NATIONAL SCHOOLS MOCKS

ALL SUBJECTS

SUBJECTS TESTED;

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

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

231/1

BIOLOGY

PAPER 1

THEORY

TIME: 2 HOURS

Instructions

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

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1-29	80	

1. (a) State the contents of lysosomes. **(1 mark)**

……

(b) State the functions of the contents named in **(a)** above. **(2 marks)**

……

……

2. What is cell specialization? **(1mark)**

……

……

……

3. It was found that during germination of bean seeds, 9.2 cm^3 of carbon IV Oxide was produced while 9.0 cm^3 of oxygen was used up.

(a) **(i)** Calculate the respiratory quotient of the reaction:- **(2 marks)**

……

……

……

(ii) Identify the substrate being metabolized. **(1mark)**

……

……

(b) In which part of the cell does glycolysis occur? **(1 mark)**

……..

4. How is the tracheal system adapted to its function **(3marks)**

……

……

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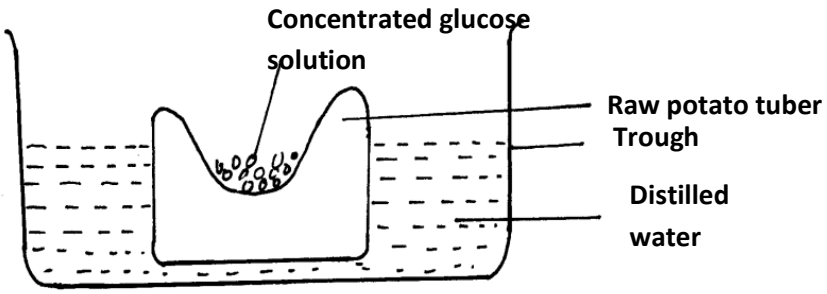
5. Name **two** sites where gaseous exchange takes place in terrestrial plants. **(2marks)**

……

……

……

6. The experiment illustrated below was set up to investigate a certain physiological process using a raw potato tuber



(a) Suggest a possible physiological process that was being investigated. **(1 mark)**

……

(b) Explain the results obtained in the above experiment after a few hours (**3 marks)**

……

……

……

……

(c) State the observations that would have been made if the experiment was repeated using boiled potato.

(2 marks)

……

……

……

7. State the end products of anaerobic respiration in: - **(2marks)**

(a)Animals

……..

(b) Plants

……

8. State **two** properties of the cell membrane **(2marks)**

……..

……

9. State **two** guidelines that should be followed when typing of scientific names **(2marks)**

……

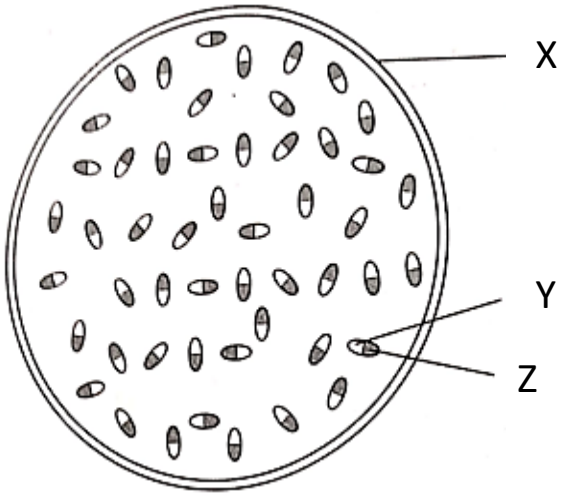
……

10. State **two** roles of luteinising hormones in female reproduction. **(2marks)**

……

……

11. The diagram below shows a cross section of a plant stem.



(i) State the class of the plant from which the organ was obtained **(1 mark)**

……

(ii) Name the parts labeled X Y and Z **(3 marks)**

X ……

Y ……...

Z ……...

12. What are the causative agents for the following sexually transmitted diseases**?** **(2marks)**

(i) Gonorrhoea

……

(ii)Syphilis

……

13. (a) What is meant by the following terms as used in ecology : **(2marks)**

(i) Population

……

……

……

(ii) Carrying capacity

……

……

……

(b) During an ecological visit to maasai mara students were able to see antelopes, lions, vultures, and pastoralists grazing their cattle. Construct a food chain with four consumer levels ending with the vulture to illustrate the energy flow in the ecosystem. **(2marks)**

14. Give **three** reasons why plants have not evolved complex excretory organs. **(3marks)**

……

……

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15. State **one** adaptation of the xylem vessels to its functions. **(1marks)**

……

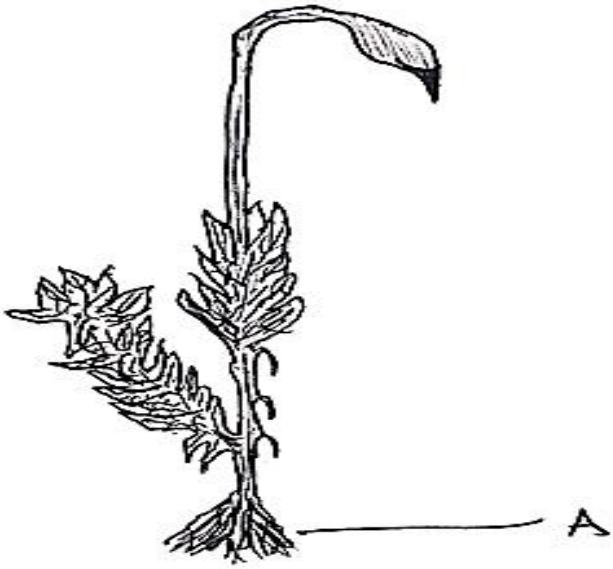
16. State **three** factors that increases the rate of diffusion. **(3 marks)**

……

……

……

17 The diagram below represents a certain plant,study it and answer the questions that follow



(a) (i)Name the division to which the plant belongs **(1marks)**

……

(ii)The plant only survives in wet areas. Give a reason **(1marks)**

……

……

(b) What is the function of part labeled A **(1marks)**

……..

18. Give the roles of each of the following important excretory products in plants (3marks)

(i) Quinine

……

……..

(ii) Colchicine

……

……

(iii) Papain

……

……

19. During a medical examination, a patient presented with the following symptoms, passing of large amounts of urine which when tested contained a lot of glucose.

(i) What hormone was deficient in the patient **(1mark)**

……

(ii) What disease was the patient suffering from **(1mark)**

……..

20. State **three** characteristic features used to classify members of phylum Arthropoda **(3marks)**

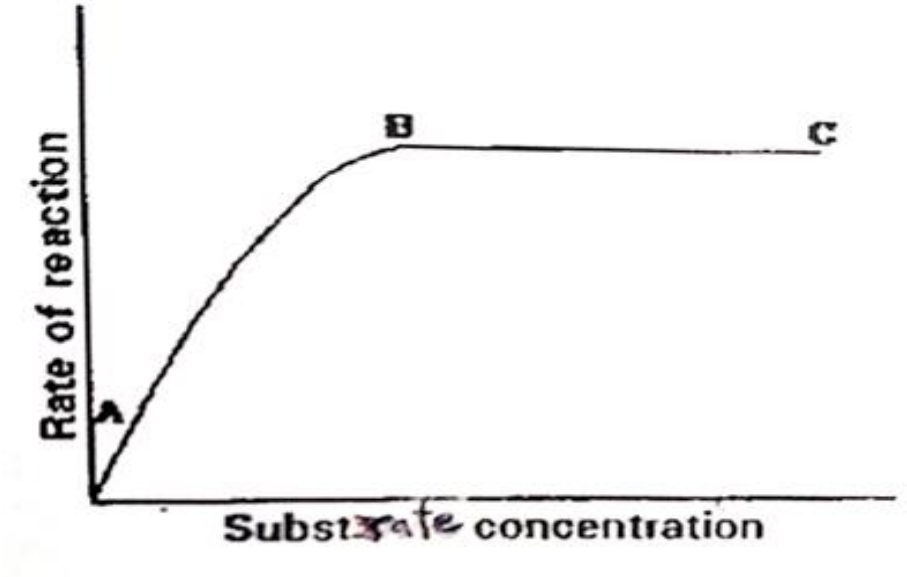
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21. The graph below shows the effect of substrate concentration on the rate of enzyme reaction.



(a) Account for the shape of the graph between A and B **(2marks)**

……

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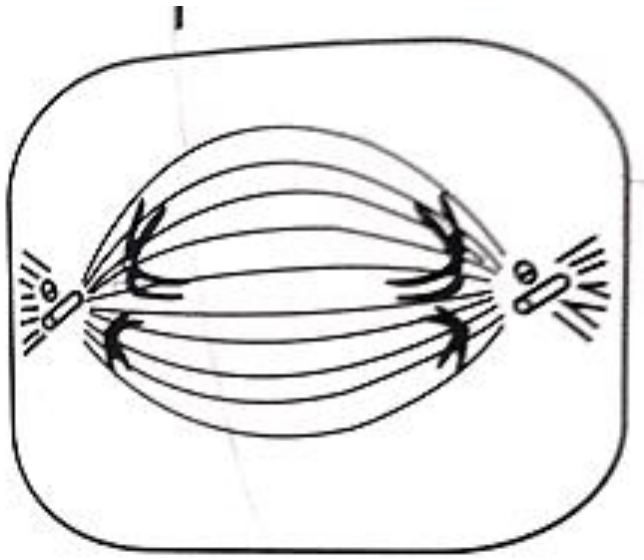
(b) How can the rate of reaction be increased after point B? **(1mark)**

.....

(c) State one other factor that affects the rate of enzyme reaction. **(1mark)**

.....

22. The diagram below shows stage during cell division.



(i) Identify the stage of cell division in the diagram above **(1 mark)**

.....

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

.....

(b) How are the spongy mesophyll cells adapted to their functions? **(1mark)**

.....

23. Name one cofactor and one co-enzyme required for a blood clotting process to be normal.

a) Co-factor - ..... **(1mark)**

b) co-enzyme - ..... **(1mark)**

24. Define the following terms; **(2 marks)**

i) Taxonomy

……..

……..……

ii) Binomial nomenclature

……

……..……..……

25. In what ways do emotions affect the rate of breathing in humans **(2marks)**

……

……..……..

26 (i) Define the term predation **(1 mark)**

……

……

(ii) State **three** behavioral adaptations displayed by the prey to minimize predation **(3mks)**

……

……

……

……

27. Differentiate between the following terms:- **(2marks)**

(i) Hypogynous flower and epigenous flower

……

……

……

(ii) Gamopetalous corolla and polypetalous corolla

……

……

……

28. Study the following chemical equation and answer the questions that follow

$C_{12}H_{22}O_{11} + H_2O \xrightarrow{\text{Process x}} \text{Product Y} + C_6H_{12}O_6$

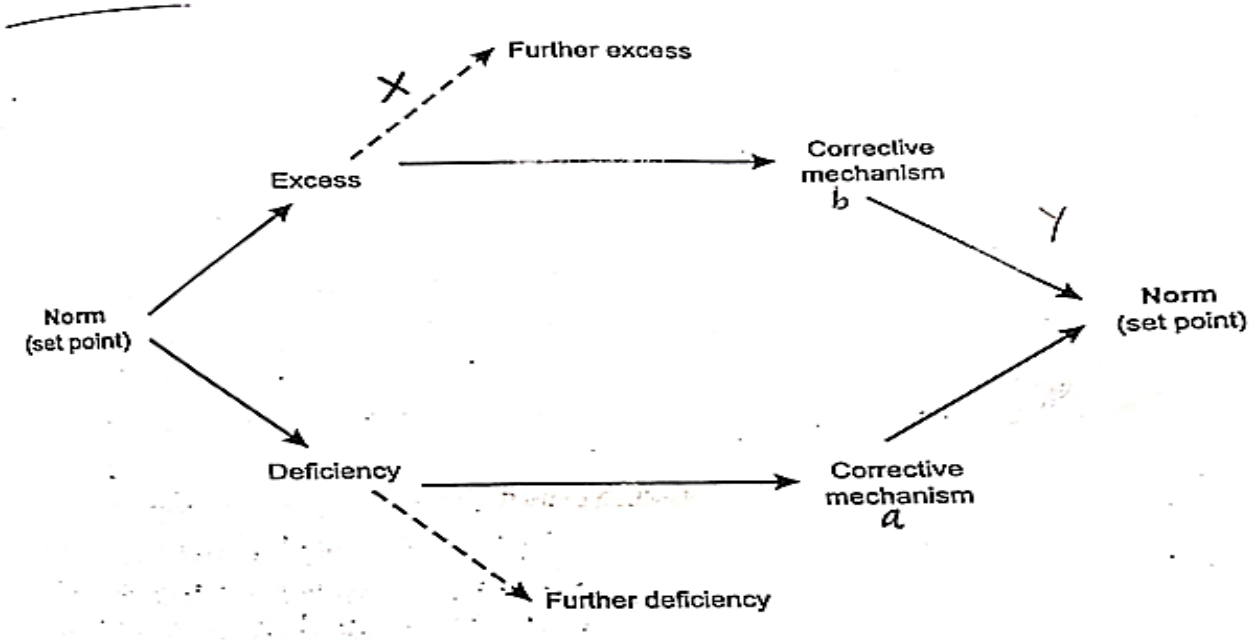
(ii) Identify process x and the enzyme that catalyses' the process **(2mark)**

.....

(ii) Product Y **(1mark)**

.....

29. Study the diagram below and answer the questions that follow.



a) Name the mechanism labeled X **(1mark)**

.....

c) If the above diagram represented temperature regulation.

(i) State the corrective mechanisms carried out at **a** **(1marks)**

.....

(ii) State the condition that may result from the further excess **(1mark)**

.....

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

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231/2

BIOLOGY

Paper 2 (Theory)

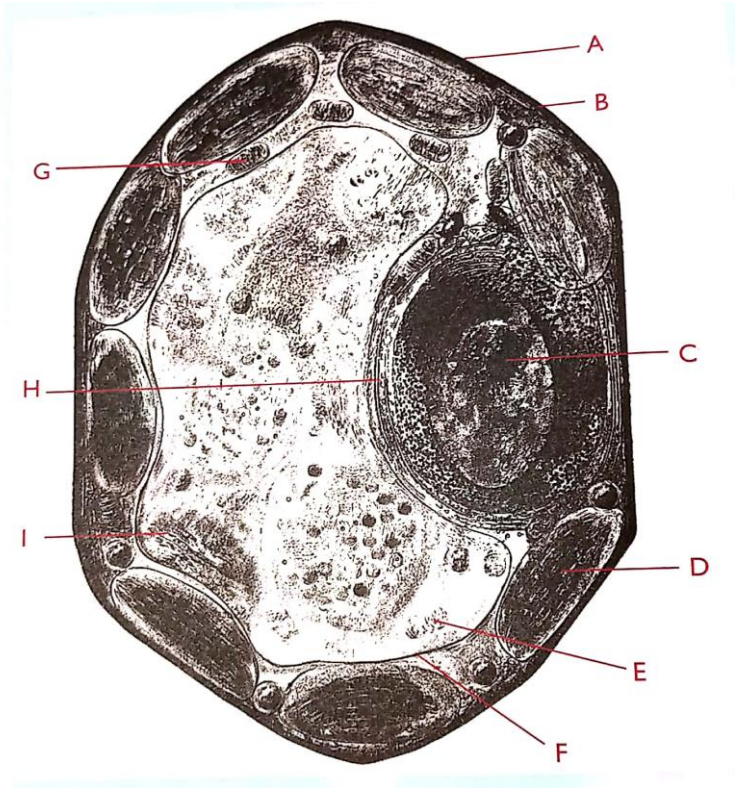
Time: 2 Hours

- *Write your name, Index Number in the spaces provided above*
- *Write the date of examination in the space provided above*
- *Answer ALL the questions in section A in the spaces provided below each question in the question paper*
- *In section B, answer question 6(Compulsory) and either question 7 or 8*

FOR EXAMINER'S USE ONLY

Section	Question	Maximum Score	Candidate's Score
A	1	08	
	2	08	
	3	08	
	4	08	
	5	08	
B	6	20	
	7 or 8	20	
	TOTAL	80	

1. The diagram shown below is a plant cell as seen when observed under an electron microscope at high power. Study it carefully and use it to answer the questions that follow.



(a) Name the parts labeled A, C and H. **(3 marks)**

A……

C……

H……

(b) State the function of the parts labeled D and G. **(2 marks)**

D……
……

G……
……

(c) Give two differences between the structures labeled D and G. **(2 marks)**

……
……
……

(d) Based on observable features, suggest the main function the cell shown. **(1 mark)**

……
……

2. Study the table below and then answer the questions that follow.

Name of disease	Causative agent	Age when vaccine is administered	Method of vaccination
Tuberculosis	Bacterium	At birth	Injection
Poliomyelitis	Virus	At birth, after 6 weeks, after 10 weeks, after 14 weeks	Oral inoculation
Whooping cough	Bacterium	6^{th} and 14^{th} week	Injection
measles	Virus	9^{th} month	Injection

(a) What part of the human body is affected by the virus that causes poliomyelitis? **1mk**

……

(b) Give a reason why some doses of vaccine are given more than once. **1mk**

……
……

(c) Suggest a reason for delay in vaccinating against measles until the 9^{th} month **(1 mark)**

……
……

(d) Describe immune response. **(2 marks)**

……
……
……

(e) What is a vaccine? **(1 mark)**

……
……

(f) What is the role of vaccination in providing immunity? **(1 mark)**

……

……

(g) What triggers an allergic reaction? ` **(1 mark)**

……

……

3.(a) State ***three*** limitations of using a quadrat to estimate the population of organisms.**(3mks)**

……

……

……

……

b) In an attempt to estimate the number of grasshoppers in the field, a student captured 435 marked and released. Three days later, 620 were captured 75 of which were marked.

(i) What is the name of the sampling method describe above? **(1 mark)**

……

……

(ii) Calculate the approximate population size of the grasshoppers in the field **(2 marks).**

(iii) What are the disadvantages of this method? **(2 marks)**

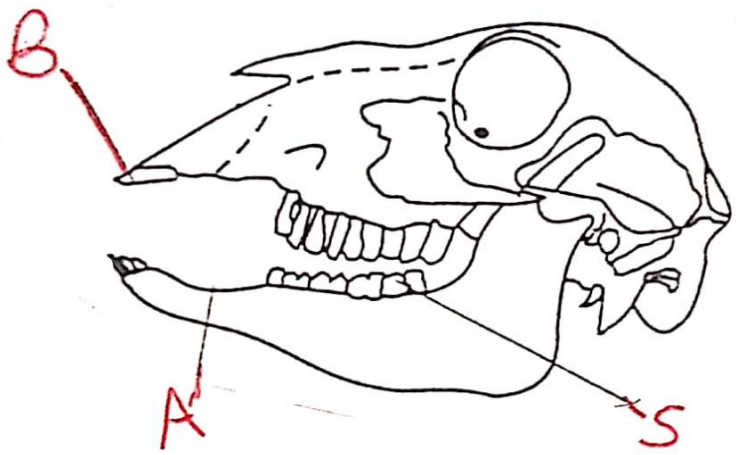
……

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

(a) Name the parts labelled A and B and state its functions. **(2 marks)**



A……

……

B……

……

(b) Identify the mode of feeding of the organism. **(1 mark)**

……

……

(c) (i) Name the tooth labelled S. **(1 mark)**

……

(ii) State how the tooth named in (c) (i) above is adapted to its function**. (2 marks)**

……

……

……

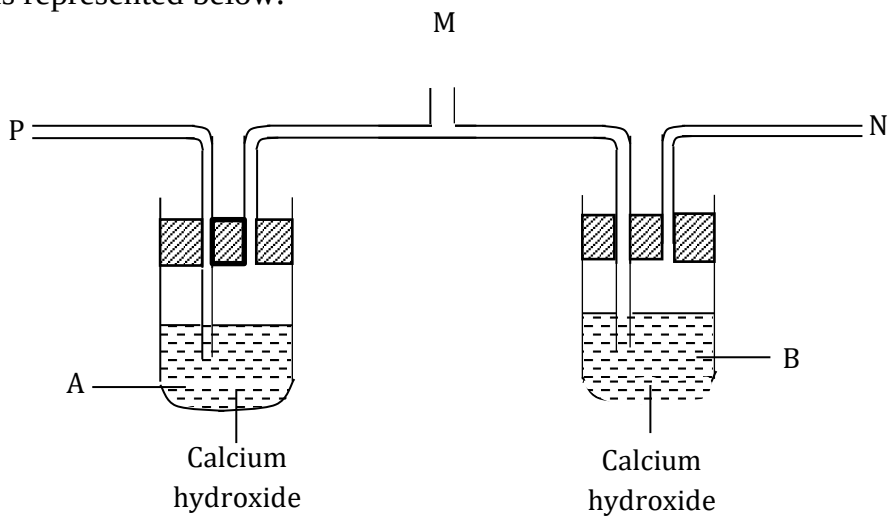
(d)Distinguish between competitive and non-competitive enzyme inhibitors. **(2 marks)**

……

……

……

5.A student set up an experiment to investigate some aspect of gaseous exchange using the apparatus represented below.



The student placed the mouth at the M and breathed in out several times through the tube.

(a) Using arrows show the direction of air movement along tube P and N on the diagram during the experiment. **(1 mark)**

(b) Suggest a possible aim of this experiment. **(2 marks)**

……

……

(c) What results were expected after breathing in and out through tube M several times? **3mks**

……

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(d) What characteristics do mammalian lungs and the gills of bony fish have in common that enables them to exchange gases efficiently? **(2mks)**

……

……

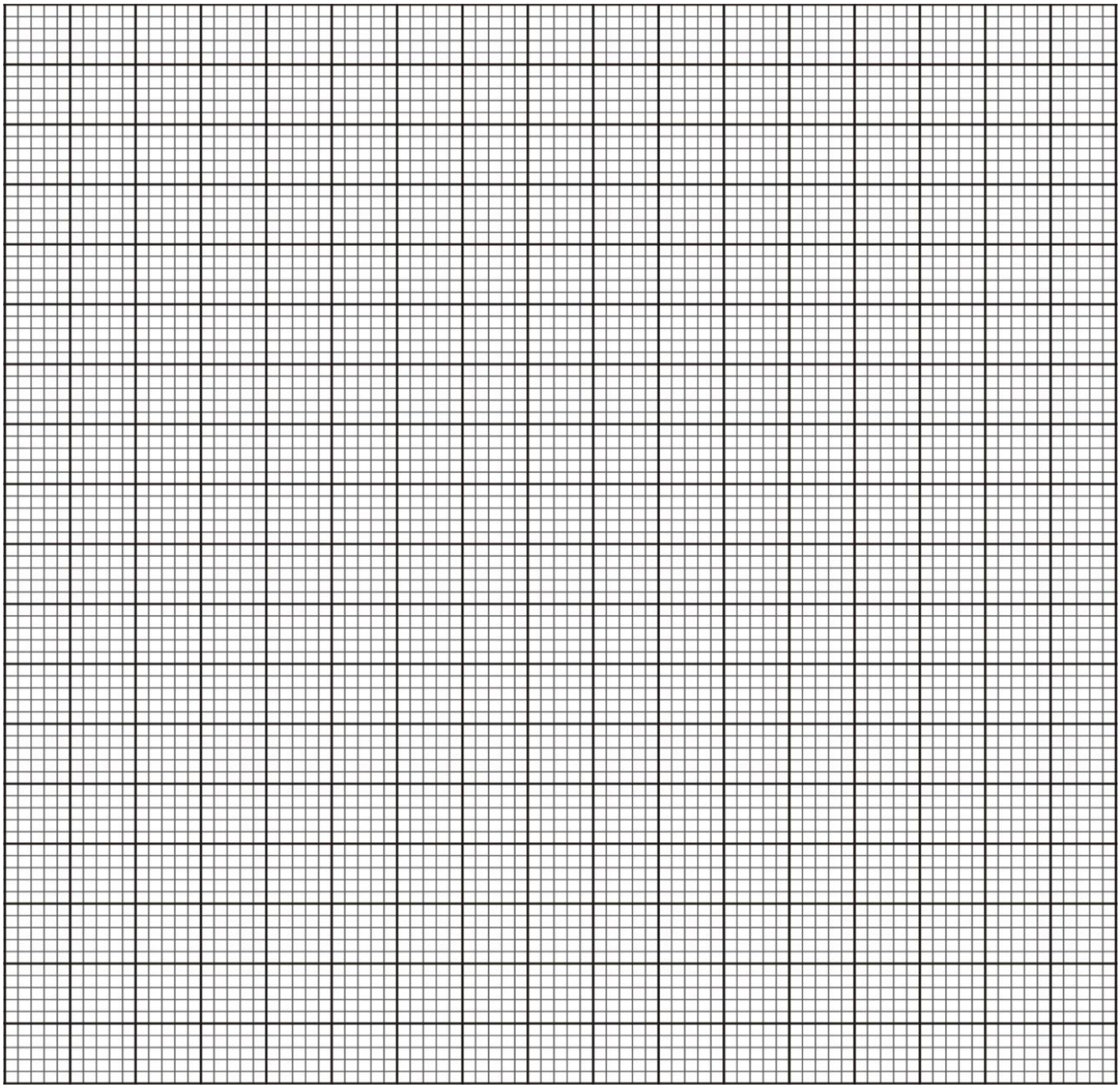
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Answer questions 6 (compulsory) in the spaces provided and either question 7 or 8 in the spaces provided after question 8.

6.The table below shows the concentration of lactic acid in mg/100cm^3 in the human blood during and after exercise

Time (seconds)	0	5	10	15	20	25	30	35	40	45	50	55
Lactic acid concentration (mg/100cm^3)	22	25	45	90	86	85	84	60	44	25	22	22

(a)Using the readings in the table ,plot a graph of lactic acid concentration against time **[6marks]**



b)From the graph determine the duration of vigorous exercise **[1mark]**

……..

c)Write an equation leading to the production of lactic acid in humans **[1mark]**

……

d)i) Suggest the normal concentration of lactic acid in the blood when the person was resting

[1mark]

……

ii) What is the effect of lactic acid on the body tissues when its concentration rises above 90mg/100cm^3 **[1mark]**

……

iii) Give three ways in which the body adjusts to the high concentration of lactic acid **[3marks]**

……

……

……

e)From the graph determine the time when oxygen debt

i) Occurred **[1mark]**

……

ii) Began to be paid in the person's body **[1mark]**

……..

f)List three differences between aerobic and anaerobic respiration in animals **[3marks]**

……

……

……

……...

g)Name the product of anaerobic respiration that is essential in**:** **[2marks]**

I) The brewing industry …….

II) The bread making industry ……

7(a) Describe the process of fertilisation in Angiosperms. **(15 mks)**

(b) State the changes that take place in a flower after fertilization. **(5 mks)**

8.Describe how the mammalian skin is adapted to its functions. **(20 mks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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NAME……

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BIOLOGY

PAPER 3

CONFIDENTIAL

- Specimen **K**. An mature orange (with seeds)-1 per student
- Iodine solution.
- Mortar and pestle
- Stirring rod
- Pieces of thread (2 pieces per student)
- Benedict's solution
- Soaked maize cereal (soaked for 3 days)(specimen **X**
- Visking tubing (8cm)
- Dropper
- At least three test tubes
- Distilled water
- Source of heat (Warm water bath)
- Scalpel

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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NAME……

SCHOOL…… **INDEX NO**……

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231/3

BIOLOGY

PAPER 3

PRACTICAL

TIME: 1 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your Name,Class and Adm No. in the spaces provided above*
- *Answer ALL the questions in the spaces provided*

FOR EXAMINERS USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1		
2		
3		
TOTAL	**40**	

1. You are provided with specimen **X** (Soaked maize grain), Specimen **K**, Benedict's solution, Iodine solution, Pestle and mortar, scalpel and distilled water.

(i) Name the type of fruit represented in **X** above **(1mk)**

……

ii) Give one reason for the above identity **(1mk)**

……
……
……

(iii) Crush the specimen **X** using pestle and mortar and dissolve in $4cm^3$ of distilled water. Divide the mixture into two equal portions and use them to carry out the following food test. Record your observations in the table below:
(6marks)

Food Test	**Procedure**	**Observation**	**Conclusion**
Starch			
Reducing sugars			

iv) Account for the observations made in the above table in relation to starch and reducing sugar. **(3mks)**

……

……

……

……

……

v) Identify the type of placentation in the specimen **K** above **(1mk)**

……

……

(b) Describe how the above placentation was formed **(2mks)**

……

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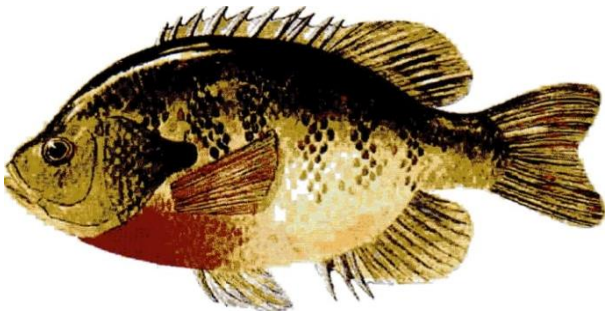
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(c) Using a scalpel, make a transverse section of specimen K. Draw the section of and label its parts **(3mks)**

2. Using the pictures of animals provided below, complete the construction of the dichotomous key by filling the blank spaces. **(13 marks)**



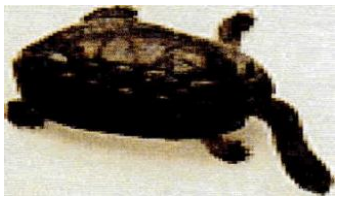
Eagle



Fish

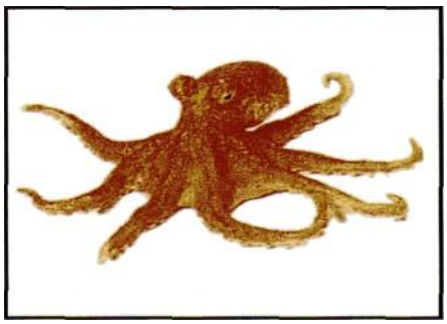


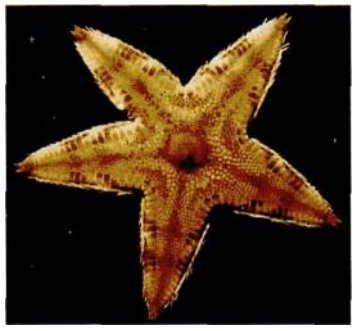
Earthworm



Tortoise

Octopus

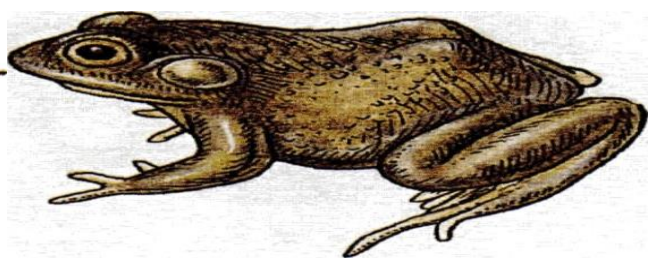




Starfis h



Spider



Frog

1a Animals with backbone…….Go to 2

b Animals without backbone ……

2 a Animals with wings…….

b Animals without wings……

3a Animals which live in water all the time……....

b Animals which live in water for some time…….

4a Animals with scales…….

b Animals without scales……

5a Animals with legs……

b Animals without legs…… Go to 7

6a Animals with six legs…….. Butterfly

b Animals with eight legs……..

7a Animals with a shell……..Snail

b Animals without a shell……..

8a Animals with jelly-like body……

b Animals without a jelly-like body…….

9a Animals with a segmented body…….

b Animals without segmented body…….. Octopus

3.You are provided with starch solution, Iodine solution, Visking tubing, stirring road, 2 pieces of thread, measuring cylinder and a beaker. Tie one end of the visking tubing and pour about 2mls of iodine solution into it. Tie the other end making sure no iodine solution leaks and place the visking tubing into starch solution in the beaker. Leave the set up for about 30 minutes and note the observations

(i) Account for the observations made after 30 minutes **(3mks)**

……
……
……
……
……

(ii) Give the role of the physiological process investigated above in:

a. Reproduction **(1mk)**

……
……

b. Respiration **(1mk)**

……
……

iv) Name two parts in the alimentary canal where starch is digested **(2mks)**

……
……

v) Identify one hormone and one digestive enzyme that stimulates digestion of starch in the parts identified in (iv) above **(2mks)**

……
……

(vi) What deficiency disease results when an individual lacks starch in their diet? **(1mk)**

……

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

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233/1

CHEMISTRY

Paper 1

Time: 2 hours

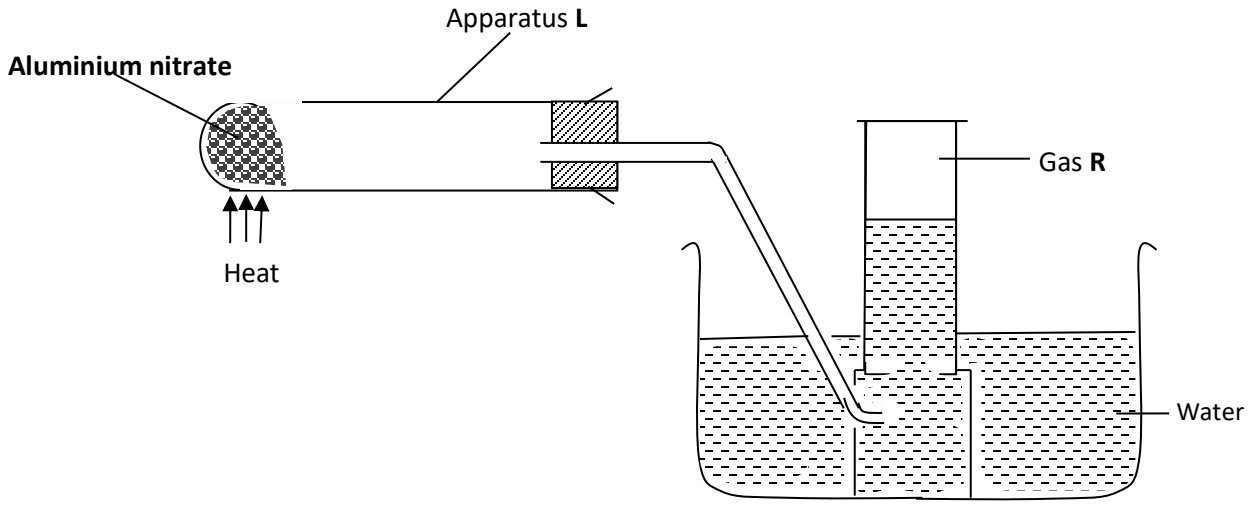
INSTRUCTIONS TO CANDIDATES

- *Write your name, admission number, date and school in the spaces provided.*
- *Answer all the questions in the spaces provided.*
- *All working must be clearly shown where necessary.*
- *Scientific calculators may be used.*

FOR EXAMINERS' USE ONLY

Questions	Maximum Score	Candidate's Score
1 – 26	80	

1. Ammonium nitrite was heated as shown below.



(i) Give a suitable material that can be used to make apparatus **L**, explain your answer. **(2 marks)**

……

……

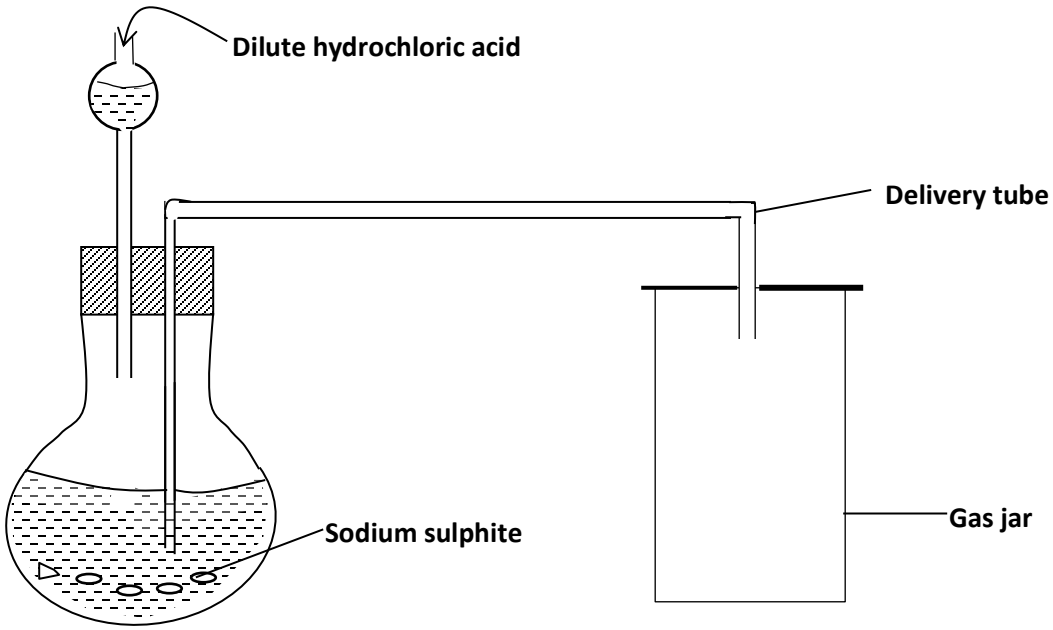
……

(ii) Write a chemical equation for formation of gas **R**. **(1 mark)**

……

……

2. Dilute hydrochloric acid and sodium sulphite were reacted as shown below.



(i) Write a chemical equation for the reaction taking place in the flask. **(1 mark)**

……

……

(ii) State one main laboratory rule that should be observed during the above experiment and give a reason for your choice. **(2 marks)**

……

……

……

(iii) Give two reasons why no gas was collected in gas jar. **(2 marks)**

……

……

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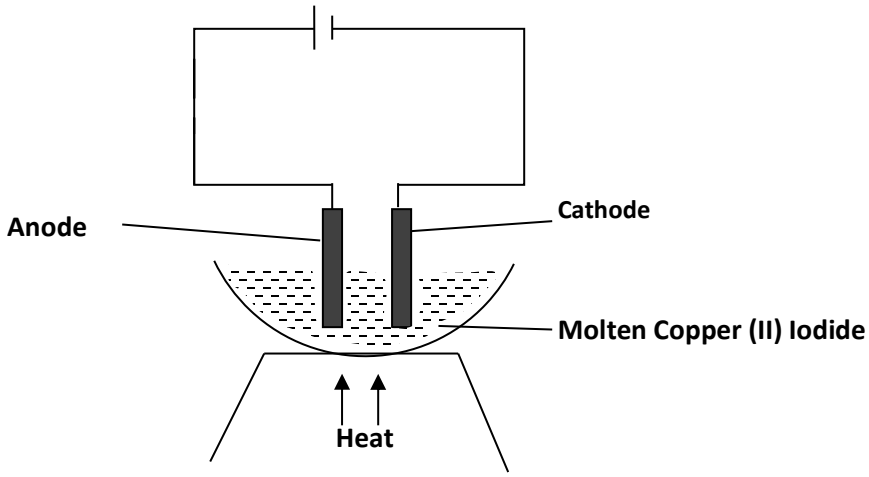
……

……

3. In an experiment 3.36g of iron filling were added to excess copper (II) sulphate solution. Calculate the mass of copper that was deposited given that Iron (II) sulphate and copper were the products.
(Cu = 63.5, Fe = 56.0) **(3 marks)**

4. In a titration experiment $30cm^3$ of 2M sodium hydroxide required $30cm^3$ of sulphuric (VI) acid for complete neutralization. Determine the concentration of sulphuric (VI) acid in grams per litre. **(3 marks)**

5. Study the diagram below and answer the questions that follow.



(i) State the observation made at the cathode. **(1 mark)**

……

……

(ii) Write the equation taking place at the Anode. **(1 mark)**

……

……

(iii) What material should be used to make the cathode? **(1 mark)**

……

……

6. (a) Define the term electrolysis. **(1 mark)**

……

……

……

(b) State two applications of electrolysis. **(2 marks)**

……

……

……

7. **(a)** Write the electron arrangement of element **P** which has atomic number 16.

