FORM 3 END TERM 2 SERIES 2 EXAMS

Subjects Tested: 1.AGRIC 2.BIO 3.BST 4.CHEM 5.CRE 6.ENG 7.GEOG 8.HIST 9.KISW 10.MATHS & 11.PHY Respectively.

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

443/1
AGRICULTURE
PAPER 1
FORM 3
END OF TERM 2 EXAM
TIME: 2 HOURS

INSTRUCTIONS:
This paper consists of 3 sections; A, B and C. Answer all questions in section A and B and any two in section C.

SECTION A 30MKS

1. Name three branches of horticulture. (1 ½ mks)

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2. State four advantages of organic farming. (2mks)

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3. What is the importance of decomposers in agriculture. (1 mk)

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4. State three basic economic concepts. (1 ½ mks)

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5. (a) What is concession company? (½ mk)

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(b) Give two examples of individual land tenure system. (1 mk)

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6. (a) Differentiate between solifluction and landslide. (2 mks)

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(b) Name four types of landslide. (2 mks)

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7. Give three control measures of Blossom-end rot disease. (1 ½ mks)

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8. How are crop pests classified according to the mode of feeding. (2 mks)

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9. State any three effects of diseases to crops. (1 ½ mks)

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10. a. State six effects of weeds in a pasture crop. (3 mks)

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b. Define a weed. (½ mk)

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11. List two ways of classifying herbicides based on mode of action. (1 mk)

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12. State four factors considered when grading tomatoes for fresh market.(2 mks)

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13. Give possible causes of swelling on roots of legumes. (1 mk)

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14. What is a companion crop? (1 mk)

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15. List two main methods of pruning. (2 mks)

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16. State two functions of polythene sheet when used as mulch material. (1 mk)

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17. Give any four factors that influence seed rates. (2 mks)

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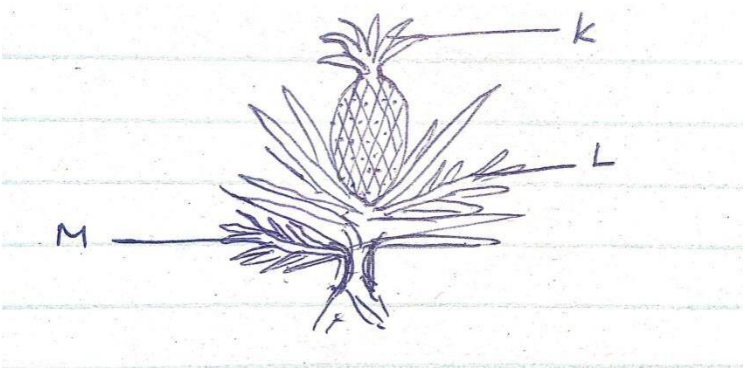
SECTION B: (20 MARKS)

18. The diagram below illustrates a crop. Study it and answer the questions that follow.



(a) Identify the parts labeled K, L and M. (3 mks)

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(b) Apart from the parts mentioned above, list down five other vegetative materials used for crop propagation. (2 mks)

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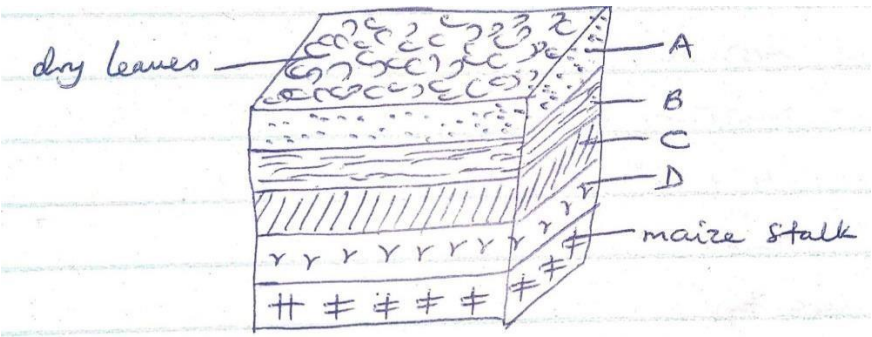
19. Study the diagram below and answer the questions that follow.



(i) What are the dimensions of the figure shown above? (1 mk)

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(ii) Name the parts labeled A, B , C and D. (2 mks)

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(iii) State the importance of level A in this set up. (1 mk)

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(iv) State two factors considered when selecting a site for a compost pit.(2 mks)

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20. A farmer with one hectare of land requires 40kg of N in his farm. He applied CAN which costs Ksh 35 per kilogram. CAN contain 20kg N.

(a) Calculate the amount of CAN the farmer requires. (2 mks)

(b) How much will a farmer with one and a half hectares spend to apply in his farm?(3 mks)

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(c) List five characteristics of nitrogenous fertilizers. (2 ½ mks)

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(d) State the two methods employed during soil sampling. (1 mk)

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(e) Define soil sampling. (½ mk)

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SECTION C: (40 MARKS)

21. (a) Discuss the importance of crop rotation to a farmer. (12 mks)

(b) Discuss the factors that determine harvesting of a crop. (8 mks)

22. (a) Discuss the process of water treatment using a chemical treatment system. (12 mks)

(b) State and explain various methods used during land clearing. (8 mks)

23. (a) Explain various harmful effects of weeds. (10 mks)

(b) State ten cultural methods employed in pest control. (10 mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS Name:

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443/2
AGRICULTURE
PAPER 2
FORM 3
END OF TERM 2 EXAM
TIME: 2 HOURS

INSTRUCTIONS:
This paper consists of 3 sections; A, B and C.
Answer all questions in section A and B and any two in section C.

SECTION A (30MKS)

1. State four reasons for castration in rams. (2 mks)

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2. List any four conditions that pre-dispose an animal to disease or injury (2 mks)

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3. State four functions of vitamins in Livestock. (2 mks)

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4. State four factors one would consider when choosing feed (2 mks)

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5. State four factors that may lead to dip wash being exhausted or weakened while in the dip tank. (2 mks)

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6. Give two reasons why walls of dairy shed should be white washed instead of painting with oil paints. (2 mks)

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7. List four tools used in laying concrete blocks. (2 mks)

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8. State four reasons for treating timber used for fencing. (2 mks)

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9. State four harmful effects of ticks to livestock (2 mks)

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10. State four symptoms of liver fluke attack, that may be observed in animals (2 mks)

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11. Outline four methods of controlling the fresh water snail. (2 mks)

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12. State four ways of preparing the sow for furrowing. (2 mks)

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13. Give two factors that may lead to conception failure after service in heifers. (2 mks)

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14. Give two causes of soft shell in eggs. (2 mks)

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15. State four management practices that would ensure maximum harvest of fish from fish pond. (2 mks)

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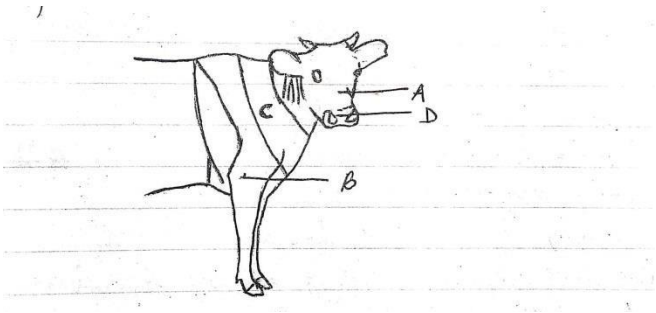
SECTION B: (20 MARKS)

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



(a) Name the parts labeled A – D (2 mks)

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(b) Name the breed of dairy cattle with the highest butter fat content in milk. (1 mk)

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(c) Distinguish between a large white and a landrace breeds of pigs (2 mks)

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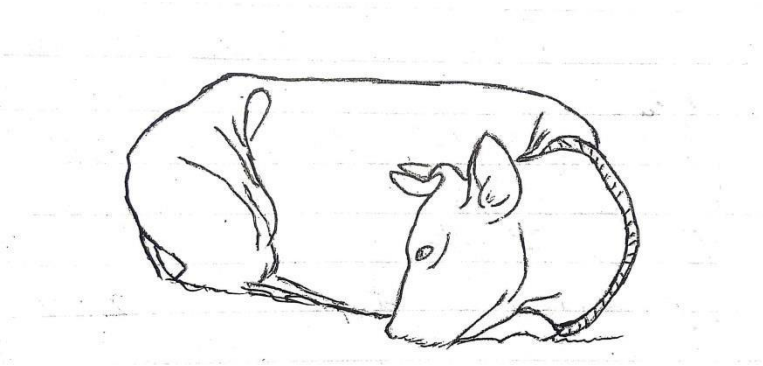
17. Use the diagram below to answer the questions that follow



(a) Name the disease or disorder that makes the animal behave as shown above. (1 mk)

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(b) State three prevention measures of the above problem. (3 mks)

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(c) Define the term Pica as used in livestock nutrition. (1 mk)

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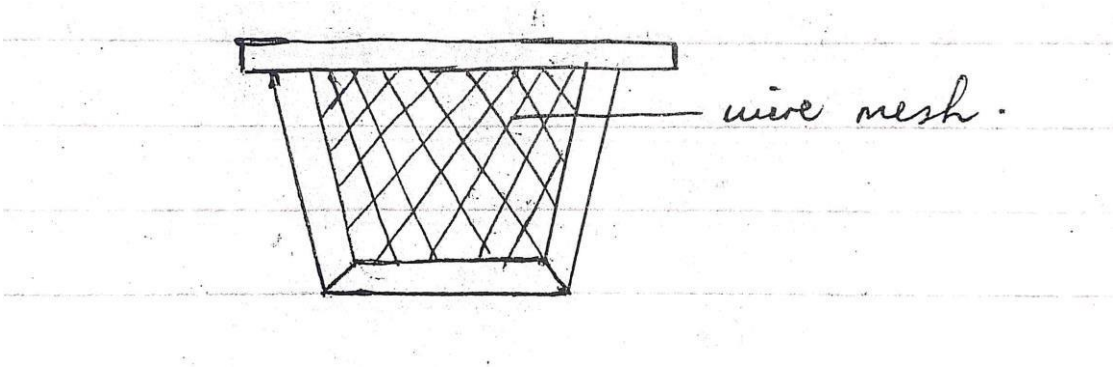
18. Use the diagram below to answer the questions that follow



(a) Name the structure shown above. (1 mk)

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(b) State the importance of the above structure where it's used. (1 mk)

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(c) State three pests that affect organisms that use the above structure. (3 mks)

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19. (a) State 3 systems involved in outbreeding (3 mks)

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(b) State two advantages of natural mating. (2 mks)

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SECTION C: (40 MARKS)

20. (a) Discuss the factors considered during selection of a breeding stock. (10 marks)

(b) Discuss five methods used during identification of animals. (10 mks)

21. (a) Discuss the mechanical methods used to control ticks. (10 mks)

(b) Discuss the general effects of parasites on livestock. (10 mks)

22. (a) Discuss the structural requirements of a calf pen. (14 mks)

(b) State six methods employed in parasites and disease control in livestock. (6 mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ……

School: ……

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END OF TERM 2

FORM THREE

BIOLOGY PAPER 1

1. State **three** ways in which protein are important to plant. (3marks)

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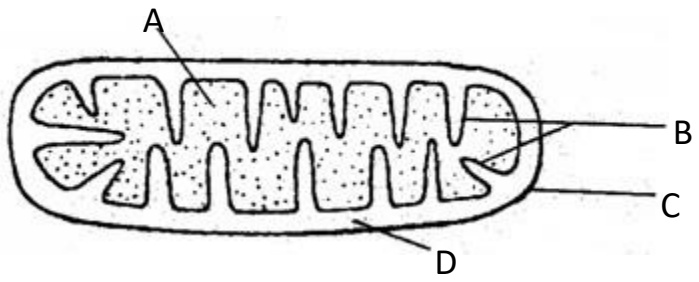
2. The diagram **below** represents a cell organelle.



(a) Identify the organelle. (1 mark)

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

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

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3. Define **binominal nomenclature**. (1marks)

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4. Name any **two** problems that animal species overcome by their dispersion. (2marks)

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

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

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7. What is the function of catalase? (2marks)

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8. (a) State the importantance of cross-pollination to flowering plants. (1mark)

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(b) How is self-pollination a disadvantage to flowering plants? (1mark)

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

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10. How is fur important to desert animal, other than in the regulation of their body temperature?(1mark)

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11. What are the functions of named product of white blood cells? (3 marks)

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12. Explain three adaptations of cardiac muscles to their function. (3 marks)

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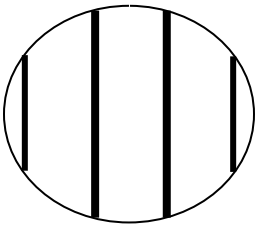
13. A form one student trying to estimate the size of onion cells observed the following on the microscope's field of view.



(a) Define the term resolving power. (1 mark)

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

14. What is **tidal volume** in ventilation in man? (1mark)

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

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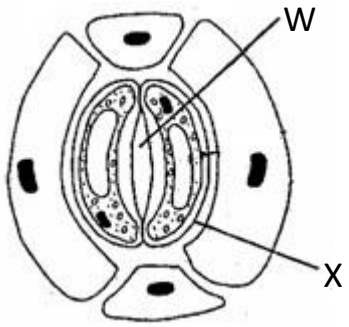
16. The diagram **below** shows part of plant tissue.



(a) Name cell labeled **X** and part labeled **W**. (2 marks)

X ……

W ……

17. Why is the liver part of the digestive system? (2 marks)

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

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19. State any two characteristics of populations. (2marks)

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20. Describe any **two** functions of mitosis? (2 marks)

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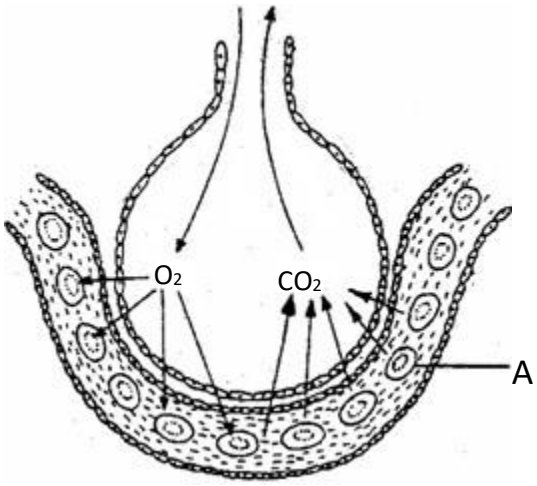
21. The diagram **below** shows the exchange of gases in alveolus.



(a) State how the alveoli are adapted to their function. (3 marks)

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

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22. What are the external conditions needed, by root hair cells, for the uptake of mineral salts ions from the soil? (2 marks)

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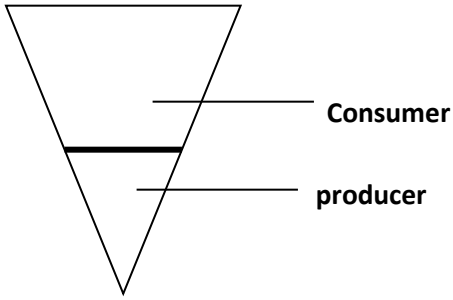
23. The diagram below represents a pyramid of biomass derived from a certain ecosystem



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

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

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

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25. (a) State the source Carbon (IV) oxide in aquatic ecosystems. (2 marks)

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(b) State the importance of Carbon (IV) oxide to aquatic ecosystems. (2 marks)

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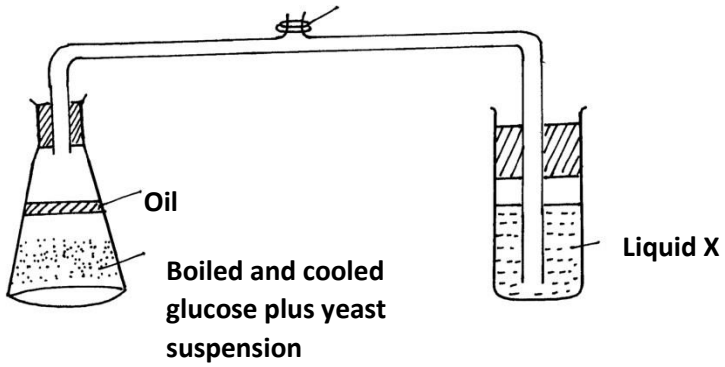
26. The set up below shows apparatus to demonstrate a certain biological process



(a) What biological process was being investigated in the experiment (1mk)

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(b)Write down a word equation that represents the reaction above (1mk)

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(c) In the above set up, why was it important to boil and cool glucose before adding yeast? (1mk)

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27. What is the homeostatic importance of cuticles of leaves? (2marks)

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28. Outline two functions of parenchyma cells in herbaceous plants. (2 marks)

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29. What is the important of diffusion to red blood cells? (2marks)

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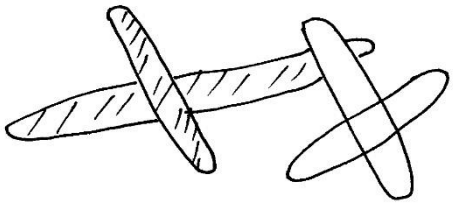
30. The diagrams below show a pair of homologous chromosomes. Study them and answer the questions that follow.



(i)State the phenomenon shown above (1mk)

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(ii) What is the genetic significance of the phenomenon above? (2mks)

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

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

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

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34. Name the processes that take place in the grana of chloroplast. (2marks)

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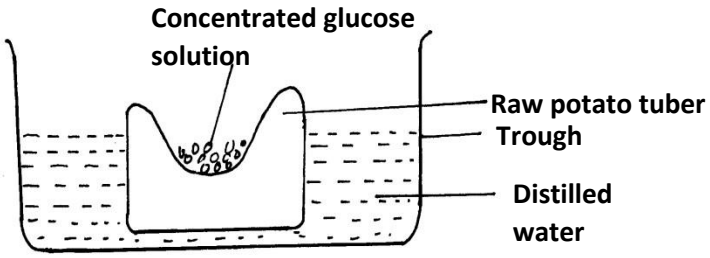
35. The experiment illustrated below was set up to investigate a certain physiological process using a raw tuber



(a) Suggest a possible physiological process that was being investigated (1mk)

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(b) Explain the results obtained in the above experiment after a few hours (2mks)

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(c) State the observations that would have been made if the experiment was repeated using boiled potato (2mks)

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36. Name the causative organism of the following diseases

(i) Malaria (1mk)

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(ii) Bilharzia (1mk)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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BIOLOGY FORM THREE

END OF TERM TWO

TIME: 2 HOURS

JOINT EXAMINATION

INSTRUCTIONS TO CANDIDATES:

- *Answer **ALL** the questions*
- *Answers should be written in the spaces provided*

1. A student observed feeding relationship while on a tour in a coastal Island.

   Eagles feed on small fish, Small fish feed on sea grass, Insect larvae and molluscs feed on sea grass, Insect larvae fed on by small fish, while crabs feed on insect larvae and molluscs.

a) From the above information, construct a food web. (3mks)

b) In which trophic level is small fish found. (1mk)

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c) Extract a food chain where the Eagle is a tertiary consumer. (1mk)

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d) Suppose all the crabs were poisoned, what would be the immediate effect in the ecosystem. Give a reason. (1mk)

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(e) Give a reason why pyramid of biomass is a better representation of energy flow in an eco-system than pyramid of numbers. (1mk)

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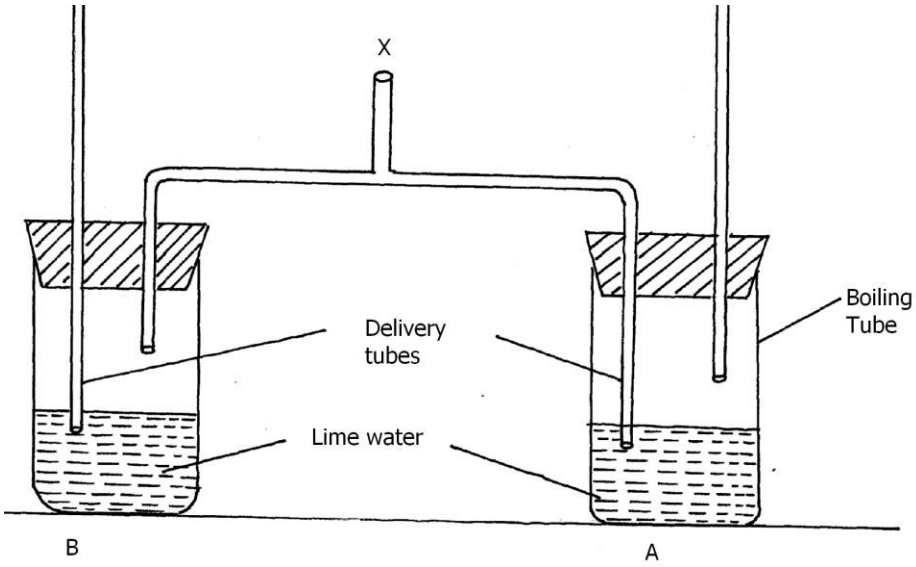
2. An experiment was set up as shown below.



a) A student blew air in and out through point X. Using arrows indicate on the diagram how air gets in and out of the set up. (2mks)

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b) (i) In which of the test tube would lime water turn milky first. (1mk)

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(ii) Give a reason. (1mk)

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(c) What is the effect of lactic acid in the thigh muscles of an athlete after a short fast race. (2mks)

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(d) Identify the type of muscle in human being where formation and effect of lactic acid is not felt.(1mk)

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(e) What is the biological significance of boiling milk /ultra heat treated milk. (1mk)

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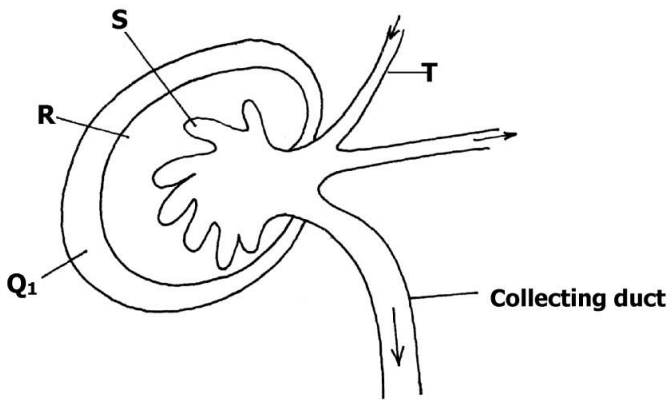
3. The diagram below is a longitudinal section of an organ in mammals



a) Name the organ (1mk)

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b) Identify the parts R and S (2mks)

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c) i) State two differences in the structure above found in the deserted- rat and fish (3mks)

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. ii) Account for the difference stated above. (2mks)

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d) Name the gland associated with the secretion of aldorsterone hormone. (1mk)

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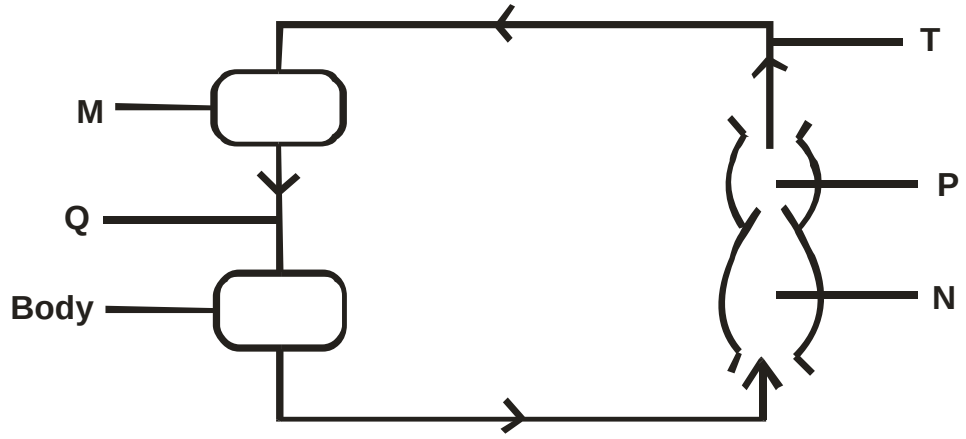
4. The diagram below represents a circulatory system found in a certain class of chordates.



a) Identify the type of circulatory system shown above. (1mk)

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b) Name **one** class of animals having this type of circulatory system. (1mk)

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c) Identify parts labelled M, N and P. (3mks)

M……

N……

P……

d) What disadvantages is faced by having the types of circulatory system shown above? (2mks)

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e) Between blood vessels Q and T, which one carries oxygenated blood? (1mk)

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5. In an experiment to investigate the rate of reaction indicated by the equation.

