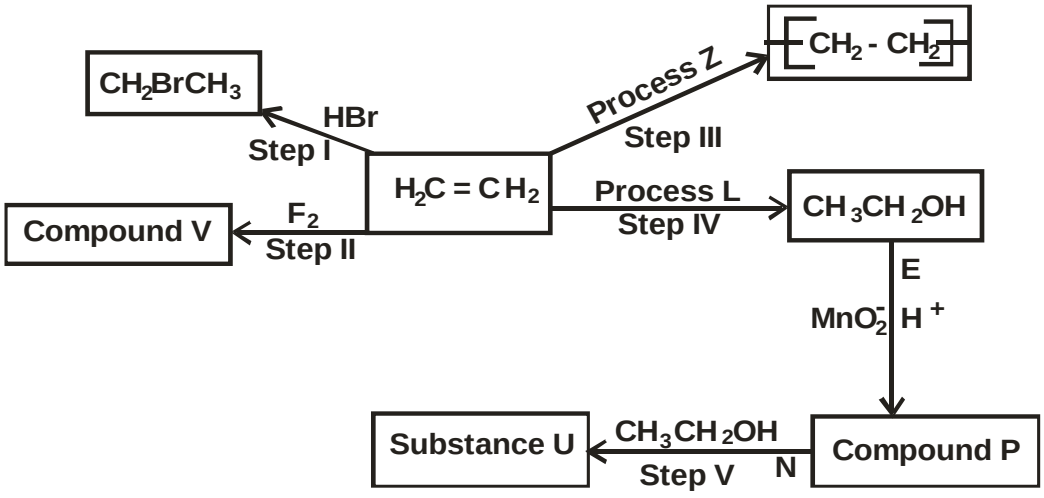
ii) Calculate the percentage composition of carbon by mass in the compound. (**1 mark)**

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



I. State the conditions for process in step V. **(1 mark)**

……..

II. Name the **reaction** represented by process.

i) Z **(1 mark)**

……..

ii) L **(1mark)**

……..

iii) E **1 mark)**

……..

iv) N **(1 mark)**

III. Draw and name the structure of the substance.

i) V **(1 mark)**

……..

ii) P **(1 mark)**

……..

iii) U **(1 mark)**

……..

KCSE 2024 JOINT MOCK EXAM

SERIES 2

233/3

CHEMISTRY

PAPER 3

TIME: 2¼ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

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

1. 0.3g Solid A weighed accurately and supplied in a stoppered container
2. A burette.
3. About 0.2g of solid sodium carbonate.
4. 250ml Plastic beaker.
5. A thermometer
6. Test tube holder
7. 70cm3 of solution B
8. Six dry test tubes in a test tube rack.
9. A metallic spatula.
10. 100 cm^3 of solution C
11. Stopwatch
12. One dry boiling tubes
13. About 500cm^3 distilled water supplied in a wash bottle.
14. Solid P. Aluminum chloride about 0.5g.
15. Liquid F. Absolute ethanol, about 3cm^3

16 250 ml volumetric flask.
17 2 conical flasks
18 1 pipette
19 pipette filler
20. Label

B Access to.

1. 2M sodium hydroxide solution with a dropper
2. 2M ammonia solution with a dropper
3. Barium nitrate solution. With a dropper
4. Bunsen burner
5. Acidified $KMnO_4$ solution with a dropper
6. Potassium iodide solution
7. Methyl orange indicator
8. Sodium sulphate solution.
9. Lead (II) nitrate solution.
10. Acidified potassium dichromate VI

NOTES:

1. Solid A accurately weighed **<u>magnesium powder</u>**
2. Aqueous barium nitrate prepared by dissolving 26.0g barium nitrate in 800cm^3 distilled water in 1litre volumetric flask then adding distilled water to the mark
3. Solution C, prepared by placing 15.9g of anhydrous sodium carbonate in 1 litre volumetric flask, adding 800 cm^3 distilled water and shaking to dissolve the solid then top up to the mark with distilled water.
4. Solution B, prepared by adding 172 cm^3 of concentrated hydrochloric acid of specific gravity of 1.18g/cm3 to 500cm^3 distilled water in a 1 litre volumetric flask then adding distilled water to the mark.
5. $KMnO_4$ solution is made by dissolving 1.58g in 400ml. of 2.0M H_2SO_4 then topping up with distilled water to one litre.

KCSE 2024 JOINT MOCK EXAM

SERIES 2

233/3

CHEMISTRY

PAPER 3 (PRACTICAL)

TIME: 2¼ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Write your name in the spaces provided above.*
- *Answer all the questions in the spaces provided*
- *All workings must be clearly shown where necessary*

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORES
1	20	
2	11	
3	09	
TOTAL SCORE	**40**	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. You are provided with:

- 0.30g solid A, magnesium metal
- Hydrochloric acid, solution B
- 0.15M sodium carbonate, solution C
- Methyl orange indicator

You are required to determine:

- The enthalpy change, ΔH per mole for the reaction between magnesium and excess hydrochloric acid.
- The concentration in moles per litre of hydrochloric acid, solution B.

PROCEDURE I

i. Using a burette, place 50.0cm³ of Solution B in a 100 ml plastic beaker.

ii. Measure the temperature of solution B after every 30 seconds. Record your readings in Table 1.

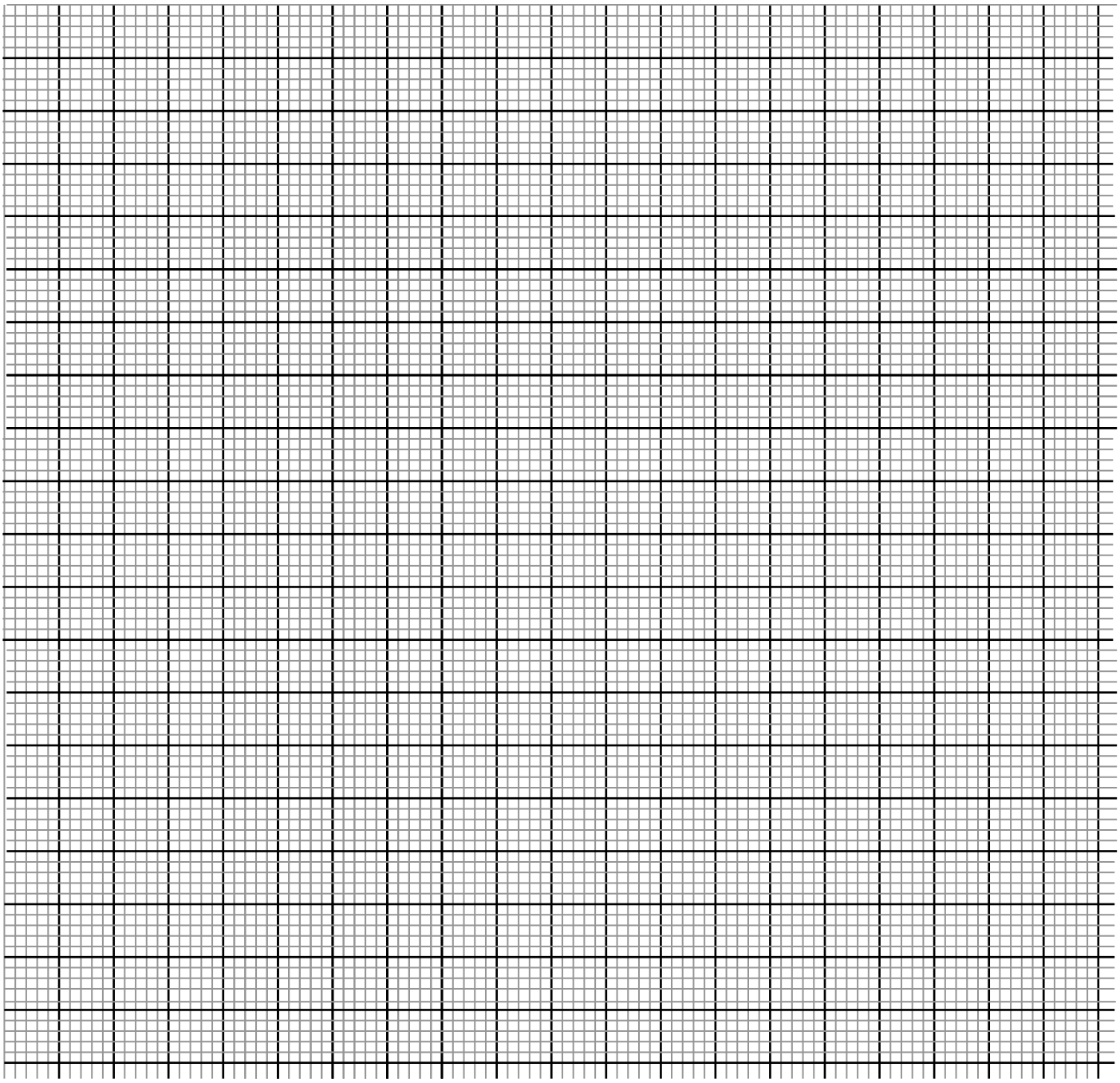
iii. At the 90th second, add **ALL** of solid A provided to the beaker, stir gently with the thermometer and continue measuring and recording the temperature after every 30 seconds. Complete Table 1. **Retain the content in the beaker for use in procedure II**.

Table 1

Time (S)	0	30	60	90	120	150	180	210	240	270
Temperature (°C)				X						

(3 marks)

a) On the grid provided, plot a graph of temperature (vertical axis) against time. **(3 marks)**



b) Determine the change in temperature, ΔT, for the complete reaction. Show the working on the graph.

ΔT=…… (1mark)

c) Calculate the heat change for the reaction. *(Assume density of solution =1.0g/cm ^{3}, specific capacity of the solution = 4.2 kJ g^{-1} K^{-1}).* **(1mark)**

……

……

d) The relative atomic mass of magnesium is 24.0. Calculate the enthalpy change, ΔH, for the reaction per mole of magnesium. **(1mark)**

……

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PROCEDURE II

i. Rinse the burette and fill it with 0.15M sodium carbonate, solution C.

ii. Transfer **ALL** the solutions in the beaker from procedure I into a 250ml volumetric flask. Rinse both the beaker and thermometer with distilled water and add the rinsing to the volumetric flask. Add more distilled water to the volumetric flask up to the mark. Label this as solution T.

iii. Pipette 25cm³ of solution T into a 250ml conical flask and add 2 drops of methyl orange indicator.

iv. Titrate solution T in the conical flask with the sodium carbonate, solution C and record the results in Table 2.

v. Repeat steps (iii) and (iv) and complete Table 2.

Table 2

Titre	1	2	3
Final burette reading (cm^3)			
Initial Burette reading (cm^3)			
Volume of solution C (cm^3)			

(4 marks)

a) Calculate the average volume of the 0.15M sodium carbonate, solution C used. **(1 mark)**

……

……

……

b) Calculate the number of moles of :

i.Sodium carbonate used. **(1 mark)**

……

……

……

ii. Hydrochloric acid in the 25.0 cm^3 of solution T. **(1 mark)**

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iii. Hydrochloric acid in the 250 cm^3 of solution T. **(1 mark)**

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iv. Hydrochloric acid that reacted with magnesium metal. **(1 mark)**

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v.Total number of moles of hydrochloric acid in the 50.0 cm^3, solution B. **(1 mark)**

……

……

……

c) Determine the concentration of hydrochloric acid in moles per litre, in solution B. **(1 mark)**

……

……

……

2. You are provided with solid P. Carry out the following tests and write your observation and inferences in the spaces provided.

Place all of the solid P in a boiling tube. Add about 10cm³ of distilled water and shake until all the solid dissolves. Divide the mixture into 6 portions

Observation	Inferences
(1 mark)	(½ mark)

a) To the first portion add 2 drops of sodium sulphate solution provided.

Observation	Inferences
(1 mark)	(1mark)

b) To the second portion, add 2M sodium hydroxide solution dropwise until in excess.

Observation	Inferences
(1mark)	(1mark)

c) To the third portion, add 2M ammonia solution dropwise until in excess.

Observation	Inferences
(1mark)	(½ mark)

d) To the fourth portion, add 2 - 3 drops of aqueous potassium iodide solution.

Observation	Inferences
(½ mark)	(½ mark)

e) To the fifth portion, add 2 - 3 drops of barium nitrate solution.

Observation	Inferences
(1mark)	(1mark)

f) To about 1cm³ of the solution in a test tube, add 2 - 3 drops of lead (II) nitrate solution.

Observation	Inferences
(½ mark)	(½ mark)

3. You are provided with liquid **F in** a boiling tube. Carry out the following tests. Write your observations and inferences in the spaces provided.

a) Place about 1cm^3 of liquid **F** on a watch glass. Introduce a burning splint above the solution on the watch glass.

Observation	**Inferences**
(1mark)	(1mark)

b) To the remaining liquid in the boiling tube, add about 10 cm3 of distilled water. Divide the mixture in to 3 portions.

Observation	**Inferences**
(1mark)	(½ mark)

(i) To the first portion in a test tube, add two drops of acidified potassium manganate (VII)

Observation	**Inferences**
(1mark)	(1mark)

ii) To the second portion in a test tube, add two drops of acidified potassium dichromate (VI)

Observation	**Inferences**
(1mark)	(1mark)

ii) To the 3rd portion of 2cm^3 of solution **F** add a spatula of sodium carbonate provided.

Observation	**Inferences**
(½ mark)	(1mark)

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

232/1

PHYSICS

PAPER 1 (THEORY)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS

- *Write your name, admission number and index number in the space provided*
- *Write the date of the examination in the space provided above*
- *This paper consists of two sections A and B.*
- *Answer all the questions in the spaces provided below each question*
- *All workings must be clearly shown.*
- *Mathematical tables and silent electronic calculators may be used.*

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
A	1-12	25	
B	13	13	
	14	11	
	15	12	
	16	10	
	17	9	
	TOTAL	**80**	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION A (25 MARKS)

Answer all the questions in this section in the spaces provided

1. The figure 1 below shows a section of a micrometer screw gauge when used to measure the diameter of a cylindrical rod of mass 2.5g.

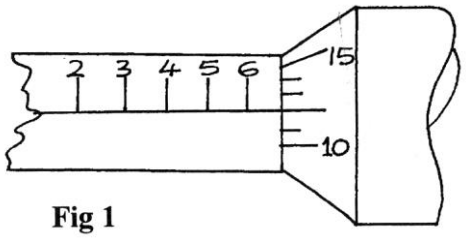


Fig 1

a) What is the diameter of the rod? **(1mark)**

b) If the length of the rod is 14cm, determine its density. **(3marks)**

2. The density of a solid decreases after heating. Explain. **(2marks)**

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3. When a drop of oil is placed on the surface of water it spreads out forming a circular patch. Explain this observation. **(2marks)**

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4. A uniform meter rule is balanced as shown in the figure 2 below.

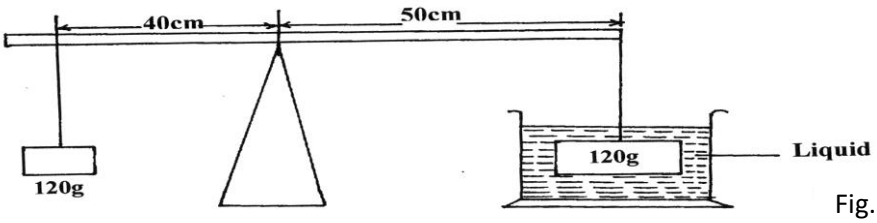


Fig.2

The volume of the immersed object is 13. 5cm^3. Determine the relative density of the liquid.

(3marks)

5. Give a reason why a person may nose bleed after ascending a high mountain. **(1mark)**

……

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6. A turntable of radius 10cm is rotating at 42 revolutions per second. Determine the linear speed of a point on the circumference of the turntable. **(3marks)**

7. Figure 3 below shows a glass filled with hot liquid placed on a table immediately after wiping with water. State and explain what is observed when one tries to lift the glass after a few minutes. **(2marks)**

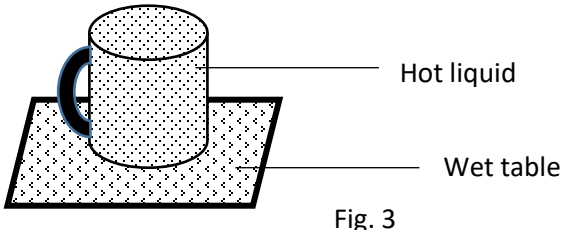


Fig. 3

8. In using the lift pump to raise water from a bore hole. It is observed that practically the height the water is raised cannot be 10m and more. Give two reasons for this observation. **(2marks)**

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9. When a mass of 2kg is hang from a single spring, the spring extends by a distance 10cm. Determine the total extension in the set up in Figure 4 below given that the springs are identical **(2marks)**

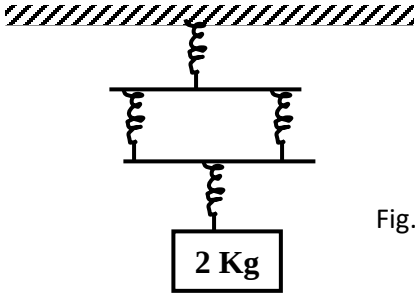


Fig. 4

10. Define the term viscosity. **(1mark)**

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11. State one reason why the efficiency of a machine is always less than 100% **(1mark)**

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12. State two factors that determine the critical speed for a car moving along a curved road. **(2marks)**

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SECTION B (55 MARKS)

Answer all the questions in this section in the spaces provided

13. (a) State the law of Floatation. **(1mark)**

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(b) A submarine made of iron was observed to float in water while a piece of iron rod sinks in water. Explain this observation **(2marks)**

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(c) A solid displaces 5.0cm^3 of liquid when floating and 20cm^3 when fully immersed in it. Given that the density of the solid is 1.2g/cm^3. Calculate

i) The weight of the solid **(2marks)**

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ii) Upthrust on the solid when floating **(1mark)**

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iii) The density of the liquid **(3marks)**

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iv) The upthrust when the body is fully submerged **(3marks)**

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(d) Define the term relative density as used in liquids **(1mark)**

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14. **(a)** Define specific latent heat of fusion of a substance **(1mark)**

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(b) Water of mass 400g at a temperature of 60^{o}C is put in a well lagged copper calorimeter of mass 160g. A piece of ice at 0^{o}C and mass 40g is placed in the calorimeter and the mixture stirred gently until all the ice melts. The final temperature, T, of the mixture is then measured. (*Specific latent heat of fusion of ice = 334000J/kg, specific heat capacity of water = 4200J/kgK specific heat capacity of copper = 400J/kgK*)

Determine:

(i) The heat absorbed by the ice during melting. **(2marks)**

(ii) Total heat gained by the melted ice (*Give your answer in terms of T*) **(2marks)**

(iii) Total Heat lost by the water and Calorimeter **(3marks)**

(iv) The final temperature T of the mixture. **(2marks)**

c) Figure 5 below shows a block of ice with two heavy weights hanging such that the copper wire connecting them passes over the block of ice block resting on wooden support.

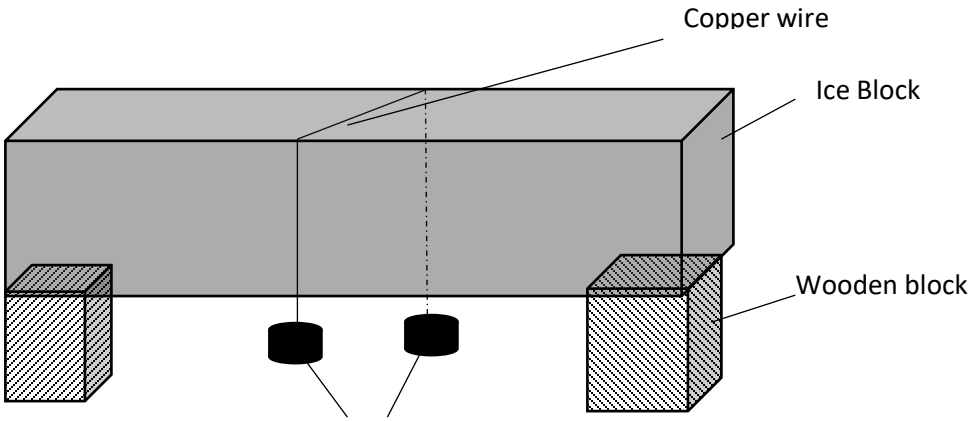


Fig. 5

It is observed that the wire gradually cuts its way through the ice block, but the ice is left as one piece. State the factor behind the observation. **(1mark)**

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15. (a) (i)Define the Impulsive force in terms of momentum. **(1mark)**

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(ii) A striker kicks a ball of mass 250g initially at rest with a force of 75N. If the foot was in contact with the ball for 0.10sec. Calculate the take-off velocity of the ball. **(3marks)**

(b) A bullet of mass 20g moving at 400 m/s strikes a block of wood of mass 3.5kg initially at rest. The bullet sticks into the block and the two move off together on a horizontal surface, where a frictional force of 4N is acting between the block and surface.

(i) Determine the initial common velocity of bullet and wooden block. **(3marks)**

(ii) What distance does the block move before coming to rest? **(3marks)**

(c) Explain why a paratrooper flexes his legs as he lands**.** **(2marks)**

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16. The figure 6 **below** shows an inclined plane, a trolley of mass 30kg is pulled up a slope by a force of 100N, parallel to the slope. The trolley moves so that the centre of mass C travels from points A to B.

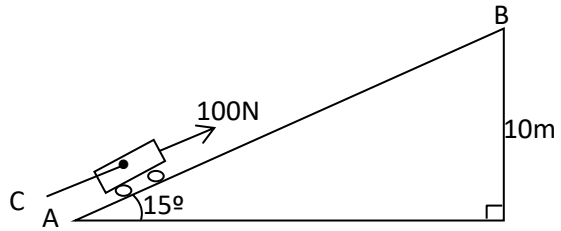


Fig. 6

(i) What is the work done on the trolley against the gravitational force in moving from **A** to **B**.?

(2marks)

(ii) Determine the work done by the force in moving the trolley from **A** to **B**. **(2marks)**

(iii) Determine the efficiency of the system. **(3marks)**

(iv) Determine the work done in overcoming the frictional force. **(1mark)**

(v) Determine the mechanical advantage of the system. **(2marks)**

17. Figure 7 below shows a trolley moving on a circular rail with a vertical plane, given that the mass of the trolley is 250g and the radius of the rail is 1.6m.

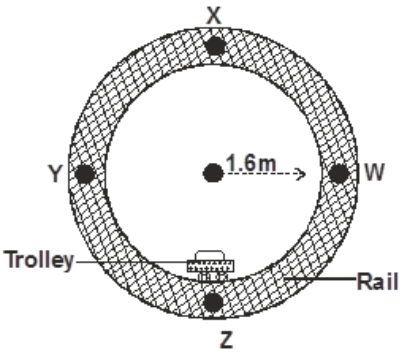


Fig. 7

i) Determine the minimum velocity at which trolley passes point X. **(3marks)**

ii) Find the angular velocity at point Z **(2marks)**

iii) The force exerted on the rail at this point Z. **(3marks)**

iv) State one application of circular motion in daily life. **(1mark)**

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

232/2

PHYSICS

PAPER 2

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES

- *Write your name, class and admission number in the spaces provided above*
- *Attempt **ALL** questions in sections A and B.*
- *All your answers must be written in the spaces provided in this question paper.*
- *All working must be clearly shown*
- *Non programmable silent electronic calculators and KNEC mathematics table may be used except where stated otherwise*

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 13	25	
B	14	10	
	15	12	
	16	12	
	17	07	
	18	08	
	19	06	
	TOTAL MARKS	80	

SECTION A (25 MARKS)

Answer ALL questions in this sections in the spaces provided.

1. The figure 1 below shows a positively charged metal plate with an earthing connection. Using an arrow to show the direction of charges through the earth connection and explain the final charge of the plate. **(2marks)**

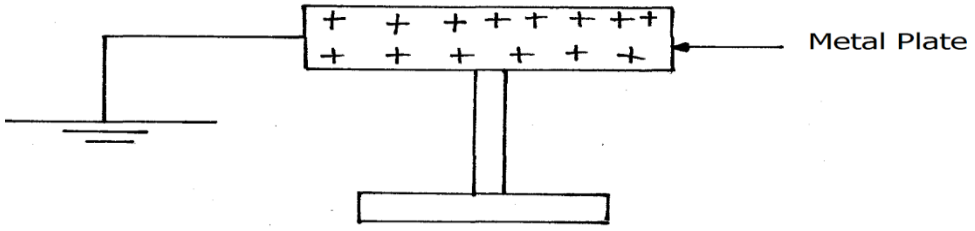


Fig. 1

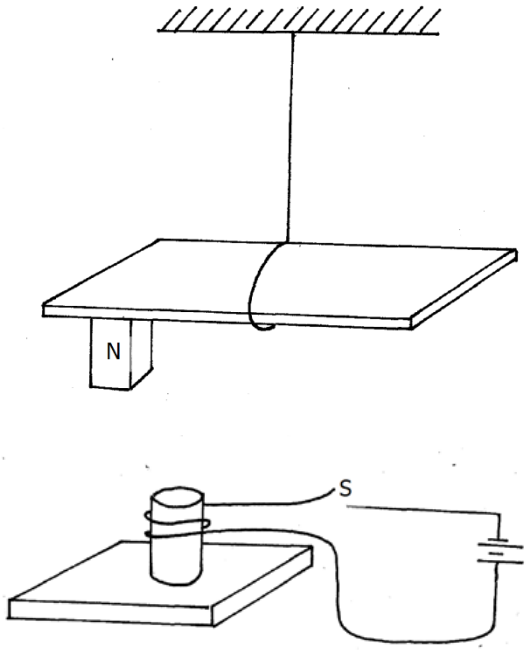
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2. Figure 2 below shows a metre rule in equilibrium balanced by the magnet. The iron core is fixed to the bench



State and explain the effect on the metre rule when the switch S is closed. **(2marks)**

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3. State **two** factors affecting the type of shadow formed by an object placed infront of a source of light. **(2marks)**

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4. Distinguish between intrinsic and extrinsic semi – conductors. **(1mark)**

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5. Figure 3 shows a galvanometer connected to a coil with a south pole of a permanent magnet approaching the coil.