(1 mark)

……

……

(b) State the group and period of element **P**. **(1 mark)**

……

……

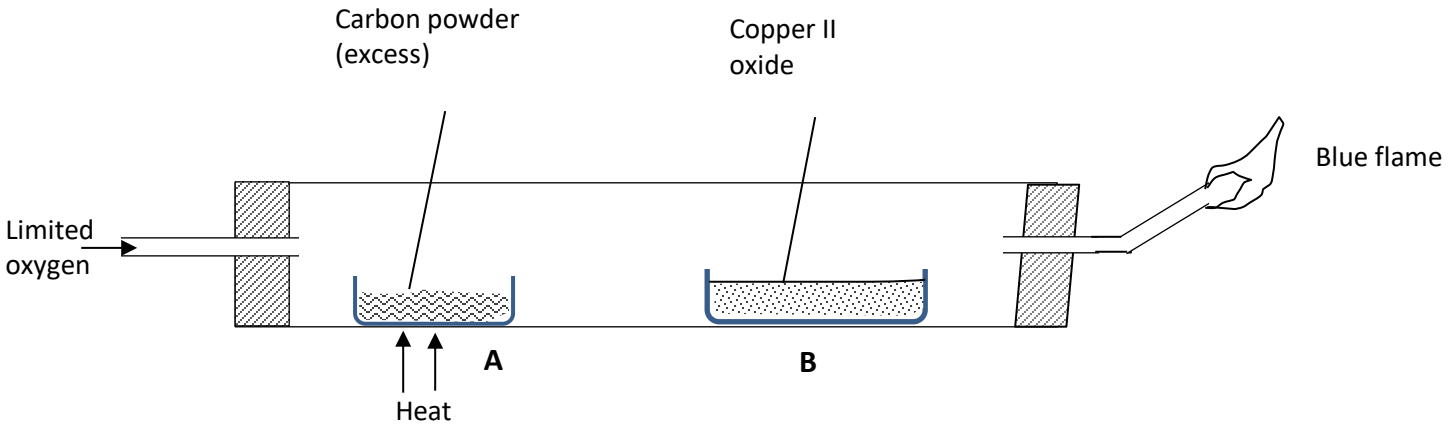
(c) Write the equation of element **P** when burnt in air. **(1 mark)**

……

……

……

8. Study the diagram below and answer the question that follow.



(a) State and explain observation made and point **A**. **(2 marks)**

……

……

……

(b) Explain the observation made out point **B**. **(2 marks)**

……

……

……

……

(c) Why was it necessary to burn the gas at the jet? **(1 mark)**

……

……

……

9. Give two reasons why carbon (IV) oxide is used at a fire extinguisher. **(2 marks)**

……

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……

10. To determine the purity of limestone Form 3 students heated 12.5g of limestone in a crucible until they obtained a constant mass. If the volume of CO_2 obtained was 2400. Calculate the purity of the limestone (C=12, O=16, Ca = 40, Mgv = 240dm^3). **(3 marks)**

11. Determine the relative atomic mass of Neon whose isotopic composition is as follows.

$^{20}_{10}90.92$ (90.92%) $^{21}_{10}Ne$ (0.26%) $^{22}_{10}Ne$ (8.82%) **(3 marks)**

12. Draw a well-labelled diagram to show how dry hydrogen can be prepared and collected in the laboratory. **(3 marks)**

13. Give **two** characteristics of a temporary chemical change. State one example of such reaction. **(2 marks)**

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14. (a) What is drug abuse? **(1 mark)**

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(b) Name one commonly abused non-medicinal drug. **(1 mark)**

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(c) A doctor prescribed drugs to a patient Amoxil 2x3. How should the patient take the drug? **(1 mark)**

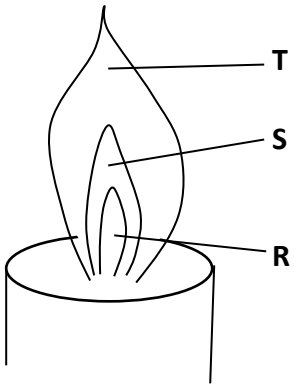
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15. The figure below shows a flame obtained from a Bunsen burner.



(a) Name the type of flame. **(1 mark)**

……

……

(b) A matchstick head placed at region R will not ignite. Explain. **(1 mark)**

……

……

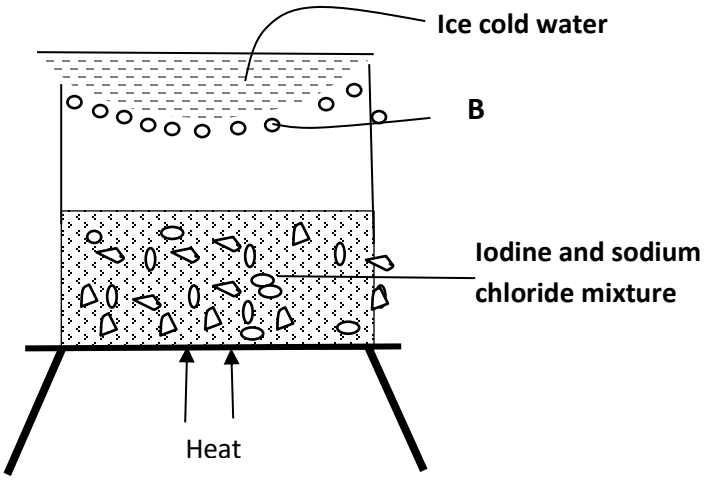
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(c) Name region **S**. **(1 mark)**

……

……

16. The set-up below was used to separate a certain mixture.



(a) Identify the method of separation shown. **(1 mark)**

……

(b) Identity substance **B**. **(1 mark)**

……

……

(c) Give any other substance when mixed with sodium chloride can be separated as above? **(1 mark)**

……

……

17. Element **A** with atomic number 12 and **B** with atomic number 9.

(a) To which chemical family is; **(2 marks)**

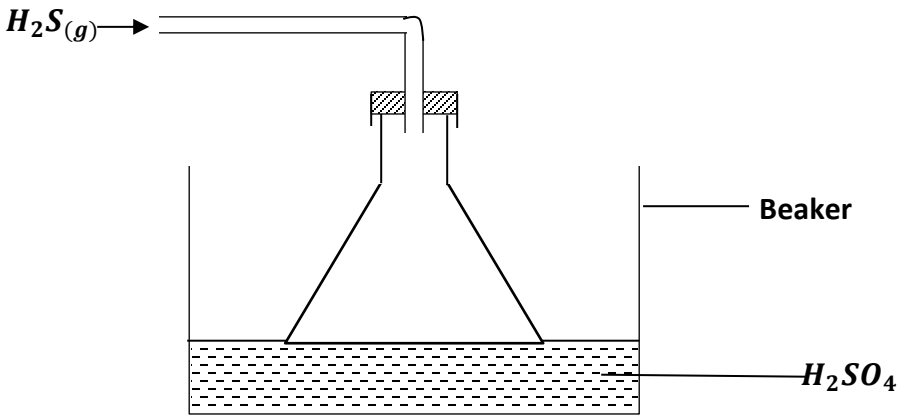
A - ……

B - ……

(b) Write the equation for the reaction between **A** and **B**. **(1 mark)**

18. When chlorine gas is passed over heated iron metal, 26.7g of the product is formed. Calculate the mass of iron which reacted. (Fe = 56, Cl = 35.5) **(3 marks)**

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



(a) Give the observation made in the beaker. **(1 mark)**

……

……

(b) Write an equation for the reaction that took place in the beaker. **(1 mark)**

……

……

(c) Give one reason why the gas is directed into the beaker using the inverted funnel as above? **(1 mark)**

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……

20. **(a)** State Graham's law of diffusion. **(1 mark)**

……

……

……

(b) It takes 50 seconds for $200cm^3$ of carbon (IV) oxide to diffuse through a plug. How long will it take $300cm^3$ of nitrogen (IV) oxide to diffuse through the same plug under the same conditions of temperature and pressure.
(C = 12, N = 14, O = 16) **(2 marks)**

21. **(a)** State Gay Lussac's law. **(1 mark)**

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……

……

(b) Calculate the volume of air required to completely react with $100cm^3$ of hydrogen gas. (Assume that oxygen is 20% by volume of air). **(3 marks)**

22. Name the following organic substances. **(3 marks)**

(a) $CH_3\ CH(Br)\ CH\ CH_3$ (with CH_3 branch on the second carbon)

.....

(b) $CH_3\ CH\ CH\ CH_2\ CH_3$

.....

(c) $CH_3\ CH_2COOCH_2\ CH_2\ CH_3$

.....

23. (a) Define isomers. **(1 mark)**

.....

.....

.....

(b) Draw the possible structural isomer of C_4H_8. **(2 marks)**

24. (a) Give the chemical name for rust. **(1 mark)**

.....

.....

(b) Name one condition which speeds up rusting. **(1 mark)**

.....

.....

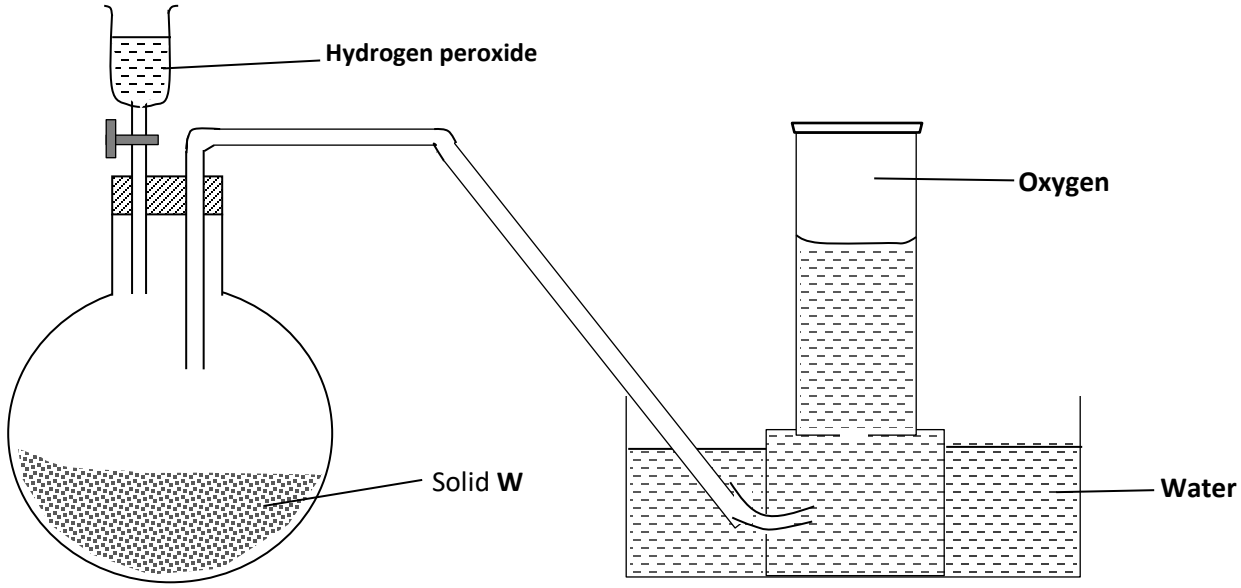
(c) Many iron products are coated with a layer of zinc to protect it from rusting. State two ways in which zinc prevents rusting of iron. **(1 mark)**

……

……

……

25. Study the diagram below for the preparation of oxygen in the laboratory.



(a) Name solid **W**. ……**(1 mark)**

(b) Write the equation for the reaction. **(1 mark)**

……

……

(c) What property of oxygen makes it to be collected as above? **(1 mark)**

……

……

26. Starting with Barium Oxide describe how Barium chloride can be prepared in the Lab.

(2 marks)

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……

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

CHEMISTRY

Paper 2 **(THEORY)**

2 hours

a) *Write your name, Index number and class in the spaces provided above.*
b) *Answer **ALL** the questions in the spaces provided.*
c) *Mathematical tables and silent electronic calculators may be used.*

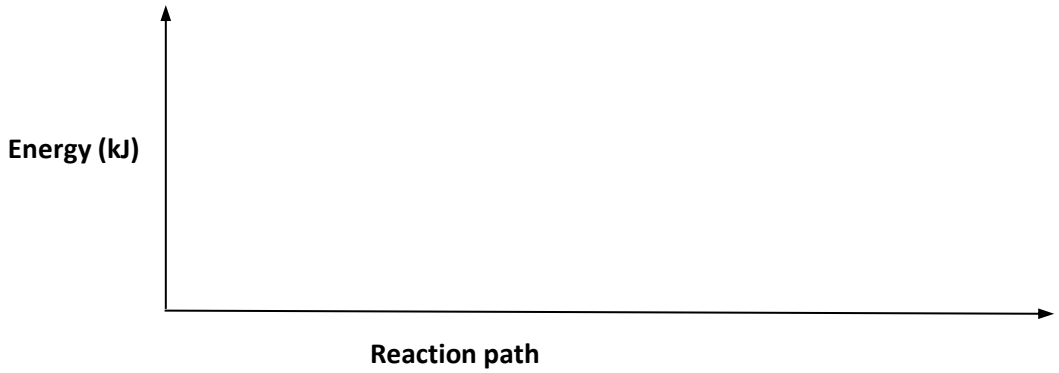
For Examiner's use only

Question	Maximum Score	Candidate's Score
1	**11**	
2	**12**	
3	**12**	
4	**12**	
5	**11**	
6	**11**	
7	**11**	
Total	**80**	

1. a) Consider the following reaction:

$A_{2(g)} + B_{2(g)} \rightleftharpoons 2AB_{(g)}, \quad \Delta H = +75$ kJ

Sketch an energy level diagram showing the relative activation energies for the catalysed and uncatalysed reactions using the axes below. **(2mks)**



b) Given that; $\Delta H_f\,(Al_2O_3) = -1590$ kJmol^{-1}

$\Delta H_f\,(Cr_2O_3) = -1134$kJmol^{-1}

Calculate the heat of reaction for; $2Al_{(s)} + Cr_2O_{3(s)} \longrightarrow Al_2O_3 + 2Cr_{(s)}$ **(2mks)**

c) The following data was obtained during an experiment

Mass of ethanol burnt = 0.2g

Mass of water in the calorimeter = 200g

Specific heat capacity of water = 4.2 jg^{-1}k^{-1}

Initial temperature of water = 23.5 ^{0}C

Final temperature of water = 28.0 ^{0}C

i) **How** was the mass of ethanol that burnt determined? **(1mk)**

……

……

ii) **How** much heat was required to raise the temperature of water from 23.5 ^{0}C to 28.0^{0}C? **(2mks)**

……

……

iii) Two assumptions were made in calculating the enthalpy of combustion for ethanol. **State them.** **(1mk)**

……

……

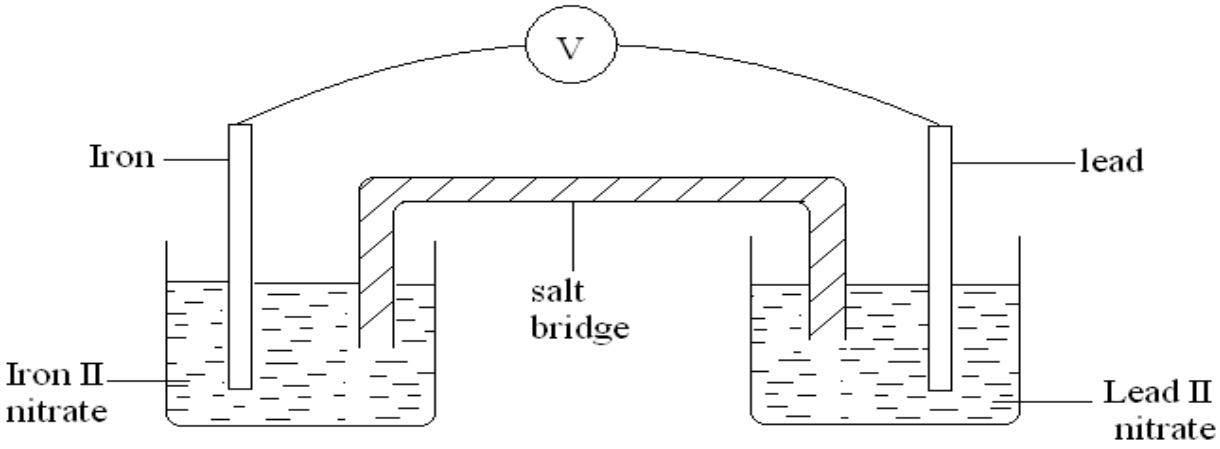
iv) **Determine** the molar enthalpy of combustion of ethanol.(C= 12,H=1, O=16)

(2mks)

v) **Write** a thermochemical equation for the combustion of ethanol given the accurate value for enthalpy of combustion is – 1368 $kJmol^{-1}$. **(1mk)**

……

2. Two half cells were connected as shown to form a voltaic cell. The reduction potentials are given.



$Pb^{2+}_{(aq)} + 2e \longrightarrow Pb_{(s)}$ $E^{\Theta} = -0.13V$

$Fe^{2+}_{(aq)} + 2e \longrightarrow Fe_{(s)}$ $E^{\Theta} = -0.44V$

a) Calculate the e.m.f of the cell. **(1mk)**

b) Sodium chloride is used as the salt bridge. State the two functions of the salt bridge. **(2mks)**

……

……

c) Show the direction of the electron flow in the external circuit. **(1mk)**

d) The e.m.f of the cell will reduce with time. Give a reason for this. **(1mk)**

……

……

e) During electrolysis of water acidified with Sulphuric acid, two gases were produced at the electrodes:

i) **State** which ions are preferentially discharged at the electrodes. **Explain** with aid of half ionic equations.

Anode.

(2mks)

……

……

Cathode.

(2mks)

……

……

ii) **Calculate** the volume of the gases at s.t.p produced when a current of 0.025A is passed for 4 hours. (1 Faraday=96500C) **(3mks)**

3. a) The fermentation of glucose is catalysed by enzymes from yeast. Yeast is added to aqueous glucose, the solution starts to bubble and becomes cloudy as more yeast cells are formed.

$$C_6H_{12}O_{6(aq)} \xrightarrow{} 2C_2H_5OH_{(aq)} + 2CO_{2(g)}$$

The reaction is exothermic. Eventually the fermentation stops when the concentration of ethanol is about 12%.

(i) On a large scale, the reaction mixture is cooled. Suggest a reason why this is necessary.

(1mk)

……

……..

(ii) Why does the fermentation stop? Suggest one reasons. **(1mk)**

……

……

(iii) What technique is used to concentrate the aqueous ethanol? **(1mk)**

……

……..

b) A compound X contains carbon, hydrogen and oxygen only. X contains **54.54**% of carbon by mass, **9.09**% of hydrogen by mass and **36.37**% of oxygen by mass. (C=12, O=16, H=1)

(i) Determine the empirical formula of compound X. **(2mks)**

(ii) Compound X has a relative molecular mass of 88. Draw the structural formula of compound X. **(2mks)**

c) The table below gives formulae of three organic compounds A, B and C

Compound	Formulae
A	**$C_2H_4O_2$**
B	**C_2H_6O**
C	**C_2H_6**

Giving a reason in each case, select the letter(s) which represent a compound that

i) Decolourises acidified potassium manganate (VII). **(1mk)**

……

……

ii) .Gives effervescence with sodium hydrogen carbonate. **(1mk)**

……

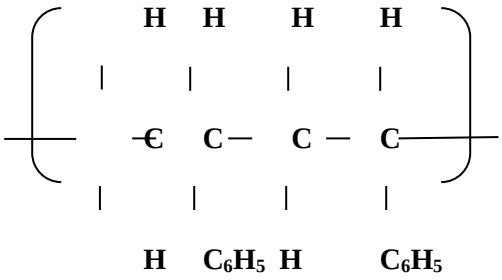
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iii) Undergoes substitution reaction with chlorine gas. **(1mk)**

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d) The following is a small reaction of polystyrene polymer. Study it and answer the questions that follow.



(i) Draw the structure of the monomer unit of polystyrene. **(1mk)**

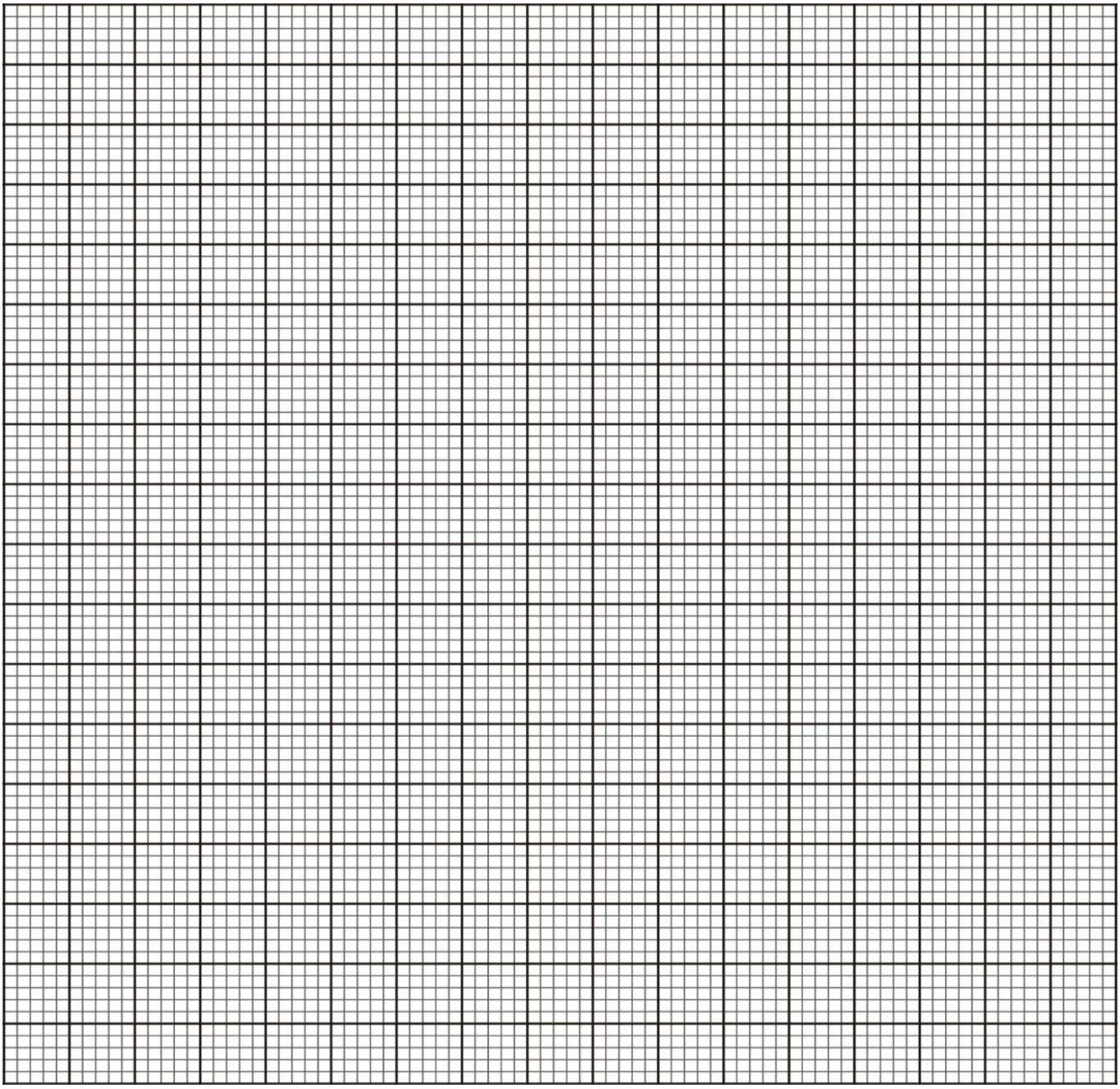
(ii) Calculate the number of monomers used to form the polystyrene of relative molecular mass of 18096. (H = 1, C = 12) **(1mk)**

4. An experiment was carried out using magnesium ribbon and dilute hydrochloric acid of different concentrations. The time needed to produce $50cm^3$ of the gas for every experiment was recorded in a table.

Concentration of HCl (moles per litre)	2.0	1.75	1.50	1.25	1.00	0.75	0.50	0.25
Time (seconds)	8.8	10.0	11.7	14.0	17.5	18.7	35.0	70.0
$\frac{1}{time}$ (Sec^{-1})								

a) Complete the table above for $^{1}/_{time}$. **(4mks)**

b) Plot a graph of rate i.e $^{1}/_{time}$ against concentration. **(3mks)**



c) From your graph determine the concentration needed to produce $50cm^3$ of hydrogen gas when time is 15.0 seconds **(1mks)**

……

……

d) From your graph state the relationship between the rate of reaction and concentration. Give a reason. **(1mk)**

……

……

e) A state of equilibrium between dichromate (vi) and chromate ions is established as shown below

$$Cr_2O_7^{2-}{}_{(aq)} + 2OH^-{}_{(aq)} \rightleftharpoons 2CrO_4^{2-}{}_{(aq)} + H_2O_{(l)}$$

Orange **(Yellow)**

i) What is meant by dynamic equilibrium? **(1mk)**

……

……

……

ii) State and explain observation made, when a few pellets of Hydrochloric acid are added to equilibrium mixture **(2mks)**

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5. I) The table below shows properties of some elements represented by symbols W,X,Y and Z. Study the information in the table and answer the questions that follows

Element	**No. Of protons**	**Atomic radius(nm)**	**Boiling point ^{0}C**
W	2	0.93	-269

X	10	1.31	-246
Y	18	1.54	-186
Z	36	1.89	-152

a) Write down the electron arrangement for elements W and X **(1mk)**

……

……

b) In which group of the periodic table are the elements in the table above? Give the name of the group **(2mks)**

……

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……

……

c) Explain why the atomic radius of W is smaller than that of X **(1mk)**

……

……

……

d) State one use of element X **(1mk)**

……

……

II. The section below represents part of the periodic table. Study it and answer the questions that follow. The letters are not the actual symbol of the elements.

				Q				
X			B	H		M	T	
Y		A					V	
Z							S	

a) **Select** the least reactive non-metal. **(1mk)**

……

b) **Which** of the elements has the greatest tendency of forming covalent compounds in nature? **Explain** your choice. **(1mk)**

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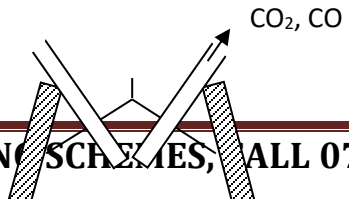
c) **Explain** why the atomic radius of **T** is smaller than that of **M**. **(2mks)**

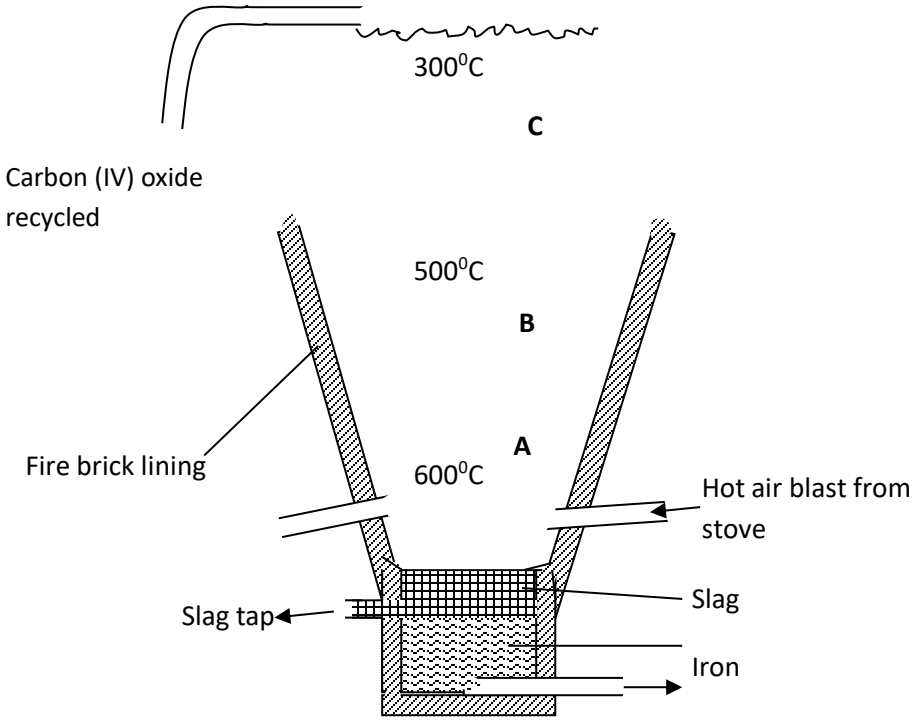
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d) Compare the electrical conductivity of element X and B. **(2mks)**

6. Extraction of iron involves two main processes, smelting and refining. Below is the blast furnace which is used to smelt iron from its ore.





a) **(a)** **(i)** The chief ore is Haematite. Name one other ore used in extraction of iron **(1 mark)**

……

……

(ii) Name the reducing agent in the process. **(1mk)**

……

(i) What is the role of the hot air blast in the process? **(2mks)**

……

……

(b) Write equations for the reactions that take place at the region marked A, B and C. **(3mks)**

A……

B……

C ……

(c) What is the purpose of limestone in the extraction process? **(1mk)**

……

(d) Write equations to show how impurities are removed from the ore. **(2mks)**

……

……

……

(e) State one environmental effect of the process. **(1mk)**

……

……

7. a) Read the following passage and answer the questions.

A salt K was heated with slaked lime (calcium hydroxide). A colourless gas L with a characteristic smell and turns red litmus paper blue was evolved. A large quantity of this gas was passed through an inverted filter funnel into Copper(II)sulphate solution, and a deep blue solution M was obtained.

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

……

b) What is K most likely to be? **(1mk)**

……

……

c) Write an equation for the reaction between K and slaked lime **(1mk)**

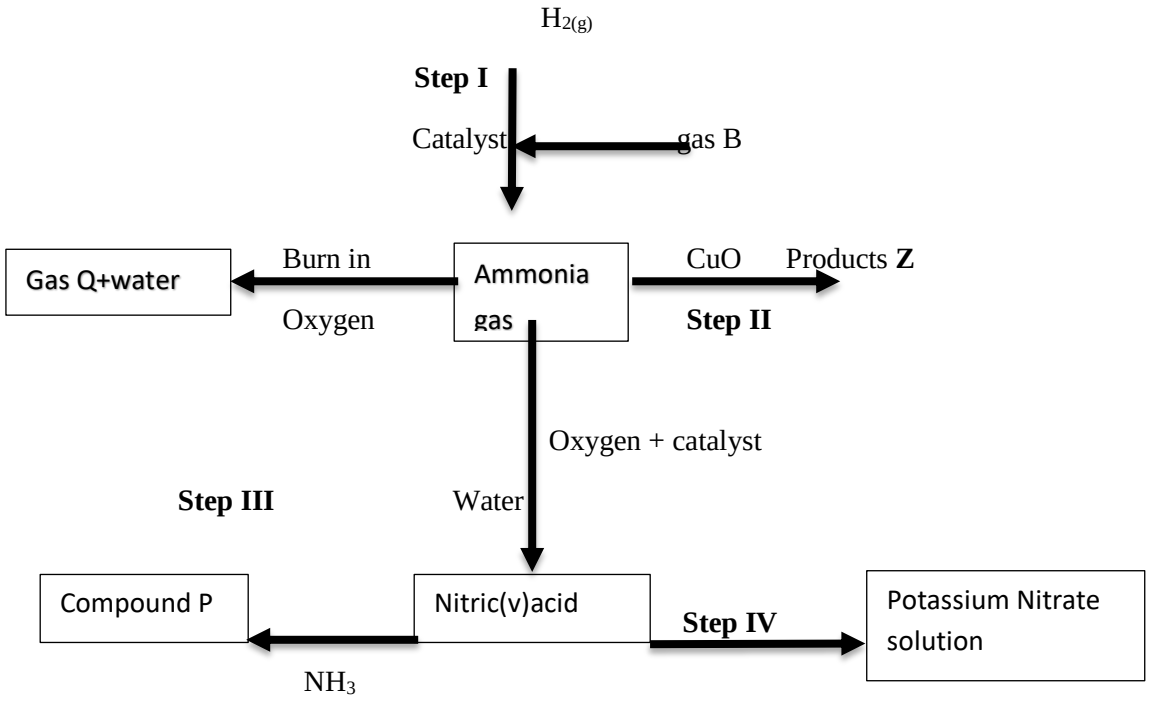
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d) Write an ionic equation for the reaction with copper(II) sulphate forming the deep blue solution **(1mk)**

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b) Study the flow chart below and answer questions that follow:



(i) State **one** source of gas B **(1mk)**

……

……

(ii) Name the catalysts used in; **(1mk)**

a) Step I

……

b) Step III

……

(iii) Write chemical equations for reactions in; **(3mks)**

a) Step I

……

b) Step II

……

c) Step V

……

(iv) Identify any other gas that can be used instead of Ammonia in step II **(1mk)**

……

(v) State one use of gas Q **(1mk)**

……

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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CHEMISTRY

CONFIDENTIAL

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

1. One Burette, 0-50ml.
2. One 25ml Pipette.
3. Two 250ml Conical Flask
4. One complete Retort Stand
5. One White Tile
6. One Pipette Filler
7. Six Test-tubes
8. Two Boiling tubes
9. Wash bottle filled with distilled water
10. One metallic spatula.
11. About 1g of solid sodium hydrogen carbonate.
12. Thermometer.
13. 120cm^3 solution A.
14. 120cm^3solution B.

15. Distilled water in a wash bottle.

16. Solid R.

17. Solid Q.

18. Solid F.

ACCESS TO

1. Source of heat.
2. Acidified Potassium Manganite (VII)
3. Bromine water
4. Sodium sulphate solution
5. Aqueous sodium hydroxide solution.
6. Aqueous ammonia solution
7. Acidified barium nitrate solution

NOTES

- Solid **R** is 2.0g Potassium chlorate, $KClO_3$ crystals.
- Solution A is prepared by dissolving exactly 39.2g of $FeSO_4(NH_4)_2SO_4.nH_2O$ in $600cm^3$ of distilled water and dilute with distilled water to one litre.
- Solution B is prepared by dissolving 3.0g of $KMnO_4$ in 400ml of 2M H_2SO_4 and diluting with distilled water to one litre.