$C_{12}H_{22}O_{11} \longrightarrow C_6H_{12}O_6 + C_6H_{12}O_6$

Sucrose Fructose Glucose

It was found out that for products fructose and glucose to form, substance "K" was needed. Temperature was maintained at 37^{o}C.When substance "L" was added, reaction slowed and then stopped.

a) Suggest identity of the substances (2mks)

K……

L……

c) Other than temperature, state <u>three</u> factures that increase the rate of reaction. (3mks)

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d) Explain how substance "L" slowed the rate of reaction. (2mks)

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e) What type of reaction is represented by the equation above? (1mk)

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SECTION B (40 MARKS)

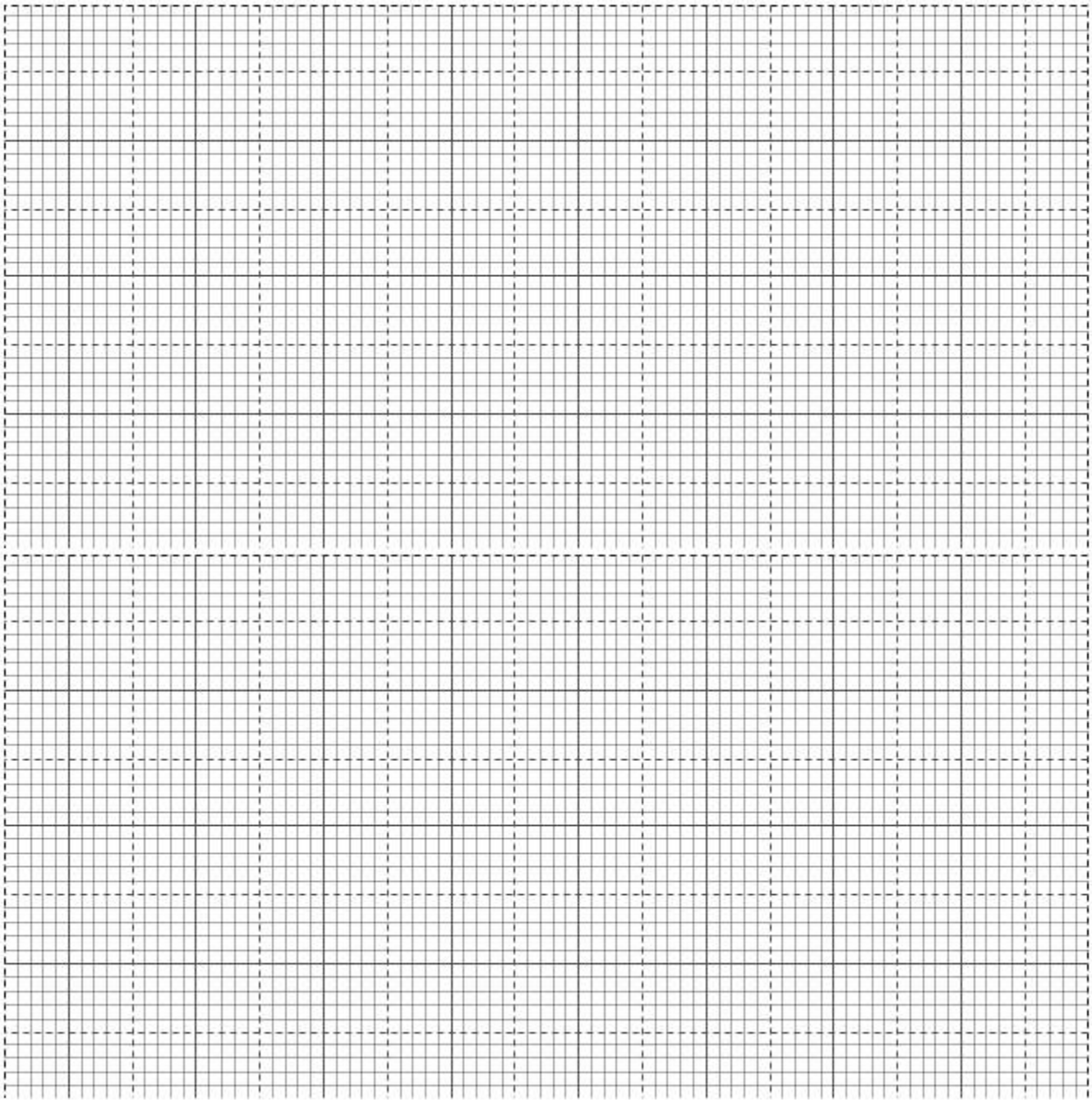
Answer questions 6 (compulsory) and either questions 7 or 8 in the spaces provided questions

6. The glucose level in mg per $100cm^3$ of blood was determined in two person Y and Z. Both had stayed for six hours without taking food. They were fed on equal amount of glucose at the start of the experiment .The amount of glucose in their blood was determined at intervals .The results are shown in the table below.

Times in minutes	**Glucose level in blood in mg /$100cm^3$**	
	Y	**Z**
0	85	78
20	105	110
30	105	110

45	130	170
60	100	195
80	93	190
100	90	140
120	90	130
140	88	120

a) On the grid provided, plot graphs of glucose levels in blood against time on the same axes. (7mks)



b) What was the concentration of glucose in the blood of Y and Z at the 50^{th} minute?(2mks)

Y……

Z……

c) Account for the level of glucose in present Y

i) During the first 45 minutes. (2mks)

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. ii) After 45th minute to the end. (4mks)

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d) Account for the decrease in glucose level person Z after 60 minutes. (2mks)

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e) Low blood sugar level in harmful to the body .Explain. (3mks)

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7. Discuss the adaptations of seeds and fruits to dispersal. (20mks)

8 Describe the structure and functions of various organelles in a mature animal cell.(20mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: .... School:

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Index no: …… Candidate's signature: …… Date: ……

231/3

BIOLOGY FORM THREE

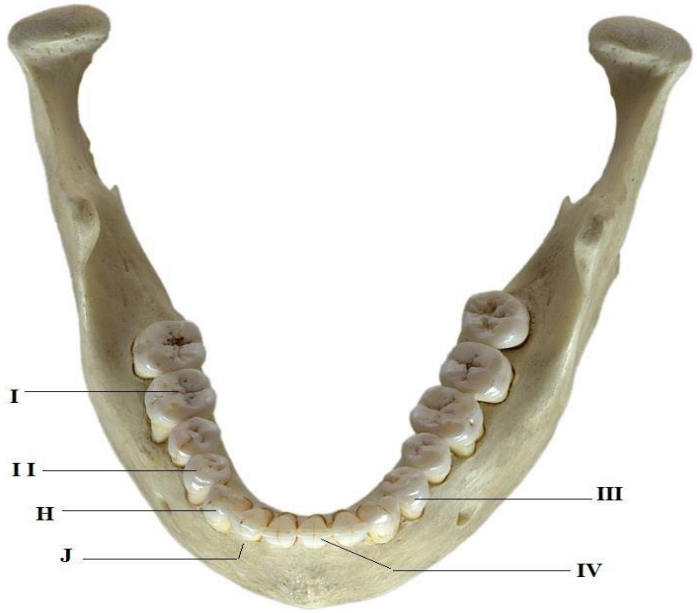
END OF TERM TWO

TIME: $1\frac{3}{4}$ HOURS

INSTRUCTIONS TO CANDIDATES:

- *Answer **ALL** the questions*
- *Answers should be written in the spaces provided*

1. Below is a photograph of an adult human jaw with teeth. Study the diagram and answer the questions that follow.



a) State the mode of nutrition in man. (1mk)

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b) Name the type of teeth labeled I and III. (2mks)

I:……

III:……

c) Name the parts of teeth labeled H and J. (2mks)

H:……

J:……

d) Identify **one** distinguishing feature between teeth labeled II and IV. (1mk)

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e) State **one** function of tooth IV. (1mk)

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f) Write the dental formula from the jaw shown in the photograph. (1mk)

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g) Explain why tooth I would be more prone to dental carries than tooth III,(2mks)

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2. Use the hand lens provided to observe specimen K and answer the questions that follow.

a) (i) In the space below draw a fully labeled diagram of representative part of the specimen.

(5mks)

(ii) Calculate the magnification of your drawing. (2mks)

b) Identify:

(i) The Kingdom (1mk)

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(ii) The Division, to which the specimen belongs. (1mk)

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(iii) Give a reason for your answer in b (ii) above. (1mk)

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c) State the functions of any **two** parts labeled in your diagram. (2mks)

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d) What is the mode of reproduction in the specimen? (1mk)

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e) Explain the significance of colour observed in the specimen M. (2mks)

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3. You are provided with solutions labeled L_1, L2 and L_3. Note that L_3 is the same as L2 except that L_3 has been boiled.
   Label three test- tubes A, B and C.
   Into the test- tube labeled A add 1ml of solution L_1.
   Into the test- tube labeled B add 1ml of L_1 and 1ml of L_2.
   Into the test- tube labeled C add 1ml of L_1 and 1ml of L_3.

   a) Withdraw a drop from test – tube A and place it on a white tile. To the drop add one drop of iodine solution. Record your observation in the table below. (3 mks)

Test - tube	observation	conclusion

A		
B		
C		

Repeat the procedure with contents in test – tubes B and C. Record your observations in the table.
Place the three test –tubes labeled A, B and C into a water bath at 37^0C.

NB. Ensure that the temperature of the water bath does not fall below 35^0C or exceed 38^0C

b) After 30 minutes, test the contents of each of the test – tubes labeled A, B and C following the procedure in (a) above. Record your observations in the table below.
(6 mks)

Test - tube	observation	conclusion
A		
B		
C		

c) Why was test – tube labeled A included in the experiment? (1mk)

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d) (i) suggest the identity of solution L_2 (1mk)

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

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e) Suggest a part of the alimentary canal in the body of a mammal where the process being investigated in the experiment would take place. (1mk)

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f) Account for the results at the end of the experiment in the test – tube labeled.

i) B (1mk)

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ii) C (1mk)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

FORM THREE END TERM TWO

BUSINESS STUDIES PAPER ONE

TIME. 2hrs

1 a) Outline four reasons why organizations need to safe keep documents in files(4mks)

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2.Give the four components of business studies (4mks)

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3.A business is expected to be socially responsible to various groups such as customers, employees, government, public and suppliers. Indicate against each statement the most appropriate group (5mks)

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Statement	Group
i)Fair remuneration	
ii)Timely tax returns	
iii)Fairness in tender allocation	
iv)Equal job opportunities	
Quality products	

4.Use the table below to outline four differences between basic wants and secondary wants(4mks)

Basic wants	Secondary wants

5.Identify three activities in the extractive level of production (4mks)

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6.Outlinefour ways in which partners may be classified (4mks)

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7.Highlight four characteristics of mail order store (4mks)

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8.Outline the meaning of the following terms as used in accounting (4mks) i)Network of a business

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ii)Business transaction

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iii)Cash transaction

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vi)Credit transaction

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9.Statefour main factors that may limit the level of a country's national income. (4mks)

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10.Identify four ways in which a business may be of benefit to people in the surrounding area(4mks)

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11.State the effect of each of the following transaction on the balance sheet by writing increase or decrease or no effect in each case

Transaction	Effect
a)Bought machinery on credit	
b)withdrew cash from the business for personal use	
c)Purchased stock in cash	
d)Paid outstanding by cheque	

12.State four ways of increasing efficiency and effectiveness of human porterage

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13.The following information relates to Makuyu Traders. Determine the missing figures. (3mks)

	Assets	Liabilities	Capital
a)	50000	70000	
b)	320000		280000
c)		14360	12000

14.Post the following transactions in the ledger books of Embakasi traders (4mks)

March 1/2013 commenced business with sh. 150,000 cash at bank
March 5/2013 bought machinery in credit for sh. 9500
March 7/2013 withdrew sh 5000 from bank for office use
March 8/2013 paid sh 3000 cash to creditor

15.Give four reasons that make insurance companies decline to insure acts of nature (4mks)

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16.Name 4 sources of business ideas. (4mks)

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17.State 4 office etiquette of a business person. (4mks)

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18.Mention four main types of demand. (4mks)

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20.Name 4 methods of government involvement in business (4mks)

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21.Name 4 types of public utilities. (4mks)

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22.Name 4 barriers of effective communication. (4mks)

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23.Name 4 types of life assurance contracts (4mks)

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24.Name 4 characteristic of a good filing system. (4mks)

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25.Give 4 characteristics of oligopoly market structure. (4mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

565/2
BUSINESS STUDIES.–
PAPER 2
FORM 3
END TERM 2 EXAM
TIME: 2 ½ HOURS

Instructions.
Answer any five questions.

1. a. Explain five features of sole proprietorship form of business. (10mks)
   b. Explain five demerits that maybe associated with water transport. (10mks)

2. a. State and explain five measures that maybe taken by the Kenyan government to reduce the level of unemployment. (10mks)
   b. Explain five circumstances which would make an office manager to replace an existing machine with a modern one. (10mks)

3. a. Give and explain five reasons why an increase in per capita income may not lead to a rise in standard of living. (10mks) b. Explain five reasons for the popularity of hypermarkets in Kenya. (10mks)

4. a. There are numbers of circumstances under which business enterprises may choose to merge. Explain five of them. (10mks)
   b. The government of Kenya has decided to sell her poorly performing businesses to private investors. Explain five reasons for this kind of move. (10mks)

5. a. With the aid of a diagram show the effect of an increase in the supply of a commodity, while demand remains constant. (10mks)
   b. Explain five ways in which commercial attaches promotes a country's trade with other

countries. (10mks)

6. a. Explain five problems linked to rapid population growth. (10mks)

b. The following balances were extracted from the books of Umoja Traders on 1st October 2020 (10mks)

details	shs.	Capital	80,000
Furniture	56,000		
Debtors	25,000		
Creditors	20,000		
Cash	8,000		
Bank	11,000		

The following transactions took place in the course of the month.

i. Took shs. 3000 from bank for family use.

ii. Paid a creditor shs. 4500 in cash. iii. Purchased land worth shs. 82,000 paying by cheque.

iv. Acquired a ten year bank loan shs. 165,000 which was credited to the business bank account.

v. Converted a family table worth shs. 5,500 to business use. vi. Received shs. 7,300 in cash from debtors.

Required:

Prepare Umoja traders balance sheet at the end of October 2020.

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: …… School:

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Index no: …… Candidate's signature: …… Date: ……

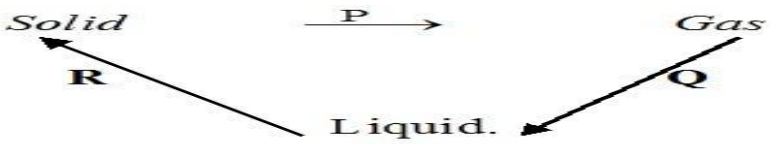
233/1
CHEMISTRY
PAPER 1
FORM III
END TERM 2 EXAMS
Time: 2 hours

INSTRUCTIONS TO THE CANDIDATES:-

- Write your **name** and admission **number** on the spaces provided.
- Answer ***all*** the questions in the spaces provided.
- Mathematical tables and electronic used calculators may be
- All working **MUST** be clearly shown where necessary.

Question	Maximum score	Candidate's score
1-30	80	

1. Matter exists in three states which can be related as shown in the diagram below.



Name processes: ***P***: **……** (1mk)

R: **……** (1mk)

2. (a)Give **one** reason some of the laboratory apparatus are made of ceramics.**(1 mark)**

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(b) Name **two** apparatus that can be used to measure approximately 75 cm of dilute sulphuric (VI) acid. **(2 marks)**

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3. Draw the procedural set-ups that can be used to separate a mixture of sand and calcium chloride to obtain crystals of calcium chloride. **(3 marks)**

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4. State **two** applications of chromatography. **(2 marks)**

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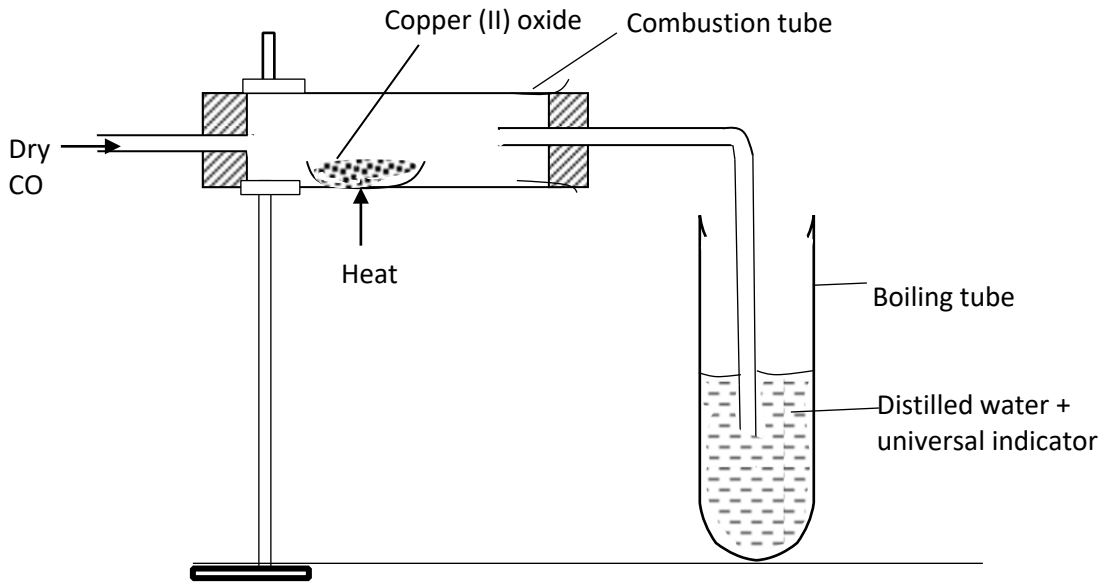
5.



The above set-up was used to determine the chemical properties of carbon (II) oxide.

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

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(b) State and explain the observation made in the boiling tube. **(2 marks)**

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7. A student placed some hydrogen peroxide in a test tube then added a small amount of Solutions can be classified as acids, bases or neutral. The table below shows solutions and their pH values

Solution	**pH – values**
K	1.5
L	7.0
M	14.0

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

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(b) Identify two solutions that would react with aluminium hydroxide. Explain *(2 Marks)*

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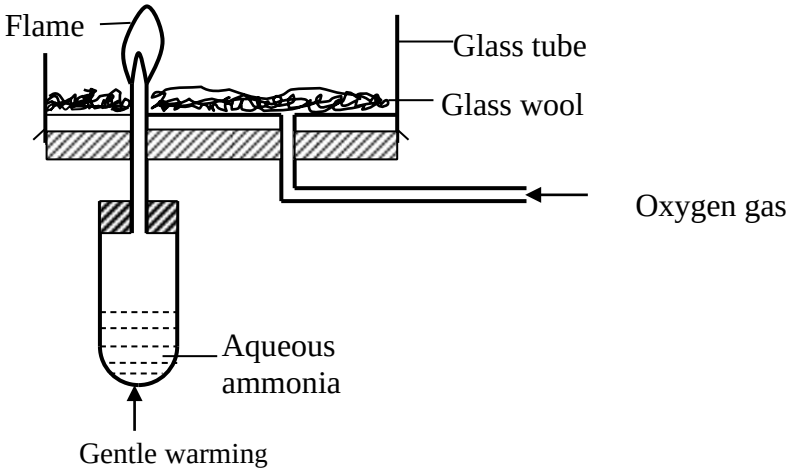
8. 9.12g of a gaseous compound contains 8g of silicon while the rest is hydrogen. Determine the empirical formula of the compound. (H = 1, Si = 28) *(3 Marks)*

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



(a) Why is aqueous ammonia warmed gently? *(1 Mark)*

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(b) What is the colour of the flame? *(1 Mark)*

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(c) Write the chemical equation for the reaction that takes place *(1Mark)*

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10. (a) Chlorine can be prepared in the laboratory by using the following reagents and chemicals. Concentrated sulphuric (VI) acid, water, manganese (IV) oxide, concentrated hydrochloric acid.

(i) State the role of concentrated sulphuric (VI) acid. **(1 mark)**

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(ii) Write the equation for formation of chlorine. **(1 mark)**

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(iii) What is the role of manganese (IV) oxide? **(1 mark)**

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11. (a) State Boyle's law. **(1 mark)**

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(b) A gas occupies $270cm^3$ at a pressure of 660mmHg at 37^0C. What is the new volume if pressure is changed to 810 mmHg at 63^0 C? **(2 marks)**

12. An organic compound contain s 24.24% carbon, 4.04% hydrogen and the rest chlorine. If its relative molecular mass is 99, what is its molecular formula? **(3 marks)**
(C = 12, H = 1, Cl = 35.5)

13. A given mass of sodium nitrate was heated completely and 320 cm^3 of the gas was produced at s.t.p. Determine the mass of the sodium nitrate heated.
(Na = 23. N = 14, O = 16, molar gas volume = 22.4L) **(3 marks)**

13.(a)Give **one** advantage of using methyl orange over phenolphthalein as an indicator.**(1 mark)**

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(b) Three drops of litmus solution was added to 20 cm^3 of 2M hydrochloric acid in a beaker followed by 20 cm^3 of 2M ammonium hydroxide. State and explain the observation made. **(2 marks)**

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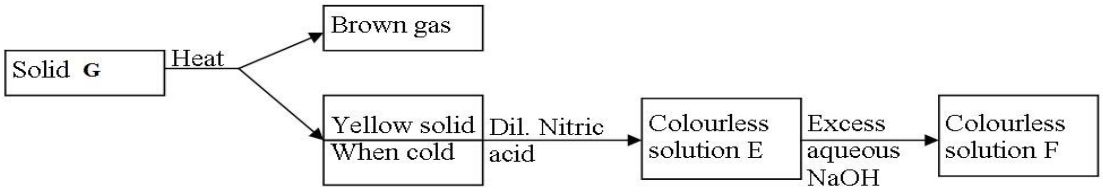
14. Study the flow chart below and answer the questions that follow.



(a) *Identify* solid *G* …… (1mk)

Write a balanced *chemical equation* between the yellow solid and dilute nitric acid. (1mk)

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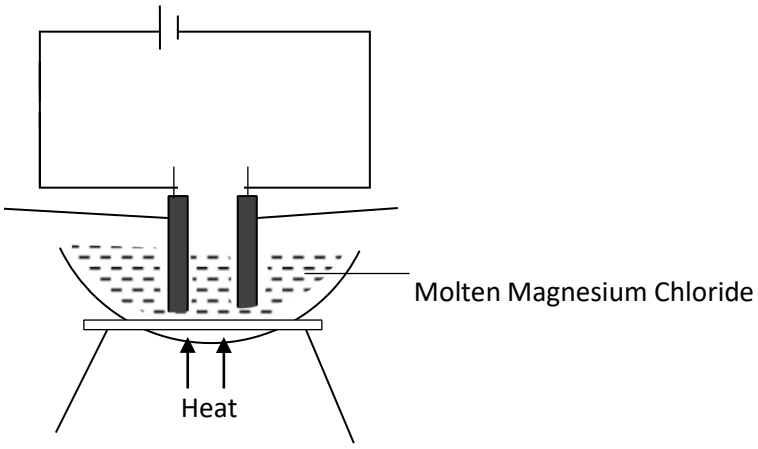
15. Study the diagram below and answer the questions that follow.



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

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(b) On the diagram, label the Anode and Cathode. **(2 marks)**

(c) Write the equation at the anode. **(1 mark)**

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16. In order to find the proportion by volume of gases in air, a sample of air was passed through two wash bottles, the first containing sodium hydroxide solution and the second containing concentrated sulphuric (VI) acid. The remaining gas was then collected in a syringe.

(a) Why was the air passed through;

(i) sodium hydroxide solution? **(1 mark)**

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(ii) concentrated sulphuric (VI) acid? **(1 mark)**

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(b) Name is the major gas collected in the syringe. **(1 mark)**

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17. During the manufacture of sodium carbonate in the industry.

(a) Give the name of the process to manufacture sodium carbonate. **(1 mark)**

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(b) Write the final equation to form sodium carbonate during the process.**(1 mark)**

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(c) Give **one** use of sodium carbonate. **(1 mark)**

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18. Describe how to prepare crystal of magnesium sulphate starting with magnesium powder.**(3mks)**

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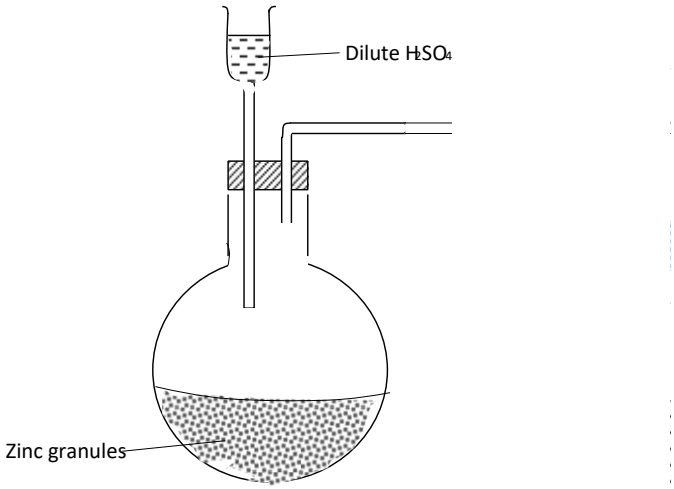
19. (a) Complete the diagram below to show how dry sample of hydrogen gas is prepared in the laboratory. **(2 marks)**



(b) Name the catalyst which could be used to increase the reaction rate of production of hydrogen gas in the set up drawn above. **(1 mark)**

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20. An element consists of two isotopes with atomic masses 59 and 61 in the ratio of 3 : 2 respectively.

