

FORM 4 END-TERM 1 SERIES 1 EXAMS



AMOB! SOFT COPY PUBLISHERS

Transparency, Honesty and Accountability Defined

FORM 4 END TERM 1 SERIES 1 EXAMS

*Prefer Calling Sir Obiero Amos
@ 0706 851 439
for Marking Schemes*

N/B In Response to the Huge Costs Associated in Coming Up with Such/Similar Resources **Regularly**, We inform us All, **MARKING SCHEMES ARE NOT FREE OF CHARGE**. However Similar **QUESTIONS**, Inform of **soft Copies**, are Absolutely **FREE** to Anybody/Everybody. Hence **NOT FOR SALE** by Amobi Soft Copy Publishers.

ACTED SET BOOKS VIDEOS.

Details Inscribed in each. Delivered Via Telegram.

WhatsApp/Sms/Call Sir Obiero Amos

0706 851 439



FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

AGRICULTURE PAPER I FORM 4 END TERM 1

TIME: 2HRS

INSTRUCTIONS: the paper has 3 sections. Answer all questions in section A and B and any 2 questions in section C.

SECTION A: (30MKS)

1. State four advantages of using farm yard manure. (2mks)

.....

.....

.....

.....

.....

.....

2. State four merits of minimum tillage in crop production. (2mks)

.....

.....

.....

.....

.....

.....

.....

3. Mention four practices carried out to maintain grass pastures. (2mks)

.....

.....

.....

.....

.....

.....

4. State four disadvantages of nomadic pastoralism. (2mks)

.....

.....

.....

.....

.....

.....

5. Mention four cultural methods of used control in crop production. (2mks)

.....

.....

.....

.....

.....

.....

.....

6. State four ways of overcoming extremes of temperature in crop production. (2mks)

.....

.....

.....

.....

.....

.....

7. List five precautions observed in harvesting tea to ensure high quality produce. (21/2mks)

.....

.....

.....

.....

.....

.....

8. List three ways in which primary cultivation can be achieved. (11/2mks)

.....

.....

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

9. An agriculture student was advised to apply complete fertilizer 40:30:10 in a (20x10) M plot and at the rate of 40kg per hectare.

(i) Calculate the percentage of P_2O_5 in the complete fertilizer. (2mks)

(ii) Calculate the amount of fertilizer the student would require for the plot. (2mks)

10. State four divisions of livestock farming. (2mks)

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

11. List four methods commonly used for applying nitrogenous fertilizers.
(2mks)

.....

.....

.....

.....

.....

.....

12. Name four factors influencing soil formation. (2mks)

.....

.....

.....

.....

.....

13. A farmer owns one hectare on which he can grow maize whose yield is 15 bags/hectare but has chosen to grow sorghum whose yield is 20 bags/hectare. If maize is sold at shs 1200 per bag while sorghum is sold at shs 700 per bag. Calculate the opportunity cost.
(2mks)

14. State four characteristics of plants used for preparation of green manure.

(2mks)

.....

.....

.....

.....

.....

.....

SECTION B (20MKS)

15. Students in an agriculture class set out to investigate the constituents of soil sample from school. They carried out a series of tests on various portions of the sample. They then prepared a table a shows below:

Description	Quantity
Mass of an empty evaporating disk	10g
Fresh soil on evaporating disk	35g
Mass of dried soil at 105oC on evaporating disk	28g
Vol. of water in the tin	250cm ³
Vol. of water and soil after stirring	410cm ³
Mass of empty silica disk	15g
Mass of silica disk and soil after ignition	45g
Mass of silica disk and dried soil before ignition	65g
Volume of water and soil before stirring	500cm ³

a) Calculate the percentage of soil water in the sample. (1mk)

b) Why was soil heated at 105°C? (1mk)

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

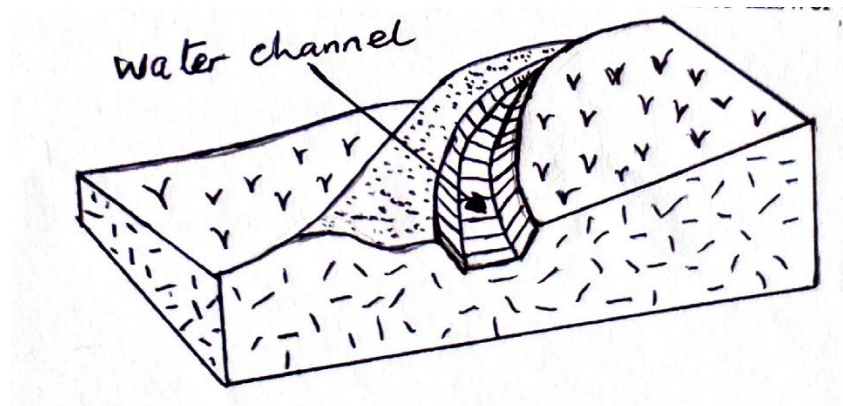
c) Calculate the percentage of soil air in the sample? (1mk)

d) Calculate the percentage of soil organic matter in the sample. (1mk)

e) Name one other soil constituent not tested above. (1mk)

.....
.....

16. The diagram below shows a construction on farm. Use it to answer the questions that follow.



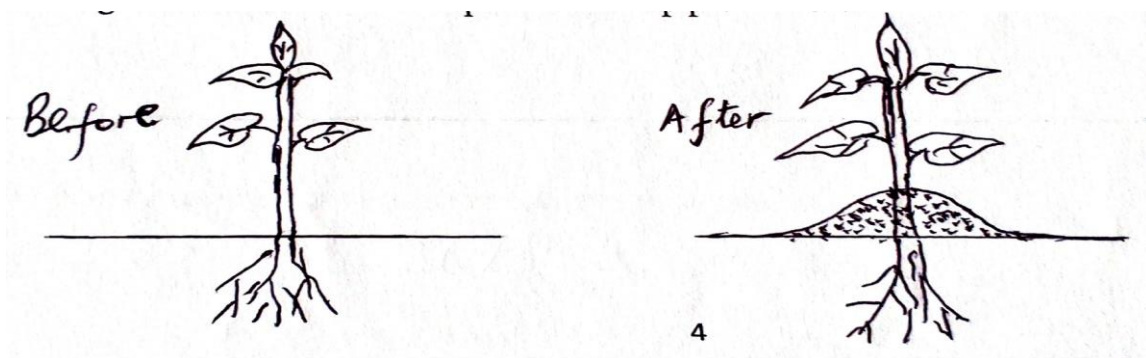
a) Identify the above structure. (1mk)

.....
.....

b) State four areas where water in the channel is directed to:(4mks)

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

17. The diagram below shows a field practice in crop production.



a) Identify the practice. (1mk)

.....
.....

b) State two advantages of the practice named in (a) above to Irish potatoes. (2mks)

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

c) Name two other crops that require the above practice. (2mks)

.....

.....

.....

18. Use the diagram below to answer the questions.



(a) Identify the sorghum variety shown above. (1mk)

.....

.....

(b) State two bird pests that commonly attack the crop. (2mks)

.....

.....

.....

(c) Name two other varieties commonly grown by farmers. (2mks)

.....

.....

.....

SECTION C (40MKS)

19. (a) Outline the procedure for soil sampling. (8mks)
(b) Give five reasons for ridging sweet potatoes. (5mks)
(c) Outline seven properties of nitrogenous fertilizers. (7mks)

20. (a) Discuss five benefits of weeds to the farmer. (10mks)
(b) Discuss five importance of draining a waterlogged area.(10mks)

21. (a) Discuss five factors influencing crop rotation. (10mks)
(b) Discuss five government policies that regulate production,
marketing and distribution of agricultural products. (10mks)

.....

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

443/2

AGRICULTURE

PAPER 2

FORM FOUR

ENDTERM 1 EXAM

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- (a) This paper consists of three sections A, B and C.
- (b) Answer all the questions in section A and B.
- (c) Answer any two questions in section C.
- (d) Answers should be written in the spaces provided.

SECTION A: (30 MARKS)

1. Name two exotic breeds of dairy goats. (1 mk)

.....

.....

.....

2. State four advantages of natural method of rearing calves. (2 mks)

.....

.....

.....

.....

.....

.....

3. (a) Name livestock commonly attacked by keds. (½ mk)

.....

.....

(b) Give three signs of attack by keds on livestock named in 3(a) above. 1½ mk

.....

.....

.....

.....

.....

4. State four disadvantages of a hedge in a farm. (2 mks)

.....

.....

.....

.....

.....

.....

5. (a) Name a tool used in carrying out each of the following practices:

(i) Cutting galvanized iron sheet - ½ mk)

.....

.....

(ii) Cutting wood along the grains - ½ mk)

.....

.....

(iii) Marking lines parallel to the edge of stock - ½ mk)

.....

.....

(iv) Placing mortar between construction stones - ½ mk)

.....

.....

6. State four maintenance practices carried out on a jack plane. (2 mks)

.....

.....

.....

.....

.....

.....

.....

7. State four signs of parturition in a cow. (2 mks)

.....

.....

.....

.....

.....

.....

8. Explain how the following methods help in controlling livestock diseases:

(i) Mass slaughter (½ mk)

.....

.....

.....

(ii) Proper feeding - (½ mk)

.....

.....

.....

(iii) Quarantine - (½ mk)



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

(iv) Vaccination - ½ mk)

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

9. Give two uses of litter in a brooder. (1 mk)

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

10. State two reasons for dehorning in cattle. (2 mks)

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

11. Give four essentials of clean milk production in a herd. (2 mks)

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

12. Give four predisposing factor of pneumonia in cattle. (2 mks)

.....

.....

.....

.....

.....

13. State four factors that determine digestibility of a feed. (2 mks)

.....

.....

.....

.....

.....

14. Give four methods of preserving fish. (2 mks)

.....

.....

.....

.....

.....

15. Give four disadvantages of using thatch in construction of farm buildings. (2 mks)

.....

.....

.....

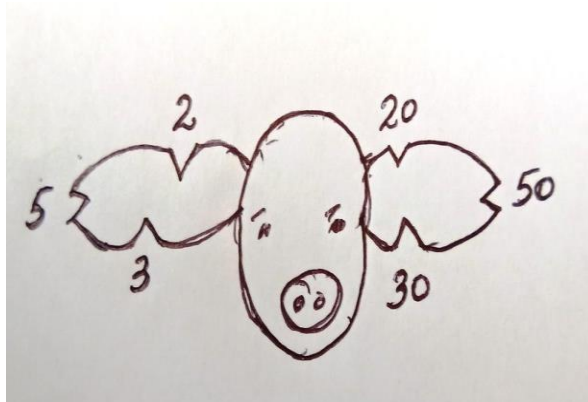
.....
.....
16. State four reasons for swarming in bees. (2 mks)
.....
.....
.....
.....
.....

SECTION B: (20 MARKS)

17. (a) A farmer was advised to prepare 180kg of calf ration containing 20% DCP. Using pearsons square method, calculate the amount of maize containing 10% DCP and sunflower containing 40% DCP the farmer needs to use. Show your working. (4 mks)

(b) State two factors considered when formulating a livestock ration.(2 mks)
.....
.....
.....

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



(a) Name the type of identification illustrated above. (1 mk)

.....
.....

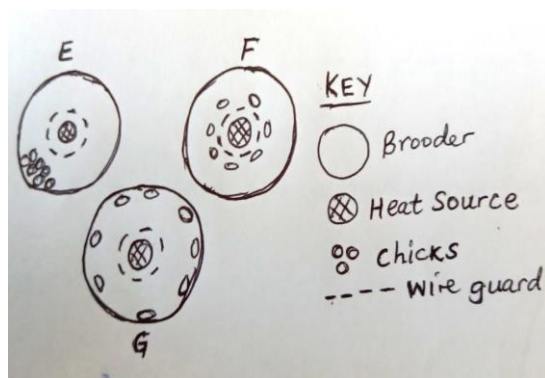
(b) Give the identification number of the pig illustrated above. (1 mk)

(c) Using a diagram, illustrate how animal number 83 can be identified using the above method. (2 mks)

(d) What is the use of metal rails in a farrowing pen. (1 mk)

.....
.....

19. The diagrams below shows the behaviour of chicks in a brooder in response to heat.



(a) Explain the behaviour of chicks in brooder;

E – (1 mk)

.....

.....

.....

F – (1 mk)

.....

.....

.....

G – (1 mk)

.....

.....

.....

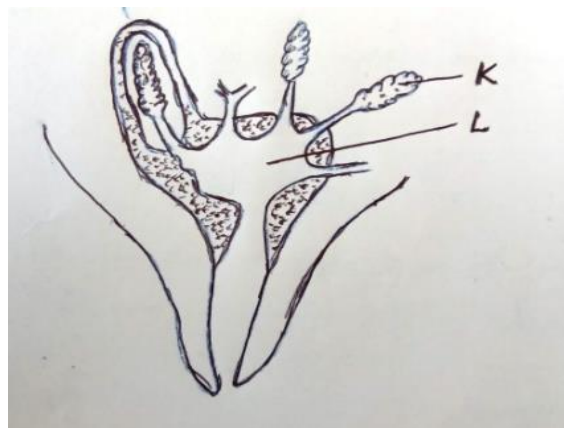
(b) Explain why the brooder is rounded. (1 mk)

.....

.....

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

20. The diagram below shows the structure of the udder of a cow.
Study it then answer the
questions that follow.



(a) Identify parts labeled K and L. (2 mks)

K –

.....
.....

L –

.....
.....

(b) Name two hormones that control milk let-down in a dairy cow.
(2 mks)

.....
.....
.....
.....
(c) Name one disease that attacks part labeled L. (1 mk)
.....
.....
.....

SECTION C: (40 MARKS)

21. (a) Describe the physical characteristics of a good dairy cow for breeding. (10 mks)
- (b) (i) State five functions of water in the body of livestock. (5 mks)
- (ii) Explain the advantages of a four stroke cycle engine.(5 mks)
22. (a) Explain five factors that affect milk composition in dairy cattle. (5 mks)
- (b) Describe five factors that may lead to failure of a cow to conceive after service. (5 mks)
- (c) Explain the factors that a farmer should consider when selecting materials to construct a zero grazing unit. (10 mks)

23. (a) Describe milk fever under the following sub-headings:

- | | |
|------------------------|---------|
| (i) Animal affected. | (1 mk) |
| (ii) Cause of disease. | (1 mk) |
| (iii) Symptoms. | (5 mks) |
| (iv) Control measures. | (3 mks) |

(b) Outline the advantages of artificial insemination in cattle.(10 mks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

BIOLOGY

PAPER 1

END TERM EXAM

Answer all the questions in the spaces provided.

1. State two characteristics of organisms that are easily observed in both animals and plants. (2 marks)

.....

.....

.....

.....

2. Fingerlings of fish were introduced to two different ponds. Those fingerlings in pond one all died within four days but the fingerlings in pond two survived.

Suggest the likely reasons why the fingerlings in pond one died.(3 marks)

.....

.....

.....

.....

.....

3. A student observing a specimen through a microscope viewed a blurred image of the specimen. Suggest two possible reasons for this observation. (2 marks)

.....

.....

.....

.....

.....

4. In what ways does Lamarck's theory fail to agree with modern scientific evidence (2 marks)

.....

.....

.....

.....

.....

5. Distinguish between convergent and divergent evolution. (1 mark)

.....

.....

.....

.....

.....

6. (a) Terrestrial insects such as locusts were captured and their blood was analysed. It was found that the blood does not have blood pigments such as haemoglobin. Explain. (2 marks)

.....

.....

.....

.....

(b) State how the tracheal system in insects is adapted to gaseous exchange. (3 marks)

.....

.....

.....

.....

.....

.....

7. State two functions of a diastema in herbivores. (2 marks)

.....

.....

.....

.....

.....

8. A girl could clearly read the book placed 10cm away but could not identify her friend 10 metres away.

a) What eye defect was she suffering from?

.....

.....

b) Explain why she could not identify her friend but could read the book.3mks

.....

.....

.....

.....

.....

c) Explain how the defect can be corrected.1mk

.....

.....

.....
.....

9. Explain two ways in which the chloroplast is adapted to photosynthesis. (2 marks)

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

10. The diagram shown below represent cells from a certain type of epithelial tissues in mammals.



(a) Name the part labeled V. (1 marks)

.....
.....

(b) Identify the region of the mammalian body where the epithelial tissue maybe found. (1 mark)

.....
.....

(c) What is the role of the numerous mitochondria in the epithelial cells as shown above. (2 marks)

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

11. Explain what would happen to red blood cells if blood glucose concentration increased due failure of the secretion of insulin.(3 marks)

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

12. State three biotic factors that could affect an antelope living in Masai Mara. (3 marks)

.....
.....

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

13. A drop of a person's blood shows clumping in serum of blood group B but not in serum of blood group A.

(a) Identify the blood group of this person. (1 mark)

.....
.....

(b) Name the antibodies found in blood of the following groups.

(2 marks)

(i) Blood group A

.....
.....

(ii) Blood group AB

.....
.....

14. list three methods used to show energy flow through the ecosystem.

(3 marks)

.....

.....

.....

.....

.....

15. Name three organelles that would be abundantly present in secretory cells. (3 marks)

.....

.....

.....

.....

.....

16. Give three ways in which the red blood cell is adapted to transport oxygen? (3 marks)

.....

.....

.....

.....

.....

.....

.....

.....

17. Describe how the leaves of submerged plants are adapted to gaseous exchange. (3 marks)

.....

.....

.....

.....

.....

.....

.....

18. Name the part of the seed whose growth brings about epigeal germination. (1 mark)

.....

.....

19. State three aspects of light that affect the rate of photosynthesis. (3 marks)

.....

.....

.....

.....

20. (a) Identify the class with organisms that have three body parts and three pairs of legs. (1 mark)



.....
.....

(b) Suggest three reasons why members of the class named in (a) above are adapted to all types of habitats. (3 marks)

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

21. (a) List three types of gene mutation. (3 marks)

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

(b) (i) What are sex-linked genes? (1 mark)

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

(ii) Name two conditions that are sex-linked. (2 marks)

.....

.....

.....

.....

22. (a) State any two rules of binomial nomenclature. (2 marks)

.....

.....

.....

.....

.....

(b) Define the term species. (2 marks)

.....

.....

.....

23. (a) Name two digestive enzymes produced in their inactive form.(2 marks)

.....

.....

.....



(b) Explain why the enzymes named in (a) above are produced in inactive form. (2 marks)

.....

.....

.....

.....

24. (a) Define immunity. (1 mark)

.....

.....

.....

(b) Giving an example in each case, give two main types of immunity. (4 marks)

.....

.....

.....

.....

.....

.....

25. State three advantages of cross-pollination. (3 marks)

.....

.....

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

26. State three factors that increase the rate of traspiration. (3 marks)

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

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

BIOLOGY PP2 FORM 4

END TERM 1 EXAM

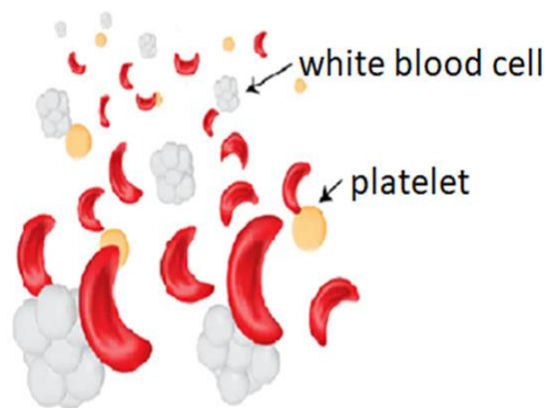
SECTION A: (40 MARKS)

Answer all questions in the spaces provided.

1. The diagrams below show samples of blood obtained from two different persons A and B.



PERSON A



PERSON B

a) What genetic disorder is person B suffering from? (1 mark)

.....

.....

b) State **one** advantage and **one** disadvantage of the disorder exhibited in person A (2 mark)

.....

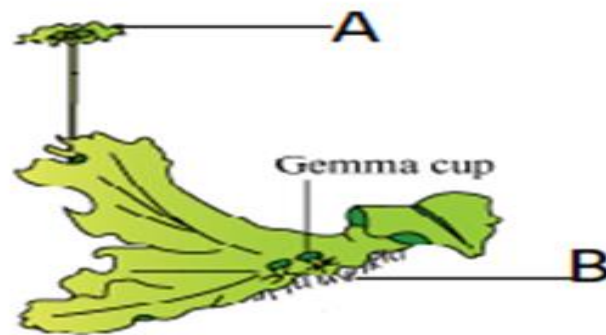
.....

.....

.....

c) Work out the genotypes and phenotypes of the resulting offsprings of a marriage between person A and person B (5 marks)

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



a) Name the division to which the organism belongs giving two reasons for your answer (3 marks)

Division:

.....
.....

Reasons.

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

b) Name the function of the parts labelled A (1 mark)

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

B (1 mark)

.....

.....

.....

c) State **three** differences between the process of fertilization in the above named division and in a flowering plant.
(3 marks)

.....

.....

.....

.....

.....

.....

3a).Explain the meaning of the term tropism or tropic response .1mk

.....

.....

.....

.....

b) Explain how tendrils of climbing plants coil around a support.4mks

.....

.....

.....

.....

.....

.....

.....

.....

c) The leaves of some insectivorous plants make very rapid movements when they are touched by an insect.

i) Give an example of such plants. 1mk.

.....

.....

ii) How does the response come about? 1mk.

.....

.....

.....

iii) What is the importance of the response? 2mks

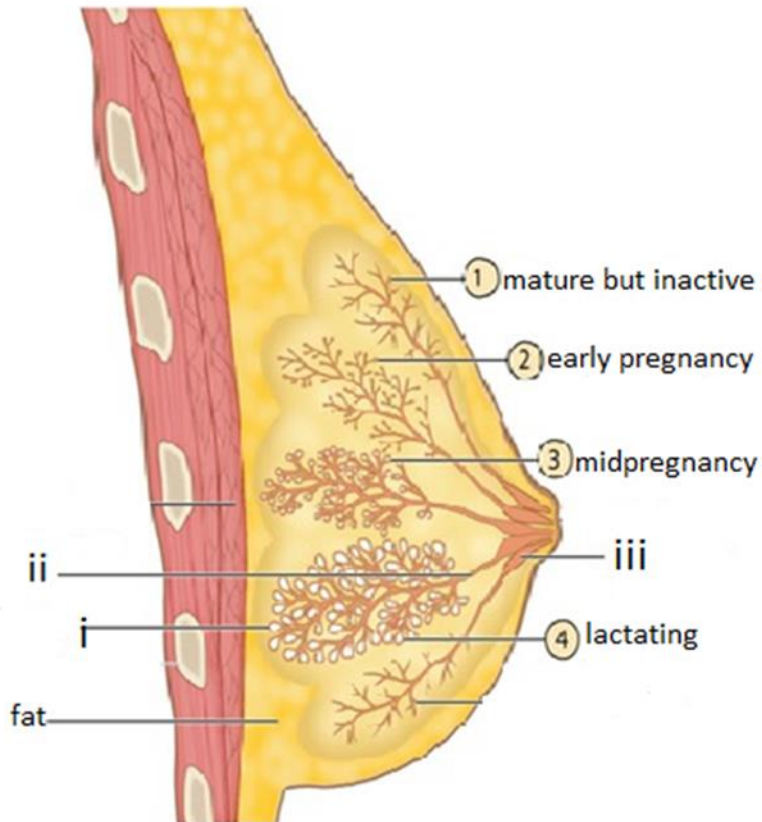
.....

.....

.....

.....

4. The diagram below is a section from the mammalian body. Study and use it to answer the questions that follow.



a) Name the parts labelled;

(i)..... (1 mark)

(ii).....(1 mark)

(iii)..... (1 mark)

b) Describe the process of milk letdown (5 marks)

.....

.....

.....

.....

.....

.....

.....

.....

5. (i) In an experiment, food sample A was respired by an organism and the gaseous product was directed into a test tube containing calcium hydroxide solution through a glass capillary tube.

The same experiment was repeated using the same amount of food sample B. It was noted that it takes 15 minutes for the gaseous product of food sample A to turn calcium hydroxide solution white and 50 minutes by gaseous product of food sample B to do the same.

a) Suggest with a reason, the possible identity of food sample A and B (4 marks)

.....

.....

.....

.....

.....

b) Suggest the possible identity of the gaseous product of food samples A and B. (1 mark)

.....

.....

.....

ii) Explain how anaerobic respiration has been applied in making of beer and wines.(3 marks)

.....

.....

.....

.....

.....

.....