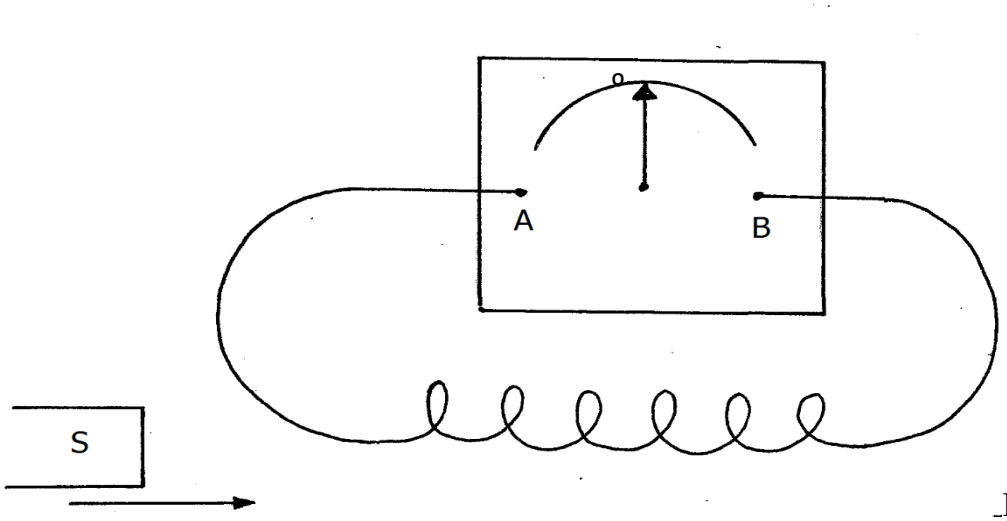


Fig. 3

Indicate the direction of the pointer on the galvanometer when the bar magnet is moved as shown. **(1mark)**

6. What are the characteristics of the image formed when;

a) An object is placed beyond the centre of curvature of a concave mirror? **(1mark)**

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b) An object is placed between the principal focus and the pole of a concave mirror? **(1mark)**

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7. a) A coin is placed beneath a transparent block of thickness 10cm and refractive index 1.50. Calculate the vertical displacement of the coin. **(3marks)**

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b) Kenya launched the use of optical fibres in communication recently. State why optical fibres are preferred to ordinary cables. **(1mark)**

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8. A radiation of frequency 8.5×10^{14} Hz is incident on a metal emitting photoelectrons. Determine the threshold wavelength if electrons accelerate to the anode at a velocity of 7.2×10^{5} m/s **(3marks)**

(Planck's constant $= 6.63 \times 10^{-34}$ Js, $m_e = 9.11 \times 10^{-31}$ Kg)

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9. Figure 4 shows an electromagnet in an electric circuit.

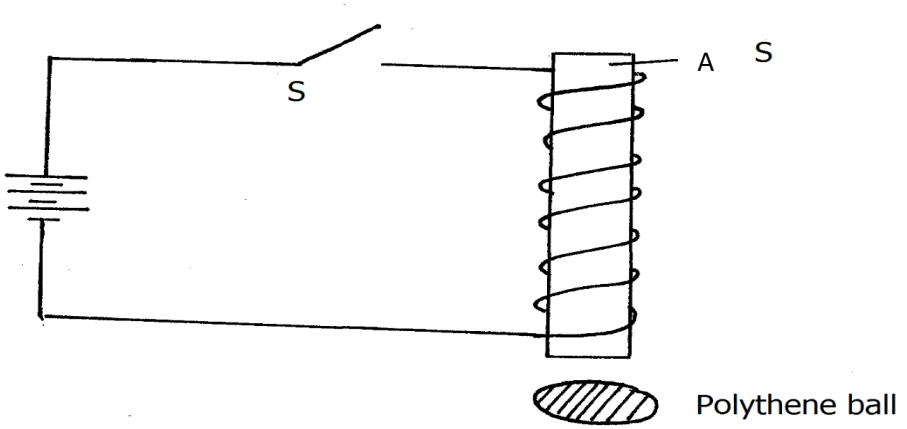


Fig 4

a) State what happens to the polythene ball when the switch S is closed. **(1mark)**

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b) Why soft iron is preferred for material A than steel? **(1mark)**

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10. Explain why the cathode of a CRO is coated with oxides of metals such as barium and strontium. **(1mark)**

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11. Distinguish between hard and soft X – rays. **(2marks)**

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12. Figures 5 shows a simple water heater.

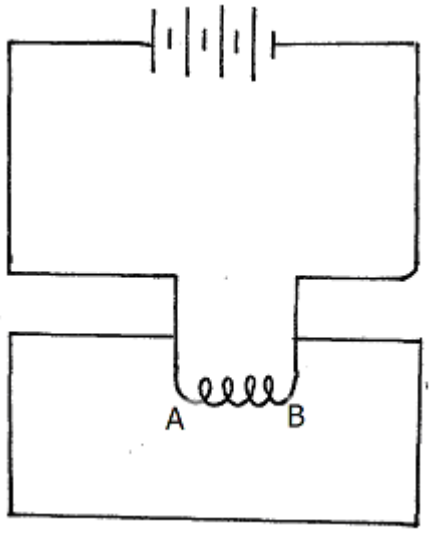


Fig 5

Give a reason why AB is coiled. **(1mark)**

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13. Arrange the following radiations in order increasing wavelength:

Ultra violet, microwaves, blue light, yellow light. **(2mk)**

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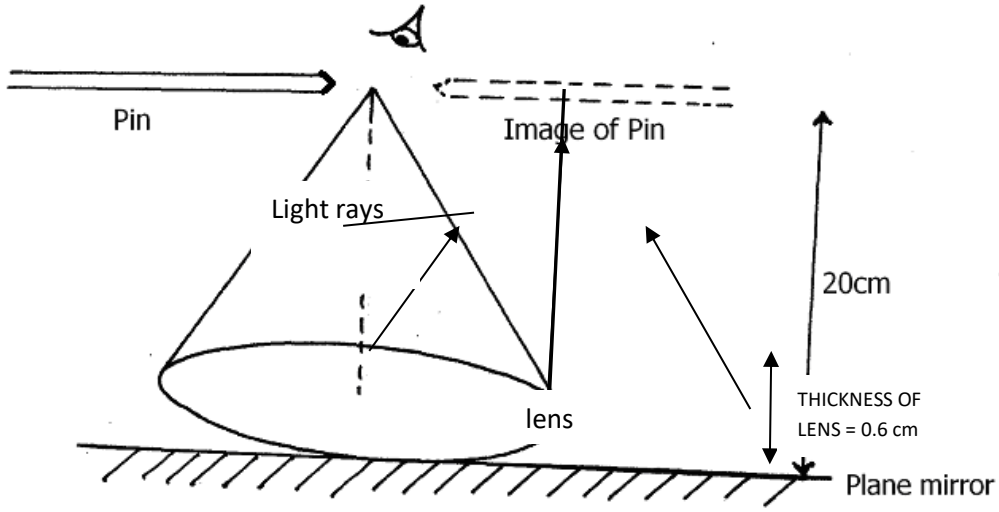
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SECTION B (55 MARKS)

Answer ALL the questions in the spaces provided.

14.a) Some students wish to determine the focal length of a convex lens of thickness 0.6cm using an optical pin and a plane mirror. Figure 6 shows the experimental set up when there is no parallax between the pin and the image.



(i) Determine the focal length of the lens. **(1mark)**

(ii) Explain how you arrive at your answer. **(2marks)**

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b) An optician in Eldoret Hospital examined an eye of a patient and made the following observations:

Eye ball too small and the focal length of the eye lens too short.

(i) State the eye defect the patient could be having. **(1mark)**

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(ii) Use a diagram to describe how the defect could be corrected. **(2marks)**

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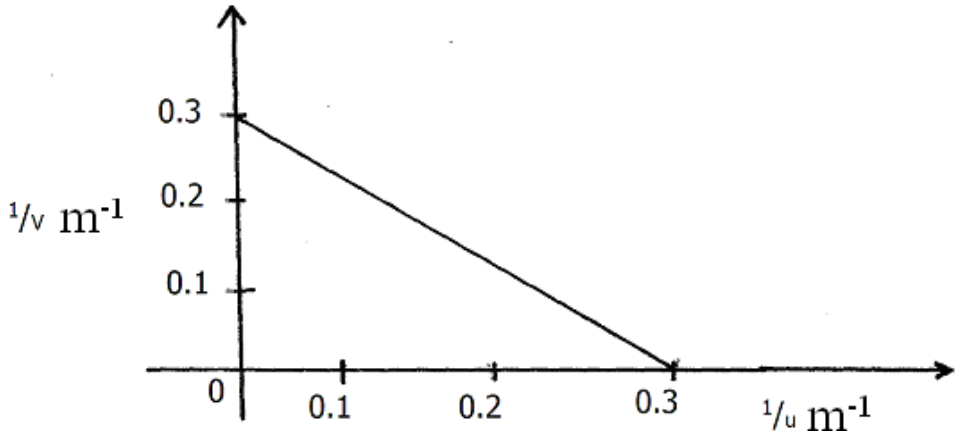
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c) The graph below shows the variation of 1/v and 1/u in an experiment to determine the focal length of a lens.



(i) Use the graph to determine the focal length. **(3marks)**

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(ii) What is the power of the lens used? **(1mark)**

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15.a) Define electric resistance. **(1mark)**

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b) Figure 7. shows three resistors connected as shown.

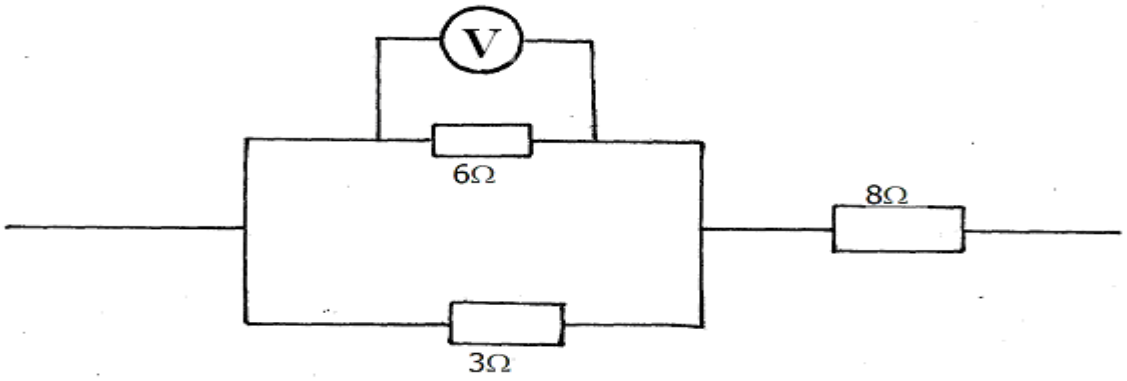


Fig 7

If the voltmeter reads 4V, find the

(i) Effective resistance. **(2marks)**

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(ii) Current through the 3Ω resistor. **(2marks)**

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(iii) Potential difference across the 8Ω resistor. **(2marks)**

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c)i) What is meant by the term "lost volts"? **(1mark)**

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ii) A cell supplies a current of 0.5A when connected to a 2Ω resistor and 0.25A when connected to a 5Ω resistor.

Find the e.m.f and the internal resistance of the cell. **(4marks)**

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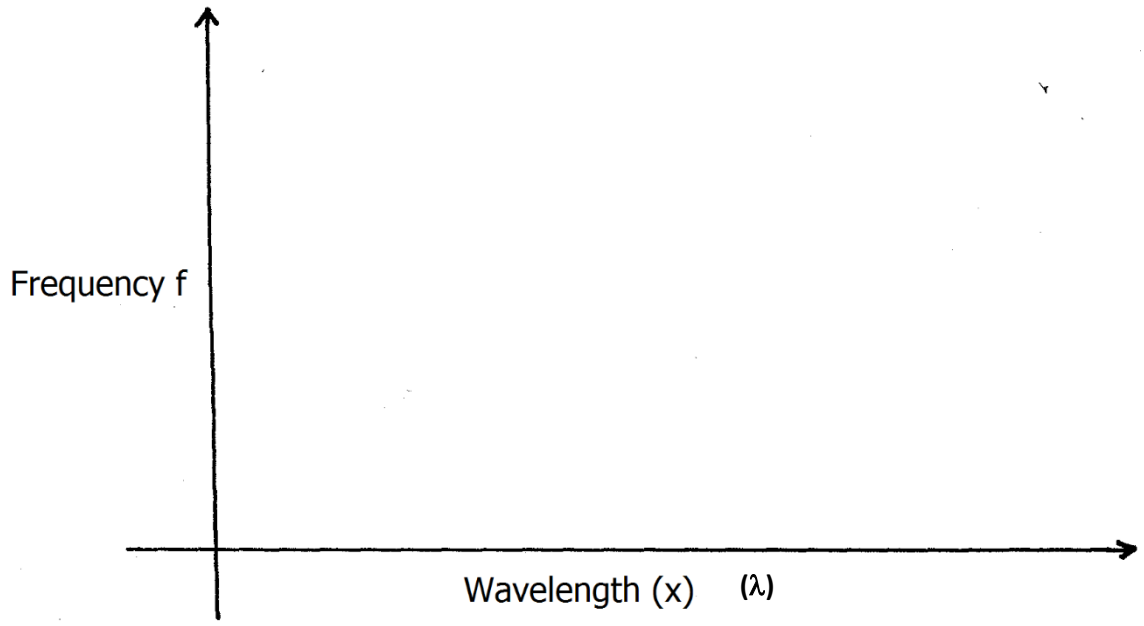
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16.a) On the axes provided below, sketch a graph showing the variation of frequency with wavelength at constant velocity. **(1mark)**



b)Tv waves of frequency 6MHz travels with a speed of 3.0 x 10^8 m/s.

What is the wavelength ?. **(2marks)**

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c) Figure 8. shows circular waves approaching a concave reflector.

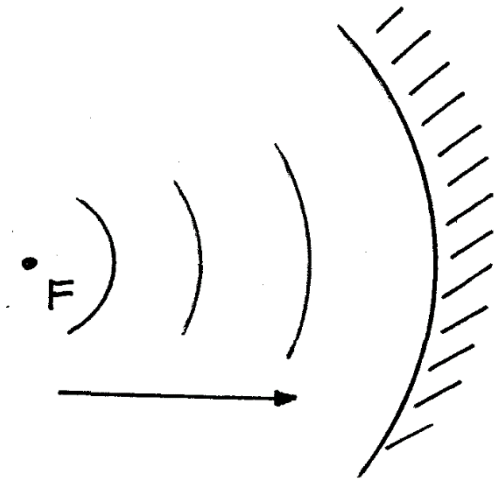


Fig. 8

Show the reflected waves and the missing part of incident wave **(2marks)**

d) State **two** conditions necessary for two progressive waves traveling in opposite directions to form stationary waves. **(2marks)**

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e) Figure 9 shows the set up used to demonstrate interference of sound.

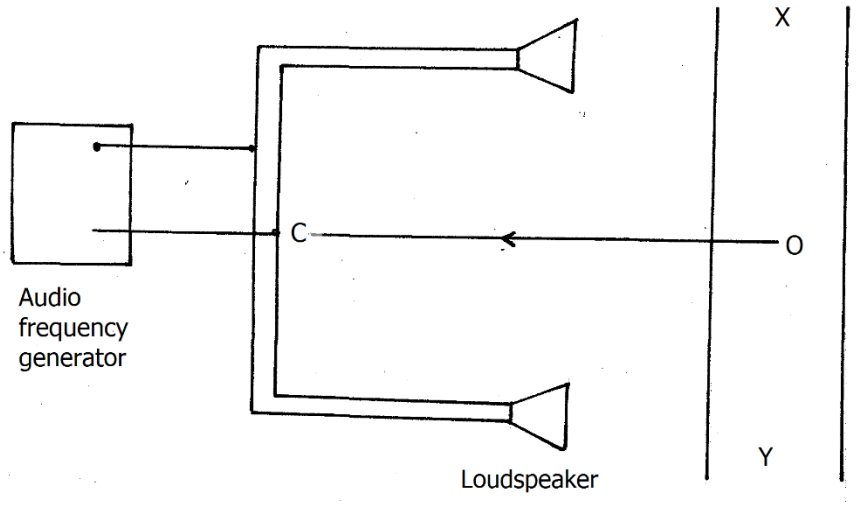


Fig 9

(i) An observer O, moves along XY.

State the observation(s) made. **(1mark)**

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(ii) State what would be observed if a cathode ray oscilloscope is moved along line XY **(2marks)**

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(iii) What will a student hear if he moves along the line OC? **(1mark)**

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(iv) Why are the loudspeakers connected to the same audio – frequency generator? **(1mark)**

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17.a) State **one** factor that affects the capacitance of a capacitor. **mark)**

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b) Figure 10. shows a circuit diagram with three capacitors.

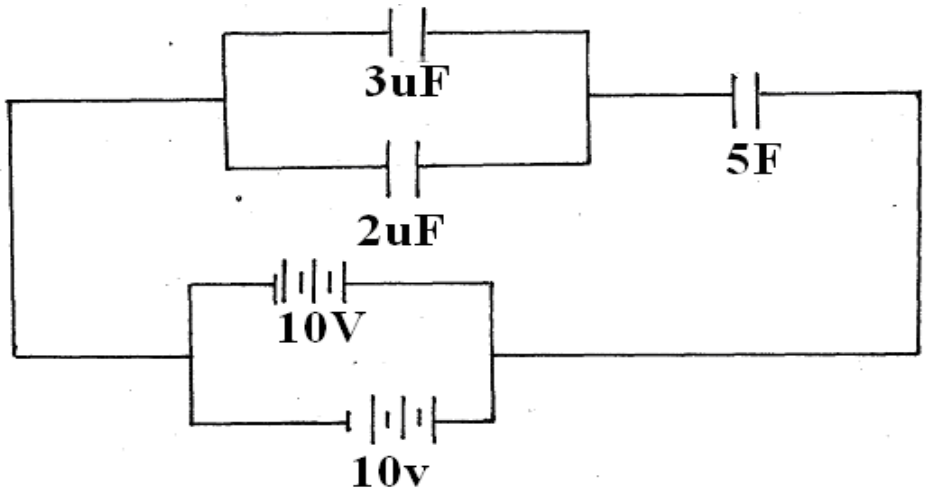


fig 10

(i) Determine the effective capacitance of the arrangement. **(2marks)**

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(ii) Find the energy stored in the combinations of capacitors. **(3marks)**

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c) Explain why it is not advisable to shelter under a tree when it is raining. **(1mark)**

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18 a) State **two** dangers of high voltage transmission. **(2marks)**

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b) A generator produces 150KW at a voltage of 5 kV. The voltage is stepped up to 60kV and transmitted through cables of resistance 150Ω to a step – down transformer in a substation. If both transformers are 80% efficient,

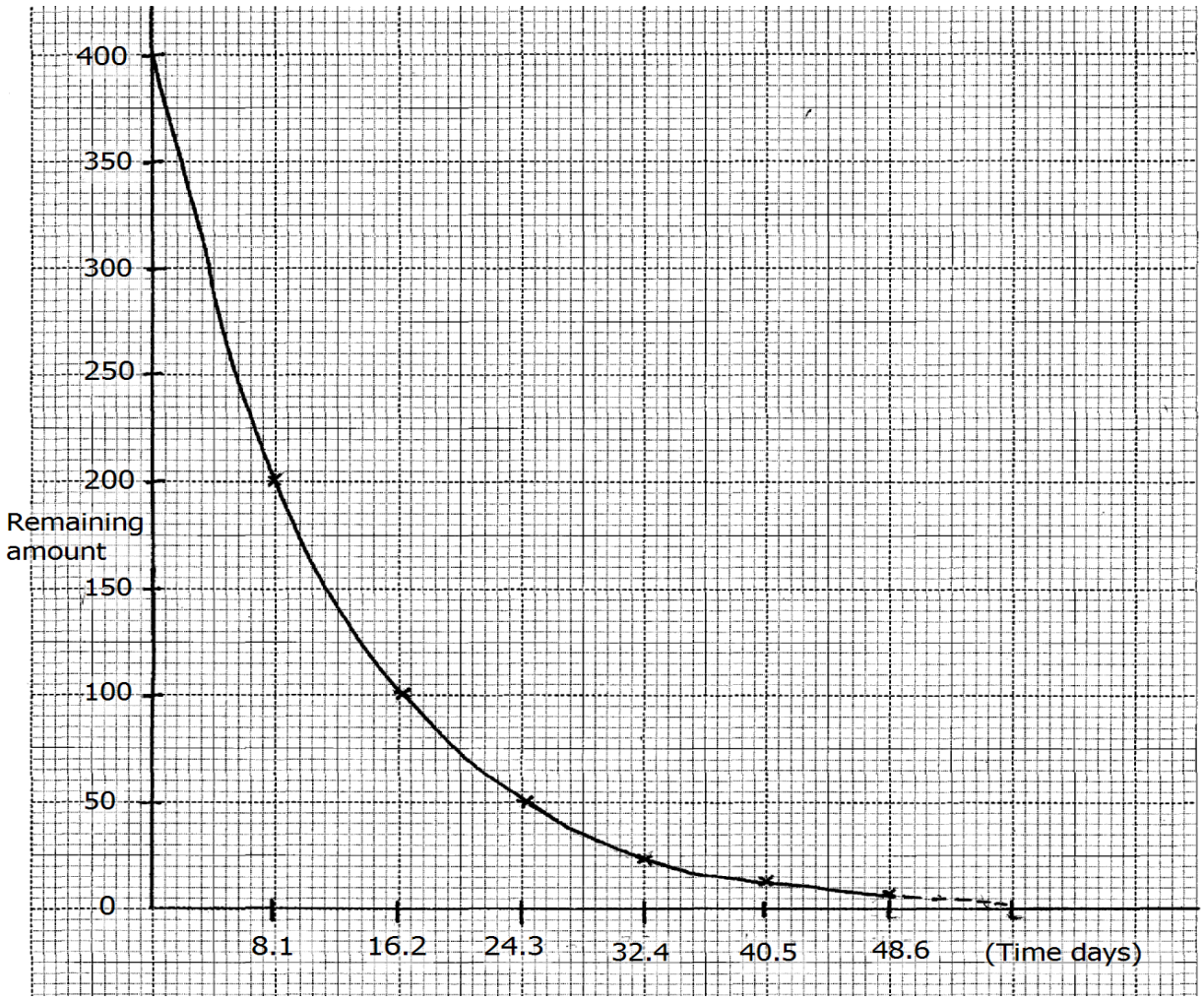
Calculate the:-

(i) Current through the transmission cables. **(3marks)**

(ii) Power lost during transmission. **(3marks)**

19.a) The half – life of cobalt – 60 is 5years.How long will a sample take for the activity to decrease to $^{1}/_{16}$ of its original value. **(3marks)**

b) The graph below shows radioactive decay of iodine.



Use the graph to determine the:-

(i) fraction of the amount remaining after 16.2 days. **(1marks)**

(ii) determine the half – life of iodine. **(1marks)**

(iii) mass remaining after 17 days. **(1mark)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

232/3

PHYSICS

PAPER 3

TIME: 2½ HOURS

SCHOOL…… **SIGN……**

(Kenya Certificate of Secondary Education)

CONFIDENTIAL

Each candidate should be provided with the following

QUESTION 1

- Resistance wire fitted on a scale labeled MN (SW 28)
- Switch
- Voltmeter (0-3v) or(0-5v)
- Ammeter (0-2.5A)OR (0-3 A)
- Two dry cells
- Six connecting wires at least 4 with crocodile clips

QUESTION 2

- A concave mirror Focal length 15 cm
- Mirror holder.
- A screen
- A meter rule
- A candle
- A match box (to be shared)
- a boiling tube
- a measuring cylinder (50ml)
- a half metre rule
- water in a beaker about 100ml
- a stand complete with boss and clamp
- vernier callipers (may be shared)

KCSE 2024 JOINT MOCK EXAM

SERIES 2

232/3

PHYSICS

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

INSTRUCTIONS TO CANDIDATES:-

- *Write your **name**, **index number** and **school** in the spaces provided above.*
- *Answer **all** the questions in the spaces provided in the question paper*
- *You are supposed to spend the first **15 minutes** of 2 ½ hours reading the whole paper carefully before commencing your work.*
- *Marks are given for a clear record of the observations actually made, their suitability, accuracy and the use of them*
- *Record your observations as soon as you make them.*
- *Mathematical tables, slide rules and silent non-programmable electronic calculators may be used.*
- *Take $g = 10ms^{-2}$*

For Examiners' Use Only:

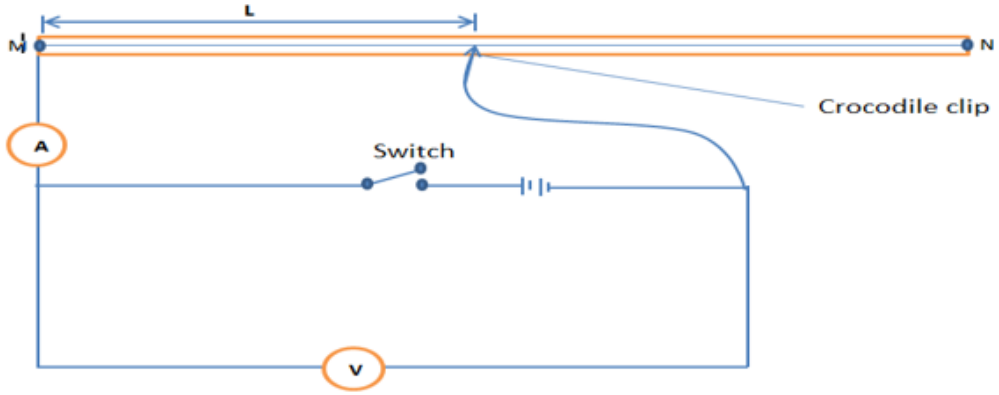
QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
1	20	
2	20	
TOTAL SCORE	**40**	

QUESTION 1

a) You are provided with the following apparatus:

- Resistance wire fitted on a millimeter scale labeled MN
- Switch
- Voltmeter (0-3v) or(0-5v)
- Ammeter (0-2.5) or(0-3)
- Two dry cells
- Six connecting wires

i) Set up the apparatus as shown in the fig 1 below.



ii) Remove the crocodile clip from the resistance wire MN and close the switch. Record the voltmeter reading.

V_0=……V (1mk)

iii) Attach the crocodile clip to the resistance wire such that L=0.