(a) What are isotopes? **(1 mark)**

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

21. An element: $^{24}_{12}R$

(a) To which chemical family does it belong? **(1 mark)**

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(b) Write the electron arrangement of the atom. **(1 mark)**

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(c) Draw the structure of its ion. **(1 mark)**

22. If $25cm^3$ of 0.1M H_2SO_4 solution neutralized a solution contain 1.06g of sodium carbonate in $250cm^3$ of solution, calculate the morality and volume of sodium carbonate solution. (Na = 23, O = 16, C = 12) *(3 Marks)*

23. $50cm^3$ of oxygen gas diffused through a porous plug in 80 seconds. How long will it take

$100cm^3$ of sulphur (IV) oxide to diffuse through the same plug? (S = 32, o = 16)
(3 Marks)

24. (a) State the role of the following parts during fractional distillation of a mixture of water and ethanol

(i) Glass beads in the fractionating column *(1 Mark)*

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(ii) Fractionating column *(1 Mark)*

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(b) State any one application of fractional distillation *(1 Mark)*

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25.(a) State what is observed when sodium hydroxide pellets are left in air overnight.**(1 mark)**

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(b) What name is given the process shown by the salt in (a) above? **(1 mark)**

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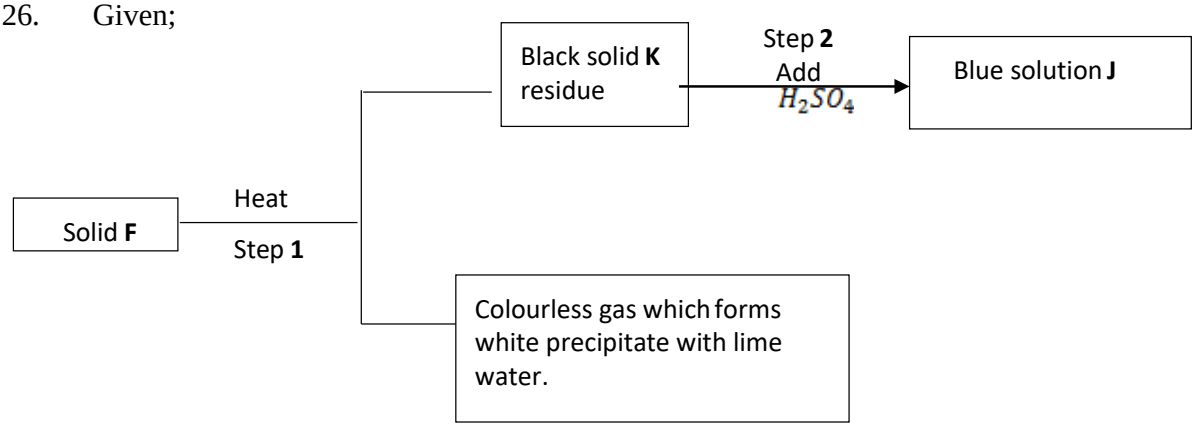
26. Given;

26. Given;



(a) Identify;

Solid **F** - **……(1 mark)**

Solid **J** - **……1 mark)**

(b) Write equation for step **1**. **(1 mark)**

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27. Use dot (•) and cross (**X**) to show the bonding in Lithium oxide. **(2 mark)**

28. Excess magnesium ribbon was burnt in air to form a white solid mixture. Write two equations to show the formation of the white solid mixture. **(2 marks)**

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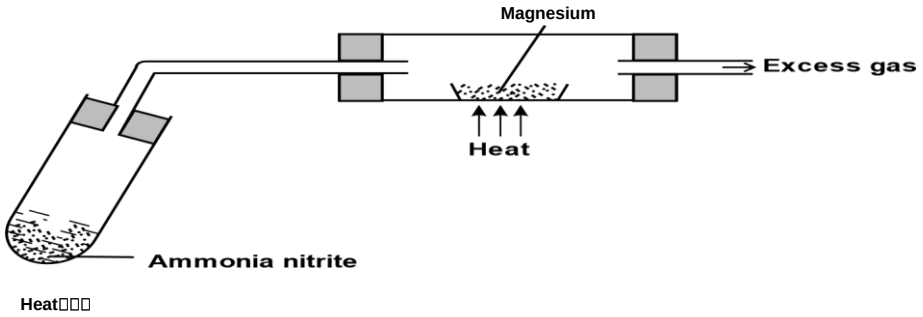
29. The set-up below shows how gas A was prepared and reacted with heated magnesium



a) ***Give*** a reason why it is not advisable to heat magnesium before heating ammonium nitrite. (1mk)

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b) i) ***Identify*** gas A **……**(1mk)

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ii) ***Write*** a chemical equation for the reaction between gas ***A*** and magnesium (1mk)

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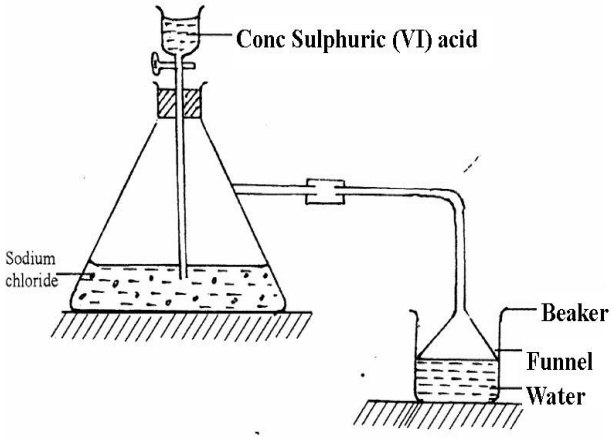
30. Study the set-up below and answer questions that follow.



i) Name the gas that is produced when concentrated sulphuric (VI) acid reacts with the sodium chloride **(1 mark)**

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ii) Why is it necessary to use a funnel in the beaker? **(1 mark)**

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iii) How does the gas affect the P^H of the water in the beaker? **(1 mark)**

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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233/2
CHEMISTRY
PAPER 2
FORM III
END TERM 2 EXAMS
Time: 2 hours

233/2

CHEMISTRY

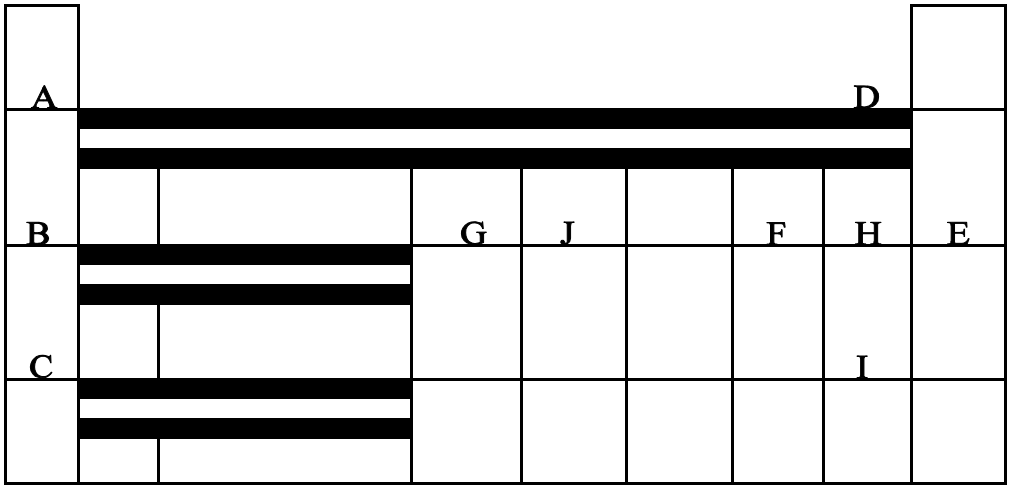
FORM III

INSTRUCTIONS TO THE CANDIDATES:-

- Write your **name** and admission **number** on the spaces provided.
- Answer ***all*** the questions in the spaces provided.
- Mathematical tables and electronic used calculators may be
- All working **MUST** be clearly shown where necessary.

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1-30	80	

1. The figure below represents a section of the periodic table. Study it and answer questions (a) to (h). Note that the letters do not represent the actual symbols of the elements.



(a) Consider elements D. H and I

i) Give the chemical family of these elements. (1 mk)

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ii) How do their ionic size compare. (1mk)

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iii) Compare and explain the reactivity of the three elements. (2mks)

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. b) Write the electronic configuration of;

i) Element H

(1mk)

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ii) The ion of element G.

(1mk)

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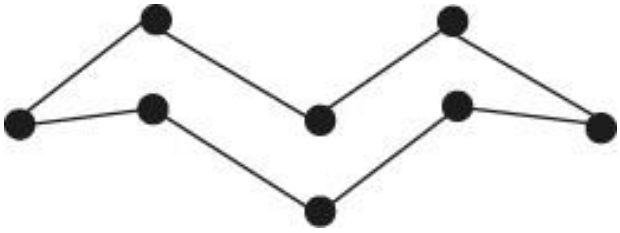
c) A molecule of one of the elements is shown below. (2mks)



i) Identify this element from the section of the periodic table and give its actual symbol and name.(2mks)

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ii) Explain why this element has a higher boiling point compared to that of oxygen. (2mks)

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iii) Write an equation to show the reaction between the element named above with oxygen.(1mk)

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iv) Predict the pH of the oxide of the above element when in water. Explain. (2mks)

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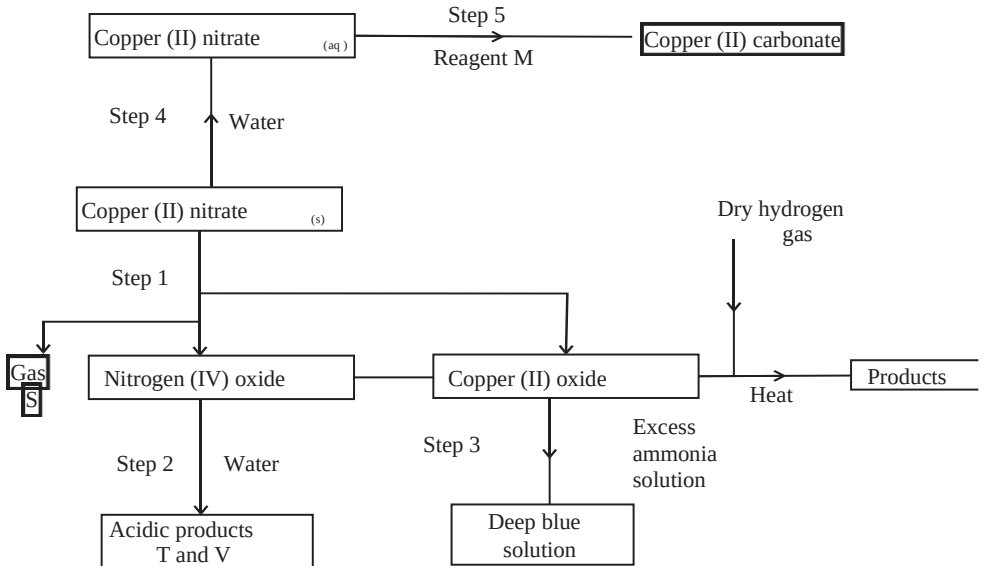
2. The flow chart below shows some reactions starting with copper (II) nitrate. Study it and answer questions that follow.



i) State the condition necessary in step 1. (1mk)

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ii) Identify: (4mks)

Reagent M

Gas S

Acidic products T

V

iii) Write the formula of the complex ion formed in step 3. (1mk)

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iv) Write the equations for the reaction in (2 marks)

Step 1

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Step 2

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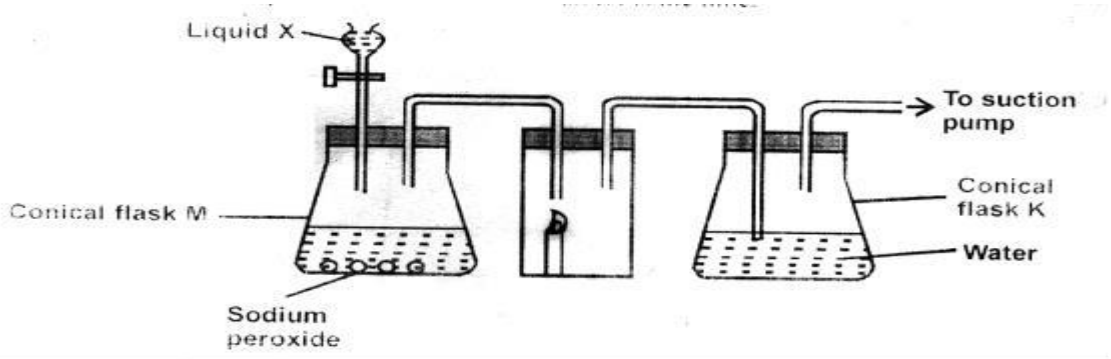
3. a) The diagram below shows a set up that was used to prepare oxygen gas and passing it over a burning candle. The experiment was allowed to run for some time.



i) Name liquid X (1mk)

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ii) Suggest the pH of the solution in conical flask K. Explain (2mks)

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iii) Write an equation for the reaction taking place in the conical flask M. (1mk)

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b) State and explain the two observations made when hydrogen sulphide is bubbled into the solution containing iron (III) chloride. (2mks)

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c) i) Describe a simple chemical test that can be used to distinguish between carbon (IV) oxide and carbon (II) oxide gases. (3mks)

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ii) Give one use of carbon (II) oxide. (1mk)

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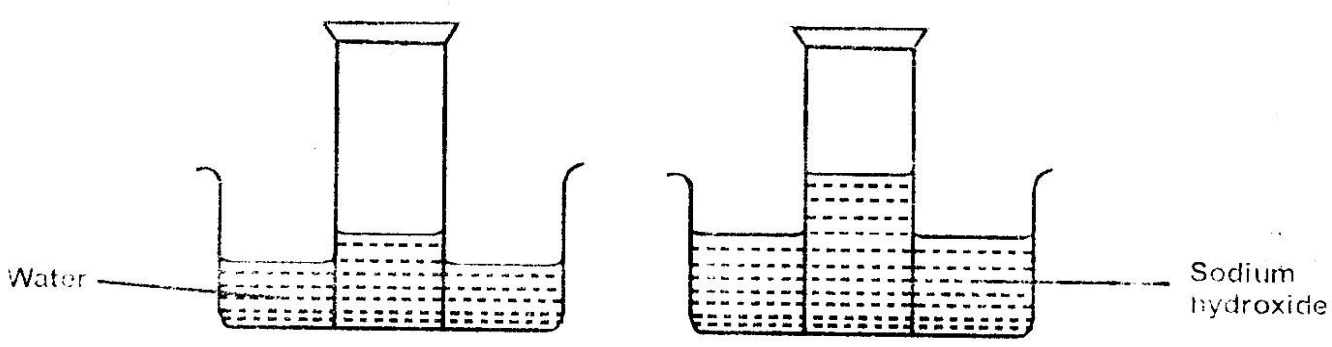
d) A form two student inverted a gas jar full of carbon (IV) oxide over water and sodium hydroxide solution as shown below.



Explain the observations made. (2mks)

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4. (a) Name the **two** crystalline forms of sulphur (1 Mark)

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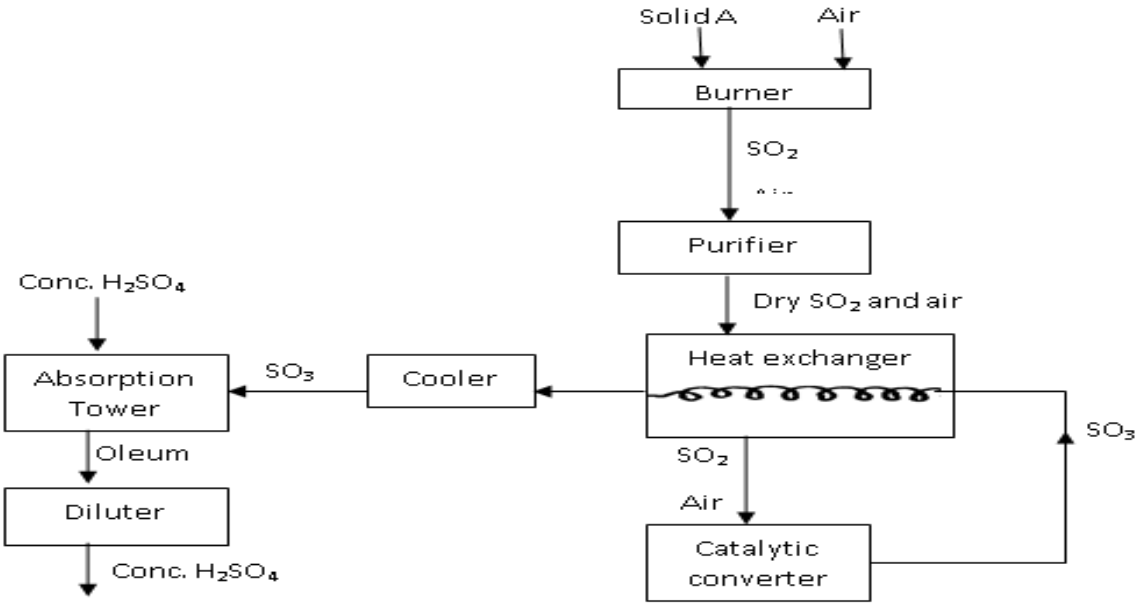
(b) The scheme below represents the steps followed in the contact process. Study it and answer the questions that follow:-



(i) Name **one** impurity removed by the purifier. (1 mark)

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(ii) Why is it necessary to remove impurities? (1 mark)

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. (iii) Write down the equation of the reaction taking place in the converter (1 mark)

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(iv) Name the **two** catalysts that can be used in the converter (2 marks)

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(v) What is the function of heat exchanger? (1 mark)

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(vi) Sulphuric (VI) Oxide is not dissolved directly into water? Explain (1 mark)

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(vii) (I) Name the main pollutant in the contact process. (1 mark)

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(II) How can the pollution in **(g) (I)** above be controlled? (1 mark)

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(vii) Give **one** use of sulphuric (VI) acid (1 mark)

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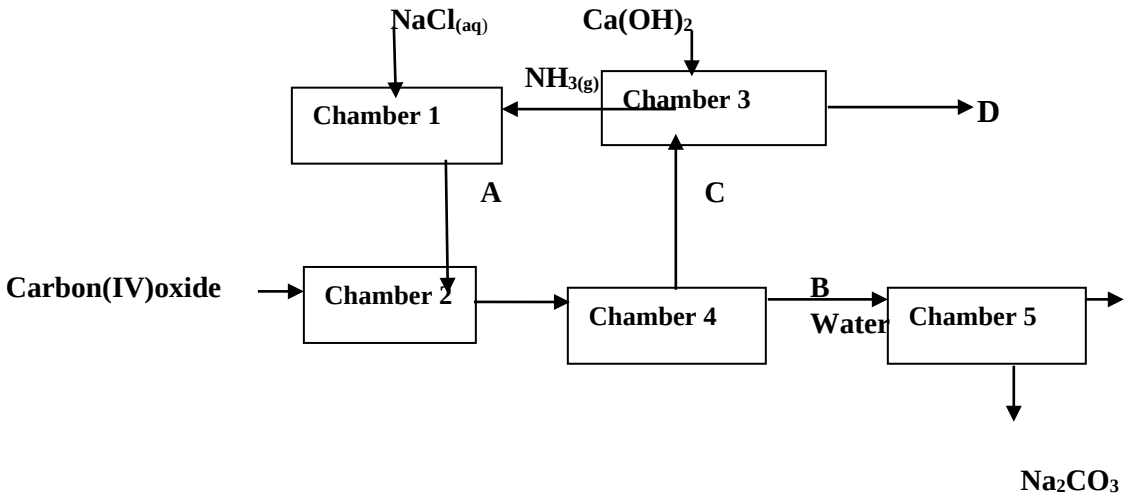
5. The flow chart below shows industrial manufacture of sodium carbonate. Study it and answer the questions that follow.



(a) Name substances **A**, **B**, **C** and **D**. (4mks) **A**

B

C

D

(b) Write equation for the reactions taking place in chamber 3 and 5. (2mks)
Chamber 3

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Chamber 5

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(c) Name the physical process in chamber 4 and 5. (2mks)
Chamber 4

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Chamber 5

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(d) Name **one** source of cheap carbon (IV) oxide for Solvay process. (1mk)

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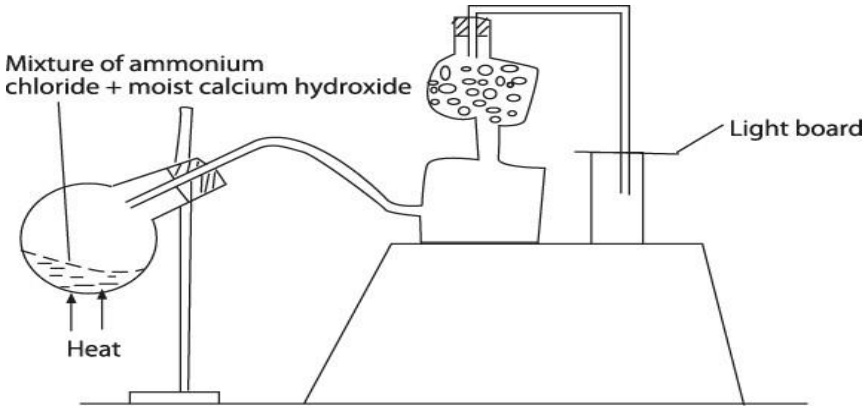
6. a) A student set up the apparatus as shown in the diagram below to prepare and collect dry ammonia gas.



i) Identify **three** mistakes in the set up and give a reason why each is mistake. (3mks)

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ii) Name a suitable drying agent for ammonia. (1mk)

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iii) Write an equation for the reaction that occurred when a mixture of ammonium chloride and calcium hydroxide was heated.