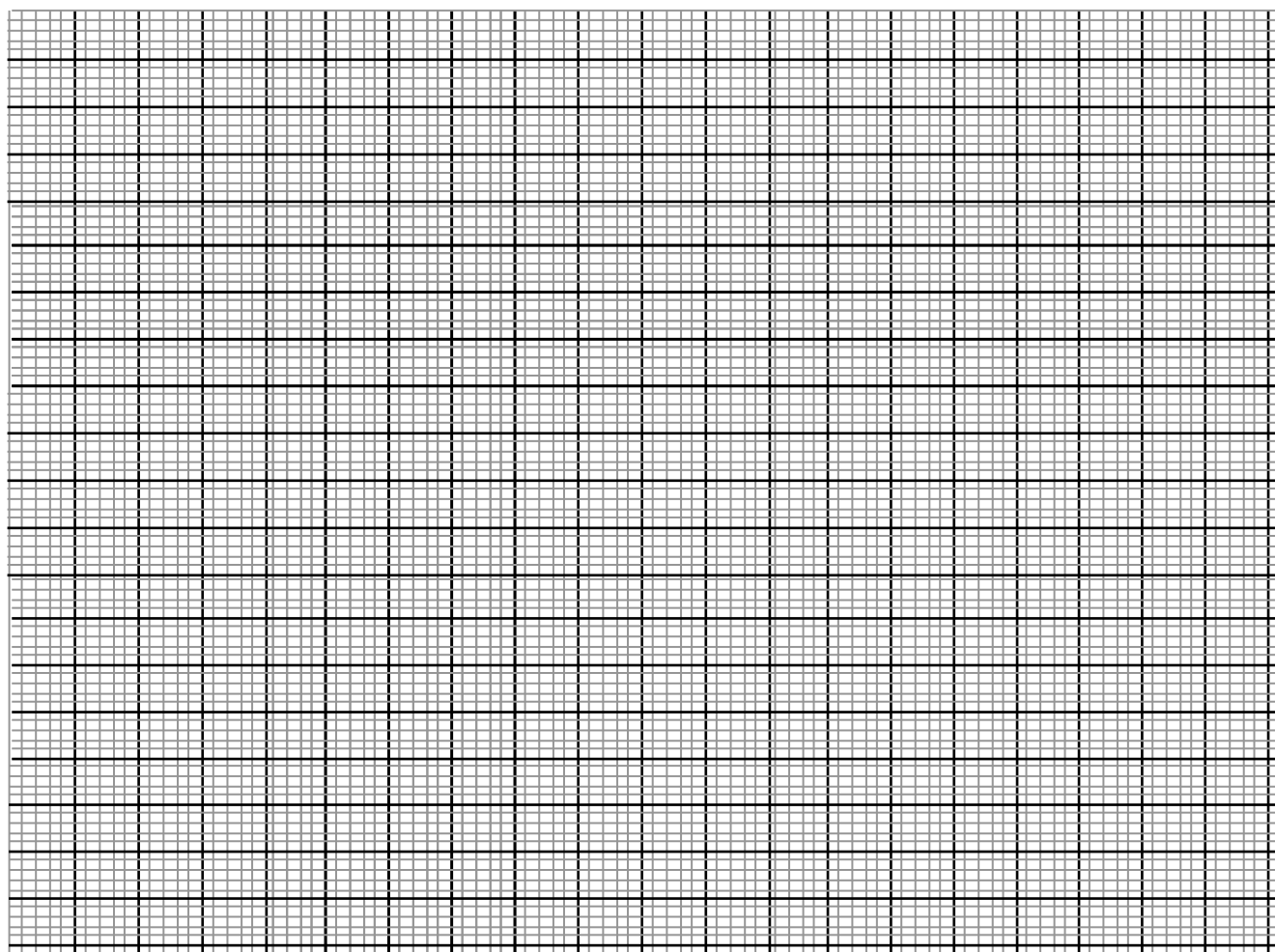
SECTION B: (40 MARKS)

Answer question 6 (COMPULSORY) in the spaces provided and either question 7 or 8

6. The table below shows results of an experiment in which small pieces of tradescantia stems were placed in different salt concentrations. After 6 hours they were removed from the solutions, wiped to dry and weighed. The results are as shown below. Study the table and answer the questions that follow.

Salt concentration (mg)	Percentage change in weight
2.5	+11
5.0	+8
7.5	+5
10.0	+3
12.5	+2
15.0	+1
17.5	-2
20.0	-8
22.5	-9.5
25.0	-11

a) i) Draw a graph of the percentage change in weight against salt concentration. (6 marks)



ii) From the graph determine the salt concentration that is equal to the concentration of the tradescantia cell sap. (1 mark)

.....

.....

b) Account for the following changes in the weight.

(i) Percentage positive change (4marks)

.....

.....

.....

.....

.....

.....

.....

.....

(ii) Percentage negative change (3 marks)

.....

.....

.....

.....

.....

.....

c) Briefly describe how the above physiological process brings about upright posture in seedlings (3 marks)

.....

.....

.....

.....

.....

.....

d)i) Define the physiological process in (c) above (1 mark)

.....

.....

.....

.....

ii) State any **two** differences between the physiological process above and the physiological process that root hairs use to absorb mineral salts from a soil solution that is hypertonic to their cell saps (2 marks)

.....

.....

.....

.....

.....

7. a) Explain the biological importance of abiotic factors in seed germination. (12 marks)

b) Explain the following evidences of organic evolution.

(i) Comparative anatomy (5 marks)

(ii) Geographical distribution (3 marks)

8. In terms of homeostatic balance in the body, describe the function of the following body systems in regulation of blood sugar level.
(20 marks)

a) Digestive system

b) Circulatory system

c) Respiratory system

d) Nervous system

e) Hormonal system

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

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

BIOLOGY PRACTICAL

231/3

FORM 4

END TERM 1

1. You are provided with an unknown mixture labelled J
You are also provided with Benedict's solution, dilute hydrochloric acid solution, iodine solution, Dichlorophenol-Indophenol (DCPIP) solution. Sodium hydrogen-carbonate solution, means of heating, test tubes, test tube holder and a test tube rack.

- a) Using the reagent provided only, test for the food substances in mixture J. Record in the table below the chemical test, the procedure of the test, your observations and conclusions.

8mks

Chemical test	Procedure	Observations	Conclusions

b) Which of the components of mixture J does not undergo digestion in the mammalian digestive system? 1mk

.....

.....

c) i) Name a deficiency disease that may result from a deficiency of the component identified in (b) above. 1mk

.....
.....

d) Name a common carbohydrate that could be present in mixture J. 1mk

.....
.....

e) State the role of hydrochloric acid and sodium hydrogen carbonate in the experiment. 2mks

Hydrochloric Acid

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

Sodium Hydrogen Carbonate

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

2. The photographs below show a flower specimen. Study it carefully and use to answer the questions that follow.



a) On the photograph, label the following parts 3mks

- i. Stigma
- ii. Style
- iii.** Staminal tube

b) i) Classify the plant from which the flower was picked into the taxonomic groups listed below. 4mks

Kingdom

.....
.....

Division

.....

.....

Sub division

.....

.....

Class

.....

.....

ii) Name three observable features from the photograph of the class you named in (a) (i) above. 3mks

.....

.....

.....

.....

c) Suggest the pollination agent of this flower. Give reasons for your answer.

Pollinating agent

1mk

.....

.....

Reasons

2mks

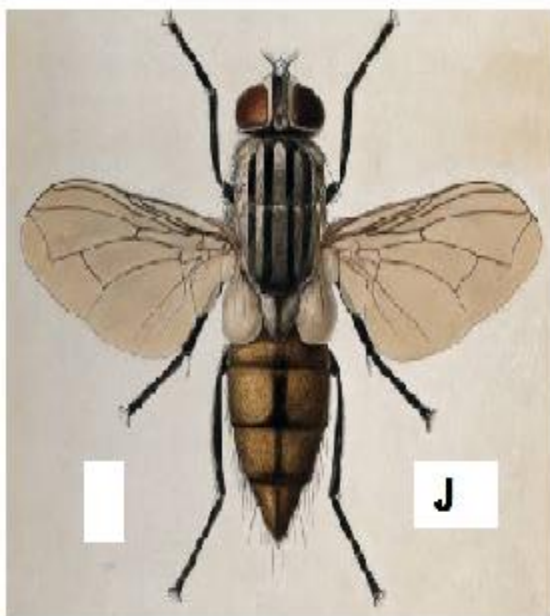
.....

.....

.....

.....

3. Below are photographs of two specimens, **J** and **K**. Both of them belong to the same Phylum and Class. Observe them carefully before you answer the questions that follow.



a) Name the class to which **J** and **K** belong and support your answer with two reasons.

Class 1mk

.....

.....

Reasons

2mks

.....

.....

.....

.....

b. Suggest why the transport fluid in **J** and **K** has no haemoglobin.

2mks

.....

.....

.....

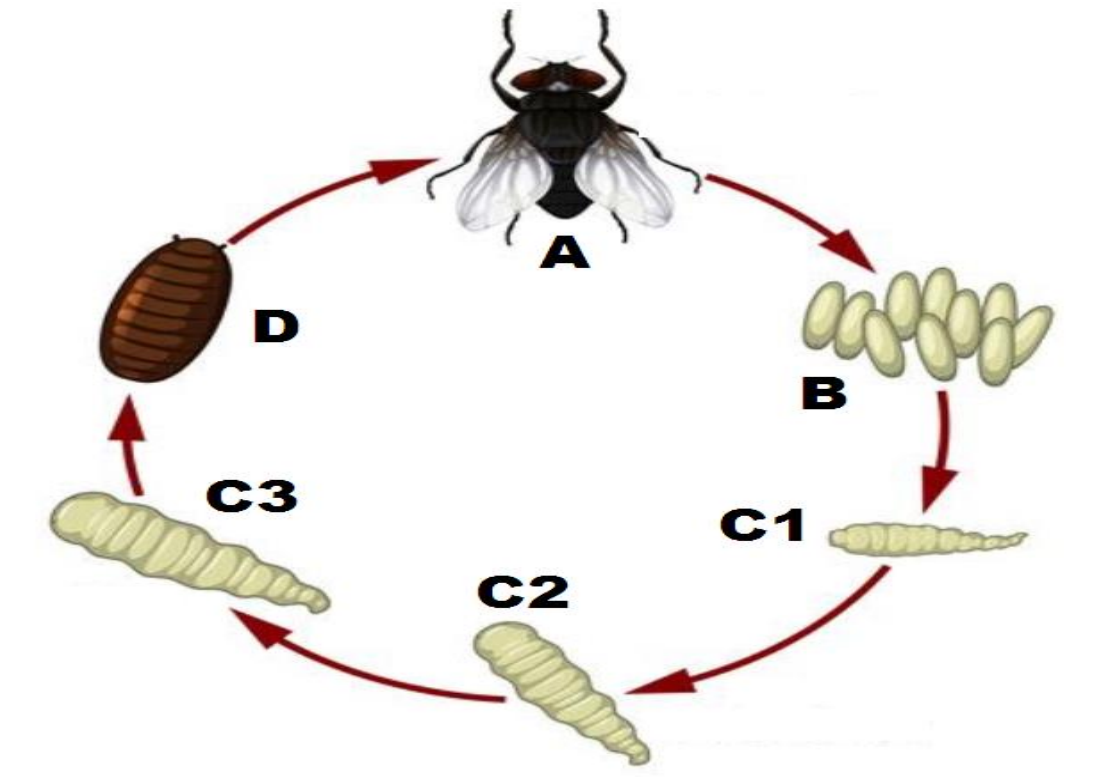
.....

.....

c. The actual length of specimen K is 8cm, given that both J and K are under the same magnification, determine the actual length of J

3mks

d. Below is a diagram showing the life cycle of specimen J.



i. Identify the stage labeled **D**.

1mk

.....
.....

ii. Name the hormone responsible for the change from **D** to **A**.

1mk

.....
.....

iii. Explain the differences in the change from **C2** to **C3** and from **C3** to **D**.

2mks

.

C2 to C3

.....

.....

.....

.....

C3 to D

.....

.....

.....

.....

iv. State the importance of the process illustrated above in the life cycle of the organism 2mks

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

FORM 4 565/1 BUSINESS STUDIES PAPER 1 TIME: 2 HOURS

INSTURCTIONS TO CANDIDATES

- a) Write your name and adm. no in the spaces provided above.
- b) Sign and write the date of examination in the spaces provided above.
- c) Answer ALL the questions.
- d) All answers should be written in the spaces provided in this booklet.
- e) This paper consists of 6 printed pages
- f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- g) Candidates should answer all the questions in English

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Candidate's score														

Question	15	16	17	18	19	20	21	22	23	24	25
Candidate's score											

TOTAL MARKS

--

1. State four elements that may comprise external environment to a business. (4mks)

.....

.....

.....

.....

.....

2. Outline four differences between goods and services. (4mks)

GOODS

SERVICES

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

3. Highlight four responsibilities of an effective a business accountant (4marks)

.....

.....

.....

.....

.....

.....

.....

4. State four reasons why consumers have to make a choice between competing needs. (4mks)

.....

.....

.....

.....

.....

.....

5. The following are some policies issued under marine insurance, fleet policy, composite policy, voyage policy and time policy. Identify the policy that suits the description listed below. (4mks)

DESCRIPTION

MARINE POLICY

a) Covers a ship within a specified

period of time -----

b) Covers a ship on a particular journey-----

c) Different insurers covers a ship for the

same risks. -----

d) Covers many vessels against losses under one
policy. -----

6. *Highlight four reasons why the government requires businesses to obtain licences. (4mks)*

.....

.....

.....

.....

.....

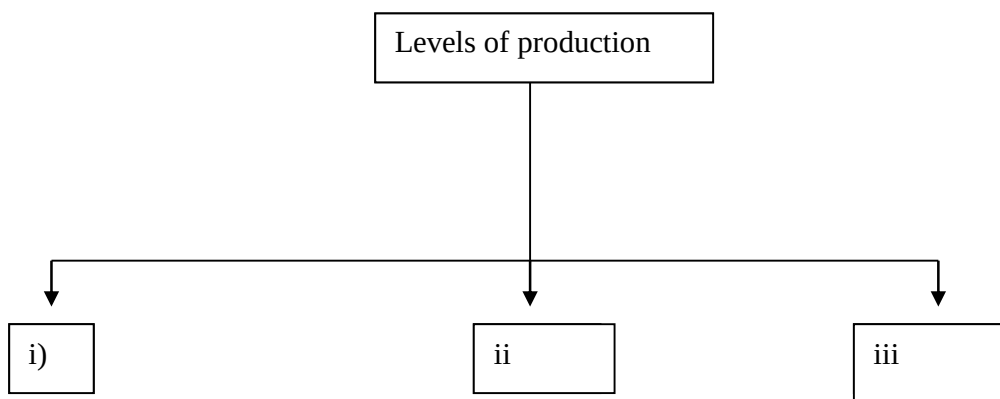
.....

.....

.....

.....

7. *Fill the levels of production in the diagram below. (3mks)*



.....

.....

.....

.....

.....

8. Give four disadvantages of government involvement in business activities. (4mks)

.....

.....

.....

.....

.....

.....

9. Give four measures that a government may take to reduce the mortality rate in a country. (4mks)

.....

.....

.....

.....

.....

.....

10. Highlight four services that a wholesaler may offer to a manufacturer. (4mks)

.....

.....

.....

.....

.....

.....

11. The following information was extracted from the books of Jupiter traders.

Rate of turnover 3 times

Mark-up 20%

Opening stock sh. 160,000

Closing stock sh. 200,000

REQUIRED

I) Gross Profit (2mks)

ii) Sales (2mks)

12. The conditions given below are for a monopoly firm or a firm operating under perfect competition. Write the correct market structure against each of the conditions in the spaces provided. (4mks)

CONDITIONS	MARKET STRUCTURE
a) Market structure determines price for the product.	
a) There is free entry and exit	
c) Product involved is homogeneous	
d) Market structure regulates supply of the product	

13. Outline four reasons that can lead to dissolution of a sole proprietorship. (4mks)

.....

.....

.....

.....

.....

.....

.....

14. Bahari enterprises had capital balance of sh 525,000 on 1st July 2006 and sh. 80,000 on 30th June 2007. Drawings and net profit in the year ending 30th June 2007 were sh 225,000 and sh. 175,000 respectively. Determine the additional capital during the year. (4mks)

15. Highlight four functions of a proforma invoice. (4mks)

.....

.....

.....

.....

.....

.....

16. *Identify the books of original entry used in recording each of the following transactions of Turkwel Traders. (4mks)*

TRANSACTIONS	BOOKS OF ORIGINAL ENTRY
a) Sold goods on credit to Atieno for sh. 30,000	
b) Bought goods on credit from Chantal Traders for sh. 40,000	
c) Zuma returned goods worth. 8,000	
Turkwel returned goods worth sh 11,000 to Sima traders	

17. Highlight four benefits that would accrue to a firm located near other existing firms. (4mks)

.....

.....

.....

.....

.....

.....

.....

18. Give four factors that limit the use of containers as a method of transporting goods in developing country.

.....

.....

.....

.....

.....

.....

.....

19. Give four reasons why a business person may wish to keep money in a fixed deposit account instead of a savings account. (4mks)

.....

.....

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

20. The following information was obtained from the records of Jakayo traders as at 1st July 2010

FURNITURE SH 20,000

Stock sh, 8,000

Creditor sh 7,000

Cash at Bank sh 12,000

Long term loan sh. 10,000

Prepare Jakoyo is Balance sheet as at 1st July 2010

21. Highlight four obstacles that could be ineffective communication between the principal and the students during an assembly. (4mks)

.....

.....

.....

.....

.....

.....

.....

22. Give four factors that influence the level of National income. (4mks)

.....

.....

.....

.....

.....

.....

.....

23. Give four benefits of expanding a businesses. (4mks)

.....

.....

.....

.....

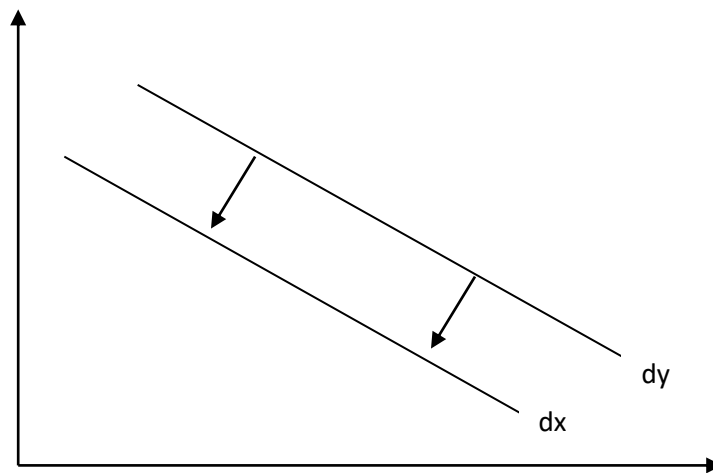
.....

.....

.....

.....

24. The diagram belows a shift in demand for a certain commodity.



Highlight four factors that may have caused the shift from dy to dx

.....

.....

.....

.....

.....

.....

25. *From the following information, prepare a three column cash book duly balanced. (5mks) 2014*

May 1 : Balances brought forward; Bank sh. 2,000(Cr) Cash sh. 1,000

May 5: Received sh. 7,800 cash from Olive Traders after deduction of 2 ½% cash discount.

May 14 Deposited sh. 8, 800 from the cash till to the bank.

May 24: Paid wages for sh 800 by cheque.

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

BUSINESS STUDIES

FORM 4

PAPER 2

TIME: 2 HRS 30 MINUTES

INSTRUCTIONS: Answer any five questions

1. a) Explain **five** benefits of direct production. (10marks)

b) Explain **five** differences between private limited company and partnership forms of Business units. (10marks)

2. a) Discuss **five** factors that Nakuru county government may consider before spending county Funds. (10marks)

b) The following information relates to Maralal Traders for the month of May 2014.

May 1: Balance brought forward:
 Cash Shs. 180,000
 Bank Shs. 450,000 (Cr)
 3: Received a cheque of 1,500,000 from Mpasha, a debtor
 7: Cash sales Shs. 280,000
 11: Jolloimat, a creditor of Shs.600, 000 was paid by cheque of sh 400,000 and the balance by cash.
 14: Received commission in cash sh. 150,000
 17: A debtor, Leteipa, paid his account of 185,000 by cheque less 2% cash discount.
 19: Paid the following expenses by cheque:
 Rent Shs. 75,000
 Electricity Shs. 32,000
 Water Shs. 25,000
 21: Withdrew Shs. 100,000 from bank for personal use
 24: Paid cash Shs 133,280 to Kinai after deducting a cash discount of 2%
 25: Received a cheque of sh. 200,000 from Kiyapi, a debtor
 28: Paid Salaries Shs. 120,000 by cheque.
 31: Banked all cash except sh. 50,000.

Required:

Record the above transactions in a three column cash book.(10mark

3. a) Describe **five** types of unemployment. (10marks)

(b) Explain **five** internal factors that may encourage the achievement of business goals. (10 marks)

4 a) The following information was extracted from the books of Umeme

Traders as at 31st December 2009.

Item	Shs.
Bank loan	567,000
Bank loan interest	1,440
Capital	1,680,000
Closing stock	87,000
Creditors	272,400
Debtors	140,280
Discount allowed	170,400
Electricity	30,240
Furniture	489,804
Furniture repairs	86,436
Gross profit	624,720
Maintenance on premise	72,000
Motor vehicle	1,080,000
Motor vehicle maintenance	360,000
Premise	648,000
Rent received	144,000
Sundry expenses	122,520

Prepare;

- (i) **Profit and loss account** for the year ended 31st December 2009
- (ii) **Balance sheet** as at 31st December 2009. (10 marks)

(b) Explain any **five** challenges that an under populated country may experience. (10 marks)

5. (a) Explain **five** reasons why the government imposes taxes in the economy. (10 marks)

(b) Explain **five** ways in which the central bank controls the money supply in the country. (10 marks)

6. (a) Explain **five** measures that a wholesaler would take to ensure the smooth running of his warehouse. (10marks)

(b) Explain any **five** circumstances under which an increase in National income may not lead to improved standards of living. (10 marks)

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

233/2

CHEMISTRY

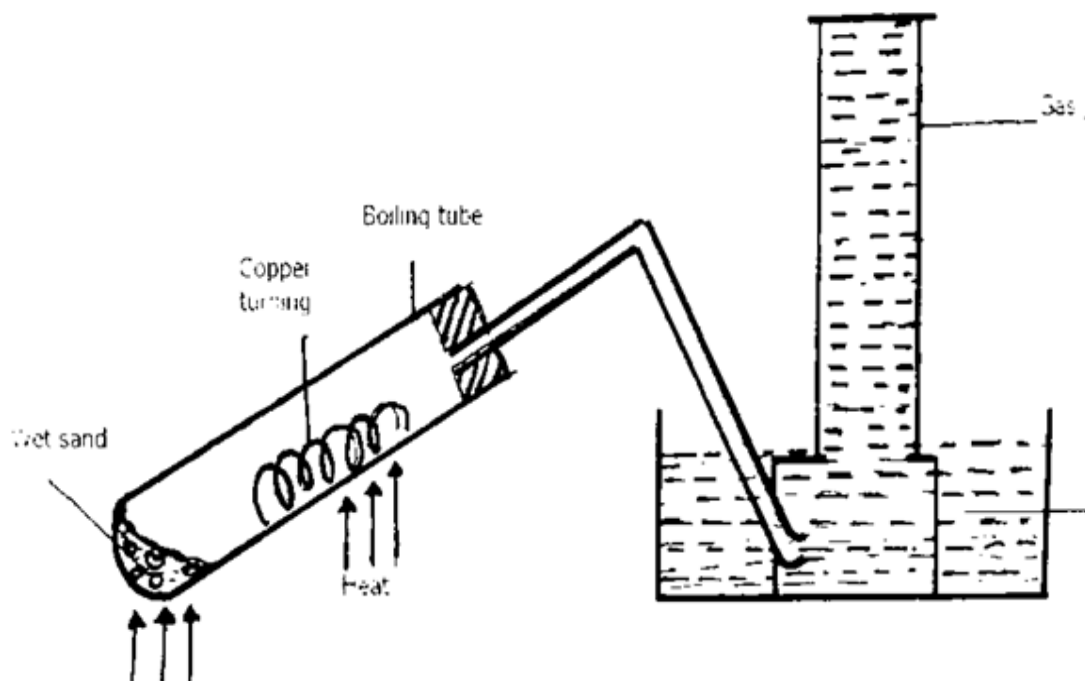
PAPER 1

FORM 4

END TERM 1 EXAM

TIME: 2 HOURS

1. The set-up below was used to investigate the effect of steam on copper turnings.



(a) What was observed in the boiling tube? Explain (2mks)

.....

.....

.....

.....

(b) Suggest one other metal that would behave as copper turnings in the above set up if used. (1mk)

.....

.....

2. (a) State Graham's law of diffusion. (1 mk)

.....

.....

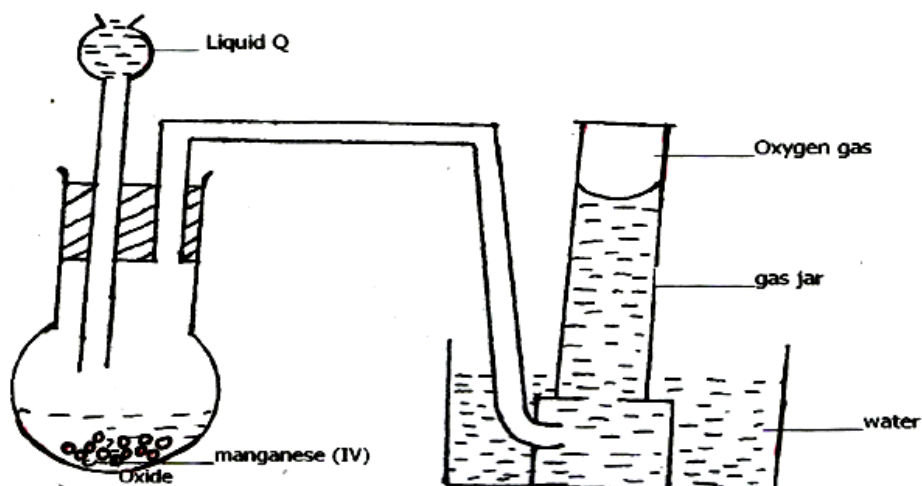
.....