Read and record the ammeter reading at L=0

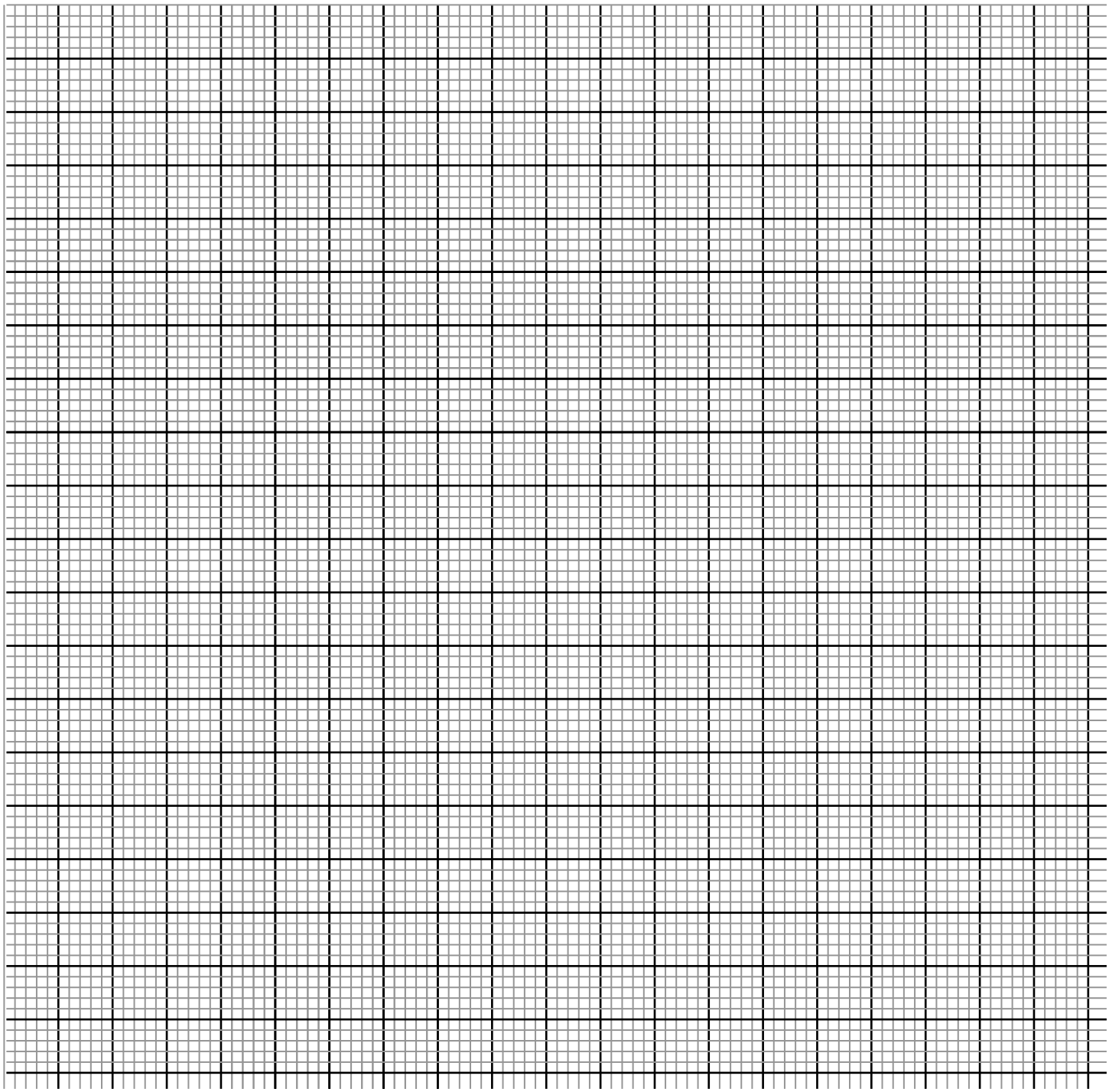
I_0=……..A **(1mk)**

iv) Repeat the procedure in (iii) and for L=10cm, 20 cm, 30 cm, 40 cm, 50cm, 60 cm, 70cm and 80 cm and record the voltmeter and ammeter reading in the table below.

v) Complete the table below. **(7marks)**

Length L(cm)	10	20	30	40	50	60	70	80
Current I(A)								
p.d V(V)								
V_0-V								
$\frac{V}{V0-V}$								
$\frac{V}{I}$ = R (Ω)								

vi) a) Plot the graph of $\frac{V}{V0-V}$, vertical axis against R **(5marks)**



b) Determine the slope of the graph **(3marks)**

c) Given that $\frac{V}{V0-V} = \frac{MR}{5} + d$

Where M and d are constants, Determine the values of M and d from the graph. **(3marks)**

QUESTION 2

PART A

You are provided with the following.

- A concave mirror
- A mirror holder.
- A screen
- A meter rule
- A candle
- A match box (to be shared)

Proceed as follows:

a. i) Using the concave mirror provided focus a sharp image of a distant object (a laboratory window) on the screen. Measure the distance (X) between the mirror and the screen at which a sharp image is obtained repeat this three times, and record your readings in the table below **3marks**

TRIAL	Distance(X) (cm)
1	
2	
3	

ii) Calculate the average value of X. **(2 marks)**

iii) What is the physical significance of the result obtained in (ii) above? **(1 mark)**

b) Set up the apparatus as in figure 2 below.

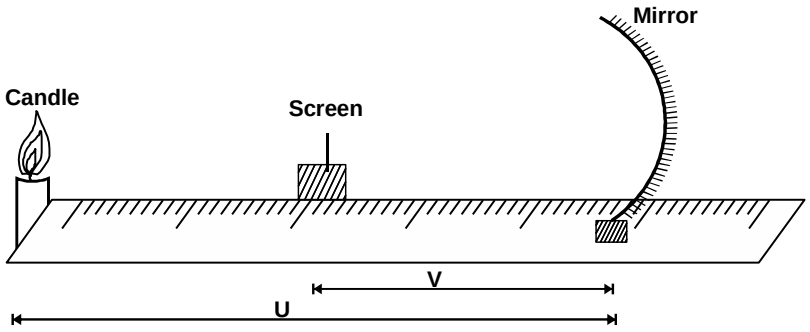


Fig 2

c) Put the object at a distance u = 30cm and from the concave mirror. Adjust the position of the screen until a sharp image is formed on the screen. Record the distance V

d) Repeat procedure (c) above for the distance u = 40cm and record the new distance V, in the table below

e) complete the table below. **3marks**

U(cm)	V (cm)	m =V/U	(m + 1)
30			
40			

f) Given that $f = \frac{v}{(m+1)}$, calculate the values of f in each case; **(3 marks)**

`

2 PART B

You are provided with the following :

- a boiling tube
- a measuring cylinder
- a half metre rule
- water in a container
- a stand complete with boss and clamp
- vernier callipers (may be shared)

Proceed as follows:

a) i) Using the vernier callipers measure the internal diameter,(d),of the boiling tube provided

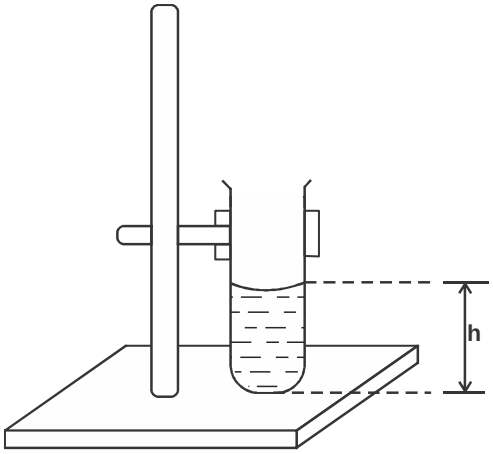
d =..... cm **(1/2 mark)**

ii) Using the half meter rule measure the height of the boiling tube provided

h=……cm **(1/2 mark)**

iii) Calculate the volume of boiling tube **(2marks)**

b) i) Clamp the boiling tube vertically as shown in the figure 1 below.



Using the measuring cylinder pour 25cm^3 of water into the boiling tube. Measure and record in the table below the height h, of water in the boiling tube.

iii) Repeat the procedure in b (ii) for other volumes of water, V, shown in the table.

3marks

Volume, **V**, of water (cm^3)	Height, **h**, of water (cm)	S =**V/h**
25		
35		
45		

iv) Calculate the average value of **S** and state what it represents **2marks**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

Instructions to students

a) *Write your name and Admission number in the spaces provided at the top of this page*

b) *This paper consists of three sections: A , B and C*

c) *Answer all questions in sections A and B*

d) *Answer any two questions in section C*

e) *All answers should be written in the spaces provided*

f) *Candidate should answer the questions in English*

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
A	1-21	30	
B	22-25	20	
C		20	
		20	
	TOTAL SCORE	**90**	

SECTION A (30 MARKS)

Answer all questions in this section on the spaces provided

1. Suggest **three** factors that determine the choice of a method of farming **(1½ marks)**

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……

2. Outline **three** effects of soil organisms which benefit crop growth **(1½ marks)**

……

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3. State the soil component that determines **(1mark)**

Soil Structure class

……

Soil Structure grade

……

4. State **four** effects of hard pans in the soil **(2 marks)**

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5. State **four** factors that determine the number of secondary operations carried out on land in the formation of a seedbed **(2marks)**

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6. State **four** factors that are hinder access of enough and clean water to most Kenyans communities **(2marks)**

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7. Name **three** causes of water logging in arable land **(1½ marks)**

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8. What is the difference between compost manure prepared in drier areas and one prepared in wet areas? **(1 mark)**

……

……

……

9. State **two** methods used to test the PH of the soil **(1 mark)**

……

……

10. Differentiate between stem and root tubers **(1 mark)**

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11. The average spacing of Arabica coffee is 2.7 m by 2.7 m. Calculate the plant population in one hectare (1Ha) of land (***Show your working***) **(2marks)**

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……

……

12. State any **two** practices carried out during hardening of seedlings in the production of tomatoes **(1mark)**

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……

13. Name the **three** types of suckers that are supposed to be left in each banana stool after removal or pruning of the extra suckers. **(1½ marks)**

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14. State **four** types of information contained in a land title deed **(2 marks)**

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15. Explain **two** ways in which grass strips help to conserve the soil **(1 mark)**

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16. State **four** disadvantages of tillage as a method of weed control **(2 marks)**

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17. Explain the difference between pests economic injury level and integrated pest management **(1mark)**

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18. Name the **three** grades of coffee obtained after sorting out the picked berries **(1½ marks)**

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19. What is topping in pasture management **(½ mark)**

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20. State **three** ways in which labour productivity can be improved **(1½ marks)**

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21. State **three** roles of agricultural co-operatives in Kenya **(1½ marks)**

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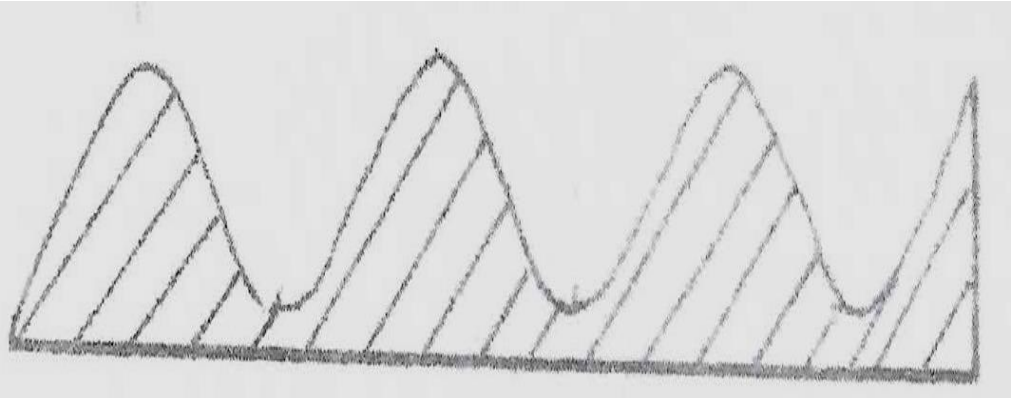
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SECTION B (20 Marks)

Answer ALL questions in this section on the spaces provided

22. Below is a diagram of a tertiary land operation. Study it and answer the questions that follow



a) Name the tertiary land operation **(1 mark)**

……

b) Explain the process of performing the tertiary land operation **(1 mark)**

……

……..

c) Name the tractor implement that can be used to achieve the operation **(1 mark)**

……..

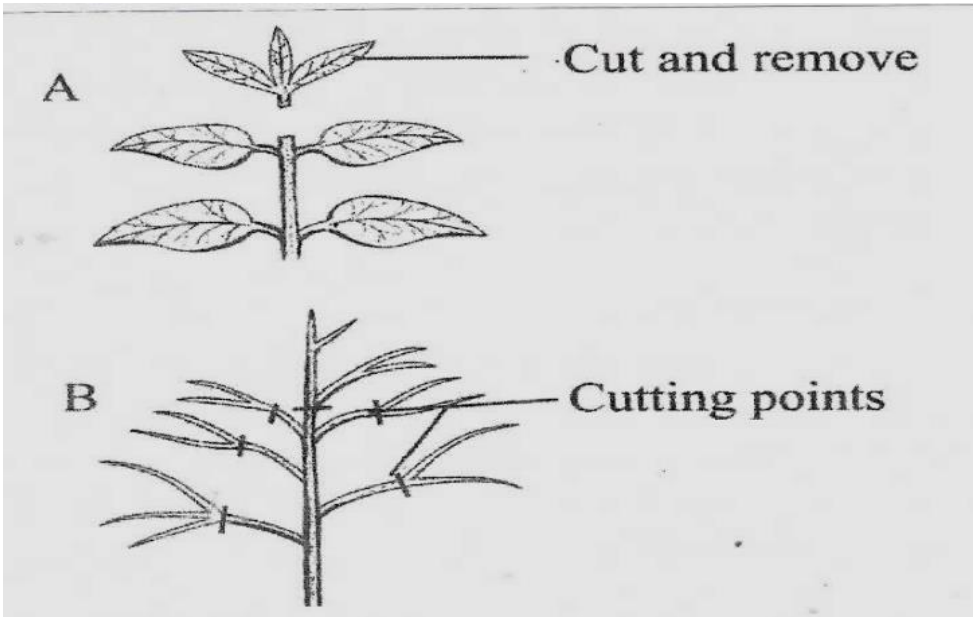
d) State the importance of carrying out the tertiary operation **(2 marks)**

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……

23. Below are diagrams of two methods of pruning. Study them carefully and answer the questions that follow.



i. Identify the pruning methods shown below **(2 marks)**

Method A …….

Method B ……..

ii. When would it be necessary to carry out the type of pruning illustrated in both cases(**2 marks)**

Method A ……..

……

Method B ……..

……..

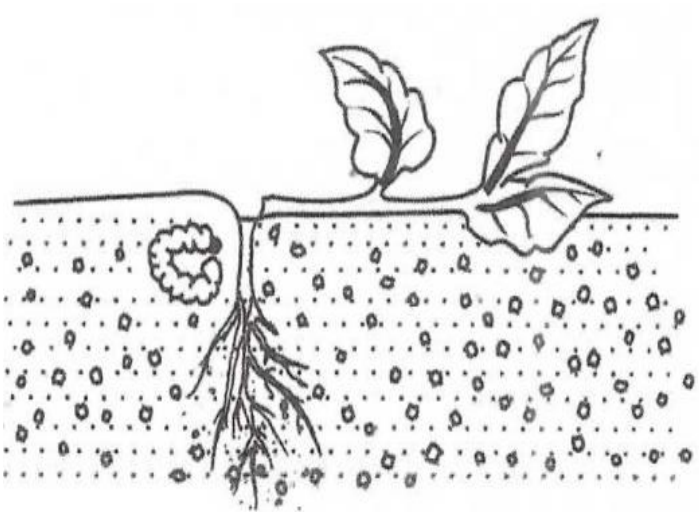
iii. Give **two** advantages of carrying method of pruning in tomatoes **(1mark)**

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24. Below is a diagram of a cabbage pest. Study it carefully and answer the questions that follow



a) Identify the cabbage pest shown above **(1 mark)**

……

b) In which category of pests does the pest you named in (a) above belong **(1mark)**

…….....

c) What kind of mouth part does the pest named in (a) above possess? **(1 mark)**

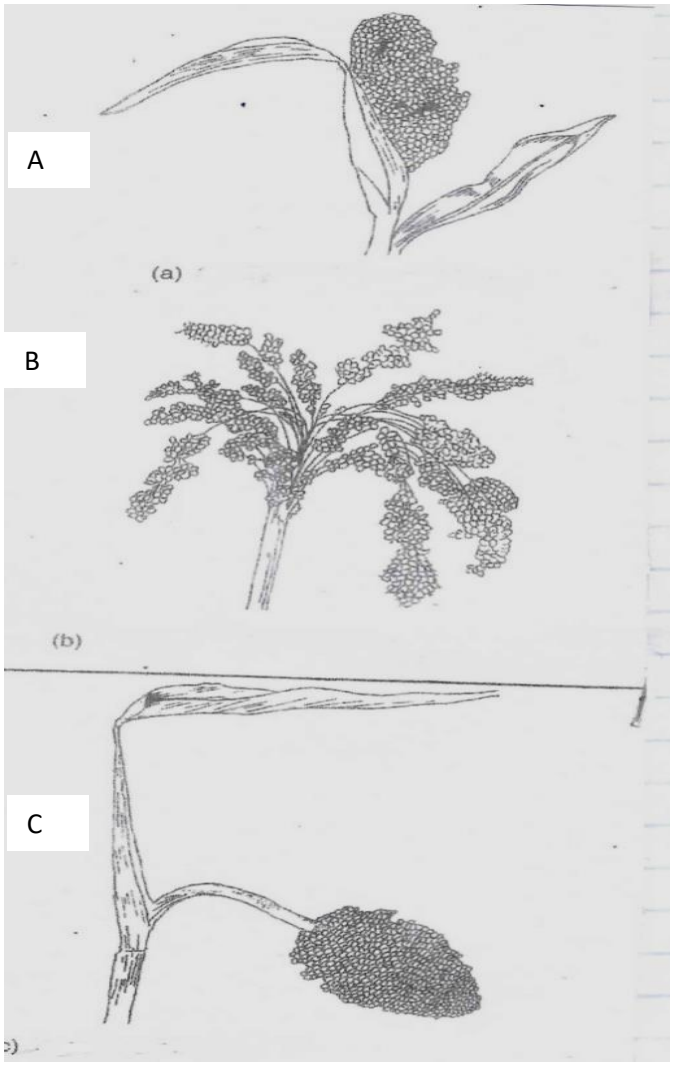
……

d) Suggest **two** control measures for the pest named in (a) above **(2 marks)**

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……

25. Below are diagrams of different varieties of sorghum. Study them and answer the questions that follow



i. Identify the different varieties **(3 marks)**

A……

B……..

C……..

ii. State **one** advantage of the variety labeled C over the other varieties (1 mark)

……..

iii. Name **two** common pests of sorghum (1 mark)

……..

……...

SECTION C (40 Marks)

Answer any TWO questions in this section in the spaces provided after question 28.

26. a) State and explain **four** ways in which biological agents may enhance soil formation **(6 mks)**

b) Discuss **six** reasons on the importance of keeping good and up to date farm accounts in the farm **(6 marks)**

c) Discuss why liming is a recommended practice in crop production **(4 marks)**

d) Explain the roles of irrigation water in rice production **(4 marks)**

27. a) Outline the procedure undertaken in inheriting a registered land upon death of the owner **(8 marks)**

b) State the **three** harvesting practices of maize **(3 marks)**

c) Discuss the processes of large scale chemical treatment of water (**9 marks)**

28. The following information was obtained from Keheo farm. Study the information and prepare a balance sheet for the farm for the year ended 31st JULY/AUG 2019

Payable tax	-	16,000	
Interest on loan	-	24,000	
Payable debts		-	14,000
Two year bank loan	-	120,000	
Wages		-	24,000
Buildings	-	84,000	
Receivable debts	-	12,000	
Livestock	-	124,000	
Feeds in store		-	12,000
Maize in store		-	42,000
Cash at hand	-	22,000	
Movers	-	5,500	
Cash in bank	-	52,000	**7 marks**

ii) Was Keheo farm solvent or insolvent? **(1 mark)**

b) State **six** advantages of mixed cropping **(6 marks)**

c) Name the **three** zones of the production function and explain what happens in each of the production zone **(6 marks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

Instructions to students

a) *Write your name and Admission number in the spaces provided at the top of this page*
b) *This paper consists of* ***three*** *sections:* ***A, B and C***
c) *Answer all questions in sections* ***A and B***
d) *Answer any two questions in section* ***C***
e) *All answers should be written in the spaces provided*
f) *Candidate should answer the questions in English*

For Examiner's Use Only

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
A	1 – 17	30	
B	18 – 21	20	
C		20	
		20	
	TOTAL SCORE	**90**	

SECTION A (30 MARKS)

Answer ALL Questions in the spaces provided

1. (a) Name a breed of sheep with a lambing percentage of above 125 % and whose fleece maybe inferior due to black features. **(½ mark)**

……

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(b) Name a goat breed which can be used for production of mohair **(½ mark)**

……

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2.Name two tools in each case in a workshop that are used for:

(a) Assembling **(1 mark)**

……

……

(b) Holding **(1 mark)**

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……

3. List two equipment used in handling cattle during Agricultural exhibition. **(1 mark)**

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4. State **four** methods of maintaining good health in livestock. **(2 marks)**

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5. (a) State **four** desirable qualities of milk. **(2 marks)**

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(b) State **four** major dairy processors and distributors in Kenya. **(2 marks)**

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6. State **four** characteristics of livestock succulent roughage feedstuff. **(2 marks)**

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7. State **four** common bacterial diseases that affect livestock in the farm. **(2 marks)**

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8. State **four** advantages of using corrugated iron sheets for roofing. **(2 marks)**

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9. Give **two** reasons for spreading a damp proof coarse of PVC on the top of foundation. **(1 mark)**

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10. (a) State **four** roles played by engine oil in a tractor engine. **(2 marks)**

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(b) State **four** practices through which a farmer would ensure that no engine knock occurs in a tractor **(2 marks)**

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11. State **two** factors that influence the respiration rate in animals **(1 mark)**

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12. State **four** practices that ensure maximum harvest of fish from a fish pond**. (2 marks)**

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13. State **two** difference between dromedary species of camel and Bactrian**.** **(1 mark)**

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14. State **one** farm implement which can be used in both primary and secondary operations **(½ mark)**

……

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15. Give a reason why Irish potatoes should not be fed to ruminant animals **(½ mark)**

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16. List **four** routes through which pathogens can enter the body of an **animal** **(2 marks)**

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17. State **four** reasons why farmers give milk to kids using artificial method. **(2 marks)**

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SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided

18. The pictures below show some of the farm tools, observe them and answer the questions that follow



W



D



Y



Z

(a) Identify each of the tools shown above **(4 marks)**

W……

D……

Y……

Z……

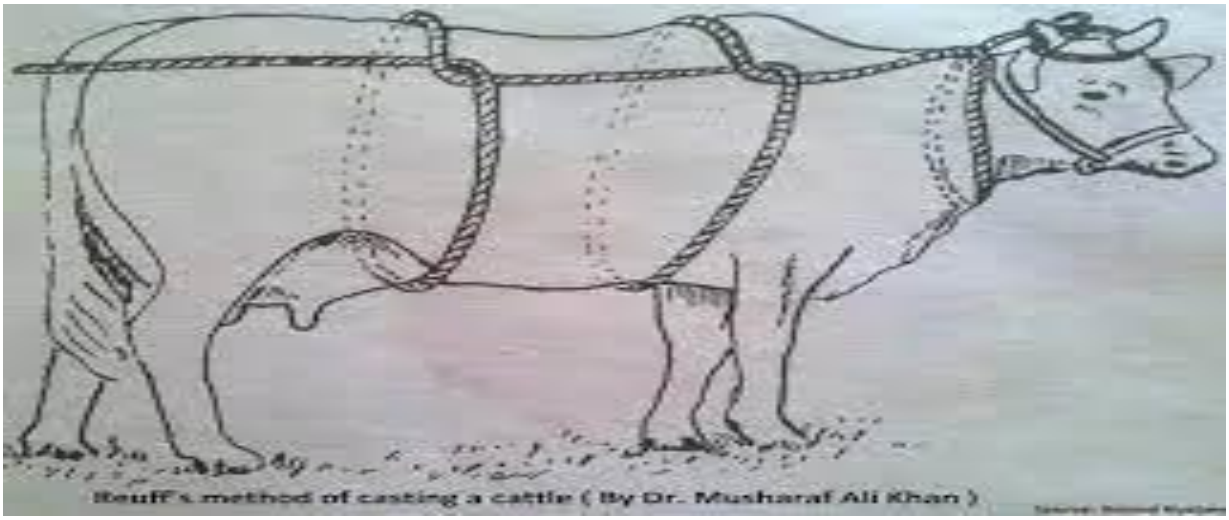
(b) State the use of the tool labeled Z and W **(1 marks)**

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



(a) Identify the practice **(1 mark)**

……

(b) Outline **three** management practices that are usually carried out after restraining an animal **(3 marks)**

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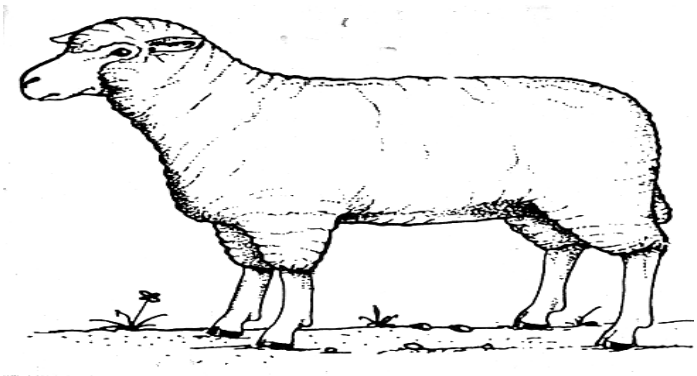
……

(c) Name one precaution observed when carrying out the practice **(1 mark)**

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



(a) Outline **two** reasons for raddling **(2 marks)**

……

……

(b) Using letter R, indicate on the diagram the site of ringing **(1 mark)**

(c) Using letter C, show the position of breeding chutes **(1 mark)**

(c) Give the function of fitting canvas apron/sire sine harness on the underside of rams **(1 mark)**

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……

21. Below is a photograph of an artificial method of rearing chicks. Answer the questions below.



(a) Identify the structure **(1 mark)**

……

(b) Give reason why

(i) Newspapers are spread on the floor **(2 marks)**

……

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(ii) The structure has to be round

……

……

(c) Outline **two** important practices that should be done before the arrival of the chicks **(2 marks)**

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SECTION C

*Answer Any **TWO** questions in this section in the spaces provided after question 24.*

22. a) State **five** conditions that help in observing the disease symptoms in livestock **5 marks)**

b) State and explain why farmers keeping livestock. **(8 marks)**

c) Describe the typical life cycle of a tapeworm **(7 marks)**

23. a) Describe the reasons why bees swarm **(6 marks)**

b) Describe feeding of a dairy calf from birth to weaning. **(8 marks)**

c) State **six** advantages of farm mechanization (6 marks)

24. a) Discuss the farming in a fish pond under the following subheadings

i) Stocking (**4 marks)**

ii) Harvesting **(5 marks)**

iii) Practice carried out before fish preservation **(4 marks)**

b) Explain the causes of cannibalism in a flock of layers **(7 marks)**

THIS IS THE LAST PRINTED PAGE.

KCSE 2024 JOINT MOCK EXAM

SERIES 2

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

Instructions to candidates

a) *Write your name and index number in the spaces provided above.*
b) *Sign and write the date of the examination in the spaces provided above.*
c) *This paper consists of 25 questions.*
d) *Answer all the questions in this paper.*
e) *All your answer must be written in the spaces provided in the question paper*
f) *Non –programmable silent electronic calculator may be used.*
g) *Candidates must answer the questions in English.*

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Candidate's score																				

21	22	23	24	25	TOTAL MARKS

1. State the level of production that matches the following occupations. **(4marks)**

Occupation	**Level of production**
a) Carpentry	.....
b) Lumbering	.....
c) Bridge construction	.....
d) Banking	.....