(1mk)

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iv) Describe one chemical test for ammonia gas. (1mk)

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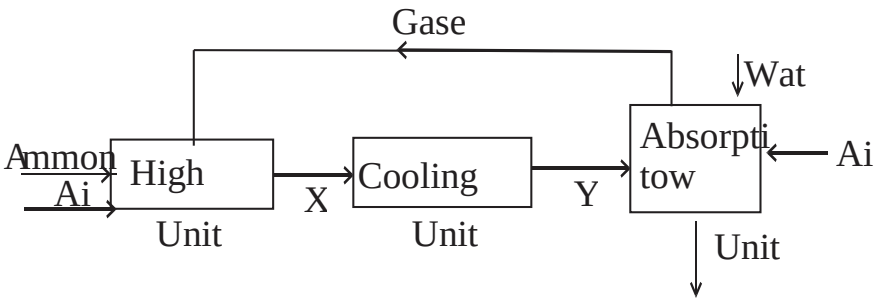
b) Ammonia gas is used to manufacture nitric (V) acid as shown below.



i) This process requires the use of a catalyst. In which unit is the catalyst used? (1mk)

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ii) Identify compound X and Y. (2mks)

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iii) Ammonia reacts with nitric (v) acid to form ammonium nitrate fertilizer. Calculate the percentage composition of nitrogen in ammonium nitrate. (N = 14, O = 16, H = 1) (3 marks)

7. a) ***State*** Graham's Law. (2mks)

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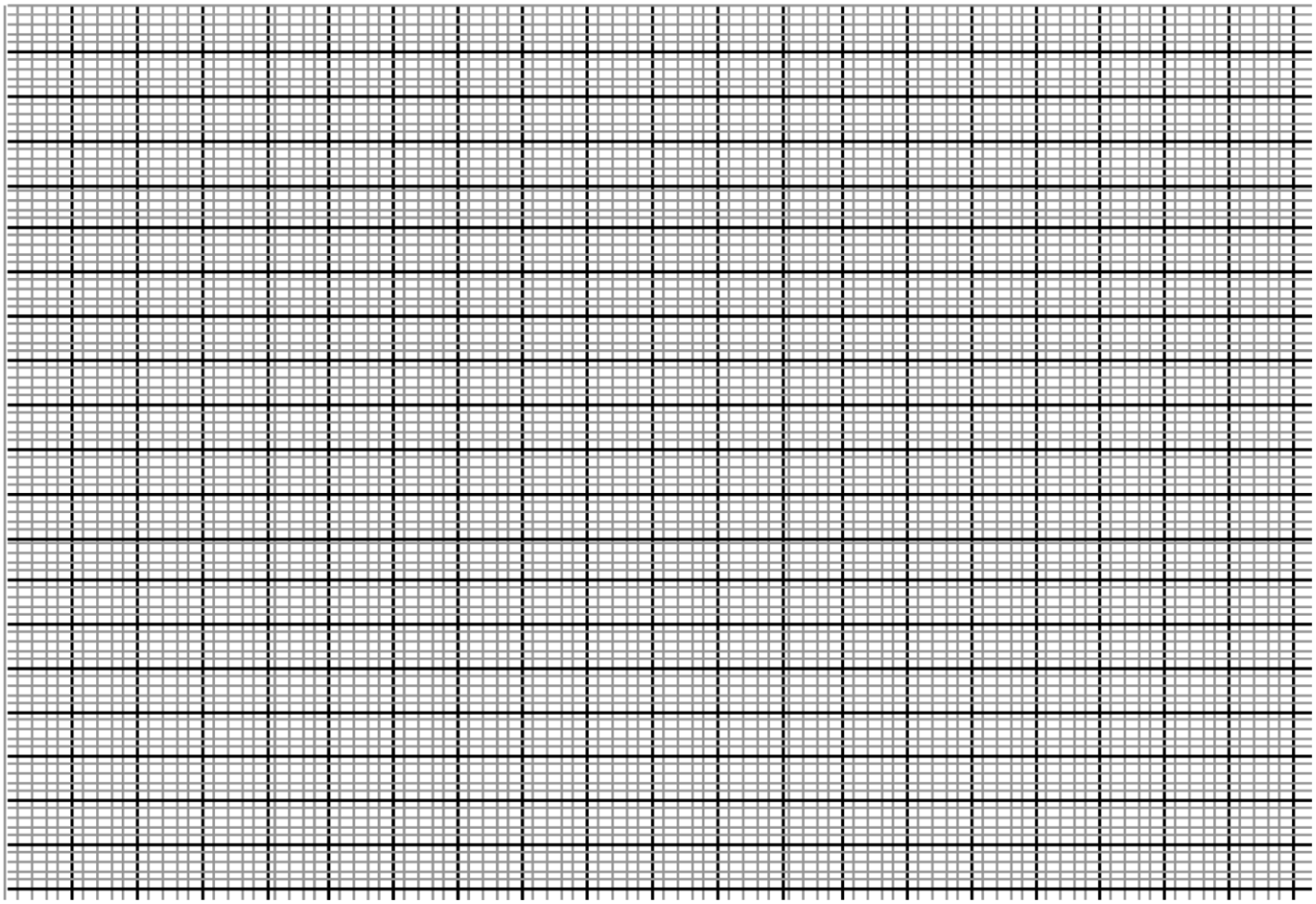
b) The table below shows the relationship between the pressure and volume of a fixed mass of ozone gas.

Pressure (K pa)	1	4	8	16	20	160
Volume (cm^3)	140	40	20	10	8	1

Inverse of volume 1/v (cm^{-3})						

i) Complete the table by filling the inverse of volume. (3mks)

ii) ***Draw*** a graph of pressure against the reciprocal (*inverse*) of volume. (4mks)



c) Using the graph, ***determine*** the volume of ozone if pressure is 12Kpa. (3mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

233/3

CHEMISTRY

PAPER 3

FORM III

END TERM 2 EXAMS

Time: 2 hours

INSTRUCTIONS TO THE CANDIDATES:-

- Write your **name** and admission **number** on the spaces provided.
- Answer ***all*** the questions in the spaces provided.
- Mathematical tables and electronic used calculators may be
- All working **MUST** be clearly shown where necessary.

Question	Maximum score	Candidate's score
1	20	

1. You are provided with:

   - Solution A – containing 21.2g per litre of anhydrous sodium carbonate ($Na_2CO_{3(s)}$)

- Solution B – Nitric (V) acid solution
- Solution C – metal hydroxide $M(OH)_x$

Procedure 1

i) Fill the burette with solution B ii) Using a pipette, transfer 25cm^3 of solution A into a clean conical flask and add 1-2 drops of methyl orange indicator.

iii) Titrate with solution B from burette.

iv) Repeat the titration to obtain accurate results and record the data in the table below.

(4 marks)

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

a) Find the average volume of solution B used. (1 mark)

b) Given that the equation for the reaction is

$Na_2CO_{3(aq)} + HNO_{3(aq)} \quad NaNO_{3(aq)} + H_2O_{(l)} + CO_{2(g)}$

Calculate;

(i) The number of moles of sodium carbonate in 25 cm^3 of solution A (3 marks)

(ii) The number of moles of the acid in the titre volume obtained. (1 mark)

c) Hence find the molarity of nitric (V) acid solution B. (1 mark)

Procedure II

i) Pipette 25cm^3 of solution C into a clean conical flask.

ii) Add 1-2 drops of methyl orange indicator. iii) Titrate with solution b.

iv) Repeat the titration to obtain accurate results and fill the table below.

(4 marks)

Table II

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

a) Find the average titre volume of solution B used. (1 mark)

b) Calculate;

i) The number of moles of solution B used in the reacting volume. (1 mark)

ii) The number of moles of solution C in $25cm^3$ of the the solution. (1 mark)

c) Determine the equation for the reaction between the hydroxide $M(OH)_x$ and nitric (V) acid. (2marks)

d) What is the value of x in $M(OH)_x$? (1 mark)

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ……

School: ……

Index no: …… Candidate's signature: …… Date: ……

TERM 2
END-TERM EXAMS
C.R.E. PAPER 1

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FORM THREE
TIME 2 ½ HRS.

INSTRUCTIONS: Answer Any Five Questions.

1. a) With reference to the accounts of creation in Genesis 1 and 2 identify eight attributes of God. (8 marks)
 b) Outline the responsibilities given to human beings by God in the Genesis stories of creation (6 marks)
 c) Identify reasons why man is a special creature to God. (6 marks)

2 a) Describe ways in which Moses showed his obedience to God. (7 marks)
b) State six instructions given to Abraham concerning circumcision. (6 marks)
c) Identify seven importances of covenants in modern life. (7 marks)

3 a) Give seven circumstances that led to the spread of idolatry in Israel. (7 marks)
b) Why did Elijah face danger and hostility as a prophet of God? (7 marks)

c) Highlight six lessons that Christian can learn about social justice from the story of Naboth's vineyard. (6 marks)

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4 a) How were the prophetic messages written? (6 marks)
b) State eight teachings of Amos on the Lord's Day. (8 marks)
c) What lessons do Christians learn from Amos' message on judgment? (6 marks)

5 a) Describe the fall of Jerusalem during the time of Jeremiah. (8marks)
b) Mention the content of Jeremiah's message in his pastoral letter to the exiles. (6 marks)
c) Give the relevance of Jeremiah's Temple Sermon to Christian today. (6 marks)

6 a) State seven reasons why initiation is important in traditional African community(7 marks)
b) Explain the traditional African concept of life. (7 marks)
c) State ways in which the government in Kenya minimizes problems related to land. (6 marks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

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Name: ……

School: ……

Index no: …… Candidate's signature: …… Date: ……

END OF TERM TWO EXAMS
FORM THREE
C.R.E PAPER 2
2 ½ HRS

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END OF TERM TWO EXAMS

INSTRUCTIONS.

Answer any five questions,

1a.) Explain the Jewish expectations concerning the Messiah. (7mks)

b.) Give seven similarities in the annunciation of the birth of John the Baptist and that of Jesus Christ (7mks)

c.) State ways in which Christians play the role of the Baptist (6mks)

2a.)What does Christian learn about Jesus from the incident when he was baptized (6mks)

b.)Describe the temptation of Jesus in the wilderness Luke4:1-13 (7mks)

c.) Outline seven lessons Christians learn from the temptation of Jesus (**7**mks)

3a.) Describe the triumphant entry of Jesus into Jerusalem Lk19:28-40 (8mks)

b.) Outline six teachings of Jesus on prayer (6mks)

c.) Why do some Christians feel it difficult to prayer (6mks)

4. a) State six characteristics of love according to St. Paul in 1cor13 (6mks)

b) Explain four ways in which the unity of believers is expressed in the image of the bride (8mks)

c) Identify six roles of the Holy Spirit in the church today. (6mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

5a) Identify the gifts of the holy spirit according to St Paul 1st Corinthians 12; 7-12 (7mks)
b) How was the life of peter transformed on the day of Pentecost (6mks)
c).State ways in which the gifts of the Holy Spirit are abused in church today (6mks)

6a) Identify four teachings of St Paul on the similarities between the church and husband wife Relationship. (8mks) b) Give ways in which Christians prevent division in church today (7mks)

c) State five ways in which Christians are able to identify those who posses the gifts of the Holy
Spirit (5mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

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Name: ……

School: ……

Index no: …… Candidate's signature: …… Date: ……

101/1

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ENGLISH
PAPER 1
(FUNCTIONAL SKILLS)
FORM THREE
END OF TERM 2 EXAM
TIME 2 HOURS

INSTRUCTIONS:
Answer all the questions in the spaces provided.

1. FUNCTIONAL WRITING (20 MARKS)

Applications are invited from interested and competent candidates to join Dreamland Production, a music production company, as a music producer.

The interested candidates must be:

- Kenyan citizens
- Aged between 18-25 years
- Creative
- Self-driven

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- Able to meet tight deadlines.

Applications should be addressed to:

The Human Resource Manager

Dreamland Production P. O.

Box 14080- 20100

Nakuru.

Write an application letter that would enable you to clinch the job. (20 marks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

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2. CLOZE TEST: (10 MARKS)

Read the passage below and fill in the blank spaces with the most appropriate word.

It was not until the second half of this century that the rights of the child became of international concern. (1) _____, children were generally classed (2) _____ that group of persons who were under a legal disability, (3) _____ women, idiots and lunatics. (4) _____ the industrial revolution in Europe, children (5) _____ used as labourers. (6) _____, during the wake of the women's rights movement in _____ late 19th century in Europe and

America, children's rights issues created an awareness. In recent (8) _____, children's rights are no longer (9) _____ together with women's rights and are now (10) _____ their own place in the law; there has been a shift that has accorded children a special place in the law.

3. ORAL SKILLS (30 MARKS)

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

ESCAPE FROM THE CITY

I seek a quiet country life
Without the city's burstling strife
I seek the sight of trees ablaze
Instead of streets that form amaze

Barbara Klinger

QUESTIONS:

(i) Describe the rhyme scheme of the above poem. (2 mks)

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……. (ii) Identify two mnemonic devices in this poem and state their effectiveness. (4 mks)

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(iii) Which words would you stress in line 3 and why? . (2 mks)

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(iv) How would you say the first line of this poem and why? (2 mks)

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(v) Write two sentences; one with the word form as a noun and another as a verb. (2mks)

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(b) <u>Underline the word in which the vowel sound is different in the following sets of words.</u>

(4 mks)

(i) ship	sheep	sleep
(ii) pull	pool	book
(iii) bark	park	buck
(iv) barn	ban	bag

(c) <u>State whether the stress would fall on the first or second syllable on the word in bold by underlining.</u> (4 mks)

(i) I don't like associating with that **rebel**.

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(ii) Mary has a lot of **respect** for her elders.

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(iii) I will give you my **contact** address today.

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(iv) You can **access** the house through the back door.

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(d) <u>Underline the silent letters in the following words.</u> **(4 mks)**

(i) subtle

(ii) comb

(iii) white

(iv) hymn

(e) For each of the words below, provide another word with the same pronunciation(4 mks)

(i) Profit – **……** (ii) mete –

……

(iii) dough – **……**

(iv) key – **……**

(f) <u>Read the genre and answer the questions that follow.</u>

How high up has he heaved his heavy hoe?

(i) Identify the genre above. (1 mk)

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(ii) Mention one characteristic of the above genre. (1 mk)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

101/2
ENGLISH
FORM THRE
(Comprehension, Literary appreciation and grammar)
END OF TERM 2 EXAM
TIME: 2 ½ HOURS

INSTRUCTIONS:
Answer all the questions in the spaces provided.

1. COMPREHENSION.
Read the passage below and answer the questions that follow after it:

Those who have never travelled by air imagine that it is an interesting experience. It is, in some ways, but I would like to show some of the disadvantages. When travelling long distances, one disadvantage is the close proximity of your travelling companions. At least in a crowded train you can get up on the pretext of going to stretch your legs in the corridor, which gives you an opportunity to see if there is a vacant seat with less offensive passengers in another compartment, or, if the worst comes to the worst, you can spend the greater part of the journey in the buffet car eating tired sandwiches and drinking a brown liquid referred to as coffee out of paper cup. You may not enjoy it but it may well be the lesser of the two evils.

Not so on the plane. Inevitably, you find yourself wedged in the middle of a row seating many people. How some unfortunate travellers manage to get the isle or window seats. I have never been able to discover, since they do not look significantly different from anyone else. Perhaps it is done by shameless lying: Excuse me, stewardess, but I must get a seat next to the window as I am recovering from a spinal operation, or I am afraid unless I sit by window, I will get sick and mess up everybody. All I know is, I have never been able to invent a convincing reason.

So, there I am, wedged next to the fattest man on the plane on one side, and the most fidgety child on the other. No room to stretch my legs, barely room to fasten my seat belt, nowhere to rest my arms – in other words, I am sitting „encaged like a sausage, constantly squeezed and trampled over by other members of my row trying desperately to reach the aisle or get a view from the window. And when it is time for food, it is even worse. Either the fat man gets my tray as well as his own, or the child, displaying a well-timed fit of temper, sends my meat nearly flying in all directions.

Time and space will not allow me to tell you about other miseries. But do you know? The stewardess could address you in a strange tongue and become impatient when you fail to

respond. The food could he strange and unpalatable…….. and you never quite forget that should something happen you would meet your maker without any delay whatsoever.

Well, man's conquests of the air may be his most outstanding achievement to date, but as far as I am concerned, it's an international disaster.

a) In your own words, say why travelling by air is not a pleasant thing. Use the information given in the first three sentences of the passage. **(2 marks)**

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b) According to the passage why is it better to travel on a crowded train than on a crowded plane?(3 mks)

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c) What is implied by the food served in a train? Illustrate your answer. (2 marks)

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d) The writer points out that he has been unable to invent a convincing reason so as to be excused to occupy the window seat. What reason does he give to support this claim? (2 marks)

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e) In **point form**, write the reasons why the writer envies those who get the aisle or window seats. (4marks)

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f. What does the expression encaged like a sausage mean? (2 marks)

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g. Time and space will not allow <u>me</u> to tell you about other miseries. (Rewrite the sentence changing the underlined pronoun to subjective case) (1 mark)

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h. How offensive are the passengers is the writer referring to in paragraph 1 of the passage?(2 marks)

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i. What is the mood of this passage? (2 marks)

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2. <u>READ THE EXTRACT BELOW AND ANSWER THE QUESTIONS THAT FOLLOW</u>

Yes, that is how Oloisudori defined success, Ole Kaelo thought bitterly. And he and many others define it in the same way.

The archaic adage that exhorted the young and up-coming businessmen to take care of cents and let the shillings take care of themselves was regarded by the likes of Oloisudori to be untenable.

Instant riches, just as instant tea or instant coffee were the thing. And the instantaneous bliss brought in an on-the-spot feeling of well-being, felicity and happiness. That was what everyone wanted, Ole Kaelo reasoned, and that was what he himself had always wanted. And that was the reason, like a stinking rotten carcass would draw a torrent of flies to itself, people like him and many others got drawn to the murky business of Oloisudori.

"But now the chickens had come home to roost," Ole Kaelo lamented ruefully. Oloisudori was now demanding his pound of flesh. He recalled the events of that afternoon when Oloisudori came calling. Seeing him in his house unexpectedly, had signaled trouble with his contracts. But Oloisudori had allayed his fears, saying that all was well in that direction. That had restored his peace and calmed his frayed nerves. The success of the shop depended entirely on those contracts. Even the large stocks he held in the go downs were secured on the strength of those contracts. It was therefore gratifying to hear him confirm all was well. What did he want then? He had wondered. But he did not have long to wonder for long, for Oloisudori did not believe in niceties. He had lifted his head, letting a small silence draw out between them, he told him, "There is a small matter that I would like us to discuss."

Questions

a) What is the small matter Oloisudori wishes to discuss? (2 marks:

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b) How does the small matter affect the Ole Kaelo family? (2 marks:

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c) How does Oloisudori come into the lives of the Ole Kaelos? (2 marks:

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d) Discuss the characters of the following: (6 marks

i. Oloisudori

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ii. Ole Kaelo

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……. e) Explain a theme implied in the extract. (3 marks

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……. f) Give the meanings of the following: (3 marks

i. archaic

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ii. pound of flesh

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iii. niceties

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g) List and explain one stylistic device used in the extract. (2 marks

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QUESTION 3

Read the narrative below and then answer the questions that follow.

There was a famine in the animal kingdom. This famine had lasted so long that any existing source of food had been completely depleted. The animals knew they had to do something real quick or they would all die off one by one. They called a meeting where every animal was in attendance and they determined that they had to do something **drastic**. It was decided that the mothers would be sacrificed to ensure the continuation of the animal races. They would eat their mothers.

The dog who had been at the meeting decided to hide his mother. He was not going to sacrifice his mother, so he hid her in the sky. Every day, he would go to a particular spot where he sang a song asking his mother to drop a rope.

Dog would sing:
Mother Mother send down your rope
All have killed and eaten their mothers
Dog has taken his mother to the sky
Mother Mother send down your rope

His mother would drop a rope and the dog would climb to the sky where his mother would have a feast waiting for him.

One day as the dog was singing for his mother to drop the rope, the tortoise was passing by and he hid himself to observe what was going on. He heard the song dog was singing, then he saw a rope being dropped from the sky with which the dog climbed to the sky.

The following day, the tortoise went to the same spot and **disguising** his voice like the dog's, he sang the song he had heard the dog sing the day before. A rope dropped from the sky and the tortoise began to climb this rope. At this same time, the dog was just approaching the same spot and he saw the tortoise climbing to the sky. The dog immediately started to sing to his mother. This time, he sang that he was not the one climbing the rope and his mother should cut the rope. Dog's mother got a pair of scissors and cut the rope sending the tortoise crashing to the ground. This caused tortoise shell to break into several pieces. He managed to **glue** these pieces together but that is how the tortoise ended up with the rough shell we know today.

(a) With a reason, classify this oral narrative. (2marks)

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(b) Identify and illustrate **two** features of oral narratives evident in the story above.(4marks)

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(c) How important is the song sung by dog to his mother? (2marks)

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(d) Why did the dog have to sing at that particular spot? (2marks)

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(e) Describe **two** character traits of Dog as depicted in the story. (4marks)

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(f) Explain **one** theme evident in the story. (2marks)

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(g) The following day, the tortoise went to the same spot and disguising his voice like the dog's, he sang the song he had heard the dog sing the day before.

(1mark)

Rewrite beginning with: The tortoise…

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Give the meaning of the following words as used in the story. (3marks)

i. Drastic

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ii. Disguising

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…… iii

Glue

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4. GRAMMAR

(a) ***Use the correct form of the word in brackets to complete the following sentences:***

[5 marks]

i. The dress I bought for my baby has**……**(shrink) ii. The government promised to cushion Kenyans against Covid-19 until**……** returns.(normal)

iii. The financial experts advised me that it is**……** (hazard) to think of investing now.

iv. Resian lives in a**……** (dominant) male society.

v. Taiyo and Resian's lives were**……**(separate) linked.

(b) ***Replace the underlined word in each of the following sentences with appropriate phrasal verb.***

[3 marks]

i. Agege always <u>visits</u> at meals time.

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…… ii.

The late president of Burundi refused to <u>relinquish</u> power in 2015 leading to bloodshed.

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..... iii.

The ten people who tested positive for Covid-19 are <u>stabilizing</u> at Mbagathi Hospital.

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(c) ***Rewrite the following sentences as instructed. Do not change the meaning*:** [4 marks]

It was a bizarre incident.[Rewrite beginning: How……..]

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i. Walking around without wearing a mask is dangerous.[Rewrite using a to infinitive]

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ii. It would be unwise to open schools amid the Covid-19 pandemic. (extremely). [Put the word in brackets in its correct position in the sentence]

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iv)When the people burst into the councilors office he had not even sat down. (Begin: Hardly)

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d) Fill the blank spaces with the correct preposition

a) I am indebted _____ him for the help he gave me.

b) She has always confided _____ him.

c) The ailing man has been in bed _____ the whole week

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

101/3

ENGLISH

(CREATIVE COMPOSITION AND ESSAY BASED ON SET TEXT)

PAPER 3 FORM THREE.

TIME: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES: -

- *Answer **three** questions only*
- *All questions are compulsory*
- *Each of your essays must not exceed **450** words.*
- *All answers to be written in the answers booklet provided.*

FOR EXAMINERS USE

Question	Maximum	Candidate's score
1	20	
2	20	

3	20	
Total Score	**60**	

1. CREATIVE COMPOSITION (20MKS)

Write a story **ending with,**

……. I realized there and then that appearances can be deceptive.

2 DISCUSSIVE ESSAY. [20MKS]

Discuss various ways in which the Kenyan government can address insecurity in the country.

3 THE COMPULSORY SET TEXT [20MKS]

"Money is the source of all evil." Support this statement with illustrations from the play, A Doll's House by Henrik Ibsen.

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: …… School:

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Index no: …… Candidate's signature: …… Date: ……

END OF TERM 2
FORM THREE GEOGRAPHY
312/1 (GEOGRAPHY PAPER 1)
TIME: 2 HOURS 45 MINUTES

INSTRUCTIONS TO CANDIDATES

- *This paper has **two** sections:**A** and **B***
- *Answer **ALL** the questions in **section A.***
- *In section **B,**answer **questions 6** and any other **TWO** questions.*
- *All the answers must be written **in English**on the foolscaps provided.*

SECTION A

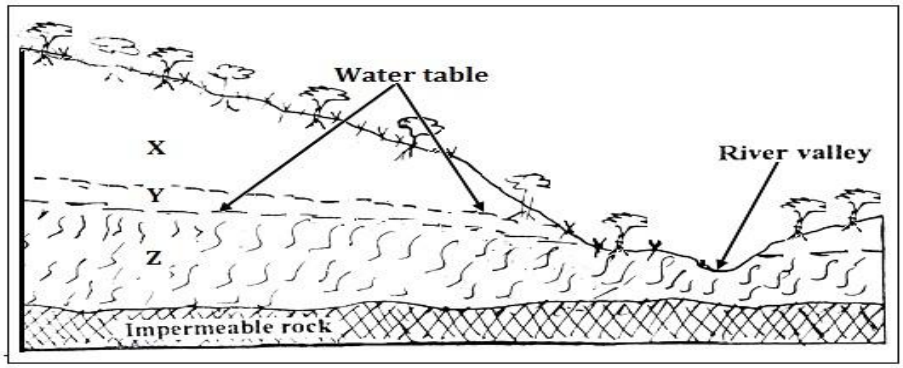
(Answer all the questions from this section**)**

1. (a) Define the term mineral. (2 marks)
(b) Give**three** examples of metamorphic rocks. (3 marks)

2. (a) Differentiate between rotation and revolution of the earth. (2 marks)
(b) State **three**reasons why the interior of the earth is very hot. (3 marks)

3. (a) Name **two** areas in Kenya where heath and moorland vegetation is found.(2 marks)
(b) State **three**characteristics of mangrove forests. (3 marks)

4. The diagram below shows a vertical section through the zones of underground water.



(a) Name the zones marked X, Y and Z (3 marks)

(b) State three ideal conditions necessary for the formation of an artesian well(3 marks)

5. Outline**four** ways through which lakes in Kenya were formed. (4 marks)

SECTION B

(Answer question 6 and any other two questions from this section**)**

6. Study the map of Yimbo provided and use it to answer questions that follow.

(a) (i) Give **two** methods used to present relief on the map extract. (2 mark)
(ii) What is the latitudinal extent of the area covered by the map?(2mark)
(iii) Determine the six figure grid reference of a waterhole North of Port Southby. (2 marks)
(b) (i) Identify **four** types of natural vegetation in the area covered by the map.