NATIONAL SCHOOLS MOCKS

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(SERIES 001)

NAME……

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233/3

CHEMISTRY

PAPER 3

PRACTICAL

Time: 2 ¼ Hours

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided.*
- *Sign and write the date of examination in the spaces provided.*
- *You are **not** allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus required.*

FOR EXAMINER'S USE ONLY

QUESTION	Max Score	Candidate Score
1	22	
2	10	
3	08	
TOTAL	40	

1(a) You are provided with:

- Solution A ,containing 39.2g/l of $FeSO_4(NH_4)_2SO_4.nH_2O$
- Solution B Containing 3.0g/l of $KMnO_4$.

  You are required to determine;
- The concentration of solution A in moles per litre
- The number of moles of (n) of water of crystallization in $FeSO_4(NH_4)_2SO_4.nH_2O$

Procedure

- Fill the burette with solution A.
- Using a pipette filler, pipette 25.0cm^3 of solution B into a conical flask and titrate with solution A until a pink colour just appears.
- Record thevolume of solution A used in the table below. Repeat the experiment twice and fill the table.

Table 1

Titrations	1	2	3
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of solution A (cm^3)			

(4mks)

a) Calculate the average volume of solution A used **(1mk)**

b) Determine;

i) Concentration of solution B in moles per litre, **(1mk)**

(K=39,Mn=55,O=16)

ii) Number of moles of solution B used. **(1mk)**

c) Given that the ionic equation for the reaction is:

$MnO_4^-{}_{(aq)} + 8H^+{}_{(aq)} + 5Fe^{2+}{}_{(aq)} \rightarrow Mn^{2+}{}_{(aq)} + 5Fe^{3+}{}_{(aq)} + 4H_2O_{(l)}$

Determine the number of moles of solution A used. **(1mk)**

Determine the;

i) Concentration of solution A in mole per litre **(1mk)**

ii) Relative formula mass of $FeSO_4(NH_4)_2SO_4.nH_2O$ **(1mk)**

iii) Number of moles of water of crystallization (n) in $FeSO_4(NH_4)_2SO_4.nH_2O$ **(1mk)**

b. You are provided with 2.0g of solid **R** in a boiling tube.

You are required to determine the solubility of solid **R** at different temperatures.

Procedure

(i) Using a burette, add 3.0cm^3 of distilled water into the boiling tube with solid **R**.

(ii) Gently heat the boiling tube, while stirring the contents carefully with a thermometer until the crystals of R dissolve completely.

(iii) Remove the boiling tube from the flame and allow the contents to cool while stirring with the thermometer. Note the temperature at which crystals **just** appear and record it in Table II below.

(iv) Add 2.0cm^3 of distilled water from the burette into the boiling tube containing the mixture and repeat steps (ii) and (iii) above.

(v) Repeat step (iv) three more times.

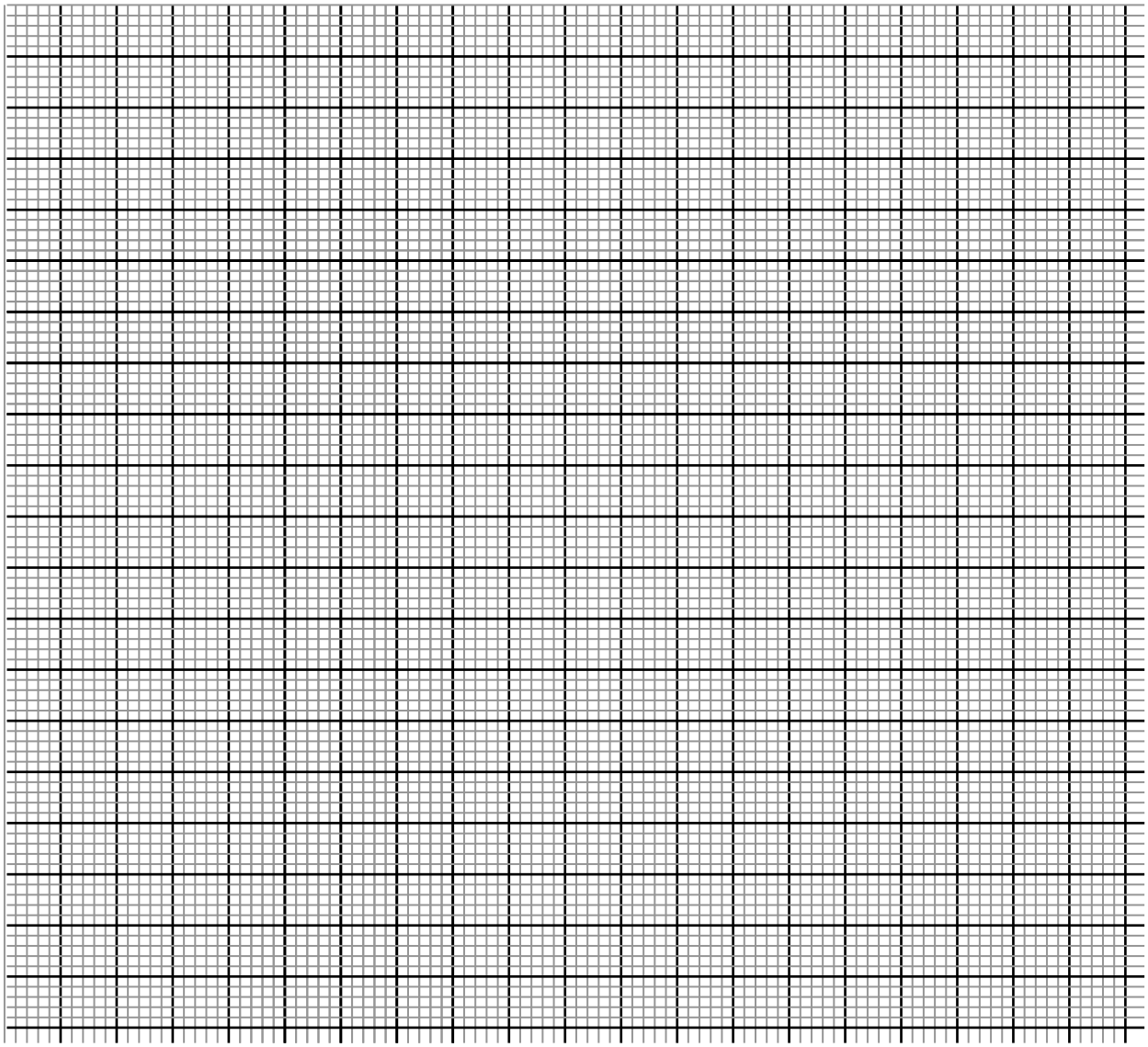
(vi) Calculate the solubility of solid **R** in water at the different temperatures and complete table 2.

Table 2

Total volume of water added (cm^3)	**Temperature at which crystals just appear(^{o}C)**	**Solubility of solid R in water (g/100g of water)**
3		
5		
7		
9		
11		

(5½ marks)

a) On the grid provided, plot a graph of solubility of solid R (vertical axis) against temperature(horizontal axis) (3 marks)



b) From your graph, determine

(i)The temperature at which 35g of solid **R** would dissolve in 100cm^3 of water. (1mk)

(ii) The solubility of solid **R** at 50^{o}C. (1mk)

(iii) State how solubility varies with temperature. (½mk)

2. You are provided with solid **Q**. Carry out the tests below and record your observations and inferences in the spaces provided.

(a) Place all of solid Q in a clean boiling tube. Add about $10cm^3$ of distilled water and shake. Divide the resulting solution into 4 equal portions.

Observations	Inference
(1mk)	(1mk)

(i)To the 1st portion, add drops of sodium sulphate solution.

Observations	Inference
(1mk)	(1mk)

(ii) To the 2nd portion, add sodium hydroxide solution dropwise until excess.

Observations	Inference
(1mk)	(1mk)

(iii) To a 3rd portion, add ammonia solution dropwise until in excess.

Observations	Inference
(1mk)	(1mk)

(iv) To the fourth portion, add 2-3 drops of acidified barium nitrate solution.

Observations	Inference
(1mk)	(1mk)

3. You are provided with solid **F**. Carry out the tests and record your observations and inferences in the spaces provided.

(i) Place half a spatulaful of solid F in a non-luminous flame to ignite.

Observations	Inference
(1mk)	(1mk)

(ii) Place the rest of the solid in a test-tube. Add about 6cm^3 of distilled water and shake the mixture well. Divide the solution into 3 portions.

Observations	Inference
(½mk)	(½mk)

(iii) To about 2cm^3 of the solution, add a spatulaful of sodium hydrogen carbonate.

Observations	inference
(1mk)	(1mk)

(iv)To about 2cm^3, add 2 drops of acidified potassium manganate (vii) solution.

Observations	Inference
(1mk)	(½mk)

(v) To another 2cm^3, add 2 drops of bromine water.

Observations	Inference
(1mk)	(½mk)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

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232/1

PHYSICS

PAPER 1

TIME: 2 $\frac{1}{2}$ HRS

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided.*
- *Mathematical tables and non-programmable calculators may be used.*
- *This paper consists of four questions.*
- *Attempt all the questions in the spaces provided.*
- *ALL working MUST be clearly shown.*

For Examiners Use

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
A	1 – 10	25	
B	11	10	
	12	13	
	13	12	
	14	13	
	15	07	
	TOTAL	**80**	

SECTION A (25 MARKS)

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

1. State the meaning of SI unit and give its significance. **(2 marks)**

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2. The human lung functioning normally can withstand a pressure of up to *5 atmospheres.* How deep in metres can an experienced diver go under water at normal atmospheric pressure? (*1 atm = 10 metres of water*) **(2 marks)**

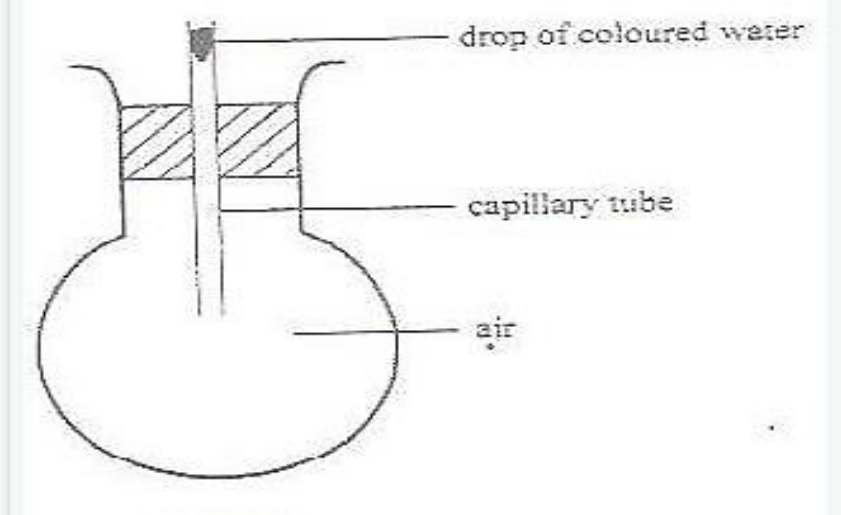
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3. The figure below is a set up used to study the behavior of gases

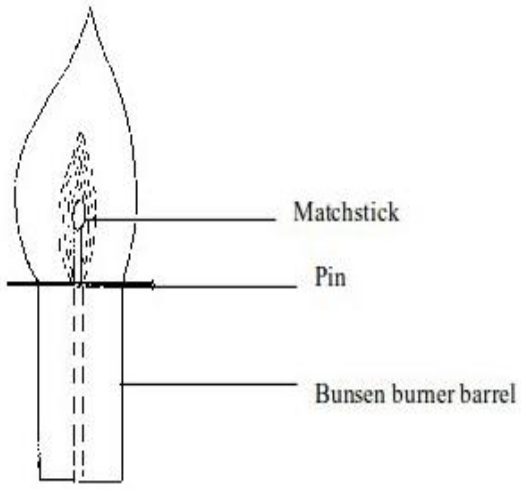


State and explain fully the observations made if the round bottomed flask is immersed in cold water. **(2 marks)**

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4. The diagram below shows a matchstick placed under a Bunsen burner flame



It is observed that the matchstick does not catch flame. Explain this observation.

(2 marks)

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5. When an oil drop is placed on a clean water surface, it spreads to form a thin film. Explain why this happens. **(1 mark)**

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6. A ball of mass 600g falls from a height of 16 m and bounces back to a height of 10 m. Calculate the amount of sound energy produced. (Assume no other energy losses)

(3 marks)

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7. A balloon is filled with air to a volume of 100ml at a temperature of 30^0C. Determine the volume when the temperature rises to 70^0C at the same pressure. **(2 marks)**

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8. a) Explain why steam causes more serious burn than water at same temperature. **(1 mark)**

……

……

b) Steam at 100^0C was passed into 100g of cold water at 15^0C. When the temperature of the mixture reached 50^0C, its mass was found to be 106.1g. Assuming no heat losses to the surrounding, determine the latent heat of vaporization of water. (Take specific heat capacity of water to be 4200 J/kg/K) **(3 marks)**

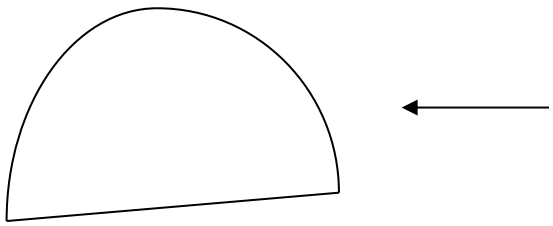
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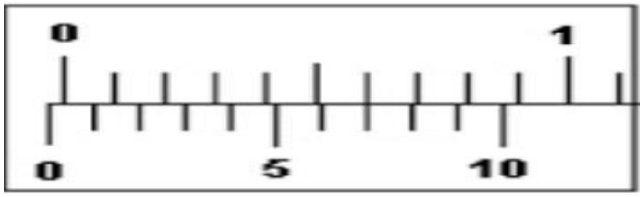
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9. Complete the diagrams below to show the streamlines for a fluid flowing past the stationary object in the direction shown. **(2 marks)**



10. The diagram below shows the scale of vernier callipers when the jaws are closed



a) State the zero error. **(1 mark)**

……

b) A student used the vernier calipers above to measure the length of a cube. If the mass and density of the cube were 6.86g and 2.5g/cm^3, calculate the reading shown by the instrument. (4 marks)

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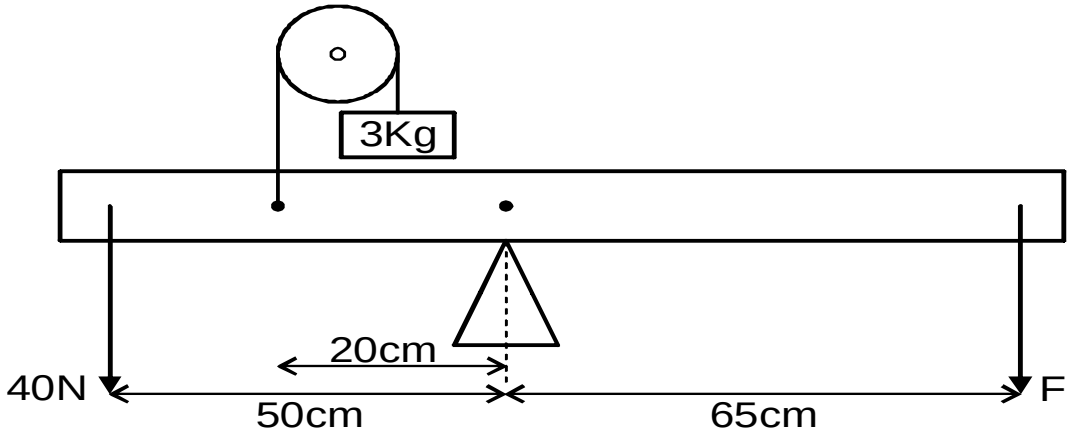
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SECTION B (55 MARKS)

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

11.

(a) The figure below represents a system in equilibrium



Determine the force F needed to maintain the system at equilibrium**.** **(3 marks)**

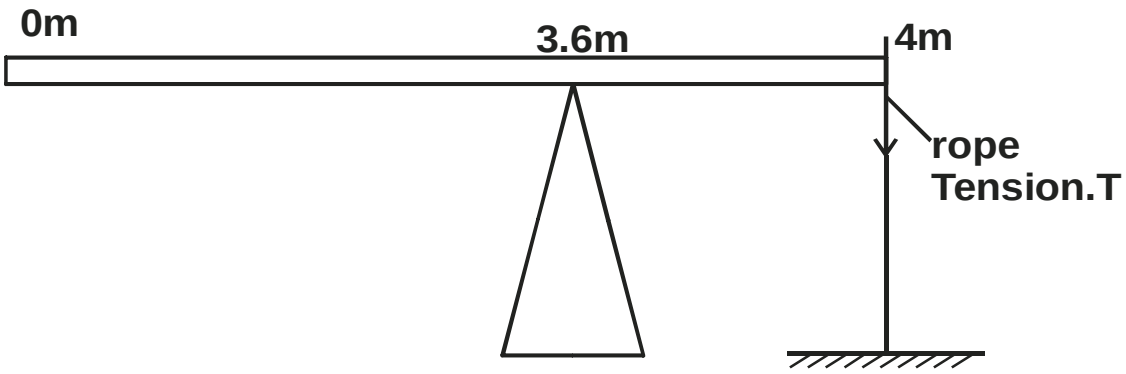
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(b) A uniform rod of length 4m and mass of 4kg is pivoted at 3.6m mark. The rod is held horizontal with a vertical rope at the 4m mark, as shown in the figure below.



Calculate the tension, T in the rope (Take g = 10N/kg) **(3 marks)**

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(c) State two conditions necessary for a body acted upon by a number of parallel forces to remain at equilibrium. **(2 marks)**

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(d) Explain why a bunsen burner has a heavy and wide base . **(2 marks)**

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12. (a) (i) State Newton's second law of motion. **(1 mark)**

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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 0.10 s. Calculate the take off velocity of the ball. **(2 marks)**

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

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

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

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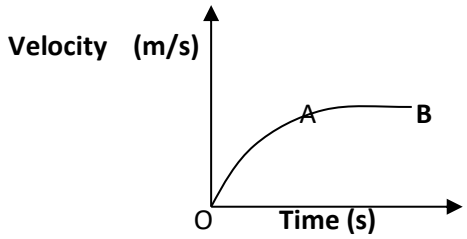
(c) A high jumper usually lands on a thick soft mattress. Explain how the mattress helps in reducing the force of impact. **(1 mark)**

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(d) The figure below shows a graph of velocity against time for a ball bearing released at the surface of a viscous liquid.



Explain the motion of the ball bearing for parts.

(i) OA **(1 mark)**

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(ii) AB **(1 mark)**

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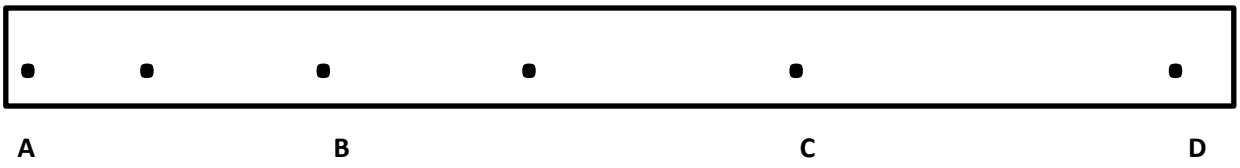
(e) Give a reason why it is important that passengers in vehicles put on safety belts. **(1 mark)**

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13. (a) The figure below shows a section of a tape (drawn to scale) after passing through a ticker timer of frequency 100 Hz. The tape is attached to a trolley moving in the direction shown.



i. State the type of current that was used to operate the timer. **(1 mark)**

……

ii. Determine the initial velocity of the trolley, AB. **(2 marks)**

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iii. Determine the final velocity of the trolley, CD **(2 marks)**

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iv. Determine the acceleration of the trolley. **(2 marks)**

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(b) A bullet is fired horizontally at a velocity 200 m/s from the roof top of a storey building. If it strikes the ground after 1.5 seconds;

i) What is the name given to the path followed by the bullet. **(1 mark)**

……

ii) Calculate the height of the building. **(2 marks)**

……

……

……

iii) Calculate the distance from the foot of the building to where the bullet hits the ground. **(2 marks)**

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14.

a) i) Define proportionality limit for an elastic material. **(1 mark)**

……

……

ii) Name the property of a spring that enables it to regain its original length when a load is removed. **(1 mark)**

……

b) A pan is attached to the lower end of a hanging spring of natural length 12 cm. When an object of mass 100g is placed in the pan the length of the spring becomes 25 cm. For an object of mass 220g placed in the pan, the length of the spring becomes 30cm. Calculate the mass of the pan. **(4 marks)**

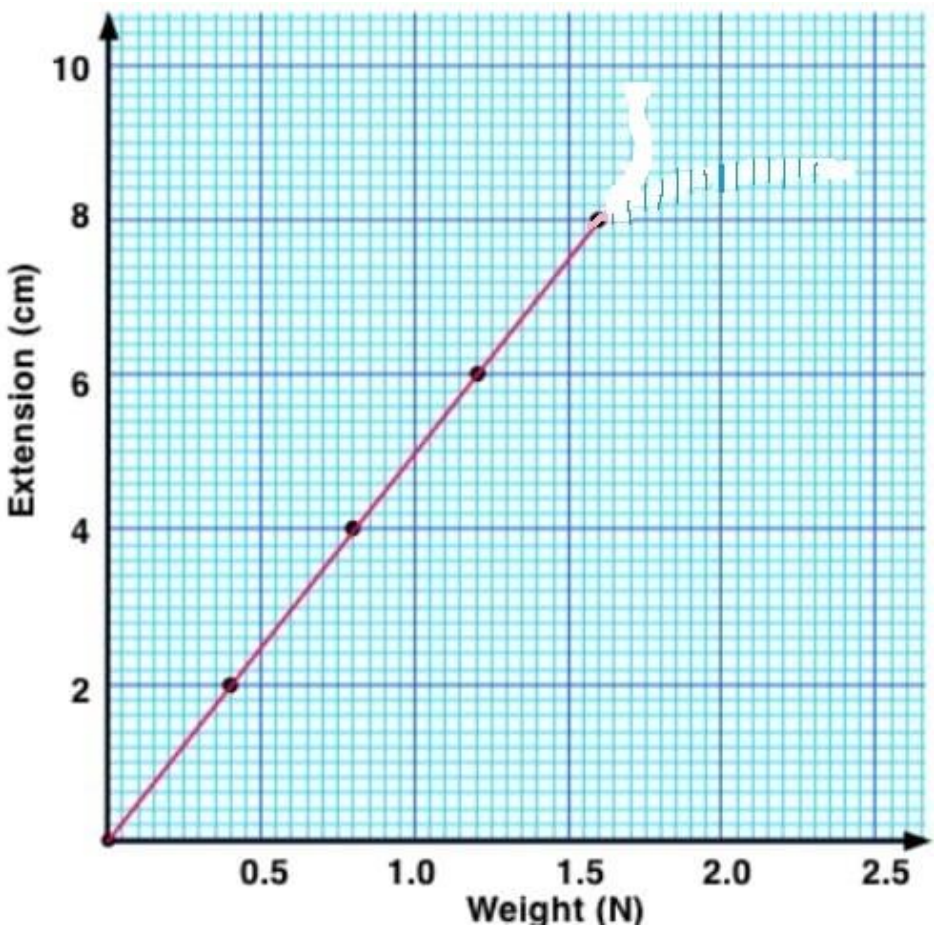
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c) A spring and several masses were used in an experiment to determine spring constant. Below is a graph of extension against weight plotted from the experimental results.



i) Determine the slope of the graph. **(2 marks)**

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ii) Determine the spring constant of the spring used in the experiment. (**2 marks)**

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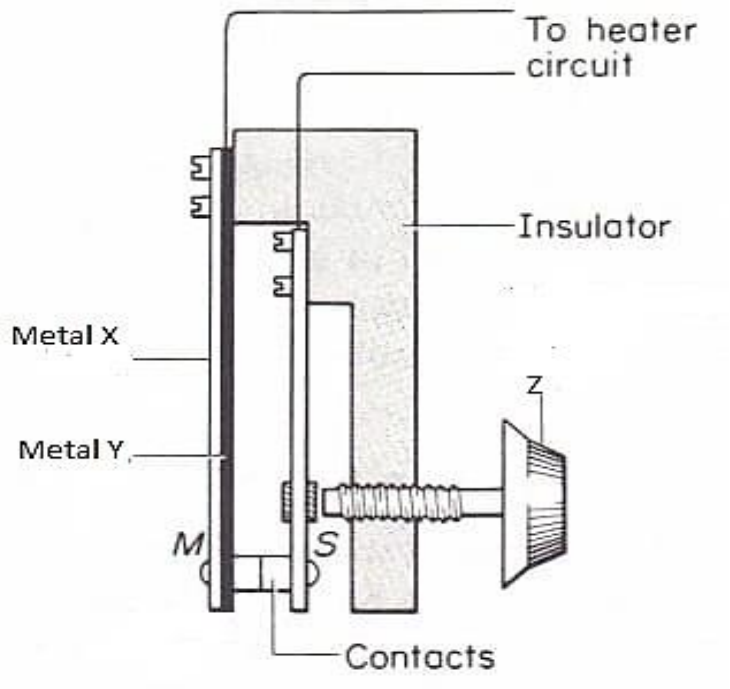
iii) Calculate the elastic potential energy stored in the spring. **(2 marks)**

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iv) On the same graph page sketch the expected graph if two such identical springs arranged in parallel were used during the experiment. (1 mark)

15. (a) The figure below shows a circuit diagram for controlling the temperature of a room.



i) State the name of the device. **(1 mark)**

……

ii) The bimetallic strip is made of two metals, Copper and Steel. Suggest what metal X is likely to be. **(1 mark)**

……

iii) What is the function of part labeled Z? **(1 mark)**

……

……

iv) Briefly explain how it works. **(3 marks)**

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……

b) State the advantage of alcohol in glass thermometer over mercury in glass thermometer.

(1 mark)

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……

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

232/2

PHYSICS

THEORY
Paper 2
Time: 2 hours

Instructions to Candidates

- *Write your name, admission number, class and signature in the spaces provided at the top of the page.*
- *This paper consists of two sections; **A** and **B**.*
- *Answer **ALL** the questions in the spaces provided.*
- *Mathematical tables and electronic calculator may be used.*
- *You may use the following constants where necessary:-*
- *This paper consists of 11 printed pages.*
- *Candidates should answer the questions in English.*

g = 10 N/kg, or m/s^2 *e = 1.6 x 10^{-19}C* *c= 3.0 x 10^8 m/s*

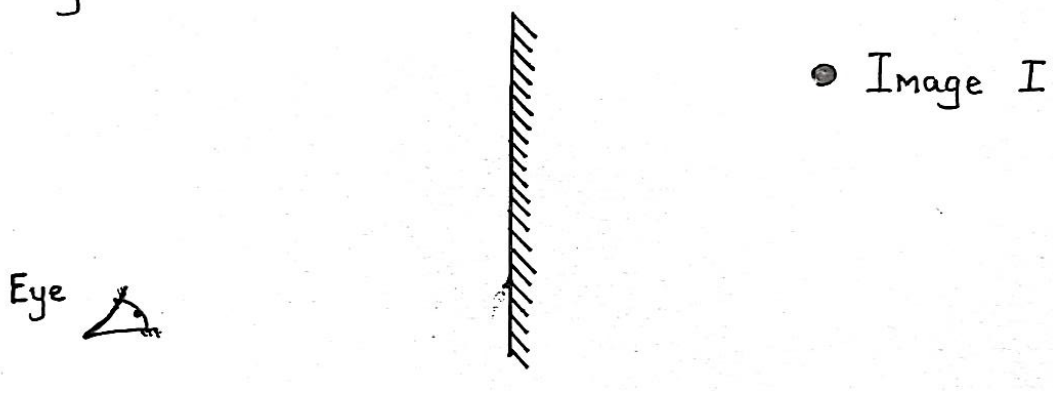
FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 07	25	
B	08	14	
	09	15	
	10	13	
	11	13	
TOTAL SCORE		80	

SECTION A

1. a) Fig.1 below shows an image of an object reflected on a plane mirror. Using ray diagram, locate the position of the object. (3mks)

Fig. 1



b) A mirror is rotated through an angle of 15^{o}, find the angle through which the reflected ray is rotated. **(1mk)**

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2. A strongly charged glass rod is brought close to a neutral electroscope. State and explain the observations made. **(2mks)**

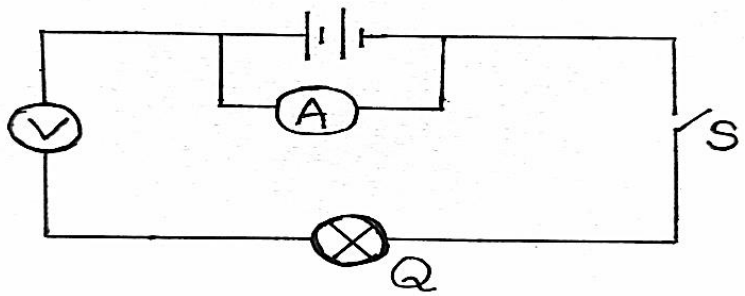
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3. **Fig.2** below shows a circuit made by a form 2 student.

Fig. 2



a) State and explain the observation made on component Q when switch S closed. **(2mks)**

……

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b) A current of 1A flows through a circuit for three minutes. Calculate the number of electrons that flows through a point in the circuit. (charge of an electron = $1.6x10^{-19}C$)

(3mks)

……

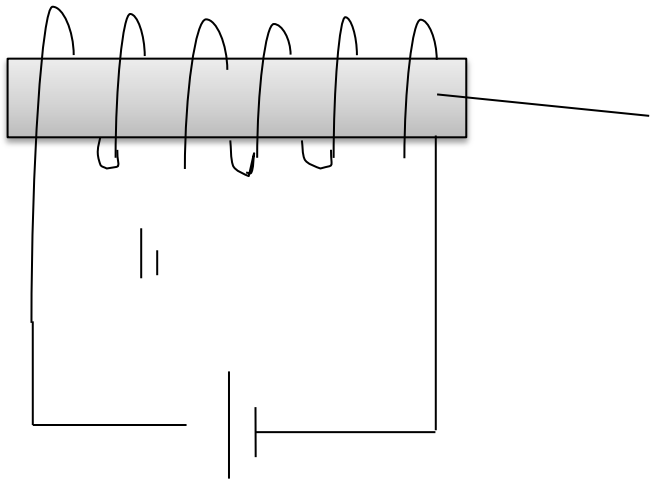
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4. **Fig. 3** below show a copper rod placed inside a solenoid.

Fig.3



a) State and explain the observation made when the rod is removed after sometime and dipped into a container with iron fillings **(2mks)**

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b) Using domain theory, distinguish between magnetic and non-magnetic materials

(1mk)

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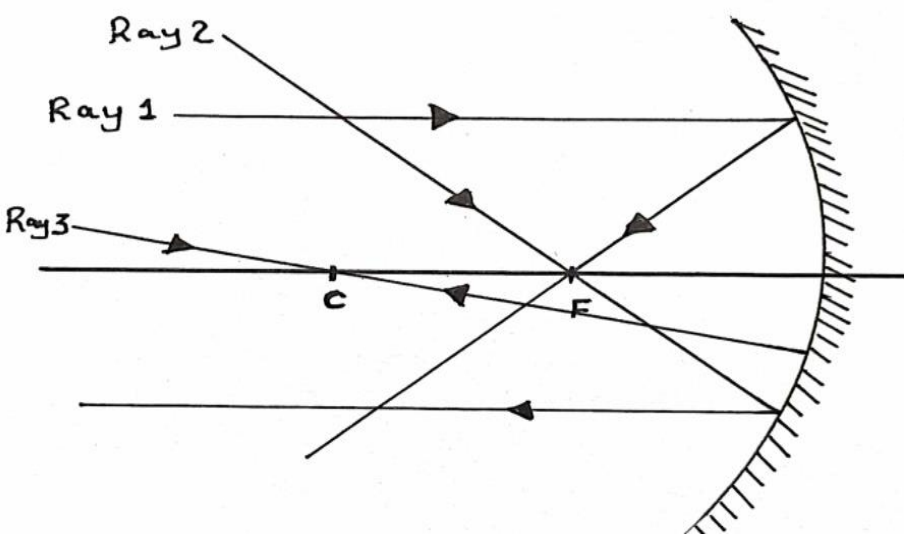
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5. **Fig.4** below shows rays incident on a curved mirror.



State the rules for drawing the ray 1, ray 2 and ray 3. **(3mks)**

Ray1……

……

Ray 2……

……

Ray3……

……

6. a) Define interference as used the waves **(1mk)**

……

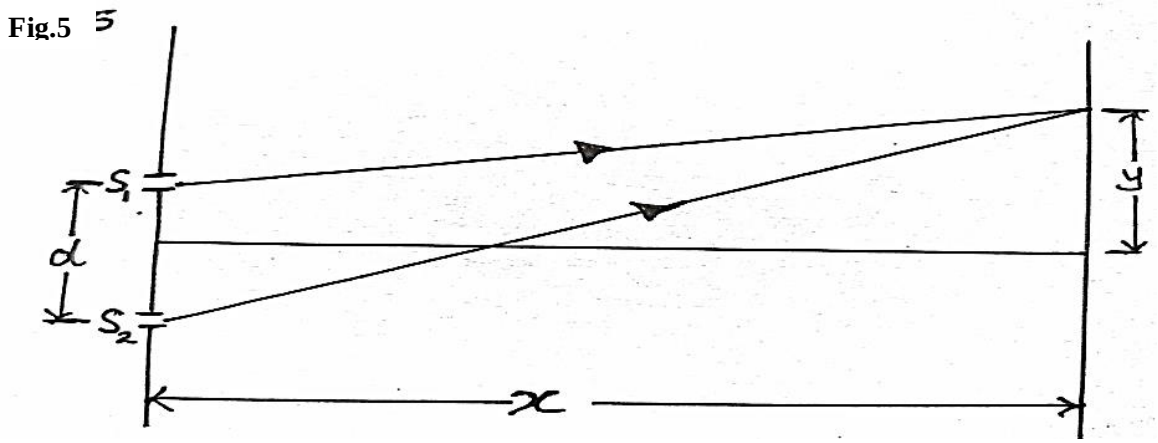
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b) The fig.5 below shows two ways of monochromatic light incident on two adjacent slit

S_1, and S_2

Fig.5



State what is observed on the screen when**:**

i) The distance **x** is increased. **(1mk)**

……

……

ii) The slit separation **d** is reduced. **(1mk)**

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……

……

iii) **The white light is used.** **(1mk)**

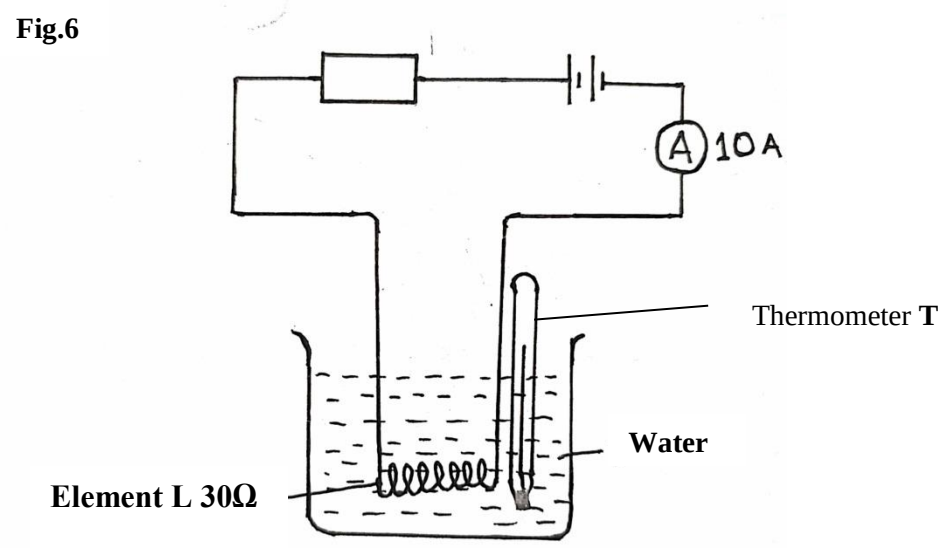
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7. The **fig.6** below shows a circuit with a heating element **L** of resistance 30Ω immersed in a container of water.