2. State four reasons that may make a firm to be located near a source of raw materials. **(4marks)**

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3. Outline four channels used to distribute locally manufactured products in Kenya. **(4 marks)**

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4. Give four types of small-scale retailers with shops **(4marks)**

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

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6. State four circumstances under which the capital of a business may change. **(4marks)**

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7. List down factors that a trader may consider when choosing a means of transport. **(4marks)**

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8. State four factors that may lead to the success of a business. **(4marks)**

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9. Highlight four advantages of promoting sales through the internet. **(4marks)**

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10. Indicate the document to be used for each of the following descriptions. **(4marks)**

Description	**Document**
a) Reply to a specific letter of inquiry	_____
b) To update a catalogue	_____
c) To show the content of container	_____
d) To correct an overcharge in the invoice	_____

11. The information below relates to Kimeu's business as at 31st JULY/AUG 2023.

Kshs	
Capital	100,000
Additional investment in the year	40,000
Profit realised in the year	25,000
Drawings made in the year	45,000

Determine Kimeu's capital as at 31st JULY/AUG 2023. **(4 marks)**

12. Highlight four forms of economic integration. **(4marks)**

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13. Highlight four reasons for consumer's protection. **(4marks)**

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14. Outline four factors that would make John and Ann taking the same type of life assurance policy with the same insurer to pay different amount of premiums. **(4marks)**

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15. The information below was extracted from the books of Wapendwa Traders on 31st JULY/AUG 2023

Details	Amount
Furniture and fittings	234,000
Debtors	67,500
Capital	157,900
Commission earned	13,200
Creditors	34,750
Drawings	21,800
5 years bank loan	114,450
Discount received	3,000

Required; Prepare Wapendwa Traders trial balance as at 31st JULY/AUG 2023. **(5marks)**

16. Identify the ledger in which the following accounts are maintained. **(4marks)**

Account	**Ledger**
a) Pendo (Debtor)	_____
b) Machinery	_____
c) Rent	_____
d) Capital	_____

17. Indicate the source document that relates to the following books of original entry**.(3 marks)**

Books of original entry	**Source document**
a) Purchase return journal	.....
b) Cash book	.....
c) Sales return journal	.....

18. Identify the type of unemployment described by the statements below. **(4marks)**

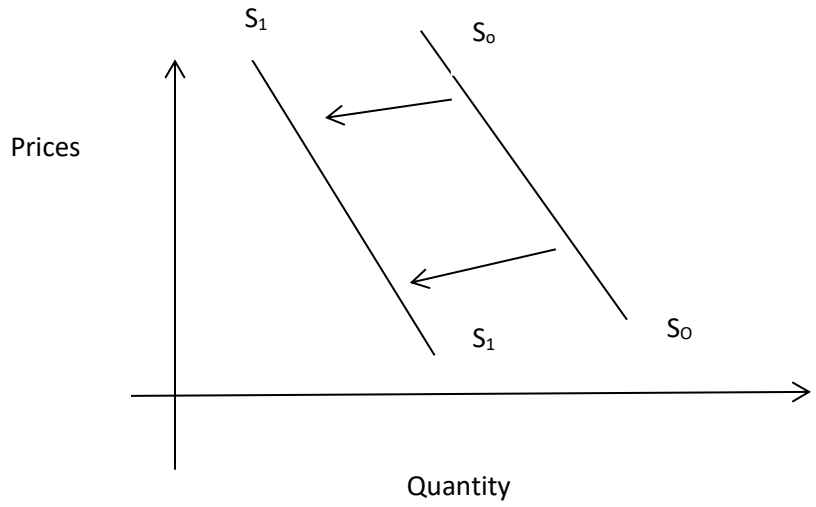
a) Introduction of tea picking machines to replace human labour _____

b) Ignorance of existing opportunities _____

c) Decline in economic activities of a given country_____

d) Five employees handling a single task in an organisation._____

19. The diagram below shows supply of a certain commodity. Give four reasons that may cause such a shift **(4 marks)**



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20. Outline four tools of monetary policy that a government may use to reduce excess money supply **(4marks)**

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21. State whether the following transactions will increase, decrease or have no effect on the balance sheet items. **(4marks)**

Transaction	**Assets**	**Capital**	**Liabilities**
a) Took a loon from K.C.B and used it to pay a K.I.E loan.			
b) Bought furniture and paid by cheque			
c) Took stock of goods and donated to a local church			
d) Sold stock of goods on credit at a profit.			

22. The following information was provided from the Mzalendo Traders books for the period ending 31st JULY/AUG 2023.

Commission received	20,000
Gross loss	50,000
Rent paid	30,000
Discount received	35,000
Carriage outward	10,000
Interest on loans	5,000

Required: Prepare profit and loss account for the period ending 31st JULY/AUG 2023. **(4 marks)**

23. State four assumptions in the circular flow of national income in a two-sector economy.

(4marks)

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24. Highlight four characteristics of underdeveloped countries. **(4marks)**

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25. Outline four levels of inflation. **(4marks)**

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

565/2

BUSINESS STUDIES

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

a) *Write your name and index number in the spaces provided above.*
b) *Sign and write the date of the examination in the spaces provided above.*
c) *This paper consists of 6 questions.*
d) *Answer any **five** questions in the spaces provided.*
e) *All questions carry equal marks*
f) *Candidates must answer the questions in English.*

For Examiner's Use Only

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

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. (a) Highlight five ways in which Kenyan government can provide an enabling environment to the local traders**.** **(10 marks)**

(b) Explain five problems encountered in calculating national income using the output approach **(10 marks)**

2. (a) Explain five challenges that may be experienced by a new entrepreneur who has just established a business in Kenya**.** **(10 marks)**

(b) Kigal Traders had the following balances as at 30th April 2023

	Sh.
Sales	240,000
Purchases	90,000
Stock (30th April 2023)	70,000
7 years bank loan	100,000
General Expenses	12,000
Interest on loan	25000
Debtors	25,000
Cash at bank	20,000
Creditors	75,000
Cash at hand	10,000
Premises	95,000
Stock (2nd April 2023)	160,000

Calculate:

i) Mark-**up** **(3 marks)**

ii) Margin **(2 marks)**

iii) Rate of stock turn-over **(2 marks)**

iv) Current ratio **(2 marks)**

v) Net profit. **(1 marks)**

3. (a) Explain five purposes of public finance in an economy. **(10 marks)**

(b) Highlight five circumstances that allow the existence of a monopoly in an economy. **(10 marks)**

4. (a) Other than monetary policies, explain five ways of controlling demand-pull inflation.

(10 marks)

(b) Explain five features of sole proprietorship form of business. **(10 marks)**

5. (a) Outline five benefits that accrue to an organization that uses electronic filing.

(10 marks)

(b) The following are transactions of Epic traders for the month of June 2005.

June 1: Purchased stock for sh. 84,000 in cash and was given 2% cash discount.

June 2: Paid workers' wages by cheque shs. 21,750

June 3: Sold goods worth sh. 240,000 and received cash after allowing 4% cash discount.

June 7: Received sh. 400,000 by cheque from a debtor after 2% cash discount was allowed.

June 10: Took sh. 80,000 to bank from the business.

June 13: Took stock of goods worth sh. 2000 from the business for personal use.

June 18: Paid sh. 2000 cash as part of water bill leaving a balance of sh. 1750 to be settled at a later date.

June 24: Received a cheque from John a debtor worth sh. 60,000 in settlement of his debt of sh. 66000.

June 28: All the cash at bank was taken to the business for office use except sh. 250,000.

Required: Enter the above transactions in a duly balanced two-column cash book. **(10 marks)**

6. (a) Explain five principles of insurance. **(10 marks)**

(b) Highlight five factors that may lead to a surplus in the balance of payment. **(10 marks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

313/1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

(a) *This paper consists of **Six** Questions.*

(b) *Answer **ANY Five** Questions in the sheets provided.*

(c) *The Candidates should check the Question paper to ascertain that the pages printed as indicated and that no Questions are missing.*

(d) *Each Question contains 20 Marks*

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

FOR EXAMINER'S USE ONLY.

Question	1	2	3	4	5	6	Totals
Score							

*Answer any **FIVE** questions in the spaces provided.*

1. (a)Give any **Six** literary forms which have been used in writing of the Bible **(6 Marks)**

(b) State **Seven** reasons why the Bible is referred to as library of books **(7 Marks)**

(c) State reasons why Christians should read the Bible **(7 Marks)**

2. a) What conditions were the Israelites given during the renewal of the covenant **(7 Marks)**

b) How did God show He had a great plan for Moses from his birth and childhood. **[6Marks]**

c) Identify **Seven** lessons that Christians learn about God from the Ten plagues experienced in **Egypt** **(7 Marks)**

3. (a) Explain **Six** ways in which the Temple of Jerusalem was central to worship in Israel **(6 Marks)**

(b) State **Eight** features of the local Canaanite religion. **(8 Marks)**

(c) Identify **Six** factors that have affected the worship of God Today **(6 Marks)**

4. (a) Outline **Eight** features of true prophets of Yahweh **(8 Marks)**

(b) Describe the day of the Lord as it was taught by prophet Amos **(Amos 8:7-13) (7 Marks)**

(c) State the relevance of the prophets to Christians today **(5 Marks)**

5. (a) Explain **Four** symbolic acts related to Judgment and punishment as demonstrated by prophet Jeremiah **(8 Marks)**

(b) State **Seven** problems faced by Nehemiah during his mission **(7 Marks)**

(c) Mention any good leadership qualities demonstrated by Nehemiah **(5 Marks)**

6. (a) State **Six** features of a Traditional African Community **(6 Marks)**

(b) Give reasons why sacrifices are made in Traditional African Communities **(7 Marks).**

(c) Highlight Seven reasons why Female Circumcision is being discouraged in Kenya today **(7 Marks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

(a) *This paper consists of* ***Six*** *Questions.*

(b) *Answer* ***ANY Five*** *Questions in the sheets provided.*

(c) *The Candidates should check the Question paper to ascertain that the pages printed as indicated and that no Questions are missing.*

(d) *Each Question contains 20 Marks*

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

FOR EXAMINER'S USE ONLY.

Question	1	2	3	4	5	6	Totals
Score							

*Answer any **FIVE** questions in the spaces provided.*

1. a) Describe Nathans prophecy on the coming of the messiah in 2nd Samuel 7:13-17. **(6 marks)**

b) Outline the Jewish expectations concerning the messiah. **(7 marks)**

c) State **seven** ways Christians prepare for the coming of the Messiah. **(7 marks)**

2. a) Show how John the Baptist is a link between the old and New Testament. **(6 marks)**

b) Outline what Jesus said about John the Baptist in Luke 7:18-35. **(6 marks)**

c) Explain how church leaders should respond to those who oppose them in church today. **(6 marks)**

3. a) Describe the incidence in which Jesus had the last supper with his disciples in Luke 22:1-38. **(7 marks)**

b) Give six reasons why Jesus used **bread** and **wine** during the last supper**.** **(6 marks)**

c) Explain the importance of celebrating the Holy Communion in church today. **(7 marks)**

4 (a] State the teachings of Jesus on the role of the Holy Spirit**.** **6 marks**

(b) Describe how the theme of the unity of believers is expressed in the image of the body of Christ. (1 cor 12:12 – 27) **(7 marks)**

(c) State the factors that bind members of the church as one body today. **(6 marks)**

5. (a) Outline the importance of professional code of ethics. **(7 marks**

(b) Explain the relationship between work and leisure in the Christian view. **[7marks]**

(c) In what way can Christians use leisure to glorify God. **[6 marks]**

6. a) State ways in which science and technology has helped to improve human life. **(8 marks)**

b) Outline the reasons why the church in Kenya is opposed to **cloning.** **(6 marks)**

c) State the reasons why Christians should donate blood. **(6 marks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

311/1

HISTORY AND GOVERNMENT

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES.

i *Write your Name, Admission number and stream.*

ii *Answer ALL questions in the answer sheets provided.*

iii *Answer ALL questions in section A, Three questions in the section B and Two questions in section C.*

iv *Candidates should answer the questions in English.*

FOR EXAMINERS USE ONLY

SECTION	A		B				C		TOTAL
	1--17	18	19	20	21	22	23	24	
SCORE									

SECTION A-25 MARKS

Answer all questions from this section

1. Name **two** communities in Kenya who belong to the same linguistic group as the Turkana. **(2mks)**

2. Name the original homeland of the Eastern Cushites**.** **(1mk)**

3. Give **two** reasons why Kenyan communities fought against each other during the Pre-colonial period. **(2mks)**

4. Mention the **two** main trade items from the interior of Kenya during the long-distance trade. **(2mks)**

5. Give **two** reasons why the missionaries promoted legitimate trade in Kenya in the 19thc. **(2mks)**

6. Define the term ''National Integration". **(1mk)**

7. Mention **two** limitations to the right to assembly, demonstration, picketing and petition. **(2mks)**

8. Give **two** contributions of Independent Schools in Kenya during the colonial period. **(2mks)**

9. Give the **main** reason why the Lancaster house conference was held in 1962. **(1mk)**

10. Give **two** roles played by Kenya African Democratic Union in the struggle for Independence. **(2mks)**

11. Give the **main** reason why the colonial government created African reserves in Kenya. **(1mk)**

12. Identify **one** operational base established by the Imperial British East Africa Company in Central Kenya during the colonial period. **(1mk)**

13. Mention **one** group of people entitled to Kenyan citizenship by the Independence constitution of Kenya. **(1mk)**

14. Mention **one** way in which the colonial government attracted more settlers to Kenya.**(1mk)**

15. Give **two** sources of Nyayo Philosophy in Kenya. **(2mks)**

16. Identify **one** type of land holding in Kenya. **(1mk)**

17. Name the chief executive in Kenya. **(1mk)**

SECTION B-45MARKS

Answer any three questions from this section

18. **(a**) Name **five** communities in Kenya that are part of the Eastern Cushites. **(5mks)**

(b) Explain **five** effects of the Somali migration into Kenya**.** **(10mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

19. **(a)** Identify **five** factors that led to the growth of towns along the Kenyan Coast before the 19thc. **(5mks)**

(b)Explain **five** consequences of the construction of the Kenya –Uganda railway. **(10mks)**

20. **(a)** State **three** methods used by the British to establish colonial rule in Kenya. **(3mks)**

(b)Explain **six** results of the Maasai collaboration with the British in the early 20th century. **(12mks)**

21. **(a)**Mention **three** trade unions which merged to form the Kenya federation of labour during the struggle for independence **(3mks)**

(b) Explain **six** roles played by trade unions in improving the lives of the Kenyan people during the colonial period. **(12mks)**

SECTION C-30 MARKS

Answer any two questions from this section

22. **(a)** State **three** qualifications for registration as a voter in Kenya. **(3mks)**

(b) Explain **six** rights of an accused person during trial in a court of law in Kenya. **(12mks)**

23. **(a)**Identify **five** characteristics of a good constitution. **(5mks)**

(b)Explain **five** reasons why parliament is supreme in Kenya. **(10mks)**

24. **(a)**Identify **three** categories of members in the county assembly. **(3mks)**

(b)Explain **six** challenges facing county government in Kenya. **(12mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

311/2

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- This paper consists of **three** sections A, B and C.
- Answer **all** questions in section A, choose **three** questions in section B and **two** questions in section C.
- Answers to all questions must be written in the answer booklet provided.
- This paper consists of three printed pages
- Answers to all questions must be written in English

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	SCORE
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
		Total score	

SECTION A (25MKS)

Answer all questions from this section

1. Identify the historical period when oral traditions was the main source of information. **(1mk)**

2. Name the earliest form of art by early man. **(1mk)**

3. Who is the head of aristocratic government? **(1mk)**

4. Name **one** theory that explain the origin of Agriculture **(1mk)**

5. Identify **two** major forms of early manuscripts **(2mks)**

6. Give **two** features of Roman roads by 300AD **(2mks)**

7. Name the first people in the world to use iron metal **(1mk)**

8. Identify **one** state that forms the nucleus of Asante **(1mk)**

9. Identify **two** types of democracy **(2mks)**

10. Give **two** strategic reasons which made European countries to scramble for colonies in Africa **(2mks)**

11. Outline **two** similar methods used to recruit African labour in British and French colonies **(2mks)**

12. Name **one** community in Africa which collaborated with the Europeans in the 19^{th} century **(1mk)**

13. Give the **main** objective of the Marshall plan after Second World War **(1mk)**

14. Give **two** countries in Africa that were declared mandate territories after the Versailles treaty of 1919 **(2mks)**

15. Give **two** military organizations formed by the capitalist and communist power blocs during the cold war **(2mks)**

16. Identify **two** principles of Arusha declaration of 1967 **(2mks)**

17. Name the current secretary general of United Nations organization **(1mk)**

SECTION B (45MKS)

Answer any three questions from this section

18. a) Give **five** changes which marked the Agrarian revolution in Britain **(5mks)**

b) Explain **five** effects of Agrarian revolution in the United States of America **(10mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

19. a) Name **three** characteristics of Regional trade **(3mks)**

b) Explain **six** ways how West African communities benefited from Trans-Saharan trade **(12mks)**

20. a) Outline **five** social problems faced by factory workers in Europe during the industrial Revolution **(5mks)**

b) Explain **five** factors hindering industrialization in third world countries **(10mks)**

21. a) Give five challenges faced by Nationalists in Mozambique in their struggle for independence. **(5mks)**

b) Explain **five** factors that promoted Nationalism in Ghana **(10mks)**

SECTION C (30MKS)

Answer any two questions from this section

22. a) Give **three** reasons why USA was reluctant to join the first world war during its initial stages **(3mks)**

b) Explain **six** political results of the second world war **(12mks)**

23. a) Identify **three** differences between the former organization of African Unity (OAU) and the present African Union (AU) **(5mks)**

b) Explain **six** challenges facing the Common Market for Eastern and Southern Africa (COMESA) **(10mks)**

24. a) State **five** categories of persons who are disqualified from contesting for a constituency seat in Britain **(5mks)**

b) Explain **five** functions of the president of India **(10mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

312/1

GEOGRAPHY

PAPER 1

TIME: 2¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *This paper has two sections: **A** and **B**.*
- *Answer **all** the questions in section **A**.*
- *Answer question **6** and any other **two** questions from section **B**.*
- *All answers must be written in separate answer sheets provided.*

FOR EXAMINERS USE

SECTION	QUESTION	CANDITATE SCORE
A	1 - 5	
B	6	
	7	
	8	
	9	
	10	
TOTAL		

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION A

Answer ALL the questions in this section

1. The map below shows distribution of climatic regions in Kenya. Use it to answer the questions that follow.



(a) Name the type of climate found in the areas marked P and Q. **(2mks)**

(b) State **four** characteristics of the type of climate found in the area marked R. **(4mks)**

2. (a) Differentiate between a mineral and a rock. **(2mks)**

(b) Name the **three** ways in which rocks are classified. **(3mks)**

3. Outline **four** factors which influence the rate of weathering. **(4mks)**

4. (a) (i) What is a coast? **(2mks)**

(ii) Name **two** types of submerged coasts. **(2mks)**

(b) Give **two** factors which enhance coastal deposition. **(2mks)**

5. (a) Give **two** processes that lead to formation of lakes. **(2mks)**

(b) State **two** economic uses of lakes. **(2mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION B

Answer question 6 and any other two questions in this section

6. Study the map of Mumias (1:50 000) provided and answer the following questions.

(a) (i) Identify ***two*** types of scales used on the map extract. **(2 marks)**

(ii) Measure the length of the Dry Weather Road C532 from the junction at grid square 6434 to the edge of the map to Likonga. Give your answer in kilometres. **(2 marks)**

(iii) Give ***three*** physical features found at grid square 5829. **(3 marks)**

(iv) Give the longitudinal extent of the area covered by the map. **(2 marks)**

(b) Draw a rectangle 14cm by 10cm to represent the area enclosed by Eastings 50 and 64 and Northings **30** and **40**. On it mark and name; **(1 mark)**

- River Nzoia **(1 mark)**
- Papyrus swamp **(1 mark)**
- All Weather Road Loose Surface **C528.** **(1 mark)**

(c) (i) Citing evidence from the map, give ***four*** social services provided in Mumias town. **(4 marks)**

(ii) Name ***two*** districts found in the area covered by the map**.** **(2 marks)**

(d) Describe the drainage of the area covered by the map. **(6 marks)**

7. (a) (i) Apart from the Rift valley, name **two** other relief features that were formed as a result of faulting. **(2mks)**

(ii) With the aid of well labeled diagrams, describe how a Rift valley is formed by tensional forces. **(8mks)**

(b) Explain **four** effects of faulting on the physical environment. **(8mks)**

(c) Students are planning to carry out a field study of an area affected by faulting.

(i) State **four** reasons why it is important for the students to have a pre-visit of the area. **(4mks)**

(ii) Name **three** types of faults they are likely to study. **(3mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

8. (a) (i) What is hydrological cycle? **(2mks)**

(ii) Draw a well – labeled diagram of the hydrological cycle. **(5mks)**

(b) (i) What is the difference between a river tributary and a distributary? **(2mks)**

(ii) State **four** factors which influence the ability of a river to deposit materials**.** **(4mks)**

(iii) Describe **three** ways by which a river transport its load. **(6mks)**

(c) Describe the following drainage systems:

(i) Superimposed drainage. **(4mks)**

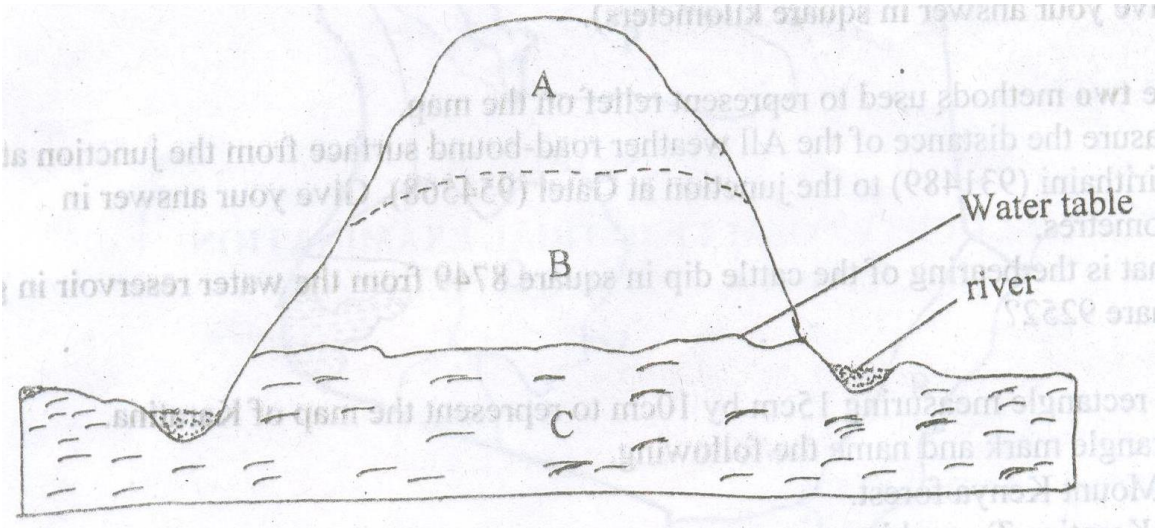
(ii) Antecedent drainage. **(2mks)**

9. (a) (i) What is ground water? **(2mks)**

(ii) List **four** sources of ground water. **(4mks)**

(b) (i) Outline **four** ways through which springs form. **(4mks)**

(ii) The diagram below shows various zones of ground water. Name the zones marked A, B and C. **(3mks)**



(c) (i) Name **three** features which form on the surface of a Karst scenery. **(3mks)**

(ii) Draw a diagram to show an underground limestone cave. On it, mark and name:

- A Stalactite. **(1mk)**
- A Stalagmite. **(1mk)**
- A Limestone pillar. **(1mk)**
- Underground river. **(1mk)**

(iii) Describe how a stalagmite is formed. **(5mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

10. (a) (i) Define a glacier. **(2mks)**

(ii) Name **three** types of glacier. **(3mks)**

(b) (i) A part from a cirque, name **two** features found on upland glaciated areas. **(2mks)**

(ii) Describe the process through which a cirque is formed. **(5mks)**

(c) Explain **three** ways in which upland glaciated features are significant to human activities. **(6mks)**

(d) You are planning to carry out a field study of an upland glaciated area.

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

(ii) Identify **four** challenges you are likely to encounter during the field study. **(4mks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

312/2

GEOGRAPHY

PAPER 2

TIME: 2¾ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *This paper has two sections: **A** and **B**.*
- *Answer **all** the questions in section **A**.*
- *Answer question **6** and any other **two** questions from section **B**.*
- *All answers must be written in separate answer sheets provided.*

FOR EXAMINERS USE

SECTION	QUESTION	CANDITATE SCORE
A	1 - 5	
B	6	
	7	
	8	
	9	
	10	
TOTAL		

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION A

Answer all the questions in this section

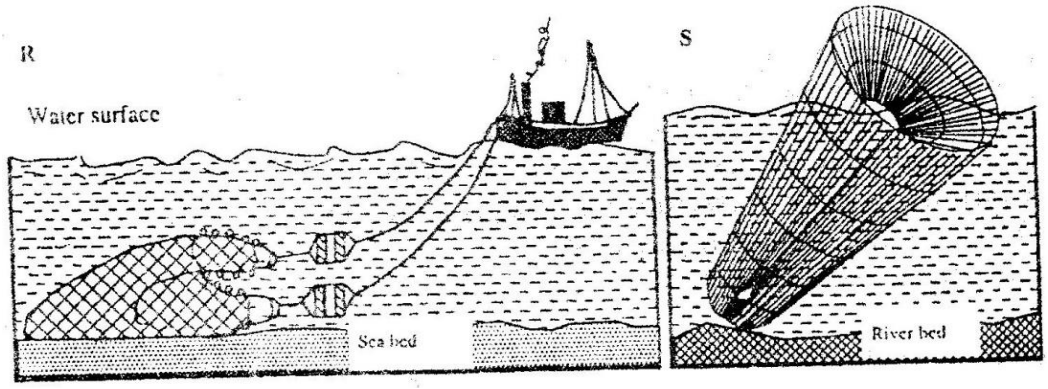
1. (a) Give **three** reason why primary industries are located close to raw materials. **(3mks)**

(b) State **three** characteristics of cottage industries in India**.** **(3mks**)

2. a)Name any **two** types of irrigation used in Mwea irrigation scheme. **(2mks)**

b) Name any **three** factors which influence the location of Mwea irrigation scheme**. (3mks**)

3. The diagrams below represent some fishing methods



(a) Identify the fishing methods marked **R** and **S** **(2mks**

(b) State **three** disadvantages of using method marked S. **(3mks**

4 (a) Apart from windstorms, name **two** other environmental hazards associated with climatic conditions **(2 mks**)

(b) State **three** problems caused by windstorms in Kenya **(3mks**

5 State **four** human factors that favour dairy farming in Denmark. **(4mks**

SECTION B

Answer question 6 and any other two questions from this section

6.The table below shows the number of passengers that used railway transport in the selected countries in 1997 and 2007. Use it to answer question (a) and (b)

COUNTRY	**PASSENGERS IN MILLIONS**	
	1997	2007
Canada	4,200	3,000
U.S.A	27,700	16,600
Argentina	14,100	12,000
India	96,800	163,800
Japan	258,400	311,900

a) (i) Using a scale of 1cm to represent 20,000 million passengers , draw **comparative bar** graphs based on the data above **(8mks)**

ii) State **three** advantages of using bar graphs in presenting data **(3mks)**

b) Calculate the **percentage decline** in railway passenger transport in Canada between 1966 and 1977. **(2mks)**

c) Explain **three** reasons why there are few railway links among African countries **(6mks)**

d) Explain **three** ways through which Kenya has benefited from her international airports.**(6mks)**

7 a) (i) Classify mining into **three** broad categories. **(3mks)**

(ii) Name **two** sea ports through which some mineral mined in East Africa are exported. **(2mks**

(b) State any **four** factors that influence the exploitation of minerals (**4mks)**

(c) Explain **four** ways in which oil mining contributes to the growth of economy of Kenya. **(8 mks)**

(d) (i) Explain **three** ways in which mining derelicts can be reclaimed. **(6mks)**

(ii) Give **two** uses of diatomite. **(2mks)**

8. (a) Identify **three** sources of renewable energy. **(3mks)**

(b) (i) Name **three** mai*n* hydro-electric power stations along river Tana**.** **(3mks)**

(ii) Apart from providing electric power, state **four** other benefits of the dams along river Tana. **(4mks)**

(iii) Identify **two** problems that affect the production of power along River Tana. **(2mks**

(c) Explain **four** measures the government of Kenya has taken to conserve energy. **(8mks)**

(d) Some students carried a field study on sources of energy by sampling the households around their school.