.....

(b) A certain volume of gas S takes 180 seconds to diffuse through a porous plug. Molar mass of S is 18. Equal volume of gas Q takes 240 seconds to diffuse through the same plug.

Calculate the molar mass of Q. (2mks)

3. A student set-up the apparatus shown below attempting to collect oxygen gas.



(a) State one mistake the student made. (1 mk)

.....
.....

(b) Identify liquid Q. (1 mk)

.....
.....

(c) What property enables the gas to be collected as shown above? (1 mk)

.....
.....

4. Sodium chloride is accidentally mixed with lead(II) sulphate.
Explain how sodium chloride crystals can be obtained from the mixture.
(3mks)

.....

.....

.....

.....

.....

.....

5. The molecular formula of a hydrocarbon is $C_{11}H_{24}$, The hydrocarbon can be converted into other hydrocarbons as shown below.



(a) Name process R (½ mk)

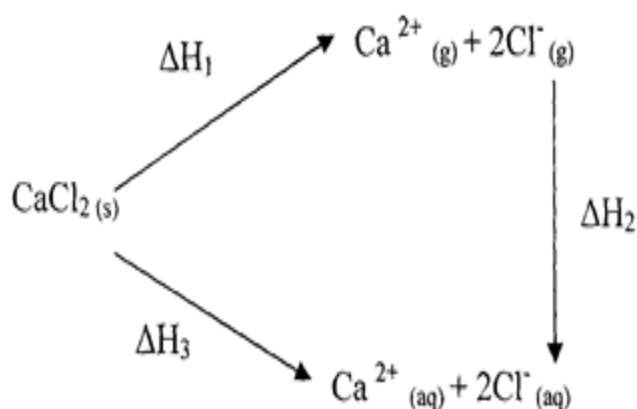
(b) Draw the structural formula of Y and give its name. (1 ½ mks)

6. The third number of the alkenes is converted to its corresponding saturated hydrocarbon by hydrogenation. Using the bond energy values given below, answer the questions that follow.

Bond	Bond energy kJ/Mol
H-H	432
C=C	610
C-C	346
C-H	413

Determine the enthalpy change for the conversion of the third member of the alkenes to its corresponding saturated hydrocarbon by hydrogenation. (3mks)

7. Use the information in the energy cycle below to answer the questions that follow.



(i) What is the name given to the energy changes? (3mks)

H1.

H2.

H3.

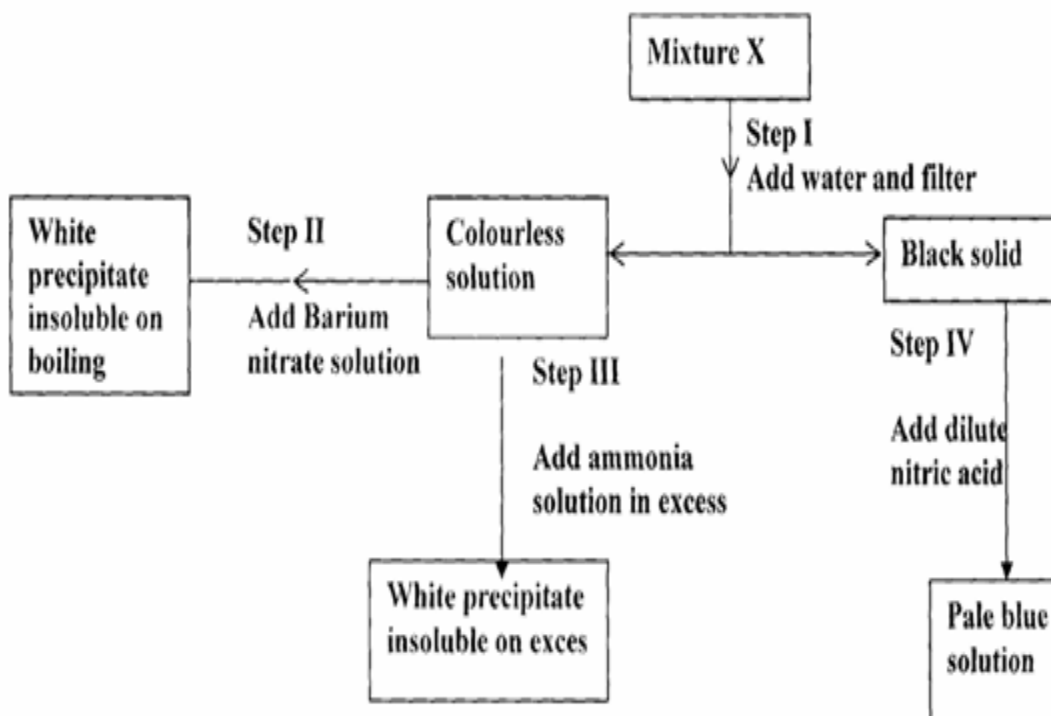
(ii) Given that $\Delta H_1 = 2237 \text{ kJ/mol}$ and $\Delta H_2 = -2378 \text{ kJ/mol}$, calculate the value of ΔH_3 . (1 mk)

8. When solid Zinc carbonate was added to a solution of hydrogen chloride in methylbenzene, there was no observable change. On addition

of some water to the mixture there was effervescence. Explain these observations. (2mks)

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

9. Study the chart below and answer the questions that follow.



(a) Name:

(i) Cations present in mixture X.

(1mk)

.....
.....

(ii) Anions present in the solution. (1mk)

.....
.....

(b) Write an equation to show how the white precipitate in step III dissolves. (1mk)

.....
.....

(c) Name the process outlined in step IV above. (1mk)

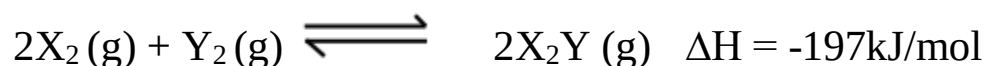
.....
.....

10. An element X has two naturally occurring isotopes $^{22}\text{X1}$ and $^{20}\text{X2}$. If its relative atomic mass is 21.8, calculate the percentage abundance of the more stable isotope. (2mks)

11. State two conditions that would make the boiling point of water to be higher than 100°C. (2 marks)

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

12. Study the following equilibrium equation.



(a) Suggest two ways of increasing the yield of X_2Y . (1 mark)

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

(b) Draw the energy level diagram for the forward reaction. (2 marks)

13. 5.0g of calcium carbonate were allowed to react with 25cm³ of 1.0M hydrochloric acid until there was no further reaction. Calculate the mass

of calcium carbonate that remained unreacted. (3 marks)

(Ca = 40, C = 12, O = 16)

14. A student fetched water from a river in a limestone area. He used it for washing and realized that it did not lather easily.

(i) Name the two ions that prevent lathering. (1 mark)

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

(ii) Given that the structure of soap is $\text{C}_{17}\text{H}_{35}\text{COONa}$.

Explain by means of ionic equations how the above ions prevent lathering. (2 marks)

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

15. M grams of a radioactive isotope decayed to 5 grams in 100 days.
The half-life of the isotope is 25 days.

(a) What is meant by half life? (1 Mark)

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

(b) Calculate the initial mass M of the radioactive isotope. (2 Marks)

16. 20cm³ of a dibasic acid required 25cm³ of 0.1M NaOH for complete neutralization.

(a) How many moles of sodium hydroxide reacted with the dibasic acid? (1 mark)

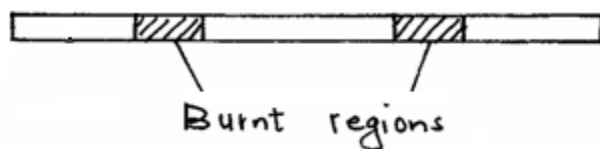
(b) Calculate the concentration of the dibasic acid in moles per litre. (2 marks)

17. When 25cm^3 of 0.5M HCl is added to 25cm^3 of 0.5M NaOH the temperature of the solution rose from 23°C to 26°C . Given that the density of the solution is 1gcm^{-3} and its specific heat capacity is $4.2\text{Jg}^{-1}\text{K}^{-1}$.

(a) Determine the amount of heat evolved that caused the temperature rise. (1 mark)

(b) Work out the molar enthalpy of neutralization for this reaction. (2 marks)

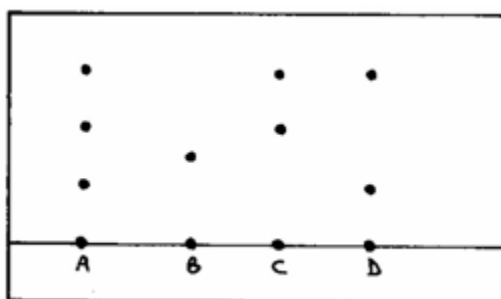
18. The figure below shows a burning splint that was put across the middle of a non-luminous flame. Explain the results. (2 marks)



.....

19. 3.22g of hydrated sodium sulphate, $\text{Na}_2\text{SO}_4 \cdot \text{XH}_2\text{O}$ were heated to a constant mass of 1.42g. Determine the value of X in the formula. (Na = 23.0, S = 32.0, O = 16.0, H = 1). (3 marks)

20. The following chromatogram was obtained in an experiment to investigate the components present in certain dyes.



(a) Which two dyes when mixed would produce A? (1 mark)

.....

.....

(b) Which dye is pure? (1 mark)

.....

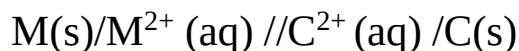
.....

(c) Indicate on the diagram the solvent front. (1 mark)

21. The following are electrode potentials of the half cells.

Half-cell	$E^\ominus$ volts
$M^{2+} (aq)/M(s)$	-0.76
$C^{2+} (aq)/C(s)$	+0.34

a) Calculate the potential difference of the following cell. (1 mark)

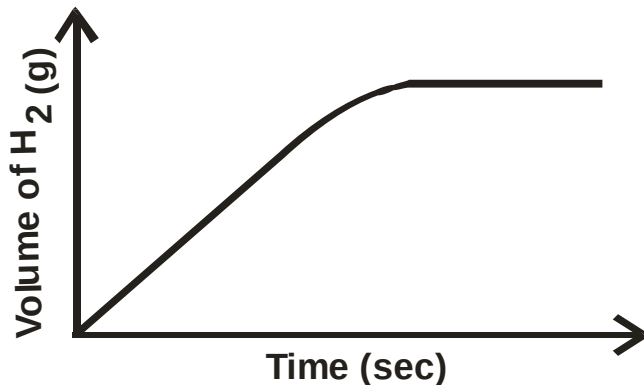


b) Draw an electrochemical cell for the cells in (a) above. (3 marks)

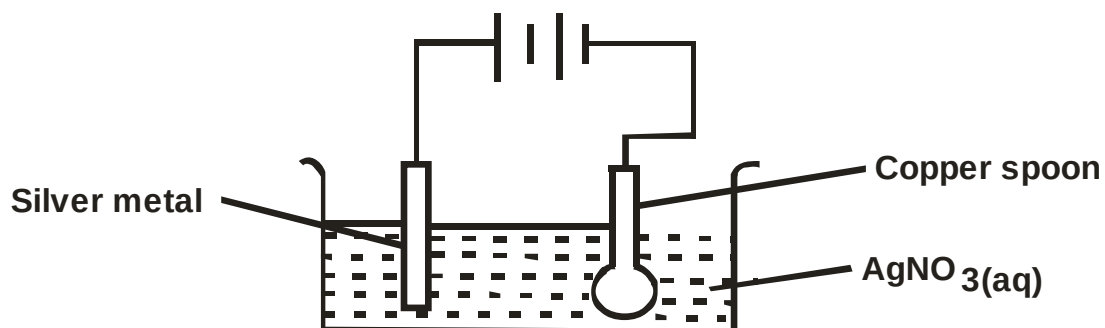
c) Show the electrode which represents the anode. (1 mark)

22. The diagram below shows the reaction of zinc granules with hydrochloric acid.

On the diagram sketch the graph that would be obtained if zinc powder of same quantity was used and label it C2. Explain. (2 marks)



23. A copper spoon was coated with silver metal as shown below.



- i) Write an equation for the reaction that occurs at the copper spoon cathode. (1 mark)

.....

.....

- ii) How many grams of silver would be deposited on the spoon in two hours using steady current of 0.03A? (1 F = 96500C, Ag = 108.0) (3 marks)

24. Copper (II) sulphate solution was electrolyzed using graphite electrodes.

- a. State the observations made at the electrodes. (2marks)

Anode

.....

.....

.....

Cathode

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

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

.....
.....

25. Write down a balanced equation to show the effect of heat on each of the following substances.

i) Anhydrous copper (II) sulphate (1mark)

.....
.....

ii) Potassium nitrate salt (1mark)

.....
.....

iii) Silver nitrate (1mark)

.....
.....

26. A compound with the formula $X(OH)_3$ (not its actual chemical formula) reacts as shown below



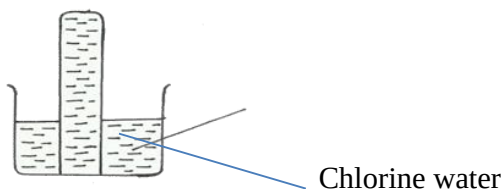
a) State the name of compounds that behave like $X(OH)_3$ in the two reactions above. (1mark)

.....

b) Name two elements whose hydroxides behave like that of X . (2marks)

.....

27. Chlorine water was exposed to sunlight for one day using the set up below.



After one day a gas was collected

a) Identify the gas that was collected. (1mark)

.....

.....

b) State the observations made in the liquid. (2mark)

.....

.....

.....

.....

.....

c) What will happen to the pH of the solution after one day? (1mark)

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

233/2

CHEMISTRY

PAPER 2

FORM 4

END TERM 1 EXAM

TIME: 2 HOURS

INSTRUCTIONS:

Answer all the questions in the spaces provided.

1. Below is a table of oxides of period 3 elements. Use it to answer the questions that follow.

Element	Na	Mg	Al	Si	P	S	Cl
Oxides	Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	P ₂ O ₃	SO ₂	Cl ₂ O ₇
	Na ₂ O ₂				P ₂ O ₅	SO ₃	
Nature of oxides	I	II	III	IV	V	VI	VII

(a) Compare the electrical conductivity of oxides of Sodium to those of phosphorus. (2 mks)

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

.....

.....

(b) Which oxides would react with dilute Sulphuric acid. Explain.(2 mks)

.....

.....

.....

.....

(c) Write down balanced equation to show how one of the oxides would react with both 2M hydrochloric acid and 2M Sodium hydroxide solution. (2 mks)

.....

.....

(d) What structure would be formed by the oxides of silicon?

Explain your answer. (2 mks)

.....

.....

.....

The melting point of SO_2 is lower than that of MgO . MgO has a giant ionic structure while SO_2 has a simple molecular structure.

.....

.....

.....

(e) Describe how you would prepare a dry sample of lead (II) nitrate from the following reagents. Lead (II) oxide and dilute nitric (V) acid.

(3 mks)

.....

.....

.....

.....

.....

.....

(f) Alum used in treating water is both advantageous and disadvantageous. Explain. (2 mks)

.....

.....

.....

.....

(g) When a blue litmus paper is dipped in a solution of aluminium Chloride it turns red. Explain.

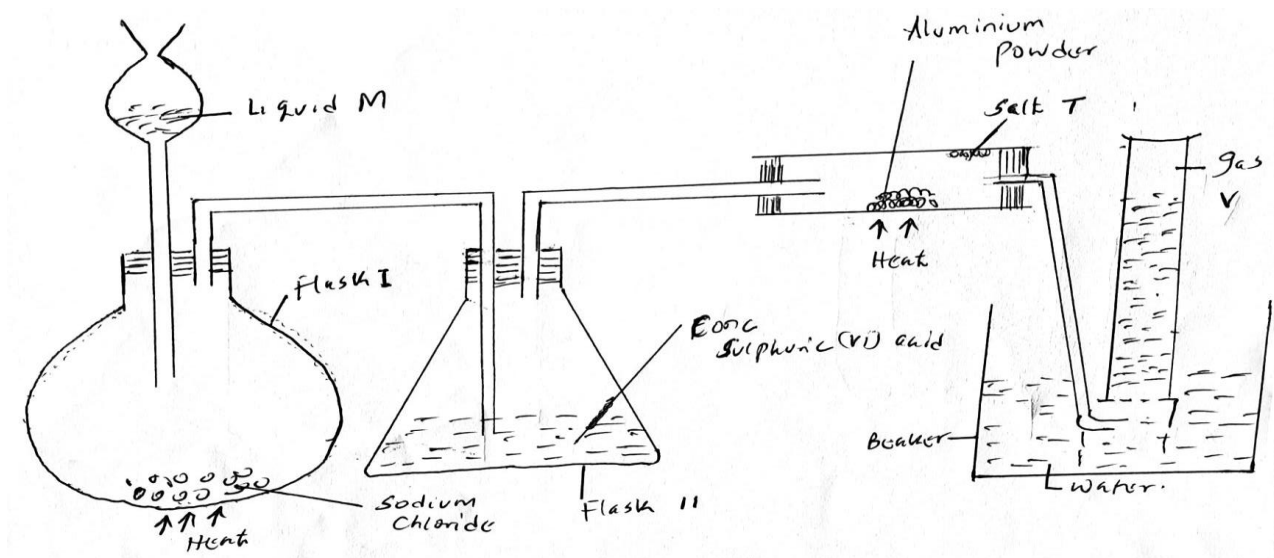
.....

.....

.....

.....

2. The set up below was used to prepare hydrogen chloride gas and salt T.
(1 ½ mks)



(a) Identify the following:

(i) Liquid M.

(ii) Gas V

(iii) Salt T

(b) Write down balanced chemical equations for reactions that occur at:
(2 mks)

(i) Flask I

.....

.....

(ii) Combustion tube.

.....

.....

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

($\frac{1}{2}$ mks)

.....

.....

(d) Sulphuric (VI) acid is used as a drying agent in this experiment.
Explain why calcium oxide is unsuitable for the same purpose in this
reaction. (1 mk)

.....

.....

.....

.....

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

.....
.....
.....
(f) Calculate the mass of salt T formed if 480cm^3 of hydrogen chloride gas measured at room temperature was reacted with aluminium powder ($\text{Al} = 27$, $\text{Cl} = 35.5$ $\text{MGV} = 24\text{dm}^3$)(2 mks)

(g) Draw a well labeled diagram showing how you would dissolve hydrogen chloride in water. (2 mks)

(h) Explain why hydrogen chloride gas dissolved in methyl benzene does not react with calcium carbonate. (1 mk)

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

.....

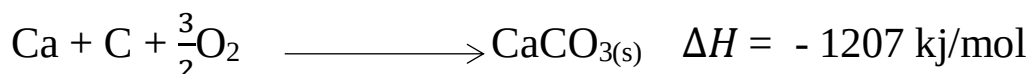
.....

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

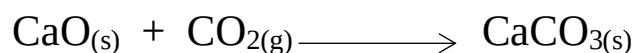
.....

.....

3. Use the information below to answer the questions that follow.



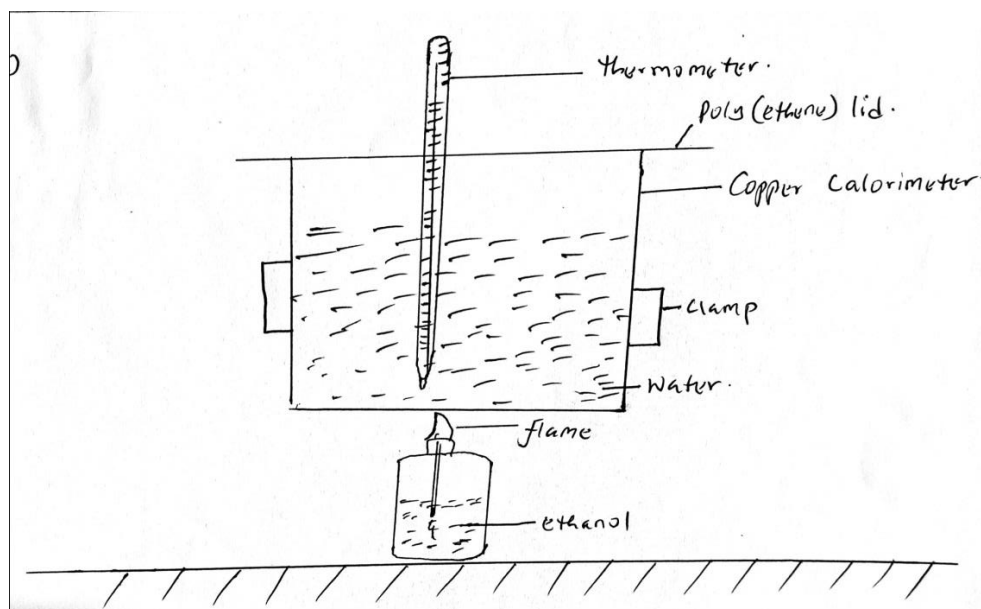
(a) Calculate the enthalpy change for the reaction. (3 mks)



(b) State one factor that should be considered when choosing fuel for cooking. (1 mk)

.....
.....

(c) A student used the apparatus shown to calculate the energy released when ethanol burns. The energy released by the burning ethanol raises the temperature of the water in the copper calorimeter.



Volume of water used = 500cm³

Initial temperature of water = 25°C

Final temperature of water = 44.5°C

Mass of ethanol + Lamp before burning = 121.5g

Mass of ethanol + lamp after burning = 120.0g

Calculate the:

(i) Heat evolved during the experiment (density of water = 1g/cm^3 ,
specific heat capacity of water = $4.2\text{Jg}^{-1}\text{K}^{-1}$) (3 mks)

(ii) Molar heat of combustion of ethanol. (3 mks)
(C = 12, O = 16, H = 1)

(d) Write the thermo equation for the complete combustion of ethanol.
(1 mk)

.....
.....

(e) Sketch a simple energy diagram for the reaction of ethanol in air.(3 mks)

4. Name the following compounds using the LUPAC system.

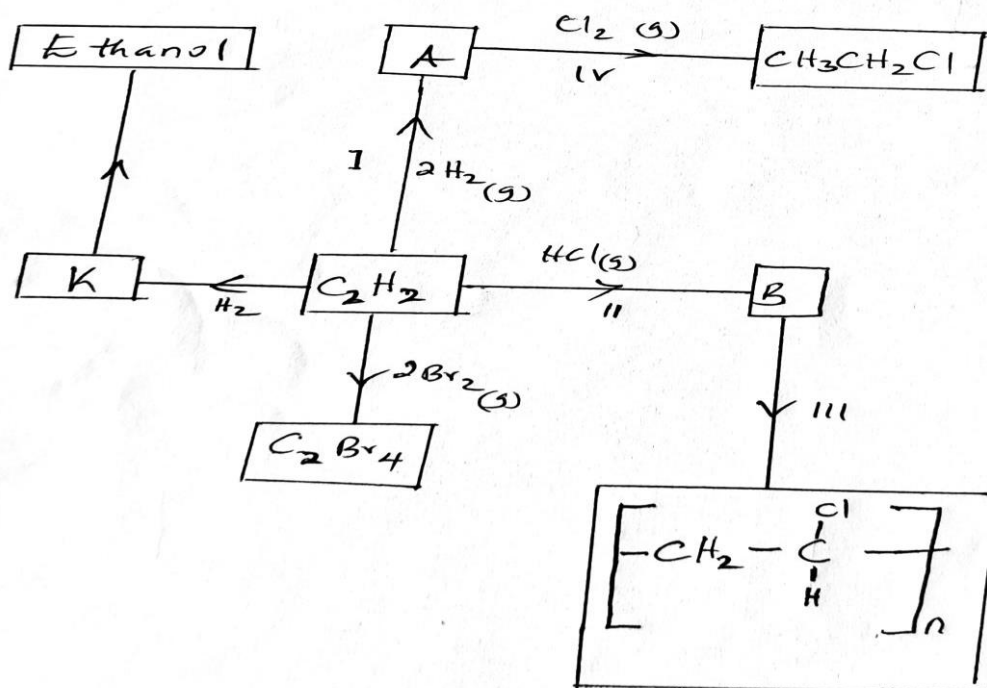
(a) (i) $\text{CH}_3\text{CH}_2\text{COOCH}_2\text{CH}_3$ (1 mk)

.....

(ii) $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}$ (1 mk)

.....

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



(i) Identify the catalyst used in step I. (1 mk)

.....
.....

(ii) Name the compounds A and B. (1 mk)

A.....

B.....

(iii) Give one disadvantage of compound formed in step III. (1 mk)

.....
.....

(iv) Name the reactions taking place at steps. (2 mks)

III

IV

(c) Compound A and B have the same molecular formula $C_3H_6O_2$.
Compound A liberates Carbon (iv) oxide on addition of aqueous Sodium carbonate while compound B does not.

Compound B has a sweet smell. Draw the possible structures of:

(i) Compound A

(1 mk)

(ii) Compound B.

(1 mk)

(d) A student mixed equal volumes of ethanol and butanoic acid. He added a few drops of concentrated Sulphuric (vi) acid and warmed the mixture.

(i) Name and write the formula of the main products. (2 mks)

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

(ii) Which homologous series does the product named in (i) above belong? (1 mk)

.....
.....