(4 marks)

(ii) Citing evidence from the map, give **two** social services offered in the area covered by the map. (4 marks)

(iii) Describe the relief of the area covered by the map (5 marks

(c) Draw a square 10 cm by 10 cm to represent the region west of easting 21 and North of Northing 90. On the square, mark and name:

- Lake Sare
-A thicket
-Busia District
-All weather road loose surface. (6 marks)

7. (a) (i) Differentiate between weather and weather forecasting. (2 marks)

(ii) Give **three** examples of low clouds. (3 marks)

(b) Explain how the following factors affect the temperature of a place:

(i) Cloud cover. (3 marks)

(ii) Aspect. (3 marks)

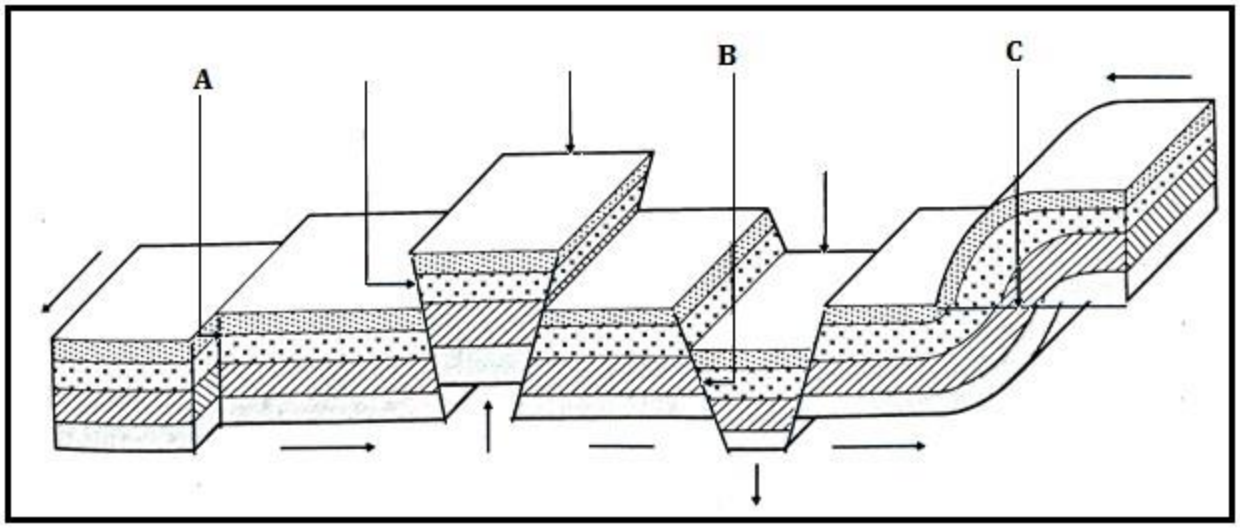
(c) With the aid of a well labelled diagram, describe how convectional rainfall is formed. (8 marks)

(d) Suppose you were to carry out a field study at a weather station:

(i) State **three** objectives that you would set for the study. (3 marks)

(ii) Give **three** follow up activities for the field study. (3 marks)

8. The diagram below represents types of faults and some fault features.



(a) Name the type of faults marked A, B and C. (3 marks)

(b) Explain how Isostatic adjustment causes earth movements (3 marks)

(c)(i) Apart from rift valleys and fault blocks, list **three** other features formed due to faulting. (3 marks)

(ii) Using well labelled diagrams, describe how a rift valley is formed due to compression forces. (8 marks)

(d) Explain **four** ways through which features resulting from faulting affects human activities. (8 marks)

9. (a) Define the term desertification. (2marks)

(b) Explain **three** ways in which wind transports its load (6marks)

(c) With the aid of a well labeled diagram, describe how yardangs are formed.(7 marks)

(d) A group of form four students went out for a field study on action of water in an arid area.

(i) Name**three**erosional features that they are likely to have observed.(3 marks)

(ii) State **three** problems they have encountered during the field study. (3marks)

(iii) What activities would they recommend to the residents in the area as an effort to control desertification? (4 marks)

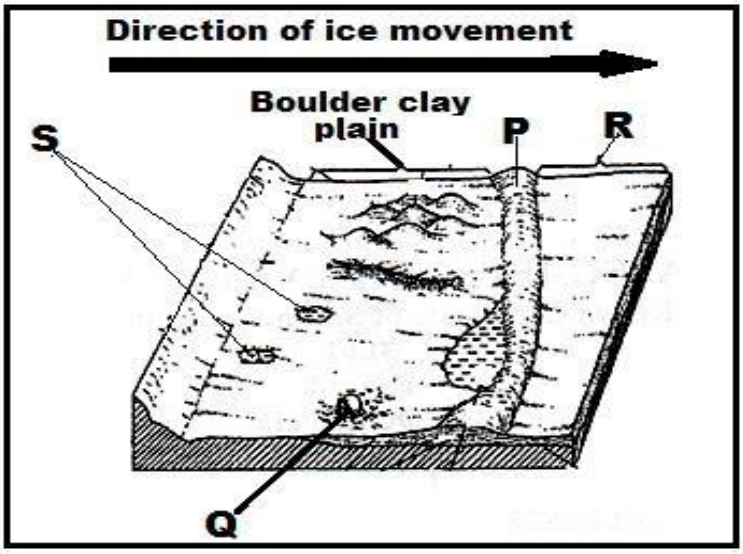
10. (a) List **three** types of glacier. (3marks)

(b) Explain how glacier erodes through the following processes.

(i) Plucking (3 marks)

(ii) Abrasion (3 marks)

(c) The diagram below shows some features formed due to glacial deposition in lowlands.



(i) Name the parts marked P, Q, R and S. (4marks)

(ii) Describe how a glacial troughis formed. (6marks)

(d) Explain **three** negative effects of glaciated landscapes. (6 marks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

312/2
GEOGRAPHY
PAPER 2.
END TERM 2 EXAM
FORM 3
TIME: 2 ¾ HRS

Instructions.
This paper contain TWO section A and B. answer all questions in Both sections. In a separate booklet provided.

SECTION A.

1. a. What is mining? (2mks)

   b. State three factors influencing the occurrence of minerals. (3mks)

2. a. Name two indigenous softwood trees species. (2mks)

   b. Give three factors that favour the growth of Natural forests on the slopes of Mt. Kenya. (3mks)

3. a. What is sampling? (2mks)

   b. Give three main types of sampling techniques. (3mks)

4. a. List two open cast methods of mining. (2mks)

   b. What are the effects of dereliction of land during mining? (3mks)

5. a. A student was requested to pick out fourteen numbers randomly from a set of numbers. She picked 20, 37, 1, 66, 42, 12, 6, 15, 12, 42, 100, 3, 82, and 42. Calculate:
   i. The mean of the data. (2mks)

   ii. The mode of the data. (1mk)

iii. The median of data. (2mks) **SECTION B.**

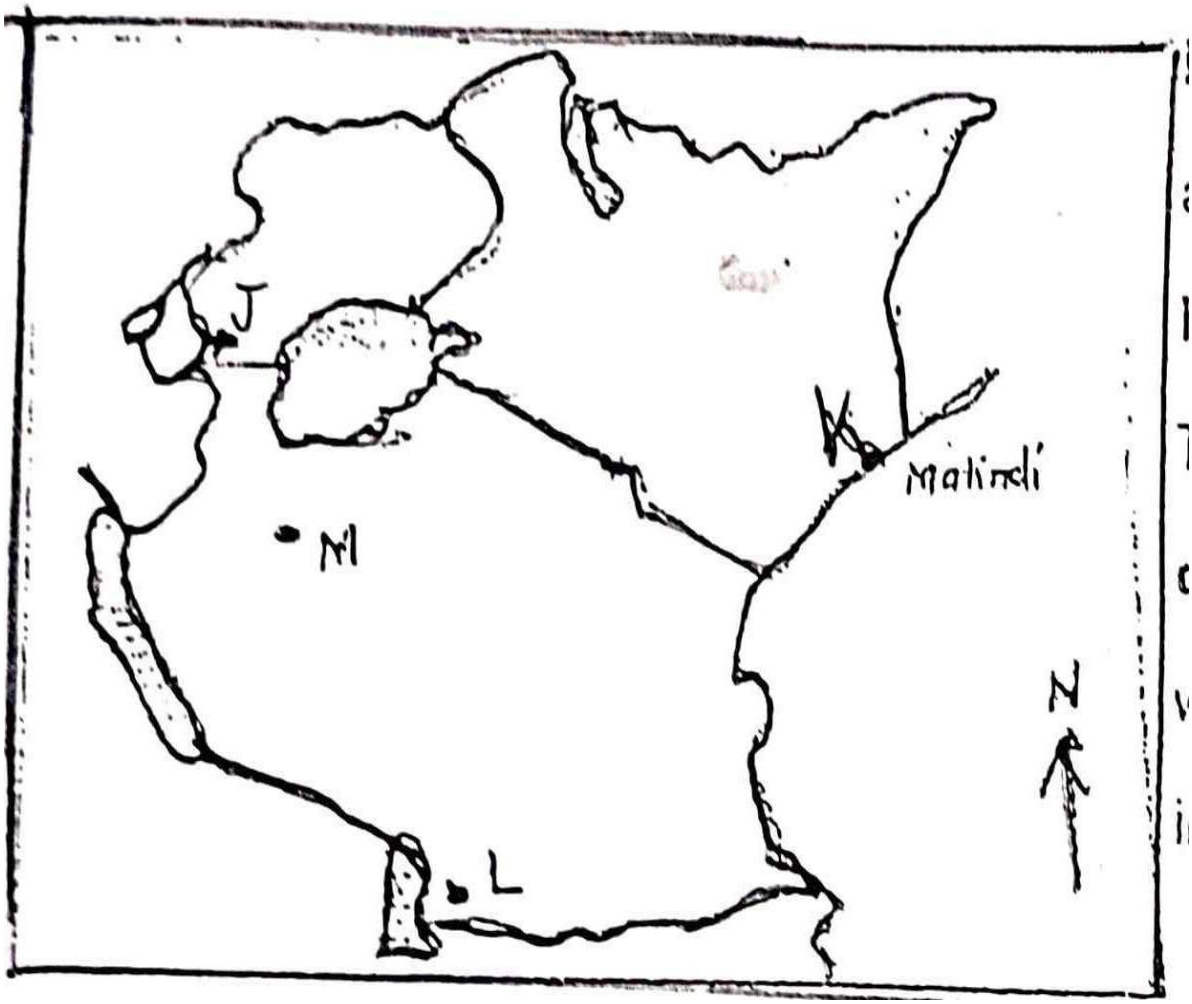
6. a. The table below shows hypothetical data of minerals production in Tanzania in tones. Use it to construct proportional divided circles.

	Quantity in tonnes		
Minerals	**1998**	**1999**	**2000**
Graphites	200	490	930
Fluorspar	30	255	450
Soda ash	270	300	350
Diamond	500	870	1270
Total	1000	1915	3000

b. State three advantage of proportional divided circles. (3mks)

7. a. State four factors influencing exploitation of minerals. (4mks)

c. The map below show location of mineral in East Africa, use it to answer questions c (i) diagram



i. Name the minerals found in areas marked J, K, L and M. (4mks)

ii. Describe the process of Trona in Lake magadi. (4mks)

d. Your class intend to carry out a field study of mining of Trona in Lake Magadi.

i. State four reasons why it is important to conduct a reconnaissance. (4mks)

ii. Give three items to be included in the working schedule for the study . (3mks)

e. State three benefits of Trona to the economy of Kenya. (3mks)

8. a. What is forestry? (2mks)

ii. Apart from tropical hardwood forest name twoother types of natural forest. (2mks)

iii. State the problems experienced in exploitation of tropical hardwood forest. (5mks)

b. List the characteristics of planted forests in Kenya. (5mks)

c. Explain three factors that favour forestry in Canada. (6mks)

d. Give five measures that the government has taken to conserve and manage forests in Kenya. (5mks)

e. Form four students in your school carried out a field study on the forestry within the county.

i. Give reasons they had to prepare a working schedule. (3mks)

ii. What are the problems likely to be encountered during the field study? (2mks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

311/1
HISTORY AND GOVERNMENT
PAPER 1
FORM 3
TIME: 2½ hours

Instructions to Candidates

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

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

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

SECTION A (25 MARKS)

ANSWER ALL QUESTIONS FROM THIS SECTION.

1. Which type of government is practiced in Kenya? Give a reason. (2 marks)

2. Identify **two** features in which Kenyan communities interacted in the pre- colonial period. (2 marks)

3. Name two features of the independent constitution. (2 marks)

4. List **two** symbols of national unity in Kenya. (2 marks)

5. Give **two** ways in which a Kenyan citizen by registration may lose his or her citizenship. (2 marks)

6. Name **two** roles of the Mijikenda Council of elders during the pre-colonial period. (2 marks)

7. Give **two** negative consequences of Portuguese rule at the East African Coast. (2 marks)

8. Name any **two** national days in Kenya. (2 marks)

9. Identify **one** method used by the British to occupy Kenya. (1 mark)

10. Name **one** Kenyan community that displayed mixed reaction in Kenya. (1 mark)

11. Identify **one** independent church established in colonial Kenya. (1 mark)

12. Name the newspaper published by the Kikuyu Central Association. (1 mark)

13. Give **one** challenge faced by Independent schools in Kenya. (1 mark)

14. Which event led to the declaration of the state of emergency in Kenya. (1 mark)

15. Give **one** factor that led to nationalism in Kenya after 1945. (1 mark)

16. Give **one** challenge that faced KANU in the struggle for independence. (1 mark)

17. Mention **one** role played by the Trade union movement in the colonial era. (1 mark) **SECTION B (45 MARKS)**

ANSWER ANY 3 QUESTIONS FROM THIS SECTION

18. a) State **five** reasons why the Nilotes moved from the original homeland. (5 marks)

b) Describe the social organization of the Agikuyu during the pre- colonial era. (10 marks)

19. a) Name **five** effects of Maasai collaboration. (5 marks)

b) Explain why the Nandi resisted British rule. (10 marks)

20. a) Name **three** Kenyans who formed AEMO in 1957. (3 marks)

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

21. a) Mention **five** reasons for the construction of the Uganda railway. (5 marks)

b) Explain **five** factors that promoted settler in Kenya. (10 marks)

SECTION C (30 MARKS)

ANSWER ANY 2 QUESTIONS FROM THIS SECTION

22. a) Mention **three** reasons why Africans were not allowed to grow cash crops in the colonial period. (3 marks)

b) Discuss the effects of urbanization in the colonial era. (12 marks)

23. a) Name **three** terms of the Devonshire white paper of 1923. (3 marks)

b) Discuss **six** roles of women in the MAUMAU Rebellion. (12 marks)

24. a) Name **three** early political associations formed before 1939. (3 marks)

b) Discuss the features of early political associations. (12 marks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

311/2
HISTORY AND GOVERNMENT
PAPER 2
FORM THREE
END TERM TWO
2HRS 30MIN

SECTION A (25 MARKS)

Answer all the questions in this section

1. Name countries that use constitutional monarchy form of government. (2mks)
2. Give the meaning of the term History.(1mk)
3. Identify 2 sources of History and Government. (2mks)
4. Name two periods in the metallic age period. (2mks)
5. Outline one aspect of history. (1mk)
6. Identify the human ancestors associated with the new stone age. (2mks)
7. Name one species of Austropithecus. (1mk)
8. Name one Paleolithic period. (1mk)
9. Name two sources of the British constitution. (2 marks)
10. Define the term scramble. (1 mark)
11. Name one community that collaborated with the British outside Kenya (1mk)
12. Give two ways used by the Europeans to acquire colonies in Africa. (2 marks)
13. List two communes where assimilation was practiced in Senegal. (2 marks)
14. Name two types of democracy. (2 marks)
15. Name one reform introduced after the Majimaji rebellion. (1 mark)
16. State one factor that helped Samouri Toure to resist the Europeans. (1 mark)
17. Name the British company that administered southern Africa during the company rule. (1 mark)

SECTION B (45 MARKS)

Answer any three (3) questions

18. **a**) State two inventions in agriculture during the Agrarian revolution. (3mks)
    b) Explain the impacts of the early agriculture in Mesopotamia. (12mks)

19. a) Outline five advantages of animal transport. (5mks)
    b) Discuss the challenges facing industrialization in the third world countries (10mks)
20. a) Identify three economic factors for the scramble of Africa. (3mks)

b) Explain the results of the Chimurenga war. (12 marks)

21. a) State three qualifications for assimilation. (5mks)

b) Discuss the reasons for the defeat of Samouri Toure. (10mks)

SECTION C (30 MARKS)

Answer any two (2) questions 22. a)

State three terms of Berlin conference (3mks)

b) Explain the reasons why the British used direct rule in Zimbabwe. (12mks) 23. a) state three economic activities of the Buganda (3mks)

b) Describe the social organization of the Asante. (12 marks)

24. a) State three early sources of energy. (3 mks)

b) Explain six features of the industrial revolution in Britain. (12mks)

FORM 3 END TERM 2 SERIES 2 EXAMS

JINA : _____

SHULE : _____

NAMBARI YA USAJILI _____ **SAHIHI** _____ **TAREHE** _____

KIDATO CHA TATU

102/1

KISWAHILI

Karatasi ya 1

INSHA

MUDA : SAA 1 ¾

MAAGIZO:

i. Andika Insha mbili. Insha ya kwanza ni ya **lazima**.

ii. Kisha chagua insha nyingine moja kati ya hizo tatu zilizobaki. iii. Kila insha isipungue maneno 400. iv. Kila insha ina alama 20.

MASWALI:

1. Wewe ni katibu wa kamati ya maslahi ya klabu ya wasanii chipukizi mtaa wa Rehema. Andika kumbukumbu za mkutano uliofanywa hivi karibuni kujadili suala la usalama uliozorota.

2. Mfumo wa elimu nchini Kenya una kasoro nyingi na unafaa kufanyiwa mabadiliko. Eleza.

3. Andika kisa kinachodhihirisha maana ya methali: Ujana ni moshi ukienda haurudi.

4. Tunga kisa kinachomalizika kwa maneno haya: ... *Hapo ndipo iliponipambazukia kuwa nilikuwa naogelea baharini pekee, kinyume na wenzangu wote.*

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FORM 3 END TERM 2 SERIES 2 EXAMS

JINA : _____

SHULE :_____

NAMBARI YA USAJILI _____ SAHIHI _____TAREHE _____

102/2

KISWAHILI

Karatasi ya 2

KIDATO CHA TATU

MUDA: SAA 2 ½

MUHULA WA PILI,

KIDATO CHA TATU

MAAGIZO

1. Andika **jina lako** na **namba yako** katika nafasi ulioachiwa hapo juu.

2.Weka **Darasa lako** na **tarehe** ya mtihani katika nafasi ulizoachiwa.

3.Jibu maswali yote.

4.Majibu yaandikwe katika nafasi zilizoachwa wazi katika kijitabu hiki cha maswali.

Kwa matumizi ya Mtahini pekee.

SWALI		UPEO	ALAMA
1	UFAHAMU	15	
2	UFUPISHO	15	
3	SARUFI	40	

4	**ISIMUJAMII**	**10**	
JUMLA		**80**	

1. UFAHAMU: (Alama 15)

<u>Soma kifungu kifuatacho kisha ujibu maswali yanayofuatia</u>

Mateso ya wanawakiwa ni suala la kijamii linalofaa kutazamwa kwa darubini kali. Hata hivyo wanaoathirika zaidi ni watoto ambao bado wako katika umri unaohitaji kulelewa na kupewa mahitaji ya msingi kama mavazi, malazi, elimu na mengine anuwai. Hali ya kuachwa na wazazi imekuwa ikizikumba jamii tangu enzi za mababu na kila itokeapo, wanajamii huipokea kwa mitazamo tofautitofauti, hivyo kuwafanya wanawakiwa kuathirika sana.

Baadhi ya jamii zina imani za kijadi pamwe na mila zilizochakaa zinazozifanya kuamini kuwa baadhi ya vifo hutokana na laana. Wengine huchukulia kuwa mwendazake ameondolewa na ulozi. Imani kama hizi huifanya jamii kuwatia watoto walioachwa katika mkumbo ule ule, hivyo kuwaangalia kwa macho yasiyo ya kawaida. Hili husababisha dhana gande. Hali hii husababisha kuwachukulia watoto kama wanaotoka katika kizazi kilicholaaniwa. Jamii basi hukosa kuwapa watoto hawa stahiki yao. Hata wanapojitahidi kuiwania nafasi yao, waliowazunguka huwavunja mioyo. Jitihada zao huishia kuwa si chochote kwa kuwa jamii inawatazama kama waliolaaniwa.

Punde baada ya mzazi mmoja au wote wawili waendapo wasikorudi, inatarajiwa kwamba aliyeachiwa mtoto, awe mzazi wake, mwanafamilia au jirani awajibike na kumtunza mwanamkiwa. Kunao kadha wa kadha wanaowajibika – ninawavulia kofia. Hata hivyo wengi hutelekeza jukumu hili walilopewa na Muumba. Si ajabu basi kuona kuwa idadi ya watoto wanaozurura mitaani inazidi kuongezeka kila uchao. Ukichunguza utakuta kuwa wengi wa watoto hawa ni waliopotelewa na wazazi wao. <u>Inakera</u> zaidi kugundua kuwa baadhi ya watoto hawa wana mzazi mmoja. Kwamba mke au mume wa mtu ameaga, au iwe kwamba mzazi mmoja alimzaa mtoto na kumwachia mwenzake mzigo wa ulezi, aliyeachiwa ana jukumu la kumpa mwanawe mahitaji ya msingi. Machoni pa Jalali, kila anayeupuuza wajibu huu ana hukumu yake siku ya kiama!

Ni haki ya kila mtoto kupata elimu. Katika katiba ya Kenya mathalan, elimu ya msingi, yaani kuanzia shule ya chekechea had kidato cha nne ni ya lazima. Tangu hapo hata hivyo, jamii zimekuwa zikiwanyima wanawakiwa wengi elimu. Kwamba kunao wachache wanaowaelimisha baadhi ya wanawakiwa, ni kweli. Hata hivyo, wengi hukosa hata wa kuwapeleka katika shule ya chekechea, hivyo kuishia kutojua hata kuandika majina yao. Mfikirie mtu katika karne ya 21, asiyejua kusoma wala kuandika! Nani ajuaye, huenda huyo mwanamkiwa asiyepelekwa shuleni ndiye angalikuwa profesa, daktari, mwalimu, rubani au msomi mtajika na mtaalamu wa uwanja muhimu katika jamii!

Kila mtoto ana haki ya kulelewa hadi kufikia utu uzima kabla ya kupewa majukumu mazito. Katika katiba ya Kenya, utu uzima, ulio umri wa kuanza kufanya kazi huanzia miaka 18. Wanaohakikisha watoto hawa wametimiza utu uzima kabla ya kufanyishwa gange ngumu wanafaa pongezi. Hata hivyo wanawakiwa wamekuwa wakitumiwa na wengi kama punda wa huduma. Wanaaila wengine huwachukua wanawakiwa kwa machozi mengi wazazi wao waagapo nakuapa kuwahifadhi na kuwatunza wana wale wa ndugu zao, kumbe ni machozi ya simba kumlilia swara! Hata kabla ya mwili wa mzazi mhusika kuliwa na viwavi, mateso kwa mtoto yule huanza, akawa ndiye afanyaye kazi zote ngumu. Utakuta watoto wao wamekaa kama sultan bin jerehe huku mwanamkiwa yule akiwapikia, kuwafulia nguo, kudeki, karibu hata awaoshe miili! Kazi kama zile za shokoa huwa za sulubu na aghalabu husindikizwa kwa matusi yasiyoandikika.

Baadhi ya waja walionyimwa huruma huwahadaa wanawakiwa na kuwapeleka ng'ambo wakitumia vyambo, kuwa wakifika kule watapata kazi za kifahari. Maskini wale hushia kushikwa shokoa, wakawa watumwa katika nyumba za waajiri wao, bila namna ya kujinasua. Wengine hushia kutumiwa kama watumwa wa 'kimapenzi' katika madanguro, miili yao ikawa ya kuuziwa makahaba waroho wasiojali utu. Kujinasua kule huwa sawa na kujitahidi kuokoa ukuni uliokwishageuka jivu, maadamu wanawakiwa aghalabu hukosa watu wenye mioyo ya huruma ya kuwashughulikia. Wengi huitumia methali 'mwana wa ndugu kirugu mjukuu mwanangwa' kuwapuuzilia mbali wanawakiwa ambao hukimbiliwa tu wabinafsi hawa wanapofaidika wenyewe.