(i) Identify **two** sampling techniques the students used during the study. **(2mks)**

ii) Give **three** advantages of using sampling in the study of the households. **(3mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

9(a)(i) What is life **expectancy?** **(2mks**

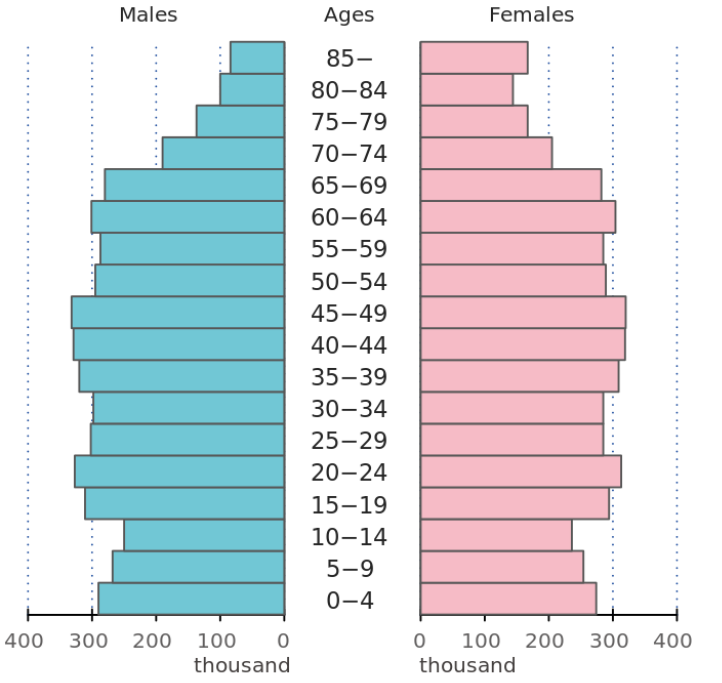
(ii) Apart from population census, give ***two*** other primary sources of population data. **(2 mks**)

(iii) State ***three*** significance of population census to a country. **(3mks)**

(b) Explain ***four*** factors that have led to a high population density in the Kenya Highlands.

(8 mks)

(c) The pyramid below represents the population structure of Sweden.



Population pyramids of Sweden 2011 (OECD stat)

Describe **four** characteristics of population represented by the pyramid. **(4 mks)**

(d) Explain ***three*** cause of urban-rural migration. **(6 mks)**

10. (a) (i) Give **two** species of coffee grown in Kenya **(2mks)**

(ii) State **four** physical factors that favour coffee growing in Kenya **(4mks)**

(b). Describe coffee growing in Kenya from planting to harvesting **(7mks)**

(c) State four ways through which Kenyan government assist small scale coffee farmers **(4mks)**

(d) Explain **four** ways through which the Brazilian government responds to the problems facing coffee industry in Brazil **(8mks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

101/1

ENGLISH

PAPER 1 (Functional Skills)

TIME: 2 HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

1. *Write your name and index number in the spaces provided above.*
2. *Answer all questions*
3. *Candidates should check to ascertain that no questions are missing.*
4. *Candidates MUST answer the questions in English.*

For Examiner's Use Only

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

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. Your friend living in the UK has sent you an e-mail requesting you send her a book review of one of your compulsory set text. You have just finished reading the novel, ***Fathers of Nations***. You found it very interesting and you want to entice your friend into reading it. Send her the review through e-mail. **(20marks)**

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

When preparing for examinations, the use of the mind is encouraged rather (1) _____ dull rotational learning, that is, memorizing facts. Thorough preparation for an examination (2) _____ anxiety and helps in passing the examination. This can be achieved when one lays a good (3) _____ at the outset. To ensure this, the learner (4) _____ ascertain that essential points in a topic are understood before moving (5) _____ another topic. One should guard (6) _____ being left behind, but should (7) _____ to cover the ground as the course progresses. The learner should also develop a habit of making notes of what they learn (8)_____ reviewing these notes at intervals, starting with the simpler ones and then progressing to the hard ones. The notes should be organized in such a way that points are (9)_____ to other points, (10)_____ showing some coherence which is easier to follow.

3) a) Read the following poem and answer the questions that follow:-

A Minor Bird

I have wished a bird would fly away
And not sing by my house all day;
Have clapped my hands at him from the door
When it seemed as if I could bear no more.
The fault must have partly been in me
The bird was not to blame for his key.
And of course there must be something wrong
In wanting to silence any song. **Robert Frost**

i) Describe the rhyme scheme of this poem **(2 Marks)**

……

……

……

……

ii) Explain with illustrations how the poem achieves its rhythm. **(4 Marks)**

……

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……

……

……

iii) Mention two things would you do as you perform lines 3 and 6 of this poem to make it lively? **(4 Marks)**

……

……

……

……

b) Write another word which is pronounced the same as the following words. **(3 Marks)**

i) Bell

……

iii) Grisly

……

iv) Freeze

……

c) Indicate the meaning of the sentence when the following words are stressed**.** **(3 Marks)**

The tall **<u>teacher</u>** punished the naughty boys.

……

……

The tall teacher **<u>punished</u>** the naughty boys.

……

……

The tall teacher punished the **naughty** boys.

……

……

d) Imagine that you have been requested to present a speech to form one students on the importance of etiquette in speech. How would you ensure that your speech delivery is effective? **(6 Marks)**

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e) Underline the words with long vowel sounds **(5 Marks)**

Lot	Loud	Could
Farther	Lord	Card
Should	Moan	Sort
Showed	More	god
Father	Shower	

F) You are listening to Ngugi wa Thiong'o giving a talk on neo-colonialism. Explain what you would do to ensure that you benefit from the talk. **(3 Marks)**

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

101/2

ENGLISH

PAPER 2

(Comprehension, Literary appreciation and Grammar)

TIME: 2½ HOURS

NAME……

SCHOOL…… **SIGN……**

INDEX NO…… **ADM NO……**

(Kenya Certificate of Secondary Education)

Instruction to students

i. *Write your* ***name, admission number*** *and* ***class*** *in the spaces provided.*

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

iii. *Answer* ***all*** *the questions in the spaces provided.*

iv. *Candidates must answer all the questions in* ***English.***

For examiners' use only

Question	Maximum score	Candidate's score
1	20	
2	25	
3	20	
4	15	
Total score	80	

1. Read the following passage and answer the questions that follow.

The Federal Trade Commission on Tuesday confirmed some of the worst fears about Internet – connected devices, saying that technology presented serious data security and privacy risks and urged companies to make data protection a top priority.

While the agency noted the potential benefits for owners of smart devices like connected fitness bands, regulators also said that technology generated enormous amounts of personal data that could be misused or obtained by hackers.

"Many of us are using these devices," Edith Ramirez, the chairwoman of the FTC, said in a telephone interview. "But," she said, "if consumers feel that their information isn't protected, they won't have the confidence level to embrace them."

In a staff report, the agency urged companies to **institute** basic data security measures when they develop such devices and sensors, rather than as an afterthought. It also encouraged companies to develop new ways to communicate their data collection and handling practices – even if they market sensors that are too small to contain digital information displays for consumers.

"We are still at a time when we can have an impact on how the internet of things evolved,' Ramirez said in the interview, referring to an array of connected devices. 'These important privacy principles still have a place in today's world.'

Although the report highlights the issues that the agency intends to monitor and underlines the best practices regulators hope companies will adopt, it does not carry the weight of enforceable regulations. The agency has urged congress to enact baseline federal consumer privacy law. But such legislation is unlikely to pass with congress controlled by republicans.

Still, data security and privacy experts predicted at least larger-well known technology companies would take the agency's data security recommendations into account if only to reduce the business risk of federal investigations.

Around 4.9 billion connected items for consumers, enterprises, manufacturing and utilities will be in use this year according to estimates from Gartner, an information technology market research firm. That number is expected to rise to 25 billion by 2025, centre for Democracy and Technology, a non – profit group in Washington said.

One concern that comes with all these devices, the FTC report noted, is that **hackers** could potentially hijack and misuse intimate information recorded by the technology, perhaps even creating physical safety risks for consumers.

Last year, for instance, an electronics company that marketed what it said was "secure" internet connected cameras, allowing parents to remotely monitor young children at home, **settled** a complaint by the FTC that lack of security practices had exposed its customers to privacy invasions. A security feature that allowed anyone with the cameras intercept addresses to view, and in some cases hear, what was happening in customers' homes, the agency said.

The FTC report recommended that companies consider putting limits on the volume of information their devices collect from consumers and on the amount of time they retain those records.

But companies may be reluctant to adopt those practices because data storage costs are decreasing and the ability to quickly analyze huge data sets is increasing.

Even so, regulators said they would be keeping watch to see that makers of connected devices **limit** the potential security and privacy risks of their products for consumers.

For companies, it will be to their detriment if they don't heed the issues we flag in the report," Ramirez said.

New York Times.

(i) According to the first paragraph, what fears did the Federal Trade Commission confirm? **(2marks)**

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(ii) What does the acronym F.T.C stand for? **(1 mark)**

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(iii) Provide a suitable title for the passage? **(2marks)**

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(iv) Why is the word "secure" written in quotation marks? **(2marks)**

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(v) It does not carry the weight of enforceable regulations. (add a question tag) **(1mark)**

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(vi) Make notes on what the agency in a staff report urged companies to implement. **(4marks)**

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(vii) Around 4.9 billion connected items per consumer, enterprises, manufacturing and utilities will be in use this year according to estimates from Gartner.

Begin: According to estimates**….** **(1mark)**

……

……

(viii) Why is it that companies would be reluctant to adopt the practices recommended? **(2marks)**

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……

(ix) What is the meaning of the following underlined words as used in the passage. **(5 marks)**

a) Institute …….

b) Hackers …….

c) Settled …….

d) reluctant …….

e) Limit …….

2. Read the excerpt below and then answer the questions that follow.

First, there was a loud crash. Some moving object had hit another moving object. A trailer hooked to a truck negotiating a turn at a roundabout had broken free, spun outward, and ended up on top of a minibus in an adjacent lane.

The drivers of both vehicles had then run away. They had done so to avoid mob justice. Now the passengers in the unlucky minibus were struggling to get out, except for one—a woman trapped in a seat.

A man had seen her on his way out. He tried to go back in and get her out, but all doors had jammed. He pulled a mobile phone out of his pocket and called the mystical number — 999 — to report distress and request help.

The hour was ten in the morning. Onlookers started arriving. First, they only gawked, fascinated by the spectacle of a trailer sitting on top of a minibus. Goodness, how did it get there! Later, their attention moved down to the woman trapped inside the minibus. "Look," said one onlooker. A beautiful girl was trapped in her seat.

She was still conscious. "She is fine, then," said another onlooker. "Come on," said the first onlooker. "A heavy trailer is sitting on her minibus, so how can she be fine?" When the onlookers became a crowd, they tried to push the trailer off the minibus.

They failed. Then a big van appeared...

QUESTIONS

a) Put this excerpt in its immediate context. **(4 marks)**

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b) Give the character traits of the following: **(6 marks)**

The man

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The onlookers

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The drivers

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c) From elsewhere in the novel, how does conflict arise between Kimani and Asiya over the death of their daughter? **(4 marks)**

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d) How is dialogue significant in this excerpt**?** **(4 marks)**

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e) Identify and explain one stylistic device used in the extract**.** **(3 marks)**

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f) "The hour was ten in the morning." Rewrite this statement beginning with: **(1 mark)**

It

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……

g) Explain the meanings of the following words as used in the excerpt. **(3 marks)**

Gawked

_____

_____

Fascinated

_____

_____

Conscious

_____

_____

3. Read the narrative below and answer the questions that follow.

Mola had two wives. The first wife was faithful and had borne him children. The second wife was a fickle woman, greedy and jealous. Now Mola had taken a third wife, who admired him as a great chief. She was so devoted to him that she praised him even while she worked. Whatever she was doing, grinding, pounding, or harvesting, she would praise his name in songs like this one:

Mola my husband is great like my father.
Mola my master, a lion in the hills.
When he is away, I scan the hill slopes.
His strength crushes me like the eagle crushing a buck's shoulder blade.
I am the field for his hoe, the soil waiting for the first rains.
I hang like a liana from the mighty branches of a forest-giant.
I find shelter in his presence like the velvet monkey in the thick foliage.
Of the mahogany tree.
I am my Mola's mola; I fit round his strong arm.
I am like the bats hanging from the ceiling of the caves in the rocks.
He is the rock that no spear can kill…

The second wife was annoyed with these praises for a husband who did not, she felt, give her enough presents. What was worse, the singing pleased her husband so much that he lavished most of his attentions on the third wife. So the second wife decided to sing him a song of her own.

Mola, my brother, be silent in the mountain ……

It contained many more lines one could not understand. Mola began to sink into the ground, like a tree in a flood. At last he disappeared altogether, and the earth covered him altogether, and earth covered his head. The first and third wives began to wail loudly.

Mola found himself in the land below. He traveled along a path until he came to copse. He decided to build a house there, but as soon as he started cutting a tree, all the trees began to cry for help. So he walked on.

Then he came to a forest where he found hundreds of mushrooms. He collected large numbers until he was suddenly surrounded by the king's soldiers, who accused him of stealing the royal herd.
He said: "I was only collecting mushrooms." He opened his bags and found animals. He emptied his bag and the animals tuned into mushrooms again. He looked at the soldiers but he saw only trees.
He went on and met an old woman. She said, "guard my millet field while I am away. But do not try to catch the birds, just chase them by shouting." She vanished and at once a flock of orange birds descended and began to eat the millet. He burnt his fingers and went away. Behind a bush he met a great lion who told him" "You are trespassing in my kingdom, but if you bring me the fire, I will give you half of my cattle." Mola went on and found lightning, who was sitting in an old tree. He concluded a pact of friendship with lightning, who gave him a flaming torch. Mola brought the torch to King Lion, who was so pleased that he gave him cows. Suddenly, he heard the voice of his mother crying and complaining: Oh my son, who always worked for me, he used to hoe my fields! Alas for his mother! Who will now harvest my millet for me? I am old and weak!"
When Mola heard this he asked permission of the lion to return to his own country, because his old mother urgently needed help with the crops. The lion agreed that this was a valid reason and called his guards to guide Mola to the door.
The guards showed him a cave and Mola drove his cattle through the narrow opening. He found himself in the bushes at the foot of the hill not far from his own village. He drove the cows to his own Kraal.
There was a great rejoicing in his compound, when the children saw him they raced out to meet him. The hunting dogs yelped around him. The news soon spread; Mola has come back from the underworld a rich man.
His mother said: "Chase away that evil woman who bewitched you." The villagers stoned the second wife. The third wife took her nanga, a stringed instrument and sang:
My husband has come back from the land of graves.
He lives again like fire in the morning ……

a)Giving a reason, classify this narrative**.** **(2Marks)**

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b)Identify the oral features evident in the story**.** **(4Marks)**

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c) "Mola has come back from the underworld a rich man." Explain the irony in this statement**.**

(2Marks)

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d)Describe the character of the second wife and show how it affects the events of the story.

(3Marks)

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e) From what happened to Mola later, how would you interpret the line:

"Mola, my brother, be silent in the mountain ….." **(1Mark)**

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f) With clear illustrations, identify any other figures of speech used in the narrative. **(4Marks)**

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g)Explain the attitude of the third wife towards her husband. **(2Marks)**

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h)What can we learn about the values of this community**?** **(2Marks)**

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4. GRAMMAR **(15MARKS)**

a. Use the correct form of the verb in brackets to fill the blanks. **[3 marks]**

i.The couple ……..…….. not well informed about adoption procedures.[be]

ii. Last year we ……..……. all the maize into flour. [grind]

iii. Munyankei …….. the bat and smashed the ball. [swing]

b. Rewrite the following replacing the underlined words with appropriate phrasal verbs **[2 marks]**

i. Low quality universities <u>produce</u> incompetent graduates.

……

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ii. Some managers do not <u>tolerate</u> lateness among workers.

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……

c. Choose the correct word from the choices to fill the blanks. **[3marks]**

i. She wore a ……..…….[stripped/striped] shirt, a tie and gumboots.

ii. This teacher's ……[remuneration / renumeration] is scandalously low.

iii. Parents should not park their vehicles ……..[anyhow / anyhowly].

d. Use the correct form of the words in brackets to fill the blanks. [4 marks]

i. The ……. between them is as interesting as it is sickening [enemy]

ii. She was sacked due to chronic ……. [absent]

iii. Adoyo works in the …… department. [maintain}

iv. Laziness is a ……. to success. [hinder]

e. Rewrite the following sentences according to instructions after each [3 marks]

i. Peter is successful even though he did not pass exams. [Begin: *In spite of*.…]

……

……

ii. Is there life after death or not? This is a question which humans have been grappling with for a very long time. [Begin: The question of ……]

Do not use the word 'question' twice

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……

iii. After a new manager was appointed, profits began to improve.

[Begin: *Subsequent*……]

……

……

KCSE 2024 JOINT MOCK EXAM

SERIES 2

101/3

ENGLISH

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDINDATES

a) *Answer three questions only*

b) *Question one and two are compulsory*

c) *In question three, choose only one of the optional texts you have prepared on.*

d) *Where a candidate presents work on more than one optional text, only the first to appear will be marked.*

e) *Each essay should not exceed 450 words.*

FOR EXAMINER'S USE ONLY.

QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
1.Imaginative Composition	20	
2.The Compulsory Set Text	20	
3.The Optional Set Text	20	
TOTAL	60	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

Answer three questions only.

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

Either

a) Write a story to illustrate the saying: A bird in hand is worth too in the bush.

Or

b) Write a composition to show how children can be of help to their parents during school holiday.

2. The Samaritan; John Lara **(20marks)**

When a society elects selfish leaders, they bear the full brunt. Using examples from the Play *The Samaritan*, write a composition to show the truth of this statement.

3. Optional Set Texts **(20marks)**

Answer one question only

Either Short Story; Siundu Godwin; A Silent Song and Other Stories

a) Traditional practices are meant to create order and harmonious co-existence. When anyone defies them, they bound to suffer. Drawing illustrations from Ng'maryo's story *Ivory Bangles*, write an essay to show the truth of this statement.

Or b) Play: Adipo Sidang'; Parliament of Owls

Using specific examples from *Parliament of Owls*, write a composition to show that propaganda is a tool used by the leaders to perpetuate impunity.

Or c) The Novel; Kazuo Ishiguro; An Artist of the Floating World

You cannot run away from your past. Drawing specific illustrations from the Kazuo's *An Artist of the Floating World*, write an essay to show the truth of this statement.

KCSE 2024 JOINT MOCK EXAM

SERIES 2

102/1

KISWAHILI

KARATASI YA 1

INSHA

MUDA: SAA 1¾

JINA……

SHULE…… SAHIHI……

NAMBARI YA USAJILI…… MKONDO……

Cheti cha Kuhitimu Kisomo cha Sekondari (KCSE)

MAAGIZO

a) Andika jina lako na nambari yako katika nafasi ulizoachiwa hapo juu.

*b) Andika insha **mbili**. Insha ya **kwanza** ni ya **lazima.***

c) Kisha chagua insha nyingine moja kati ya tatu zilizobakia.

*d) Kila insha isipungue maneno **400***

*e) Kila insha ina alama **20***

*f) Kila insha **lazima** iandikwe kwa lugha ya Kiswahili.*

KWA MATUMIZI YA MTAHINI PEKEE

Swali	Upeo	Alama
1	20	
	20	
Jumla	40	

MASWALI

1. Lazima

Wewe ni mwenyekiti wa vuguvugu la Tazama Afrika. Andika mazungumzo yako na mawaziri wawili kutoka mataifa yaliyoendelea barani kujadili matatizo yanayokumba bara la Afrika.

2. Uhuru unaopewa vijana leo katika nchi yetu una madhara zaidi kuliko faida.Jadili.

3. Maji ukiyavulia nguo, yaoge.

4. … Nilijitoa kafara na msaada wangu ukazaa natija kwa wengi.

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

102/2

KISWAHILI

KARATASI YA 2

LUGHA

MUDA: SAA 2½

JINA……

SHULE…… SAHIHI……

NAMBARI YA USAJILI…… MKONDO……

Cheti cha Kuhitimu Kisomo cha Sekondari (KCSE)

Maagizo

a) *Jibu maswali* ***yote.***

b) *Majibu yote yaandikwe katika nafasi ulizoachiwa katika kitabu hiki cha maswali.*

c) *Majibu yote* ***lazima*** *yaandikwe kwa lugha ya Kiswahili.*

d) *Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa na kuwa* ***maswali yote yamo.***

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

1. UFAHAMU (Alama 15)

Soma taarifa ifuatayo kisha ujibu maswali.

Mengi yamesemwa kuhusu utiifu. Ukweli ni kuwa,watu wengi hudhani kuwa maisha yangekuwa mazuri zaidi ikiwa kila mtu angeruhusiwa kufanya atakavyo. Kulingana na mimi, ni makosa kufikiria hivyo madhali mienendo isiyodhibitiwa na sheria ni kiini cha vurugu na ukiukaji wa sheria nchini. Hebu fikiria hali ingekuwa vipi ikiwa mwendeshaji pikipiki angeiendesha kulia na kushoto katikati ya barabara na kupuuza sheria za trafiki. Hali kama hii huweza kusababisha msongamano mkubwa wa magari mjini, hivyo kuwafanya watu wachukue muda mrefu kabla ya kufika waelekeapo. Kutengenea au shwari kwa mambo hutokana na kila mtu kufuata kanuni zote zilizowekwa.

Kila mtu hana budi kuelewa kuwa utiifu si udhaifu au woga. Ni hali ya kutambua kuwa kutii utawala wa kisheria huhakikisha kuwa kuna muumano na utangamano wa kijamii. Utiifu una maana ya kufanya yanayotarajiwa. Vilevile utiifu una maana ya kutambua na kukubali kuwa kufanya matendo mema ni bora zaidi kuliko kutekeleza jambo au matendo ya kibinafsi tu. Kwa hakika, ni vyema kutafakari kuhusu tunayoambiwa tufanye na wenzetu au hata watu wengine. Hatufai kufuata kila maagizo tunayopewa bila kuyatathmini vizuri. Mathalan; ikiwa mtu atakuambia ujihusishe na ujambazi, unafaa kuwajibika kwa kukataa kufuata amri ya aina hiyo hata kama mtu huyo ana mamlaka makubwa namna gani. Maagizo au kanuni tunazofaa kufuata au kutii ni zile zenye maana;yaani, maagizo au kanuni zenye manufaa.

Je, kwa nini watu wengi huona vigumu kuwatii walimu, wazazi au watu wenye mamlaka? Sababu kuu ni kuwa wao ni wabinafsi. Wao huchochewa na kufanya kutotii kutokana na lengo la kutenda mambo yatakayowafaidi; yale mambo yatakayowasaidia kutimiza matakwa yao ya kibinafsi. Kiini cha mioyo ya watu kama hawa kukaidi maagizo na kanuni maishani, hutokana na ukweli kuwa utiifu humlazimu mtu kupuuzilia mbali matakwa ya kibinafsi na mara nyingi hujumuisha kutekeleza anayoambiwa afanye na wengine.Hata hivyo,ikiwa watu kama hawa watazingatia manufaa ya utiifu, watatamani kupalilia utiifu kama mojawapo wa maadili maishani mwa binadamu.

Ukweli ni kuwa katika maisha ya kila siku, tunatii kanuni nyingi bila kufahamu au kujua. Hakuna mtu,kwa mfano, anayetulazimisha kuzingatia lishe bora au kufuata maagizo ya daktari. Wengi wetu huhudhuria shule au kwenda kazini kwa wakati unaofaa bila kushurutishwa. Ikiwa kwa mfano una gari unalomiliki, hakuna anayekuarifu kulipeleka kwenye gereji likatengenezwe au likarabatiwe. Hebu jiulize hapo ulipo; je, kwa nini watu hufanya mambo kama haya bila kuagizwa au kukahiriwa?Ukweli ni kuwa,tendo lolote lile la kutotii au kutotekeleza yanayohitajika litakuwa na matokeo mabaya au hata ya kuhatarisha maisha ya watu. Kwa hivyo, utiifu huleta utangamano na humfanya mtu kuishi bila mfadhaiko wowote.

Kiini cha vijana kukosa kukubali na kufuata kanuni na taratibu zilizowekwa hutokana na ukweli kuwa, wao huziona kama zilizopitwa na wakati. Ni ukweli kuwa si mambo yote wanayotuhimiza wenzetu kufanya yana mantiki. Hata hivyo, ni muhimu kuzingatia **matilaba** ya kuyatenda badala ya kuyapuuza. Zaidi ya hayo, tunaosema kuwa wana mawazo yaliyopitwa na wakati wanaweza kuwa na **tajriba pevu** na umaizi au utambuzi mkubwa wa mambo kutuzidi. Vijana wengi wanaokaidi maagizo ya wazazi wao huteseka maishani. Inafaa ieleweke kuwa hata kama wazazi

na walimu wanaweza kuonekana wakali na wasiozingatia kila tutakalo, daima wao hututakia mazuri na huwa na malengo mema kuhusu maisha yetu.