5. Use the standard electrode potentials given below to answer the questions that follow.

<u>Element</u>	<u>Volts(V)</u>
$\text{Ag}^+_{(\text{aq})} + \text{e}^- \longrightarrow \text{Ag(s)}$	+ 0.80
$\text{Cu}^{2+}_{(\text{aq})} + 2\text{e}^- \longrightarrow \text{Cu(s)}$	+ 0.34
$\text{Pb}^{2+}_{(\text{aq})} + 2\text{e}^- \longrightarrow \text{Pb(s)}$	- 0.13
$\text{Zn}^{2+}_{(\text{s})} + 2\text{e}^- \longrightarrow \text{Zn(s)}$	- 0.76

(a) Select two half-cells which when combined give the lowest workable cell (lowest e.m.f). (1 mk)

(b) Calculate the e.m.f of the cell formed by combining the two half-cells in (a) above.(1 mk)

(c) (i) Select the strongest oxidizing agent. (½ mk)

.....

(ii) Strongest reducing agent

(½ mk)

.....
.....

(d) A cell was set up using lead and zinc electrodes as shown below.

(i) Write down the half equation for the half-cell in which oxidation occurs. (1 mk)

(ii) Write down the overall cell equation.

(1 mk)

.....
.....

(iii) What is the role of the salt bridge

(2 mks)

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

(e) An iron cup was electroplated using chromium. The chromium electrode and the iron cup was thoroughly cleaned and weighed before being dipped into the electrolyte.

(i) Why was it necessary to clean the metals before dipping them into the electrolyt(1 mk)

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

(ii) A current of 0.75A was passed through the solution for one hour and four minutes. The mass of chromium deposited on the cup was 0.52g (1 Faraday = 96500C, Cr = 52)

I. Calculate the quantity of electricity. (1 mk)

II. How many moles of chromium were deposited?(1 mk)

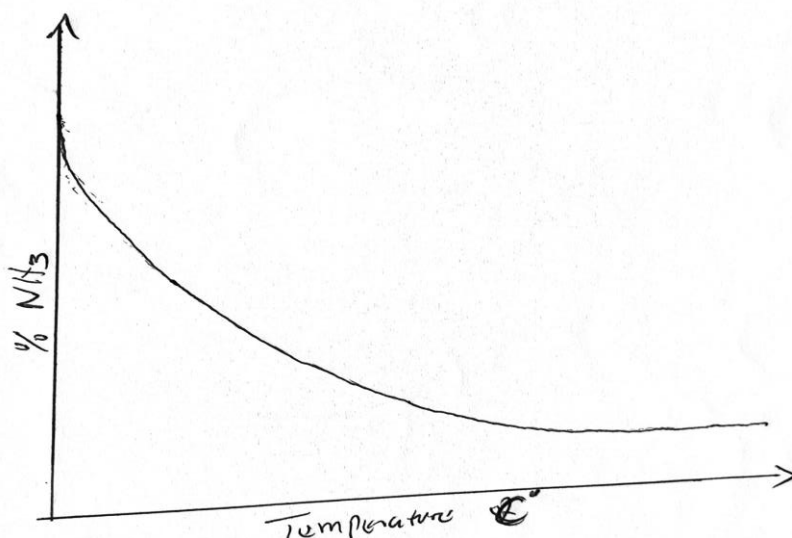
III Calculate the quantity of electricity to deposit one mole of chromium.(2 mks)

IV. Calculate the number of Faradays required to deposit one mole of chromium and hence deduce the change of ion. (2 mks)

6. Nitrogen and hydrogen react to form ammonia gas as shown in the following equation.



The figure below shows how the percentage of ammonia gas in the equilibrium mixture changes with temperature.



(a) Explain why the percentage of ammonia gas changes as shown in the figure above. (2 mks)

.....
.....

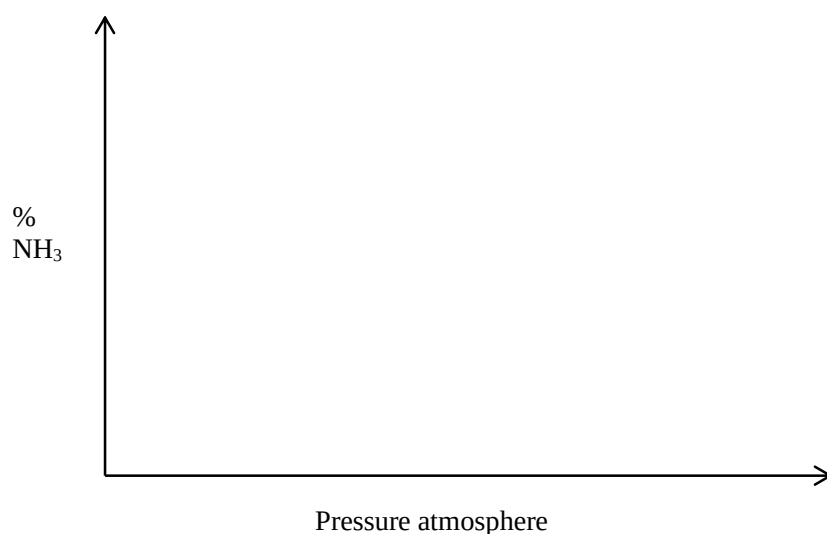
.....

.....

.....

(b) On the following axis, sketch a graph showing how the percentage of ammonia gas in the equilibrium mixture changes with pressure.

(1 mk)



(c) Bismuth chloride (BiCl_3) reacts with water according to the equation given below.



(i) State what would happen when a few drops of dilute hydrochloric acid are added to the mixture at equilibrium. (1 mk)

.....

.....

.....

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

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

(d) (I) In that harbor process, the industrial manufacture of ammonia is given by the following equation:



(i) Name one source of hydrogen used in the process. (1 mk)

.....
.....

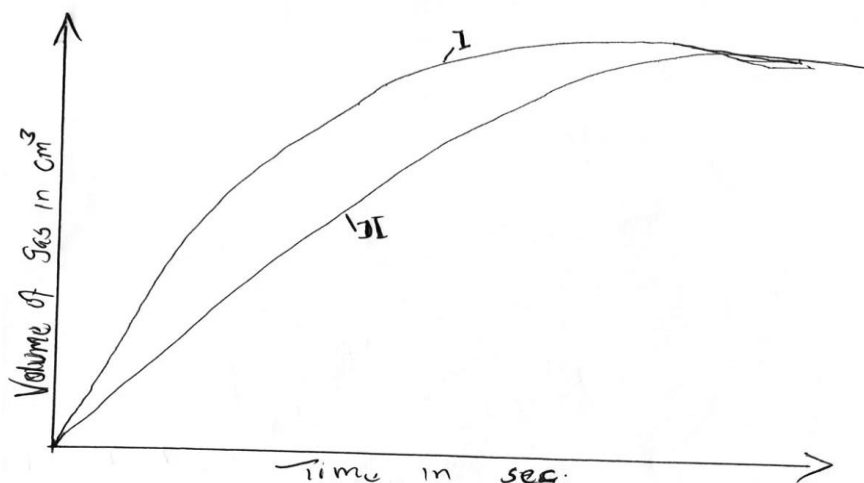
(ii) Name the catalyst used in the above reaction. (1 mk)

.....
.....

(iii) What is the effect of increasing temperature on yield of ammonia. Explain. (2 mks)

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

(II) The curves below were obtained when equal volumes of 2M HCl were reacted with 3.0g of marble chips (CaCO_3). In one of the reactions, the acid was warmed before adding this marble chips.



(i) Write down the equation for the reaction. (2 mks)

.....
.....

(ii) Identify the curve representing the reaction where the acid was warmed. (1 mk)

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

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

233/3

CHEMISTRY

PAPER 3

PRACTICAL

FORM FOUR

END TERM 1 EXAM

TIME:

INSTRUCTIONS:

1. (a) - You are provided with solutions M and N.
 - Solution M is acidified potassium manganate VII containing 3.16g/litre of solute.
 - Solution N was prepared by dissolving 4.17g of solid N.
 - $\text{FeSO}_4 \cdot \text{XH}_2\text{O}$ is dissolved in distilled water to make 250cm^3 of solution.

You are required to determine the value of X in formula $\text{FeSO}_4 \cdot \text{XH}_2\text{O}$

Procedure

Place solution M in a burette. Pipette 25cm^3 of solution N into a 250cm^3 conical flask.

Titrate solution N with solution M until a permanent pink colour just appears. Record your results in the table below.

Repeat the above procedure two more times.

	I	II	III
Final burette reading			
Initial burette reading			
Volume of solution M below (cm^3)			

(4 mks)

(b) Calculate the average volume of solution M used.

(1 mk)

(c) Determine the:

(i) Concentration of potassium manganate VII in moles per litre.

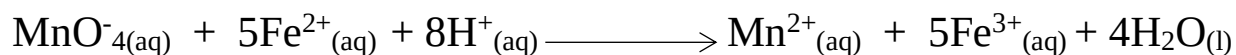
(K = 39, Mn = 55, O = 16) (2 mks)

(ii) The number of moles of potassium (VII) used. (2 mks)

(d) Calculate the concentration of solution N in grams per litre.

(2 mks)

(e) Given the ionic equation for the above equation reaction is:



Determine the number of moles of $\text{FeSO}_4 \cdot \text{XH}_2\text{O}$ in:

(i) 25cm^3 of solution N. (1 mk)

(ii) 100cm^3 of solution N. (1 mk)

(f) Using the values, calculate in (d) and (e) (ii) above, determine:

(i) The Relative formula mass of $\text{FeSO}_4 \cdot \text{XH}_2\text{O}$ (2 mks)

(ii) The value of X in the formula $\text{FeSO}_4 \cdot \text{XH}_2\text{O}$ given (Fe = 56, S = 32, O = 16, H = 1) (2 mks)

2. You are provided with:

- About 1.5gd of metal P – Magnesium powder
- About 1.6g of metal Q – Zinc powder
- Exactly 0.5M FeSO_4 , solution
- Exactly 0.5 CUSO_4 , solution T

You are required to determine the molar enthalpy of displacement of Copper II ions using metal P.

Procedure I

Place exactly 25cm^3 of solution in 100ml plastic beaker. Measure the initial temperature of the solution and record it in table II below. Add all of the metal P at once. Stir the mixture carefully with the thermometer. Record the highest temperature reading in the table below. (1 mk)

(a)

Final temperature °C	
Initial temperature °C	

(b) Determine the change in temperature, ΔT_1 . (1 mk)

(c) Calculate the:

(i) Heat change for the above reaction.

(Assume the specific heat capacity of the solution is 4.2j/g/k,
and density of solution is 1g/cm³) (2 mks)

(ii) The molar enthalpy of displacement of Fe²⁺ with P; ΔH_1 . (1 mk)

(d) Write thermochemical equation for this reaction. (1 mk)

Procedure II

Place exactly 25cm³ of solution T in 100mly plastic beaker. Measure the initial temperature of the solution and record it in the table III below. Add all of the metal Q at one. Stir the mixture carefully with the thermometer and record the highest temperature reached in the table III below.

(a)

Final temperature °C	
Initial temperature °C	

(b) Determine the change in temperature, ΔT_2 . (1 mk)

(c) Calculate the:

(i) Heat change for the above reaction.

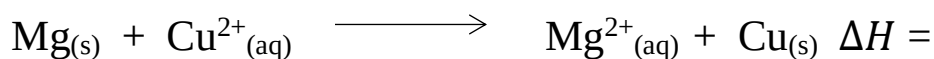
(Assume the specific heat capacity of solution is 4.2J/g/k, density is (g/cm³)(1 mk)

(ii) Molar heat of displacement of Cu²⁺ with metal Q (ΔH₂) (2 mks)

(d) Write the thermochemical equation for this reaction. (1 mk)

.....
.....

(e) Using the two thermochemical equations above, determine the heat change for the determine the heat change for the reaction. (2 mks)



3. You are provided with solution U, carry out tests below. Write your observations and inferences in the spaces provided.

Divided the solution into five portions.

(a) To the first portion add aqueous Sodium hydroxide dropwise until in excess.

Observations	Inferences
(1mk)	(1mk)

(b) To the 3rd portion add aqueous ammonium hydroxide dropwise until in excess.

Observations	Inferences
(½ mk)	(½ mk)

(c) To the 3rd portion add 2.3 drops of 1M HCl

Observations	Inferences
 (½ mk)	 (½ mk)

(d) To the 4th portion, add 2 – 3 drops of Barium Nitrate.

Observations	Inferences
 (1 mk)	 (1 mk)

(e) To the 5th portion, add 2 – 3 drops of Lead II Nitrate solution then warm the mixture.

Observations	Inferences
($\frac{1}{2}$ mk)	($\frac{1}{2}$ mk)

You are provided with solid S. Carry out the tests below. Record your observations and inferences in the tables below.

Place all solid S into a boiling tube. Add about 5cm³ of distilled water and shake well.

Divide it into three portions.

(a) To the first portion, add 2 – 3 drops of bromine water.

Observations	Inferences
(½ mk)	(½ mk)

(b) To the second portion, add 2 – 3 drops of acidified potassium dichromate VI solution and shake well.

Observations	Inferences
(½ mk)	(½ mk)

(c) To the third portion, add a small amount of solid Sodium hydrogen carbonate.

Observations	Inferences
($\frac{1}{2}$ mk)	($\frac{1}{2}$ mk)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

C.R.E 313/1

END TERM 1 FORM 4

Answer any five questions

1. a) Give the differences in two accounts of creation in Genesis 1 and 2 (8mks)
b) State seven effects of sin on Adam and Eve in Genesis 3 (7mks)
c) Outline five causes of evil in Kenya today (5mks)

2. a) Describe the call of Abraham Genesis 12:1-9 (7mks)
b) Give seven similarities between the Jewish and Traditional African practice of circumcision (7mks)
c) Identify six lessons that Christians learn about God from the call of Abraham (6mks)

3. a) State the failures of king Solomon (6mks)
- b) Explain the importance of the temple in Jerusalem to the Israelites (8mks)
- c) Give six reasons why Kenyans are attracted to church (6mks)
4. a) Identify eight characteristics of True prophets of Yahweh (8mks)
- b) State the differences between traditional African prophets and Old Testament prophets (6mks)
- c) Outline the qualities of an Evangelist in Kenya today (6mks)
5. a) Outline the problems that Nehemiah encountered in the rebuilding of the wall of Jerusalem (8mks)
- b) In what ways did Nehemiah demonstrate the qualities of a good leader during his time (7mks)
- c) Identify the problems Christians face in their work today (5mks)
6. a) Identify six places in which sacrifices are carried out in T.A.C (6mks)
- b) Give seven reasons why sacrifices are made in traditional communities (7mks)
- c) State seven roles of elders in traditional African communities (7mks)
-

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

C.R.E 313/2

FORM 4

TIME: 2 ½ HOURS

Answer any five questions

1. a) Outline Nathan's prophecy concerning the coming of the messiah.(6mks)
b) Describe the birth of John the Baptist according to Luke 1:57-79.(7mks)
c) Give **seven** reasons why Christians sing in church today. (7mks)

2. a) Outline **seven** teachings of Jesus from the sermon on the plain on true discipleship. (7mks)
b) Using examples give four reasons why Jesus faced opposition from the Jewish, religious leaders in Galilee. (8mks)
c) Outline **five** ways in which the church leaders are preparing in the society for the second coming of Jesus. (5mks)

3. a) Narrate the parable of the great feast. (7mks)
- b) Identify **seven** teachings of Jesus on eschatology according to Luke 21:5-38. (7mks)
- c) State **six** reasons why Christians celebrate the last supper today. (6mks)
4. a) Give **seven** instructions Paul gave to the church in Corinth on how to use Spiritual gifts. (7mks)
- b) Explain how the unity of believers is expressed in the image of the bride Rev.2:1-22 cor11:2. (6mks)
- c) Outline the importance of the Holy Spirit to Christians today. (7mks)
5. a) Outline **seven** moral duties of employers to employees. (7mks)
- b) Mention **seven** factors that determine a just wage. (7mks)
- c) Show how retrenchment of workers affect their families. (6mks)
6. a) Identify **seven** sources of wealth in traditional African society. (7 marks)
- b) State the reasons why there is need for cooperation between the government and the church in Kenya today. (7 marks)
- c) What role should Christians play in trying to control pollution of the environment? (6 marks)

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

END OF TERM EXAMS

FORM 4

ENGLISH PP1

2 HOURS

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

FUNCTIONAL WRITING 20 Marks.

Imagine your friend from the U.S has sent you an email saying that he will be coming over for Christmas Holiday. Reply the email and copy a recipe of a dish you would prepare him once he comes.

.....

.....

.....

.....

.....

.....

.....

.....

.....

CLOZE TEST (10 MARKS)

Fill in the blank spaces in the following passage with the most suitable word.

Every tree tells _____ story, but some are beyond eloquent, holding memories, embodying belief, marking sorrow. _____ hold trees in our imagination, where they grow in strange, wonderful ways _____. Forests inhabited by fantasy and also _____. Our fears. In fable _____ well as in legend, a forest shelters spirits, witches, and _____. Upon a time, a big bad wolf. We incorporate the rich metaphors _____ trees provide: We turn _____ a new leaf and branch out; ideas blossom _____. Bear fruit. Though our momentum is sapped, our resolve remains deep-rooted, and yet _____ are times when we can't see the forest for the trees.

Adapted from National Geographic March 2017

ORAL SKILLS(30MARKS)

Read the following Acoli song and then answer the questions that follow

If death were not there,
Where would the inheritor get things?
The cattle have been left for the inheritor;
Ee, how would the inheritor get things?
The iron-roofed house has been left for the inheritor;
Ee, if death were not there,
How would the inheritor get rich?
The bicycle has been left for the inheritor;
The inheritor is most lucky;
Ee, brother, tell me,
If death were not there,
Ugly one, whose daughter would have married you?

A wife has been left for the inheritor;
Ee, inheritor, how would you have lived?
The house has been left for the inheritor,
If death were not there,
How would the inheritor get things?

Questions.

- i. Identify and illustrate any two sound patterns used in the song (2mks)

.....

.....

.....

.....

.....

- ii. Explain their effectiveness. (2mks)

.....

.....

.....

.....

- iii. If you were to perform the song, which words would you stress in line 1 and why? (2mks)

.....

.....

.....

iv. Underline the silent letter in the following words (4mks)

a) Greenwich

b) Porcelain

c) Isthmus

d) poignant

B . Imagine a friend of yours is addressing an audience. Barely before he has gone halfway through his speech, everyone appears restless and some people begin to walk out.

a. Tell him why the audience was not paying attention (2mks)

.....

.....

.....

.....

b. What should your friend do to avoid a similar situation when giving speeches? (2mks)

.....

.....

.....

.....

c. What advise would you give the audience to make them good listeners? (3mks)

.....

.....

.....

.....

.....

C. Describe the intonation patterns you would use in the following sentences. (3mks)

a. The children repeated their song.

.....

.....

.....

b. I will not leave my child here, I will take her with me.

.....

.....

.....

c. What is the importance of syllabus in songs?

.....

.....

.....

D. If you were to participate in a debate contest, explain how you would ensure you win over the audience (5mks)

- i. Give one tongue-twister in your tongue and then translate into English (1mk)

.....
.....

- ii. Give two sound images that are likely to be found in your tongue-twister (2mks)

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

- iii. What role do tongue-twisters play in oral communication?
(2mks)

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

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

ENGLISH

FORM FOUR

PAPER TWO

END TERM 1

TIME:2 ½ HRS

1.Read the following passage and answer the questions that follow.

(20mks)

The world has a weight problem. Within the past decade, obesity rates have shot up by 50 percent, rising from 200 million people in 1995 to 300 million in 2003. Even places more familiar with famine than fat are starting to worry about their waistlines. Africa now has weight loss clinics. In a recent survey in India-home to half the worlds undernourished population-55 percent of women between 20 and 69 were found to be found to be overweight .Twenty percent of Chinese adults are overweight. Brazil's childhood-obesity rate has jumped to

239 percent in a generation- four times the growth rate for youth in the United States. In March 2003, the International Obesity task force revealed that 1.7 billion of the planets 6 billion people were overweight or obese. How did we all get so fat? The problem stems from the collision of a number of modern trends; rising affluence and urbanization; the proliferation of conveniences like cars, computers, fast food and television; and the 21st century work culture, with its desk jobs and long hours. In rich countries, the familiar mantra of low-fat diet and exercise is routinely ignored. In the developing world, where health education is frequently non-existent, people are particularly vulnerable to the glamour of American burgers and the comforts of the couch. Rural migrants to cities are suddenly confronted with market-stall snacks and McDonald's. In newly industrialized countries packaged foods and fast food chains are promoted as an index of **affluence**.

The consumption of foods high in fat, sugar and salt-combined with increasingly **sedentary** lifestyles- is worrying health experts. And it is killing us. Diet-linked diseases-chiefly heart disease, cancer, diabetes and hypertension, now account for more than half of all deaths in Arab countries. In Barbados, more than 60 percent of hospital and drug-service budgets go toward coping with obesity-related illnesses. In Chinese hospitals, the number of patients suffering from weight-related

diseases has increased by 30 percent. The problem is so persuasive that the World health Organization has declared obesity a global epidemic.

In many places ,obesity and related illnesses such as diabetes are growing fastest among children and teenagers. These may be because those groups are more vulnerable to the excesses of their new found liberation. teenagers from rich homes have cars and can go to restaurants with their friends, and consume high-fat fast food. Nutritionists also blame food marketing and the proliferation of supermarkets for the rise in childhood obesity. Ultimately, diabetes is incurable. Although changes in lifestyles and diet can help stem the progression of the disease, it never disappears. Most patients are on insulin a decade after diagnosis. The best long-term hope for reversing the trend is for society to get its weight problems under control.

(a)What is this passage about? (1mark)

.....

.....

.....

(b)What is achieved by the use of figures in paragraph one? (2marks)

.....

.....

.....

.....

(c) From the information given in paragraph two, how can society get the weight problem under control? (3marks)

.....

.....

.....

.....

.....

.....

(d) According to the passage, what are the indications of the increasing danger of obesity? (3marks)

.....

.....

.....

.....

.....

(e) In about 50 words summarize what the passage says about obesity in children and teenagers. (6marks)

Rough copy

.....

.....

.....

.....

[illegible]

(f) In what way is the modern lifestyle a curse rather than a blessing?

(3 marks)

.....

.....

.....

.....

.....

.....

(g) Explain the meaning of the following words as used in the passage.

(2 marks)

(i) Affluence

.....

.....

.....

(ii) Sedentary

.....

.....

.....

QUESTION TWO: SEEN TEXT COMPREHENSION(25MARKS)

Read the extract below and answer the questions that follow.

Nora: (*jumping up and going to him*) oh, dear, nice Doctor Rank, I never meant that at all.

But surely you can understand that being with Torvald is a little like being with Papa – (*enter MAID from the hall*)

Maid: if you please, ma'am. (*Whispers and hands her a card*) **Nora:** (*glancing at the card*) oh! (*Puts it into her pocket*) **Rank:** is there anything wrong?

Nora: No, no, not in the least. It is only something – it is my new dress – **Rank:** what? Your dress is lying there.

Nora: Oh, yes, that one: but this is another. I ordered it. Torvald mustn't know about it – **Rank:** Oho! Then was the great secret.

Nora: Of course. Just go in to him: he is sitting in the inner room. Keep him as long as – **Rank:** Make our mind easy; I won't let him escape (*goes into HELMER'S room*) **Nora:** (*to the MAID*) And he is standing waiting in the kitchen? **Maid:** Yes; he came up the back stairs.

Nora: But didn't you tell him no one was in? **Maid:** Yes, but it was no good.

Nora: He won't go away?

Maid: No; he says he won't until he has seen you, ma'am.

2

Nora: Well, let him come in – but quietly. Helen you mustn't say anything about it to anyone. It is a surprise for my husband.

Maid: Yes, ma'am, I quite understand. (*exit*)

Nora: This dreadful thing is going to happen! It will happen in spite of me! No, no, no, it can't happen – it shan't happen!

QUESTION 2 (25 marks)

a) Place this excerpt in its immediate context (3 mks)

.....

.....

.....

.....

.....

b) Identify and illustrate the character trait of the following characters (4 mks)

i) Rank ii) Nora

.....

.....

.....

.....

.....
.....

c) Who is in the kitchen and why has he come? (3mks)

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

d) Identify and illustrate the dominant theme in the excerpt. (2mks)

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

e) “..... being with Torvald is a little like being with papa” what does Nora mean by this statement? (2 Marks)

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

f) Explain an incidence of dramatic irony from the excerpt. (2mks)

.....

.....

.....

.....

g) Why is Nora quick to usher Dr. Rank out of the room? (2 mks)

.....

.....

.....

.....

.....

3.Read the following narrative and answer the questions that follow.
(20 marks)

A man had two daughters from two different wives. One of his daughters was motherless, her mother died when she was still a baby. The mother of the other daughter did not like the motherless girl. She did not like her because her daughter loved the step sister more than she loved her. The woman therefore thought out some ways of eliminating her.

One day the woman made an arrangement with a hyena. The hyena was to go and wait for the two girls somewhere in the bush. To the motherless girl she would tie a band like a bangle on the left arm and to her daughter she would tie one on the right arm. After the hyena had gone to wit, she called the two girls, tied the bands accordingly and sent both of them to go and visit one of their aunts. She directed them to follow the path where she asked the hyena to wait for them. On the way the woman's daughter suggested that they should exchange the bangles.