Fig.6



a) If current in the circuit is 10A and the switch is on for 2minutes. Calculate the heat energy absorbed by the water in kilojoules. (*ignore heat gained by the container*)
(3mks)

……

……

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……

b) State the adjustment made on the element **L** so that high temperature is recorded by the thermometer **T** in the same duration of time. (1mks)

……

……

SECTION B (55MKS)

8. a) A gun was fired at a point 150m from a vertical wall while listening to an echo. The echo coincides with the sound from the gun at each time the gun is fired. After 20 successive shots, time recorded was 18.5seconds. Determine:

i) Time taken for one echo to be heard (2mks)

ii) Speed of sound in air (3mks)

iii) What difference would you expect if the gun was short on a colder day (1mks)

……

……

c) Sound is classified as a longitudinal mechanical wave, explain why sound is classified as

i) A longitudinal waves (1mk)

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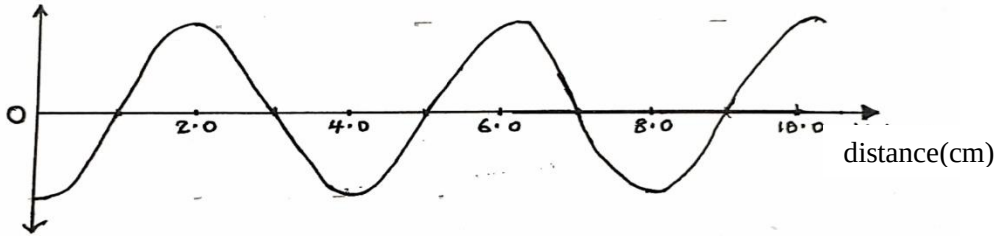
ii) A mechanical waves (1mk)

……

……

d) Fig.7 below shows a progressive waves of frequency 10Hz

Fig.7



Determine the speed of the wave (3mks)

……

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e) Calculate the wavelength of the KBC FM radio wave transmitted at a frequency of 95.6MHz. *($v = 3.0 \times 10^8 m/s$)* (3mks)

……

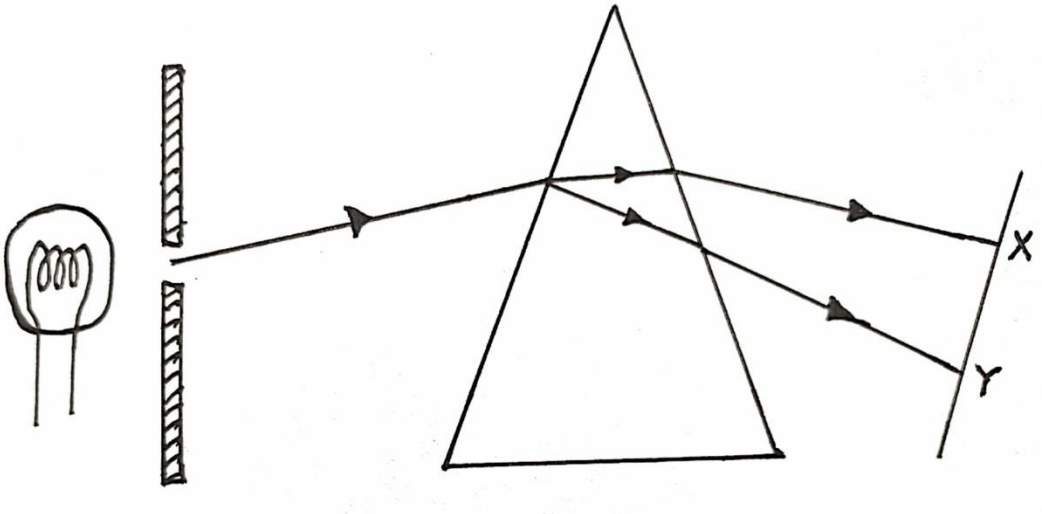
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9. a) The figure **8** below shows a narrow beam of white light passed onto a glass Prism.

Fig.8



i) What is the name of the phenomenon represented in the diagram? (1mk)

……

……

ii. Name the colour at **X** and **Y**. (2mk)

X: ……

Y: ……

iii. Give a reason for your answer in part (ii) above. (2mks)

……

……

……

iv. What is the purpose of the slit? (1mk)

……

……

b. Figure **9** below shows the path of ray of yellow light through a glass prism. The speed of yellow light in the prism is 1.8×10^8 m/s.

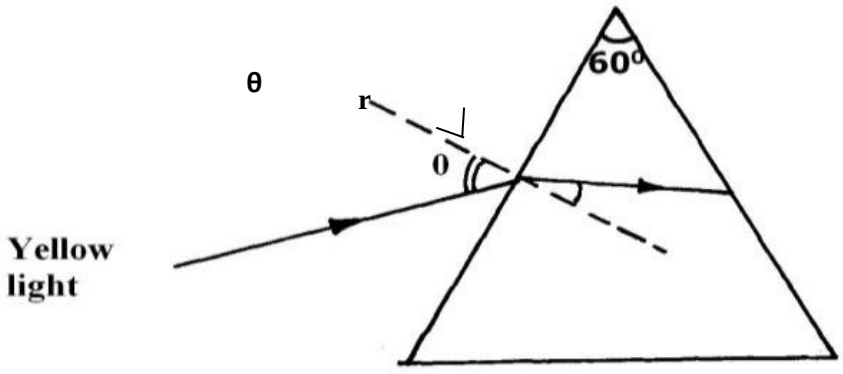


fig.9

i. Determine the refractive index of the prism material (Speed of light in vacuum, C = 3.0×10^8 m/s) **(3mks)**

……

……

……..

ii. Given that r = 31.2^0, determine the angle θ. **(3mks)**

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iii. Show on the same diagram, the critical angle c and hence determine its value**. (3mks)**

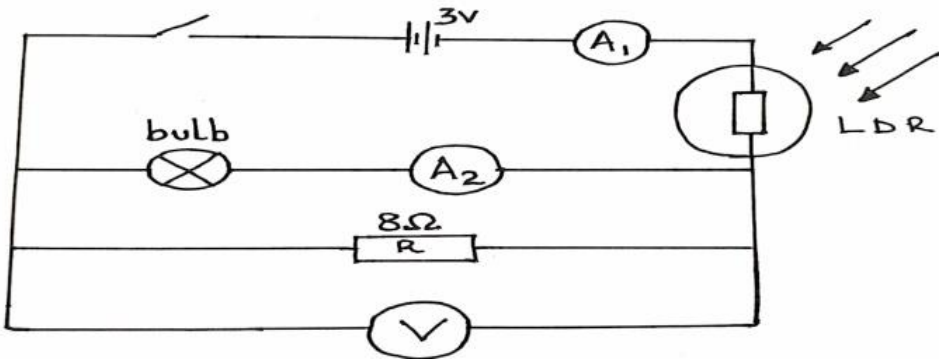
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10. Fig.**10** below shows a circuit in which a bulb. A resister R, a voltmeter V, a light dependent resistor(LDR) and ammeters A1 and A2 of negligible resistors are connected

Fig. 10



R has a resistance of 8Ω when the switch is closed with no source of light. Ammeter A2 reads 0.12A while the voltmeter reads 2.4V

a) Determine;

i) The current passing through R **(2mk)**

……

……

……

ii) The resistance of the bulb **(2mks)**

……

……

……..

b) Light is now shone onto the Light Dependent resistor (LDR)

i) State how this will affect the reading of ammeter A1 **(1mk)**

……

……

……..

ii) Explain your answer in b) (i) above **(2mks)**

……

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c) If the LDR has a resistance of 10Ω at room temperature, determine:

i) The total resistance in the circuit at room temperature **(2mks)**

……

……

……..

ii) The voltage across the LDR **(3mks)**

……

……

……..

iii) Name one application of light dependent resistor(LDR) **(1mk)**

……

……

11. a) Explain how negatively charged electroscope gets discharged when the cap is touched with a finger. **(1mks)**

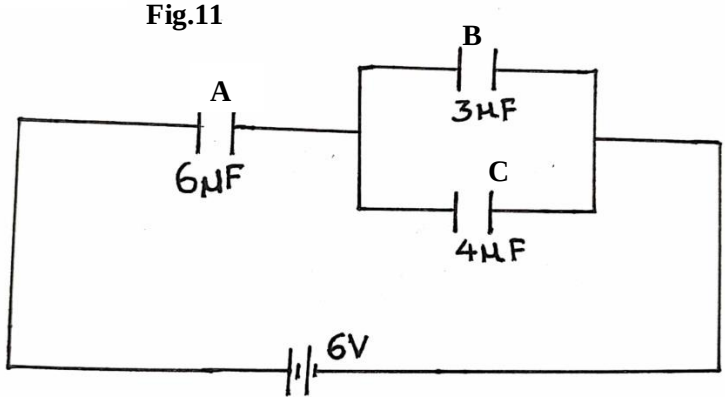
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b) Fig.**11** below show a capacitor A,B,C connected as shown with a battery of e.m.f 6V

Fig.11



Determine:

i) Effective capacitance of the circuit **(3mks)**

……

……

……

……..……..

ii) The potential difference across 6μF capacitor **(3mks)**

……

……

……

iii) Charge stored in 4μF capacitor **(3mks)**

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iv) Energy stored in a 4μF capacitor **(2mks)**

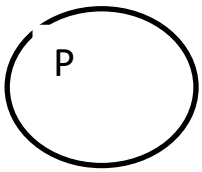
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c) Fig.12 below shows an isolated positive point charge P



On the figure, sketch the electric field pattern around the charge **(1mks)**

……

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

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PHYSICS CONFIDENTIAL

QUESTION ONE

-stopwatch

-250ml beaker

-Rubber bung

-Thermometer

- 150 ml of boiling water

-Tripod

- Gauze

- Retort stand and clamp

- Hot water

QUESTION 2

PART A

- One resistor labelled R = 40Ω
- A wire labelled W mounted on millimetre scale (32 gauge)
- A wire labelled S mounted on a millimetre scale (28 gauge)
- One dry cell and a cell holder
- One jockey
- One centre zero galvanometer
- Eight connecting wires, four with crocodile clips at both ends
- A micrometer screw gauge
- A switch

PART B

-Lens and a lens holder (f=10cm)

- Half metre rule

- White screen

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

232/3

PHYSICS

PRACTICAL

PAPER 3

TIME: $2\frac{1}{2}$ HRS

INSTRUCTIONS TO CANDIDATES

- *Write your name and index number in the spaces provided.*
- *Mathematical tables and non-programmable calculators may be used.*
- *This paper consists of three questions.*
- *Attempt all the questions in the spaces provided.*
- *ALLOW working MUST be clearly shown.*

For Examiners Use

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	20	
TOTAL	40	

QUESTION ONE

Apparatus

-stopwatch

-250ml beaker

-Rubber bung

-Thermometer

- Bunsen burner

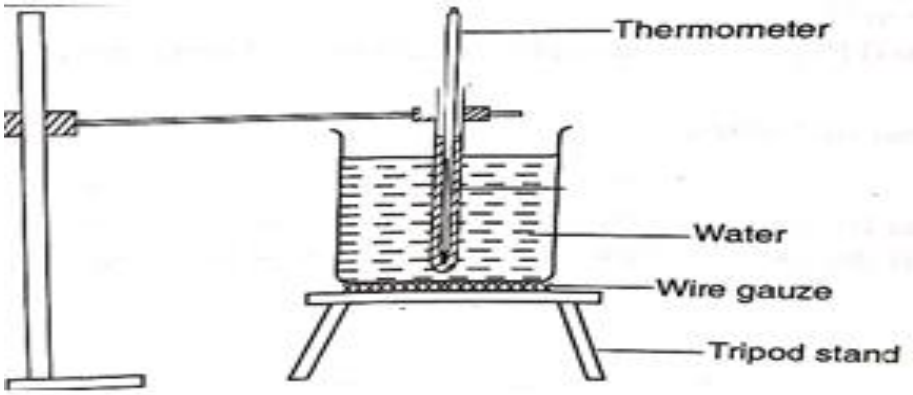
-Tripod

- Gauze

- Retort stand and clamp

- Hot water

Figure 2.



Procedure

(a) (i) Measure and record the ambient temperature, T_A =……..^{0}C (1 mark)

(ii) Fill an empty beaker with exactly 150ml of hot water (check the side scale of the beaker)

(iii)Set up the apparatus as shown in **figure 2**. Ensure the thermometer is about 2cm above the bottom of the beaker.

(i) Record the initial highest temperature of water T_H=…….. ^{0}C (1 mark)

(b) Start the stopwatch and time for every 2.0 minutes the temperature T of water. Record the temperature in **Table 2** for 20 minutes

Time (t) in minutes	2	4	6	8	10	12	14	16	18	20
Temperature (T) in ^{0}C										
$(T-T_A)^0$C										
$Log_{10}(T-T_A)$ (2 d.p)										

(6 mark)

(c) Plot a graph of $Log_{10}(T-T_A)$ against time (5 mark)

(d) From the graph determine:

(i) The Slope S **(3marks)**

……

……

……

……

……

……

(ii) The cooling constant , K of water given S=-0.4343K **(2 mark)**

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(e) Given that the specific heat capacity of water is 4.2J/g/^{0}C determine the heat lost when the water cools to the temperature of the surrounding **(2 mark)**

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2. PART A

You are provided with the following apparatus :

- One resistor labelled R = 40Ω
- A wire labelled W mounted on milliameter scale
- A wire labelled S mounted on a milliameter scale
- One dry cell and a cell holder
- One jockey

- one centre zero galvanometer
- Eight connecting wires, four with crocodile clips at both ends
- A micrometer screw gauge
- A switch

Proceed as follows

a) Determine the average diameter D, of the wire labelled W using the micrometer screws gauge provided.

D_1 = ... mm (½ mark)

D_2 = ... mm (½ mark)

$D = \frac{D_1 + D_2}{2}$ (in cm) **(1 mark)**

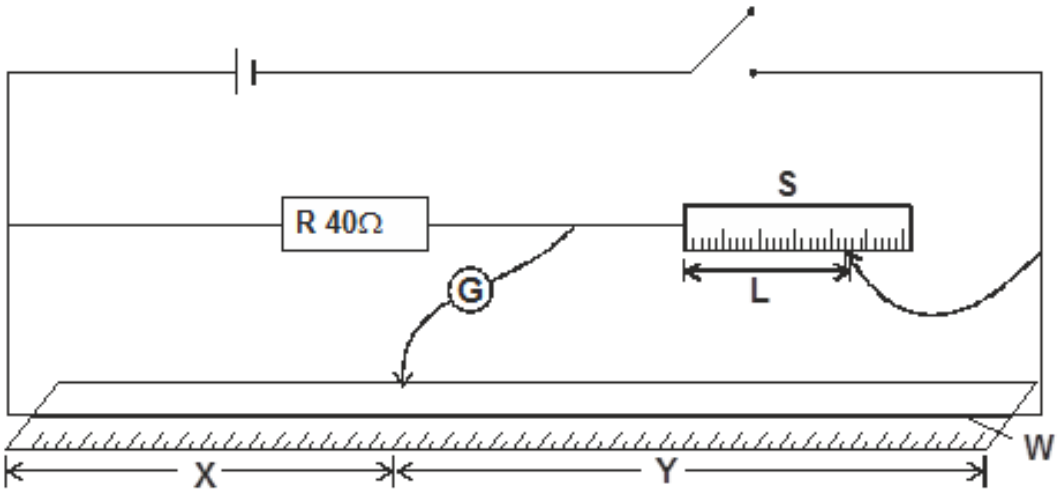
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b) Set up the apparatus as shown in the circuit diagram in **figure 3** below.

Use the crocodile clips to fix length L, of wire labelled S at 50cm from the end connected to the galvanometer G.



c) Close the switch and use the jockey to touch one end of the wire W, and then the other end. The deflections on the galvanometer should be in opposite directions, if not check the circuit. Adjust the positions of the jockey along the wire W until there is no deflection in the galvanometer. Record the value of x and y.

x = ... cm (½ mark)

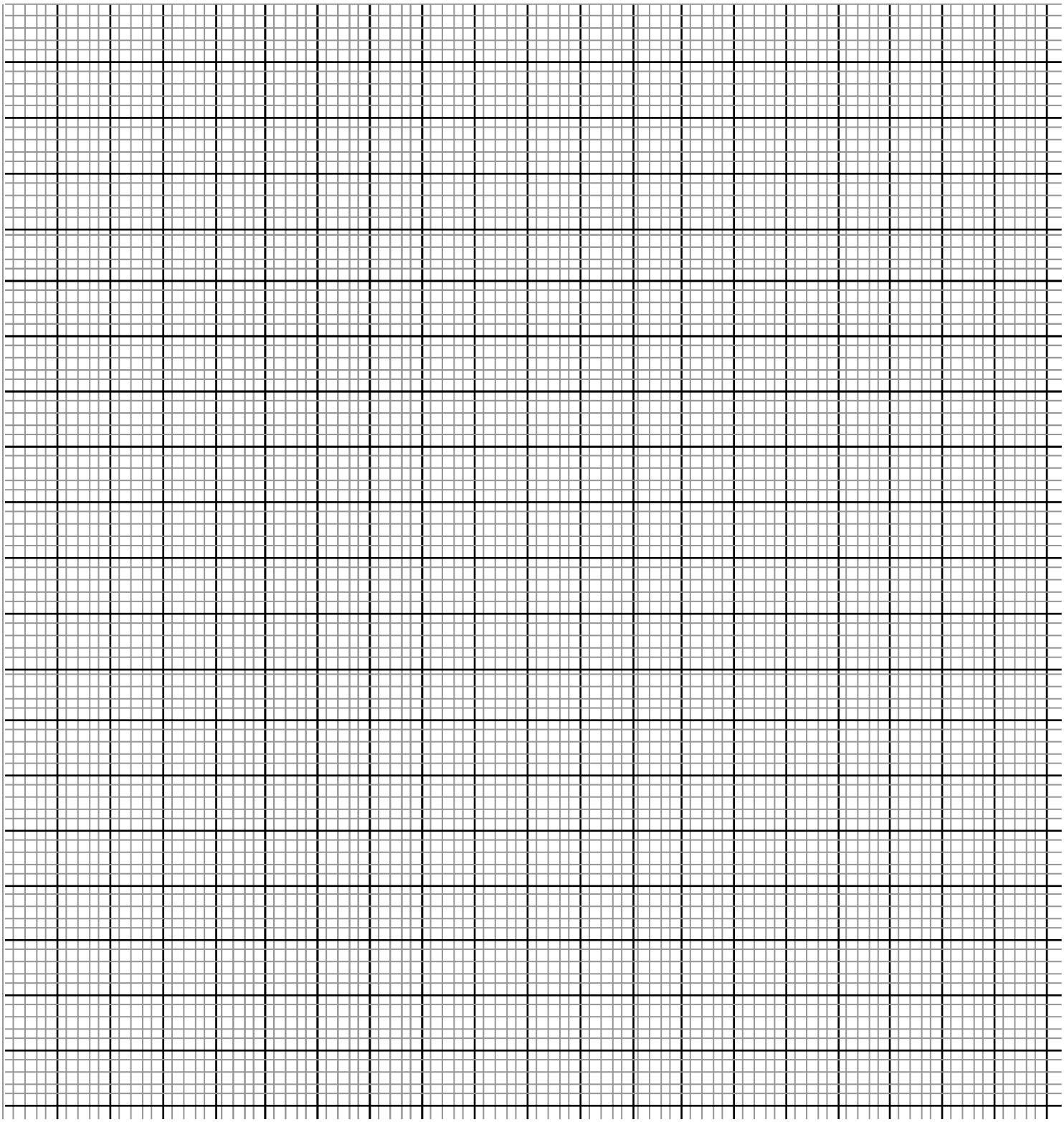
y = ... cm (½ mark)

d) Record for other values of L in **table 3** below

L (cm)	45	40	35	30	25	20
X (cm)						
Y (cm)						
y/x (3 d.p)						

(4 marks)

e) i) Plot a graph of $^{y}/_{x}$ (y-axis) against L. (5 marks)



ii) Determine the slope, m of the graph. **(2 marks)**

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iii) Given that K = 100D, determine the value of K. **(2 marks)**

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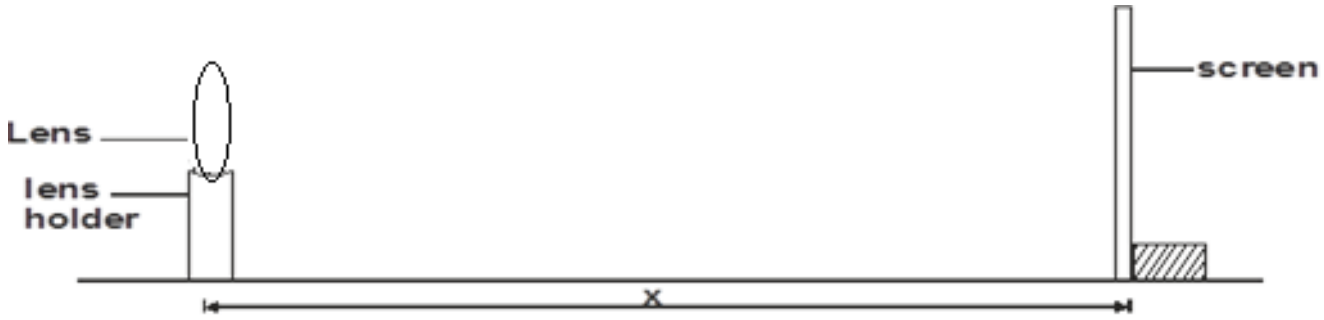
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PART B

b) You are provided with a lens P a lens holder a white screen and half metre rule.

Procedure

i)Set the apparatus as shown in **figure 4** below. Focus a sharp image of a distant object on the screen (e.g window frame). The object should be 10cm away.The object should be at least 10cm away.



a) Measure the distance x in cm between the lens and the screen at which a sharp image is obtained

repeat this two times, using different objects and record your readings in **table 4** below.

Object	Distance X, (cm)
1	
2	

(2 marks)

ii) Calculate the average value of x **(1 mark)**

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

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write your name and index number in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided above.*
- *This paper consists of three sections A, B and C.*
- *Answer all the questions in section A and B.*
- *Answer any two questions in section C.*

For Examiner's Use Only:

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

SECTION A (30 MARKS)

1. State **two** conditions under which opportunity cost is zero. **(1mk)**

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2. Name **three** branches of horticulture. $(1\frac{1}{2}mks)$

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3. State **four** factors a farmer should consider when choosing the farming system to undertake. **(2mks)**

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4. State **four** disadvantages of communal land tenure system. **(2mks)**

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5. Give **four** pieces of information found on a land title deed. **(2mks)**

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6. State **four** reasons for deep ploughing during land preparation. **(2mks)**

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

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8. Give **three** reasons for sub soiling. $(1\frac{1}{2}\boldsymbol{mks})$

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9. Differentiate between seed inoculation and seed dressing. **(1mk)**

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10. State **four** effects of soil erosion. **(2mks)**

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11. Outline **four** practices necessary to improve and maintain permanent pastures. **(2mks)**

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12. State **two** causes of poor drainage on farmland. **(1mk)**

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13. State **four** reasons for mulching. **(2mks)**

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14. Give the function of each of the following in the preparation of compost manure. (2mks))

a) Top soil

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b) Well rotten manure

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c) A thin layer of wood ash

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d) Long pointed stick

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15. State **four** deficiency symptoms of phosphorus. **(2mks)**

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16. State **four** characteristics of nitrogenous fertilizers. **(2mks)**

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17. State **four** reasons why a nursery is important in crop production. **(2mks)**

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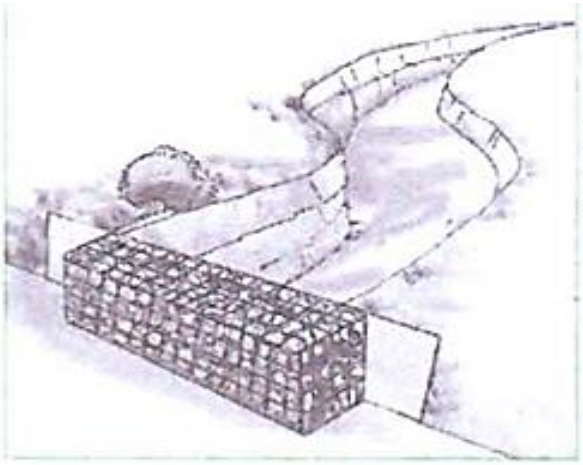
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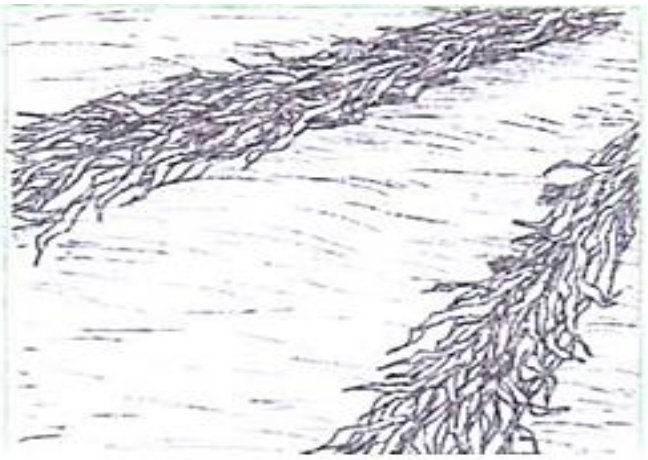
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SECTION B (20 MARKS)

18. The illustrations labelled A and B show some farm structures used in soil and water conservation. Study them carefully and answer the questions that follow.



A



B

a) Identify structures A and B. **(1mk)**

A……

B……

b) Name the type of soil erosion controlled by structures A and B. **(2mks)**

A……

B……

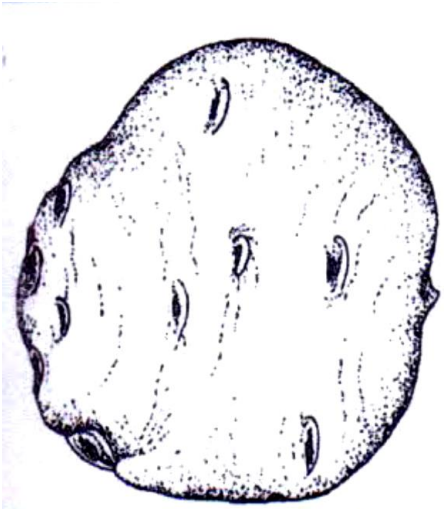
c) State **two** ways in which the structures help to control soil erosion. **(2mks)**

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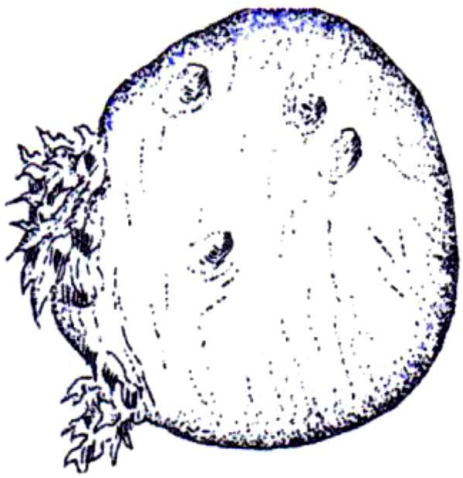
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19. The diagrams below illustrate irish potato seed preparation before planting. Study it carefully and answer the questions that follow.



(a) Before the Practice.



(b) After the Practice.

a) Name the practice used in preparing the seed potato above before planting. **(1mk)**

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b) Describe the procedure followed in preparing the seed potatoes for planting. **(3mks)**

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c) Give **one** reason for carrying out the practice named above. **(1mk)**

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20. The photograph below shows an irish potato plant attacked by a disease. Study it and answer the questions that follow.



a) Identify the disease represented by the photograph. **(1mk)**

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b) Name the causative agent of the diseases. **(1mk)**

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c) Give **one** other crop that can be attacked by the same disease. **(1mk)**

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d) List **two** control measures of the disease. **(2mks)**

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21. The photographs below show common weeds C and D in pasture land. Study them carefully and answer the questions that follow.

C





D

a) Identify weeds C and D. (**2mks)**

C…….

D…….

b) Classify weed D according to plant morphology. **(1mk)**

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c) State the major problem posed by each of the weeds above in pasture land**.** **(2mks)**

C…….

D…….

SECTION C (40MARKS)

22.a) State **four** benefits of sowing annual crops early. **(4mks)**

b) Describe **eight** effects of fragmentation and sub division of land. **(8mks)**

c) Explain **eight** effects of weeds. **(8mks)**

23.a) Describe the various field management practices for tomatoes**.** **(8mks)**

b) State the precautions that should be observed when harvesting cotton. **(4mks)**

c)Explain **four** importance of crop rotation. **(8mks)**

24.a) Explain **four** factors to consider in choosing the type of irrigation to use in the farm. **(8mks)**

b) Explain **five** farming practices that destroy soil structure. **(5mks)**

c) Describe **seven** reasons why farmers need to keep good farm records. **(7mks)**

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

(443/2)

AGRICULTURE

PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write your **name, index number, school, class** and **admission number** in the spaces provided.*
- *Sign and write the date in the spaces provided above.*
- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C.***
- *Answers should be written in the spaces provided in this booklet.*

For Examiner's Use Only:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-20	30	
B	21-24	20	
C		20	
		20	
	TOTAL	**90**	

SECTION A (30MARKS)

1. Give **four** livestock rearing practices that can be carried out in a crush. **(2mks)**

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2. Name the part of the digestive system of poultry where insoluble grit is found. $(\frac{1}{2}mk)$

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3. Give **two** distinguishing external characteristics of Californian breed of rabbit. **(1mk)**

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4. State **four** pre-disposing factors of livestock diseases. **(2mks)**

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5. Outline **four** functions of proteins in the body of an animal. **(2mks)**

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6. State **four** observable features of indigenous cattle (*Bos indicus*) **(2mks)**

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7. State **four** importance of creep feeding. **(2mks)**

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

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9. Give the function of each of the following parts of a fish pond.

a) Spillway $(\frac{1}{2}\boldsymbol{mk})$

……....

b) Outlet $(\frac{1}{2}\boldsymbol{mk})$

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10. State **four** advantages of cross-breeding. **(2mks)**

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11. Name the part of the digestive system of a non-ruminant animal where cellulose is broken down $(\frac{1}{2}\boldsymbol{mk})$

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

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13. State **four** advantages of artificial incubation in comparison to natural incubation as a method of hatching chicks. $(1\frac{1}{2}\boldsymbol{mks})$

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14. Give **four** maintenance practices carried out on the water cooling system of a tractor**. (2mks)**

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15. State **four** advantages of a four-stroke cycle engine. **(2mks)**

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

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17. Name **three** poultry diseases that are controlled by vaccination. $(1\frac{1}{2}\boldsymbol{mks})$

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18. Give the mineral whose deficiency causes the following disorders in livestock.

a) Anaemia $\left(\frac{1}{2}\boldsymbol{mk}\right)$

……

b) Parakeratosis $\left(\frac{1}{2}\boldsymbol{mk}\right)$

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19. Give **three** reasons why liming is done in fish ponds. $(1\frac{1}{2}\boldsymbol{mks})$

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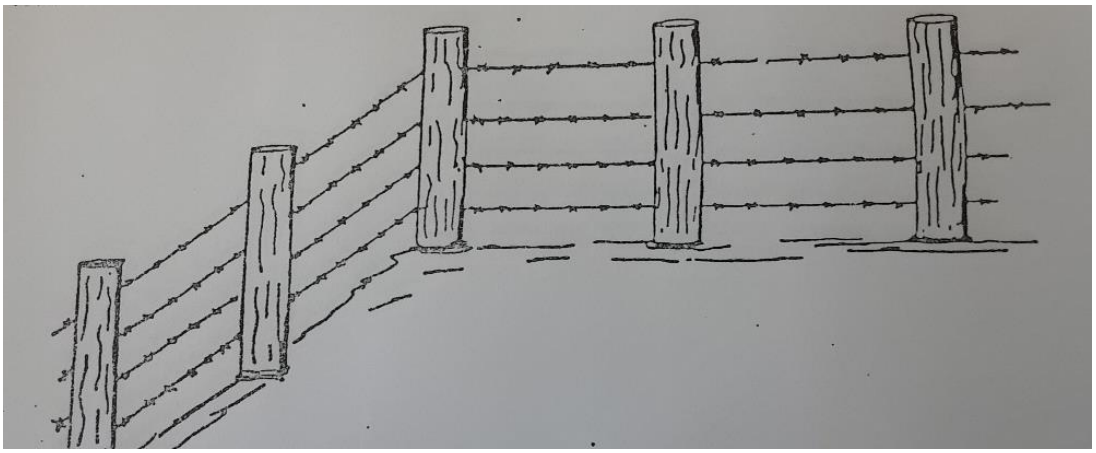
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20. If records show that a rabbit was served on 27th September 2020.Which date did it give birth. $\left(\frac{1}{2}\boldsymbol{mk}\right)$

……

SECTION B (20 MARKS)

21. Below is an illustration of part of a wooden post wire fence. Study it and answer the questions that follow.



a) Identify the type of wire in the illustration. **(1mk)**

……..

b) On the illustration show by drawing how the corner post should be supported. **(1mk)**

c) On the illustration draw, label and give the function of a dropper. **(2mks)**

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d) Name the correct tool for tightening the wire during construction of the fence. **(1mk)**

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







a) Name tools A, B and C and state the correct use of each tool. (3mks)

Tool	Identity	Function
A		
B		
C		

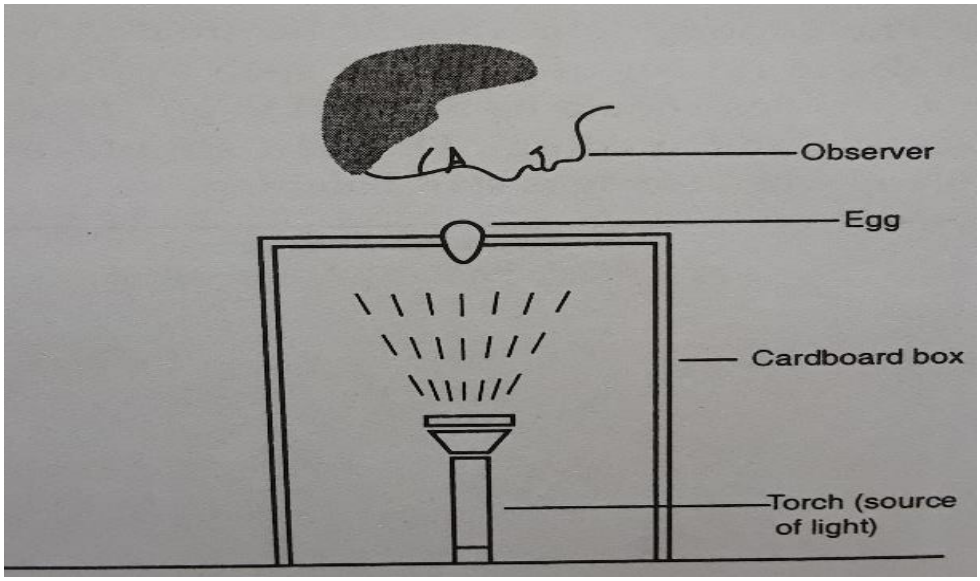
b) State **two** maintenance practices that should be carried out to ensure that tool C is in a good working condition**.** **(2mks)**

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



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

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b) State **four** abnormalities in eggs that can be detected using the set-up above**.** **(2mks)**

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c) How can a farmer improve the following?