Baadhi ya matatizo ya kijamii, kiuchumi na hata kisiasa tunayopitia au kukumbana nayo hutokana na kutotii sheria. Hali ya kutotii sheria au hata kanuni zilizowekwa huwafanya baadhi ya watu hukataa kulipa ushuru, wengine kubadhiri au kuhariji mali ya umma au kujihusisha na vitendo vya kifisadi; hali ambayo huinyima nchi yetu mapato au maduhuli. Vitendo kama hivi huifanya nchi kurudi nyuma kimaendeleo. Kutotii sheria husababisha madhara mengi kwa mtu binafsi; watu wengi huharibu maisha yao kwa kupiga mtindi kupindukia, kuvuta sigara au hata kasumba na kujihusisha na mapenzi kiholela. Ukweli ni kuwa wao hujua hatari itokanayo na mienendo kama hiyo. Kabla ya kuvunja sheria au kupuuza kanuni zozote zile ni muhimu kufikiria kuhusu matokeo yake kwanza. Aidha ni vyema kugundua kuwa hakuna mtu yeyote yule anayeweza kuepuka athari za uasi.

Maswali

a) Ipe taarifa hii anwani mwafaka. **(alama 1)**

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……

b) Je, ni kwa nini watu hawawezi kuruhusiwa kufanya watakavyo? **(alama 2)**

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c) Eleza maana ya utiifu kwa mujibu wa taarifa hii. **(alama 2)**

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d) Eleza sababu inayowafanya watu kuasi. **(alama 1)**

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……

e) Kwa nini tunafaa kusikiliza wanayotuambia wazazi na walimu wetu hata kama hatukubaliani nayo

(alama 2)

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……

……

f) Eleza manufaa matatu ya utiifu. **(alama 3)**

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g) Fafanua matokeo mawili ya uasi kulingana na taarifa hii. **(alama 2)**

……

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……

h) Eleza maana ya maneno haya kama yalivyotumika katika taarifa**:** **(alama 2)**

(i) matilaba

……....

(ii) Tajriba pevu

……

2. UFUPISHO (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali uliyoulizwa.

Suala la uzito wa mwili ni mojawapo wa masuala ambayo yamewashughulisha wataalamu katika miaka ya karibuni.Tatizo hasa sio uzito wa mwili wenyewe bali ni uto ambao aghalabu unaenda sambamba na uzito huo. Uzito wa mwili ni kipimo cha mwili mzima ukihusishwa na misuli ya mwili. Zipo njia mbali mbali zinazoweza kuchangia uzito wa mwili.Kimsingi, hutokana na kalori

za ziada ambazo mwili huo huwa nazo. Kalori hizi hutokana na hamirojo , mafuta au hata proteini.Kalori hizi huhifadhiwa na mwili katika seli maalum (tishu za mafuta). Asilimia 50 ya jumla ya mafuta au uto wa mwili huhifadhiwa chini ya ngozi ya mwili. Ile nyingine huzunguka viungo mbalimbali vya mwili kama vile moyo.

Uto una faida kadha mwilini.Kwanza,ni msingi muhimu na mkuu wa nishati za mwili. Uto unapochomwa na mwili huvyaza oksijeni ya ziada ambayo husambazwa kwenye seli za mwilini.Oksijeni hii inapoungana na atomu za kaboni na haidrojeni huwa chanzo cha joto mwilini.Uto pia hukinga mifupa na viungo vya mwili,huhifadhi au kuukinga mwili hasa dhidi ya baridi na huwa nyenzo muhimu hasa kwa mwenye matendo ambayo yanahitaji matumizi ya nguvu.Licha ya faida zake hizi,uto huwa na matatizo.Kimsingi, uto mwingi unaweza kuwa chanzo cha unene au utipwatipwa wa mwili ambao unaweza kuwa chanzo cha fedheha kutokana na unene.Uto pia unahusishwa na hali kadha za kimatibabu kama kufupisha uwezekano wa maisha kuwa marefu.Yapo maradhi ambayo yanahusishwa kwa kiasi kikubwa
na unene wa mwili,unaotokana na uto ,kama maradhi ya moyo,bolisukari,ugonjwa wa ini na matatizo ya figo.

Vyanzo vya tatizo la uto hutofautiana.Wataalamu wanaamini zipo chembechembe zinazorithiwa ambazo huweza kuwa chanzo cha ulaji unaopiku ambao unaweza kusababisha unene. Hata hivyo, ingawa msimbojeni unaweza kuwa chanzo hiki,ulaji usiozingatia hatari kama hizi huchangia pakubwa. Vipo baadhi ya vyakula ambavyo vina mchango mkubwa katika kulivyaza tatizo la unene.Vyakula hivi ni vile vinavyojulikana kama vyakula chapwa vikiwemo kaukau na viazi vya kutafuna.Aidha, vinywaji huweza kuwa vyanzo vya kalori ambazo huishia kuwa chanzo cha uto mwingi mwilini.Ili kupambana na tatizo la unene, pana haja ya kuhakikisha kuwa tunapunguza ulaji wa baadhi ya vyakula.Hivi ni vyakula vyenye mafuta mengi.Kwa mfano,mtu wa wastani anaweza kukung'uta kalori 300 kwa saa afanyapo mazoezi.Mazoezi haya husaidia viungo vingine vya mwili kama vile moyo kwa kiasi kikubwa.

Hizi ni njia nyepesi ambazo zinaweza kutumika kupunguzia uzito kuliko matumizi ya madawa au njia nyingine za kihazigi ambazo huweza kuwa na matokeo hasi kwa mwili.

Maswali

a) Fupisha ujumbe wa aya ya kwanza kwa maneno 50 (Alama 5;1 ya mtiririko)

Matayarisho

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Jibu

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b) Eleza masuala ambayo mwandishi ameibua katika aya ya pili kwa maneno 50.

(Alama 7;1 ya mtiririko)

Matayarisho

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Jibu

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c) Fupisha ujumbe wa aya ya tatu kwa maneno **40** **(Alama 3)**

Matayarisho

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Jibu

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3. MATUMIZI YA LUGHA (ALAMA 40)

(a) Andika sauti zenye sifa zifuatazo: **(alama2)**

(i) kipasuo **sighuna/hafifu** cha ufizi

……

(ii) irabu ya mbele juu

……

(b) Neno ‘kwapa ‘ liko katika **ngel**i gani? **(alama 1)**

……

……

(c) Tofauitisha sentensi zifuatazo **kimaana** **(alama 2)**

(i) yote yameliwa .

……

(ii) yoyote yameliwa.

……

(d) Andika neno moja lenye **mofimu** zifuatazo: **(alama 3)**

Nafsi ya pili wingi , hali timilifu ,yambwa,mzizi, kauli tendea, kiishio

……

e) Andika sentensi ifuatayo katika hali ya **ukubwa wingi** **(alama 2)**

Ng'ombe huyo alinunuliwa mbali na mji ule mkuu.

……

(f) **Ka** imetumika kuleta maana gani katika sentensi zifuatazo : **(alama 2)**

(i) Rais kazuru mbuga za wanyama

……

(ii) Mgeni kaingia humu ndani kupumzika.

……(

g)i) **Kirai** ni nini? (alama 1)

……

(ii) Bainisha **aina** za virai vilivyopigiwa mstari. (alama2)

Yule mzembe alipigwa na mwanawe.

…..……

……...……

(h) Tofautisha maana ya **jozi** ifuatayo ya maneno. **(alama 2)**

i. ridhi ……

ii. rithi…….....

(i) Eleza matumizi yoyote mawili ya alama ya **kistari kirefu** katika sarufi ya Kiswahili**.(Alama 2**

……

……

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(j) Ainisha **vihusishi** katika sentensi: **(Alama 2)**

i) Hawa watatumia pesa nyingi kushinda wale.

……

ii) Darasa nzima litatuzwa na mwalimu wao.

……

(k) **Sahihisha** sentensi zifuatazo . (alama 2)

i) Kile kitabu kilipasuka ni changu .

……

ii) Mtu mwenye ameanguka ni ndugu yangu.

……

(l) Nyambua vitenzi hivi katika kauli ya **kutendesha**, kisha uvitungie sentensi . (alama 2)

i) oa…….

…….

ii) la……

……

(m) Mkunga ni mtu mwenye maarifa ya kushugulikia wanawake wajawazito wakati wa kujifungua . Tunga sentensi mbili zitakazodhihirisha maana nyingine mbili za neno hili.

(alama 2)

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(n) Kwa kutungia sentensi, dhihirisha matumizi ya '**kwa**' ili kuonyesha : **(alama 2)**

i) sababu / nia

……

ii) Jinsi ya kutenda/kitendo kilivyofanywa

…….

o) Changanua sentensi hii kwa kielelezo cha **matawi.** **(alama 4)**

Muumini atakayeshtaki ni msaliti mkubwa sana.

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(p) Bainisha shamirisho kitondo katika sentensi :

Lola alimpasulia nyanya kuni**.** **(alama 1)**

……

……

(q) Tumia viashiria vya **kutilia mkazo** katika sentensi zifuatazo: **(alama 2)**

c) Wema----------ulisababisha atuzwe.

ii) Polisi waliwafuata ---------- walikoenda.

(r) Andika **kitenzi** kinachotokana na neno : **(alama 1)**

mfuasi

……

……

(s) Eleza **tofauti** baina ya sentensi hizi: **(alama 2)**

i) Ningekuwa na pesa ningenunua pikipiki.

……

……

ii) Ningelikuwa na pesa ningelinunua pikipiki.

……

……

(t)Andika **methali** inayoafiki maelezo yafuatayo: **(alama 1)**

Mwanadamu hakosi ila. Aliyekamilika ni Mungu pekee.

……

……

4 ISIMUJAMII **(Alama 10)**

Soma makala yafuatayo kisha ujibu maswali.

Jumamosi ,Disemba 26,2020

Ananyoa kwa shoka

Na Wangu kanuvi

Julius Mwangi, 24, ni kinyozi ambaye amevuma kwa kunyoa wateja wake. Kinyozi huyu aliamua kuanza kutumia shoka miezi mitatu iliyopita baada ya kutambua kuwa ipo haja ya kuwa na njia ya pekee ya kuwanyoa watu.

"Nimebobea katika kutumia mashine lakini nilitaka njia mbadala na ya kipekee ya kuwanyoa watu…"

Wateja wake hujaa kibao katika kibanda chake kilicho katika mtaa wa Tayari, kaunti ya kiambu…

a) Bainisha sajili ya makala haya. **(Alama 2)**

……

……

……

(b) Eleza sifa zozote **sita** za sajili hii kwa kurejelea makala haya. **(alama 6)**

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(c) Fafanua sifa nyingine **mbili** za sajili hii ambazo zingejitokeza katika makala haya. **(alama2)**

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KCSE 2024 JOINT MOCK EXAM

SERIES 2

102/3

KISWAHILI

KARATASI YA 3

FASIHI

MUDA: SAA 2½

JINA……

SHULE…… SAHIHI……

NAMBARI YA USAJILI…… MKONDO……

Cheti cha Kuhitimu Kisomo cha Sekondari (KCSE)

MAAGIZO

a) *Jibu maswali manne pekee.*
b) *Swali la kwanza ni la lazima.*
c) *Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani; tamthilia, riwaya, hadithi fupi na fasihi simulizi.*
d) *Usijibu maswali mawili kutoka sehemu moja.*
e) *Majibu yote lazima yaandikwe kwa lugha ya Kiswahili.*
f) *Andika nambari ya maswali uliyoyajibu.*

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
	20	
	20	
	20	
	20	
JUMLA	80	

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SEHEMU YA A: USHAIRI

SWALI LA LAZIMA

MBELE YA SAFARI

1. Ilipoanza safari , ilianza kwa dhiki
Tulishikana kwa ari, kwenda safari ya haki
Tukawa ni majabari, nyoyo zisitaharuki
Tukajizatiti

2. Njaa ikawa dhabiti ,na kiu kutamalaki
Nasi tulitia dhati tusijali kuhiliki
Ingawa mbele mauti ,dhila na mingi mikiki
Tukajizatiti

3. Huu mwisho wa safari, tukaambiwa ni haki
Shangwe kwetu na fahari,utumwa hatuutaki
Kuwa mbele ya safari , juhudi iliyobaki
Tukajizatiti

4. Ile ilikuwa ndoto , mwisho wake mafataki
Nguvu zimechomwa moto,sahala ‘mekuwa dhiki
Wagombanio kipato,utashi haukatiki
Nakutabakari

5. Msafara ukasita , kwenye mlima wa haki
Kijasho kinatuita , mlima haupandiki
Basi sote ‘kijipeta, kukikwea kima hiki
Twataka hazina

6. Tukiwa migongo wazi ,tukainama kwa shaki
Tukawa’chia ukwezi , kialeni wadiriki
Wakapanda bila kazi ,Kuteremsha miliki
Wakaitapia

7. Wakafikia makazi,ya pumbao na ashiki
Huko wakajibirizi, kwenye raha lakilaki
Wakaisahau ngazi, ya umma ulomiliki
Mbele ya safari

8. Na hazina yetu sote, kuishusha hawataki

Wamo wanatema , kwa umati halaiki
Imezima nia yote ,kiza hakitakasiki
Mbele ya safari

a) Eleza safari inayolejelewa katika shairi hili. **(al 2)**
b) Onyesha kinaya cha safari inayozungumziwa. **(al 6)**
c) Taja na ueleze bahari mbili za shairi ukizingatia : **(al 4)**
i. Mizani ;
ii. Vina
d) Andika ubeti wa saba kwa lugha ya nathari**.** **(al 4)**
e) Eleza umuhimu wa aina mbili za uhuru wa kishairi zilizotumiwa katika ubeti wa sita. **(al 4)**
f) Eleza umbo/ muundo wa shairi hili. **(ala 2)**

SEHEMU YA B: TAMTHILIA

Timothy Arege

BEMBEA YA MAISHA

2. Hiyo ndio ajabu! Kizazi hili hakitaki kufanya kazi. Kinataka kuja kazini kwa sababu ya mshahara tu. Wachapa kazi hodari ni njozi iliyopotea.
a) Eleza muktadha wa dondoo hili. **(ala 4)**
b) Eleza sifa za msemaji wa dondoo hili. **(ala 4)**
c) Fafanua imuhimu wa msemewa katika kazi ya Bembea ya Maisha. **(ala 4)**
d) Taja na uonyeshe mbinu za uandishi zilizotumika katika dondoo. **(ala 4)**
e) Eleza maudhui yanayokuzwa katika muktadha wa dondoo. **(ala 4)**

3. Kila binadamu hukabiliana na mabadiliko katika maisha yake. Jadili kauli hii ukirejelea tamthilia ya Bembea ya Maisha. **(ala 20)**

SEHEMU YA C: Riwaya
Clara Momanyi;Riwaya ya Nguu za Jadi
Jibu swali la 4 au 5
4. Fafanua jinsi Mrima amechangla kuibomoa jamii yake **(al.20)**

5.*"Hamwoni kwamba mila hainiruhusu mie nikatunzwe na mke kama mgonjwa? Aummesahau mikatale ya utamaduni kwa sababu mnaishi mjini"*

a. Fafanua muktadha ya dondoo hili **(al 4)**
b. Tambua mbinu mbili za lugha katflca dondoo hili_ **(al.4)**
c. Tambua maudhui katika dondoo hili_ **(al.8)**
d. Fafanua umuhimu wa mandhari ya dondoo hill **(al.4)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

HADITHI FUPI

D.W Lutomia na Phibbian Muthama: ***Mapambazuko ya Machweo na Hadithi Nyingine***

Jibu swali la 6 au la 7

6. "Isije ikawa mwenye nyumba kuja na yeye mpangaji akachelewa kumfungulia mlango; itakuwa balaa bin beluwa"

i. Eleza muktadha wa dondoo **hili** **(ala 4)**

ii. Jadili umuhimu wa mwenye nyumba anayerejelea **(ala 6)**

iii. Maisha yalikuwa balaa bin beluwa kwa mpangaji. Thibitisha **(ala 10)**

7.

(a) Machoka alikumbuka kauli ya jirani yake, Zuhura, aliyeishi kumkumbusha, "wetu ni wetu, hata akiwa mbaya … wetu. Hatuna budi ila kumchagua yeye. Lisilobudi hubidi. Awe amesoma ama hajasoma, angali wetu."leo hii hata Zuhura mwenyewe alikuwa anajutia kumchagua huyo wetu.

Kwa muda mrefu, Machoka na Zuhura walikuwa kama fahali wawili hawakai katika zizi moja. Kisa na maana, ni wafuasi wa watu wawili tofauti. Leo hii kinachowaleta pamoja Machoka na Zuhura ni udhikinifu, hali ngumu ya maisha, mfumuko wa bei za bidhaa muhimu na kutozwa ushuru wa kiwango cha juu na serikali hiyo hiyo ya 'watu wao'. Zuhura alisuta nafsi yake. Alikuwa akiitazamia nchi nzuri na maisha bora baada ya uchaguzi. Alitazamia 'watu wake' wangezitimiza ahadi walizozitoa wakati wa kampeni zao. Leo hii imebakia kujuta. Kujuta ghya ya kujuta! Tayari alikuwa amekwishafanya kosa. Kosa ambalo alifahamu lilikuwa la kujitakia. Ulikuwa mwiba wa kujidunga usiokuwa na kilio wala kuambiwa pole. Maji yalikuwa yashamwagika, katu hayangeweza kuzoleka…"

Chambua maudhui katika dondoo hili**.** **(ala 12)**

(b) Eleza sababu nne zinazochangia jimbo la Matopeni kutoshuhudia maendeleo ya kisiasa tangu nchi kupata uhuru . **(ala 8)**

SEHEMU YA E

FASIHI SIMULIZI

8. i)Eleza maana ya misimu. **(al 2)**

ii)Taja mambo manne ya kimsingi yanayochangia kuchipuka kwa msimu. **(al 4)**

iii)Eleza umuhimu wa misimu katika jamii. **(al 10**

iv)Taja sifa nne za misimu. **(al 4)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

121/1

MATHEMATICS

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

a) *Write your name, index number and date in the spaces provided at the top of this page.*

b) *Write name, admission number and class in the spaces provided above.*

c) *This paper contains **TWO** sections: **section I** and **section II***

d) *Answer **ALL** the questions in **Section I** and only **five** questions from **section II.***

e) ***Show all the steps in your calculations, giving your answers 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 scientific 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

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION 1 (*50 marks*)

Answer all the questions in this section in the space provided

1. Evaluated: **(3mks)**

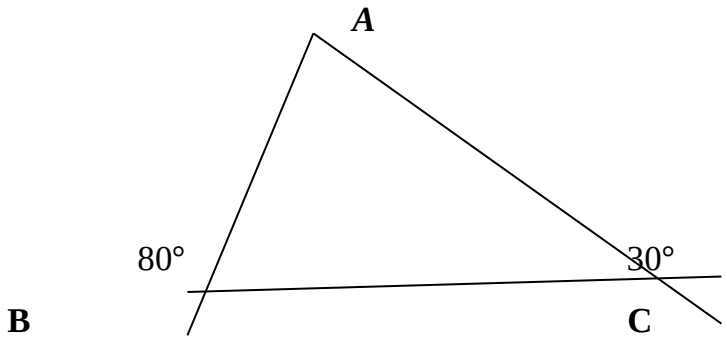
$$\frac{2\frac{1}{2}\ of\ 1\frac{3}{4} - 5\frac{1}{4}}{1\frac{2}{5} + 2(1\frac{1}{4} - 2\frac{3}{4})}$$

2. Use logarithms to evaluate the following to 4 significant figures to: **(4mks)**

$$\left(\frac{95.75\ X\ 0.85}{4.524 + 1.234}\right)^{\frac{2}{3}}$$

3. An electrician made a loss of 30% by selling a multi plug at sh.1400.what percentage profit would he has made if he sold the multi plug at sh. 2300. **(3mks)**

4. In the triangle ABC below, BC=9cm, angle ABC=80°.and angle ACB=30°.



Calculate, correct to 4 significant figures, the area of the triangle. **(3mks)**

5.) Given that the exterior angle of a regular hexagon is 2x. Find the value of x . Hence find the size of each interior angle of the hexagon. **(3mks)**

6. Two numbers t and s are such that $t^4 \times s^2 = 5625$. Find t and s **(3mks)**

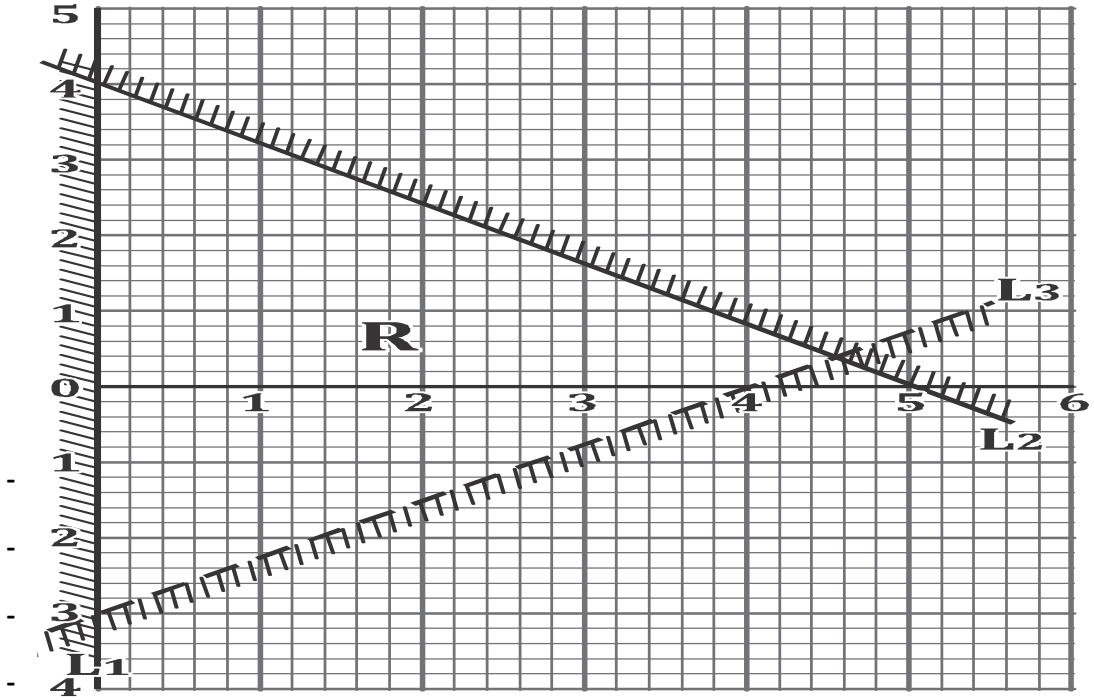
7. Find the obtuse angle the line with equation 2y+5x+2=0 makes with the x-axis**.** **(3mks)**

8. Simplify the expression **(3mks)**

$$\frac{12x^2+ax-6a^2}{9x^2-4a^2}$$

9. A plot is in the shape of a right angled triangle. The length of the shorter side is 15m and the area is 456.8m^2. Calculate the length of the longest side of the garden. **(3mks)**

10.) The diagram below shows a region R bounded by three lines L_1, L_2 and L_3. Form the three inequalities that satisfies the given region R **(3mks)**



11. A bus travelled at an average speed of 63km/h left the station at 9.15 am. A car later left the same station at 10.00am and caught up with bus at 11.45 am. Find the average speed of the car. **(3mks)**

12. A tourist came in Kenya and exchanged 1250 US dollars into Kenyan shillings at the rate shown below.

	Buying (Kshs)	selling (Kshs)
1US dollar	105.5	110.8

He spent Ksh. 85400 after which he converted the remaining balance to US dollars. How much US dollars did he get back to the nearest dollar. **(3mks)**

13.a) Complete the table below for $y= x^2+5$ **(1mk)**

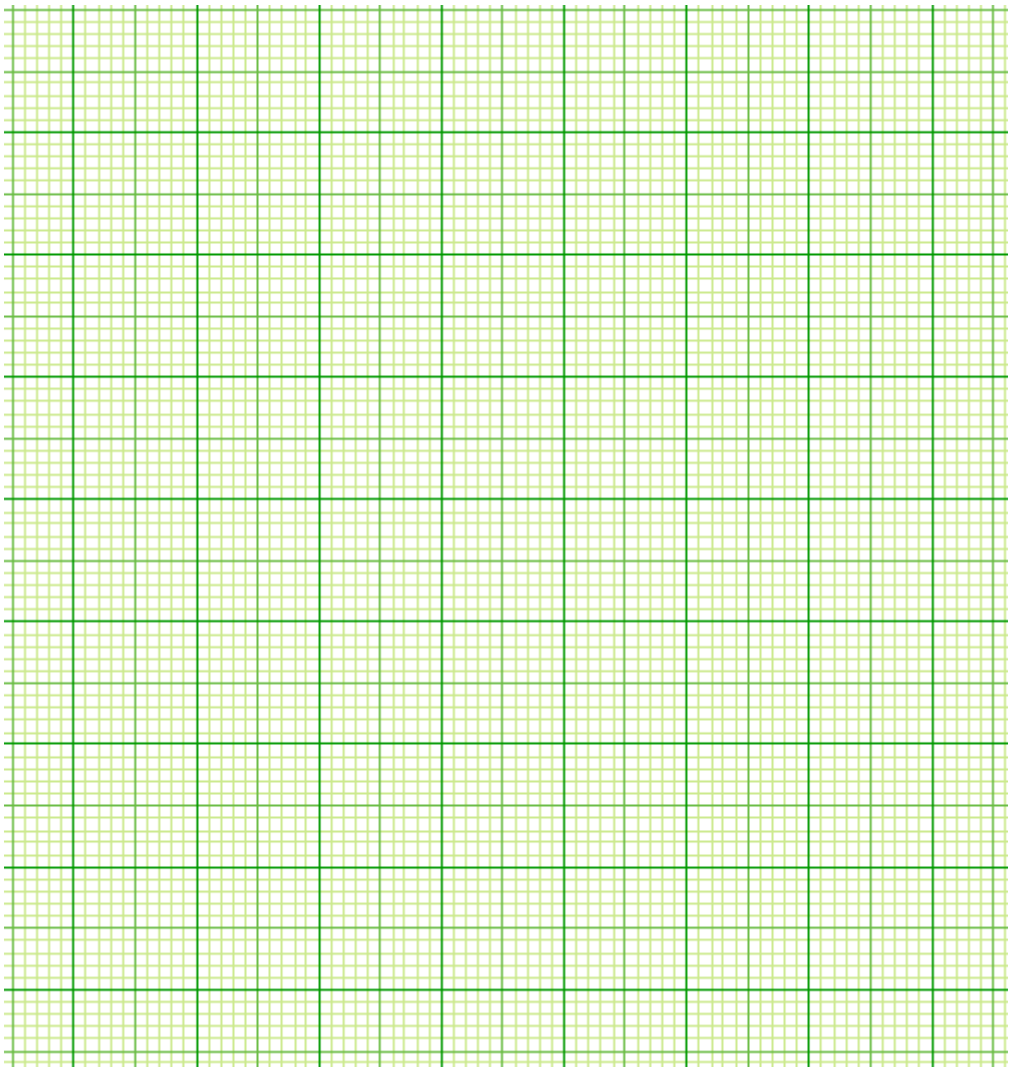
X	0	1	2	3	4	5	6
$Y=x^2+5$	5						

b) Use the trapezoidal rule with7 ordinates to estimate the area bounded by the curve $y=x^2+5$, x – axis , y-axis and x=6 **(2mks)**