“Why should my mother tie your bangle on the left arm, when everybody else wears theirs on the right arm?” he complained and took her bangle and put it on her step sisters right arm and took the one she was wearing and put it on her left arm. They went on with their journey. They had gone half-way through the journey when the hyena came and caught the woman's own daughter and ate her up. The motherless child was terrified and grew hysterical. She cried endlessly. Her grief was so great that she refused to go away from the scene of her sisters tragic death. She wished to die too; to be eaten up by the hyena which had eaten her dear friend and sister. She cried, wailed, wept and grieved for her dear sister, so much that if sorrow expresses by the living would bring back the dead, Awino's sister Nyawino would have returned to life. After the kill, the hyena had gone away but Awino would not leave, She stayed on the spot wailing.

“Aai, what are you doing here alone in the bush?” Some travelers asked her.”We were two, and we were going to visit our aunt but my sister has been eaten up by a hyena ,”she cried. The travelers saw her futile determination. They could not leave her there and in any case they were convinced that the parents should know. “No, you go home and take the news of the death of your sister home.” The people advised her more persuasively until she accepted to go home.

She arrived home, tired and wet with tears and sweat. She explained to her father what had happened. He became furious and called his wife to explain. but she was so full of grief that she could not talk. The elders were then called. It was agreed unanimously that the woman must be banished from the village because of her jealousy and wickedness. She left the village with regret and shame.

(a)Identify and illustrate **four** oral features in this narrative. (4 marks)

.....

.....

.....

.....

.....

.....

.....

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

(b) Explain **two** aspects of the culture of the community from which this narrative is drawn. (4 marks)

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

(c) What do we learn about the character of Nyawino from this narrative. (4 marks)

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

(d) Describe the mood of this narrative. (3 marks)

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

.....

.....

.....

.....

.....

(e) Explain the role of the travelers in the narrative. (2 marks)

.....

.....

.....

.....

(f) “She left the village crying with regret and shame.” (1 mark)

(Rewrite beginning; Crying.....)

.....

.....

.....

(g) What moral lesson do we learn from the narrative in relation to Awino’s conduct? Illustrate your answer. (2 marks)

.....

.....

.....

.....

4.(a) Rewrite the following sentences according to the instructions given after each. Do not change the meaning. (4 marks)

(i) All the farmers got a good harvest this year. (rewrite beginning: Not)

.....

.....

.....

(ii) The old ways are changing. This should be clear to everybody.

(Rewrite as one sentence beginning: That.....)

.....

.....

.....

(iii) Mrs. Mambo said that wall was very badly painted.

(Rewrite in direct speech)

.....

.....

.....

(iv) When I finished eating, I went to bed.

(Rewrite using the word 'having')

.....

.....

.....

(b) Complete each of the sentences correctly using the verb in brackets.

(3 marks)

(i) I.....if I had known.(go)

(ii) She law for six years now.(study)

(iii) If people.....more reasonable, there would be no wars.(be)

(c) Explain the two different meanings in the following sentence.(2 marks)

Kamaru hates visiting relatives.

.....

.....

.....

.....

.....

(d) Fill in each blank space with the correct alternative from the given choices. (3 marks)

(i) Can you change this.....powder form now?(in,into)

(ii) My reason for going is I am needed there.(because,that)

(iii) “..... now seven O’clock”,she said.(its,it’s)

(e) *Use the correct form of the word in brackets to fill in the blank space in each of the sentences below. (3 marks)*

(i) This man.....(hero) saved the boy from drowning.

(ii) Her.....(reveal) shocked everyone.

(iii) They were annoyed by the.....(warrant) search of the houses.

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

101/3

FORM 4 ENGLISH Paper 3

(Creative compositions and essays based on set texts)

Time: 2 ½ Hours

END TERM 1 EXAM

2 ½ Hours

Instructions to candidates

1. Answer **three questions only** on the answer sheets provided
2. Question **one** and **two** are compulsory
3. In question **three**, choose only **one** of the optional texts which you have prepared on.
4. Each of your essays **must not** exceed 450 words (2 pages)
5. Your answers must be written in English
6. Where the candidate presents work on more than one optional texts, only the first one will be considered

1. IMAGINATIVE COMPOSITION(COMPULSORY)(20 MARKS)

a) Write a composition to include the following items:

- A backpack
- The police
- Bank

OR

b) Write a story to illustrate the proverb:

Two wrongs do not make a right.

2. COMPULSORY SET TEXT (*Blossoms of the Savannah*) (20 MARKS).

Our greatest enemies are those close to us; support this statement with illustrations from the text.

3. OPTIONAL SET TEXTS (20 MARKS) EITHER

a) The short story: *Memories we lost and other stories*

Using adequate illustrations from the story ‘Almost Home’ by Barvy McKinley, write an essay with the title ‘The Challenges of illegal Immigration,’

OR

b) The Novel: *The Pearl* – John Steinbeck
‘Great expectations make frustrated men’. Using illustrations from the novel, write an essay supporting this statement.

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

312/1 GEOGRAPHY Paper 1 Time: 2¾ hours

INSTRUCTIONS TO CANDIDATES

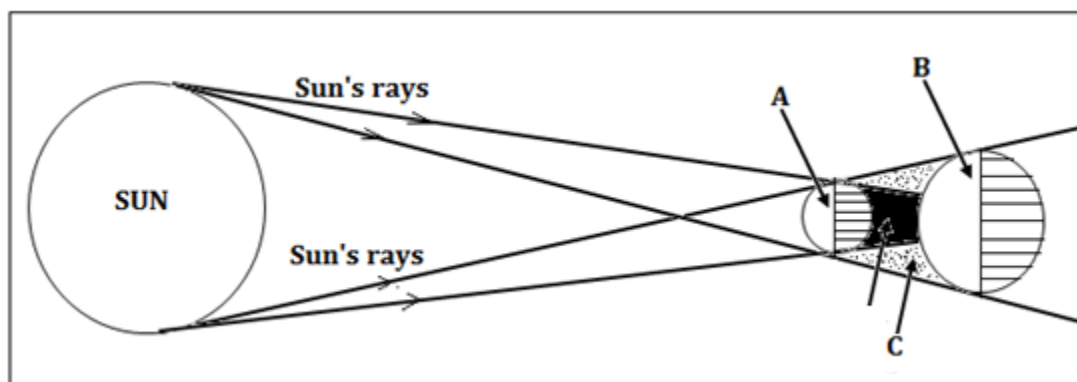
- This paper has **two** sections: **A** and **B**
- Answer **ALL** the questions in **section A**.
- In section **B**, answer **questions 6** and any other **TWO** questions.
- All the answers must be written on the foolscaps provided after page 4.
- Candidates must answer the questions **in English**.

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum Score	Candidate's Score
A	1 – 5	25	
B	6	25	
		25	
		25	
Total Score			

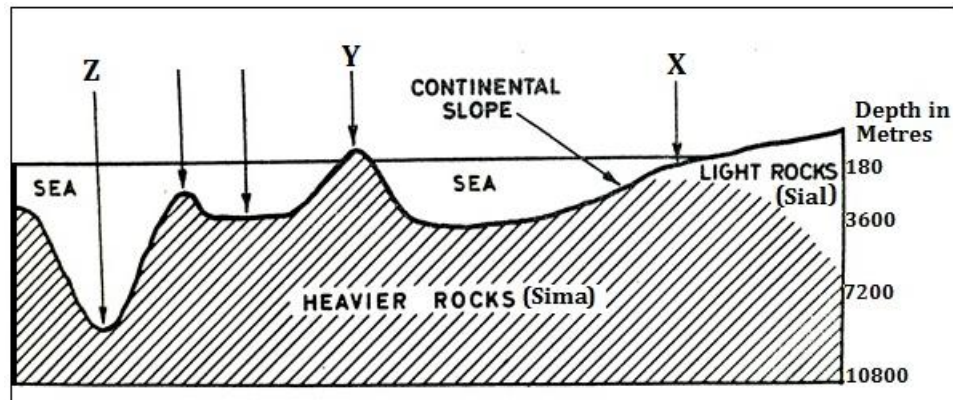
SECTION A

1. The diagram below shows a type of an eclipse.



- (a) Name the parts marked A, B, and C. (3 marks)
- (b) Apart from the occurrence of eclipses, state **three** other effects of the movement of the earth round the sun. (3 marks)
2. (a) What are metamorphic rocks? (2 marks)
- (b) Give **two** examples of organically formed sedimentary rocks. (2 marks)
3. (a) List **three** landmasses that formed from Gondwanaland according to continental drift theory. (3 marks)
- (b) Give **two** types of tectonic plate boundaries. (2 marks)
4. (a) What is an earthquake? (2 marks)
- (b) State **three** natural causes of earthquakes. (3 marks)

5. The diagram below shows some features that form ocean relief.



- (a) Identify the features marked X, Y and Z. (3 marks)
- (b) List **two** main forms of horizontal movements of ocean water. (2 marks)

SECTION B

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

- (a) (i) Determine the six figure grid reference of an air photo principal point near the South Western corner of the map. (2 marks)
- (ii) Give **two** types of scale on the map extract (2 marks)
- (iii) Give the position of the South Eastern corner of the area covered by the map by latitude and longitude. (2 marks)
- (b) (i) Citing evidence from the map, give **three** settlement patterns in the area covered by the map. (3 marks)

(ii) Identify **two** relief features at grid square 3099. (2 marks)

(iii) Explain how relief has influenced the distribution of settlements in the area covered by the map. (4 marks)

(c) Citing evidence from the map, give **five** economic activities carried out in the area covered by the map. (5 marks)

(d) Describe the distribution of natural vegetation in the area covered by the map. (5 marks)

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

(ii) Give **three** types of rainfall. (3 marks)

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

(i) Cold ocean currents. (4 marks)

(ii) Inter Tropical Convergence Zone. (2 marks)

(c) With the aid of a well labelled diagram, describe how sea breeze occurs. (8 marks)

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

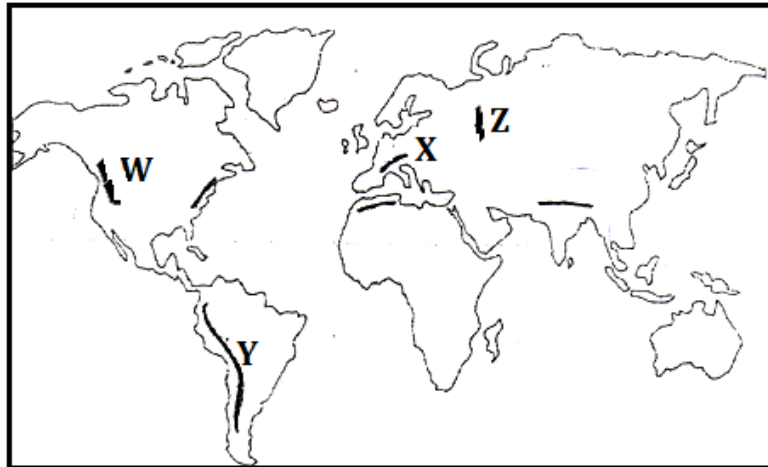
(i) Give **three** methods that they would use to collect data (3 marks)

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

8. (a) (i) Define the term folding. (2 marks)

(ii) Name **three** types of folds. (3 marks)

(b) The world map below shows the distribution of some fold mountains. Use it to answer question (i)



(i) Identify the fold mountains marked W, X, Y and Z (4 marks)

(ii) With the aid of well labelled diagrams, how Fold Mountains were formed. (10 marks)

(c) Explain **three** negative effects of Fold Mountains (6 marks)

9. (a) (i) What is a karst scenery? (2 marks)

(ii) State **five** characteristics of karst landscapes. (5 marks)

(b) Give **four** sources of ground water. (4 marks)

(c) Explain how the following factors influence the occurrence of ground water:

(i) Nature of rocks. (2 marks)

(ii) Slope of land. (2 marks)

(iii) Vegetation cover. (2 marks)

(d) Explain **four** conditions that favour the development of an artesian well. (8 marks)

10. (a) (i) What is glaciation? (2 marks)

(ii) Outline **four** factors which determine the rate at which ice moves. (4 marks)

(b) Apart from a cirque, name **four** other glacial erosional features. (4 marks)

(c) Using well-labelled diagrams, describe how a cirque is formed. (8 marks)

(d) Students of Nanyuki High School carried out a field study on glaciation on Mt. Kenya

(i) Give **three** reasons why they conducted a reconnaissance. (3 marks)

(ii) State **two** factors they must have considered when selecting the data collection methods. (2 marks)

(iii) Give **two** activities they may have been involved in during the study. (2 marks)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

GEOGRAPHY Paper 2 Time: 2¾ hours

INSTRUCTIONS TO CANDIDATES

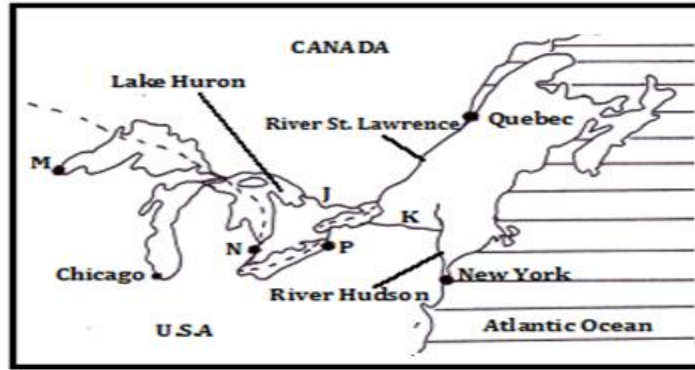
- This paper has **two** sections: **A** and **B**
- Answer **ALL** the questions in **section A**.
- In section **B**, answer **questions 6** and any other **TWO** questions.
- All the answers must be written on the foolscaps provided after page 4.
- Candidates must answer the questions ***in English***.

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum Score	Candidate's Score
A	1 - 5	25	
B	6	25	
		25	
		25	
Total Score			

SECTION A

- 2.(a) What is management of forests? (2 marks)
- (b) State three reasons why agroforestry is encouraged in Kenya. (3 marks)
- 2.(a) Name **two** categories of agricultural processing industries in Kenya. (2 marks)
- (b) State **three** similarities between the cottage industry of India and the Jua Kali industry in Kenya. (3 marks)
- 3.(a) Differentiate between settlement and urbanization. (2 marks)
- (b) State **four** characteristics of central business district of a town. (4 marks)
4. (a) Name **two** types of environment. (2 marks)
- (b) State **three** consequences of water pollution. (3 marks)
5. The map below shows the Great Lakes and St. Lawrence Seaway. Use it to answer question (a) and (b).



- (a) Name the canals marked J and K. (2 marks)
- (b) Name the towns marked M and N. (2 marks)

SECTION B

6. Study the table below and use it to answer questions (a) and (b)

Value of leading imports to Kenya from 2015 to 2019 (Ksh million)

IMPORT	2016	2017	2018	2019
Industrial machinery	253,500	238,400	252,400	257,600
Petroleum products	183,800	234,900	295,100	307,500
Iron and Steel	75,500	83,600	97,700	104,100

(a) (i) What is the difference between the value of petroleum products imports between year 2018 and year 2016? (2 marks)

(ii) Calculate the percentage increase between the value of industrial machinery imported between year 2017 and the year 2019.
(2 marks)

(b) (i) Apart from comparative bar graphs, give **three** other statistical methods that can be used to present the data in the table.(3 marks)

(ii) Using a vertical scale of 1cm to represent Ksh 30 Billion, draw a comparative bar graph to present the data in the table. Use the graph paper provided. (9 marks)

(c) State **three** advantages of using comparative bar graphs to present statistical data. (3 marks)

(d) Explain **three** reasons for low volume of trade between the countries in Africa. (6 marks)

7. (a) (i) Define the term mining? (2 marks)

(ii) Give four methods of underground mining. (4 marks)

(b) Explain how the following factors influence mining:

(i) Level of technology (4 marks)

(ii) Quality of the ore (2 marks)

(c) Explain **four** benefits of trona mining at Lake Magadi to

Kenya. (8 marks)

(d) State **five** negative effects of mining on the environment.(5 marks)

8. (a) (i) State **three** physical factors that favour tea growing in Kericho County. (3 marks)

(ii) Describe the stages involved in tea processing at the factory. (7 marks)

(b) Outline **three** ways in which tea is marketed in Kenya. (3 marks)

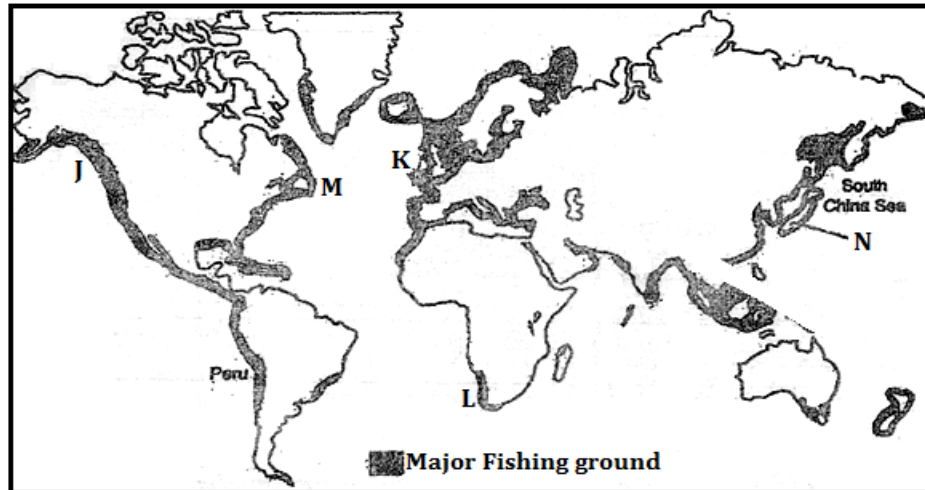
(c) Explain **three** physical problems facing small scale tea farmers in Kenya. (6 marks)

(d) Your Geography class carried out a field study on a tea plantation.

(i) Give **three** reasons why it is important to prepare a route map of the area. (3 marks)

(ii) State **three** methods that the class would have used to present data. (3 marks)

9. The map below shows the major fishing grounds of the world. Use it to answer question (a) (i), (ii) and (iii)



(a)(i) Name the fishing ground marked J,K,L and M (4 marks)

(ii) Name **the two** ocean currents that converge at region M
(2 marks)

(iii) Explain **three** physical factors that have favoured fishing in country N. (6 marks)

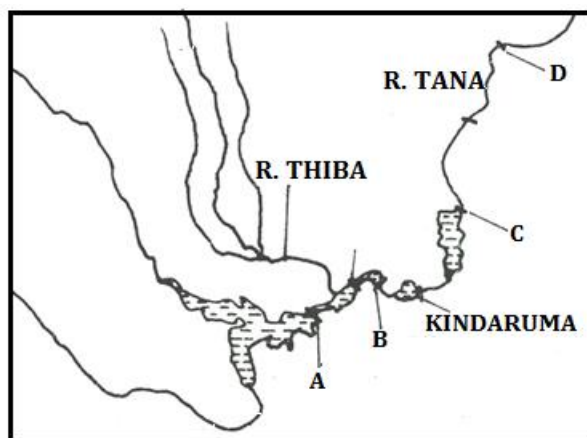
(b)(i) Describe how trawling as a method of fishing is carried out.
(5 marks)

(ii) Explain **four** measures being undertaken in Kenya to reduce overfishing of the natural water fisheries (8 marks)

10.(a)(i) Name **three** non-renewable sources of energy. (3 marks)

(ii) State **four** advantages of solar energy. (4 marks)

(b) The diagram below shows the Kenya's hydroelectric power stations along River Tana.



(i) Name the H.E.P stations marked **A**, **B** and **C**. (3 marks)

(ii) The proposed H.E.P dam site marked **D**. (1 mark)

(iii) Explain **four** challenges hindering hydroelectric power generation in Kenya (8 marks)

(d) (i) What is an energy crisis. (2 marks)

(ii) Explain the effects of an energy crisis in the following sectors.

- Agriculture (2 marks)
- Industries (2 marks)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

311/1

HISTORY AND GOVERNMENT PAPER 1

TIME: 2 1/2 HOURS

SECTION A (25 MARKS)

Answer all questions in this section

1. Give the branch of History that deals with peoples culture **(1mk)**
2. Identify **two** social practices introduced to the Bantu by the cushites
(2mks)
3. Mention the basic social unit among the Luo in pre-colonial Kenya
(1mk)
4. Identify **two** main items of trade from the interior of Kenya during the long distance trade? **(2mks)**
5. Give the reason why Ludwig Krapf was unable to establish a mission station in Kitui **(1mk)**

6. Mention **two** communities in Kenya whose ancestors settled in Mt. Elgon area before migration to the present homeland
(2mks)
7. Other than public bill name the other type of bill debated in the national assembly
(1mk)
8. Name **two** levels of government in Kenya today (2mks)
9. State the chief executive officer incharge of the county (1mk)
10. Name the First African in Kenya to serve in the Legislative council in colonial Kenya (1mk)
11. Give importance of the Mace in parliament (1mk)
12. Mention the constitutional commission that conducts and supervises elections in Kenya (1mk)
13. Name **two** political activists assassinated in Kenya up to 1978
(2mks)
14. Give **two** changes introduced by the Mackay Commission in education sector in Kenya (2mks)
15. State **two** pillars of Nyayoism (2mks)
16. Identify two principles of devolved government. (2mks)
17. Define public revenue. (1mk)

SECTION B (45MARKS)

Answer any three questions in this section

18. State **five** economic activities of the Borana during the pre-colonial period (5mks)
- (b) Describe the social organization of the Maasai (10mks)
- 19(a) State **three** reasons for the coming of the Portuguese to the Kenyan coast in the 15th Century (3mks)
- (b) Explain **six** factors that led to the development of plantation agriculture along East African Coast. (12mks)
20. Identify **three** methods used by the British to establish their rule in Kenya (3mks)
- (b) Explain **six** results of the Nandi resistance (12mks)
- 21(a) State five reasons why the government of Kenya adopted the sessional paper No. 10 of 1965 (5mks)
- (b) Discuss **five** ways in which the Harambee philosophy has promoted development of education in Kenya since independence (10mks)

SECTION C (30 Marks)

Answer Any Two Questions in this Section

22(a) Give **three** internal factors that led to introduction of multi-party democracy in Kenya in the early 1990's (3 mks)

(b) Describe **six** achievements of Multi-party democracy in Kenya
(12mks)

23. (a) Give **three** superior courts in Kenya (3 mks)

(b) Explain **six** measures taken by the government to improve the correctional services in Kenya (12mks)

24. (a) Mention **three** national security organs (3mks)

(b) Explain **six** functions of the attorney general in Kenya (12mks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

311/2

HISTORY AND GOVERNMENT

PAPER 2

Time: 2 ½ Hours

SECTION A (25 Marks)

Answer all the questions in this section.

1. State one limitation of using electronics as a source of information of History and Government. (1mark)
2. Identify two classes of monarchical government. (2marks)
3. Identify two ways in which early man used tools. (2marks)
4. Identify two uses of copper in Africa during the 19th century.(2marks)
5. State one type of trade. (1mark)
6. State two ways in which slaves were acquired during the Trans-Atlantic trade. (2marks)
7. Give two negative impacts of internet today. (2marks)
8. Give two factors that led to the decline of Kilwa town. (2marks)

9. Give two categories of chiefs in the Buganda Kingdom. (2marks)
10. Name the leader of the British South African Company (BSACO.) in the 19th century. (1mark)
11. Identify two methods of colonial administration used by the British in Africa. (2marks)
12. Name one treaty signed by Lobengula and the British during the process of colonization. (1mark)
13. State one way through which the United Nations Organization contributed to the growth of African Nationalism. (1mark)
14. State the main cause of the Cold War. (1mark)
15. Give one factor that led to the failure of Ujamaa policy in Tanzania. (1mark)
16. State the main function of the International Court of Justice. (1mark)
17. State one way in which one can become a member of the House of Lords in Britain. (1mark)

SECTION B (45MKS)

Answer three questions from this section

18. a) Give five changes that led to Agrarian Revolution in Britain.
(5marks)
- b) Explain the effects of Agrarian Revolution in Britain.
(10marks)
19. a) Give three factors that led to the development of urban centres in Africa during the pre-colonial period. (3marks)
- b) Explain six consequences of urbanization in Europe during the 19th C.
(12marks)
20. a) Give three social reasons that led to the scramble and partition of Africa in the 19thC by European powers. (3marks)
- b) Explain six impacts of European partition of Africa. (12marks)
21. a) Give three reasons why the Ndebele were defeated by the British in 1893-1894. (3marks)
- b) Briefly describe the results of the Anglo-Ndebele war of 1893-1894. (12marks)

SECTION C (30MKS)

Answer two questions from this section.

22. a) Outline five grievances of Africans against Apartheid in South Africa. (5marks)
- b) Explain five challenges faced by African Nationalists in the struggle for majority rule in South Africa. (10marks)
23. a) Identify five achievements of Pan Africanism. (5marks)
- b) Describe five factors undermining the activities of African Union (AU) since its formation in 2001 (10marks)
24. a) State three functions of political parties in the United States of America (USA) (3marks)
- b) Explain six duties of the president of the United States of America (USA) (12marks)

.....

.....

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

JINA:

NAMBARI YA USAJILI:**DARASA:**.....