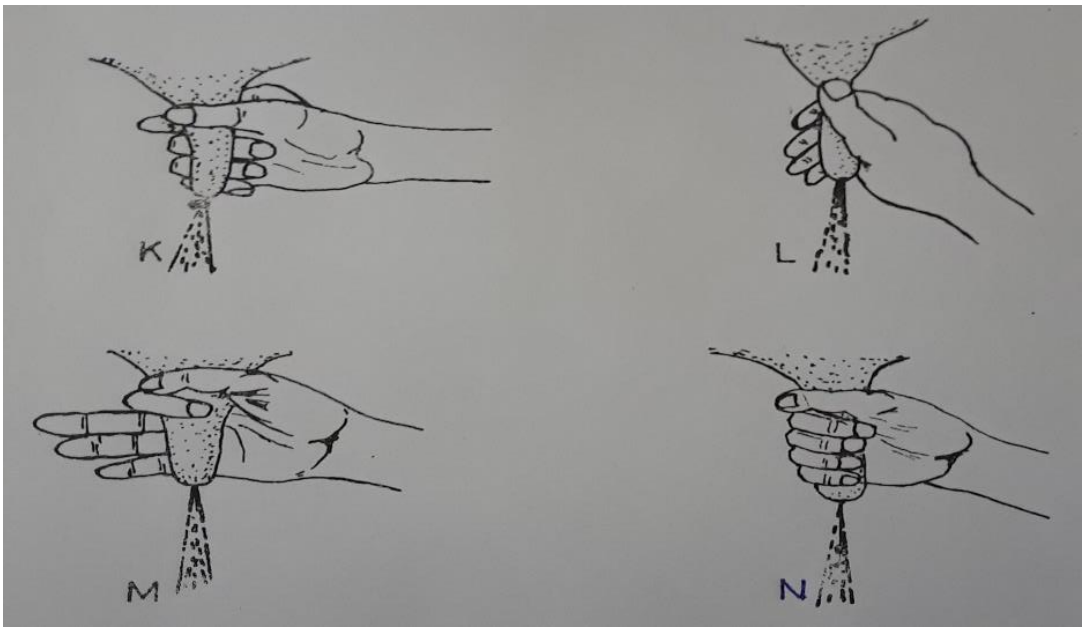
i. Hardness of egg shells. **(1mk)**

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ii. Yellowness of the egg yolk**.** **(1mk)**

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



a) Which diagram shows the proper way of drawing milk. **(1mk)**

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b) How long should it take to milk a cow from the start to the end of milking**.** **(1mk)**

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

(1mk)

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d) Give **two** practices carried out on milk immediately after milking. **(2mks)**

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SECTION C (40MARKS)

25.a) Describe the advantages of battery cage system of rearing layers**.** **(10mks)**

b) State and explain **five** factors affecting milk production**.** **(10mks)**

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

b) State and explain **four** ways through which power transmitted from the engine is made available for use. **(4mks)**

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

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

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

i. Animals attacked **(2mks)**

ii. Causal organism **(1mk)**

iii. Symptoms **(4mks)**

iv. Control measures **(3mks)**

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

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

TIME: 2 HOURS

Instructions to candidates:

a) *Write your name, class, index number, admission number, signature and date of the examination.*

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

1. Mention the **four** essential elements of transport **(4mks)**

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2. Give **four** reasons why shelter is a basic human want. **(4mks)**

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3. For each of the following source documents, identify the book of original entry in which the information will be recorded**.** **(4mks)**

	Source document	**Book of original entry**
a.	Received credit notes	
b.	Cash receipts received	
c.	Received invoices	
d.	Issued credit notes	

4. Mention **four** assumptions in the circular flow of income in a two sector economy **(4mks)**

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5. Outline **four** benefits of a youthful population to an economy. **(4mks)**

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6. State whether the following transactions will **increase**, **decrease** or have **no effect** on the balance sheet items and **totals** **(4mks)**

	Transaction	**Assets**	**Capital**	**Liabilities**	**Totals**
a.	Took a loan from KCB and used it to pay a KIE 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				

7. Highlight **four** features of the oligopoly market structure **(4mks)**

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8. Define the following principles as used in insurance (4mks)

a) Indemnity

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b) Utmost good faith

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c) Subrogation

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d) Contribution

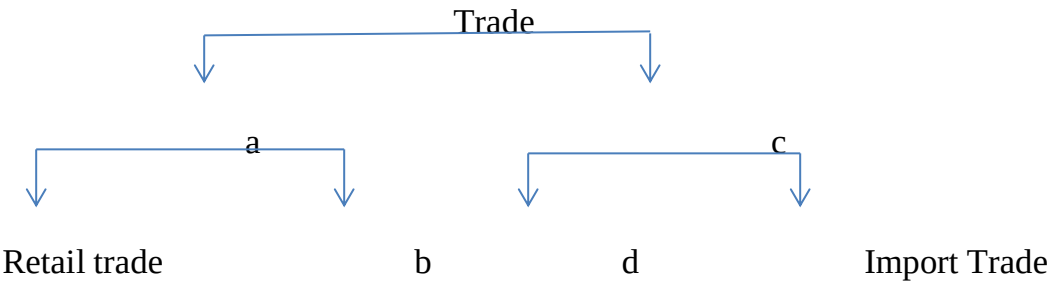
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9. Complete the following diagram **(4mks)**



a.

b.

c.

d.

10. Outline **four** importance of entrepreneurship in an economy**.** **(4mks)**

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11. Highlight **four** advantages of a public warehouse to a trader. **(4mks)**

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12. State the level of production that matches the following occupations (4mks)

	Occupation	Level of production
a.	Carpentry	
b.	Lumbering	
c.	Fishing	
d.	Banking	

13. Highlight **four** ways in which the internal business environment may affect a business negatively. **(4mks)**

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14. State **four** sources of capital to public limited companies. **(4mks)**

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15. Outline **four** circumstances under which personal selling may be appropriate in product promotion. **(4mks)**

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16. The following transactions were obtained from the books of Kimende Traders for the month of February 2017.

2nd Feb. 2017. Opening balance: cash in hand kshs 500,000 and cash at bank kshs 50,000.

3rd Feb. 2017. James, a debtor, paid kshs 20,000 by cheque.

5th Feb 2017. Purchased a motor vehicle worth kshs 300,000 from Shah Motors on credit.

Required: Record the transactions in the relevant ledger accounts **(4mks)**

17. State **four** reasons for popularity of WhatsApp as a trend in communication. **(4mks)**

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18. State **four** benefits that may accrue to a firm as a result of growth of the industry. **(4mks)**

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19. The following information was extracted from the books of Kemei Traders for the month of December 2010;

Opening stock	Shs. 60,000
Sales	Shs. 360,000
Gross profit	25% of sales
Closing stock	Shs. 70,000

Calculate;

a) Mark-**up** **(2mks)**

b) Rate of stock turn over **(2mks)**

20. Highlight **four** reasons why the government trains potential entrepreneurs. **(4mks)**

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21. Complete the table below. **(4mks)**

Assets	**Capital**	**Liabilities**
100,000	a.	35,000
b.	112,000	80,000
310,000	100,000	c.
d.	140,000	60,000

22. Give **four** reasons why a producer may prefer to sell directly to consumers. **(4mks)**

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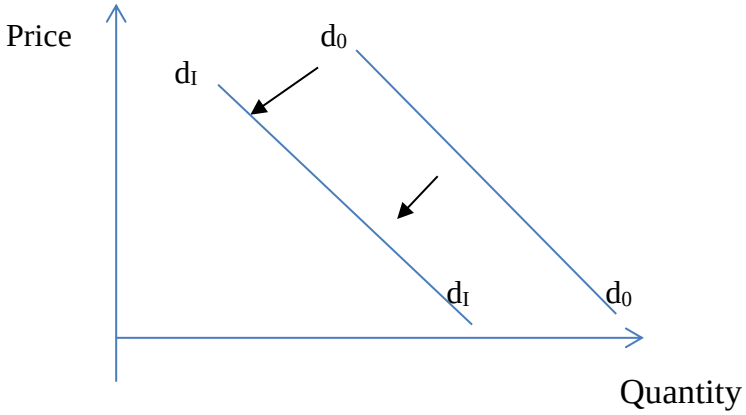
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23. Highlight **four** reasons for the shift below. **(4mks)**



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24. Highlight **four** reasons why most organizations prefer locating their offices in the outskirts of town. **(4mks)**

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25. Below is a two column cashbook showing the transactions which took place in the business of Anyango in the month of June the year 2003.

Dr Two column cashbook Cr

DATE	DETAILS	F	CASH	BANK	DATE	DETAILS	F	CASH	BANK
1/6/03	Bal b/d		15,000		1/6/03	Bal b/d			20,000
3/6/03	Onyango			35,000	7/6/03	Rent		5,000	
10/6/03	Bank		10,000		10/6/03	Cash			10,000
					15/6/03	Onyango			35,000
30/6/03	Bal c/d			30,000	30/6/03	Bal c/d		10,000	
			~~15,000~~	**~~65,000~~**				**~~15,000~~**	**~~65,000~~**

State the transaction that took place during the following dates**:** **(4mks)**

i. 1st June 2003.

ii. 7th June 2003.

iii. 10th June 2003.

iv. 15th June 2003

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

565/2

BUSINESS STUDIES

PAPER 2

$2^1/_2$ HOURS

Instructions to candidates;

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

For Examiners use only.

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

1. a) Explain five factors to consider when choosing an office equipment.

(10 marks)

b) Explain the causes and remedies of the following types of unemployment.

(10 marks)

i) Seasonal unemployment

ii) Structural unemployment

iii) Disguised unemployment

iv) Residual unemployment

v) Involuntary unemployment

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

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

March 2: Bought stock in cash ksh 70,000.

March 3: Cash sales banked, ksh 22,000

March 9: Paid Kiprop a creditor ksh, 12,880 by cheque in full settlement of his account after deducting 8% cash discount.

March 11: Paid salaries ksh 14,000 in cash.

March 16: Received a cheque of ksh 40,200 from Sawanda after allowing him a cash discount of ksh 1,800.

March 20: Hanifa, a debtor paid her account of ksh 55,000 by cheque less 10%cash discount.

March 24: Withdraw 26,000 from bank for office use.

March 27: Took ksh 7,000 cash to pay his brother's medical bill.

March 28: Deposited all the cash into bank except ksh 14,200

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

3. a) Explain five sources of monopoly power. **(10 marks)**

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

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

b) Outline five channels that can be appropriate for the distribution of imported machinery from Germany. **(10marks)**

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

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

6. a) Businesses are currently employing new product promotional strategies as a way of boosting their sales volumes. Identify and explain four such strategies**. (8marks)**

b) The following trial balance relates to the business of Kazi Nzuri Traders for the period ended 31st March 2016.

KAZI NZURI TRADERS

TRIAL BALANCE

AS AT 31ST MARCH 2016

	Dr	Cr
	Shs.	Shs.
General expenses	120,000	
Rent expenses	46,000	
Telephone expenses	20,000	
Carriage inwards	28,000	
Salaries	360,000	
Sales		4,000,000
Purchases	2,400,000	
Discount received		36,000
Sales returns	40,000	
Motor vehicle	500,000	
Debtors	300,000	

Stock (1st April 2015)	200,000	
Land and buildings	2,000,000	
Cash at bank	120,000	
Cash in hand	12,000	
Capital		1,850,000
Drawings	80,000	
Creditors		240,000
	6,226,000	6,226,000

Additional information

Stock as at 31st March 2016 was valued at ksh. 100,000

Prepare:

i) A Trading profit and loss **(7marks)**

ii) A Balance sheet **(5marks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

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313/1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2 1/2 HOURS

INSTRUCTIONS:

- *Answer **any Five** Questions in the Answer Sheets provided.*

Question	1	2	3	4	5	6
Marks						

QUESTIONS

1. a) Explain how the study of Christian Religious Education in secondary schools promotes national unity **(5mks)**

b) Identify five differences between the African concept of evil and biblical concept of sin **(10mks).**

c) State five ways in which human beings fail to carry out responsibilities given to them by God at creation **(5mks).**

2. a) Describe how God prepared the Israelites for the making of the Sinai covenant at Mt. Sinai (Exodus 19) **(8mks).**

b) Identify **six** similarities between the Jewish and traditional African practices of circumcision. **(6mks)**

c) State **six** ways in which Christians identify themselves in society today **(6mks).**

3. a) Identify seven failures of King Solomon **(7mks).**

b) State seven functions of the temple in Jerusalem **(7mks).**

c) Give six reasons why Christians built churches today **(6mks).**

4. a) Outline seven characteristics of false prophets in the Old Testament **(7mks).**

b) Outline seven teachings of prophet Amos on remnant and restoration **(7mks).**

c) Identify six ways in which Christians help to restore members who have fallen from the faith **(6mks).**

5. a) Mention six Deutronomic reforms carried out by king Josiah **(6mks)**

b) Give seven promises the Israelite's made during the renewal of the covenant under Nehemiah **(7mks)**

c) Outline seven lessons that Christians learn from the problems faced by Nehemiah **(7mks)**

6. **a)** Give seven attributes of God as understood by the African people **(7mks)**

b) Outline seven importance of payment dowry in Traditional African Societies **(7mks)**

c) Outline six ways in which the attitude towards birth and naming has changed in the society today. **(6mks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

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313/2

CHRISTIAN RELIGIOUS EDUCATION

Paper 2

Time: 2½ Hours

Instructions to Candidates

- *The paper consists of **Six** questions*
- *Answer **five** questions*

Question	1	2	3	4	5	6
Marks						

QUESTIONS

1. **(a)** Outline the Psalmist's prophecy about the Messiah **(6marks)**

   (b) State seven activities that took place during the birth of john the Baptist **(8 marks)**

   (c) How should a Christian couple deal with childlessness? **(6 marks)**

2. **(a)** Narrate the healing of the Gerasene demoniac (Luke 8:26-39) **(8 marks)**

   (b) Identify seven methods used by Jesus to spread the gospel. **(7 marks)**

   (c) State five lessons that Christians learn about Jesus from the healing of the demon Possessed man. **(5 marks)**

3. **(a)** State **seven** instructions that Jesus gave to the seventy-two disciples when he sent them on a mission. **(7mks)**

   b) The areas of conflict between Jesus and the religious leaders in His ministry in Jerusalem (Luke 22:39-53) **(7mks)**

   c) Explain ways in which church leaders should respond to members who oppose them in their work. **(6mks)**

4 a. State seven reasons why Jesus sent the Holy spirit to the disciples after his ascension **(7mks)**

b. Explain the teachings of Peter concerning the people of God (1st Peter 2: 9 - 10). **(7mks)**

c. Give ways in which Christians identify those who posse the gift of the Holy Spirit**.** **(6mks)**

5 a) Identify six sources of Christian ethics **(6mks).**

b) State seven problems faced by a family living with a person who is suffering from H.I.V/A.I.D.S **(7mks).**

c) What are the causes of premarital sex among the youth? **(7mks).**

6 a) Outline various approaches used in choosing a marriage partner in Traditional African Societies **(7mks).**

b) Identify seven reasons why some young people today may choose to remain unmarried **(7mks).**

c) Give six moral values that are inculcated during marriage in Traditional African Societies **(6mks).**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

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311/1

HISTORY AND GOVERNMENT

PAPER 1

TIME: 2½ hours

Instructions to Candidates

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

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

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

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

(e) Candidates should answer the questions in English

SECTION A (25 MARKS)

Answer all questions in this section

1. Give **two** examples of unwritten sources of information on history and government.

(2 marks)

2. Name **two** types of dwellings used by early man during the Old Stone Age period.

(2 marks)

3. Apart from Akamba, identify **two** Eastern Bantu communities which settled in Kenya during the pre-colonial period. **(2 marks)**

4. Identify **one** way in which monsoon winds led to the development of trade between the coast and the outside world. **(1 mark)**

5. Give **one** reason why Seyyid Said took direct control of the settlements along the coast of Kenya. **(1 mark)**

6. Identify the **main** reason why suspected criminals are tried in a court of law.

(1 mark)

7. Name the document which contains the rights of a child in Kenya. **(1 mark)**

8. Identify the **main** disadvantage of democracy. **(1 mark)**

9. Identify the **main** reason why the Local Government was established in Kenya during the colonial period. **(1 mark)**

10. Give **two** effects of the Wanga collaboration with the British during the establishment of colonial rule in Kenya. **(2 marks)**

11. Give two ways through which the colonial government in Kenya used to control the migration of Africans to urban centres. **(2 marks)**

12. Give the **main** contribution of Christian missionaries in Kenya during the struggle for independence up to 1939. **(1 mark)**

13. Identify the **main** voting system used in Kenya during the general elections.

(1 mark)

14. Outline **two** reasons that may lead to the removal of a County Governor from office in Kenya. **(2 marks)**

15. Name the administrative head of the Kenyan parliament. **(1 mark)**

16. State **two** ways in which the rule of law is applied in Kenya. **(2 marks)**

17. State **two** ways in which harambee spirit promotes national unity in Kenya. **(2 marks)**

Section B (45 marks)

Answer any three questions from this section

18. (a) Give **five** reasons responsible for the migration of the River-Lake Nilotes into Kenya **(5 marks)**

(b) Describe the political organization of the Borana during the 19th century. **(10 marks)**

19. (a) Identify **five** factors responsible for the development of the Indian Ocean trade. **(5 marks)**

(b) Explain **five** results of the Indian Ocean trade on the people of East Africa. **(10 marks)**

20. (a) Give **five** causes of the Mau Mau uprising in Kenya. **(5 marks)**

(b) Explain **five** reasons that hastened the fight for independence in Kenya after 1945. **(10 marks)**

21. (a) Identify **five** methods employed by the British to establish their rule in Kenya. **(5 marks)**

(b) Explain **five** effects of the Maasai collaboration with the British in Kenya during the colonial period. **(10 marks)**

Section C (30 marks)

Answer any two questions from this section

22. (a) State **three** ways in which one can lose citizenship by registration in Kenya. **(3 marks)**

(b) Explain **six** responsibilities of a Kenyan citizen. **(12 marks)**

23. (a) Give **three** rights of the Youth in Kenya. **(3 marks)**

(b) Discuss **six** features of the Constitution of Kenya (2010). **(12 marks)**

24. (a) Give the composition of the Cabinet in Kenya. **(3 marks)**

(b) Explain **six** solutions to the challenges facing the Judiciary in Kenya. **(12 marks)**

NATIONAL SCHOOLS MOCKS

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311/2

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2½ hours

Instructions to Candidates

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

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

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

(d) This paper consists of three printed pages

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

(f) Candidates should answer the questions in English

Section A (25 marks)

Answer all questions in this section

1. Define the term Anthropology. **(1 mark)**

2. Identify **one** theory that explains the origin of man. **(1 mark)**

3. State **two** characteristics of Kenyapithecus. **(2 marks)**

4. Name **one** type of irrigation used during early Agriculture in Egypt. **(1 mark)**

5. State **two** methods of trade. **(2 mark)**

6. Give **two** advantages of human porterage. **(2 marks)**

7. Identify **one** early form of water transport**.** **(1 mark)**

8. State **two** features of a cellphone as a means of communication. **(2 mark)**

9. Define the term telecommunication**.** **(1 mark)**

10. Identify **two** uses of steam as a source of energy during industrial revolution. **(2 marks)**

11. State **one** early urban centre in Africa. **(1 mark)**

12. Identify **two** problems facing Johannesburg as a modern urban centre in Africa. **(2 marks)**

13. Give the **main** importance of Golden stool among the Asante society. **(1 mark)**

14. State the **main** reason for convening the Berlin conference (1884-1885). **(1 mark)**

15. Identify **two** factors that influenced British to use indirect rule in northern Nigeria. **(2 marks)**

16. State **two** reasons why nationalism in South Africa was more complex compared to other countries. **(2 marks)**

17. State **one** political party that fought for independence in Ghana. **(1 mark)**

SECTION B (45 MARKS)

Answer any three questions from this section

18. (a) Give **five** examples of oral traditions as a source of information on history and government. **(5 marks)**

(b) Explain **five** limitations of using archaeology as a source of information on history and government. **(10 marks)**

19. (a) Give **five** reasons that made man to domesticate plants and animals. **(5 marks)**

(b) Explain **five** factors that led to Agrarian Revolution in the United States of America **(USA).** **(10 marks)**

20. (a) Outline **five** methods used to acquire slaves during the Trans-Atlantic trade. **(5 marks)**

(g) Explain **five** factors responsible for the decline of the Trans-Saharan trade. **(10 marks)**

21. (a) State **five** economic activities of the Baganda during the pre-colonial period. **(5 marks)**

(b) Describe the social organization of the Asante kingdom during the pre-colonial period. **(10 marks)**

SECTION C (30 MARKS)

Answer any two questions from this section

22. (a) State **three** economic activities for the scramble and partition of Africa by Europeans. **(3 marks)**

(b) Explain **six** effects of the partition of Africa. **(12 marks)**

23. (a) Give **three** reasons why the policy of assimilation was easily applied in the four communes in Senegal. **(3 marks)**

(b) Explain **six** effects of Assimilation in Senegal. **(12 marks)**

24. (a) State **three** roles of Kwameh Nkrumah in the struggle for independence in Ghana. **(3 marks)**

(b) Explain **six** factors that promoted nationalism in Africa. **(12 marks)**

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312/1

GEOGRAPHY

PAPER 1

TIME: $2^{3}/_{4}$ HOURS

INSTRUCTIONS TO CANDIDATES

- This paper has two sections, **A** and **B.**
- Answer question **6** and any other **TWO** questions.

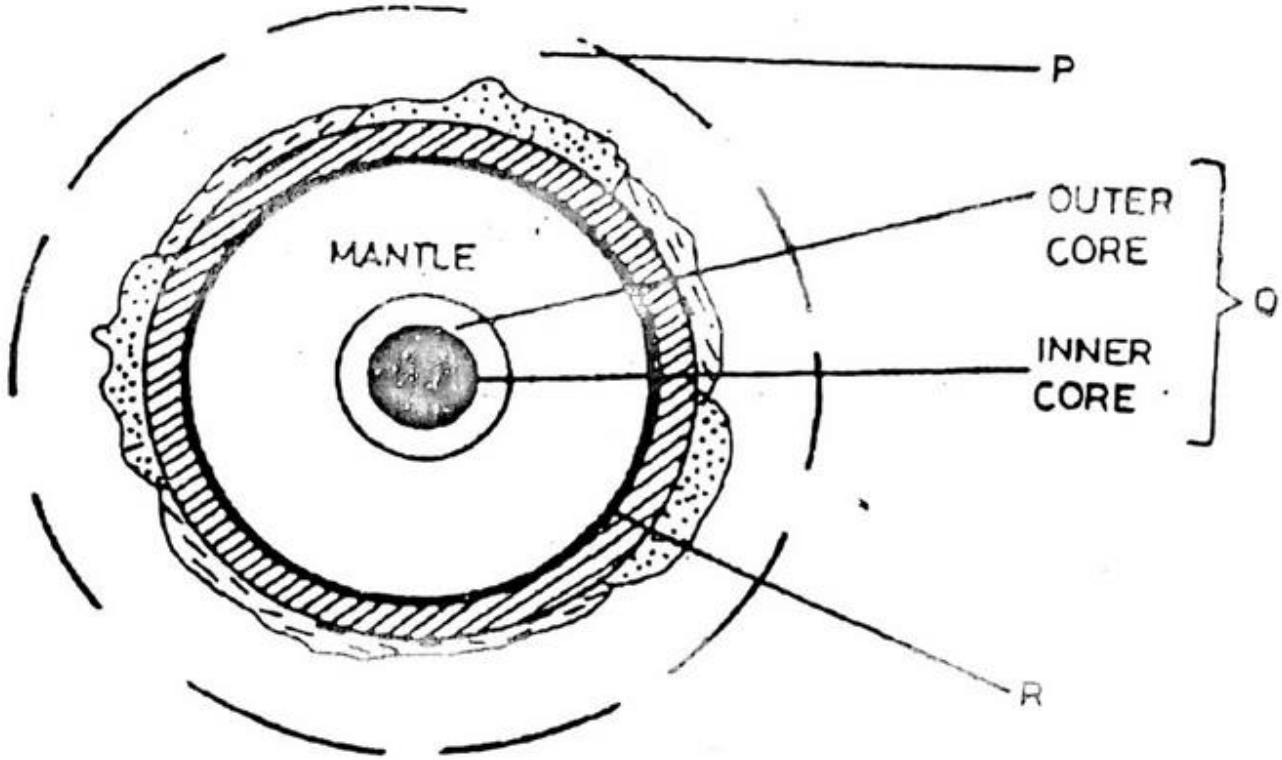
FOR EXAMINERS USE ONLY

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

SECTION A:

Answer all the questions in this section

1. The diagram below shows the internal structure of the earth.



(a) Name the parts labelled **P**, **Q** and **R**. **(3marks)**

(b) State the characteristics of the inner core. **(3marks)**

2. (a) Give **two** local winds that are found in Kenya. **(3 marks**

(b) State **three** conditions that are necessary for formation of dew. **(3 marks)**

3. Explain how the following factors influence climate.

- Oceans currents **(2marks)**
- Forests **(2marks)**

4. (a) Define a lake **(2marks)**

(b) State **three** reasons why some rift valley lakes are fresh water. **(2marks)**

5. (a) Give **two** main components of soils **(2marks)**

(b) List **three** factors that influence soil erosion **(3marks)**

SECTION B

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

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

(a) (i) Identify the type of map provided **(1 mark)**

(ii) Give the longitudinal extent of the area covered by the map. **(2 marks)**

(iii) Convert the scale of this map into statement scale. **(2 marks)**

(b) Draw a rectangle **10cm** by **20cm** to represent part of the area between the northings **90** and **00** and easting **25** and **30** on it mark and name: **(6 marks)**

(i) Kijabe

(ii) Road A 104

(iii) Power line

(iv) Provincial boundary

(c) (i) Identify **four** types of natural vegetation in the area covered by the map. **(4 marks)**

(ii) Describe the drainage of the area covered by the map **(5 marks)**

(d) Identify **five** economic activities and their evidences in the areas covered by the map. **(5 marks)**

(e)

7. (a) (i) Distinguish between minerals and rocks. **(2 marks)**

(ii) Describe the following characteristics of minerals:

- Colour. **(2 marks)**
- Tenacity. **(2 marks)**
- Hardness. **(2 marks)**

(b)(i) What are sedimentary rocks? **(2 marks)**

(ii) State **three** characteristics of sedimentary rocks. **(3 marks)**

(iii) Explain **two** reasons why sedimentary rocks are widespread in the coastal plain of Kenya. **(4 marks)**

(c) Describe how the following sedimentary rocks are formed.

- Mechanically formed. **(4 marks)**
- Organically formed. **(4 marks)**

8. (a)(i) Name **two** types of earth movements. **(2 marks)**

(ii) State **three** causes of earth movement. **(2 marks)**

(iii) Describe the plate tectonics theory. **(5 marks)**

(b) (i) Define faulting. **(2 marks)**

(ii) State **three** factors that may influence faulting processes. **(3 marks)**

(iii) Name **four** types of faults. **(4 marks)**

(d) With the aid of well-labelled diagrams, describe the formation of rift Valley by compressional forces. **(7 marks)**

9. (a)(i) Name **two** types of hot desert landscapes. **(2 marks)**

(ii) State **two** reasons why wind erosion is very effective in hot deserts. **(2 marks)**

(b)(i) A part from Yadangs, name **three** features that result from wind action in deserts. **(3 marks)**

(ii) Using well-labelled diagrams, describe how Yadangs are formed. **(7 marks)**

(c) Explain **three** ways in which winds transport in desert areas. **(6 marks)**

(d) State the significance of desert features to human environment. **(5 marks)**

10. (a)(i) What is glacier? **(2 marks)**

(ii) Describe how glacier is formed. **(4 marks)**

(b) Describe **two** processes of ice erosion on a glaciated highland. **(6 marks)**

(c)(i) Apart from Crag and Tail, name **two** other features formed by ice erosion in lowlands. **(2 marks)**

(ii) Describe how a crag and tail is formed**.** **(5 marks)**

(d) Explain **three** positive effects of glaciation in the lowland areas. **(6 marks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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NAME……

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312/2

GEOGRAPHY

Paper 2

Time: $2^{3}/_{4}$ Hours.

Instructions to candidates

1. *This paper has two sections A and B.*
2. *Answer ALL the questions in section A. In section B answer questions 6 and any other TWO questions.*
3. *All answers to be written on the answer booklet provided.*
4. *Candidates should check the question papers to ascertain that all the pages are printed as indicated and that no questions are missing.*

For Examiners use only:

Section	Candidate Score
A	
6	
7	
8	
9	
10	
Total	

SECTION A

Answer ALL the questions in this section.

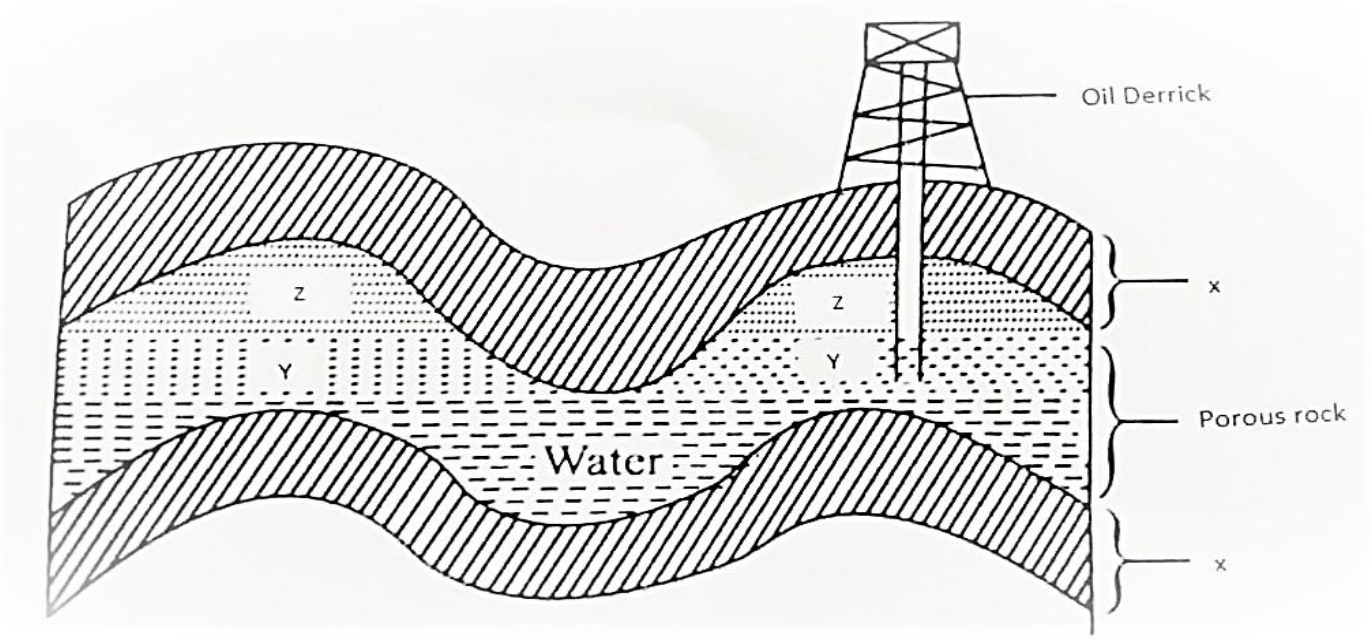
1. a) Give the relationship between Geography and Economics. **(2 marks)**

b) State reasons for studying Geography in secondary schools. **(3 marks)**

2. a) Identify three characteristics of bar graphs **(3 marks)**

b) State advantages of using bar graphs **(3 marks)**

3. a) The diagram below represents the occurrence of petroleum in the earth's crust.



Name the parts marked X, Y and Z **(3 marks)**

b) Give the by-products obtained when refining crude oil **(3 marks)**

4. a) Define re-afforestation **(2 marks)**

b) Identify the importance of agro-forestry **(3 marks)**

5. a) State three characteristics of beef cattle ranching **(3 marks)**

SECTION B:

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

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



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

(ii) Using evidence from the photograph, give *two* indicators to show that the area is experiencing semi-arid conditions. **(2 marks)**

(iii) Describe the features shown on the photograph. **(3 marks)**

(iv) Draw a rectangle measuring 15 cm by 10 cm to represent the area covered by the photograph. **(1 mark)**

- On the rectangle, sketch and label four main features shown on the photograph. **(4 marks)**

(b) (i) Name *two* pastoral communities in East Africa. **(2 marks)**

(ii) Outline three physical factors that favour pastoral farming in Kenya. **(3 marks)**

(c) State three problems facing pastoralists in Kenya. **(3 marks)**

(d.) Explain three ways in which the government of Kenya assists nomadic pastoralists to improve the quality of their livestock. **(6 marks)**

7.) **a.)** i.) Define mining **(2 marks)**

ii.) Explain how the following factors influence mining

- Quality of the mineral ore **(2 marks)**
- Capital **(2 marks)**

b.) Describe how the deep shaft method of mining is carried out (**6 marks)**

c.) i.) Give two uses of soda ash **(2 marks)**

ii.) State the contributions of soda ash mining to the economy of Kenya **(5 marks)**

d.) Explain three problems facing mining **(6 marks)**

8. a)i) Name three exotic softwood tree species planted in Kenya **(3 marks)**

ii) State four factors favouring the development of softwood forests in Kenya **(4 marks)**

b) Explain four measures that the government of Kenya is taking to conserve forests in the country **(8 marks)**

c)i) Give reasons why forests are more wide spread in Canada than Kenya. **(4 marks)**

ii) Compare forestry in Canada and Kenya under the following sub-headings;

- Tree species **(2 marks)**
- Harvesting **(2 marks)**
- Transportation **(2 marks)**

9. **a)** Name three counties in Western highlands where tea is grown. **(3 marks)**

b) State four physical conditions that favour tea growing in the Kenya highlands. **(4 marks)**

c)i) Describe the stages involved in the processing of tea from harvesting to marketing. **(7 marks)**

ii) State the ways in which the Kenya Tea Development Agency (KTDA) assist small scale farms in Kenya **(5 marks)**

d) Explain three problems experienced by small scale tea farmers in Kenya. **(6 marks)**

10.) **a.) i.)** Differentiate between land reclamation and land rehabilitation **(2 marks)**

b.) Identify three methods of land reclamation in Kenya **(3 marks)**

c.) i.) State four physical factors that influenced the location of Mwea Tabere irrigation scheme **(4 marks)**

ii.) Explain four problems facing Mwea Tabere irrigation scheme **(8 marks)**

d.) i.) Outline the stages that were involved in the reclamation of land from the sea in Netherlands **(5 marks)**

ii.) State three benefits of the of irrigation farming in Kenya **(3 marks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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NAME……

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101/1

ENGLISH

Paper 1

(Functional Writing, Cloze Test and Oral Skills)

Time: 2 Hours

Instructions to students

- *Answer ALL the questions in the paper.*
- *Avoid dirty work*

FOR OFFICIAL USE ONLY

QUESTION	MAXIMUM MARKS	SCORE
1. FUNCTIONALWRITING	20	
2. CLOZE TEST	10	
3. ORAL SKILLS	30	
TOTAL	**60**	

1. Imagine you are the secretary of the Peer Counselling Club in your school. You have been asked to take the minutes of the proceedings of your meeting. During the meeting:

- ❖ Six members were present
- ❖ Two members sent their apologies
- ❖ The whereabouts of three members were unknown
- ❖ The Guidance and Counselling Head of Department was present
- ❖ Two items were raised from the previous meeting
- ❖ There were two items in the main agenda.
  - (i) Elections
  - (ii) Trip

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2. *Fill the blank spaces in the passage below with the most appropriate word. 10 marks*

Working from home due to the covid-19 pandemic has slowed **1**……..many activities more-so the education sector here in Kenya. Most sectors have been **2** …….. to embrace digitization. The shift to online classes in the institutions of higher learning was **3**…….. But it is not **4** ……...for, especially, the older people as they don't have the **5**……to use digital gadgets such as smartphones and laptops **6**……..……..those who have them frustrated by the emerging apps and software. **7**…….…….. have embraced digitization and are eager to learn. But the lecturers have problems. **8** ……..…….. have phones with poor cameras as they are alright with just calling and receiving texts. You'll find a lecturer asking if the students can **9** ……..…….. him or her. They mute the mic unknowingly and can't unmute **10**……..guide, which waste a lot of time.

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

(Repentant by AD Amateshe)

Yesterday my emotions
Burst like a man
And flowed violently
Onto your innocent self
Today, deluge with
A deep sense of regret,
I hold onto my hand,
The galling of bitterness
Of that regrettable moment
When caused your pain

{Adapted from Boundless Voices by Arthur Luvai (ed): EAEP}

(i) Indicate the rhyme scheme in the poem above **(1mark)**

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…….

(ii) Briefly comment on the significance of the above rhyme scheme **(1mark)**

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……

(iii) Which words would you stress in the first and the last lines? Give a reason. **(2marks)**

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……..

b) *Write another word pronounced as the ones given below* ***(4 marks)***

(i) Gait……

……

(ii) Wait……

……

(iii) Sew……

……

(iv) Grown……

……

c) Write two words for each in which the letter listed below is silent. **(3 marks)**

i) g

……

……..

ii) i

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……

iii) t

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……

d) *Group the words below under the column containing the sound that the highlighted letter(s) bear.* ***(4 marks)***

An example has been done for you

Tis**su**e Caucas**i**an Divi**sio**n Pas**si**on Cau**tio**us Lei**su**re Solu**tio**n

Vi**sio**n Expo**su**re **Ch**ef

/ʃ/	/ʒ/
Tis**su**e	Caucas**i**an

e) Your mother who stays in the village wants to visit you in Nairobi. She has never visited you before. Your house is not far from the stage.

(i) Mention two ways you would specify to her the distance from the stage to your house.

(2 marks)

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(ii) Apart from specifying the distance, how else would you ensure she reaches the house when giving her the direction? **(3 marks)**

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f) You school is participating in a debate and the motion is: **"Parents should let children decide their own destiny."**

How would you ensure that your argument is convincing? **(3 marks)**

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g) Imagine you have been invited to speak about the role of NACADA in fighting drug abuse among the Kenyan youth.

Mention two non-verbal cues you would use to make your speech effective. Give suitable examples. **(2 marks)**

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h) Read the following conversation between two form four candidates and then answer the following questions.

Judy: Mali, I am worried my performance in English is not encouraging.

Mali: Ah! I am happy with my performance in English. I got a clean A last term.

Judy: I really don't know what to do about Mathematics, maybe….

Mali: I don't like our Geography teacher. He thinks he is the only one who owns a Prado. My dad told me he will buy one soon.

Judy: (Trying to bring him back to the conversation) Tell me, Mali, how do you revise Mathematics?