14. Given that $\mathbf{a} = \begin{pmatrix} \mathbf{6} \\ \mathbf{2} \end{pmatrix}$, $\mathbf{b} = \begin{pmatrix} -2 \\ -4 \end{pmatrix}$ and $3\mathbf{a}-2\mathbf{b}+2\mathbf{c}=\begin{pmatrix} 32 \\ 20 \end{pmatrix}$, find **c** **(3mks)**

15). A triangle T with vertices A(2,4), B(6,2)and C(4,8) is mapped onto triangle T' with vertices A'(10,0) ,B'(8,-4) and C'(14,-2) by a rotation .

a) on the grid provided draw triangle T and its image T' **(2mks)**



b) Determine the centre and the angle of rotation that maps T onto T' **(2mks)**

16. A small cone of height 8cm is cut off from a bigger cone leaving a frustum of height the 16cm. If the volume of the smaller cone is $160cm^3$, find the volume of the frustum**.** **(3mks)**

SECTION II (50MKS)

*Answer any **five** questions in this section in the space provided*

17. Three businessmen, Hassan, Mutua and Wanyonyi decided to start a business. The initial capital which was needed was Ksh. 4,000,000 of which they were able to raise 30% by making contributions in the ratio 3:3:2 respectively. The rest of the amount was obtained from a bank and was to be paid back within one year with an interest of 25% in the same ratio 3:3:2. The three men were to share the profit of the business in the ratio of their contribution. During the year, the business realized a profit of ksh.4, 800,000.

a) How much of the initial amount did Wanyonyi raise? **(3mks)**

b) How much did Hassan pay to the bank at the end of the year? **(4mks)**

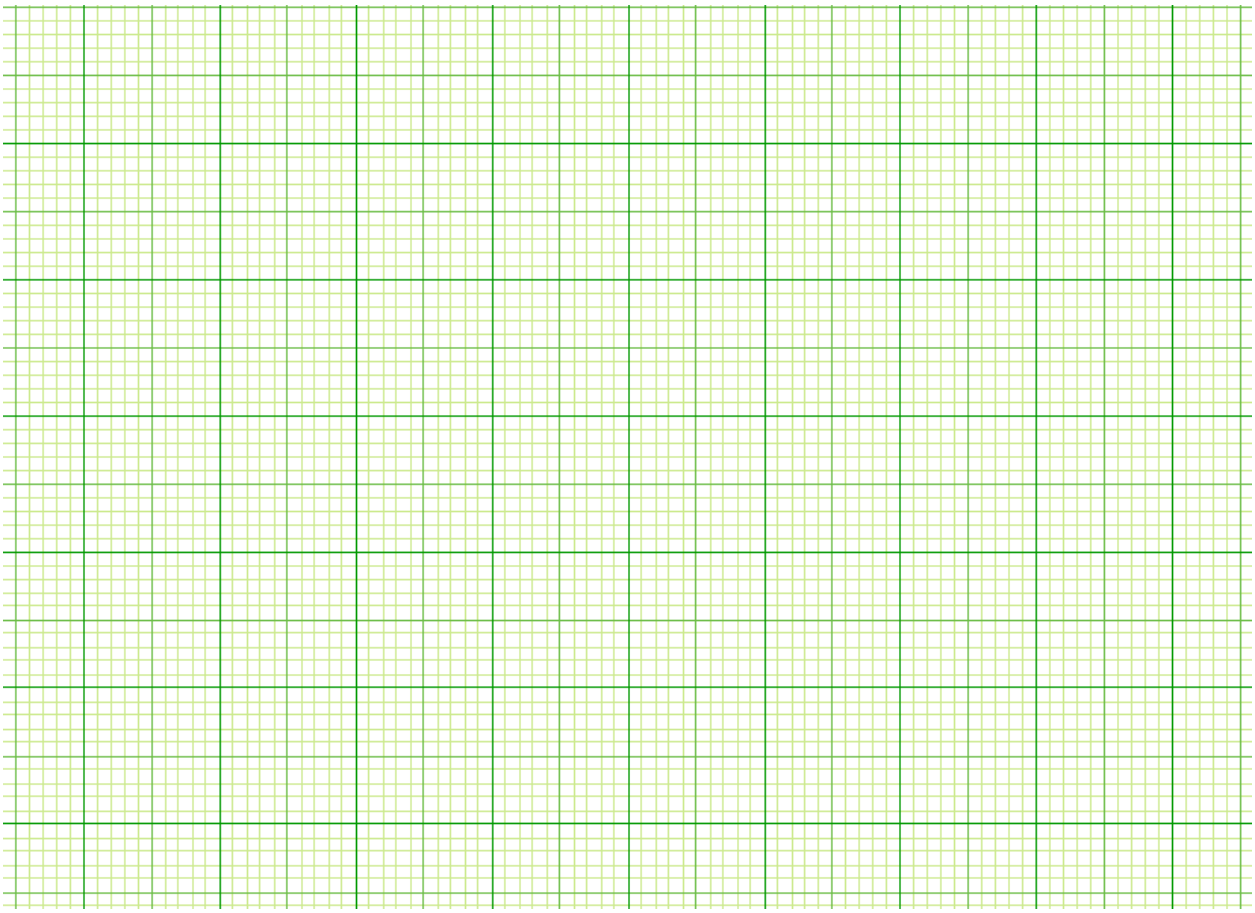
C) After paying the bank at the end of the year, how much was Mutua left with? **(3mks)**

18. The marks scored by 50 students in a geography examination are as follows:

60	54	40	67	53	73	37	55	62	43
44	69	39	32	45	58	48	67	39	51
46	59	40	52	61	48	23	60	59	47
65	58	74	47	40	59	68	51	50	50
71	51	26	30	38	70	46	40	51	42

a) Prepare a frequency distribution table using a class interval of 10 starting from 21-30 **(3mks)**

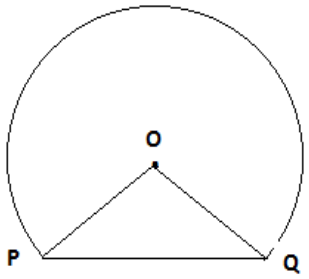
b) Draw a histogram to represent the distribution **(4mks)**



c) Use your histogram to estimate the modal class **(1mk)**

d) Using the histogram estimate the mean of the distribution of the data. **(2mk**

19. A petrol tanker has a cross-section in the shape shown below. It is used to transport petrol. Its internal length is 7m while its internal radius is 3.5 m. Obtuse angle POQ = 144^0.On one of its trips, it was filled to capacity. Taking $\pi = {}^{22}/_{7}$



(a) Calculate the volume of petrol in the tanker in

(i) m^3 **(2 marks)**

(ii) litres **(1mark)**

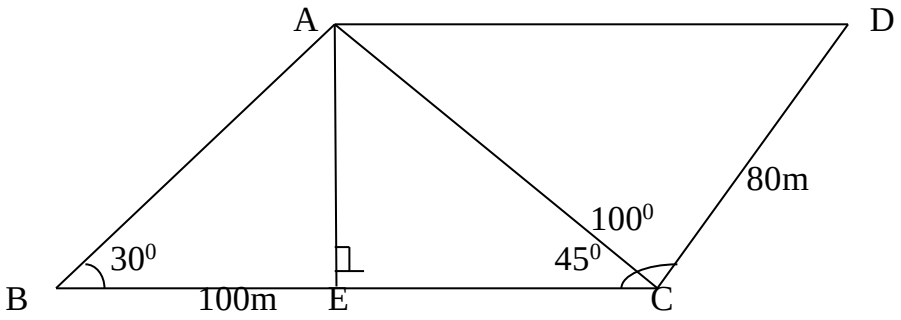
(b) In the parking lot at night, a third of the petrol was stolen.

i) How many litres of petrol was the owner left with? **(2 marks)**

ii) What was the mass of the remaining petrol given that one cubic metre of petrol has a mass of 700kg? **(3 marks)**

(iii) At the weigh bridge, any vehicle carrying excess of 50,000 Kg was charged Sh. 12.50 for every extra kilogram. How much fine did the owner of the tanker pay? **(2 marks)**

20. The figure below represents a quadrilateral piece of land ABCD divided into three triangular plots. The lengths BE and CD are 100m and 80m respectively. Angle ABE = 30^0, ACE = 45^0 and ACD = 100^0.



(a) Find to four significant figures:

(i) The length of AE. **(2mks)**

(ii) The length of AD. **(2mks)**

(iii) The perimeter of the piece of land. **(3mks)**

(b) The plots are to be fenced with five strands of barbed wire leaving an entrance of 2.8m wide to each plot. The type of barbed wire to be used is sold in rolls of lengths 480m. Calculate the number of rolls of barbed wire that must be bought to complete the fencing of the plots. **(3mks)**

21. A straight line $\mathbf{L_1}$ has a gradient **-½** and passes through point **P (-1, 3).** Another line $\mathbf{L_2}$passes through the points **Q (1,-3)** and **R (4, 5)**.

Find:

(a) The equation of $\mathbf{L_1}$ **(2 marks)**

(b) The equation of $\mathbf{L_2}$ in the form $ax + by + c = 0$. **(3 marks)**

(c) The equation of a line passing through a point **S (0, 5)** and is perpendicular to $\mathbf{L_2}$.

(3 marks)

(d) The equation of a line through **R** parallel to $\mathbf{L_1}$. **(2 marks)**

22. a) A port B is on a bearing 080^{o} from a port A and a distance of 95 km. A Submarine is stationed at a port D, which is on a bearing of 200^{o} from A, and a distance of 124 km from B. A ship leaves B and moves directly Southwards to an Island P, which is on a bearing of 140^{o} from A. The Submarine at D on realizing that the ship was heading to the Island P, decides to head straight for the Island to intercept the ship. Using a scale of 1 cm to represent 10 km, make a scale drawing showing the relative positions of A, B, D and P. **(4 marks)**

Hence find:

b) The distance from A to D. **(2 marks)**

c) The bearing of the Submarine from the ship when the ship was setting off from B. **(1 mark)**

d) The bearing of the Island P from D. **(1 mark)**

e) The distance the Submarine had to cover to reach the Island P. **(2 marks)**

23. (a) Find the inverse of the matrix: **(1mk)**

$A=\begin{pmatrix}4 & 3\\ 3 & 2\end{pmatrix}$

b) Amina bought 20 bags of oranges and 15 bags of mangoes for a total of sh. 9,500. Nafula bought 30 bags of oranges and 20 bags of mangoes for a total of sh. 13,500. If he price of a bag of oranges is X and that of mangoes is y:

h) Form two equations to represent the information above. **(2mks)**

ii) Hence use the matrix A^{-1} above to find the price of one bag of each item. **(4mks)**

(c) The price of each bag of oranges was increased by 10% and that of mangoes reduced by 10%. The businesswomen (Amina and Nafula) bought as many oranges and as many mangoes as they bought earlier. Find the total cost of oranges and mangoes that each businesswomen bought after the percentage change. **(3mks)**

24. The displacement, s metres, of a moving particle from a point O, after t seconds is given by, s = $t^3 - 5t^2 + 3t + 10$

a) Find s when t=2 **(2mks)**

b) Determine:

i) the velocity of the particle when t=5 seconds; **(3mks)**

ii) the value of t when the particle is momentarily at rest **(3mks)**

c) find the time , when the velocity of the particle is maximum **(2mks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

121/2

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

a) *Write your name, index number and date in the spaces provided at the top of this page.*

b) *Write name, admission number and class in the spaces provided above.*

c) *This paper contains **TWO** sections: **section I** and **section II***

d) *Answer **ALL** the questions in **Section I** and only **five** questions from **section II.***

e) ***Show all the steps in your calculations, giving your answers 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 scientific 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

SECTION 1 (*50 marks*)

Answer all the questions in this section in the space provided

1. Find without using tables or a calculator, the values of x which satisfy the equation**;(3mks)**

$\log_3 (x^2 - 9) = 2 \log_3 3+1$

2. Construct rectangle ABCD in which AB = 4cm and BC = 3cm. Inside the rectangle construct the locus of point L_1 which is 3cm from A. Locus of L_2 which is equidistant from the line AB and AD and locus of L_3which is 2cm from line AB**.** **(4mks)**

3. Make q the subject of the formula **(3mks)**

$\sqrt[3]{\frac{nq-m}{q}}$

4. Under transformation represented by a matrix $\begin{pmatrix} 5x & 2 \\ -3 & x \end{pmatrix}$ a triangle of area $10cm^2$ is mapped onto a triangle whose area is $110cm^2$. Find x**;** **(3mks)**

5. Simplify; **(3mks)**

$$\frac{x - 3}{x + 3} - \frac{x^2 - 3x}{x^2 - 9}$$

6. If $\frac{1}{3-\sqrt{5}} - \frac{2 + 2\sqrt{5}}{3+\sqrt{5}} = a + b\sqrt{c}$, find the value of a b and c**.** **(3mks)**

7. Find the radius and centre of a circle whose equation is $x^2 + 4x + y^2 - 8y + 11 = 0$. **(3mks)**

8. (a) Expand $(1 - 2x)^4$; **(2mks)**

(b) Use the first four terms of your expansion in (a) above to find the values of $(0.99)^4$; **(2mks)**

9. The cash prices of a bed is Kshs 6,500. A man buys it on hire purchase by making a down payment of Ksh 2,300 followed by 12 monthly instalments of Kshs 490. Calculate the rate of carrying charge per month. **(3mks)**

10. Tap A takes 4 minutes to fill a tank and tap B takes 6 minutes to empty the tank. If the tank has a capacity of 3000litres, find the volume of the tank after 2 minutes when both taps are open. **(3mks)**

11. Determine the amplitude, period and phase angle of the curve $y=5 \sin (3x - 120)^{o}$; **(3mks)**

12. The gradient function of a curve is given by $\frac{dy}{dx} = 3x^2 - 8x + 2$. If the curve passes through the dx(2 -2) find its equation; **(3mks)**

13. Two brands of coffee Arabica and Robusta cost Kshs 4700 and 4200 per kilograms respectively, are mixed to produce a blend that cost Kshs 4,600 per kilograms. Find the ratio of the mixture. **(3mks)**

14. Find the number of terms that will give a sum of 800 in the series; **2mrks**

$2 + 6 + 10$ ……..

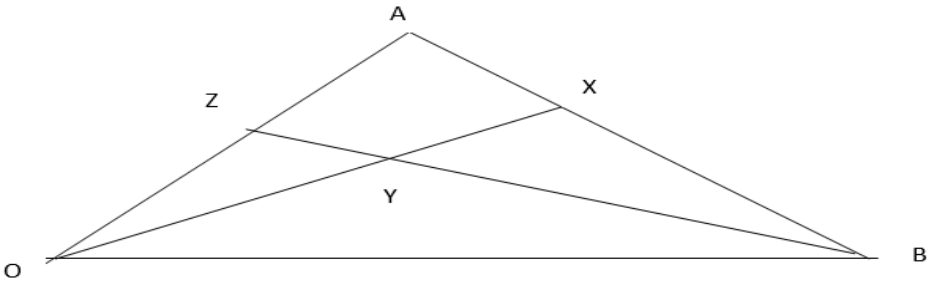
15. An aircraft flies 600nm northward from a point P on the equator, along the meridian to Q. It then flies 2400km eastwards along the circle of latitude to R. If the longitude of P is 50^{o}E, Calculate the latitude and longitude of R (Take the radius of the earth to be 6370 km) **(4mks)**

16. Kiptanui earned Kshs 350,000, Kshs 420,000 and Kshs 504,000 in 2012, 2013 and 2014 respectively. How much will he earn in 2017? **(3mks)**

SECTION II: (50 MARKS)

Answer only FIVE questions in this section.

17.



In the figure above, O is the origin OA = a and OB = b. The point x is on AB such that 2 AX = XB and y is the mid point of OX.

(a) Find in terms of a and b the vectors;

(i) OX **(2mks)**

(ii) BY **(2mks)**

(iii) BY produced meets OA at z. Given that OZ = h a and BZ = kBY where h and k are constants. Find the values of h and k. **(4mks)**

(iv) Find the position vector OZ and obtain the ratio oz:zn **(2mks)**

18. The second, third and fourteenth terms of arithmetic progression are the three consecutive terms of a geometric progression. The 10^{th} term of the arithmetic progression is 18. Find:

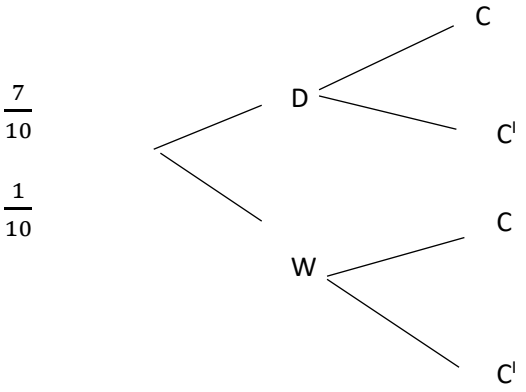
(a) The first term and the common difference of the progression; **(5mks)**

(b) The sum of the first 10 terms of the progression; **(3mks)**

(c) The sixth term of the A.P. **(2mks)**

19. During a certain motor rally it is predicted that the weather will be either dry (D) or wet (W). The probability that the weather will be dry is $\frac{7}{10}$. The probability for a driver to complete (c) the rally during wet weather is $\frac{5}{6}$ during wet weather is $\frac{1}{10}$;

(a) Complete the probability tree diagram given below;



(b) What is the probability that;

(i) The driver completes the rally; **(2mks)**

(ii) The weather is wet and the driver doesn't compete the rally.

(iii) The weather is wet but the driver completes the rally.

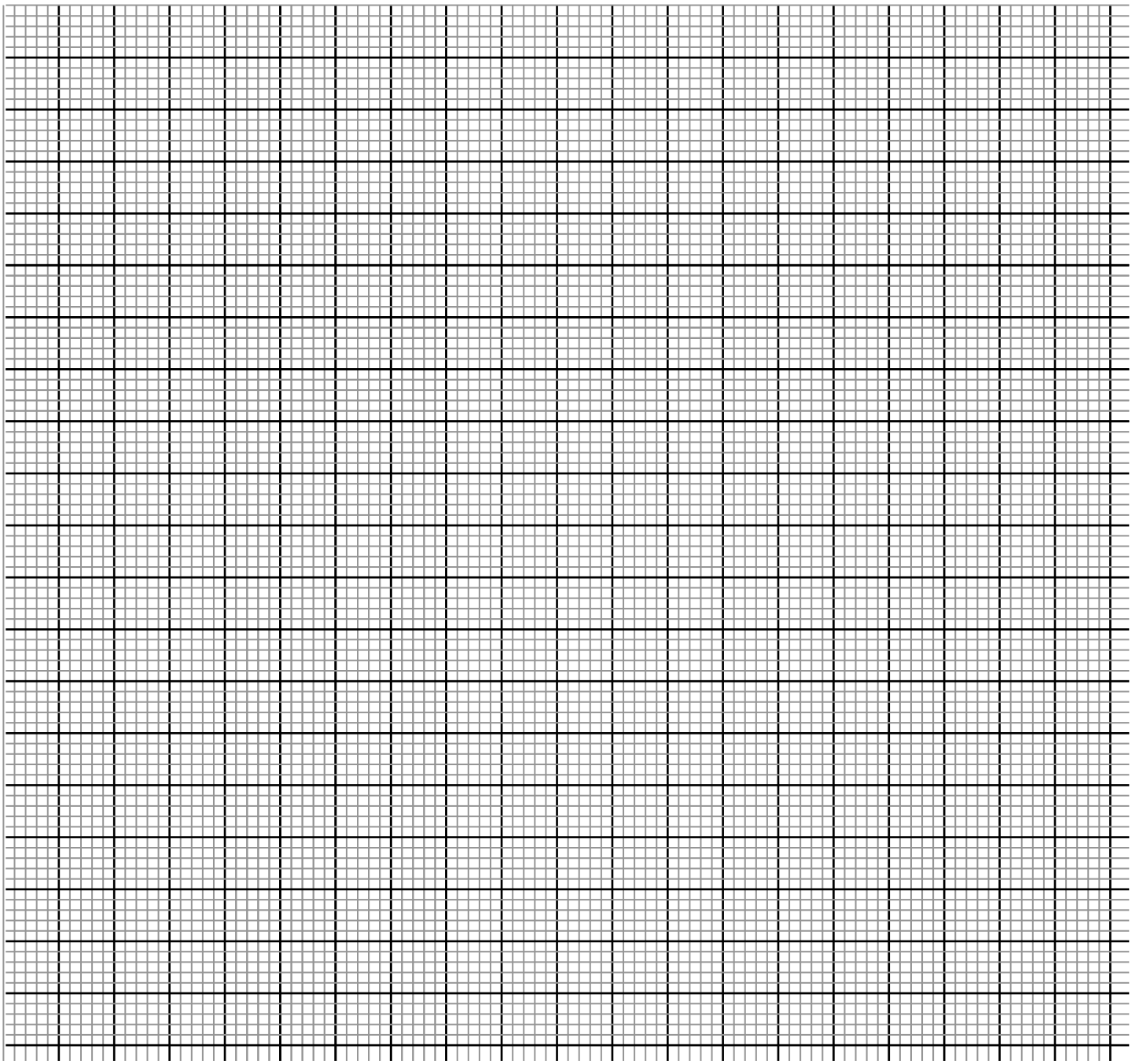
(c) Given that the probability of having a puncture on a wet weather at the rally is $\frac{1}{3}$, find the probability that on a wet weather, the rally was completed because the driver did not have a puncture;

20. (a) Complete the table below for the functions, y = sin x and y=2sin (x+30)^o for 0 ≤x≤360^o.

(2mks)

x^o	0	30	60	90	120	150	180	210	240	270	300	330	360
Sinx	0	0.5	0.87		0.87	0.5	0		-0.87	-1		-0.5	0
2sin(x+30)	1		2	1.73		0	1	-1.73		-1.73	-1	0	1

(b) Draw the graph of y=sinx and y=2sin (x+30)^o on the same grid**.** **(4mks)**



c. i. State the amplitude of the graph $y=2\sin(x+30)^o$ **(1mk)**

ii. State the period of the graph $y = \sin x$

(d) Use your graph to solve the equation $\sin x - 2\sin(x+30) = 0$**.** **(2mks)**

21. The table below show income tax for a certain year;

Monthly Income in Kshs	Tax Rate
0-10164	10%
10165 – 19740	15%
19741 – 29316	20%
29317 – 38892	25%
Over 38892	30%

A tax relief of Kshs 1162 per month was allowed. In a certain month of the year, an employees taxable income in the fifth band was 2108.

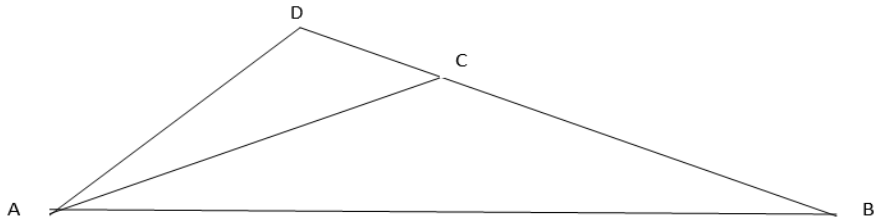
(a) Calculate;

(i) Employees total taxable income in that month; **(2mks)**

(ii) The tax payable by the employees in that month**;** **(5mks**

(b) The employees income include a house allowance of Kshs 15000 per month. The employees contributed of the 5% basic salary to a cooperative society calculate the employees net pay for that month. **(3mks)**

22. In the figure below (not to scale) AB = 8cm, AC = 6cm, AD = 7cm, CD = 2.82cm and angle CAB = 50^{o}.



Calculate (to 2 decimal places);

(a) The length BC **(2mks)**

(b) The size of angle ABC **(3mks)**

(c) The size of angle CAD **(3mks)**

(d) The area of triangle ACD **(2mks)**

23. (a) After t seconds a particle moving along a straight line has a velocity of Vm/s and an acceleration of $(5 - 2t)m/s^2$, the particles initial velocity is 2 m/s;

(i) Express V in terms of t **(3mks)**

(ii) Determine the velocity of the particle at the beginning of third second **(2mks)**

(b) Find the time taken by the particle to attain maximum velocity and the distance it covered to attain the maximum velocity. **(5mks)**

24. In an agricultural research stations, the lengths of a sample of leaves were measured and recorded as shown in the frequency distribution table below;

Length in (cm)	3.0-3.4	3.5-3.9	4.0-4.4	4.5-4.9	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4
No. of leaves	1	4	9	14	12	10	6	3	1

(a) State the modal class **(1mks)**

(b) Calculate the median (4dp) **(3mks)**

(c) Using an assumed mean of 5.2, find:

(i) Mean (4dp) **(3mks)**

(ii) Standard deviation (4dp) **(3mks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

451/1

COMPUTER STUDIES

PAPER 1 (THEORY)

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Write your name and Index No in the spaces provided above.*
- *Sign and Write the date of the examination in the spaces provided above.*
- *This paper consists of two sections: A and B*
- *Answer all the questions in section A*
- *Answer question 16 and any other three questions from section B*
- *All answers must be written in the spaces provided on the question paper.*

For Examiner's Use Only

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

1. Identify three advantages of using computers in banking **(3mks)**

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……

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2. List three facilities that will ensure proper ventilation in a computer lab **(3mks)**

……

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3. Give two main functions of a computer input device. **(2mks)**

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……

4. What are turnaround documents? **(1mk)**

……

……

5. Using examples, distinguished between:

(i) Primary and secondary storage **(1mk)**

……

……

……

(ii) Fixed and removable disks **(1mk)**

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6. Ann connected new multimedia speakers to her computer and tried to play her favorite music CD, but no sound came out. Suggest two problems that might have occurred **(2mks)**

……

……

……

7. Explain the following considerations when purchasing software **(2mks)**

(i) Authenticity

……

……

(ii) Portability

……

……

8. Give three ways in which operating systems are classified into **(3mks)**

……

……

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9. Peter tried to retrieve a document file following all the steps correctly. The filename did not appear in file list box. State three causes for this. **(3mks)**

……

……

……

10. State the use of the following objects in databases. **(3mks)**

i) Tables

ii) Forms

iii) Query

11. i. Explain the meaning of the following as used in computer programming. (**2mks)**

a. Syntax

b. Semantic

ii. List three ways in which data integrity can be compromised. **(3mks)**

……

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12. i. Mobile phones have become common ICT devices. Explain some of the powerful capabilities that come with some of the latest embedded operating systems **(3mks)**

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ii. List two disadvantages of fiber optic cable over twisted wires**.** **(2mks)**

13. Describe any two types of data processing methods. **(2mks)**

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14. State two advantages of USB port over the parallel port **(2mks)**

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15. Differentiate between the terms signal Attenuation and Noise as used in data communication. **(2mks)**

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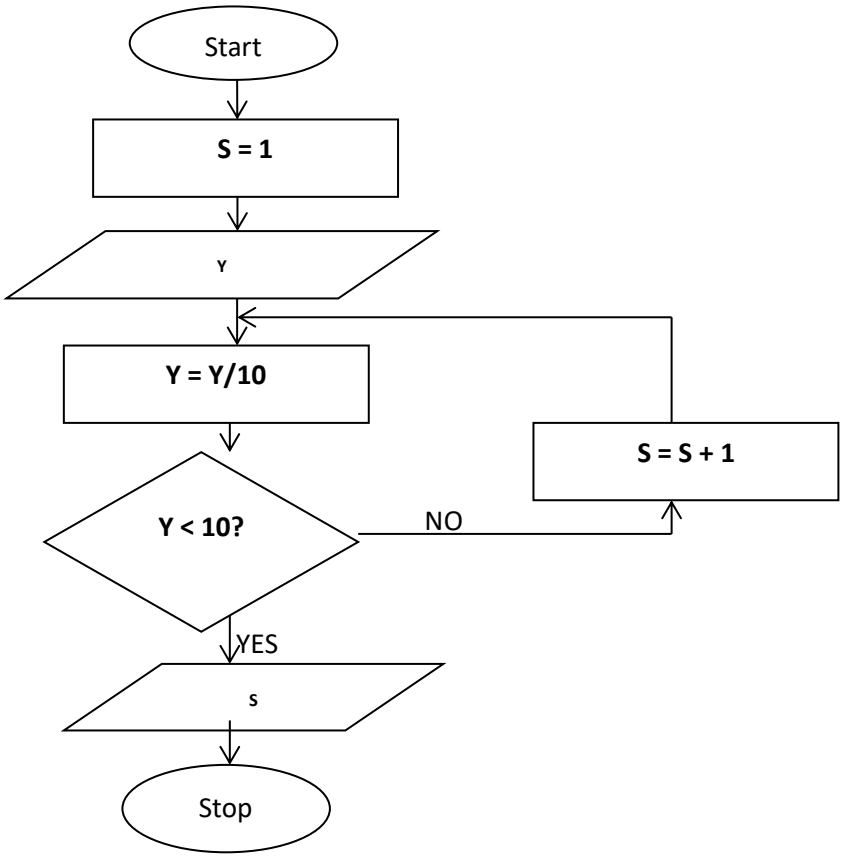
SECTION B

Answer question 16 and any other three questions in this section

16. a) State three advantages of low -level languages **(3mks)**

b) Give two differences between a compiler and an interpreter. **(2mks)**

c) i) Study this flowchart and use it to answer the questions that follow.