Maswali

a) Ipe taarifa hii anwani mwafaka. **(alama 1)**

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b) Eleza dhana ya mwanamkiwa kwa mujibu wa kifungu. **(alama 2)**

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c) Eleza imani za kijadi kuhusiana na wanawakiwa. **(alama 2)**

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d) Jadili masaibu yanayowakumba wanawakiwa. **(alama 4)**

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e) Eleza haki mbili za kikatiba zilizokiukwa kuhusiana na wanawakiwa. **(alama 4)**

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f) Eleza maana ya msamiati ufuatao kulingana na kifungu. **(alama 2) i)** Inakera

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ii) Majukumu

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2. UFUPISHO **(Alama 15)**

Tunapinga na kulaani vikali visa vya ugaidi vinavyoendelea kutetemesha usalama wa wananchi. Hivi ni vitendo vya kinyama vinavovyotekelezwa na watu waliokosa ubinadamu na utu kabisa. Inaghadhabisha kuona Wakenya wasio na makosa wakiteswa na kuuawa kinyama bila huruma na watu wasio na utu. Hatuogopi wala hatuna fedheha kuamba kuwa magaidi hawa wamelaaniwa na siku zao zimehesabiwa hapa duniani. Damu ya mwananchi asiye na makosa katu watailipia. Napinga vikali pale magaidi hawa wanapohusisha vitendo hivi kuwa vita vya kidini; vita hivi si vya kidini kwani hakuna dini yoyote iliyo na imani ya kumuua kinyama binadamu asiye na makosa.

Kando na tishio la ugaidi, Wakenya pia wanakabiliwa na hatari za ujambazi, mauaji, unajisi, ubakaji na maovu mengine. Katika juhudi za kudumisha usalama, polisi wana jukumu la kutumia kila mbinu kuhakikisha kuwa haki za kikatiba za Wakenya kuhusu kulindwa kwa maisha na mali yao zimedumishwa. Lakini cha kusikitisha ni kuwa, mbinu ambazo polisi wamekuwa wakitumia hasa ile ya kufanya misako

inayoishia kuwanasa mamia ya raia wasio na habari kuhusu kinachoendelea, inawaongezea Wakenya mateso. Hali hii inawaacha kwenye hatari ya kunaswa na majambazi ama polisi.
Matumizi ya mbinu hii ya misako yameishia kunasa raia wengi wasio na makosa.Wanaponaswa, hurundikwa kwenye seli usiku mzima ama siku kadha na hata kama wanaaachiliwa huwa tayari wameteseka. Huu ni ukiukaji wa haki za raia. Kadhalika, mbinu hii inaonekana kama hila ya polisi kutaka kuonyesha wanafanya kazi lakini sio mwafaka kwani wanapokuwa wakiwanasa raia mijini na mitaani, magaidi na majambazi wanaendelea na shughuli zao.
Badala ya kusaka wakora kwa kubahatisha kwenye umati, polisi wanapaswa kubuni njia ambazo zitawapa mwelekeo mwafaka zaidi kuhusu wahalifu ili waweze kuwafuatilia. Ushirikiano baina yao na majasusi uwepo. Hii itawezesha polisi kupata habari muhimu kuhusu vitisho vya uhalifu. Maafisa wa usalama pia wanaweza kupata habari muhimu kutoka kwa raia.

Maswali

(a) Ni nini maoni ya mwandishi kuhusu suala la ugaidi (alama 7,1 utiririko) (maneno 60-70) **Matayarisho**:

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Nakala safi

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.Kwa kutumia maneno yasiyozidi 50 fupisha aya mbili za mwisho. (alama 6, 1 utiririko)

Matayarisho:

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Nakala safi

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3. SARUFI NA MATUMIZI YA LUGHA (ALAMA 40)

a. Tofautisha kati ya sauti /m/ na sauti /b/ . (alama 1)

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b. Unda neno lenye muundo huu: Irabu+ Irabu+ Irabu (alama 1)

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c. Weka kiimbo kwenye sentensi hii ili kuibua maana tatu. Musa amefariki (alama 3)

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d. Weka maneno haya kwenye ngeli mwafaka. (alama 2)

i. Maiti _____ ii. Kipofu

_____

e. Eleza maana ya neno mofimu. (alama 1)

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f. Tunga neno lenye viambishi vifuatavyo: (alama 2)

i. Kiima nafsi ya pili umoja ii. Hali timilifu iii. Mtendwa iv. Mzizi

v. Kauli ya kutendea vi.

Kiishio

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g. Tambua aina za maneno kwenye sentensi hii. (alama 2) Baba yangu alienda kanisani.

h. Changanua sentensi hii kwa matawi. Mtoto mdogo analia sana. (alama 3)

i. Tambua aina za vishazi kwenye sentensi hii. Utapita mtihani ukisoma kwa bidii. (alama 2)

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j. Andika katika hali ya udogo wingi. Kiti cha mvulana huyu kimepotea. (alama 2)

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k. Kwa kutolea mifano, onyesha matumizi **mawili** ya ritifaa. (alama2)

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l. Tambua Kipozi, kitondo na ala katika sentensi. Okwero alimpikia Gitau chakula kwa sufuria. (alama 3)

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m. Tambua aina mbili za virai kwenye sentensi hii. Kiatu change kiliraruka baada ya kushonwa. (alama 2)

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n. Nyambua vitenzi hivi kwenye kauli zilizowekwa mabanoni. (alama 3)

i. Kimbia (tendesha) _____ ii. Choma (tendua)_____ iii. Ficha (tendama) _____

o. Unda nomino kutokana na kitenzi **Pika** . (alama 1)

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p. Andika kinyume cha sentensi hii. Tajiri aliyebarikiwa ni huyu. (alama 1)

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..... q.

Tolea maana za misemo hii. (alama 2)

i. Vaa miwani

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ii. Enda mbweu

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r. Tunga sentensi zenye vivumishi vinavyoleta dhana hizi: (alama 3)

i. Kumiliki

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..... ii.

Bila kuchagua

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iii. Kuonyesha mbali sana

s. Andika kwenye usemi wa taarifa. (alama 3)

" Unaitwa nani?" Mwalimu alimuuliza. " Naitwa Mahat. " Akajibu.

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t. Tunga sentensi moja kuonyesha Kitenzi kishirikishi kipungufu. (alama 1)

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4. ISIMU JAMII (ALAMA 10)

1. Jadili changamoto zozote tano zinazoikumba lugha ya Kiswahili. (alama10)

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FORM 3 END TERM 2 SERIES 2 EXAMS

JINA : _____

SHULE :_____

NAMBARI YA USAJILI _____ SAHIHI _____TAREHE _____

KIDATO CHA TATU

102/3

KISWAHILI

Karatasi ya 3

FASIHI

MUDA : SAA 2 ½

MAAGIZO

*i. Jibu maswali **manne** pekee. ii. Swali la kwanza ni la **lazima***

iii. Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani; Tamthilia, Riwaya, na Fasihi Simulizi iv. Usijibu maswali mawili kutoka sehemu moja.

v. Majibu yote yaandikwe kwa lugha ya Kiswahili

Kwa Matumizi ya Mtahini Pekee

SWALI	UPEO	ALAMA
1	20	
	20	
	20	
	20	
	JUMLA 80	

SEHEMU A: USHAIRI

Soma shairi lifuatalo kisha ujibu maswali yafuatayo

1. Mkata ni mkatika, harithi hatoridhiwa
   Sina ninalolishika, wala ninalochukuwa

   Mlimwengu kanipoka, hata tone la muruwa!

   Mrithi nini wanangu?

2. Sina ngo'mbe sina mbuzi, sina konde sina buwa
   Sina hata makaazi, mupasayo kuyajuwa

   Sina mazuri makuzi, jinsi nilivyoachwa Mrithi nini wanangu?

3. Sina kazi sina bazi, ila wingi wa shakawa
   Sina chembe ya majazi, mno nikukamuliwa

   Nakwa'cheni upagazi, ngumu kwenu ku'tuwa Mrithi nini wanangu?

4. Sina sikuachi jina, mkata hatasifiwa
   Hata nifanye la mana, mno mi kulaumiwa Poleni wangu sana, sana kwenu cha kutowa Mrithi nini wanangu?

5. Sina leo sina jana, sina kesho kutwaliwa

Sina zizi sina shina, wala tawi kuchipuwa Sina wanangu mi sina , sana la kuacha kuraduwa Mrithi nini wanangu?

6. Sina utu sina haki, mila yangu meuliwa
Nyuma yangu ili dhiki, na mbele imekaliwa

N'nawana na miliki, hadi nitakapofukiwa Mrithi nini wanangu?

7. Sina ila kesho kwenu, wenyewe kuiongowa
Muwane kwa nyinyi mbinu, mwende pasi kupumuwa

Leo siyo kesho yenu, kama mutajikamuwa Mrithi nini wanangu?

MASWALI

(a) **Taja** mambo yoyote mawili ambayo mtunzi angewarithisha wanawe. (alama 2)

(b) Eleza sababu ya mtunzi kutoweza kuwarithisha wanawe. (alama 3)

(c) **Andika** ubeti wa nne kwa lugha nathari. (alama 4) (d) **Dondoa** mifano miwili miwili ya : (alama 2)

(i) Inkisari

(ii) Tabdila

(e) **Chambua** shairi hili kwa upande wa :

(i) Dhamira (alama 2)

(ii) Muundo (alama 4)

(f) **Eleza maana** ya vifungu vifuatavyo kama vilivyotumiwa katika shairi. (alama 3)

(i) Mlimwengu kanipoka (ii) Sina konde sina buwa.

(iii) Wingi wa shakawa.

SEHEMU B: TAMTHILIA YA KIGOGO (Pauline Kea)

2. " Wamenimaliza… Wamenigeuka…"

a) Weka dondoo hili katika muktadha wake. (Alama 4)
b) Eleza namna msemaji amemalizwa na kugeukwa? (Alama 4)
c) Eleza umuhimu wa msemaji. (Alama 4)
d) Eleza jinsi wahusika wengine walivyomaliziwa katika tamthilia. (Alama 8)

3. (a) Fafanua jinsi mwandishi wa Kigogo alivyofanikisha matumizi ya Majazi. (alama 10)

(b) Ukiukaji haki na uvunjaji sheria ni mambo yaliyokithiri katika jimbo la Sagamoyo. Thibitisha. (alama. 10)

SEHEMU C: RIWAYA YA CHOZI LA HERI (ASSUMPTA K MATEI)

4. Jadili ufaafu wa anwani *Chozi la Heri* katika Riwaya. (alama 20)

5. "… mwanaume hufumbika hisia. Machozi ya mwanaume hayapaswi kuonekana hata mbele ya majabali ya Maisha…"

a) Eleza muktadha wa dondoo. (alama 4)
b) Tambua mbinu ya lugha kwenye dondoo hili. (alama 2)
c) Eleza maudhui yanayodhihirishwa na dondoo hili. (alama 2)
d) Fafanua sifa za msemewa wa dondoo. (alama 12)

SEHEMU D: FASIHI SIMULIZI

6.

a) Taja aina mbili za Fasihi (alama 2)
b) kwa kutolea hoja nane Tofautisha kati ya Fasihi ulizotaja hapo juu. (alama 8)
c) (Eleza maana ya Mighani. (alama 2)
d) Jadili umuhimu wa mighani. (alama 8)

7.

Ewe kilizi

Ulozowea kujificha

Nyuma ya mama kujikinga, dhidi ya milio ya radi ilo juu mbinguni

Jua kesho ni siku ya siku

Siku ya kujua mbichi na mbivu

Kutofautisha jogoo na vipora,

Ngariba taposhika, chake kijembe

Ndipo utakapojua bayani

Ukoo wetu si wa kunguru

Ikiwa hu tayari

Kisu kukidhihaki Sithubutu kamwe, wanjani kuingia sije kuniaibisha miye,

amiyo na akraba nzima!

a) Huu ni wimbo wa aina gani? Toa sababu. (alama 2)
b) Wimbo huu unaimbwa na nani ? Toa idhibati. (alama 2)
c) Fafanua sifa nane za huu. (alama 8)
d) Je, nyimbo za aina hii zina dhima gani kwenye jamii. (alama 8)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

.....

Index no: ..... Candidate's signature: ..... Date: .....

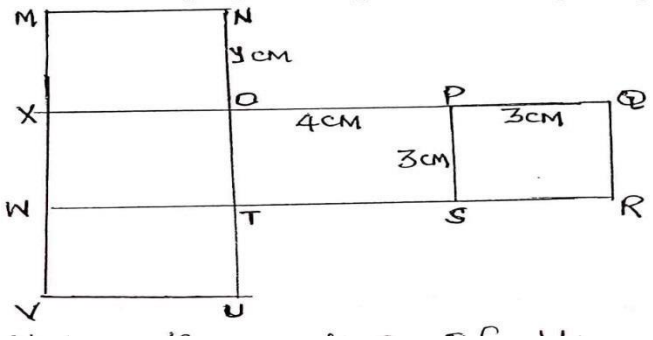
121/1MATHEMATICSPAPER 1
FORM THREE
END TERM 2 EXAM
TIME: 2 ½ HOURS
Instructions.
Answer all questions in this section in the spaces provided.

1. Without using mathematical tables or calculators, evaluate: (3mks)

$$\frac{0.38 \times 0.23 \times 2.7}{0.114 \times 0.0575}$$

2. Determine the equation of the line through the point A (5,3) and parallel to the line y = 2x + 3. (3mks)

3. The figure below is a sketch of the net of an open box. The dimensions are in centimeters.



a. State the value of y. (1mk)

b. Calculate the surface area of the box (2mks)

4. Given that $\begin{pmatrix} 3 & -4 \\ m & 2 \end{pmatrix} = \begin{pmatrix} 3 & -9 \\ m & m \end{pmatrix}$, find the value of m. (2mks)

5. The table below shows speeds of vehicles measured to the nearest 10Kph as they passed a certain point.

Speed (Kph)	30	40	50	60	70	80	90	100	110
Frequency	1	4	9	14	38	47	51	32	4

i. Calculate the mean speed of the vehicles. (3mks)

ii. State the modal speed. (1mk)

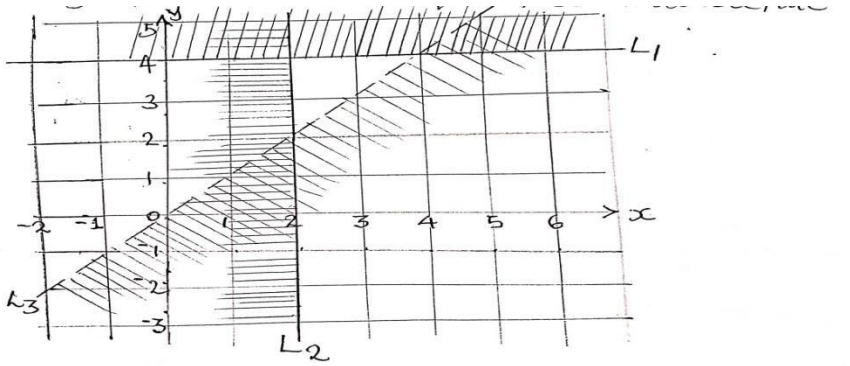
6. Given that $A = \begin{pmatrix} 4 & 3 \\ -1 & 2 \end{pmatrix}$ and $C = \begin{pmatrix} 14 & 7 \\ -4 & 2 \end{pmatrix}$, find B if (3mks)

$2A + B = C$

7. A container is in the form of a frustrum of a right pyramid 4m square at the bottom, 2.5m square at the top and 3M deep. Calculate the capacity of the container. (4mks)

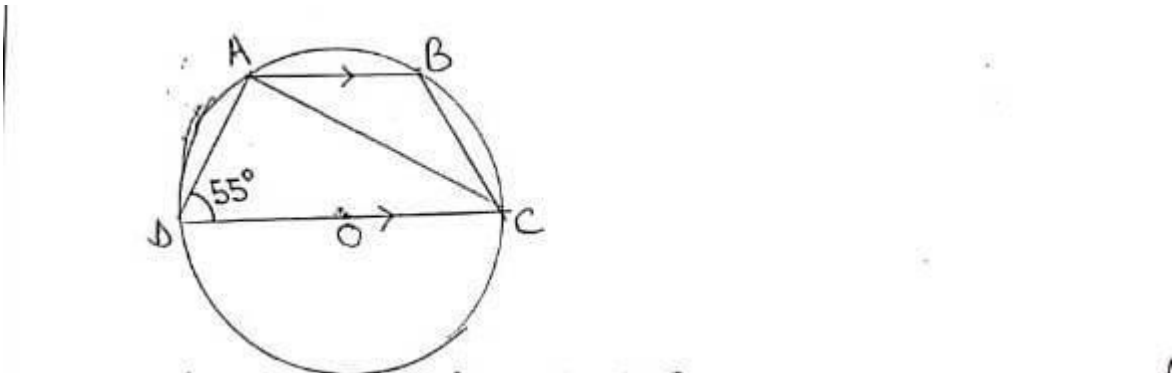
8. The unshaded region in the figure below is bounded by lines L_1, L_2 and L_3. State the

three inequalities that define the region.
(3mks)



9. Simplify: $\dfrac{\sqrt{54} + 3\sqrt{3}}{\sqrt{3}}$ (3 mks)

10. In the figure below, O is the centre of the circle. A, B, C and D are points on the circumference of the circle. Line AB is parallel to line DC and angle ADC= 55^{O}.



Determine the size of angle ACB. (2mks)

11. The results of a survey activity are shown in the field book below.

	Y	
	250	
	240	70D
C 80	170	
	70	60B
A 60	50	
	X	

If all the measurements are in metres, calculate the area of the field in :

(i) m^2 (3mks)

(ii) Ha (1mk)

12. Construct a circle centre x and radius 2.5cm. Construct a tangent from point p, 6cm from x to touch the circle at R. measure the length of PR. (3mks)

13. Given that $a=\begin{pmatrix} 2 \\ -3 \end{pmatrix}$, $b=\begin{pmatrix} -5 \\ 4 \end{pmatrix}$ and $c=\begin{pmatrix} 0 \\ -2 \end{pmatrix}$, find

$a+b+c$ to four significant figures. (3mks)

14. Two matrices A and B are such that $A=\begin{pmatrix} K & 4 \\ 3 & 2 \end{pmatrix}$ and $B=\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$, given that the determinant of AB = 4, find the value of K. (3mks)

15. A solid metal cone has a diameter of 14cm and a height of 24cm. calculate the surface area of the cone.

(2mks)

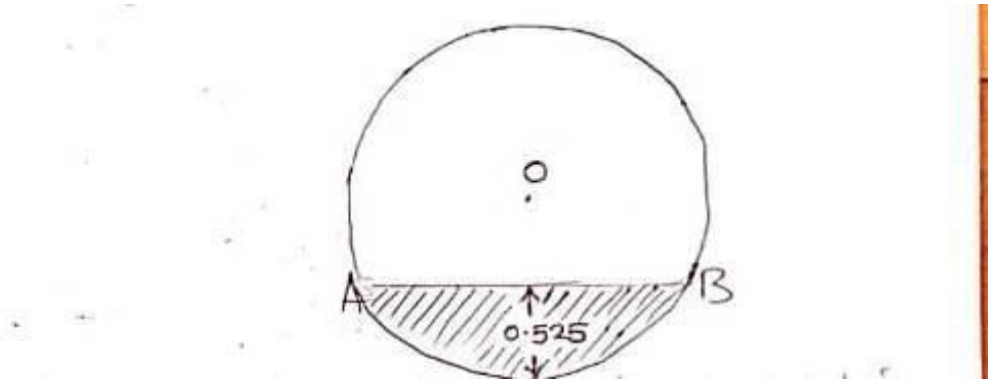
16. Without using a calculator, evaluate : (3mks)

$$\frac{2\frac{1}{2} - 1\frac{1}{5} \text{ of } 2}{\frac{1}{4} - (-\frac{1}{2})^3}$$

SECTION II (50 MARKS)

Answer any five questions from this section.

17. The figure below shows the cross section of a cylinder of a petrol tanker. Its length is 7M and internal diameter 2.1M. The depth of the petrol it contains is 0.525M, AB being the horizontal level of the petrol.



Calculate:

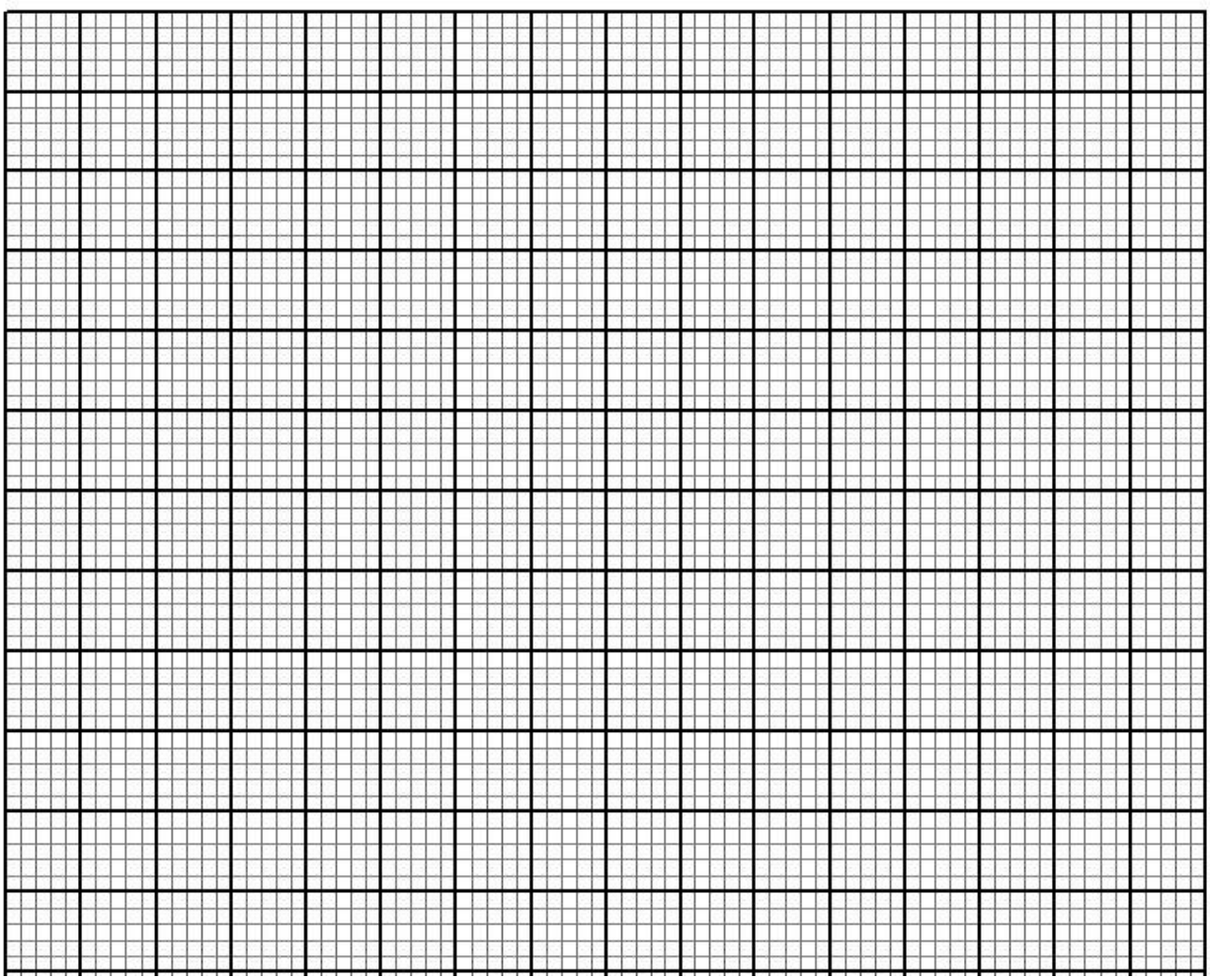
a. <AOB where O is the centre of the circular section. (3mks)

b. The area of sector AOB. (2mks)

c. The shaded area. (3mks)

d. The mass of the petrol in the tanker, given that one cubic metre of petrol has a mass of 700kg. (2mks)

18. On the grid provided draw the graph of $y = 2x^2 + 3x + 1$ for $-4 \leq x \leq 3$. (6mks)



b. Use your graph to solve the equation.

i. $2x^2 + 4x - 3 = 0$ (2mks)

ii. $x^2 - x - 45 = 0$ (2mks)

19. Atieno and Muthoni invested in a matatu business. They bought a min bus whose carrying capacity was 26 passengers. 25 of whom would be paying. They put the mini bus on a route connecting two towns A and B, where the fare was sh. 120 one way. Every

day the matatu made 3 round trips between the two towns. On each day, fuel used was shs. 2500. The driver and conductor were paid shs. 450 and sh. 250 respectively. A further shs. 3500 was set aside daily for mainatainance, insuarance and loan repayment.

a) How much was:

i. The amount of the day's collections. (2mks)

ii. The net profit. (2mks)

b) The agreement between Atieno and Muthoni was that they would be sharing each day's profit in the ratio 3:4. Calculate how much each got on a day when the mini bus was 75% full per round trip.