SAHIHI..... **.SHULE:**

102/1

KISWAHILI INSHA

KARATASI YA KWANZA

MUDA: SAA 1 $\frac{3}{4}$

KIDATO CHA 4

MAAGIZO KWA MTAHINIWA:

- 1) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya majibu.
- 2) Karatasi hii ina maswali manne.
- 3) Jibu maswali mawili pekee. Kila swali lina alama ishirini.
- 4) Swali la kwanza ni la lazima.
- 5) Chagua swali jingine lolote kutoka kwa matatu yaliyosalia.
- 6) Majibu yote yaandikwe katika karatasi ya majibu uliyopewa.
- 7) Majibu yote yaandikwe katika lugha ya Kiswahili.

Sehemu hii imehifadhiwa kwa matumizi ya mtahini pekee.

SWALI	1	2	3	4
UPEO	20	20	20	20
ALAMA				

UPEO	40
ALAMA ZA MTAHINIWA	

1. SWALI LA LAZIMA.

Gari unalosafiria limehusika katika ajali mbaya barabarani. Japo kuna walioaga dunia, wewe hujadhurika kwa njia yoyote. Andika mahojiano kati yako na mwandishi wa gazeti la Mwangaza ambaye amekuja kukuhoji kuhusu ajali hiyo.

2. Pendekeza njia mbalimbali zinazoweza kutumiwa ili kuleta utangamano wa kitaifa.

3. Sitapiki nyongo harudi haramba.

4. Malizia kwa maneno haya... hapo ndipo nilipogundua umuhimu wa uhifadhi wa mazingira.

.....

.....

.....

.....

.....

.....

.....

.....

FORM 4 END OF TERM 1 SERIES 1 EXAMS

JINA:

NAMBARI YA USAJILI:**DARASA:**.....

SAHIHI..... **.SHULE:**

UFAHAMU, UFUPISHO, SARUFI NA MATUMIZI YA LUGHA NA
ISIMU JAMII MUDA: SAA 2^{1/2}

HATI YA KU HITIMU ELIMU YA SEKONDARI KENYA

KIDATO CHA NNE

MAAGIZO

Andika jina na nambari yako kwenye nafasi ulizoachiwa hapo juu.

Tia sahihi yako kisha uandike tarehe ya mtihani.

Jibu maswali yote

Andika majibu yako katika nafasi zilizoachwa wazi.

Majibu yako yaandikwe kwa kugha ya Kiswahili

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	ALAMA	TUZO
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

1. UFAHAMU: (alama 15)

Soma taarifa ifuatayo kisha ujibu maswali

Mageuzi yanayotarajiwa katika idara ya polisi nchini yameanza **kubisha hodi** baada ya kuzinduliwa kwa mtaala mpya wa kutoa mafunzo kwa maafisa wa polisi.

Mtaala huo uliozinduliwa rasmi na Waziri wa Usalama wa ndani Prof. George Saitoti Jumatatu iliyopita, unalenga kuimarisha utendakazi katika kikosi ambacho kwa muda mrefu kimelaumiwa kwa kukolewa ufisadi na uvunjaji wa haki za kimsingi.

Akihutubu katika hafla ya kuzindua mtaala huo iliyofanyika katika makao makuu ya shirika la ndege nchini mtaani Embakasi, Nairobi, Jumatatu iliyopita, Waziri Saitoti alisema, kuzinduliwa kwa mtaala huo kuliashiria mwanzo wa mageuzi makubwa yanayonuiwa kukipatia kikosi hicho sura mpya.

“Nyakati zimebadilika na tutawapa maafisa wa polisi mafunzo mapya. Tunataka kuunda kikosi imara chenye nidhamu na kinachoheshimu haki za kibindamu. Tunataka kuwa na kikosi kinachoakisi sura ya karne hii na kinachoafikia hadhi ya kimataifa,” Waziri Saitoti alisema.

Mtaala huo mpya wa kutoa mafunzo kwa maafisa wa polisi ni matunda ya jopo lililoteuliwa na Rais mwaka wa 2003 kutathmini mageuzi katika kikosi hicho. Uliandaliwa na taasisi ya elimu nchini ikishirikiana na wanafunzi kutoka

chuo cha mafunzo ya polisi cha Kiganjo kwa usaidizi wa wataalamu wa masuala ya usalama kutoka Uswizi.

Chini ya mtaala huo, maafisa wa polisi watapokea mafunzo kwa kipindi cha kati ya miezi 15 na 21 kinyume cha awali ilipowachukua miezi 9 tu kukamilisha mafunzo.

Aidha, alama za kujiunga na kikosi hicho zimeongezwa. Katika mtaala huo, wanaonua kujiunga na idara ya polisi wa kawaida, kitengo cha G.S.U au polisi wa utawala ni lazima wawe wamepata alama ya C katika mtihani wa K.C.S.E na itawachukua miezi 15 kukamilisha mafunzo ikiwa ni pamoja na miezi 3 ya kujifahamisha na huduma ya kikosi.

Hii ni tofauti na awali ambapo alama ya kujiunga na kikosi cha polisi ilikuwa ni D katika mtihani wa KCSE. Mtaala mpya unasema ni sharti asilimia 10 ya makurutu wawe na digrii kutoka chuo kikuu na watapokea mafunzo kwa miezi na kuhitimu cheo cha Naibu wa Inspekta wa Polisi.

Kuanzia sasa, ni sharti usawa wa kijinsia uzingatiwe kikamilifu katika uajiri wa maafisa wa polisi. Wachanganuzi wa masuala ya usalama wanasema ukizingatiwa ipasavyo, mtaala huo utasaidia kuunda msingi dhabiti wa kikosi imara ambacho Wakenya wamekuwa wakihitaji.

Maswali

1. a) Ni dalili ipi inayoonyesha mwanzo wa mageuzi? (al.1)

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

b) Mtaala mpya unalenga nini? (al.4)

.....

.....

.....

.....

.....

.....

c) Eleza lawama zinazoelekezewa kikosi cha polisi (al.2)

.....

.....

.....

.....

.....

d) Kwa mujibu wa taarifa eleza mageuzi matatu yaliyofanywa katika kikosi cha polisi (al.3)

.....

.....

.....

.....

.....

e) Taja makundi mawili yaliyohusika katika kuandaa mtalaa mpya (al.2)

.....

.....

.....
.....
f) Eleza maana ya maneno haya kama yalivyotumika katika kifungu
(al.3)

i) Kubisha hodi

.....
.....
.....
ii) Kukolewa

.....
.....
.....
iii) Makurutu

.....
.....
.....
2. UFUPISHO (alama 15)

Soma makala haya kisha ujibu maswali yanayofuata

Mwezi jana serikali ya kitaifa na zile za kaunti ziliwasilisha makadirio yao ya bajeti, miezi miwili kabla ya mwaka wa kifedha kuisha kama zinavyohitajika na katiba. Serikali hizo zilieleza jinsi zinavyonua kutumia mabilioni ya pesa kufadhili shughuli za mwaka ujao wa kifedha wa 2013/2014.

Serikali ya Rais Uhuru Kenyatta ilisema itatumia shilingi 1.6 trilioni kufadhili maendeleo na shughuli za sekta na idara zake tofauti. Makadirio haya yaliwasilishwa na kiongozi wa walio wengi bungeni, Bw. Aden Duale. Hata hivyo yalikosa kueleza jambo moja muhimu – jinsi kitita hicho kitakavyopatikana. Nasema hivi kwa sababu kuna habari ambazo zimenipa tumbojoto na wasiwasi mkubwa. Imebainika kuwa kufikia mwishoni mwa

Machi mwaka huu, Kenya ilikuwa inadaiwa shilingi 1.8 trilioni na wafadhili wa humu nchini wa kigeni. Kama habari hizi hazijakushtua sitakulaumu kwa sababu huenda ukuwa hujui ukubwa wa kiasi cha fedha. Ili uweze kuelewa, nitazigawanya fedha hizi miongoni mwa Wakenya milioni 40 ili tujue kila mkenya anadaiwa kiasi gani. Kila Mkenya nchini, wakiwemo watoto na wazee wakongwe, anadaiwa shilingi 45,000! Hivyo basi ili deni hili liweze kulipwa, kila Mkenya atalazimika kutoa kiasi hicho cha fedha.

Ni deni ambalo Rais Uhuru Kenyatta alirithi kitoka kwa mtangulizi wake, Rais Mwai Kibaki ambaye utawala wake ulivunja rekodi ya kukopa. Wahenga hawakukosea dawa ya deni ni kulipa. Deni hili linapaswa kimkosesha usingizi Rais Kenyatta ambaye anapaswa kutafuta njia za kulilipa bila kuathiri uchumi, maendeleo na utekelezaji wa ahadi nyingi alizowapatia Wakenya wakati wa kampeni.

Hili halitafanyika kama Serikali itatenga fedha nyingi kuwalipa maafisa wake mishahara na marupurupu minono pamoja na kuwapa mabilioni ya pesa kununulia magari ya kifahari. Pengine Rais hajafahamiswa kuwa mwaka ujao wa kifedha serikali itajipata pabaya kwani Halmashauri ya Ukusanyaji Ushuru nchini (KRA), haitaweza kukusanya kiwango kilichowekwa na serikali baada ya shughuli ya ukusanyaji ushuru kutatizwa na hofu iliyotanda wakati wa uchaguzi mkuu.

KRA ilikuwa imekusanya shilingi 560 bilioni kufikia mwishoni mwa Machi ilhali ilikuwa imeagizwa kukusanya. Baada yake zimeomba serikali kuu ujaze pengo hilo au zipewe idhini ya kukopa.

Rais Kenyatta hana budi kuchukua hatua za dharura kuhakikisha kuwa wakenya hawataendelea kuandamwa na madeni maishani mwao.

(imenukuliwa kutoka Taifa Leo – Mei 9, 2013)

a) Kwa maneno yasiyozidi 70, fupishsa aya za kwanza nne. (al.9)

Nakala ya matayarisho

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

.....

.....

.....

.....

.....

.....

Nakala safi

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



b) Kwa nini serikali haitaweza kulipa madeni yake. (maneno 40-50) (al.6)

Nakala ya matayarisho

.....

.....

.....

.....

.....

.....

.....

Nakala safi

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

3. SARUFI NA MATUMIZI YA LUGHA (alama 40)

a) Tambua sauti.

Kipasuo ghuna cha kaakaa laini (al.1)

.....

.....

.....

b) Unda neno lenye muundo ufuatao wa sauti (al.1)

KKKKI

.....

.....

.....

c) Eleza maana ya istilahi zifuatazo za sauti (al.4)

i) Kiimbo

.....

.....

.....

ii) Konsonanti mwambatano

.....

.....

.....

d) Tunga sentensi moja ukitumia neno –zuri kama kiwakilishi,
kivumishi na kielezi (al.3)

.....

.....

.....

.....

e) Eleza tofauti kati ya sentensi hizi (al.2)
Ningesoma kwa bidii ningepita mtihani.

.....

.....

.....

Ningalisoma kwa bidii ningalipita mtihani

.....

.....

.....

f) Tunga sentensi moja sahihi itakayotumia vitenzi vifuatavyo(al.3)
-wahi, -enda, -ona

.....

.....

.....

.....

.....

.....

g) Huku ukitumia mifano mwafaka, tofautisha silabi wazi na silabi funge (al.2)

.....

.....

.....

.....

h) Andika sentensi ifuatayo katika hali ya yakinishi (al.2)
Wanafunzi wasiposoma kwa bidii hawatapita mtihani

.....

.....

.....

i) Bainisha vishazi katika sentensi ifuatayo (al.2)
Gaidi aliyelipua guruneti ile ametiwa mbaroni

.....

.....

.....

.....

j) Andika katika msembo wa taarifa: (al.2)

“Wakazi wa eneo hili ni wafugaji stadi wa sungura” Kakangu aliniambia.

.....

.....

.....

k) Bainisha aina za virai katika sentensi ifuatayo (al.3)

Sheria hizo mpya zilitundikwa juu ya ukuta usiku wa manane.

.....

.....

.....

.....

.....

l) Unda nomino kutokana na vitenzi vifuatavyo (al.2)

i) Sali

.....

.....

ii) La

.....

.....

m) Changanua sentensi ifuatayo kwa njia ya vielezo matawi (al.4)
Jengo lijengwalo kwenye msingi thabiti hudumu sana.

.....

.....

.....

.....

.....

n) Andika katika kauli ya kutendesha (al.2)
Amani alikunywa pombe mpaka akalewa sana

.....

.....

o) Andika kwa udogo (al.2)
Njia iendayo mbinguni ni nyembamba

.....

.....

p) Neno changa lina maana ya kutoa kitu au fedha ili kukusanya
kwa makusudi fulani. Eleza maana zingine mbili (al.2)

.....

.....

.....

q) Taja nahau zingine mbili sawa na “Enda ahera” (al.2)

.....

.....

.....

.....

r) Andika kwa wingi (al.1)

Zigo la kuliwa halilemei

.....

.....

.....

4. ISIMU JAMII (alama 10)

Soma kifungu kifuatacho halafu ujibu maswali.

“Naona “Horsepower” mwenyewe ndiye atakayepiga,
atakayecheza foul hiyo. Wachezaji wa.....”

i) Tambua sajili inayorejelewa (al.2)

.....

.....

.....

ii) Tambua sifa zinazobainisha sajili rejelewa (al.8)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



FORM 4 END OF TERM 1 SERIES 1 EXAMS

JINA:

NAMBARI YA USAJILI: DARASA:.....

SAHIHI..... .SHULE:

KIDATO NNE 102/3

KISWAHILI

KARATASI YA 3 FASIHI

MUHULA WA TATU

MUDA: Saa 2 ½

MAAGIZO

- a) Jibu maswali **manne** pekee.
- b) Swali la **kwanza** ni la **LAZIMA**.
- c) Chagua maswali mengine **matatu** kutoka sehemu **nne** zilizobaki yaani; Ushairi, Riwaya, Hadithi fupi na Tamthilia.
- d) Usijibu maswali **mawili** kutoka sehemu moja.
- e) Kila swali lina **alama 20**
- f) Majibu yote yaandike kwa lugha ya **Kiswahili**.

SEHEMU YA A: FASIHI SIMULIZI

1.

- a) Taja mifano minane ya vipera vya utanzu wa semi katika fasihi simulizi. (alama4)
- b) Fafanua sifa zozote tatu za mawaidha katika fasihi simulizi (alama3)
- c) Eleza umuhimu tatu wa ngomezi. (alama3)
- d) Eleza istilahi hizi za fasihi simulizi. (alama3)
- i) Maghani
- ii) Mapisi
- iii) Misimu/simo
- e) Fafanua sifa zozote tatu ambazo mtambaji wa hadithi anastahili kuwa nazo. (alama3)
- f) Taja methali zozote mbili zilizo na dhana ya tashibihi. (alama2)
- g) Eleza sifa zozote mbili za nyimbo. (alama2)

SEHEMU YA B: USHAIRI

2. Soma shairi lifuatalo kisha ujibu maswali yanayofuata

Mkata ni mkatika, harithi hatoridhiwa
Sina ninalolishika, wala ninalochukuwa
Mlimwengu kanipoka, hata tone la muruwa!
Mrithi nini wanangu?

Sina ngo'mbe sina mbuzi,sina konde sina buwa
Sina hata makaazi,mupasayo kuyajuwa
Sina mazuri makuzi,jinsi nilivyoachwa
Mrithi nini wanangu?

Sina kazi sina bazi ila wingi wa shakawa
Sina chembe ya majazi mno ni kukamuliwa
Nakwa'cheni upagazi,ngumu kwenu ku'tuwa
Mrithi nini wanangu?

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

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?

Sina utu sina haki,mila yangu meuliwa
Nyuma yangu ili dhiki,na mbele imakaliwa
N'na wana na milik,hadi nitakapofukiwa
Mrithi nini wanangu?

Sina ila kesho kwenu,wenyewe kulongowa
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. (alama2)
- b) Eleza sababu ya mtunzi kutoweza kuwarithisha wanawe. (alama3)
- c) Andika ubeti wa nne kwa lugha nathari. (alama4)
- d) Dondoa mifano miwili miwili ya: (alama2)
 - i. Inkisari
 - ii. Tabdila
- e) Chambua shairi hili kwa upande wa:
 - i. Dhamira (alama2)
 - ii. Muundo (alama4)
- f) Eleza maana ya vifungu vifuatavyo kama vilivyotumiwa katika shairi. (alama3)
 - i. Mlimwengu kanipoka
 - ii. Sina konde sina buwa.
 - iii. Wingi wa shakawa.

SEHEMU YA C: RIWAYA

A.K Matei: Chozi la Heri

- 3. Malezi ya watoto katika riwaya ya Chozi la Heri ndicho kitovu cha ufanisi na matatizo yote yanayowapiku watoto. Jadili (alama 20)
- 4. "..., Di, ni mimi... niko hai. Auntie Sauna alishikwa na polisi. ”
 - a) Liweke dondoo hili katika muktadha wake (alama 4)

- b) Fafanua sifa za msemaji. (alama 6)
- c) Eleza tamathali moja ya lugha iliyotumika katika dondoo hii.
(alama 2)
- d) Sauna alishikwa na polisi? Elezea kikamilifu (alama 8)

SEHEMU YA: D HADITHI FUPI

A.Chokocho na D.Kayanda:

Tumbo Lisiloshiba na Hadithi Nyinginezo

5. "Penzi lenu na nani? Mgomba changaraweni haupandwi ukamea. Potelea mbali mkate wee!"

- a) Eleza muktadha wa dondoo hii. (alama 4)
- b) Taja na ufafanue mbinu mbili za lugha zilizotumiwa katika dondoo hili. (alama 4)
- c) Onyesha vile maudhui ya utabaka yanavyojitokeza katika hadithi nzima. (alama 6)
- d) Eleza sifa sita za mzugumzaji kwenye dondoo. (alama 6)

6. Kwa kurejelea hadithi zozote tano katika diwani ya, ‘Tumbo lisiloshiba na hadithi nyingine.’ Jadili maudhui ya nafasi ya wazazi katika malezi. (alama 20)

SEHEMU YA E: TAMTHILIA

P.Kea: Kigogo

7. Tamthilia ya “Kigogo” ni kioo cha uhalisia wa maisha ya jamii nyingi za Kiafrika. Thibitisha.

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM: CLASS: SIGN.....

SCHOOL:

121/1 MATHEMATICS Paper 1 Time 2½ hours

INSTRUCTIONS TO CANDIDATES

1. Write your name and Index number in the spaces above.
2. Sign and write the date of the examination in the spaces provided above.
3. This paper contains two sections. Section I and II.
4. Answer all questions in section I and ONLY five in section II.
5. All answers and working must be written on the question paper in the spaces provided below each question.
6. Show all the steps in your calculations giving your answer at each stage in the spaces provided below each question.
7. Marks may be awarded for correct working even if the answer is wrong.
8. Non-programmable silent calculators may be used and KNEC Mathematical tables may be used, except where stated otherwise.
9. Candidates should check the questions paper to ascertain that all the pages are printed as indicated and that no questions are missing.

EXAM INER' S US ONLY Y

Section I

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		17	TOT
Marks																		
	Section II																	
Question	17		18		19		20		21		22		23				24	TOT
Marks																		

GRAND TOTAL

(1.) Evaluate:

(3marks)

$$\frac{(1\frac{3}{7} - \frac{5}{8}) \times \frac{2}{3}}{\frac{3}{4} + 1\frac{5}{7} \div \frac{4}{7} \text{ of } 2\frac{1}{3}}$$

(2.) A line passing through points P (4, a) and Q (3, 2) is perpendicular to the line $3y + x + 3 = 0$. Find the value of a and write down equation of line PQ. (4 marks)

(3.) Use reciprocal tables to find the value of $(0.325)^{-1}$ hence evaluate $(\frac{\sqrt[3]{0.0000125}}{0.325})$, give answer to 4 s.f. (3marks)

(4.) Solve for x in the equation

(3marks)

$$\frac{x-3}{4} - \frac{x+3}{6} = \frac{x}{3}$$

(5.) Using the three quadratic identities only factorize and simplify:
(4marks)

$$\frac{(x-y)^2 - (x+y)^2}{(x^2+y^2)^2 - (x^2-y^2)^2}$$

- (6.) In a regular polygon, the exterior angle is $\frac{1}{3}$ of its supplement. Find the number of sides of this polygon. (3marks)
- (7.) Find the area of a segment of a circle whose arc subtends an angle of $22\frac{1}{2}$ on the circumference of a circle, radius 10cm. (3marks)
- (8.) Mr. Onyangos piece of land is in a form of triangle whose dimensions are 1200m, 1800m and 1500m respectively. Find the area of this land in ha.(give your answer to the nearest whole number) (3marks)

(9.) Two men each working for 8 hours a day can cultivate an acre of land in 4 days. How long would 6 men, each working 4 hours a day take to cultivate 4 acres? (3 marks)

(10.) From a viewing tower 30 metres above the ground, the angle of depression of an object on the ground is 30° and the angle of elevation of an aircraft vertically above the object is 42° . Calculate the height of the aircraft above the ground. (3 marks)

(11.) Solve the following inequality and show your solution on a number line. (3 marks)

$$4x - 3 \leq \frac{1}{2}(x + 8) < x + 5$$

(12.) Using a ruler, a pair of compasses only and (proportional) a set square, construct on the upper side division of line **BC** is 6cm, a line **BD** such that $\angle \mathbf{DBC} = 37.5^\circ$. Use the line **BD** to divide **BC** into 4 equal portions.
(3marks)

(13). A Kenyan bank buys and sells foreign currency as shown below.

	Buying Ksh	Selling Ksh
1 US dollar (\$)	103.00	106.20
1 UK pound (£)	145.00	149.95

A tourist arrived in Kenya with £9600 which he converted into Kshs at a commission of 5%. He later used $\frac{3}{4}$ of the money before changing the balance of dollars at no commission calculate; to the nearest dollar, the amount he received.
(3marks)

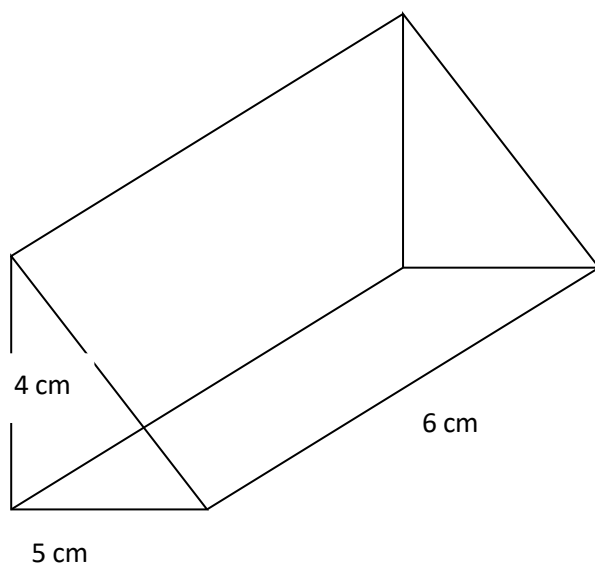
(14.) A map is drawn to scale of 1:50,000. Find the area in cm^2 on the map of a field with an actual area of $60,000\text{m}^2$.

(3marks).

(15.) Two similar solids have surface areas of 48cm^2 and 108cm^2 respectively. Find the volume of the smaller solid if the bigger one has a volume of 162cm^3 .

(3marks).

(16.) The diagram below represents a prism whose cross section is a right angled triangle. Draw a labeled sketch of the net of the prism. (3marks)



Section II. Answer any five questions.

17. Four schools: Lihanda, Kagito, Bar-Sari and Ndori are such that Lihanda is 6km from Kagilo on a bearing of 158° , Bar-Sauri is to the west of Kagilo and 20km away while Ndori is to the South of Bar-sauri on a bearing of 240° from Lihanda.

a) Using a scale of 1:400,000 draw a scale diagram showing the relative positions of the four schools (5mark)

b) Using your diagram determine the distance and bearing of Ndori from Kagilo. (2 marks)

c) A mast is to be erected so that it is equidistant from Kagilo and Barsauri and 20km from Ndori. On the same diagram show the position of the mast and find its distance from Lihanda. (3marks)

- 18.** A commemorative stone is sculptured in a shape of a frustum of a cone with the diameters of the top and bottom faces being 28cm and 49cm respectively. If the vertical distance between the faces is 45cm, find:
- i) Find the cones vertical height. (2marks)

(ii) Find the volume of the stone.

(3 marks)

ii) Surface area of the stone.