Mali: Oh! Is that David? He has promised to bring me a Nigerian movie (calling) David! David! (Then runs after him)

i) Identify the **shortcomings** in Mali's listening and speaking skills. **(2marks)**

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ii) Suggest three ways how he can **improve** his listening and speaking skills. **(3marks)**

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

101/2

ENGLISH

Paper 2

(Comprehension, Literary Appreciation and Grammar)

Time: 2 ½ Hours

Instructions to students

- *Write your **name, admission number** and **class** in the spaces provided.*
- *Sign and write the date of the examination in the spaces provided.*
- *Answer **all** questions in the spaces provided*
- *All your answers must be written in the spaces provided in this question paper.*

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	25		
3	20		
4	15		
TOTAL	80		

1. ***Read the following passage and then answer the questions that follow 20 marks***

Certain people insist that religion is anathema to the modern life. It is out of fashion. It is regarded as an embarrassing carryover from human being's savage past, a foolish creation of weak, superstitious minds. Others argue, that it is an invention of evil human beings who use it to pacify simple people and then exploit them. Despite these views, however, religion is one's humble acknowledgement of the supernatural – ones recognition that there are powers that are non-human and that these influence their destiny.

Human being has not outgrown religion. There is plenty of evidence throughout the world to prove that indeed religion still has a strong influence on one. Some countries have pressurized their citizens to discard religious beliefs but with little success. Strangely enough history testifies to the fact that following religious persecutions, the believers increase in number. Millions of people in the world, regardless of colour, political persuasion, mental abilities and social background, find religion relevant and practical in their everyday lives. All over the planet earth, magnificent mosques, cathedrals, temples and shrines stand out and quietly exclaim that a human being is a creature that cannot be separated from religion.

On the other hand, it is pretty true that we must recognise the wonderful achievements of science and technology. Many killer diseases have been virtually eradicated or brought under control. Food production has increased tremendously. Life for many people is considerably affordable, more comfortable and more convenient. These astonishing successes have, notwithstanding, developed in human beings an unfortunate disregard for the established core human values. This scientific adventurism has also led us to the brink of self-destruction. Human beings now life in fear of their own inventions.

No doubt science has answered many questions about human beings and their lives on earth, but then religion also provides satisfactory answers to otherwise insoluble questions. It fills the gap in human knowledge and experience and so reduces areas of doubt and uncertainty. In the face of dangers that would otherwise be overwhelming, religious beliefs inspire confidence and provide moral and emotional satisfaction. In addition, religion serves as a social restraint by instilling fear of supernatural punishment if approved values are violated.

Since science has left many needs unmet, it would be a disservice to society if we did not continue to examine other ways of making life on earth more delightful. Religion can help one overcome misunderstanding, racism, suspicion and other evils that plague them and therefore it ought to be encouraged. After all, many religions teach about the love for all humans and the importance of living in harmony.

Questions

a) According to the passage, what makes some people believe religion is retrogressive. **(3 marks)**

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b) How does religion affect the fate of human beings **(2 marks)**

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c) Explain use of a figure of speech in paragraph 2 **(2 marks)**

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d) In note form indicate the advantages of having religion **(5 marks)**

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e) Why is science any enemy to human beings? **(2 marks)**

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f) What physical evidence is there in the passage to show that human beings remain religious for a long time. **(2 marks)**

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g) It is out of fashion. (Re-write ending with …….fashionable)

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h) Explain the meaning of the following words **(3 marks)**

(i) Anathema …….

(ii) Pacify ……

(iii) Insoluble ……...

2. Hendrik Ibsen: A Doll's House

Read the excerpt below and then answer the questions that follow.

Krogstad: Excuse me, Mrs. Helmer.

Nora: (with a stifled cry, turns around and gets up onto her knees) Ah! What do you want?

Krogstad: Excuse me, the outer door was ajar; I suppose someone forgot to shut it.

Nora: (rising) My husband is out, Mr. Krogstad.

Krogstad: I know that.

Nora: What do you want here, then?

Krogstad: A word with you.

Nora: With me? – (to the children, gently) Go in to nurse. What? No, the strange man won't do mother any harm. When he has gone we will have another game. (She takes the children into the room on the left, and shuts the door after them.) You want to speak to me?

Krogstad: Yes, I do.

Nora: Today? It is not the first of the month yet.

Krogstad: No, it is Christmas Eve, and it will depend on yourself what sort of a Christmas you will spend.

Nora: What do you mean? Today it is absolutely impossible for me –

Krogstad: We won't talk about that until later on. This is something different. I presume you can give me a moment?

Nora: Yes – yes, I can – although –

Krogstad: Good. I was in Olsen's Restaurant and saw your husband going down the street.

Nora: Yes?

Krogstad: With a lady.

Nora: What then?

Krogstad: May I make so bold as to ask if it was a Mrs. Linde?

Nora: It was

Krogstad: Just arrived in town?

Nora: Yes, today.

Krogstad: She is a great friend of yours, isn't she?

Nora: She is. But I don't see –

Krogstad: I knew her too, once upon a time.

Nora: I am aware of that.

Krogstad: Are you? So you know all about it: I thought as much. Then I can ask you, without beating about the bush – is Mrs. Linde to have an appointment in the Bank?

Nora: What right have you to question me, Mr. Krogstad? – You, one of my husband's subordinates! But since you ask, you shall know. Yes, Mrs. Linde is to have an appointment. And it was I who pleaded her cause, Mr. Krogstad, let me tell you that.

Krogstad: I was right in what I thought, then.

Nora: (walking up and down the stage) Sometimes one has a tiny little bit of influence, I should hope. Because one is a woman, it does not necessarily follow that -. When anyone is in a subordinate position, Mr. Krogstad, they should really be careful to avoid offending anyone who – who –

Krogstad: Who has influence?

Nora: Exactly.

Krogstad: (changing his tone) Mrs. Helmer, you will be so good as to use your influence on my behalf.

Nora: What? What do you mean?

Krogstad: You will be so kind as to see that I am allowed to keep my subordinate position in the Bank.

Nora: What do you mean by that? Who proposes to take your post away from you?

Krogstad: Oh, there is no necessity to keep up the pretence of ignorance. I can quite understand that your friend is not very anxious to expose herself to the chance of rubbing shoulders with me; and I quite understand, too, whom I have to thank for being turned off.

Nora: But I assure you –

Krogstad: Very likely; but to come to the point, the time has come when I should advise you to use your influence to prevent that.

Nora: But, Mr. Krogstad, I have no influence.

Questions:

a) Briefly describe what happens before the events in this excerpt **(2 marks)**

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b) What is Nora's husband **(2 marks)**

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c) "Today? It is not the first of the month yet." Why has Nora said these words?

(3 marks)

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d) How does Krogstad know Mrs. Linde in the play **(3 marks)**

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e) Describe the character of Krogstad as brought out in the excerpt. **(4 marks)**

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f) Identify and illustrate **two** themes brought out in this excerpt **(4 marks)**

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g) Which influence is Krogstad talking about **(2 marks)**

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h) What shows later in the play that really Nora has no influence? **(2 marks)**

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i) What happens after this excerpt **(2 marks)**

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j) Rewrite the following in the present tense.

I was right in what I thought, then. **(1 mark)**

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3. ***Read the oral poem below and answer the questions that follow.***

The Crop Thieves

Tswiri tswiri! I the person, I suspect?
What have you heard that makes you suspicious?
I heard things said, rumours of weaver birds;
They ate corn in Lesiba's field and finished it.
And when they left they sounded hummmmm-
They said, "Listen to the numerous weaver birds, sons of Mosima;s family.
Children of the horse that ate the courtyards and the times,
It is the numerous weaverbirds,
The grey ones that go about in swarms,
Children with the little red beaks,
Children that make a noise in the mimosa trees,
Tupu-tupu! The smoke comes out while the dew still glitters.

Howaaa! Sweaaa! – is heard in the early morning
They are finishing the corn, the numerous weaver birds.
Children with the little red beaks.

At home, it is yo! yo!
The children are crying,
Their mothers have gone to the fields to the birds,
It is the Zulus that have entered the country,
Take axes and loop the tree branches,
Yo! This year we shall eat five,
We shall lack even a blue-tongued goat!
It is numerous weaverbirds, the grey ones that go about in swarms.

Questions

a) What kind of oral poem is this? **(2 marks)**

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b) Explain two functions of the above oral poem **(2 marks)**

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c) Identify and illustrate two oral features of this poem **(4 marks)**

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d) What does the poem tell us about the character trait of the weaverbirds**. (2 marks)**

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e) Which lines show that people will keep on suffering if they don't keep the birds away?

(2 marks)

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f) Identify and illustrate two economic activities practised in this community**. (4 marks)**

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g) What is the attitude of the singer towards the weaverbirds? (**2 marks)**

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h) Explain the meaning of the following lines as used in the song.

(i) We shall lack even a blue-tongued goat.

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(ii) It is the Zulus that have entered the country.

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4. GRAMMAR

a) Rewrite the following sentences according to the instructions given after each. Do not change the meaning. ***(3 marks)***

(i) If we do not keep the environment clean, the health officer will close our school.

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(ii) He is proud, but he must still obey the order: (Begin: proud……..)

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(iii) "Quality products are not an act of generosity but your right," the supervisor informed the student. (Rewrite in reported speech)

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b) Explain the meaning of the underlined idiomatic expressions ***(3 marks)***

(i) The class <u>whiled the hour away</u> by playing football.

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(ii) Since you decided to <u>throw caution to the wind</u>, you will bear the consequences.

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(iii) Bill was on <u>pins and needles during</u> the party.

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c) Fill the blank spaces with appropriate question tags. **(3 marks)**

(i) You can't be serious about going home this late ……...

(ii) Let us go away ……...

(iii) There is nothing wrong …….

d) Complete each of the following sentences using correct quantifiers. (3 marks)

(i) If there is any tea in that flask, I would like to have

……

(ii) Since animal proteins are very expensive……..people eat enough.

(iii) I don't need …….money because I'm going to bring my lunch to school.

(i) They took to mothering like a duck to water.

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(ii) The country was drained of its manpower and wealth by war.

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(iii) The air hostess made sure the presidential suite was cleaned.

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

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101/3

ENGLISH

Paper 3

(Creative Composition and Essays Based on Set Texts)

Time: 2 ½ Hours

Instructions to students

- *Write your **name, admission number** and **class** in the spaces provided.*
- *Sign and write the date of the examination in the spaces provided.*
- *Answer **all** questions in the spaces provided*

Question	MaximumScore	Student's Score	Examiner'sInitials
1	20		
2	20		
3	20		
TOTAL	60		

1. Imaginative composition. (Compulsory) **(20 marks)**

Either

a) Write a composition beginning with the following.

I had never found myself in such a situation before…

OR

b) Write a composition describing **a memorable trip**

2. Compulsory Set Text

***Blossoms of the Savannah* by Henry ole Kulet.**

In a male-dominated society, only women who are resilient in character overcome the hurdles placed on their paths. Write an essay justifying the assertion with clear illustrations from Henry ole Kulet's *Blossoms of the Savannah*. **(20 marks)**

3. Optional set text

a) The Short story:

Memories We Lost and Other stories ED. Chris Wanjala

"Even when it seems impossible we should not despair trying to help those suffering from strange illness." Write an essay in support of the above statement drawing your illustrations from the story '*Memories We Lost'* by Lidudumalingani Mboqothi.

(20 marks)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

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102/1

KISWAHILI

Karatasi ya 1

INSHA

MUDA: SAA 1 ¾

MAAGIZO

a) *Andika jina lako na nambari ya usajili kwenye nafasi ulizoachiwa hapo juu.*
b) *Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.*
c) *Andika insha **mbili**. Insha ya kwanza ni ya **lazima.***
d) *Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.*
e) *Kila insha isipungue maneno **400**.*
f) *Kila insha ina alama **20.***

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	20	
2	20	
3	20	
4	20	
Jumla	40	

1. Lazima

Wewe kama katibu wa chama cha wanahabari chipukizi shuleni mwako umepata nafasi ya kumhoji Katibu katika Wizara ya Habari na Mawasiliano nchini kuhusu athari ya mitandao na utandawazi kwa jamii. Andika mahojiano hayo.

2. Maovu ya kijamii yamekithiri sana miongoni mwa vijana. Eleza chanzo na upendekeze hatua zinazofaa kuchukuliwa ili kusitisha maovu haya.

3. Tunga kisa kinachodhihirisha maana ya methali ifuatayo:
Mchuma janga hula na wa kwao

4. Andika insha itakayomalizika kwa maneno yafuatayo:
Tulijifunga kibwebwe kuwaopoa wahasiriwa waliokuwa wamefunikwa na vifusi vya maporomoko ya jengo lakini juhudi zetu ziliambulia patupu.

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

102/2

KISWAHILI

LUGHA

Karatasi ya Pili

MUDA: SAA 2 ½

Maagizo

(a) Andika jina lako na namba yako ya usajili katika nafasi ulizoachiwa hapo juu.
(b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
*(c) Jibu maswali **yote.***

KWA MATUMIZI YA MTAHINI PEKEE: -

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

1. UFAHAMU (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali

Wanawake ndio wanaonyanyasika zaidi katika vyombo vya usafiri hasa kwenye mabasi na matatu. Kwa kiasi fulani, kunyanyasika huku hutokana na maumbile, mavazi, watoto na mizigo mbalimbali wanayoibeba. Kwa upande mwingine utakuta kwamba, wafanyakazi karibu wote katika matatu na mabasi ni wanaume na shughuli zao wanaziendesha kama wanaume na sio vinginevyo. Wanaume hawa huendesha mambo zaidi kwa kumjali na kumtetemekea mwanamme na sio mwanamke. Mwanamke anashughulikiwa tofauti iwapo tu yeye mwenyewe ndiye mwenye mali hiyo, ni ya jamaa yake au mpenzi wa wafanyakazi katika matatu hizo. Hali ya vyombo vya usafiri inavyoonekana pia ni kuwa vimeandaliwa zaidi katika kumjali mwanamme na siyo mwanamke au watu wenye tofauti au upungufu fulani mwilini.

Iwe ni tabia ya utingo au ya madereva au ni hali halisi ya vyombo vilivyoundwa, yote haya ni mambo yanayoweza kubadilishwa endapo tu wanawake watakuwa na sauti moja na kusimama kidete katika kupigania na kutetea kile wanachostahili kukipata katika huduma za usafiri na uchukuzi mijini na nchi nzima kwa ujumla.

Kama ilivyotajwa hapo juu, kuna tofauti za kimsingi kati ya wanaume na wanawake. Katika jamii inayomjali kila mtu, ni muhimu kwa tofauti hizo kuzingatiwa ili kuhakikisha kuwa kila mwanajamii anapata huduma anayohitaji kwa amani na usalama na bila usumbufu kwake au kwa wale wanaomtegemea. Pamoja na matatizo yote wanayopata wanawake, hakuna chombo kilichojizatiti kutoa sauti ya umoja na kusema kwamba hili au hiki kinachofanyika siyo sawa au siyo haki kwa mwanamke.

Wakati umefika sasa kwa wanawake wenyewe kujiunga pamoja, kuelimishana na kuanza kupigania haki zao ili wasiendelee kunyanyasika katika vyombo vya usafiri. Ninatoa mifano michache. Wale wanaokwenda safari ndefu wanajua fika adha wanayopata wanawake wakati basi limesimama peupe watu wanatakiwa “wakachimbe dawa.” Kwa mwanamme si kazi. Lakini kwa mwanamke kuna shida, tena siyo kidogo. Je, kwa nini wanawake waendelee kuvumilia haya? Kuna ugumu gani kwa kila basi ya safari ndefu kuwa na choo ndani? Wenye dini zinazodai tohara nao wanasemaje?

Shida nyingine ni katika kupanda magari haya. Kwenye matatu, ni rahisi (ingawa hatari) kwa mwanamme kupanda gari huku likiwa kwenye mwendo, lakini je, dereva wa matatu anastahili

kufanya hivyo kwa mwanamke? Upande wa mizigo hasa kwa wafanyabiashara ni adha tupu kwa wote. Je, nini kifanyike ili kila mtu aweze kufanya biashara yake kwa ustaarabu zaidi? Ni kama kwamba wanawake wamekubali kunyanyaswa kwao ni sehemu ya maisha. Hivi sivyo inavyostahili kuwa. Sote tuna haki sawa kwenye kila aina ya chombo cha usafiri. Tatizo ni pale tunapokubali kugeuzwa mizigo na kubebwa jinsi mbebaji anavyotaka kutubeba. Kama wanawake wana sauti ya pamoja kuhusu maswala haya, nina hakika kuwa tutaanza kuona mabadiliko katika mabasi na matatu zetu.

Muda wa wanawake kuonekana kuwa ni "washamba" na watu wanaoweza kudanganywa kuwa gari lina viti vya kulala nalo kumbe limejaa tele na bado mtu akapanda umekwisha pita. Huduma yoyote lazima iwe na hadhi ya namna fulani. Na wanaoamua ni hadhi gani huduma hiyo iwe sio wenye basi au matatu bali abiria, maana nauli anayolipa ni kura inayotakiwa kumwezesha kuchagua kilicho bora na sio kilicho duni.

Ni vyema kuelewa kuwa ni wanawake na sio wanaume waliochangia zaidi kumaliza ubaguzi wa rangi huko Marekani na Afrika Kusini. Wanawake kwa sababu wanafikiriwa kimakosa kuwa legelege ilidhaniwa wasingekubali kususia mabasi na kutembea kwa miguu kama mbinu ya kugomea mfumo uliokuwepo nyakati hizo huko Atlanta na Johannesburg. Hata hivyo, wanawake hao waliyagomea mabasi hayo kwa roho moja na kutembea, wakati mwingine hata masafa ya kilomita ishirini kwa miguu kila siku. Wenye mabasi na serikali wakaonja makali ya mgomo huu na huo ukawa mwanzo wa mabadiliko yaliyosababisha kuzuka kwa siasa zisizovumilia ubaguzi wa rangi katika usafiri na hatimaye katika mustakabali mzima kitaifa. Wanawake wa nchi yetu nao wakitaka wanaweza pia kuanzisha vuguvugu litakalosaidia usafiri na uchukuzi nchini kuwa wa heshima, kistaarabu na unaowajali wanawake, wazee na watoto.

Maswali

(a) Kwa kurejelea kifungu, fafanua namna tatu mwanamke anavyodhalilishwa. **(alama 3)**

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(b) Kuna nyakati mwanamke anajipata katika hali nafuu kidogo katika usafiri. Eleza. **(alama 1)**

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(c) Ili kujikomboa na madhila anayokumbana nayo, mwanamke anastahili afanye nini? **(alama 4)**

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(d) Eleza juhudi zilizofanywa na mwanamke kwingine kupambana na dhuluma katika jamii yake. **(alama 1)**

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(e) Mwandishi wa kifungu hiki anapendekeza nini kuhusu namna huduma kwa umma zinafaa kutekelezwa. **(alama 4)**

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(f) Eleza maana ya mafungu yafuatayo kama yalivyotumiwa katika kifungu hiki. (alama 2)

(i) katika mustakabali mzima wa taifa

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(ii) wanatakiwa wakachimbe dawa

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2. UFUPISHO (ALAMA 15)

Soma makala yafuatayo kisha ujibu maswali

Kwa hali nyingine, tunaweza kusema kuwa uchafuzi wa mazingira ni uharibifu wa vile vitu vinavyowazunguka binadamu na wanyama maishani mwao. Kuna uchafuzi wa aina mbalimbali na kila uchafuzi humhusu binadamu kwa njia fulani.

Maendeleo ya viwanda duniani ni sababu mojawapo ya uchafuzi wa hewa. Mitambo katika karakana huwa inatoa moshi mwingi wakati bidhaa zinapotengenezwa. Moshi husambaa eneo kubwa na kuchanganyika na hewa inayovutwa na binadamu. Uchafu hutupwa ovyo ovyo na kuwa hatari kwa afya ya binadamu. Maji machafu huweza kutiririkia mtoni, maziwani na hata baharini. Yale yanayotiririka mitoni na maziwani huchafua maji ambayo hutumiwa na watu wa eneo hilo kwa kunywa, kupika na kunywesha mifugo wao. Yale yanayotiririka baharini huwa ni hatari kwa samaki wanaotegemewa na binadamu kuwa kitoweo muruwa.

Ongezeko la watu pia ni hali nyingine ya uchafuzi wa mazingira. Halaiki ya watu hufanya uharibifu wa misitu ya asili. Hii ni kwa sababu ya kutaka kuongeza ekari za mashamba. Hili husababisha mmomonyoko wa udongo; hivyo basi kuiacha ardhi bila rutuba yoyote. Katika hali hii, kilimo ambacho ni uti wa mgongo wa nchi nyingi duniani huzoroteshwa. ‘‘Maisha ya binadamu hutegemea kilimo kwa kila hali kwa hivyo kilimo kinapozoroteka hata uchumi nao huathirika. Kila uchao tunasikia kwamba nchi fulani imekabiliwa na njaa.

Ufugaji wa wanyama wengi bila mpango maalum pia huharibu mazingira ya asili kama nyasi na vichaka. Watu wengi hufuga ng’ombe, mbuzi na kondoo. Kwa kuwa hawana mahali maalum pa kuwalisha, huzunguka nao huku na huko kutafuta nyasi na majani ya kuwalisha. Wanyama wanaotangishwatangishwa namna hiyo humaliza majani na nyasi zote na kuacha ardhi tupu ambayo hatimaye huyabisika kwa jua. Ardhi ya namna hii haishiki maji mvua inyeshapo. Nchi iliyoneemeka huweza kuwa jangwa lililo na chungu ya mchanga.

Watu wanapoongezeka huko mashambani huwabidi wakate misitu ili waanzishe maskani mapya pamoja na mashamba yao. Miti hukatwa bila hadhari na mabiwi ya matawi pamoja na majani

huchomwa moto. Jambo la kusikitisha ni kwamba miti hiyo inapokatwa hakuna mingine inayopandwa kuchukua mahali pake.

Mahitaji ya binadamu ya kuendeleza njia za mawasiliano pia huzusha balaa nyingine. Barabara zinazidi kuongezeka na pia watu wanaozidi kuongezeka pamoja na mazao yao. Kwanza, barabara zinapotengenezwa misitu hukatwa mahali zinapopitia. Pili, wingi wa magari huzidi na baadhi ya hayo magari hutoa moshi unaoharibu hewa.

Njia kadha wa kadha za kuzuia uharibifu wa mazingira zimependekezwa. Ingawa suluhisho timamu halijafikiwa, serikali nyingi duniani zimo katika harakati za kutafuta suluhisho la uchafuzi huo.

Njia mojawapo ni kukomesha ujenzi wa viwanda katika miji mikuu na mahali palipo na watu wengi. Wenye viwanda pia wanahimizwa kufikiria jinsi ya kutupa takataka na maji machafu bila kudhuru afya ya binadamu.

Watu wakizingatia suala la upangaji wa uzazi na kuwa na familia ndogo ndogo, idadi ya watu haitaongezeka kwa kasi kwa hivyo itakuwa hakuna haja ya kuanzisha makao mapya mara kwa mara.

Serikali nyingi zimechukua jukumu la kuwaelimisha raia juu ya madhara yanayotokana na uharibifu wa mazingira. Raia wanahimizwa kupanda miti kwa wingi. Aidha, ni jukumu la jamii katika eneo athirika kujenga matuta ya kuzuia mafuriko na kudhibiti mmomonyoko wa udongo.

Jitihada zinazofanywa kuzuia uchafuzi wa mazingira hukumbana na matatizo. Tatizo kubwa ni fedha za kuendeleza miradi inayopendekezwa. Shida nyingine ni kwamba juhudi zingine huwa zinamwingilia binadamu na mali yake.

Maswali

(a) Fupisha aya sita za kwanza za taarifa uliyosoma kwa maneno 60. **(alama 7)**

Nakala chafu

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Nakala safi

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(b) Fupisha aya za mwisho tano kwa maneno 50-55 **(alama 6)**

Nakala chafu

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Nakala safi

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MATUMIZI YA LUGHA **(ALAMA 40)**

(a) Andika tofauti moja kati ya sauti zifutazo. (alama 2)

(d) /ny/ na /ng'/

……

(ii) /g/ na /gh/

……

(iii) /s/ na /z/

……

(iv) /ch/ na /j/

……

(b) Aindika kielezi chenye miundo ifuatayo**.** **(alama 1)**

Kipasuo ghuna cha ufizi, irabu ya chini, kati, irabu ya mbele, juu, nazali ya midomo, irabu ya kati chini na tandazwa.

……..

(c) (i) Silabi ni nini? **(alama 1)**

……..

(ii) Huku ukitoa mifano, eleza miundo miwili ya silabi za Kiswahili. **(alama 2)**

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…….....

(d) Eleza dhima ya tatu za viambishi tamati mbali na kauli ya kutenda/kiishio. **(alama 3)**

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…….

(e) Tunga sentensi mbili kuonyesha matumizi mawili ya kiambishi: I **(alama 2)**

……

…….

(f) Andika sentensi hii katika ukubwa**.** **(alama 1)**

Kijumba chenyewe kilijengwa karibu na mto.

……

(g) Taja nomino mbili kutoka ngeli ya tofauti zinazowakilishwa na kiambishi ngeli kilichopigiwa mstari. (**alama 2)**

Itatumika katika sherehe yake.

……

……..

(h) Badilisha sentensi katika kauli iliyomo kwenye mabano.

(i) Marie alipewa zawadi yake. (tendeka) **(alama 1)**

……

(ii) Tunga sentensi ukitumia kitenzi kishirikishi kipungufu katika ngeli ya KI-VI. **(alama 2)**

……

(i) Yakinisha sentensi ifuatayo katika nafsi ya pili umoja. (alama 1)

Sitaenda nyumbani kesho.

……..

(j) Tunga sentensi ukitumia nomino dhahania katika ngeli ya U-U kutokana na neno: (alama 2)

Zusha

……

……..

(k) Eleza maana katika sentensi hii. (alama 2)

Mama anatupa mtoto.

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(l) Tunga sentensi yenye muundo ufuatao. (alama 2)

S – KN (N+S) + KT (Ts+T+E)

……

(m) Akifisha: (alama 4)

Akionekana mwenye hasira mkurugenzi huyo alishangaa jameni kwa nini wakenya wanaharibu mali hivi hii si siasa bali ni wendawazimu.

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(n) Tunga sentensi kudhihirisha masharti yasiyowezekana katika hali timilifu. **(alama 2)**

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(o) Wanne walituzwa na mwalimu. (Tumia kivumishi cha kuorodhesha**). (alama 2)**

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(p) Taja vitenzi vyovyote viwili vyenye asili ya kigeni katika kauli ya kutendea. **(alama 2)**

……..…

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(q) Ainisha vitenzi katika sentensi ifuatayo: (alama 3)

Tutakuwa tukila tukisaza karamuni huku wengine wakiwa barazani.

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(r) Unda nomino mbili katika hali ya wingi kutokana na kitenzi hiki. (alama 2)

Sawidi

……..

(s) Biwi ni kwa taka ……ni kwa maji na kikuba ni kwa ……. (alama 1)

3. ISIMU-JAMII (ALAMA 10)

"Leo hii utashi wetu wa kujitosheleza umetusukumiza ukingoni mwa maisha. Vyakula vyetu sasa vina kemikali hatari kutokana na mizizi ya mimea kufyonza virutubisho vyenye naitrojeni. Virutubisho hivi hustawisha mimea. Hata hivyo, mimea hii tunayoila ina kemikali hatari kwa miili yetu. Kemikali hizi husababisha saratani na hili ndilo tatizo la kijiji hiki.

(a) Bainisha sajili ya makala haya kwa kutoa mfano mmoja kutoka kwenye makala. **(alama 2)**

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(b) Fafanua sifa nyingine nane za sajili hii ambazo zingejitokeza katika makala haya. **(alama 8)**

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

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KISWAHILI

Karatasi ya 3

FASIHI

Muda: Saa 2 ½

Maagizo

(a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
(b) Jibu maswali manne pekee.
*(c) Swali la **kwanza** ni la lazima.*
*(d) Maswali hayo mengine yachaguliwe kutoka sehemu nne zilizobaki: yaani; **Riwaya, Ushairi na Fasihi simulizi***

Swali	Upeo	Alama
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
7	20	
Jumla	80	

SEHEMU A: RIWAYA

Asumpta Matei: *Chozi la Heri*

1. Lazima

Kipi kinachowavuta raia kuhamia ughaibuni? Angeuliza nafsi yake pale ambapo mzigo wa simanzi na ukiwa ulipokilemea kifua chake. Je, ni huo mshahara mnono unaowageuza kuwa watumwa wa kufanya kazi kidindia ati kwa kudai kuwa nchi za ughaibuni ni *twenty-four-hour economies?*

a. Eleza muktadha wa dondoo hili (Alama 4)

b. Huku ukitolea mifano maridhawa, fafanua mbinu nne za kimtindo zinazojitikeza katika dondoo hili (Alama 4)

c. Eleza changamoto inayomkumba msemaji katika dondoo hili(Alama 2)

d. Fafanua jinsi maudhui yanayojitokeza katika dondoo hili yameshughulikiwa kwingineko riwayani. (Alama 4)

e. Fafanua umuhimu wa mandhari katika kuijenga riwaya hii kwa kurejelea Msitu wa Mamba (Alama 8)

SEHEMU B : TAMTHILIA

Pauline Kea : Kigogo

Jibu swali la 2 au la 3

2. Ama ale hizo falsafa zake! Udongo haubishani na mfinyanzi.

a. Eleza muktadha wa dondoo hili (Alama 4)

b. Tambua na ueleze tamathali mbili za usemi katika dondoo hili (Alama 4)

c. Eleza umuhimu wa msemaji katika kuijenga tamthilia hii kwa hoja zozote nne (Alama 4)

d. Eleza maudhui manne yanayojitokeza katika dondoo hili (Alama 8)

3. a)Jimbo la Sagamoyo limetawaliwa na uozo mwingi. Tetea kauli hii. (Alama 10)

b) Eleza mbinu zifuatazo za kimtindo jinsi zilivyotumika katika tamthilia ya Kigogo :

i) Kinaya (Alama 5)

ii) Jazanda (Alama 5)

SEHEMU C : USHAIRI

Jibu swali la 4 au la 5

4. Soma shairi linalofuata kisha ujibu maswali:

Nakumbuka kwa dhiki Mto Monyara
Tuliochelea kukaribia kingo zake
Tukatulia kwanza; ukakamavu kujihamia
Kwa kunyenyekea wingi wa yake maji
Yaliyojiendea utadhani yamesimama.

Ni katika mto huu
Ambapo samaki wakubwa tulivua
Maguo kuyatakasa japo kwa kuunyemelea
Na walevi stadi wakachelea kuuvuka
Ulipofura na kupita kwa kiburi
Kwa kushiba maji yake
Yaliyofanya mawimbi madogo.

Ni hapa ambapo marehemu nyanya
Mkono alinishika na njia kuniongoza
Juu la ulalo wa miti
Vikapu vyetu hewani vikielea;
Mimi nikishika change kwa mkono mmoja
Naye akikiachilia chake kujishikisha kichwani
Masafa baina yetu na mtambo

Uliokwenda kwa nguvu za maji
Tuliyapunguza kwa kila hatua tulopiga.

Ni katika mto huu ambapo
Samaki tuliowavua tuliwapasua na kuwasafisha
Na hivyo kuuficha umaskini wetu
Ulotuzuia kununua mnofu wa bucha
Ni hapa ambapo wanawake walifika
Mawe ya kusagia kupata
Ni katika mtu huu ambapo
Waumini walifika kutakaswa kwa ubatizo
Baada ya ulevi, usinzi na kufuru nyinginezo.

Ni hapa ambapo ilisimuliwa kuwa
Hata wachawi walifika kufanya vitimbi vyao
Baada ya utawala wa jua kumezwa na nguvu za giza
Sasa Monyara niloijua haipo tena
Zimebaki kingo zilizokaukiana
Kama uso wa mrembo aliyekosa mafuta
Siku ayami.

Mti huu ambapo pembeni mwake
Watoto walipashwa tohara
Maji yake yakishangia, umekonda
Na mbavu zake nje kutoa
Na sasa vitoto vikembe vinazikanyaga
Vikijiendea zao kusaga mahindi
Juu mlimani
Katika mtambo wa Kizungu
Usioisha kulalamika

Nao wanawake hawaji tena
Kutafuta mawe ya kusagia wimbi
Imebaki njia ya walevi warejeao nyumbani
Nayo miti iliyosimama wima ukingoni
Iliisha kuanguka kwa kuleweshwa na pumzi za walevi
Wasioisha kupita hapa.

Maswali:

a. (i) Hili ni shairi la aina gani**?** **(alama 1)**

(ii) Thibitisha jibu lako katika (i) **(alama 2)**

b. Bainisha tamathali tatu za usemi zilizotumiwa katika shairi hili**.** **(alama 3)**

c. Linganisha sifa za zamani na za sasa za Mto Monyara. **(alama 3)**

d. Andika mifano miwili ya mistari mishata katika shairi hili. **(alama 2)**

e. Eleza muundo wa shairi hili. **(alama 4)**

f. Huku ukitolea mifano, bainisha uhuru wa kishairi zilizotumiwa na mshairi. **(alama 2)**

g. Bainisha nafsineni katika shairi hili**.** **(alama 1)**

h. Fafanua toni ya shairi hili. **(alama 2)**

5. *Soma shairi lifuatalo kisha ujibu maswali*

Tusitake kusimama, bila kwanza kutambaa,
Au dede kuwa hima, kabula hatujakaa,
Tutakapo kuchutama, kuinama inafaa,
Tujihimu kujinyima, makubwa kutoyavaa.

Tusitake kuenenda, guu lisipokomaa,
Tujizonge na mikanda, inapochagiza njaa,
Na mazuri tukipenda, ni lazima kuyandaa,
Tujiase kujipinda, kujepusha na balaa.

Tusitake uvulana, au sifa kuzagaa,
Tushikiye nyonga sana, tunuiyapo kupaa,
Kama uwezo hapana, tutolee dagaa,
Tujiase hicho kina, maji yanapojaa.

Tusitake vya wenzetu, walochuma kwa hadaa,
Wanaofyatua vitu, na kisha vikosambaa,
Uwezo hatuna katu, umaskini fazaa,
Tujihimu kula vyetu, siendekeze tamaa.

Mtaka kuiga watu, hufata kubwa rubaa,
Vyao vijaile kwetu, vifaa vingi vifaa,
Tunamezwa na machatu, tusibakishe dhiraa,
Tujihimu kilo chetu, hata kama twapagaa.

(Mohamed, S.A)

Maswali:

a. Eleza ujumbe wa mshairi katika shairi hili. **(alama 5)**

b. Ainisha shairi hili kwa kuzingatia vigezo vifuatavyo: **(alama 4)**

(i) Idadi ya vipande katika kila mshororo

(ii) Idadi ya mishororo katika kila ubeti

(iii) Mpangilio wa maneno katika kila ubeti

(iv) Mpangilio wa vina katika beti

c. Andika ubeti wa tano kwa lugha nathari. **(alama 4)**

d. Andika aina mbili za urudiaji zilizotumiwa katika shairi hili. **(alama 2)**

e. Bainisha aina tatu za uhuru wa kishairi zilizotumiwa katika shairi hili. **(alama 4)**

f. Eleza maana ya maneno yafuatayo jinsi yalivyotumiwa: **(alama 2)**

(i) Makubwa kutoyavaa

(ii) Tushikiye nyonga

SEHEMU D : HADITHI FUPI

***K. Walibora na S.A. Mohamed* : Damu Nyeusi na Hadithi Nyingine**

Shibe Inatumaliza : *Salma Omar Hamad*

6. " Kwa hakika … wanajituma na kujitutumua kwa uzalendo wa taifa lao."

a. Eleza muktadha wa dondoo hili. **(alama 4)**

b. Taja na kufafanua sifa zozote nne za warejelewa kwenye dondoo hili. **(alama 4)**

c. Onyesha kinaya kinachojitokeza kwenye dondoo hili ukirejelea hadithi nzima. **(alama 12)**

Mame Bakari: *Mohammed Khelef Ghassany*

7. "Hapo tena ilimjia ile picha chafu ambayo haijabanduka mpaka leo tokea wakati ule ilipoanza. Aliendelea kuliona lile janadume asilolijua likimvamia na kumbaka ghafla.Kisha likambamiza ardhini na ardhi ikashuhudia ukatili na udhalimu ule. Hadi sasa maskioni mwake anasikia miguno na mingurumo ya lile dubwana la janadume."

a) Fafnua toni inayojitokeza kwenye dondoo hili. (alama 2)

b) Huku ukitoa mifano, bainisha mbinu tatu za kimtindo zinazojitokeza kwenye dondoo. (alama 6)

c) Onyesha athari za ukatili uliotajwa kwenye dondoo. (alama 12)

SEHEMU E : FASIHI SIMULIZI

Kijiji chavuma vishindo,
Vya ngoma na nyimbo.