(6mks)

20. The length of 40 athletes in a country athletics competition were as shown in the table below:

Height (cm)	Frequency (f)
150-159	2
160-169	8
170-179	10
180-189	Y
190-199	6
200-209	2

a. Find the value of y. (2mks)

b. State the modal class (1mk)

c. Calculate the mean height of the athletes. (4mks)

d. On the grid provided below, draw a histogram to represent the information shown above. (3mks)

21. A line L passes through points (-2,3) and (-1, 6) It is perpendicular to a line at (-1, 6)

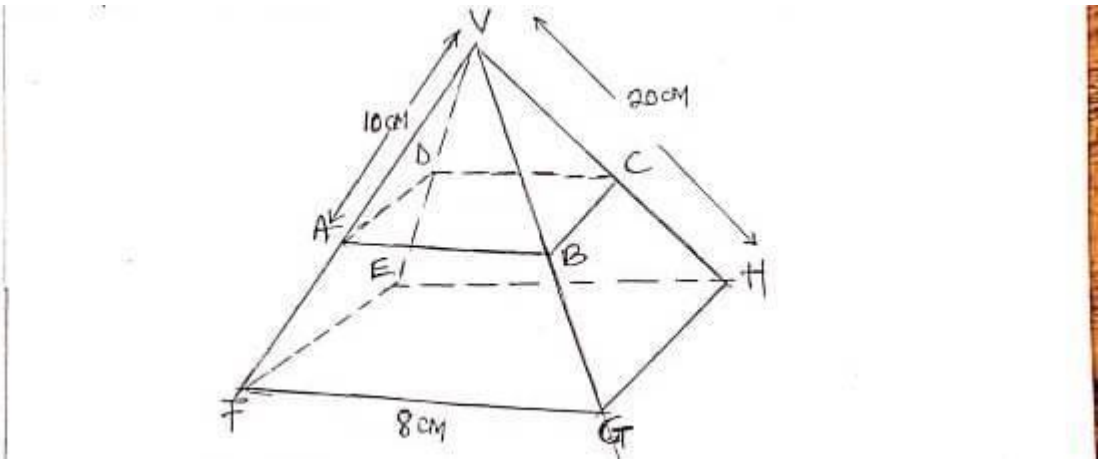
a. Find the equation of L. (2mks)

b. Find the equation of P in the form $y = mx + c$. (2mks)

c. Another line Q is parallel to L and passes through point (1,2). Find the equation of Q. (3mks)

d. Find the point of intersection of lines P and Q. (3mks)

22. The figure below is a right pyramid VEFGH with a square base of 8cm and a slant edge of 20cm. points A,B,C and D lie and plane ABCD is parallel to the base EFGH.

a. 

Find the length of AB. (2mks)

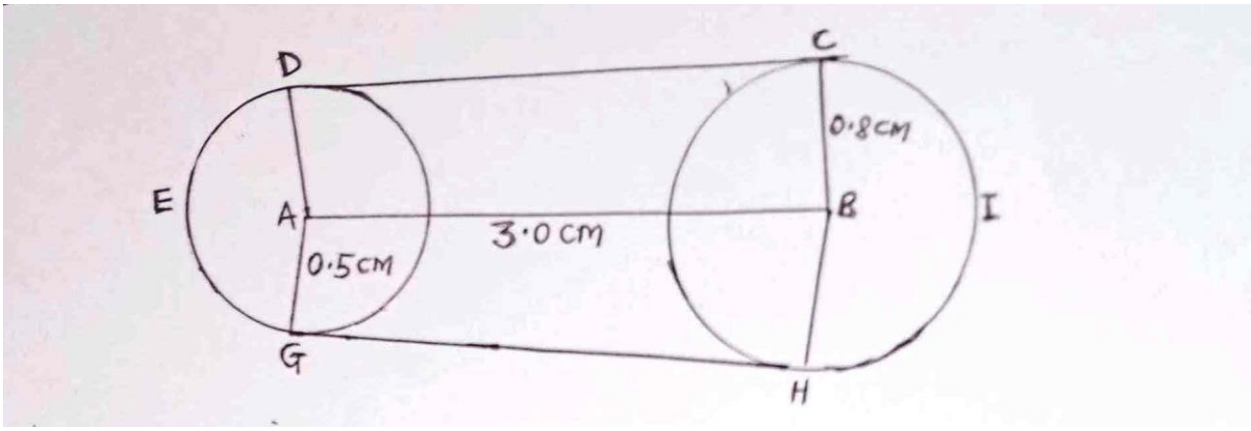
b. Calculate to 2 decimal places.

i. The length of AC. (2mks)

ii. The perpendicular height of the pyramid VABCD. (2mks)

c. The pyramid VABCD was cut off. Find the volume of the frustrum ABCDEFGH correct to 2 decimal places. (4mks)

23. The diagram below shows a design model of a race course drawn to scale of 1cm represents 50km. it consists of two circles centre A and B radii 0.5cm and 0.8cm respectively. The distance between their centres is 3.0cm,



Calculate in km:

i. The length of CD. (2mks)

ii. The length of DEG (take $\pi = 3.142$) (2mks)

iii. The length of HIC (take $\pi = 3.142$) (2mks)

iv. During a race, the course is managed by race officials placed 500M apart and each is paid Ksh. 2300 per day. How much is needed to pay race officials for one day's event. (4mks)

24. A bus left Nairobi at 6.00a.m and travelled towards Kapsabet Boys at an average speed of 100km/hr. At 6.30 am, a van left kapsabet Boys and travelled towards Nairobi to receive the bus with a number of students

moving at an average speed of 125km/h given that the distance between Nairobi and Kapsabetis 500km Calculate:

a. The time the two vehicles met. (4mks)

b. On meeting the bus proceeded with its journey but the van had a break of 30 minutes before proceeding for Kapsabet Boys. Calculate:

i. The time the bus arrived at Kapsabet Boys. (3mks)

ii. The time the van arrived at Kapsabet. (3mks)

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

.....

Index no: ..... Candidate's signature: ..... Date: .....

END TERM 2 EXAM
FORM 3
MATHEMATICS PAPER 2.
TIME:2HRS 30MIN
Instructions.
Answer all questions in this section in the spaces provided.
SECTION A : 50MKS.

1. Use mathematical tables to evaluate: (4mks)

$$\sqrt[3]{\frac{0.8423 \times 72.5}{930.5}}$$

2. After how many y years would kshs. 15000 amount to ksh 24015.50 at a rate of 16% p.a. (3mks)

3. Three years ago, Juma was three time as old as Ali. In two years time, the sum of their ages will be 62. Determine their present ages. (3mks)

4. Evaluate:

$\frac{1}{3}$ of $(2\frac{3}{4} - 5\frac{1}{2}) \times 3\frac{6}{7} \div \frac{9}{4}$ (3mks)

5. Find the height of an isosceles triangle if the equal sides are each 26cm and the base is 48cm long. (2mks)

6. A straight line L1 has a gradient of $-\frac{1}{2}$ and passes through the point P(-1, -3). Another straight line L2 passes through the points Q(1,-3) and R (4,5), find:
   a. The equation of L1. (2mks)

b. The equation of L2. (2mks)

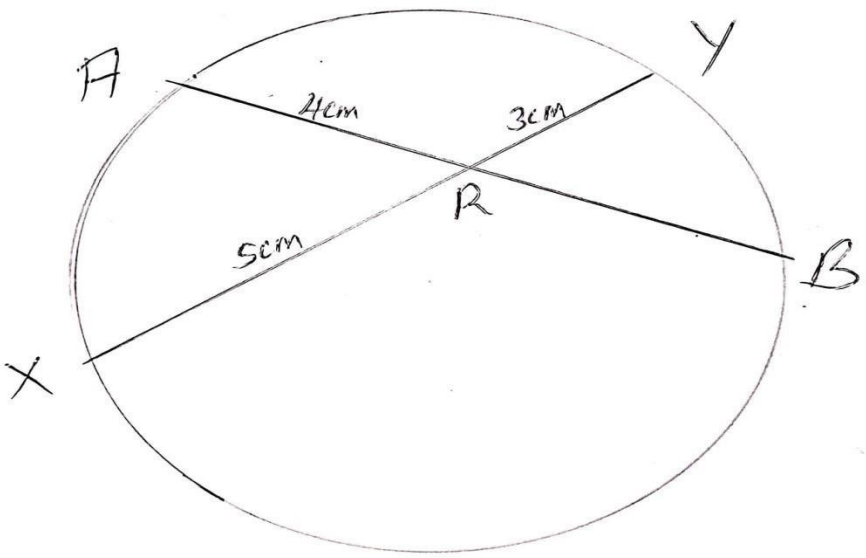
7. Solve the following quadratic equation by completing the square. (3mks)

$2x^2 - 5x + 3 = 0$

8. Make A the subject of the formula. (3mks)

$$T = \frac{2m}{n}\sqrt{\frac{L - A}{3K}}$$

9. In the figure below, chords AB and XY interest in a circl at R. Given that AR = 4cm, XR = 5cm and RY=3cm. find AB. (2mks)



10. Given the matrix M = $\begin{pmatrix} 3 & -5 \\ 5 & 2 \end{pmatrix}$ Find the inverse of M and hence or otherwise, solve the simultaneous equations. (3mks)

$3x - 5y = -9$

$5x - 2y = 16$

11. Solve the equation $\frac{2}{x-1} - \frac{1}{x+2} = \frac{1}{x}$ (3mks)

12. Solve for x in the equation: (3mks)

$\log (x-1) = \log 12 - \log (x-2)$

13. Using binomial expression, expand and simplify $(1 – 2x)^3$ up to the term x^3. (1mk)

b. Use the simplified expansion in (a) above to calculate to 4 decimal places the approximate value of $(0.98)^3$ (3mks)

14. A trader bought two brands of sugar labeled Grade A and Grade B. Grade A sugar costs sh 60 per kg and grade B sugar costs sh 50 per kg. he mixed them in a ratio such that after selling the mixture at sh 81 per kg, he made a profit of 50%. Determine the ratio in which he mixed grade A sugar to grade B. (3mks)

15. A quantity P is partly constant and partly varies as the square of Q when Q=2, P= 40 and when Q=3 P=65. Determine the value of P when Q=4. (3mks)

16. A cold water tap can fill a bath in 6 minutes while a hot water tap can fill it in 12 minutes. The drainage pipe can empty the bath in 8 minutes. All the three are opened fully for 3 minutes and then the hot water tap is closed. How many more minutes will it take to fill
the bath? (4mks)

SECTION B (50 MKS)
Answer any five questions in this section.

17. Personal tax relief p.a is sh 12672 p.a

Income (K£per annum)	Rate (Sh per pound)
1-5808	2
5809-11280	3
11281-16752	4
16753-22224	5
Excess over 22224	6

a. Mr. Omondi earns a basic salary of sh 15000 per month. In addition, he gets a medical allowance of sh 2400 and a house allowance of sh 12000. Use the tax brackets above to calculate the tax he pays in a year. (10mks)

18. A student at Anestar school tossed a coin three times and recorded the results on every successive toss.

a) By use of a tree diagram, show all the possible outcomes. (3mks)

b) Find the probability of getting:

i. One head (1mk)

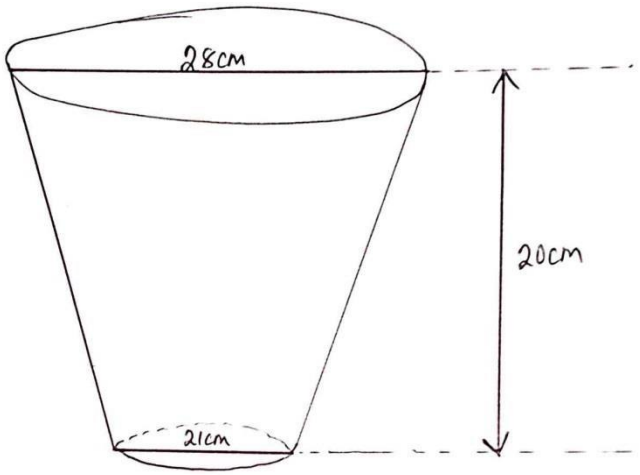
ii. Two heads and a tail, in the order. (1mk)

iii. Two heads and a tail, in any order. (1mk)

iv. Three heads. (1mk) v. At least one head. (1mk)

vi. No head. (2mks)

19. The diagram below shows a frustrum made by cutting off a small cone on a plane parallel to the base of the original cone. The frustum represents a bucket with the open – end diameter of 28cm and the bottom diameter of 21cm. The bucket is 20cm deep as shown. Calculate to one decimal place, the capacity of the bucket in litres. (10mks)



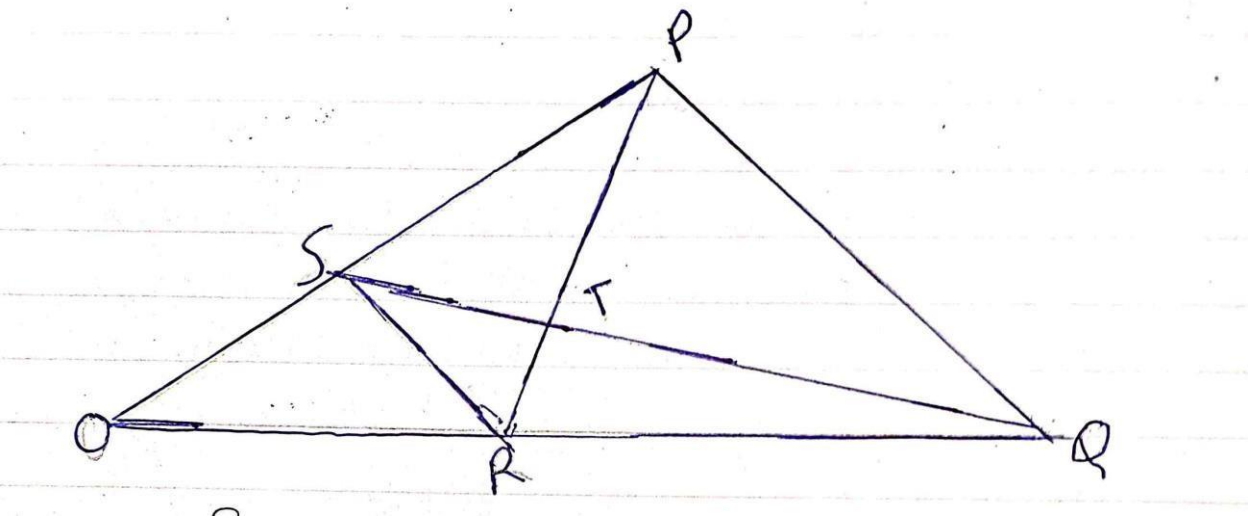
20. Town B is 180km on a bearing of 050^{O} from town A. another town C is on a bearing of 110^{O} from town A and on a bearing of 150^{O} from town B. A fourth town D is 240km on a bearing of 320^{O} from town A. using a scale drawing 1cm to represent 30km, calculate to the nearest kilometer:

a) The distance AC (2mks)

b) The distance CD (2mks)

c) The distance BC. (2mks)

21. In the figure below OPQ is a triangle in which OS= $^1/_3$ OP and OR = $^1/_3$OQ. T is a point on QS such that QT = ¾ QS.



a) Given that OP = p and OQ=q, express the following vectors in terms of p and q.

i. SR (2mks)

ii. QS (2mks)

iii. PT (2mks)

iv. TR (2mks)

b) Hence or otherwise show that the points P,T and R are collinear. (2mks)

22. The first term of an arithmetic progression is 2, the sum of the first 8 terms of the AP is 240.

i. Find the common difference of the AP. (2mks)

ii. Given that the sum of the first n terms of the AP is 1560, find n. (2mks)

b. The 3^{rd}, 5^{th} and 8^{th} term of another AP form the first three terms of a G.P if the common difference of the AP is 3. Find

i. The first term of G.P (4mks)

ii. The sum of the first 9 terms of the GP to 4 s.f (2mks)

23. James is a sale executive earning a salary of ksh. 20,000 and commission of 8% for the sales in excess of kshs. 100,000. If in January 2010 she earned a total of ksh. 48,000 in salaries and commissions.

a) Determine the amount of sales he made in the month. (4mks)

b) If the total sales in the month of February and March increased by 18% and they dropped by 25% respectively. Calculate:

i. James's commission in the month of February. (3mks)

ii. His total earning in the month of March. (3mks)

24. At the beginning of the year 2000, Gachago bought two houses, one in Thika and another one in Nakuru each at sh. 1,240,000. The value of the house in Thika appreciated at a rate of 12% p.a.
    a) Calculate the value of the house in Thika after 9 years to the nearest shillings. (2mks)

    b) After n years, the value of the house in Thika was 2,741,245 while the value of the house in Nakuru was 2917231.

i. Find n (4mks)

ii. Find the annual rate of appreciation of the house in Nakuru. (4mks)

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

.....

Index no: ..... Candidate's signature: ..... Date: .....

232/1

PHYSICS

PAPER 1

End term 2

2 HOURS

FORM 3

INSTRUCTIONS TO THE CANDIDATES

- Write your name, Adm number and dates on the spaces provided above clearly - The papers consist of section and b as follows. Section a = 25mks, section b 75mks - All questions must be answered on the spaces left/provided after each.
- All working must be clearly shown and numerical answers given in correct SI units.
- Mathematical tables and silent electronic calculators may be used.

SECTION A (25 MARKS)

1. State any two forces that acts between two objects not in contact. (2mks)

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2. State two physical characteristics that change when a metal cube is heated. (2mks)

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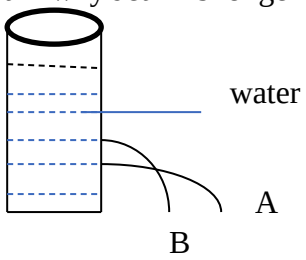
3. The diagram below shows jets from two holes at the side of a tank filled with water.
   Explain why Jet A is longer than B (2mks)



4. State the law of conservation of linear momentum (1mk)

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5. State physical quantities whose SI units are shown below. (2mks)

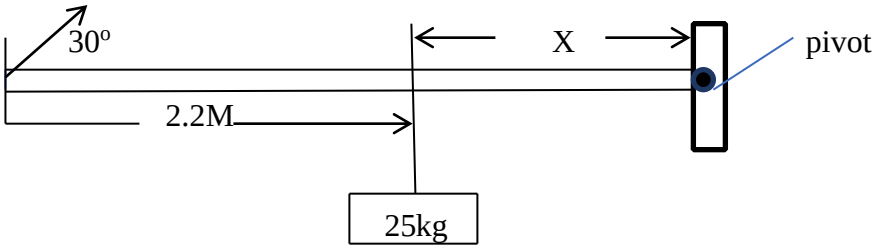
   NM

   Kgm/s

   M^3/s

   J/kg K

6. The system below was used to balance a mass of 25kg fixed at a distance of Xm from the pivot. Find the value of X to 2.d.p.
(3mks)



7. State two circumstances under which an object floats on a liquid. (2mks)

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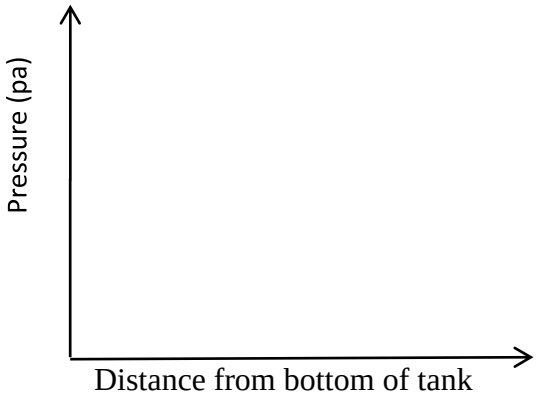
8. In the graph below sketch the graph of pressure experienced by a ball moving from the bottom of a tank of water towards the surface. (3mks)



9. Two springs A and B. have the same length and same diameter. When the same object was suspended from the bottom of each spring separately, there was a difference in their extensions. State two factors that may have caused the difference extensions (2mks)

10. A road surface offers friction of 32,000N, to a vehicle of mass 2500kg running on it. Find the coefficient of kinetic friction of the road. Explain if the value obtained will change when it rain. (3mks)

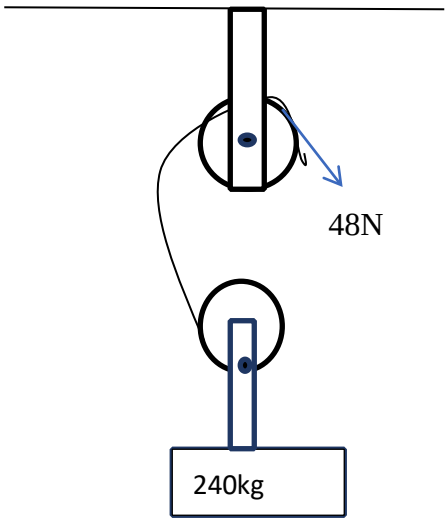
11. In a laboratory experiment, it was realized that two different gases of equal volume diffused across a chamber at different rates. What may have caused the difference? (2mks)

12. State one physical change that affects the speed of sound in air.
1mks

SECTION B. (55MKS)

13. (a) Outline the order of energy transformations when lighting a match box (3mks)

(b) The system below was used to lift a load of mass 240kg in a warehouse using a force of 48N.



Find

(i) V..R (2mks)

(ii) Efficiency (3mks)

14. (a) Explain how unusual expansion of water favours aquatic life. (4mks)

(b) The number of particles per mm^3 of substances A, B and C are given in the table below.

substance	No of particles per mm^3
A	3.0×10^7
B	4.5×10^{28}
C	$6.8.x\ 10^{12}$

(i) Identify the states of matter of the substances (3mks)

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(ii) Explain how the number of particles of B will change when heated. (3mks)

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(c) State the factors that determine pressure exerted by a wooden block resting on a table surface. (3mks)

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15. (a)A bullet of mass 20g travelling at a velocity of 600m/s hits a suspended wooden block of mass 400g. The bullet gets stuck inside the wooden block and the two bodies move together in one direction. If the string holding the wooden block is not cut; Find (i) The common velocity of the bullet and wooden block. (3mks)

(ii) Maximum height the two bodies reach (3mks)

(iii) The time taken by the two bodies to reach maximum height (3mks)

16. (a) (i) State two characteristics of turbulent flow. (3mks)

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..... (iii)

Give three examples of Bernoulli's effect in air. (3mks)

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(b)(i) A liquid flows in a pipe of cross sectional area $60cm^2$ has a constriction of cross sectional area of $18cm^2$ of one point. The velocity of the liquid at the construction is $5m/s^{-1}$. Find

(i) The velocity of liquid in the wider section (3mks)

(ii) The volume of liquid in litres that passes through the construction in one hour.(2mks)

17. A stone is projected vertically upwards from the top of a building at a velocity of 20m/s. If the stone took 5.5 seconds to reach the bottom of the building. Find;

(i) After how long did the stone start the down ward journey (3mks)

(ii) Height of the building. (3mks)

(iii) Velocity with which the stone hits at the bottom of the building (3mks)

18. a) An oil drop of volume $0.4mm^3$ was placed on a clean water surface. It spread to form a monoatomic circular patch of area $2000mm^2$. Use this data to calculate the diameter of a molecule of oil. (3mks)

b) Name **two** applications of Pascal's Principle. (2mks)

FORM 3 END TERM 2 SERIES 2 EXAMS

Name: ..... School:

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Index no: ..... Candidate's signature: ..... Date: .....

END OF TERM II
FORM 3 PHYSICS PP2
TIME: 2 HOURS

SECTION A : (25 MARKS)

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

1. Figure 1 below shows an object in front of plane mirror.

Figure 1

Sketch image of object using mirror shown. (1mk)

2. Figure 2 below shows an object infront of concave mirror and it's image.

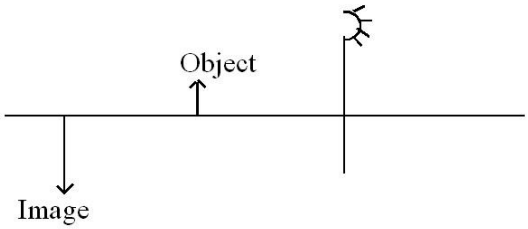

Figure 2

Locate position of its principal focus. (2mks)

3. State the use of Manganese (IV) oxide in dry cell. (1mk)

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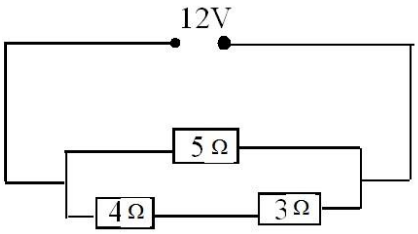
4. Use figure 3 below to answer following questions.