(5 marks)

19. The graph in figure below represents the journey made by a matatu between two bus stops.

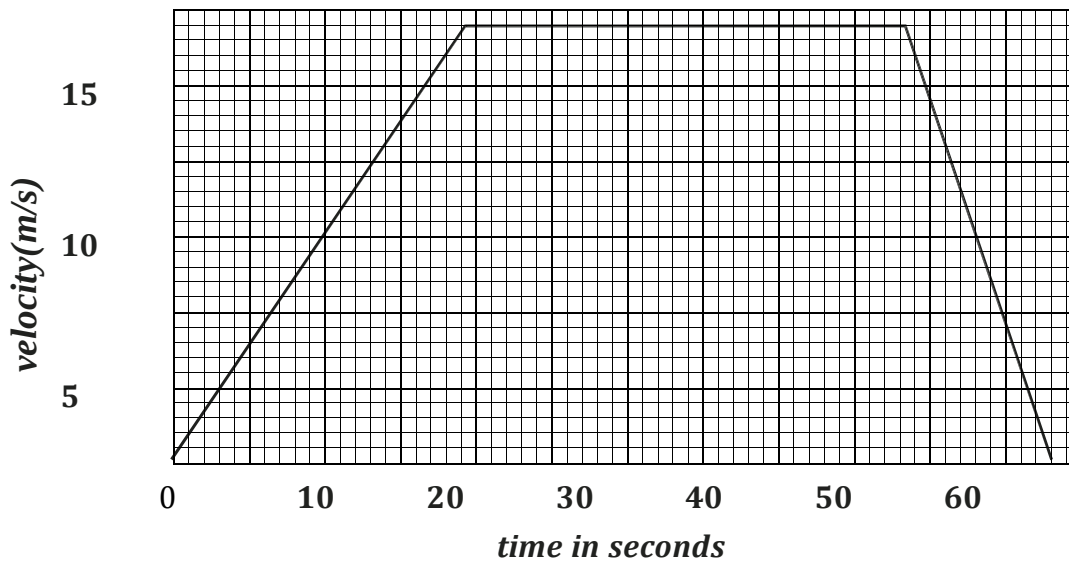
a) What is the acceleration of the matatu?

(2 marks)

b) Calculate the deceleration of the matatu?

(2 marks)

19. The graph in figure below represents the journey made by a matatu between two bus stops.



a) What is the acceleration of the matatu?

(2 marks)

c) What distance does the matatu cover while accelerating?

(2 marks)

d) Calculate the distance covered by matatu while decelerating (2marks)

e) Calculate the distance between the two bus stops. (2 marks)

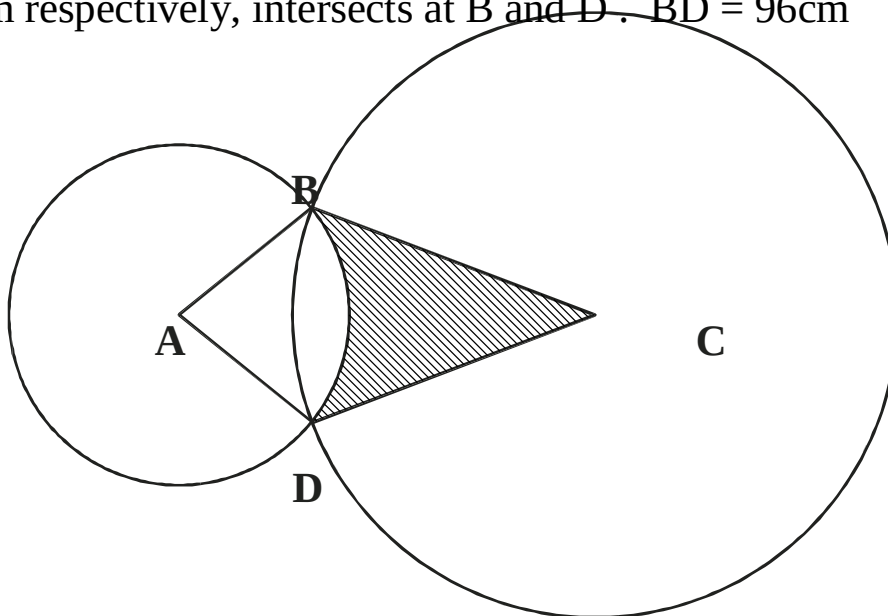
20. An amount of money was shared among five boys Ali, Juma, Musa, Khalid and Mustafa. Ali got $\frac{3}{8}$ of the total amount while Juma got $\frac{2}{5}$ of the remainder. The remaining amount was shared equally among Musa, Khalid and Mustafa, each of which received Kshs 600.

a) How much did Juma get? (3 marks)

b) How much was shared among the five boys. (2 marks)

- c) Ali, Juma and Mustafa invested their money and earned a profit of Kshs 1200. A third of the profit was left to maintain the business and the rest shared according to their investments. Calculate how much each got. (5 marks)

- 21.** In the diagram below, two circles centres A and C have radii 70cm and 102cm respectively, intersects at B and D. $BD = 96\text{cm}$



- a) Find the length AC (3 marks)
- b) Calculate
- i) Angle BAD (2 marks)
- ii) Angle BCD (2 marks)

iii) The area of the shaded part.

(3 marks)

22. An amount of money was shared among five boys Ali, Juma, Musa, Khalid and Mustafa. Ali got $\frac{3}{8}$ of the total amount while Juma got $\frac{2}{5}$ of the remainder. The remaining amount was shared equally among Musa, Khalid and Mustafa, each of which received Kshs 600.

a) How much did Juma get? (3 marks)

b) How much was shared among the five boys. (2 marks)

c) Ali, Juma and Mustafa invested their money and earned a profit of Kshs 1200. A third of the profit was left to maintain the business and the rest shared according to their investments. Calculate how much each got. (5 marks)

23. A particle P moves in a straight line such that t seconds after passing a fixed point Q. its velocity is given by the equation $2t^2 - 10t + 12$ find:

a) The values of t when p is instantaneously at rest. (2 marks)

b) An expression for the distance moved by P after t seconds.
(2 marks)

c) The total distance traveled by P in the first 3 seconds after passing point O. (3 marks)

d) The maximum velocity attained by the body. (3 marks)

24. On the graph paper provided plot the points P(2,2) Q(2,5) and R(4,4)
- a) Join them to form a triangle PQR
(1mk)
 - b) Reflect the triangle PQR in the line $x=0$ and label the image s $P^1Q^1R^1$.
(2mks)
 - c) Triangle PQR is given translation by vector $T \begin{pmatrix} 2 \\ 2 \end{pmatrix}$ to $P^{11}Q^{11}R^{11}$.plot the triangle $P^{11}Q^{11}R^{11}$. (3mks)
 - d) Rotate triangle $P^{11}Q^{11}R^{11}$ about the origin through -90° .state the coordinates of $P^{111}Q^{111}R^{111}$. (3mks)
 - e) Identify two pairs of triangle that are direct congruence (1mk)

PROVIDE A GRAPH PAPER

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM NO: CLASS: SIGN.....

SCHOOL:

MATHEMATICS END OF TERM 1

FORM 4

PAPER 2

TIME 2 ½ HOURS

SECTION A (50 MARKS)

1. Use logarithm table to evaluate (4mks)

$$\sqrt[4]{\frac{(27 \times 0.0293)^2}{(825 - 94) \div 0.2861}}$$

2. Three sisters, Ann, Beatrice and Caroline together harvested Ksh 48,000 as capital & started as small business. If the share of profit is Kshs 2,300, Kshs 1,700 & Kshs 800 respectively, share proportionally. Find the capital invested by each of them; (3mks)

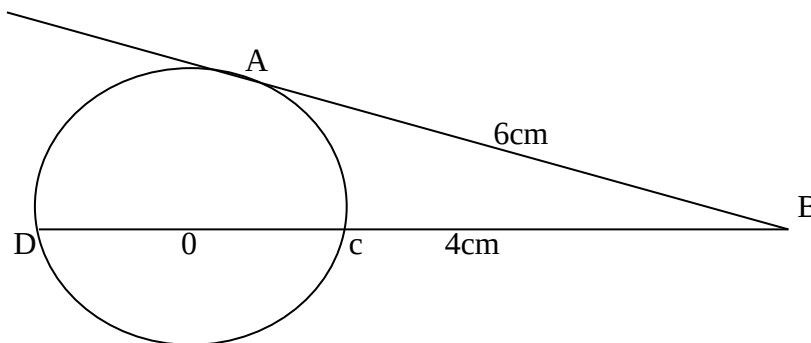
3. Make t the subject of the formula in (3mks)

$$x \left[\frac{p+t}{t} \right] = \frac{1}{3}$$

4. Simplify the expression (3mks)
- $$\frac{3x^2 - 4xy + y^2}{9x^2 - y^2}$$

5. A (-6, -2) and B (2, -4) are end points of a diameter of a circle. Find the co-ordinates of the center and the radius of the circle. (3mks)

6. In the figure below AB is a tangent to the circle and BCD is a straight line passing through the center of the circle. AB = 6cm and BC = 4cm. Calculate the radius of the circle. (3mks)



7. Solve the equation below in the range $0^\circ \leq x \leq 180^\circ$ in $(3x + 10) = -1.674$ (3mks)

8. Expand and simplify $(3x - y)^4$ hence use the first three terms of the expansion to approximate the value of $(6 - 0.2)^4$ (3mks)

9. Find x without using table if (3mks)

$$3 + \log_3 2 + \log_2 x = \log_2 5 + 2$$

10. Without using mathematical table or calculator simplify (3mks)

$$\frac{3\sqrt{2} - \sqrt{3}}{2\sqrt{3} - \sqrt{2}}$$

11. Find the value of m for which the matrix transforms an object into a straight line (3mks)

$$\begin{bmatrix} M^2 & 1 \\ 2m-1 & 1 \end{bmatrix}$$

12. A right angled triangle has a base of 15.3cm and height 7.2cm, each measured to the nearest 3mm. Determine the percentage error in finding the area of the triangle giving your answer to 2 dp (4kms)

13. The point $B(3,2)$ maps onto $B'(7,1)$ under a transformation T_1 .
Find T_1 (2mks)

14. Solve for x & y in the simultaneous equation using matrices method. (4mks)

$$2x + 3y = 7$$

$$y - x = 2$$

15. The sum of the first ten terms of an arithmetic progression is 400. If the sum of the first 6 terms of the same series is 120, find the 15th term. (3mks)

16. Two grade of tea A & B, costing sh100 and 150 per kg respectively are mixed in the ratio 3.5 by mass. The mixture is then sold at sh 160 per kg. Find the percentage profit on the cost price. (3mks)

SECTION B

Attempt five questions in this section.

17. The frequency distribution table below represents the number of kilograms of meat sold in a butchery

Mass in kg	1-15	6-10	11-15	16-20	21-25	26-30	31-35
Frequency	2	3	6	8	3	2	1

Export graph

a) State the modal frequency (1mk)

.....
.....

b) Calculate the mean mass using assumed mean of 18kg (5mks)

c) Calculate the median mass (4mks)

18. A plane leaves an airport A(41.5° N, 36.4° W) at 9.00AM and flies due north to Airport B on latitude 53.2° . Taking π as $\frac{22}{7}$ and the radius of the earth as 6370km.

a) Calculate the distance covered by the plane in km (4mks)

b) The plane stopped for 30minutes to refuel at b and flew east to C 2500km from B. Calculate

i. Position of C (3mks)

ii. The time the plane land at C if its speed is 500km/h

19. (a) Draw a rectangle ABCD of length AB = 7.5cm and width 4.8cm and construct the locus of point P with the rectangle such that P is equidistant from BC & CD (4mks)

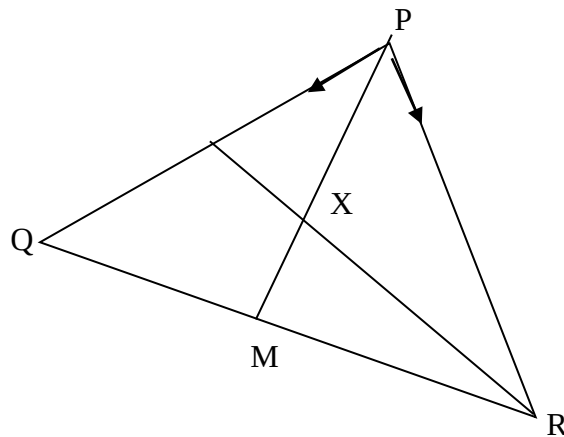
b) If the locus of P meets AB at N, measure AN (1mk)

c) Construct the locus of point Q with the rectangle and in the same side as D such that angle NQC = 60° (3mks)

d) Determine the area of the trapezium

(2mks)

20. In the triangle PQR below L & M are points of PQ & QR respectively such that $PL:LQ = 1:3$ and $QM:MR = 1:2$. PM & PL intersect at X. Given that $PQ = b$ and $PR = c$



a) Express the following vectors in terms of b & c

(i) $\vec{QR}$

(1mk)

(ii) PM

(1mk)

(iii) RL

(1mk)

b) By taking $PX = KPM$ and $RX = hRL$ where K and h are constants.

Find two expressions for PX in terms of K , b , h and c . Hence determine the values of the constants k and h (6mks)

c) Determine the ratio LX:XR

(1mk)

21. The curve given by the equation $y = x^2 + 1$ is defined by the values in the table below.

a) Complete the table by filling in the missing values.

X	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Y	1.0		2.0		5.0		10.0		17.0		26.0		37.0

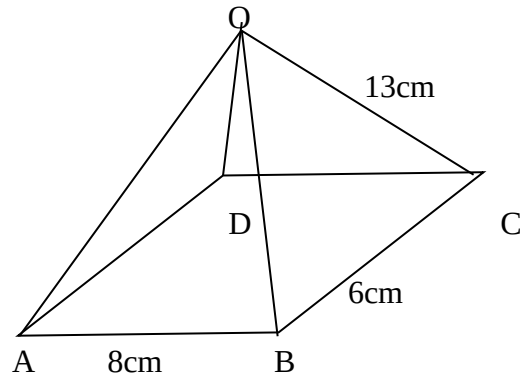
b) Sketch the curve for $y = x^2 + 1$ for $0 \leq x \leq 6$

c) Use the mid-ordinate rule with 5 ordinates to the area of the region bounded by the curve $y = x^2 + 1$, the axis the lines $x = 0$ and $x = 6$ (2mk)

d) Use method of integration to find the exact value of the area of the region in (C) above. (2mk)

e) Calculate the percentage error involved in using the mid-ordinate rule to find the area. (2mk)

22. OABCD is a right pyramid on a rectangular base with $AB = 8\text{cm}$, $BC = 6\text{cm}$, $OA = OB = OC = OD = 13\text{cm}$. Calculate:
- a. The height of the pyramid



b. The inclination of OBC to the horizontal (2mks)

c. The angle between

i. OB & DC

ii. The planes OBC & OAD

23. A particle moves such that t seconds after passing a given point O, its distance 5 metres from O is given as $5 = t(t-2)(t-1)$

a. Find its velocity where $t = 2$ seconds (3mks)

b. Find its minimum velocity (2mks)

c. Find the time when the particle is momentarily at rest (3mks)

d. Find the acceleration when $t = 3$ seconds (3mks)

24. The master wishes to hire two matatus for a trip. The operators have a Toyota which carries 10 passengers and a Kombi which carries 20 passengers. Altogether 120 people have to travel. The operators have only 20 litres of fuel and the Toyota consumes 4 litres on each round trip and the Kombi 1 litre on each round trip. If the Toyota makes x round trips and the Kombi y round trips:

a. Write down four inequalities in x & y which must be satisfied (2mks)

b. Represent the inequalities graphically on the grid provided (3mks)

c. The operators charge shs 100 for each round trip in the Toyota and shs 300 for round trip in the kombi

i. Determine the number of trips made by each vehicle so as to make total cost 9 minimum (4mks)

ii. Find the minimum cost (1mk)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM NO: CLASS: SIGN.....

SCHOOL:

232/1

PHYSICS

PAPER 1

(THEORY)

TIME: 2 HOURS

SECTION A: (25 MARKS)

Answer all questions in this section.

1. A partially inflated balloon at sea level becomes fully inflated at higher altitudes. Explain this observation (2mks)

.....

.....

.....

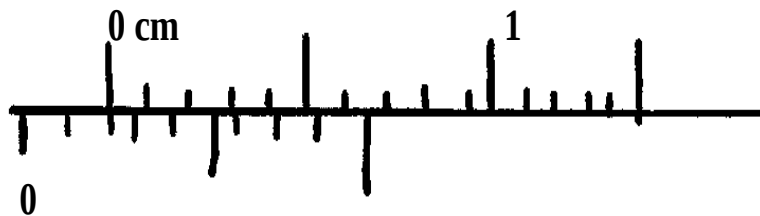
.....

2. $X\text{cm}^3$ of substance A of density 800kgm^{-3} is mixed with 100cm^3 of water of density 1000kgm^{-3} . The

Density of the mixture is 960kgm^{-3} . Determine the value of x.

(3mks)

3. The figure below shows part of a vernier caliper when the jaws are closed without an object between the jaws



(a) What is the value of the zero error of the callipers? (1mk)

.....

.....

.....

(b) A student used the same vernier calipers in (a) above to measure the diameter of a test tube

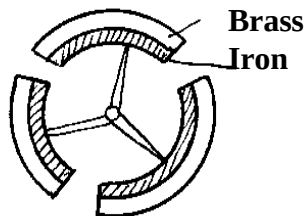
whose actual diameter is 2.15cm. what was the reading shown by the calipers. (1mk)

.....

.....

.....

4. The figure below shows a bimetallic wheel whose diameter is not affected by changes in temperature. Briefly explain how the diameter of the wheel remain unchanged as the temperature increases (3mks)



.....

.....

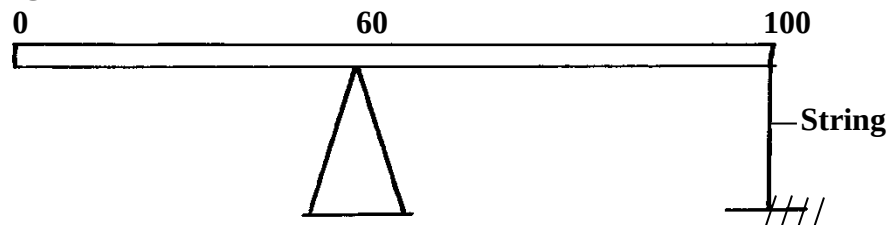
.....

.....

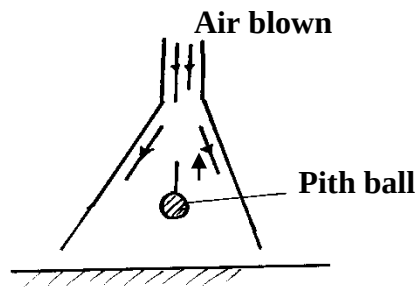
.....

5. A uniform meter rule of mass 40g is pivoted at the 60cm mark and held horizontally with a vertical

String as shown below. Determine the tension in the string. (3mks)



6. The figure below shows a pith ball being lifted into the funnel by blowing air into the funnel



Explain this observation

(2mks)

.....

.....

.....

.....

7. Explain why a hole in a ship near the bottom is more dangerous than the one near the top (1mk)

.....

.....

.....

.....

8. A bullet of mass m travelling at a speed of 400ms^{-1} hits a tree trunk, it penetrates the tree trunk and stops inside the trunk after 4 cm.

(a) Calculate the average resistance force offered by the trunk to the bullet. (3mks)

(b) State the energy changes that takes place. (1mk)

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

9. State the effect on motion of smoke particles when the temperature inside the smoke cell is lowered. (1mk)

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

10. (a) Explain the washing effect of soap. (1mk)

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

(b) State **one** way of making surface tension of water stronger. (1mk)

.....

.....

.....

SECTION B (55 MKS)

Answer all questions in this section

11. (a) A modern car has a strengthened passenger cage but with front and back regions which can collapse in a crash. Explain how this collapsible regions should reduce injury in a car crash.(3mks)

.....

.....

.....

.....

.....

.....

(b) An object of mass 150kg moving at 20m/s collides with a stationery object of mass 90kg. They couple after collision. Determine;

(i) The total momentum before collision (2mks)

(ii) Total momentum after collision (1mk)

(iii) Their common velocity after collision (2mks)

12. (a) Distinguish between velocity and speed. (1mk)

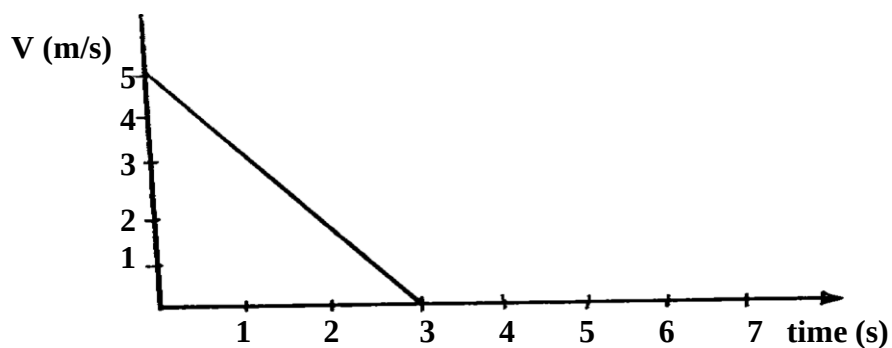
.....

.....

.....

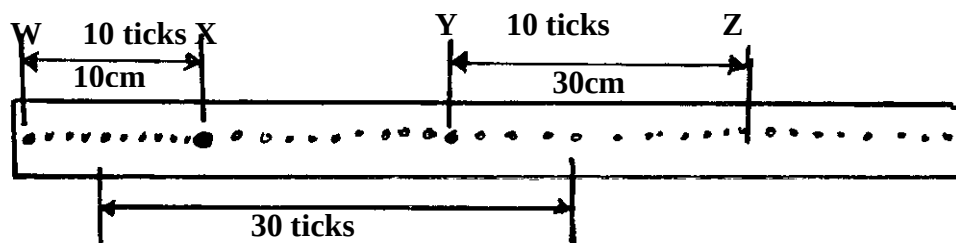
.....

(b) The velocity time graph in the figure below illustrates the motion of a ball which has been projected vertically upwards from the surface of a planet. The weight of the ball on earth is 30N



Determine the weight of a ball on the planet (3mks)

c) The figure below shows a section of a tape from a ten tick timer whose frequency is 50 Hz.



Calculate;

- (i) The average velocity of the trolley between points
1. WX (2mks)

2. YZ

(2mks)

(ii) Find the acceleration of the trolley. (2mks)

13. (a) State Hooke's Law. (1mk)

.....

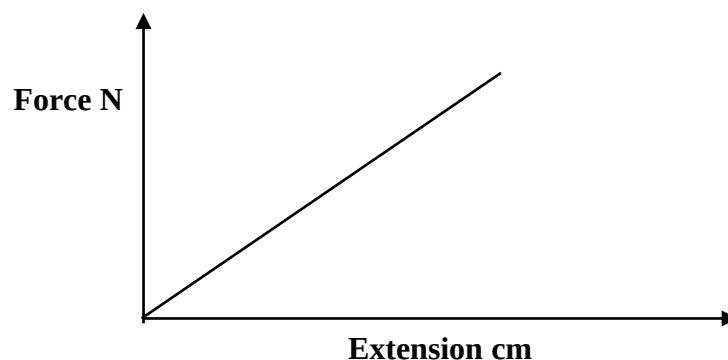
.....

.....

.....

(b) The figure below shows the variation force with extension for a steel coil spring.

(i) On the same axes, sketch the variation of force with extension for a wire form which the spring is made. (1mk)



Explain the difference between the two lines drawn (2mks)

.....

.....

.....

.....

.....

(c) A stone of mass 5g is released from a catapult. The catapult is stretched by 10cm. If the constant of elasticity is 100N/cm. **Calculate;**

(i) The horizontal velocity with which the stone is released(3mks)

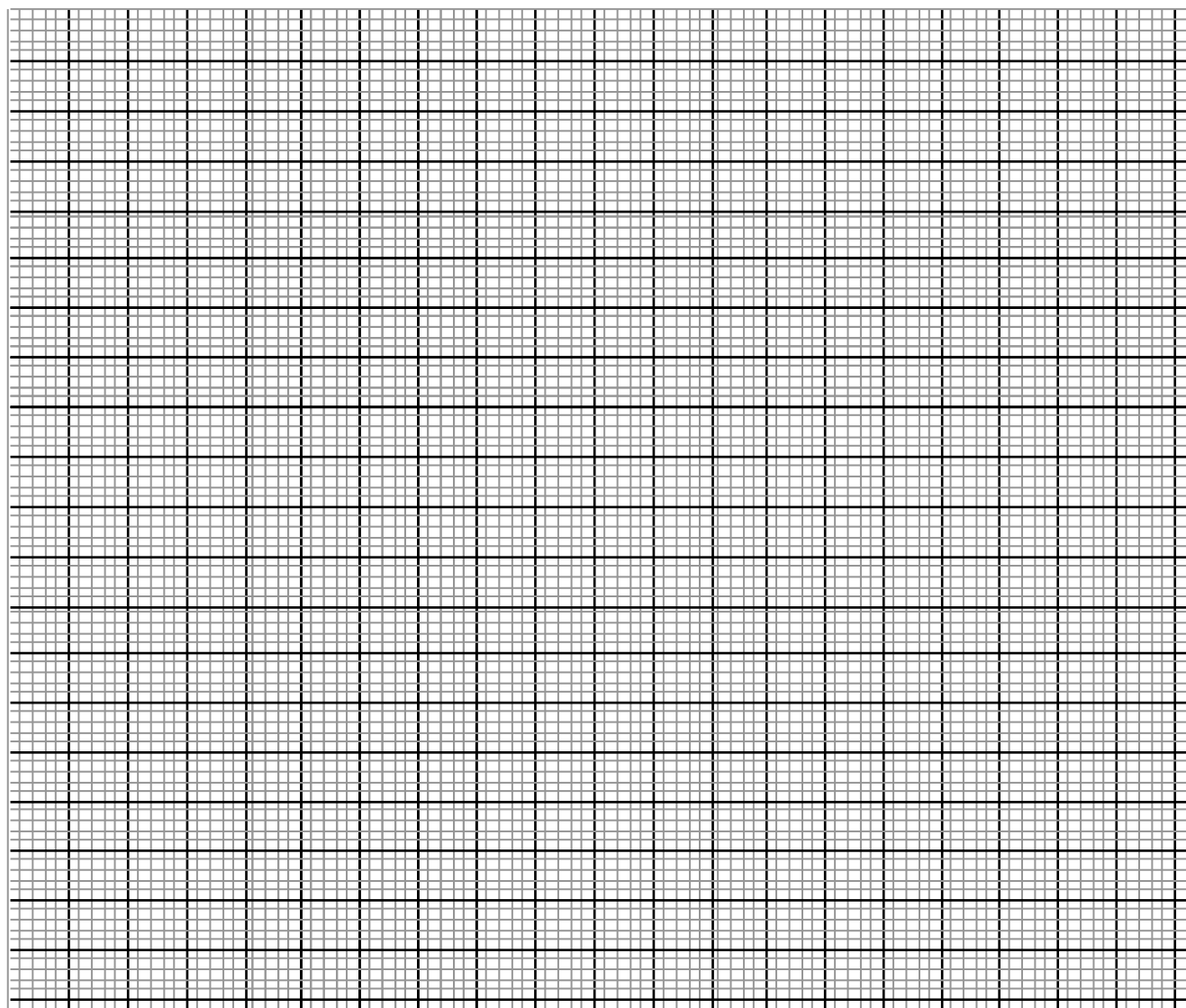
(ii) Sketch a graph of horizontal velocity against time from the time the stone is released to when it reaches the ground. (1mk)

(d) The following results were obtained in a experiment to verify Hooke's law when a spring was extended by hanging various loads on it.