Kwenye vilima vya kata,
Na mabonde kuliko na mito,

Wamama wanalitafuna,
Watoto na vijana wanaliimba, jina,
Jina la nguli Amali wa Jamali. Jamadali kamili.

Ukoo wake wa mashujaa,
Babuze walisifika sana,
Mikuki na mishale walifua,
Kuihami jamii na riaka,
Na hata magao ya kujisitiri, pindi lijapo pambano.

Leo yeye atamba,
Shujaa wa nguvu za tembo,
Mwamba anayepigana bila silaha yoyote,
Angurumapo mahasimu wanazirai, wanavaa lebasi ya woga hasa,
Wasiwasi unawakumbatia.
Angurumapo simba mcheza nani?
Anapotisha Amali wa Jamali atasimama nani?

Zawadi za kole za nazi,
Na mashuke ya mtama,
Zamiminika kwake kutoka kusini na kaskazini,
Kwa kujuhudi za kuwarejesha mitamba na mafahari,
Kutoka mbali walikotekwa,
Mazizi sasa yana uhai,
Miroromo sasa inasikika tena.

Wengine wanaleta vishazi vya samaki,
Kumtunuku,
Huyu mja mwenye nemsi zisizo na ndweo.

Akida wetu,

Atamvisha taji la ngozi ya duma,

Yenye kipembe cha kifaru,

Atamvisha nguo ya ngozi ya simba.

Maswali:

a. Tambua kipera cha utungo huu na utoe sababu ya jibu lako. (Al 2)

b. Ni sifa gani hukibainisha kipera ulichotaja hapo juu? (Al 5)

c. Eleza dhima za kipera hiki katika jamii. (Al 5)

d. Jamii iliyoakisiwa kwenye utungo huu huendeleza shughuli gani za kiuchumi? (Al 4)

e. Fafanua mtindo katika kifungu hiki. (Al 4)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

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MATHEMATICS

Paper 1

Time 2½ Hours

Instructions to candidates

a) Write your name and index number in the spaces provided above.
b) Sign and write the date of examination in the spaces provided above.
c) This paper consists of two sections: Section I and Section II.
d) Answer all the questions in Section I and only five questions from Section II.

For examiner's use only

Section 1

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

SECTION I (50 marks)

Answer all the questions in section I

1. Evaluate $\frac{3/4 + 1\,5/7 \div 4/7 \text{ of } 2\,1/3}{(1\,3/7 - 5/8) \times 2/3}$ **(3 marks)**

2. Simplify $\frac{8x^2 + 6x - 9}{16x^2 - 9}$ **(3 marks)**

3. Two similar solid cones made of the same material have masses of 8000g and 1000g respectively. If the base area of the smaller cone is $77cm^2$, calculate;

a) The base area of the larger cone **(3 marks)**

b) The radius of the larger cone **(2 marks)**

4. Given that $\cos(2x)° - \sin(4x+30)° = 0$. Calculate the value of x **(3 marks)**

5. A line L passes through point (3,1) and is perpendicular to the line $2y=4x+5$. Determine the equation of the line L. **(3 marks)**

6. A Kenyan tourist left Germany for Kenya through Switzerland. While in Switzerland, he bought a watch worth 52 Deutsche marks. Using the exchange rates below.

1 Swiss Franc = 1.28 Deutsche Marks

1 Swiss Franc = 45.21 Kenya shillings

Find the value of the watch to the nearest **(2 marks)**

(i) Swiss Franc

(ii) Kenya shillings **(2 marks)**

7. State all integral values of x which satisfy the following pair of inequalities. **(3 marks)**

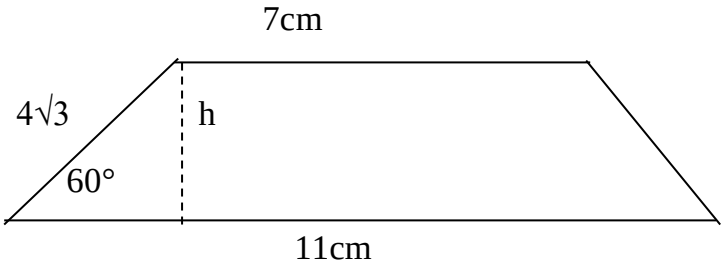
$$3 - x \leq 1 - \frac{1}{2}x$$

$$\frac{1}{2}(x - 5) \leq 7 - x$$

8. A man is now three times as old as his daughter. In twelve years time he will be twice as old as his daughter. Find their present ages. **(3 marks)**

9. The point A(3, 2) is mapped onto $A^1(7, 1)$ under a translation T. Find the co-ordinates of the image of B(4, 6) under the same translation. **(3 marks)**

10. Calculate the area of the trapezium below. **(3 marks)**



11. Two machines A and B working together can do some work in 6 days. After 2 days machine A breaks down and it takes machine B 10 days to finish the remaining work. How long will it take machine A alone to finish the whole work if it does not break down. **(3 marks)**

12. Solve for K in the equation. **(3 marks)**

$$(\log_3 K)^2 = \frac{1}{2}\log_3 K + \frac{3}{2}$$

13. A square brass plate is 2mm thick and has a mass of 1.05kg. The density of the brass plate is 8.4g/cm^3. Calculate the length of the plate in cm. **(3 marks)**

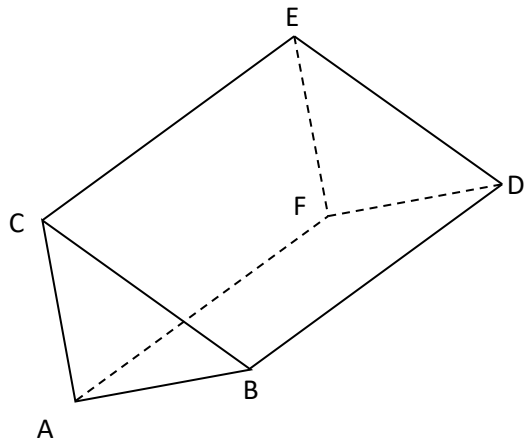
14. The sum of interior angles of two regular polygons of side n-1 and n are in the ratio 4:5. Calculate;

(i) the value of interior angle of the polygon with side (n-1) **(2 marks)**

(ii) exterior angle **(1 mark)**

15. Four athletes Onyango, Korir, Njuguna and Mutua can complete a 2km lap in a field in 12 minutes, 15 minutes, 18 minutes and 20 minutes respectively. If they start the race together, find the number of times the slowest athlete will be overlapped by the fastest athlete by the time they next cross the finish line simultaneously. **(3 marks)**

16. The figure below shows a triangular prism. Draw its net. **(3 marks)**



ANSWER ANY FIVE QUESTIONS

17. Four towns P, Q, R and S are such that Q is 160km from town P on a bearing of 065°. R is 280km on a bearing of 152° from Q. S is due west of R on a bearing of 155° from P. Using a scale of 1cm to represent 40km.

a) Show the relative positions of P, Q, R and S. **(6 marks)**

b) Find the bearing of;

(i) S from Q (1 mark)

(ii) P from R (1 mark)

c) Find the distance

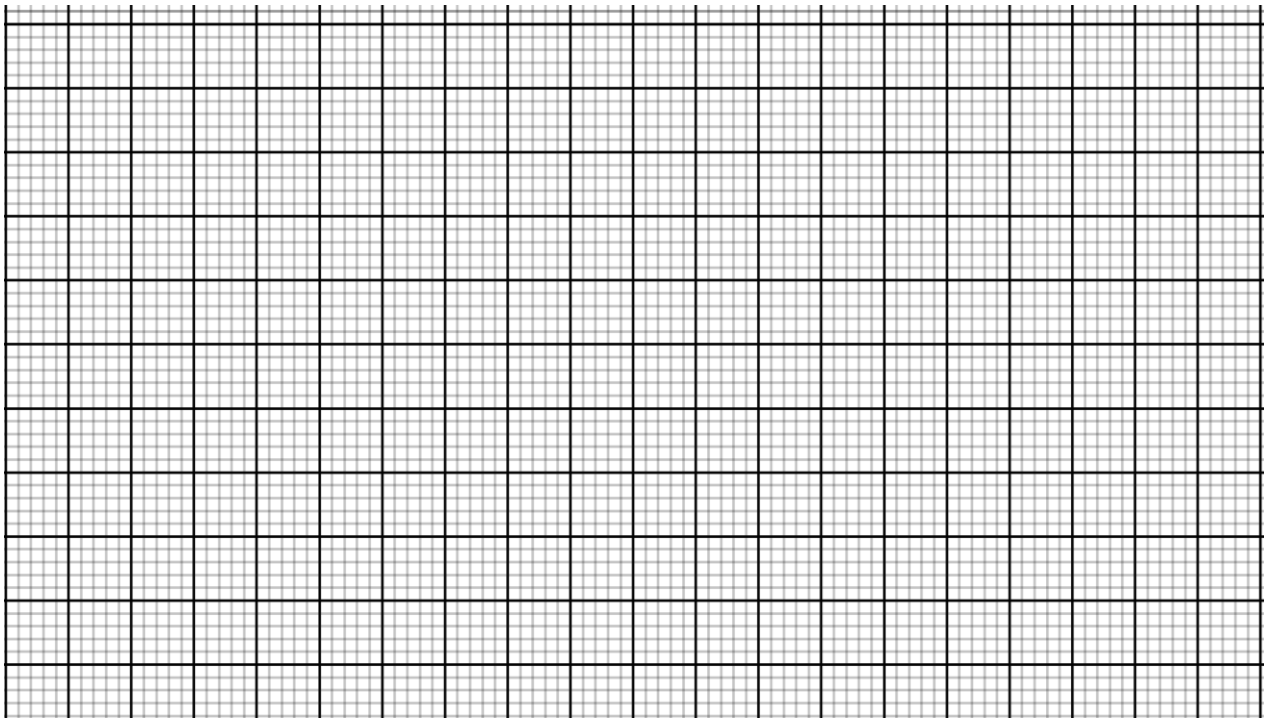
(i) PS (1 mark)

(ii) RS (1 mark)

18. a) Complete the table below for $y = 4x^2 - x^3$ **(2 marks)**

x	-1	-0.5	0	0.5	1	1.5	2	2.5	3	3.5	4
$y=4x^2-x^3$	5	1.1	0							6.1	

b) On the grid provided, draw the graph of $y = 4x^2 - x^3$ for $-1 \leq x \leq 4$ (3 marks)



c)i) use the graph to find the roots of $x^3 - 4x^2 + 4 = 0$ (2 marks)

ii) On the same axis, draw the graph of $2y = x + 6$ and state the values of x for which the two graphs intersect. (3 marks)

19. A particle moves from rest and attains a velocity of 10m/s after two seconds it then moves with 10m/s velocity for 4 seconds. It finally decelerates uniformly and comes to rest after 6 seconds.

a) Draw a velocity time graph for the motion of this particle **(3 marks)**

b) From the graph find;

(i) the acceleration during the first two seconds. (2 marks)

(ii) the uniform deceleration during the last six seconds. (2 marks)

(iii) the total distance covered by the particle (3 marks)

20. a) Find the gradient of a line L_1 perpendicular to the line whose equation is $y=4x+4$ (2 marks)

b) Calculate the angle in which line L_1 is making with

(i) x-axis (2 marks)

(ii) y-axis (1 mark)

c) Line L_2 is passing through the x-axis at 2 and point T(-2, k) and it is parallel to line L_1. Calculate the value of K. (2 marks)

d) Another line L_3 is perpendicular to line L_2 and passes through point T. Calculate the equation of line L_3 leaving your answer in the form $ax + by + c = 0$ (3 marks)

21. In the figure below P, Q, R and S are points on the circle centre O. PRT and USTV are straight lines. Line UV is a tangent to the circle at S. Angle RST is 50^0 and angle RTV is 150^0.

a) Calculate the size of:

i. angle ORS (2 marks)

ii. angle USP (1 mark)

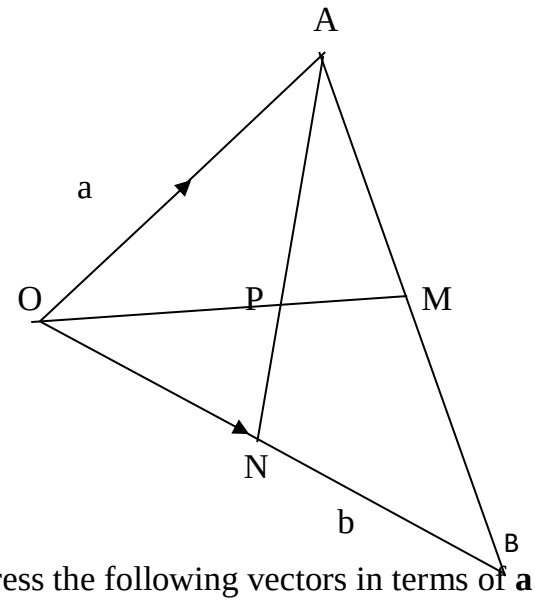
iii. angle PQR (2 marks)

b) Given that RT=7cm and ST=9cm, calculate to three significant figures:

i. the length of line PR (2 marks)

ii. the radius of the circle. (3 marks)

22. In the triangle below **OA** = **a** and **OB** = b. M is the midpoint of AB and N is a point on OB such that ON = $\frac{1}{3}$OB. AN and OM intersect at P.



a) Express the following vectors in terms of **a** and **b**

(i) AB (1 mark)

(ii) OM (1 mark)

(iii) AN (2 marks)

b) If OP = tOM and AP = sAN, express OP in two different ways hence find the value of t and s. (5 marks)

c) State the ratio AN:NP (1 mark)

23. Two circles with centres O_1 and O_2 have radii 10cm and 8cm respectively and intersect at points A and B. Angle $AO_1B = 90°$ and angle $AO_2B = 124.23°$. Calculate to two decimal places;

a) The length AB (2 marks)

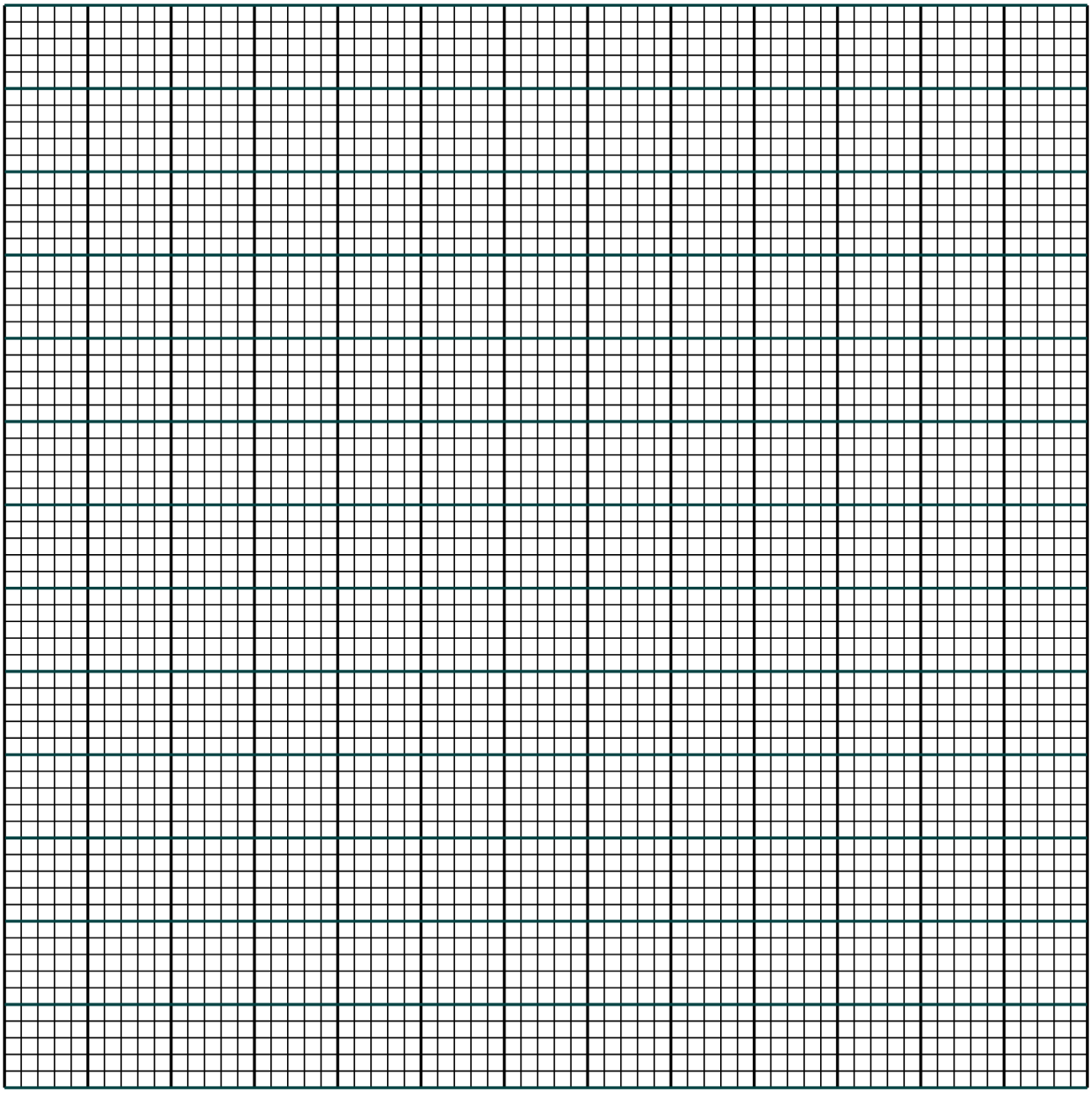
b) The length O_1O_2 (2 marks)

c) Area of minor segment centre O_1 (3 marks)

d) Area of quadrilateral O_1AO_2B (3 marks)

24. A quadrilateral ABCD with vertices A(2, 6), B(4, 8), C(5, 6) and D(3, 4) is mapped onto quadrilateral $A^IB^IC^ID^I$ by a reflection in the line y = -x+5.

a) On the grid provided draw the quadrilateral ABCD and its image $A^1B^1C^1D^1$ under reflection in the line y= -x+5 (5 marks)



b) Quadrilateral $A^{II}B^{II}C^{II}D^{II}$ is the image of quadrilateral $A^{I}B^{I}C^{I}D^{I}$ under a negative quarter turn about (1, -1). On the same grid, draw quadrilateral $A^{II}B^{II}C^{II}D^{II}$ and state the coordinates of the image (3 marks)

c) Quadrilateral $A^{III}B^{III}C^{III}D^{III}$ is the image of quadrilateral $A^{II}B^{II}C^{II}D^{II}$ under an enlargement with scale factor -1 about (1,-1). On the same grid, draw $A^{III}B^{III}C^{III}D^{III}$ and state the co-ordinates of the image. (2 marks)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

121/2

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO THE CANDIDATES

- *Write **your name** and **school** and **index number** in the spaces provided above*
- *This paper contains **two** sections; **Section 1** and **Section 11**.*
- *Answer **all** the questions in **section 1** and **only five** questions from **Section 11***
- ***Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.***

Section 1

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Marks																	

Section 1I

GRAND TOTAL

Question	17	18	19	20	21	22	13	24	**Total**
Marks									

SECTION I (50 marks): Answer all questions in this section

1. Use logarithm tables to evaluate $\sqrt[3]{\frac{0.4239 \times 149.6}{\log 6}}$ **(4 marks)**

2. Solve the equation $6^{2x+1} = 2^{3x+1}$ **(3 marks)**

3. Kevin truncated 0.00627 to 3 decimals and 487.74 to 3 significant figures. Calculate his percentage error in calculating product of numbers in truncated values to 1 decimal places.

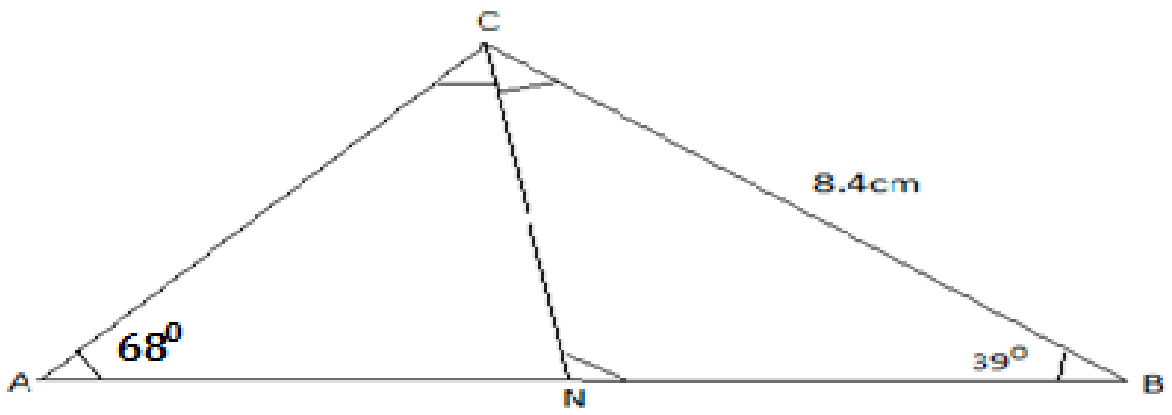
(3marks)

4. A new laptop depreciates at 8% per annum in the first year and 12% per year in the second year. If its value at the end of the second year was sh121,440. Calculate the original value of the laptop. **(3marks)**

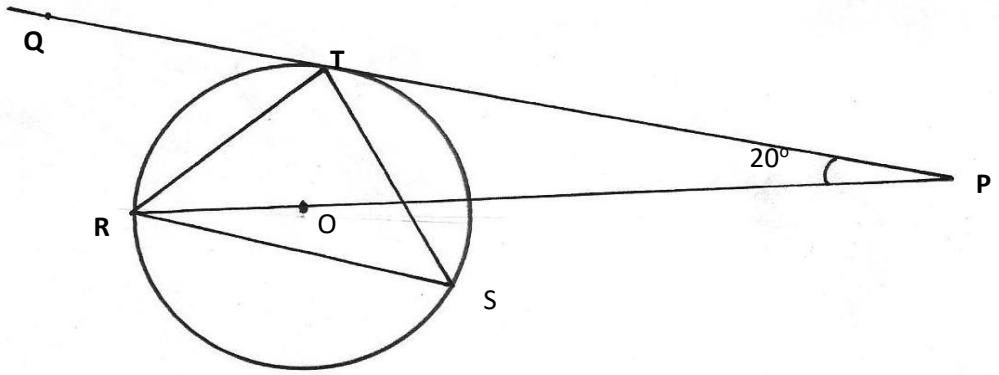
5. Rationalize the denominator and simplify **(3 marks)**

$$\frac{\sqrt{3}+2\sqrt{5}}{\sqrt{5}-\sqrt{3}}$$

6. In the figure below angle A=68^0, B= 39^0, BC= 8.4cm and CN is the bisector of angle ACB. Calculate the length CN to 1decimal place**.** **(3 marks)**



7. In the figure below R, T and S are points on a circle centre O. PQ is a tangent to the circle at T, POR is a straight line and $\angle$ QPR =20^o. Find the size of $\angle$ RST **(3marks)**



8. Use binomial expansion to find the value of $(1.02)^5$ correct to 3 decimal place. (4 marks)

9. Make *x* the subject of the equation **(3 marks)**

$$\frac{t}{s} = \frac{b}{\sqrt{x-4}}$$

10. The equation of the circle is given by $x^2 + y^2 + 8x - 2y - 1 = 0$. Determine the radius and the centre of the circle**.** **(3marks)**

11. Given that the minor arc of a circle subtends an angle of 140^0 at the centre of a circle of radii 3.5cm. Calculate the area of the major segment correct to 4 significant figures **(3 marks)**

12. Given that the matrix $\begin{pmatrix} x & -3 \\ 0 & x-1 \end{pmatrix}$ is a singular matrix, find the values of x. **(3marks)**

13. The mass of a mixture A of peas and millet is 72 kg. The ratio of peas to millet is 3:5 respectively;

(a)Find the mass of millet in the mixture**.** **(1mark)**

(b)A second mixture of B of peas and millet of mass 98 kg is mixed with A. The final ratio of peas to millet is 8:9 respectively. Find the ratio of peas to millet in **B** **(2marks)**

14. Draw a line AB= 8cm long. Divide the line proportionally into5 equal parts. Locate a point Y on the line AB such that AY: YB = 3:2**.** **(3 marks)**

15. A solid prism is made of a pentagonal cross section of sides 10cm. If the prism is 30cm long calculate area of the cross section hence the volume of the prism (**3 marks)**

16. Given that X = 2i + j -2k, y = -3i + 4j – k and z= 5i + 3j + 2k and that p= 3x – y + 2z, find the magnitude of vector p to 3 significant figures**.** **(3marks)**

SECTION II (50 Marks) Answer any five questions in this section

17. The masses in kilograms of patients who attended a clinic on a certain day were recorded as:

38 52 46 48 60 59 62 73 49 54 49 41 57 58 69 72 60 58 42 41

79 62 58 67 54 60 65 61 48 47 69 59 70 52 63 58 59 49 51 44

67 49 51 58 54 59 39 59 54 52

a) starting with class 35-39, make a frequency distribution table for the data indicating the class and frequency. **(3 marks)**

b) state the modal **class** **(1 mark)**

c) Calculate the mean mass **(3 marks)**

d) Calculate the median mass **(3 marks)**

18. The income tax rates of a certain year were as shown below:

Monthly taxable income in Ksh	Tax rate in %
0-9680	10
9681-18800	15
8801-27920	20
27921- 37040	25
37041 and above	30

In that year, Sayao monthly earnings were as follows; basic salary Ksh. 30 000, house allowance Ksh.15 000, and medical allowance of Ksh 3,500. He is entitled to a monthly tax relief of Ksh. 1056.

a) Calculate Sayao's taxable income **(2 marks)**

b) Calculate his P.A.Y.E **(5 marks)**

c) A part from P.A.Y.E, other deductions is education insurance policy Ksh. 1500 and Ksh 2500 as cooperative shares. Find his net income at end of the month. (3 marks)

19. A Quantity P varies partly as the square of m and partly as n. When p= 3.8, m = 2 and n = -3, When p = - 0.2, m = 3 and n= 2.

a) Find

i) The equation that connects p, m and n **(4marks)**

ii) The value of p when m = 10 and n = **4** **(1mark)**

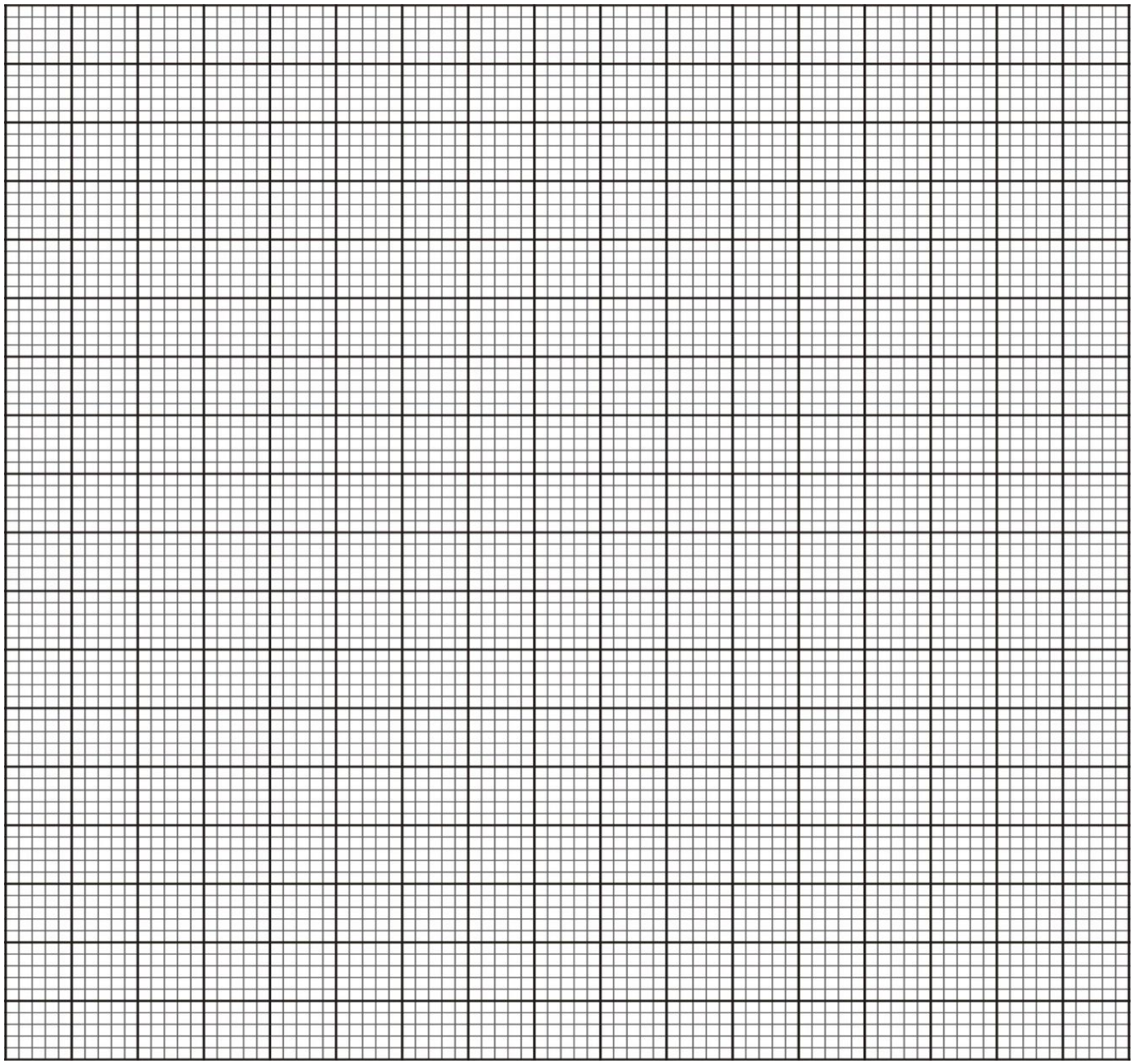
b) Express m in terms of p and n **(2marks)**

c) If P and n are each increased by 10%, find the percentage increase in m correct to 2 decimal place. **(3marks)**

20.a) Complete the table below by filling in the blank spaces (2 marks

x	0^0	30^0	60^0	90^0	120^0	150^0	180^0	210^0	240^0	270^0	300^0	330^0	360^0
y=Cos x	1.00	0.87		0.00		1.00		-0.87				0.87	
y=3sinx	0.00			3.00								-1.50	0.00

b) using the scale 1cm to represent 30^0 on the x-axis and 2 cm to represent 1 unit on the vertical axis, draw on the graphs of cosx and 3sinx (5 marks)



c) use your graph to solve the equation cosx =3sinx (2 marks)

d) What is the difference in the values of y=cosx and y=3sinx at $x=120^0$ (1 mark)

21. The 5^{th} term of an AP is 16 and the 12^{th} term is 37.

Find;

i) The first term and the common difference **(3 marks)**

ii) The sum of the first 21 terms (2 marks)

b) The second, fourth and the seventh term of an AP are the first 3 consecutive terms of a GP. If the common difference of the AP is 2.

Find:

i) The common ratio of the GP (3 marks)

ii) The sum of the first 8 terms of the GP (2 marks)

22. In driving to work, John has to pass through three sets of traffic lights. The probability that he will have to stop at any of the lights is ¾

(a) Draw a tree diagram to represent the above information. (2 marks)

(b) Using the diagram, determine the probability that on any one journey, he will have to stop at:

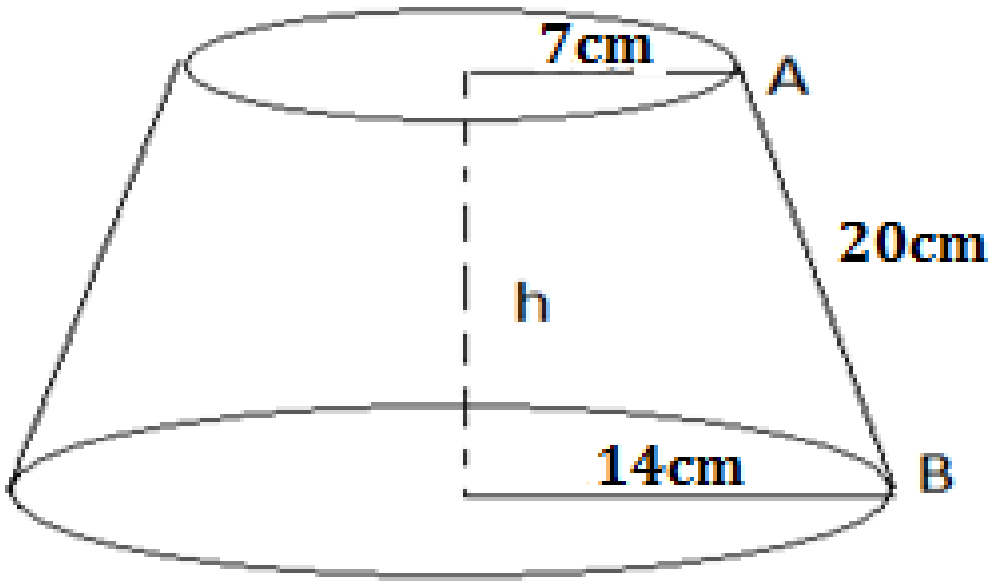
(i) All the three sets. (2 marks)

(ii) Only one of the sets (2 marks)

(iii) Only two of the sets (2 marks)

(iv) None of the sets. (2 marks)

23. The figure below shows a lampshade in the form of a conical frustum



The top and bottom radii are 7cm and 14cm respectively. The slant height AB is 20cm. Calculate:

a) The slant height of the original cone correct to two decimal places (2 marks)

b) The height h, of the lampshade (2 marks)

c) The curved surface area of the lampshade (3 marks)

d) The volume of the lampshade correct to 4 significant figures (3 marks)

24. Gary bought 5 tins of plums and 3 tins of peaches from a supermarket for Ksh.75, while Mike bought 3 tins of plums and 5 tins of peaches for Ksh.77

a) Set up the simultaneous equations which represent the given information

(2 marks)

b) Write down the matrix equation **(2 marks)**

d) Using the

e) matrix method, find the cost of

i) 4 tins of plums **(5 marks)**

ii) 2 tins of peaches **(2 marks)**

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

451/1

COMPUTER STUDIES

Paper 1

2½hrs

Instruction to candidates

a) *Write your name and index number in the space provided above.*
b) *Sign and write the date of examination in the spaces provided above.*
c) *This paper consists of **two** sections **A** and **B**.*
d) *Answer **all** the questions in section **A**.*
e) *Answer question **16** and any other **three** questions from section **B**.*

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

SECTION A (40 MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION

1. Name the two common types of system units and differentiate them. **(2 marks)**

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2. Define the following characteristics of a computer system. **(2 marks)**

(i) Versatile

(ii) Reliable

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3. Digital computers work with digital content. Describe a digital device. **(2 marks)**

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4. Differentiate between third and fourth generation computers **(2 marks)**

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5. (a) Mamboleo company is in the process of computerizing its services. List four measures that should be put into consideration to protect the users in their computerized areas. **(2 marks)**

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(b) Give two reasons why powder and liquid extinguishers are not recommended unlike gaseous extinguishers. **(2 marks)**

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6. Without proper marketing, a business cannot survive in a competitive environment hence computers are being used in a number of ways to enhance marketing. List any three ways of ensuring this is effected. **(3 marks)**

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7. Differentiate between the following as used in computers. **(3 marks)**

(i) Tab Key

(ii) Spacebar

(iii) Clicking

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8. Control unit is an essential component of the CPU. Describe the functions of the control unit.

(2 marks)

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9. (a) Differentiate between buffers and Registers **(2 marks)**

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(b) Speech recognition devices are used to capture natural sound and convert the input into digital form. State two problems related to speech recognition devices. **(2 marks)**

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10. Define Solid-state storage and give two examples. (2 marks)

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11. (a) Explain how a pixel affects the resolution of a monitor. **(1 mark)**

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(b) List two types of computer output on microform (COM). **(2 marks)**

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12. Differentiate between *high definition multimedia interface* and *Firewire* interface. **(2 marks)**

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13. A warranty is an agreement between the buyer and the seller. It spells out terms and conditions after selling a product in case of failure or malfunction. Describe any three basic requirements a good warranty should cover. (3 marks)

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(a) Differentiate between pasteboard and master page as used in DTP (2 marks)

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(b) Differentiate between graphic-based and layout based desktop publishing software.(2 marks)

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14. Differentiate between Network database and Relational database. (2 marks)

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SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS IN THIS SECTION

16. (a) Define the following terms as used in programming (2 marks)

i) Source code

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ii) Object code

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(b) Differentiate between Assembler and Interpreter as used in programming. (2 marks)

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(c) Identify the type of programming language used in the codes below; (1 mark)

(i) **1101 1101** **1011 1011**

1110 0001 **1100 0111**

0010 1110 **1011 0011**

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(ii) **LDA A, 20**
ADD A, 10
STO B, A
NOP

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(d) On the Nairobi-Nakuru highway, the Kenya Police have put speed cameras at a certain point to read the time a vehicle passes a point (A) on the road and then reads the time it passes a second point (B) on the same road. (Points A and B are 200 meters apart). The speed of the vehicle is calculated using:

- $\boldsymbol{Speed = \frac{100}{(time\ at\ point\ B - time\ at\ point\ A)}\ (Km/\ hr)}$
- *The maximum allowed speed is 100 kilometers per hour.*
- *500 vehicles were monitored using these cameras over a 1-hour period.*

(i) Write a pseudo code, which: (5 marks)

- Inputs the start time and the end time for the 500 vehicles that were monitored
- Calculates the speed for each vehicle using the formula above.
- Outputs the speed for each vehicle and a message if the speed exceeded 100 km/hour.