Determine

(a) Total resistance. (3mks)

(b) Potential difference across 4Ω resistor. (3mks)

5. Figure 4 shows conductor carrying current in magnetic field and moves in direction shown.

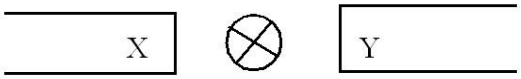


Figure 4
Identify polarities X and Y. (2mks)

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6. A man standing between two parallel walls fires a gun. He hears an echo after 1.5 seconds and another one after 2.5 seconds and yet another one after 4 seconds. Determine the separation of the walls. (Take velocity of sound 340 m/s)

7. A student shouts and hears an echo after 0.6 seconds. If the velocity of sound is 330m/s.
Calculate the distance between student and reflecting surface. (3mks)

8. Figure 6 shows water waves moving towards barrier. Show the emergence of the reflected waves

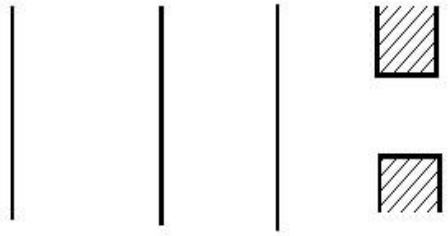

Figure 6

9. (a) Define refractive index. (1mk)

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…… (b) The critical angle of a material is 43.20. Determine the refractive index of that material.
(2mks)

(b) A battery of emf E drives a current of 0.25A when connected to 5.5W resistor. When the 5.5W resistor is replaced with 2.5W resistor, the current flowing becomes 0.5A. Find the
emf E and the internal resistance r of the battery. (3 marks)

10. Define the term sulphation as applied to lead acid cells. (1 mark)

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SECTION: B (55MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION

11. (a) An uncharged metal rod brought close but not touching the cap of a charged electroscope causes a decrease in the divergence of the leaf. Explain the observation. (1mark)

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..... (b) In experiment to investigate factors affecting capacitance of a capacitor, a student increased the area of the plates and decreased the separation of the plates. Explain the effect on the capacitance when

(i) the area of plates increased (1 mark)

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(ii) the distance of the separation of the plates decreased (1 mark)

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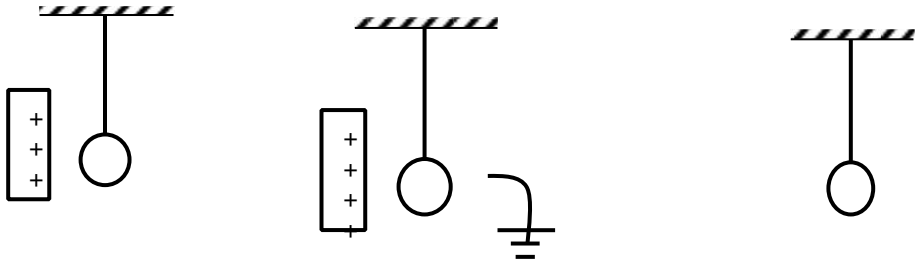
(c) Figure 7 illustrates a method of charging a metal sphere.



(i) (ii) (iii)

Fig. 7.

(i) Name the method of charging shown in fig 8.(1mar(ii) Indicate the final charge on the sphere in fig 8. (1 mark)

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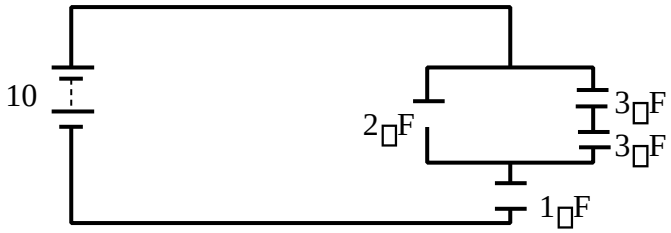
(d) Figure 9 shows an arrangement of capacitors connected to a 10V d.c supply.



Determine

(i) the combined capacitance (2 marks)

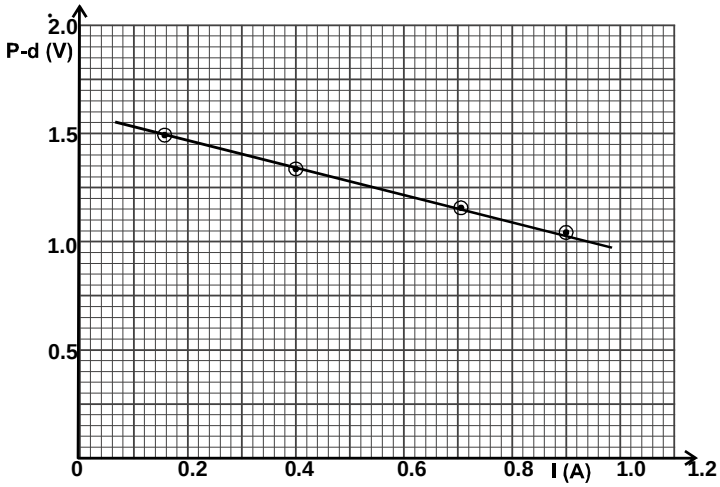
(ii) the total charge in the circuit (1 mark)

(iii) the total energy stored in the circuit. (2marks)

12 (a) Distinguish between e.mf. and terminal voltage of a battery.

(2 marks)

(b) The graph in figure 8 shows the variation of potential difference V against current I for a cell when current is drawn from it.



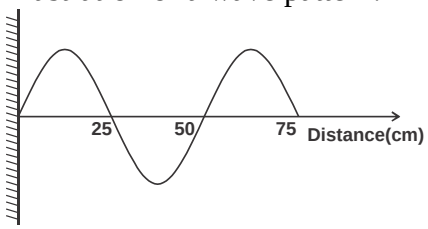
(i) From the graph determine

(a)The e.m.f of the cell. (2 marks)

(b)The internal resistance of the cell. (4marks)

(c) on the space provided below, draw a circuit that could be used to obtain the results represented by the graph. (2 marks)

13. (a) Figure 9 is an illustration of a wave pattern.



(i) State with reason the type of wave shown. (2 marks)

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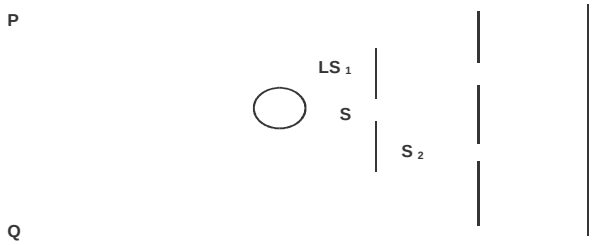
…… ii)

Determine the wavelength of the wave. (1 mark)

iii) Calculate the frequency of the wave given that the speed of the wave is 9m/s. (3 marks)

b) Figure 10 show s monochromatic source of light L behind a barrier with a single slit S placedbehind another barrier with two identical slits S_1 and S_2. A screen PQ is placed in position as shown.



i)Explain what is observed on screen PQ. (2 marks)

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ii)What is the significance of S_1 and S_2 ? (1 mark)

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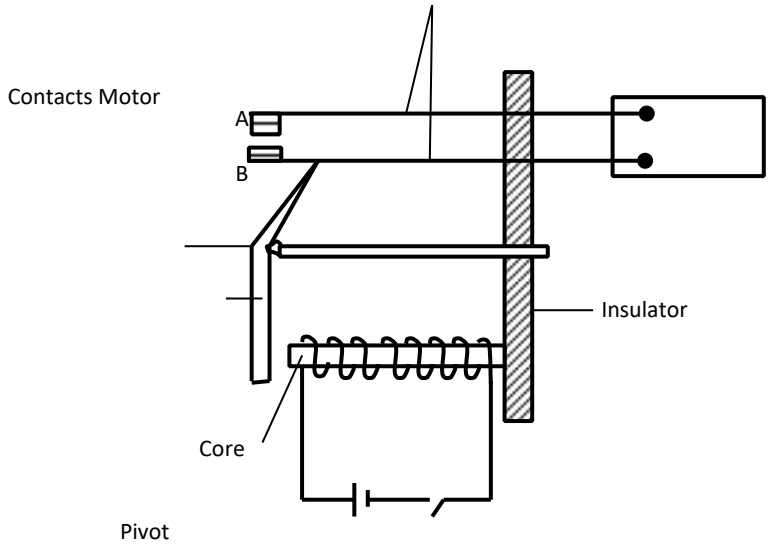
14.Figure 11 shows an electromagnetic relay being used to switch an electric motor on and off. The electromagnet consists of a coil of wire wrapped around a core. The motor in figure is

switched off. Springy metal strips **Figure 11**



S

(a) Suggest suitable material for the core. (1mark)

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(b)What happens to the core when switch S is closed? (2marks)

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(c) Why do the contacts A and B close when the switch S is closed. (2marks)

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(d)When the switch S is opened, what will happen to;

(i) The core (1mark)

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..... (ii)

Soft iron armature. (1mark)

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(b) Give **one** other application of an electromagnet. (1mark)

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(c) State **two** ways in which an electromagnet could be made more powerful. (2marks)

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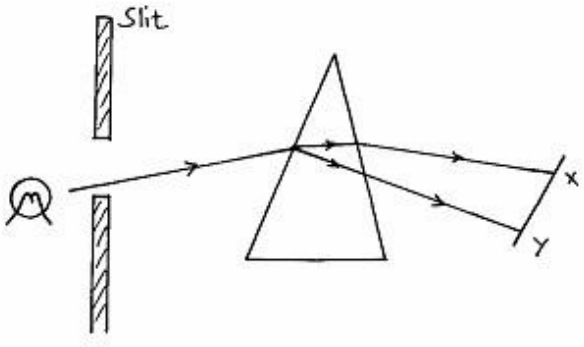
15. Figure 12 below shows a narrow beam of white light onto a glass prism.



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

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(iii)Name the colour at **X** and **Y**. Give a reason. (3mks)

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(iii)What is the purpose of the slit? (1mk)

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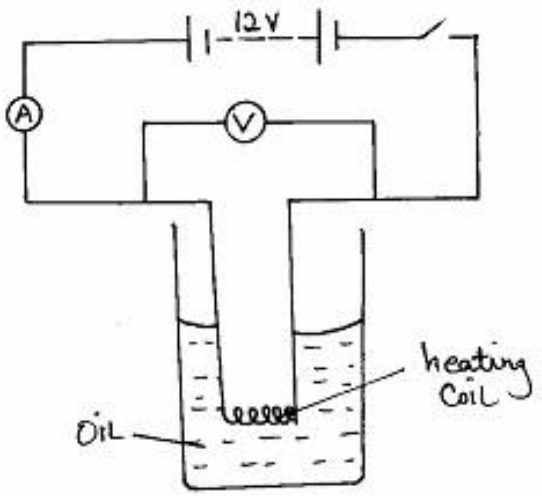
16. The figure 4 shows a circuit with a coil used to warm oil in a beaker.

Figure 4



(a) State the Ohm's Law. (1mk)

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…… (b)

(i). Explain how heat is produced in the coil. (2mks)

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(ii)Given that the reading of the ammeter is 2.5A, determine the resistance of the coil.(3mks)

(iii).How much heat is produced in the coil in a minute? (3mks)

(iv).Give **two** changes that can be made in the set-up in order to produce more heat per minute.(2mks)

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(iii)How much heat is produced in the coil in a minute? (3marks)

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FORM 3 END TERM 2 SERIES 2 EXAMS

Name: …… School:

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Index no: …… Candidate's signature: …… Date: ……

232/3
PHYSICS

Paper 3 (Practical)

Time: 2 ½ Hours

FORM 3

INSTRUCTIONS TO THE CANDIDATES:

- *Write your **name** and **index number** in the spaces provided above.*
- ***Sign** and **write** the **date** of the examination in the spaces provided above.*
- *You are supposed to spend the first **15** minutes of the **2 ½** hours allowed for this paper reading the whole paper carefully.*
- *Marks are given for a clear record of the observation actually made, their suitability, accuracy and the use made of them .*

FOR EXAMINER'S USE ONLY

uestion	Maximum Score	Candidate's Score
1	20	
2	20	
TAL	40	

QUESTION 1

Apparatus

Concave mirror on a lens holder

Screen

Metre rule

Candle

Proceed as follows;

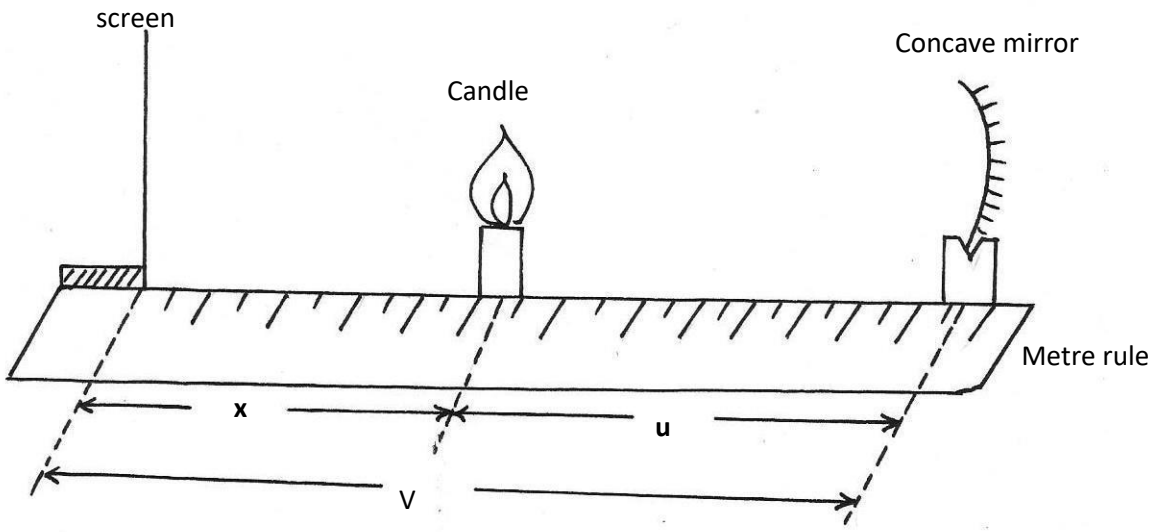


Figure 1

(i) Set the apparatus as shown in fig 1

(ii) Place the candle at a distance x= 5.0cm from the screen

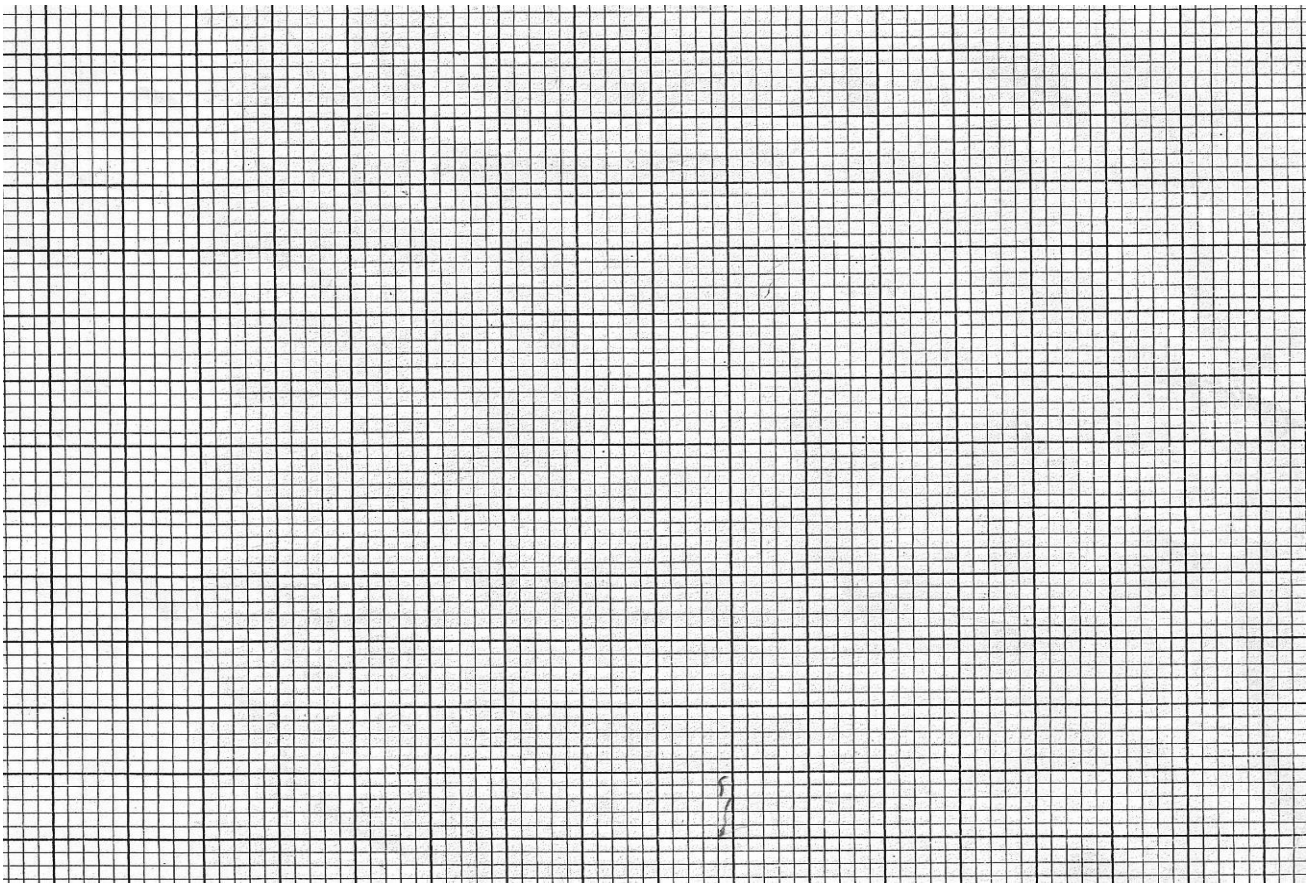
(iii) Move the mirror to and from to focus a clear, sharp image of the candle on the screen

(iv) Measure and record the distance u between the mirror and candle and the distance v between the screen and the mirror.

(v) Repeat the experiment for other values of x and complete the table below (table 1)

X(cm)	5.0	10.0	15.0	20.0	25.0	30.0
U(cm)						
V(cm)						
(u+v) cm						
Uv(cm2)						

(vi) Plot a graph of (u+v) (y axis) against uv (5mks)



(v) Determine the slope S of the graph (5mks)

(b) Using the value of S obtained in VII above, determines the value of f, the focal length of the mirror. (2mks)

(c) Given that R = $\frac{4f}{S^2}$ determine the value of R (2mks)

QUESTION 2

You are provided with the following

- An ammeter (0-1A)
- A voltmeter
- A wire mounted on a mm scale
- A switch
- A long wire with a crocodile clip at one end (crocodile clip to be used or a jockey)
- 2 new size D dry cells and a cell holder
- A micrometer screw gauge(may be shared)
- Six connecting wires, two with crocodile clips at the end

Proceed as follows

(i) measure the diameter d of the mounted wire at 3 different points

Average diameter= mm

(1mk)

(ii) Set up the apparatus as shown in the circuit diagram in fig 2

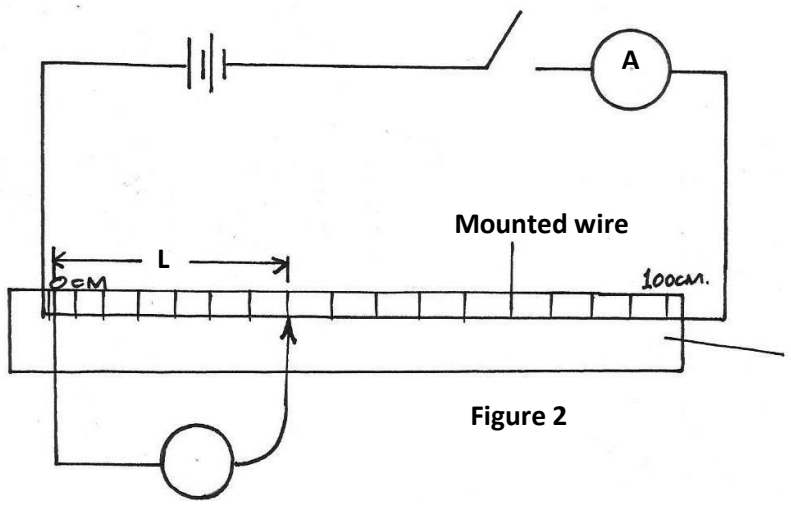


Figure 2

(iii) Close the switch and tap the mounted wire with crocodile chip as shown in the circuit.

Ensure that both meters show possible deflection. Open the switch

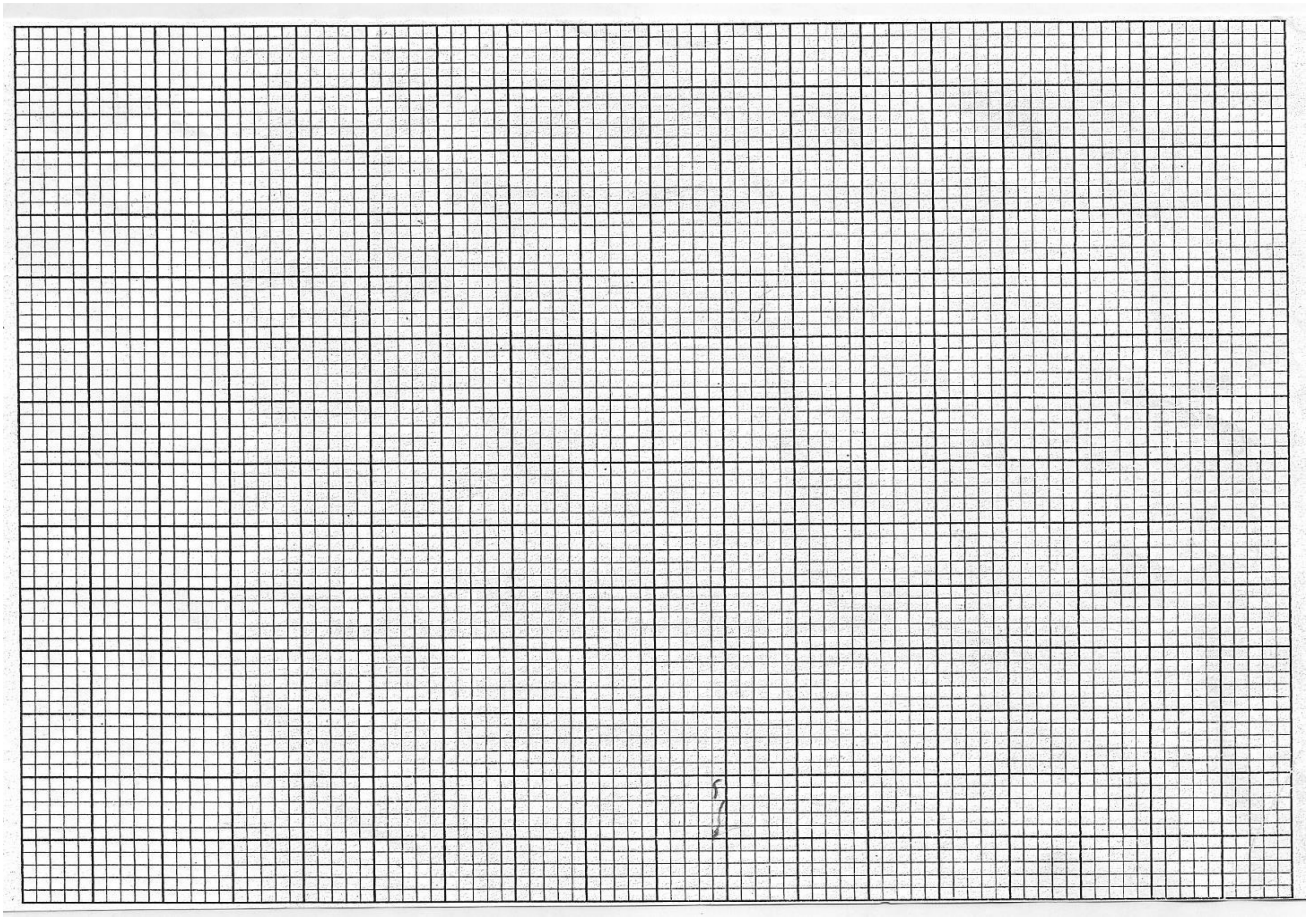
(iv) Tap the wire at L= 20cm, close the switch, and record in the table provided the ammeter and the voltmeter reading.

(v) Repeat procedure in IV for the other values of L, shown in the table below and complete the table. (8mks)

L (cm)	L(m)	V(volts)	I	R= $\frac{V}{I}$(Ω)
20				
30				
40				
50				
60				

70				
80				

(vi) Plot the graph of R(y-axis) against Lcm (grid provided)



(a) Determine the slope of the graph (3mks)

(b) Given that the $R = \frac{\rho L}{A}$ where A is the cross sectional area of the wire and ρ is a constant for the material of wire. Determine the value of the constant ρ