I. Give the expected output from the flowchart when the value of Y is:

(i) 48 **(1 marks)**

(ii) 9170 **(2 marks)**

(iii) – 800 **(2 marks)**

II. Write the pseudo code that can be used to create a program represented by the above Flowchart.

17. a. Use two complement to perform the following arithmetic operations

i) $15_{10} - 12_{10}$ **(4mks)**

ii) $10111_2 - 1011_2$ **(3mks)**

b) 1011_2 is a ones complement binary representation of negative number using four bits work out the likely positive equivalent in base 10. **(4mks)**

c) Convert the decimal fraction 10.375_{10} into its binary equivalent **(3mks)**

Whole numbers

d) Assuming the existence of base five, list the numbers used in the number system **(1mk)**

18. a) State and explain two disadvantages that will come about if a network was to be installed in your school. **(4mks)**

b) Discuss two disadvantages of wireless networks. **(4mks)**

c) Write the following abbreviation in full. **(2mks)**

i) F.T.P

ii) H.T.T.P

d) With the aid of a diagram, discuss Hybrid topology. **(4mks)**

e) Discuss four advantages of network. **(2mks)**

19. a) Explain why a computer is able to display the correct time and date when it has just been switched on. **(2mks)**

b) Discuss two types of special memories found in a Computer System. **(4mks)**

c) i) Define a Bus with reference to a computer system. **(1mk)**

ii) List two examples of buses. **(2mks)**

d) Distinguish between a power cable and interface cable. **(2mks)**

e) Differentiate between the different types of RAM. **(4mks)**

20. a) i) Define a system. **(1mk)**

ii) Explain system entropy. **(2mks)**

b) State three circumstances that can lead to development of information systems **(3mks)**

c) Distinguish parallel changes over from straight change over as used in system implementation. **(2mks)**

d) Discuss two fact finding methods. **(4mks)**

e) Differentiate an open system from a closed system. **(2mks**)

f) List two responsibilities of a system analyst. **(2mks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

451/2

COMPUTER STUDIES

PAPER 2 (PRACTICAL)

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES.

- *Type your name and index number at the top right hand corner of each printout*
- *Sign and write the date of the examination below the name and index number on each printout*
- *Write your name and Admission number on the compact disks*
- *Write the name and version of the software used for each question attempted in the answer sheet.*
- *Passwords should not be used while saving in the compact disks.*
- *Answer all the questions*
- *All questions carry equal marks*
- *All answers must be saved in your compact disks*
- *Make a printout of the answers on the answer sheets provided.*
- *Hand in all the printouts and the compact disks.*

For Marking Schemes Contact 0746 222 000 / 0742 999 000

COMPUTER PAPER TWO

Question 1

1. Create a folder on the desktop called MAVUNO COMPANY LIMITED. **(50 marks)**

(i) Using spreads sheet program enter the following data and Save the file as *mavuno payroll* inside the folder created above**.(10 marks)**

(ii) Insert printable borders**(2 marks)**

(iii) Arrange the department from A to Z **(2 marks)**

(iv) Rename sheet one as ***original*.(1 mark)**

	A	B	C	D	E	F	G	H	I	J	K	L
1	MAVUNO COMPANY LIMITED 2022 PAYROLL											
2	PNO	NAME	GENDER	DEPARTMENT	HOURS WORKED	HOURLY RATE	BASIC PAY	GROSS PAY	TAX DEDUCTIONS	NSSF CONTRIBUTIONS	ALLOWANCES	NET PAY
3	A01	KELLY	M	MARKETTING	12	350						
4	A02	ERICK	M	ACCOUNTING	16	450						
5	A03	SILVER	F	CUTOMER CARE	5	250						
6	A04	WESLEY	M	CUSTOMER CAR	22	250						
7	A05	MONICA	F	MARKETTING	19	350						
8	A06	JUPITER	F	SALES	26	300						
9	A07	BETTY	F	ACCOUNTING	10	450						
10	A08	MARY	F	SALES	7	300						
11	A09	OLSON	M	SALES	13	300						
12	A10	JANE	F	MARKETTING	12	350						
13												
14												

(v) Copy original sheet to sheet two and rename it as payroll, calculate the following ;(12 marks)

(a) Basic pay
(b) Gross pay
(c) Tax deductions
(d) Nssf contributions
(e) Allowances
(f) Net pay

Nb: Use the formula below

BASIC PAY =HOURS WORKED *HOURLY RATE

ALLOWANCE ARE ALLOCATED AS 10% 0F BASIC PAY

Gross pay =BASIC PAY + ALLOWANCE

TAX DEDUCTION is calculates as 20% of the GROSS PAY

NET PAY=GROSS PAY-DEDUCTIONS

(vi) Copy names and basic pay to sheet three rename sheet three as **chart.(2 marks)**

a) Create column chart using employee's names, basic pay and allowances.(3 marks)

b) Set the chart title as payroll at the top 2022(2 marks)

c) Insert legend at the bottom(1 mark)

d) Add data labels at the top(1 mark)

e) Format chart border as; solid line, solid color-red, transparency-50%.(3 marks)

(vii) Copy *pno, name,gender,department and netpay* from payroll sheet to calculate the following ;

(2 marks)

a) Calculate the subtotals of each department and grand total, save the sheet as subtotals (4 marks)

b) Freeze the header(1 mark)

(viii) Print the following; (4 marks)

(a) Original worksheet

(b) Payroll worksheet

(c) Chart worksheet

(d) Subtotals worksheet

Basic Pay = Hours Worked * Hourly Rate.

(ii). Allowances are allocated at 10% of the Basic Pay.

(iii). Gross Pay = Basic Pay + Allowances.

(iv). Tax Deduction is calculated at 20% of the Gross Pay.

(v). Net Pay = Gross Pay – Tax Deductions.

Basic Pay = Hours Worked * Hourly Rate.

(ii). Allowances are allocated at 10% of the Basic Pay.

(iii). Gross Pay = Basic Pay + Allowances.

(iv). Tax Deduction is calculated at 20% of the Gross Pay.

(v). Net Pay = Gross Pay – Tax Deductions

For Marking Schemes Contact 0746 222 000 / 0742 999 000

Question 2

Design a publication to appear exactly as shown in the next page using the following instructions.

(20marks)

a) (i) Launch the DPT package and set measurements to centimeters and the margins 2cm all round

(ii) Paper size A4 portrait.

b) Save your work as "Modern computers" **(2marks)**

c) The heading "*Introduction to computers The Basics"* to have the following styles. **(5marks)**

- Centered across the page
- Font face
- Font size: 18
- Background Texture: Granite
- Format the drop cap in the first line as it appears

d) The heading "Hardware" in the publication to have the styles. **(5marks)**

- Font face: Arial Narrow
- Font size: 16
- Text weight: Bold
- Character spacing: 180%
- Alignment: Centered

e) The text under the heading "Hardware" to be in two columns and having the following styles.

(3marks)

➢ Font size: 12

➢ Dashed outline on the first column

➢ First character of the first column to be dropped by 4 lines as shown.

f) Insert the banner bearing the text auxiliary as it appears. **(3marks)**

g) - Enter the text below the banner in three columns as shown **(4marks)**

- Insert lines between the three columns **(3marks)**
- Type and format the text below the three columns exactly as it appears **(3marks)**

h) Print the publication.

Introduction to Computers The Basics

Many people believe that knowing how to use a computer, is one of the basic skills needed to succeed in the workplace. In order to use the computer it is necessary to understand how the computer works.

Hardware

Computer hardware is made up of the equipment used to make up you computer unit. These parts include your monitor, central processing unit (CPU), keyboard, mouse, printer, and modem.

The computer is an electronic machine that performs the following four general operations:

- Input
- Storage
- Processing
- Output.

Input

The input hardware allows you to enter data into the computer. The primary devices used are the keyboard and mouse.

Processing

The central processing unit or (CPU) is the "brain" of your computer. It contains the electronic circuits that cause the computer to follow instructions from ROM (read only memory) or from a program in RAM (random access memory).

Output

Output devices such as a monitor or printer make information you input available for you to view or *use.*

Storage

Auxiliary storage devices, also called secondary storage devices, are used to store instructions and data when they are not being used in mem-

AUXILLIARY

To read data stored one floppy disk or to store data on a floppy disk, you insert the floppy disk in a disk drive. If the disk is unused, you must format or initialize it before your computer will allow you to store data on it. Formatting organizes the tracks around the disk into pie like slices called sectors which make it possible for your computer to save and retrieve information. The density of the bits on the track and

Floppy Disks - A floppy disk is a circular piece of oxide-coated plastic

Floppy disks are identified as being double density or high density

KCSE 2024 JOINT MOCK EXAM

SERIES 2

441/1

HOME SCIENCE

PAPER 1 (THEORY)

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

Instructions to candidates

a) Write your name and admission no in the spaces provided.

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

c) Answers to all questions must be written in the spaces provided.

For examiners use only.

Section	*Question*	*Maximum score*	*Candidates score*
A	***1-40***	***40***	
B	***41***	***20***	
C	***42-44***	***40***	

Total score 100

For Marking Schemes Contact 0746 222 000 / 0742 999 000

SECTION A :40(MARKS)

Attempt ALL questions in this section. Write answers in the spaces provided.

1. Outline two uses of separating tools **(1mark)**

……

……

2. Suggest two methods of cooking you would use when preparing a meal for a person recovering from an illness **(1mark)**

……

……

3. Mention two conditions suitable for the growth of yeast **(1mark)**

……

……

4. Highlight two uses of batters in cookery **(1mark)**

……

……

5. Differentiate between essential and non-essential amino acids **(1mark)**

……

……

……

……

6. Suggest two ways of managing goiter **(1mark)**

……

……

……

7. Cakes are classified according to the method used in making them, list the two methods **(1mark)**

……

……

……

8. List two food reasons for food fortification **(1mark)**

……

……

……

9. Outline two functional accessories used in the home **(1mark)**

……

……

……

10. Highlight two examples of pendant fixtures used at home **(1mark)**

……

……

……

11. State two negative effects of wood as a type of fuel used in the home **(1mark)**

……

……

……

12. Explain how air conditioners are used to ventilate a room **(1mark)**

……

……

……

13. Give two reasons as to why tissue papers/diposable paper towels are better used by the sick **(1mark)**

……

……

……

14. List two causes of foreign bodies in the eye **(1mark)**

……

……

15. Name two types of maisonettes **(1mark)**

……

……

16. Define the following terms **(1mark).**

a) Dirt

……

……

b) Suction

……

……

17. Mention two surfaces that can be cleaned by scrubbing **(1mark)**

……

……

……

18. List two floors that require polishing **(1mark)**

……

……

19. Define the term weaning **(1mark)**

……

……

20. Name the drug that the mother and the baby are given during delivery to prevent transmission of HIV/ AIDS ……..…… **(1mark)**

21. State two activities done at post-natal care to the baby **(1mark)**

……

……

……

22. Highlight two vaccines administered orally **(1mark)**

……

……

23. Mention two ways of sterilizing feeding equipments **(1mark)**

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……

……

24. State two play items meant for infants **(1mark)**

……

……

……

25. Name two reflexes responsible for milk flow **(1mark)**

……

……

……

26. Outline two effects of excess fat in a diet of an expectant mother **(1mark)**

……

……

……

27. Outline two physical needs of an expectant mother **(1mark)**

……

……

28. List two services rendered at a fee in your locality **(1mark)**

……

……

29. Mention two forms of advertisement **(1mark)**

……

……

30. Give two examples of flexible expenses **(1mark)**

……

……

31. Name two ways consumers can get information about items to be bought **(1mark)**

……

……

……

32. Name two uses of pockets on **garments** **(1mark)**

……

……

33. Highlight two areas darts can be used on garments **(1mark)**

……

……

34. List two methods of neatening seams **(1mark)**

……

……

35. Name two decorative stitches used to make clothes and articles attractive **(1mark)**

……

……

36. Give the function of the following parts of a sewing machine **(2marks)**

a) Tension disc

……

……

b) Stop motion screw

……

……

37. Give two uses of asbestos fiber **(1mark)**

……

……

……

38. Highlight two possible causes of stitches looping during **sewing** **(1mark)**

……

……

……

39. Outline two uses of temporary stitches **(1mark)**

……

……

40. Give two examples of openings used on garments **(1mark)**

……

……

SECTION B – (20 MARKS)

Compulsory: Answer question 41 in the space provided below

41. You have been assigned tasks in the kitchen by your mother. Thorough clean;

a) The terrazzo kitchen floor and the long handled scrubbing brush made of painted wood **(14 marks)**

b) The white cotton kitchen towel **(6marks)**

SECTION C (40MARKS)

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

42.

a) Describe four general rules for boiling foods **(4marks)**

b) Highlight four ways in which one can observe in the care of ironing boards **(4marks)**

c) Describe four reasons for baby's refusal to breastfeed **(4marks)**

d) Highlight four importance budgeting at home **(4marks)**

e) Using a clearly labelled diagram explain the working of knife pleats on lower skirt frill **(4marks)**

43.

a) Explain how the following food nutrients can be conserved **(4marks)**

i. Proteins during cooking

ii. Vitamin C during preparation

iii. Vitamin A during storage

iv. Minerals during cooking

b) Highlight four types of windows used to ventilate a room **(4marks)**

c) Outline eight habits a child should be trained on **(4marks)**

d) Give four ways a consumer shows integrity when purchasing goods **(4marks)**

e) Describe the characteristics of a well-made seam **(4marks)**

44.

a) Highlight four ways pastry is kept cool during preparation **(4marks)**

b) Describe four points to consider when choosing furnitures **(4marks)**

c) Explain four ways of meeting the social needs of a patient recuperating at home **(4marks)**

d) State four advantages of cash buying **(4marks)**

e) Highlight four reasons for controlling fullness on garments **(4marks)**

KCSE 2024 JOINT MOCK EXAM

SERIES 2

441/2

HOME SCIENCE

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

441/2

HOMESCIENCE

PAPER 2

(Clothing and Construction)

Instructions to candidates

- **Candidates should check the question paper to ensure that all the printed papers are as indicated and no question is missing.**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

BOY'S SHORT

A pattern of boy's short is provided. You are advised to study the sketches instructions and layout carefully before you begin the test.

MATERIALS PROVIDED

1. Pattern pieces

A. Short back

B. Short front

C. Pocket

D. Waist band

2. Plain light weight cotton fabric 55cm long by 90cm wide.
3. Sewing thread to match the fabric
4. One large envelope.

THE TEST

Using the materials provided cut out and make the **LEFT** side of the boy's short to show the following processes.

a) Cutting out **(9 ½ mks)**

b) Making of the back dart **(5 ½ mks)**

c) Making of the inner leg seam using a **french seam.** **(7 ½ mks)**

d) Attaching the in seam pocket. **(12 mks)**

e) Working of the side seam using an **open seam** and neatening the section below the pocket. **(12 mks)**

f) Preparing and attaching the interfaced waistband. **(Do not trim the seam)**

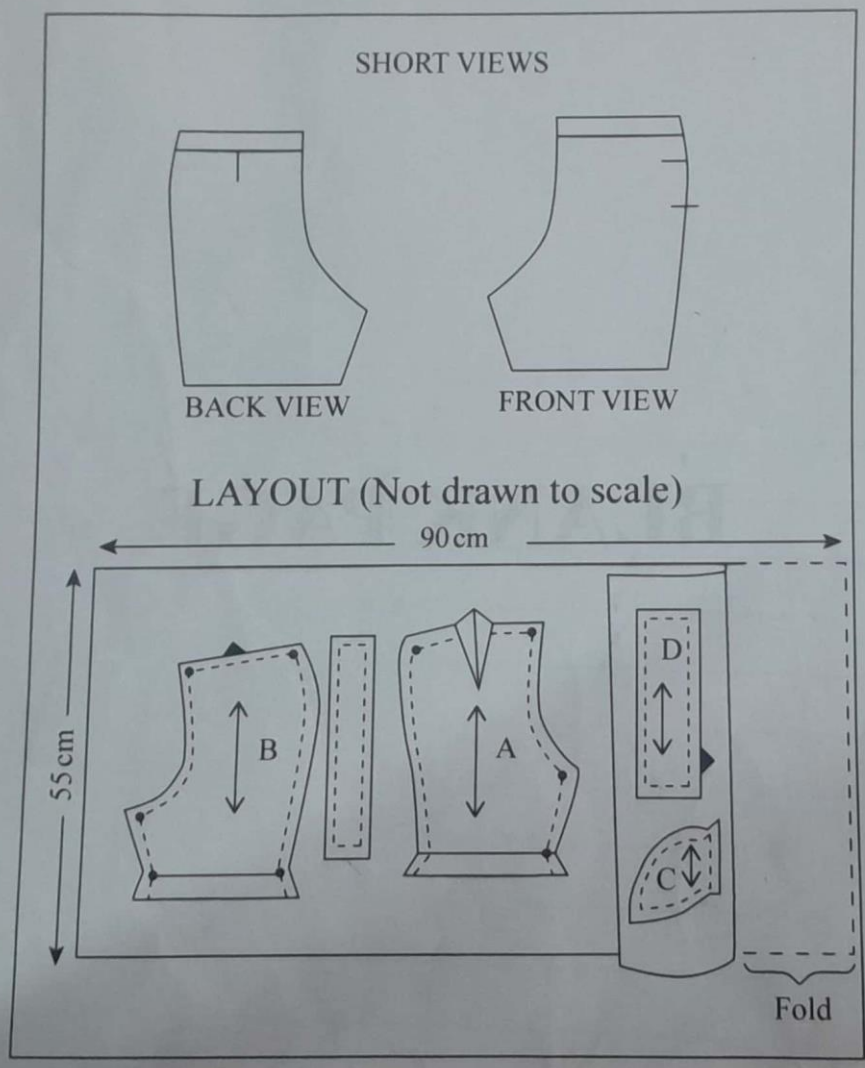
i. Tack the back part waistband using even tacking.

ii. Top stitch the edge of the waistband. **(22 mks)**

g) Managing the hem. Machine stitch half of the hem.**(Do not remove tacking stitches).** **(15 mks)**

h) Overall presentation. **(6 ½ mks)**

At the end of the examination, firmly sew onto your work, on a single fabric, a label bearing your name and index number. Remove the needles, pins and loose threads from your work. Fold your work neatly and place it in the envelope provided.
Do not put scraps of fabric in the envelope. Do not seal the envelope.



KCSE 2024 JOINT MOCK EXAM

SERIES 2

441/3

HOME SCIENCE

PAPER 3

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

441/3

HOME SCIENCE (FOODS AND NUTRITION)
Paper 3
(PRACTICAL)
1 ¾ hours

Instructions to candidates

PLANNING SESSION: 30 minutes

PRACTICAL TEST SESSION: 1 ¼ hours

(a) *Read the test carefully.*

(b) *No stationery is provided.*

(c) *Write your name and index number on every sheet of paper used.*

(d) *Textbooks and recipes may be used during the planning session as reference materials.*

(e) *You will be expected to keep your order of work during the practical session.*

(f) *You are only allowed to take away your reference materials at the end of the planning session*

(g) *You are* ***not*** *allowed to bring additional notes to the practical session.*

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

For Marking Schemes Contact 0746 222 000 / 0742 999 000

THE TEST

You are taking care of your sister in-law who delivered recently. Using the ingredients listed below prepare cook and serve;

a) A stimulating mid-morning drink for her.

b) A one-course lunch for both of you.

Ingredients

Tomatoes
Beef
Sugar
Spinach/kales
Millet flour
Capsicum
Salt
Lemon
Potatoes
Beef masala
Cooking oil
Onions

PLANNING SESSION – 30 MINUTES

For each task listed below use separate sheets of paper and carbon paper to make duplicate copies then proceed as follows:

1. Identify the dishes and write down their recipes

2. Write down your order of work.

3. List down the food stuffs, equipment and materials you would need.

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

314/1

ISLAMIC RELIGIOUS EDUCATION

PAPER 1

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Answer any **FIVE** questions in the spaces provided.*
- *Each question carries 20 marks*
- *This paper consists of **six** questions*
- *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.*

For Examiner's Use Only.

Question	1	2	3	4	5	6	Totals
Score							

For Marking Schemes Contact 0746 222 000 / 0742 999 000

*Answer any **FIVE** questions in the spaces provided.*

1. a) Highlight the lessons derived from the first portion of revelation of the Quran **(6marks)**

b) Discuss the rationale for the narratives of the prophets in the Holy Quran **(6marks)**

c) State the modern ways adapted in teaching the Quran **(8marks)**

2 a) Discuss any four differences between the Mas-haf of Abubakar and that of Uthman **(8marks)**

b) Outline the significance of reciting ayatul Kursy **(6marks)**

c) Explain how a Muslim can modify his life according to Suratul Hujurat **(6marks)**

3 a) State any five Shia collections of Hadith **(5marks)**

b) Give reasons why the fourth period of Hadith collection is regarded as the Golden age of Hadith collection **(8marks)**

c) The prophet (S.A.W) said "looking for a lawful earning is an obligatory act next to obligatory worship" With reference to the Hadith explain how Muslims can eradicate poverty in the society **(7marks)**

4 a) Discuss the relevance of punishment according to Shariah law **(8marks)**

b) Outline the features of a Juma'a prayer **(6marks)**

c) Mention six main activities of Hajj **(6marks)**

5a) Discuss the relevance of the sunnah acts observed during the month of Ramadhan **(7marks)**

b) Highlight five ways of asking for tawbah **(5marks)**

c) Discuss the challenges of Zakat collection in Kenya **(8marks)**

6 a) Give the rationale of forbidding Shirk in Islam **(7marks)**

b) Discuss any four stages that a Muslim passes through immediately after death **(8marks)**

c) Explain the incident of Ghadir Khum according to Shia belief **(5marks)**

For Marking Schemes Contact 0746 222 000 / 0742 999 000

KCSE 2024 JOINT MOCK EXAM

SERIES 2

314/2

ISLAMIC RELIGIOUS EDUCATION

PAPER 2

TIME: 2½ HOURS

NAME……

SCHOOL…… SIGN……

INDEX NO…… ADM NO……

(Kenya Certificate of Secondary Education)

INSTRUCTIONS TO CANDIDATES

- *Answer any **FIVE** questions in the spaces provided.*
- *Each question carries 20 marks*
- *This paper consists of **six** questions*
- *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.*

For Examiner's Use Only.

Question	1	2	3	4	5	6	Totals
Score							

For Marking Schemes Contact 0746 222 000 / 0742 999 000

*Answer any **FIVE** questions in the spaces provided.*

1 a. State **eight** effects of betting to the Muslim youth **(8 marks)**

b. Suggest ways of preventing zinaa in the community **(6 marks)**

c. Give **six** reasons why it is important for Muslims to conserve the environment **(6 marks)**

2 a. Describe the duties of the extended family members **(6 marks)**

b. Discuss how corruption undermines growth of society **(8 marks)**

c. What is the rationale for Eddat in Islam **(6 marks)**

3 a. Give **seven** reasons why agreements and contracts have to be documented in Islam **(7 marks)**

b. State the rules for jihad in Islam **(8 marks)**

c.Mention measures that can be taken to guard against hoarding **(5 marks)**

4a. State the similarities between the rule of ummayad and Abbasid dynasties **(6 marks)**

b.Give reasons why umar bin abdulaziz's reign is regarded as the heydays of the Umayyad dynasty **(6 marks)**

c.Explain **Four** significance of the battle of Hunain to Muslims **(8 marks)**

5 a. Highlight the human rights issues in madina constitution found in the modern constitutions **(6 marks)**

b.Mention the Contributions of Ali bin Abu Talib to the prophets misson. **(7 marks)**

c.State the achievements of the Abbasid dynasty **(7 marks)**

6 a. Discuss seven contributions made by ibn sina to medicine. **(7 marks)**

b.Mention Lessons a Muslim can learn from Ikhwan al-muslimun **(7 marks)**

c.In what ways can Muslims contribute in eradication of unemployment **(6 marks)**

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0746-222-000

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