  >=100km/hr "High Speed"

  <100km/hr "Normal Speed"

(ii) Draw a flow chart for the above pseudo code. (5 marks)

17. (a) In order to generate information from data items, a set of processing activities have to be performed on the data items in a specific sequence depending on the desired result. Draw a well labeled diagram to illustrate data processing cycle.

(2 marks)

(b) A data entry clerk experiences some common errors when typing. Most of the time, she finds that:

(i) After every calculation, the result is less than the expected number of digits required e.g. 345.7896543 the result is given as 345.789.

(ii) Different characters are typed wrongly, for example instead of typing 12873457 she types 128734S7.

Identify the two types of errors commonly experienced by the clerk during data processing in (i) and (ii) above respectively. (2 marks)

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(c) State two ways a user can ensure data accuracy is maintained during data processing.(2 marks)

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(d) (i) State three advantages of a computerized filing system as used in data processing.(3 marks)

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(ii) State two disadvantages of a serial file organization method in computing.

(2 marks)

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(iii) Differentiate between distributed processing and interactive processing modes; stating one application area of each. (4 marks)

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18. (a) Write the following acronyms in full as used in operating systems.

(i) GUI (½ mark)

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(ii) WIMP (½ mark)

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(b) State **three** factors considered when choosing an operating system for use in a computer. (3 marks)

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(c) An operating system manages and organizes a computer system using the following structures:

File, **Folder** and **Drive**. State the meaning of the underlined items respectively. (3 marks)

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(d) (i) Differentiate between error handling and interrupt handling as used in operating systems. (2 marks)

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(ii) State **three** reasons why most network technicians prefer using command line operating systems to configure networking equipment. (3 marks)

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(e) Disk management is one important aspect in secondary storage in computer systems. Explain the following tools used by an operating system to manage disks in the computer. (3 marks)

(i) Formatting

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(ii) Partitioning

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(iii) Defragmentation

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19. (a) Define the following terms as used in networking. (3marks)

(i) Network

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(ii) Intranet

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(iii) Browser

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(b) The World Health Organization is global entity that deals with health issues around the world. It has computer networks linking its regional and continental offices using internet. State **two** importance of the internet to such organization. (2 marks)

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(c) Mr. Zuma, the Principal of a school wishes his school to have an internet connection in a bid to improve its service delivery. Mention **four** internet connectivity requirements that must be present to enable the connection. (2 marks)

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(c) Explain the following as used in e-mail:

- Inbox (1 mark)

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- Drafts (1 mark)

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(e) (i) Failure of information systems is a major concern in the security of data in computing systems. State **two** causes of such failure. (2 marks)

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(ii) Explain the following computer crimes.

- Fraud (1 mark)

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- Industrial espionage (1 mark)

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(f) Excluding passwords, state **two** other security control measures used to guard against unauthorized access to computers in a network. (2 marks)

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20. (a) Convert the 1010.011_2 to decimal equivalent. (3 marks)

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(b) Perform the following number system conversions. (3 marks)

(i) 342.25_8 to binary.

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(ii) 503_{10} to hexadecimal (3 marks)

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(c) (i) Compute the binary arithmetic given below: (3 marks)

10111 + 10001 + 101

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(ii) Using 8-bit notation, perform the **twos** complement of 25_{10} -15_{10} , leaving your answer in binary. (4 marks)

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

2 ½ hours

Instructions to candidates

(a) Indicate your name and index number at the top right hand corner of each printout
(b) Write your name and index number on the CD/Removable storage medium provided.
(c) Answer all the questions
(d) All questions carry equal marks
(e) Passwords should to be used while saving in the CD/Removable storage medium
(f) All answers must be saved in your CD/Removable storage medium
(g) Make a printout of the answers on the answer sheet
(h) Arrange your printouts and tie/staple them together
(i) Hand in all the printouts and the CD/Removable storage medium used
(j) This paper consist of 5 printed pages
(k) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that o questions are missing

1. MASL is a company thatengages in the sales of the following Mobile service providers: Faiba, Gateway, vodafone and SAF. The company uses sales representatives who operate at various regions in Nakuru town. Each sales representative presents monthly sales to the manager (Values are in Ksh).

	A	B	C	D	E	F
1	**Mobile_Accessories Sales LTD**					
2		**Product type**				
3	**Sales Rep.**	**Faiba**	**Gateway**	**Vodafone**	**SAF**	**Total Sales**
4	Kipkulei	24000	37500	39500	49500	
5	Tom	15000	26500	21500	25500	
6	Sharon	5500	14800	3500	16500	
7	Oscar	7000	15500	14500	64500	
8	Linda	11000	69000	2200	64500	
9	Danelaw	33500	12000	14500	25500	
10	Muriithi	15500	80000	17200	23500	

(a) Using spreadsheet package,

(i) Enter the information given in the table 1 into a worksheet.Save workbook as **MASLREPS** and rename sheet 1 as **Sales.** (20 marks)

(ii) Validate all the cells in the Product Type columns to allow entry of numeric data **only**. A message, "Invalid data! Enter numbers" should be displayed whenever a cell is typed with non-numeric data. (3 marks)

(b) Using formulae, determine the;

(i) Total sales for each Sales representative (2 marks)

(ii) Producttype Total Sales for each month. (2 marks)

(c) Each sales person earns Bonus points for the sales of each product type based on the following criteria.

- 1 point if sales are greater than 50,000 for Faiba,
- 2 points if sales are greater than 60,000 Gateway,
- 3 points if sales are greater than 50,000 Vodafone
- 2 points if sales are greater than 60,000 for SAF

Insert a column **BonusPoints** and compute the points of each sales Person. (4 marks)

(d) Insert a blank column **Awards** and based on the **Total Sales** earned by each sales representative. Use a function to display the remarks on Awards as follows: (5 marks)

Total Sales	**Awards**
More than 250,000	Cash
More than 100, 000 and less than 250,000	Voucher
Less than 100,000	Try again

(e) Format the figures in worksheet as follows: (4 marks)

- Title and subtitle:
  - ✓ Double underline
  - ✓ Font type – Algerian
  - ✓ Font size 26
- Apply borders to the data in the workbook.

(f) Rotate Up, all the Product Type heading labels in the worksheet. (1 mark)

(g) Generate a column chart to representthe Total sales for each salesrepresentative. Label your chart accordingly and place it in worksheet 2 renamed as CHART. (7 marks)

(h) Print MASL and CHART (2 marks)

2. Using word processing program type the document as it appears and save it as EDUC AI

ARTIFICIAL INTELLIGENCE IN EDUCATION

For decades, science fiction authors, futurists, and movie makers alike have been predicting the amazing (and sometimes catastrophic) changes that will arise with the advent of widespread artificial intelligence. So far, AI hasn't made any such crazy waves, and in many ways has quietly become ubiquitous in numerous aspects of our daily lives. From the intelligent sensors that help us take perfect pictures, to the automatic parking features in cars, to the sometimes frustrating personal assistants in smart phones, artificial intelligence of one kind of another is all around us, all the time.

While we may not see humanoid robots acting as teachers within the next decade, there are many projects already in the works that use computer intelligence to help students and teachers get more out of the educational experience. Here are just a few of the ways those tools, and those that will follow them, will shape and define the educational experience of the future.

- **Automation of basic activities in education, like grading.**
- **Educational software can be adapted to student needs.**
- **It can point out places where courses need to improve.**
- **Students could get additional support from AI tutors.**
- **AI may change where students learn and how they acquire basic skills.**
- **It is altering how we find and interact with information.**

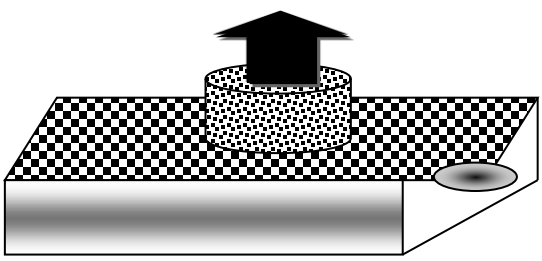
Automation basic activities in education, like grading.

In lower grades, teachers often find that grading takes up a significant amount of time, time that could be used to interact with students, prepare for class, or work on professional development.A1 can be used to automate grading systems and present the output in tables .

GRADE THREE COMMON EXAMINATION				
SIR NAME	**LANGUAGE SKILLS**	**COMPUTING SKILLS**	**ENVIRONMENTAL SKILLS**	***Total Score***
Macmillan	87	50	78	
Trevor	92	95	76	
Johnstone	73	85	90	
Kathleen	67	56	75	
Count				
Highest Scores				

Educational software can be adapted to student needs.

From kindergarten to graduate school, one of the key ways artificial intelligence will impact education is through the use of application programs.learners can draw 3D diagrams such as the one shown below



Teachers may not always be aware of gaps in their lectures and educational materials that can leave students confused about certain concepts. Artificial intelligence offers a way to solve that problem.

a) using a word processing application software type the document below as it appears and save it as EDUC AI (22 Marks)

b) Copy the document EDUC AI in a new document and save it as EDUC AI2 then use it to answer the questions that follows (2 Marks)

c) Format the heading as follows;

- Center align, font size – 14, font color – red, font type – Algerian, double underline, scale – 130% (3 Marks)

d) Insert your name, Adm No ,system time as a header and your class and page number as a footer (2 Marks)

e) Spell check the document to remove all typing errors (2 Marks)

f) Center align the first paragraph (1 Mark)

g) Find all occurrences of the word AI in the document and replace with "**Artificial Intelligence** " (1 Mark)

h) Resize the diagram between the last two paragraphs and move it to the second paragraph and send it behind text (3 Marks)

i) On the grade three table,

i. Split the cells in the total score column to separate each students' marks (1 Mark)

ii. Insert a new row at the bottom of the table to display the average total scores and merge the first four columns of the row (3 Marks)

j) Use appropriate function to calculate:

i. Total score (2 Marks)

ii. Number of students who did each exam (2 Marks)

iii. Highest score attained in each subject (2 Marks)

iv. Average total scores (2 Marks)

i. Print EDUC AI (1 Mark)

ii. EDUC AI2 (1 Mark)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

441/1

HOME SCIENCE

PAPER 1

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- *Answer all questions in section A in the spaces provided*
- *Section B is compulsory*
- *Choose any two questions from section C*
- ***Do not remove any pages from this booklet.***
- ***Answer all questions in English.***

FOR EXAMINERS USE ONLY

SECTION	Question	Maximum score	Candidate's score
Section A	1-39	40	
Section B	40	20	
Section C	41-43	40	
Total score		100	

1. Give two uses of fruits in cake making . **(1mark)**

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2. Name two types of pleats **(1 mark)**

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3. Name the biological raising agent used in bread making **(1mark)**

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4. List two methods of incorporating air into flour mechanically **(1mark)**

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5. Give two functions of sebum **(1mark)**

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6. State two ways in which a country with home scientists will benefit **(1mark)**

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7. Mention two minerals needed for healthy teeth **(1mark)**

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8. List any two ways of finishing wood **(1mark)**

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9. Mention two advantages of charcoal as a fuel **(1mark)**

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10. Define the following terms: **(1mark)**

a) Fixed dirt

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b) Fracture

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11. Identify other two causes of anaemia other than nutritional deficiency **(1mark)**

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12. Give two reasons for food fortification **(1mark)**

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13. Highlight two ways of conserving vitamin C during the storage of kales **(1mark)**

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14. Mention two signs and symptoms of marasmus **(1mark)**

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15. Write the following abbreviations in full **(1mark)**

a) AIDS

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b) TBA

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16. Give two functions of the S and U bend below every sink in the disposal of waste water from the house **(1mark)**

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17. Detergents are classified into two groups .Name them **(1mark)**

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18. Mention two rules to observe in stain removal **(1mark)**

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19. Name two the stain removal agents used in removing a banana sap stain from your t-shirt **(1mark)**

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20. Identify two methods suitable for disinfecting a kitchen towel (**1mark)**

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21. List two ingredients used in the making of laundry blue **(1mark)**

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22. Give two points to observe when taking body measurements **(1mark)**

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23. Name two conspicuous seams used to bring out style features in garment construction **(1mark)**

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24. Give two examples of stitches used to neaten raw edges **(1mark)**

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25. Mention two possible causes of stiches looping when sewing with a sewing machine **(1 mark)**

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26. List two examples of haberdashery /sewing notions in garment constuction **(1mark)**

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27. Give two ways you can identify elastofibres physically **(1mark)**

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28. Outline two examples of synthetic fibers **(1mark)**

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29. Differentiate between aerobic and anaerobic food spoilage **(1mark)**

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30. Apart from kitchen knife ,identify one other type of knife and give its function. ***(1mark)***

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31. State two roles of advertisements **(1mark)**

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32. Point out two styles of food service **(1mark)**

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33. Outline two functions of darts in clothing and construction processes **(1mark)?**

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34. List two examples of basic pattern symbols and markings in garment construction **(1mark)**

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35. Identify suitable textile fiber for making lingerie **(1mark)**

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36. Mention two methods of treating water at home **(1mark)**

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37. Give two reasons for cleaning a house **(1mark)**

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38. Outline two advantages of flats/apartments type of houses **(1mark)**

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39. Suggest two ways of managing foreign body in the ear **(1mark)**

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40. Mention two dangers that arise from misuse of cosmetics (1mark)

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SECTION B (Answer all the questions)

41. You are doing thorough cleaning at home on a Saturday morning. Describe how to;

a) Clean a white washable cotton mask you had used the previous day. (8marks)
b) Sweep an earthen sitting room floor (7marks)
c) Wash a Calabash that had been used to take porridge in the morning for breakfast.(5 marks)

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SECTION C (Answer only two questions from this section.)

42.

a) Explain four factors to consider when planning meals(4marks)
b) Explain three merits of credit cards (3marks)
c) Explain four importance of immunization (4marks)
d) Describe how to make hand worked gathers (4marks)
e) State five points on the choice of brooms and brushes (5marks)

43.

a) Outline three steps in preparing a budget (3marks)
b) Give the importance of table setting (4marks)
c) Explain the importance of breastfeeding to a child (3marks)
d) Outline four qualities of a well-made stitch (4marks)
e) Explain three ways in which detergents aid in removal of dirt (6marks)

44.

a) Explain three reasons for making a shopping list prior to the actual buying (3marks)
b) Use the following dishes to organize a breakfast menu (3marks)
   Tea with milk, Fried liver, Boiled arrowroot, Fresh passion juice, Wimbi porridge
c) Explain four ways of handling temper tantrums during habit training (4marks)
d) Describe how to make a plain seam on a skirt yoke (4marks)
e) Draw six care labels on drying in laundry work and explain the meaning of each (6marks)

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

441/2

HOMESCIENCE

CLOTHING AND TEXTILES

PAPER 2

PRACTICAL

$2^{1}/_{2}$ HOURS

INSTRUCTIONS TO SCHOOLS

The following materials will be provided by the school

1. Plain light weight cotton 55 cm long by 70cm wide
2. Cotton sewing thread to match the fabric
3. Embroidery thread 130cm long
4. A4 envelope

FABRIC IN EXCESS OF THE AMOUNT SPECIFIED MUST NOT BE SUPPLIED TO THE CANDIDATES.

These instructions consist of 1 printed page

441/2

HOME SCIENCE (CLOTHING CONSTRUCTION)

PAPER 2

PRACTICAL

Time: 2 ½ hours

Instructions to candidates

- *This paper consists of **3** printed pages.*
- *Candidates should check the question paper to ascertain that all pages are printed and no questions are missing.*

A pattern of a girl's dress is provided. You are advised to study the sketches, instructions and layout carefully before you begin the test.

Materials provided

1. Pattern pieces
   - A - Dress Front
   - B - Dress Back
   - C - Yoke
   - D - Pocket
2. Plain light weight cotton fabric 70cm wide by 55cm long.
3. Cotton thread to match the fabric.
4. Embroidery thread 130cm long.
5. A4 Envelope

THE TEST

Using the materials provided, cut out and make up the **LEFT HALF** of the dress to show the following process.

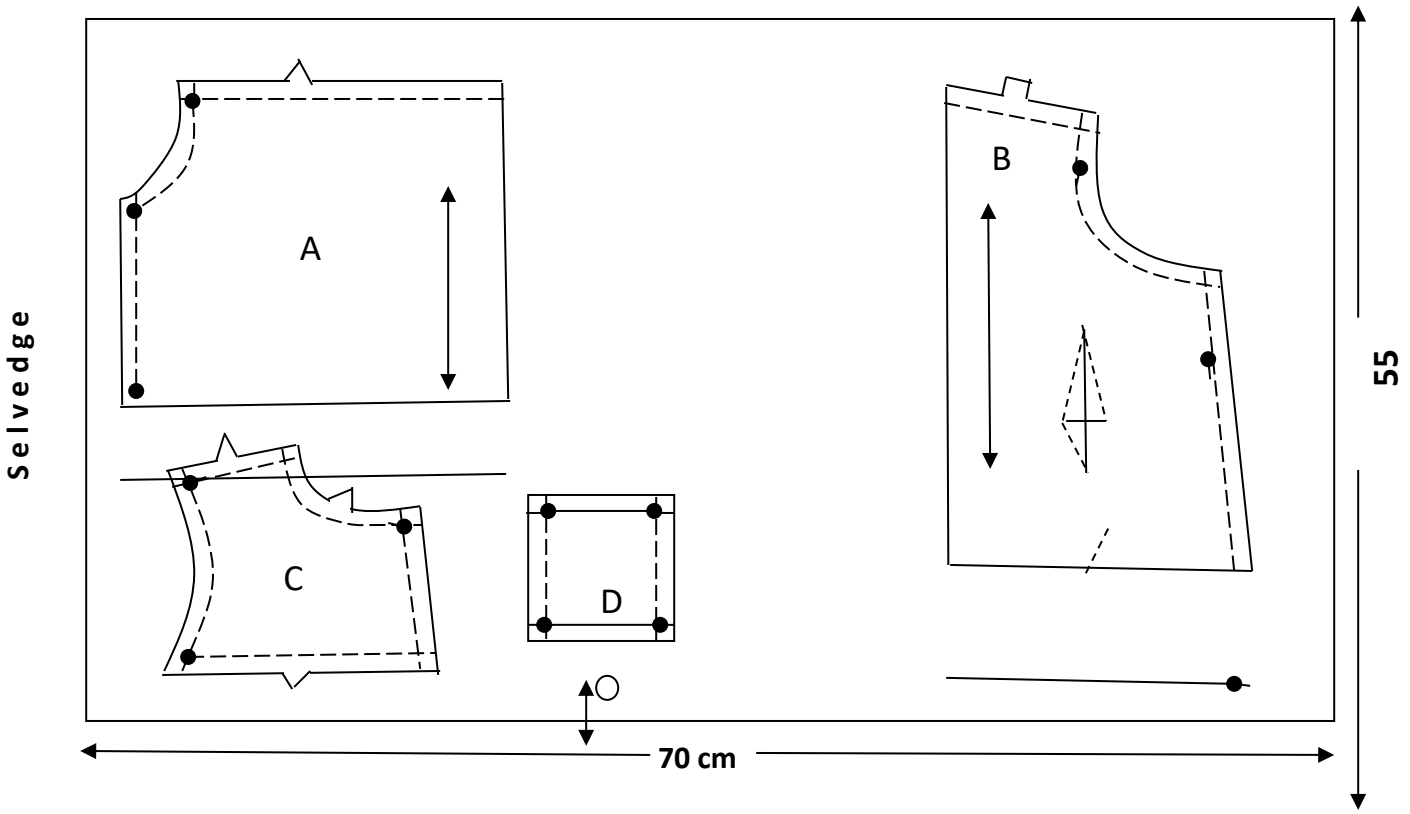
1. Cutting out.
2. Working of double pointed dart at the dress back.
3. Preparation and attachment of the patch pocket to include the working of satin stitch to fill "O" on the pocket.
4. Preparation of gathers on the dress front. DO NOT REMOVE GATHERING STITCHES.
5. Joining the dress front to the yoke using overlaid seam.
6. Joining the dress front to the dress back at the shoulder using double stitched seam.
7. Working the side seam using an open seam.
8. Managing the hem on the lower edge of the dress by;
   (a) Holding the hem using even tackings. (DO NOT REMOVE TACKINGS)
   (b) Working hemming stitches at the front part of the dress.
9. Presentation.

NB:

At the end of the examination, firmly sew on your work on single fabric a label bearing your name, class and admission number. Remove the needles, pins and unnecessary threads from your work. Fold your work neatly and place it in the envelope provided.

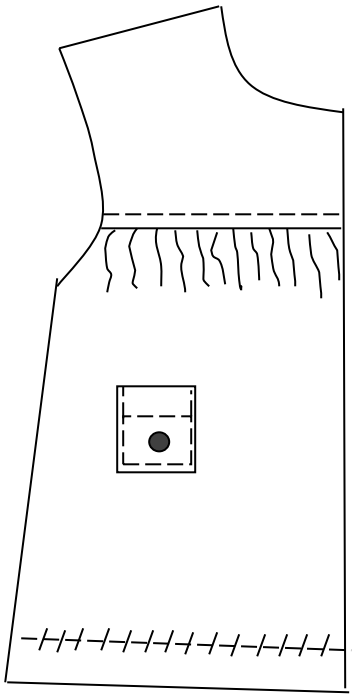
DO NOT PUT SCRAPS OF FABRIC IN THE ENVELOPE AND DO NOT SEAL THE ENVELOPE.

LAYOUT (NOT DRAWN TO SCALE)

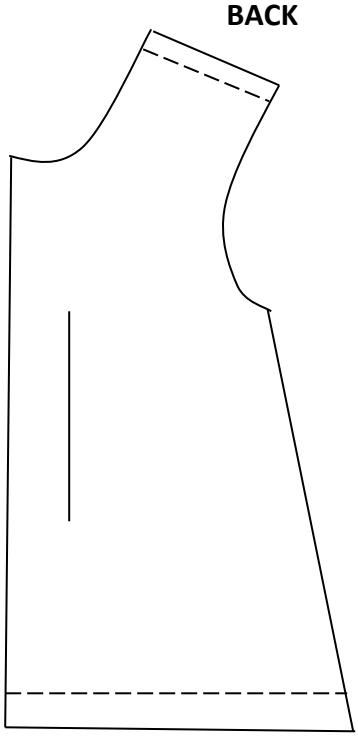


VIEWS

FRONT



BACK



501/1

FRENCH PAPER 1

LISTENING COMPREHENSION, DICTATION AND CREATIVE WRITING.

2 hours

Instructions to candidates

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

*(b) This paper has **THREE** sections*

(c) In section I ,you will have five minutes to read through the questions before the test starts before answering the questions you will listen to several recorded passages on a tape for each passage you will answer questions as indicated to you on the tape.

(d) In section II, you will listen to a recorded passage. Follow the instructions as given in the recording.

(e) In section III ,choose one composition from either a) or b)
Write your composition on the spaces provided

For Examiner's use only

Section	Maximum Score	Candidate's Score
I	**15**	
II	**05**	
III	**15**	
Total Score	**35**	

SECTION 1. LISTENING COMPREHENSION. ***(15 POINTS)***

PASSAGE 1.

1. a) La police cherche un …….. de ……..ans. (1 pt)

b) Il est perdu dans un …… d'amusement. . (1 pt)

c) Qui a constaté que le garçon n'était plus dans le bus ? . (1 pt)

……..

d) Quel numéro est-ce qu'on doit appeler ? (1 pt)

……

e) Quelle langue parle-t-il ? ……. (1 pt)

PASSAGE 2.

2. a) Cette conférence se passe a …… en …… (1 pt)

b) Donnez une personne qui doit faire partie de la conférence. (1 pt)

……

c) Dans quel site doit-on consulter pour plus d'informations ? (1 pt)

…….

PASSAGE 3.

3. a) La personne parle de quoi ?..... . (1 pt)

b) A la cote les températures ……..pendant le ……. (1 pt)

……

c) Au centrale, il fait ……. (1 pt)

d) Il y aura des inondations et il fera du vent a la ……..... (1 pt)

PASSAGE 4.

4. a)Monsieur …….parle à mademoiselle ……. (1 pt)

b) Quels deux travaux est-ce que la mademoiselle a fait entre 2005 et 2007 ?

i) …….. (1 pt)

ii) …….. (1 pt)

SECTION 2. DICTATION *(5 POINTS)*

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SECTION 3. COMPOSITION.

In 150-180 words, write in French a composition on;

Either,

a) Beginning with,

Quand j'étais à l'école primaire, ……

Or,

b) Ending with,

…il était une journée extraordinaire.

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… INDEX NO……

SIGN…… ADM NO ……

501/2

FRENCH

PAPER 2

(Reading Comprehension,Grammar and Functional Writing)

2 hours 15 minutes

Instructions to candidates.

a) *Write your name , school, class and admission number in the spaces provided above.*
b) *This paper has **three** sections : **I,II, and III.***
c) *Answer **ALL** the questions in the spaces provided.*
d) ***This paper consists of printed pages.***
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 French.***

For Examiner's Use Only

SECTION	MAXIMUM SCORE	CANDIDATE'S SCORE
I	15	
II	15	
III	10	
TOTAL SCORE	40	

SECTION 1

(Reading Comprehension 15 marks)

Read the passages below and answer the questions that follow each paddage.

1. Passage 1

On ne saura jamais pourquoi Guy Fabre, trente-deux ans, conseiller d'orientation de son état, s'est suicidé au mois de mai dernier. Pourquoi ? On ne sait pas. Il y a trop de mystère derrière la mort volontaire d'un homme. Mais on sait que cet homme-là menait une vie absurde.

Il était originaire de Toulouse. Le ministère de l'Education qui l'employait lui a donné un poste à Forbach. Sa femme, fonctionnaire de l'Education elle aussi, fut nommée à Toulouse. Guy Fabre avait une fille de trois ans. Tous les week-ends il faisait deux fois mille trois cents kilomètres en train pour voir sa famille. Peut-être son suicide n'a- t- il rien à voir avec sa vie de forçat des chemins de fer. Mais ça n'a pas du arranger les choses.

D'après **Le Nouvel Observateur**

Questions

1.Quel âge a le narrateur ?..... (1 point)

2 .Où est-ce qu'il travaille ?..... 1 point

3. Le narrateur a un fils.Oui/Non..... 1 point

4. Est-ce qu'il vit toujours avec sa famille ?.....Donnez votre raison……1 point

2. Passage 2

Presque tous les romans d'aventures qu'aiment les Français ont naturellement été filmes et souvent plusieurs fois, c'est le cas, en particulier, des Trois Mousquetaires, des mystères de Paris, de Fantômas.

Les grandes œuvres littéraires du passe ont également été portées à l'écran, par exemples, Les Misérables de Victor Hugo, plusieurs des romans de Balzac, de Stendhal, de Maupassant.

Les écrivains d'aujourd'hui ont compris que le cinéma leur ouvrait un public bien plus vaste que le livre, étant donné que beaucoup de Français lisent peu. La plupart d'entre eux ont écrit directement pour l'écran et le plus souvent avec un grand succès.

QUESTIONS

1. Le texte s'agit de quel type de film ?.....1pt

2. Que préfèrent beaucoup de français ?.....1pt

3. Donnez l'équivalent des mots suivants
   i. Auteurs ……..
   ii. Trop de ……. 2pts

3. Passage 3

Nous avons longtemps hésité à acheter un poste de télévision à cause de nos voisins, les Fournier. Il y a deux ans, c'était la famille la plus unie du monde. Le soir au diner, les enfants racontaient ce qu'ils avaient fait dans la journée .Mme Fournier qui travaillait à mi-temps avait toujours quelque chose d'intéressant à dire et les remarques pleines d'humour du père faisaient la joie de tous. Tout a changé l'année dernière, quand nos voisins ont acheté un téléviseur qu'ils ont installé dans leur salle à manger.

Personne n'accordait plus d'attention à l'excellente cuisine de Mme Fournier. Le choix des programmes est devenu le seul sujet de conversation.

Jacqueline est une passionnée, une fanatique de « Monte-Carlo », son frère n'aime que la première chaine ; leur mère voudrait bien regarder de temps en temps la deuxième chaine. Quant au père, il mange au plus vite pour aller lire le journal dans sa chambre.

QUESTIONS

1. Pourquoi cette famille a hésité d'acheter un poste de télévision ?
   …….. 1pt

2. A la fin de la journée, que font les enfants ?.....
   ……1 pt

3. Où va le père après avoir mangé ……1pt

4. Passage 4

La dernière visite.

L'asile est à deux kilomètres du village. J'ai fait le chemin à pied .J'ai voulu voir maman tout de suite .Mais le concierge m'a dit qu'il fallait que je rencontre le directeur. Comme il était occupé, j'ai attendu un peu. Pendant tout ce temps, le concierge a parlé et ensuite, j'ai vu le directeur : il m'a reçu dans son bureau. C'est un petit vieux, avec la Légion d'honneur. Il m'a regardé de ses yeux clairs. Puis il m'a serré la main qu'il a gardée si longtemps que je ne savais trop comment la retirer. Il a consulté un dossier et m'a dit : « Mme Meursault est entrée ici il y a trois ans .Vous étiez son seul soutien. » J'ai cru qu'il me reprochait quelque chose et j'ai commencé à lui expliquer. Mais il m'a interrompu : « Vous n'avez pas à vous justifier, mon cher enfant. J'ai lu le dossier de votre mère .Vos salaires sont modestes. Et tout compte fait, elle était plus heureuse ici. » J'ai dit. « Oui, monsieur le Directeur. »

Questions

1. Où se passe cette visite ?.....1pt

2. Par quel moyen est-ce que le narrateur est arrivé?.....1pt

3. Pour quel raison a-t-il fait la visite……1pt

4. Mentionnez une partie du corps dans le texte……1pt

SECTION II

Grammar (15 marks)

5. Rewrite the sentences below as guided, making appropriate changes. Avoid unnecessary repetitions.

   a) Avez-vous vu les belles photos.
   Oui,……...1 mark

   b) Nous avons seulement deux professeurs d'anglais.
   Nous n'avons…… 1mark

   c) Le professeur était fâché .Il a puni les élèves méchants.
   Le professeur était si…… 1 mark

d) Ils écoutent à la musique et mangent en même temps.

En …….. 1 mark

e) ‘‘ Allez chez le docteur’’. Il lui a dit

Il lui a dit……1 mark

f) Les touristes aiment les souvenirs africains.

Les souvenirs africains……...1 mark

g) Tu prends tes études au sérieux. Tu réussiras les examens.

Si ……..1 mark

6. Complete the text below by filling each blank space with **ONE** appropriate word. (3 marks)

J’ai une meilleure amie (i)……plusieurs années, mais récemment elle (ii)……..devenue l’amie d’une autre fille. Quand elles (iii)……ensemble, je suis complètement oubliée . Mais je suis tolérante, je souffre (iv)……silence. On se dispute de temps en (v)…… mais ça m’est (vi)……..

7. Match correctly the sentences in sections **A** and **B** 2 ½ marks

A	B
a) Voulez-vous un stylo ?	i) Non, j’ai mal au dos.
b) Comment vont-ils à Paris ?	ii) Non, j’en ai assez
c) Qui est à Nakuru ?	iii) Le 5 octobre
d) Quelle date sommes-nous?	iv) Laisse-moi tranquille
e) Vous êtes à l’aise ?	v) Par avion
	vi) C’est moi Jacques.
	vii) Si mal Papa

A	b	c	d	e

8. What do you say in the following situations? (2 ½ marks)

a) Votre père vous a donné un cadeau …….

b) Un(e) ami(e) est arrivé(e) chez vous …….

c) Vos amis de classe font le bruit …….

d) Vous voulez demander le prix d'un pantalon ……

e) Vous rencontrez quelqu'un pour la première fois……

SECTION III

Composition (10 marks)

Write your composition in the spaces provided. Indicate clearly whether your choice is 9(a) or 9 (b)

9. In 120 to 150 words, write in French on:

Either

a).Vous êtes venu(e) a l'école deux semaines plus tard, le directeur vous parle. Écrivez le dialogue.

Or

b) Pendant les vacances courtes, vous avez visité votre pays de rêve, parlez à l'un(e) de vos amis de votre expérience là.

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NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

ISLAMIC RELIGIOUS EDUCATION

Paper 1

314/1

TIME: 2 ½ Hours

Instructions to candidates

(a) Write your name and index number in the spaces provided.
(b) Sign and write the date of examination in the spaces provided above.
*(c) This paper consists of **six** questions.*
(d) Answer any five questions on a separate answer sheet.
(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	1	2	3	4	5	6	**Candidate's total score**
Candidate's score							

1. (a) Explain SEVEN reasons why the Quran was revealed in portions. (7 Marks)

(b) Discuss the role of Angel Jibril in the revelation of the Quran. (8 Marks)

(c) State FIVE benefits for the introduction of diacritical marks in the Quran. (5 Marks)

2. (a) Explain the teachings of *Surah Asr*. (5 Marks)

(b) Discuss the vices condemned in *Surah Hujra't*. (8 Marks)

(c) Identify the features of the *'Madani Surahs'*. (7 Marks)

3. (a) The Prophet (saw) is reported to have said*: "...Do not envy one another..."* Based on the above Hadith, explain how Muslims can reduce the effects of envy in the society. (7 Marks)

(b) Discuss the rules Imam Bukhari formulated in the collection and recording of the Hadith. (8 Marks)

(c) Give the themes mentioned in *'al-Muwatta'* of *Imam Malik*. (5 Marks)

4. (a) Explain the *'Ahka'm Shariah'* which a *'Mukallaf'* is obliged to observe. (8 Marks)

(b) Discuss the rules of evidence that must be presented in the ruling of 'Theft'. (7 Marks)

(c) Mention FIVE forms of punishment in *'Ta'zeer'* in Islamic penal code. (5 Marks)

5. (a) Describe the contribution of Imam *Ahmad ibn Hambal* in *Fiqh*. (5 Marks)

(b) Explain the rights of the people in Islam. (8 Marks)

(c) Outline the importance of *'Shaha'dah'* to the Muslims. (7 Marks)

6. (a) Discuss the THREE types of *'SHIRK'* in Islam. (9 Marks)

(b) Explain the qualities of an Imam according to the *Shiah doctrine*. (6 Marks)

(c) State the stages people will undergo during *'Qiyamah'* after the second trumpet. (5 Marks)

NATIONAL SCHOOLS MOCKS

KCSE 2021/22 CHAPTER

(SERIES 001)

NAME……

SCHOOL…… **INDEX NO**……

SIGN…… **ADM NO** ……

314/2

ISLAMIC RELIGIOUS EDUCATION

TIME: 2 ½ Hours

Instructions to candidates

(a) Write your name and index number in the spaces provided.
(b) Sign and write the date of examination in the spaces provided above.
*(c) This paper consists of **six** questions.*
(d) Answer any five questions on a separate answer sheet.
(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	1	2	3	4	5	6	**Candidate's total score**
Candidate's score							

1. (a) Explain the effects of *'incest'* in the society. (6 Marks)

(b) Discuss ***FOUR*** types of *'Swabr'*. (8 Marks)

(c) State ***SIX*** benefits of the virtue of *'Shukr'* in Islam. (6 Marks)

2. (a) Identify the rights of the extended family members. (5 Marks)

(b) Explain reasons that will oblige a Muslim wife to ask for *'Talaq'*. (7 Marks)

(c) Discuss the causes of domestic violence. (8 Marks)

3. (a) Explain ***FOUR*** kinds of sale in trade. (8 Marks)

(b) Suggest ways how *child-abuse* can be resolved. (6 Marks)

(c) Give ***SIX*** conditions of marriage in Islam. (6 Marks)

4. (a) Discuss the allegation labeled on *Caliph Uthman bin Affan*. (7 Marks)

(b) Explain the role played by *Kabaka Mutesa I* in the spread of Islam in Uganda. (8 Marks)

(c) Identify possible reasons for the election of Caliph Umar bin Khattab. (5 Marks)

5. (a) Give the contribution *of Abu Assafa* the first *Abbasid Caliph*. (5 Marks)

(b) Explain the structure of administration under the *'Umayyad'*. (7 Marks)

(c) Discuss the economic challenges faced by the Muslims in Kenya. (8 Marks)

6. (a) Explain how *Sheikh Uthman Dan Fodio* organized the *Sokoto Caliphate*. (10 Marks)

(b) Discuss the contribution of *'Ibn Khaldun'*. (10 Marks)

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