Load (N)	0.00	1.00	2.00	3.00	4.00	5.00	6.00
Length of spring in cm	10.00	11.50	13.00	14.50	16.00	18.00	24.00
Extension	0.00						

(I) Complete the table for the extension e above. (1mk)

(II) Plot a graph of load (y-axis) against extension (3mks)



(III) From the graph determine the springs constant. (2mks)

(IV) Calculate the energy stored when the spring is stretched to 16 cm.
(3mks)

14. (a) State **two** advantages of mercury over alcohol as a thermometric liquid. (2 mks)

.....

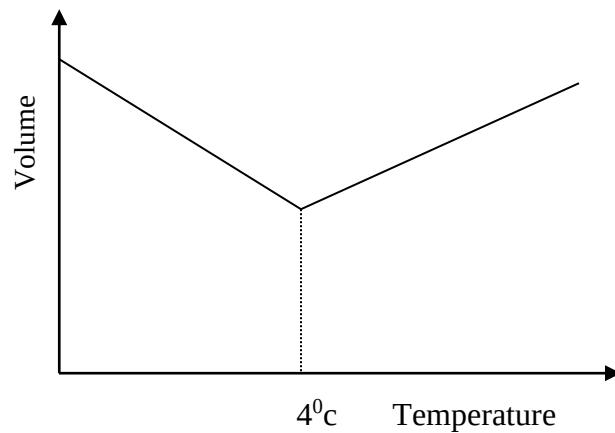
.....

.....

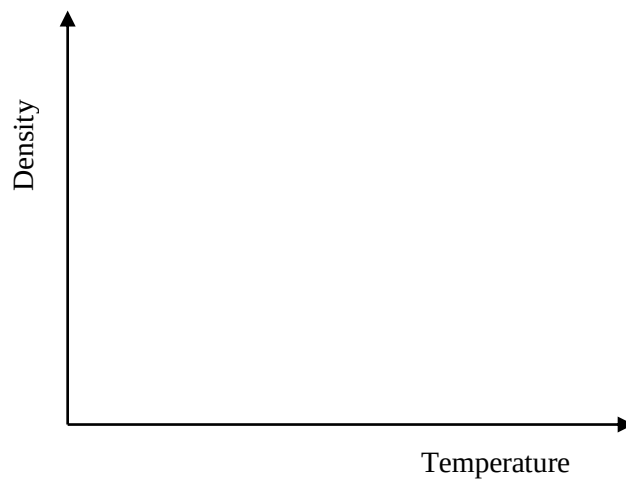
.....

(b) When making the fixed points on a thermometer it is observed that at 0⁰c the mercury thread is of length 2 cm and 8 cm at 100⁰c. What temperature correspond to a length of 6 cm. (3 mks)

(c) (i) The figure below shows how volume of a given mass of water varies with temperature.



On the graph provided, sketch a graph of density against Temperature.



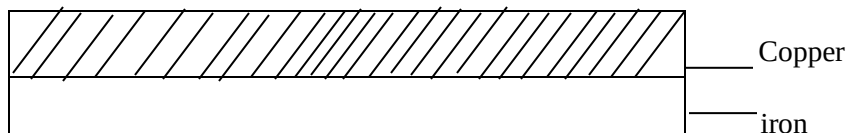
(ii) State and explain **one** effect of the anomalous expansion of water.
(2 mks)

.....

.....

.....

(d) The figure below shows a bimetallic strip made of copper and iron at room temperature.



If copper expands more than iron. Identify **A** and **B** if the bimetallic strip is placed in a refrigerator whose temperature is -70°C . (1 mk)

A.....

B.....

15. The figure below shows a system used to draw water from a well. An effort is applied on the handle which turns on a radius of 70 cm. As the handle turns a rope is wound on the drum of diameter 28 cm, thus raising a bucket of water from a well.

(a) If an effort of 10N is needed to lift a bucket full of water of mass 4 kg.

Calculate:

i) The energy gained by the water and bucket when the drum turns through one revolution. (3 mks)

ii) The work done by the effort during this one revolution. (3 mks)

(b) Calculate the **velocity ratio** of the system. (1 mk)

(c) Calculate the **efficiency** of the system. (3 mks)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM NO: CLASS: SIGN.....

SCHOOL:

232/2 PHYSICS
PAPER 2(THEORY)
FORM FOUR
END TERM 1 EXAMS
TIME: 2 HRS

INSTRUCTIONS

1. This paper consists of **two** sections, Section **A** and **B**. Answer **ALL** the questions in both sections in the spaces provided in this paper.
2. **ALL** working must be clearly shown.
3. KNEC mathematical tables and non-programmable silent electronic calculators **may be** used.

Note: Take acceleration due to gravity $g = 10\text{m/s}^2$

FOR EXAMINER'S USE:

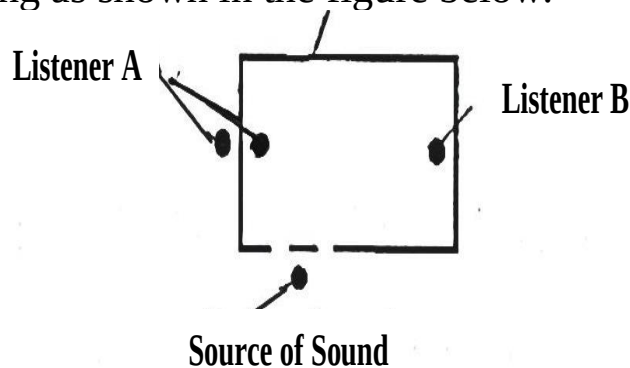
SECTION	QUESTION	MAXIMUM SCORE	STUDENTS SCORE
A	1-12	25	
B	13	12	
	14	11	
	15	13	
	16	08	
	17	11	
	TOTAL	80	

SECTION A (25 MARKS)

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

1. State any **one** condition under which a pinhole camera may form an image on its screen which has the same size as the object. (1 mark)

2. The source of sound and two listeners are positioned close to a tall building as shown in the figure below.

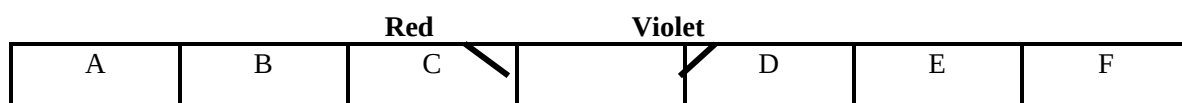


- i) State the property of sound by which Listener A is able to hear the sound produced. (1 mark)

- ii) Listener **B** is moving directly towards Listener **A** and has a problem hearing the sound produced. Explain. (2 marks)

3. Give **two** differences between a transformer and induction coil. (2 marks)

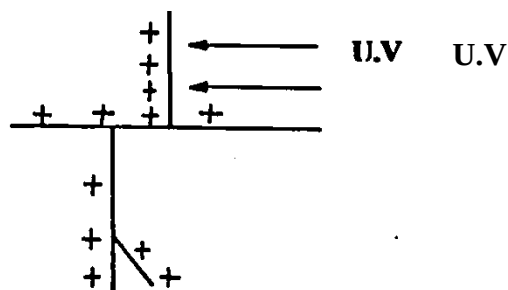
4. The figure below shows some region of part of the electromagnetic spectrum.



i) Name the region that is detected by a blackened bulb thermometer.
(1 mark)

ii) State **one** use of the E-M wave in the region labelled **B**. (1 mark)

5. The figure below shows ultraviolet light striking a clean Zinc plate on a positively charged leaf electroscope.



Explain the following observations:

- i) The leaf does not fall. (1 mark)

- ii) When the same experiment is carried with a negatively charged electroscope, the leaf falls. (1 mark)

6. A girl observes her face in a concave mirror of a focal length 90cm. If the mirror is 70cm away, state **two** characteristics of the image observed. (2 marks)

7. The ammeter in the circuit in figure 3 has negligible internal resistance. The cell has an internal resistance of 0.5Ω and an electromotive force of 3.0V .

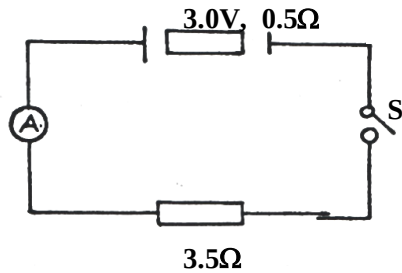


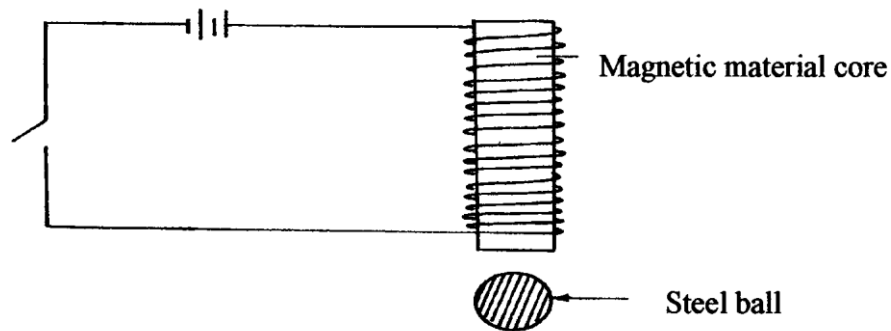
Figure 3

Determine the value of current the ammeter registers when switch S is closed. (2 marks)

8. An electric heater is rated 3 kW . Find the electrical energy in kWh(kilo watt- hours) consumed by the heater when used on a 240V supply for 180 minutes. (2 marks)

9. An echo sounder produces a pulse and an echo is received from the seabed after 0.4 seconds. If the speed of sound in water is 1500m/s. Calculate the depth of the sea bed. (2 marks)

10. The set up in figure 4 below can be used in a laboratory for lifting and releasing a steel ball.

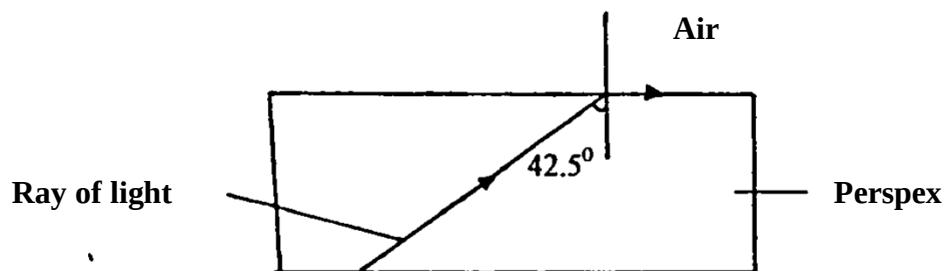


- i) State the material which is suitable for use in the core. (1mark)

- iii) If a slightly larger ball is to be lifted, it is necessary to make an electromagnet stronger.

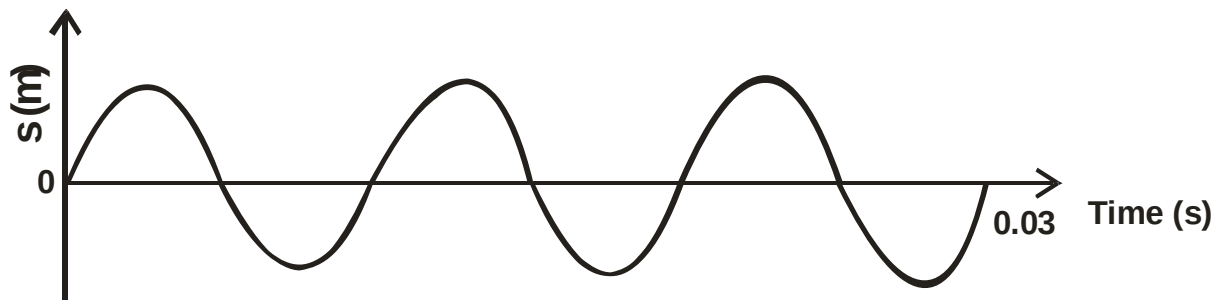
Name **two** ways of increasing the strength of the magnet. (2 marks)

11. The figure 5 below shows the path of a ray of light passing through a rectangular block of Perspex placed in air.



Calculate the refractive index of Perspex. (2 marks)

12. The sketch shown below is a displacement-time graph of a wave traveling at 320ms^{-1}



Find the wavelength of the wave. (2 marks)

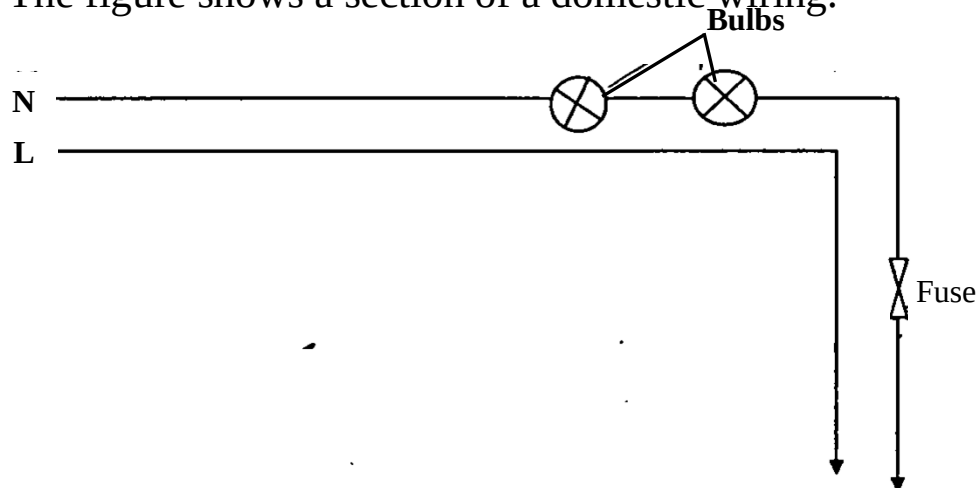
SECTION B (55 MARKS)

Answer ALL the questions

- 13.a) The mains electricity is transmitted through high tension voltage (H.T).

State **one** danger of this transmission. (1 mark)

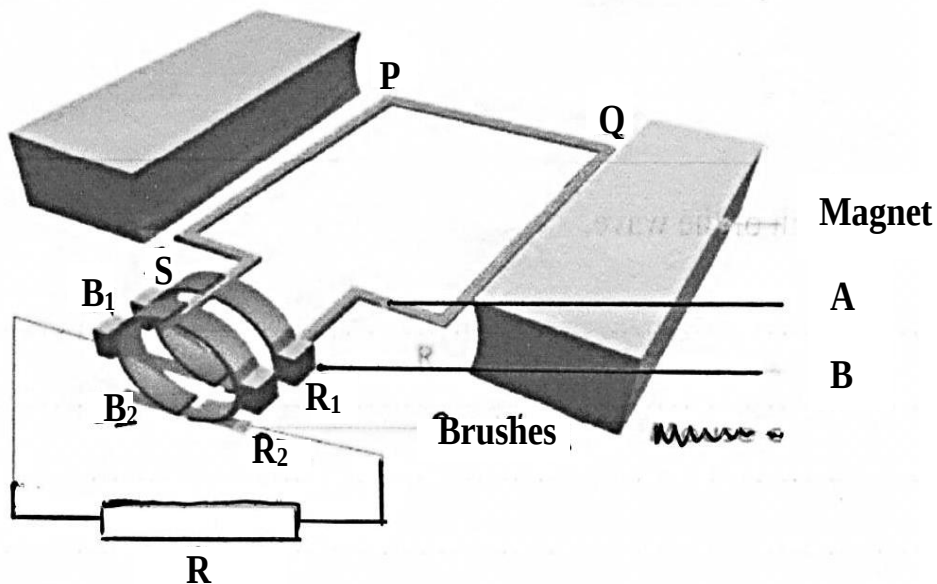
b) The figure shows a section of a domestic wiring.



i) Identify **two** serious mistakes in the circuit. (2 marks)

ii) Explain why the circuits in domestic wiring should be connected in parallel with the main supply. (2 marks)

c) Study the figure shown below



i) State the name of the machine shown in figure above. (1 mark)

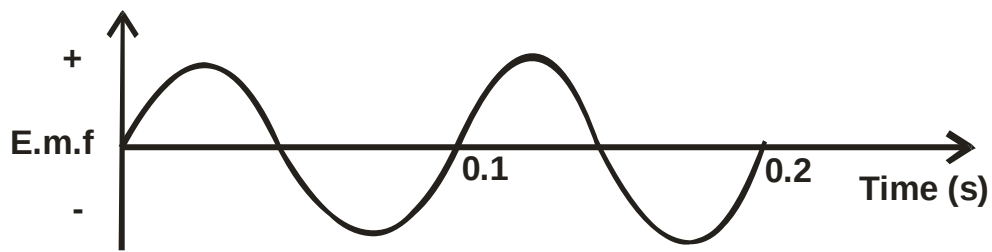
ii) What are the names of the parts labelled A and B? (2 marks)

A _____

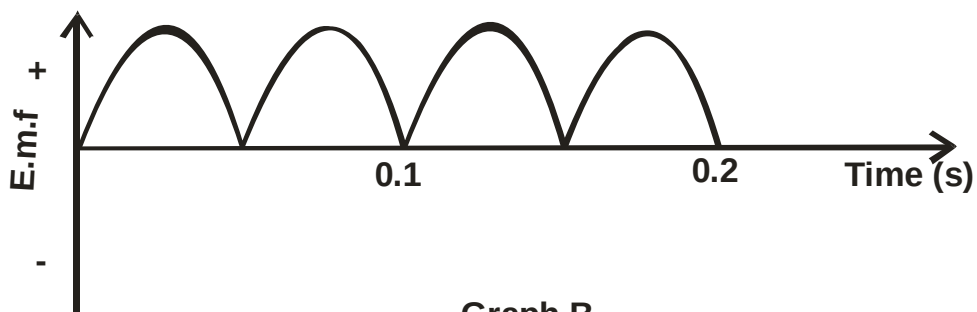
B _____

iv) What would be the effect of doubling the number of turns of the coil if the speed of rotation remained unchanged? (1 mark)

d) The voltage-time signals obtained is as shown in the diagram below in graph A



Graph A

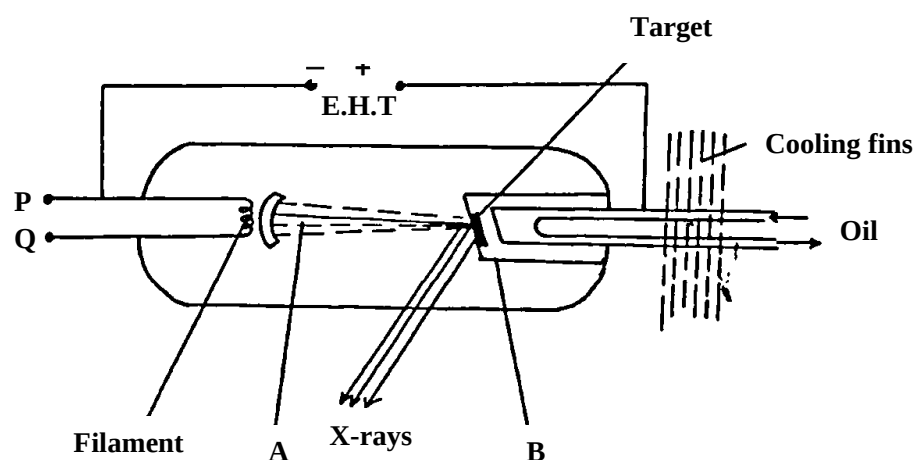


Graph B

i) Find the frequency of the alternating E.m.f shown by graph A.
(2 marks)

- ii) What alterations have been made to the machine in c) above to produce the emf represented by graph B? (1 mark)

14. The figure below shows the features of an X-ray tube



- a) Name the parts labelled A and B. (1 mark)

A _____

B _____

- b) Explain how a change in the potential across PQ changes the intensity of the X-rays produced in the tube. (2 marks)

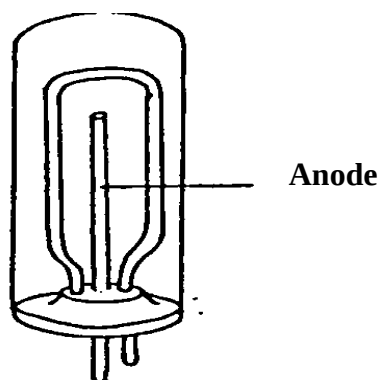
c) What property of lead makes it suitable for use as shielding material? (1 mark)

d) In an X-ray tube operating at 100kV, the tube current is 20mA. Determine the number of electrons hitting the target every second.

(2 marks)

(Charge of an electron = $1.6 \times 10^{-19}\text{C}$)

e) The figure below shows a cell. Use it to answer questions that follow:



i) Name the type of cell. (1 mark)

ii) Label the cathode. (1 mark)

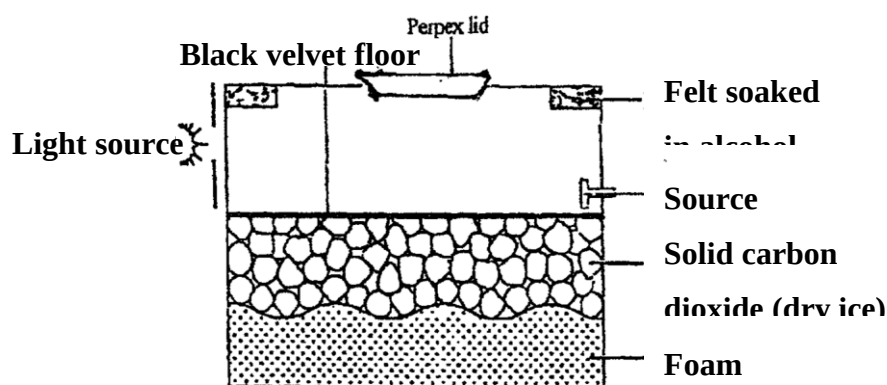
iii) The maximum kinetic energy of the photo-electrons emitted from a metal surface is $9.95 \times 10^{-20} \text{ J}$. If the threshold frequency of light required to cause photo-electric emission with this metal is $5 \times 10^{14} \text{ Hz}$. Calculate the frequency of the incident radiation.

(Plank's constant = $6.63 \times 10^{-34} \text{ JS}$) (3 marks)

15.a) i) Explain why carbon -14 ($^{14}_6\text{C}$) is radioactive while carbon ($^{12}_6\text{C}$) is not. (1 mark)

ii) A radioactive isotope showed a count rate of 82 counts per second initially. After a time of 210 seconds, the count rate dropped by 19 counts per second. The average background count remained constant at 10 counts per second. What is the half-life of the material?(2 mrks)

b)The figure below shows features of a diffusion cloud chamber used for detecting radiations from a radioactive source.



Explain how the chamber works when a radioactive particle is introduced at the source. (2 marks)

c) i) What is the purpose of solid carbon (IV) oxide. (1 mark)

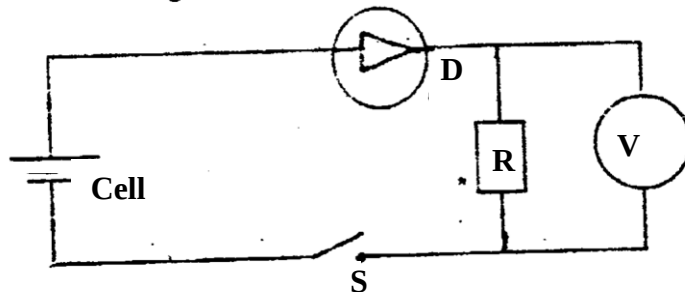
ii) State **one** advantage of the cloud chamber over a G.M tube as a detector of radioactive radiations. (1 mark)

d) P-type and n-type semiconductors are made from a pure semiconductor by a process known as “doping”.

i) State what is meant by doping. (1 mark)

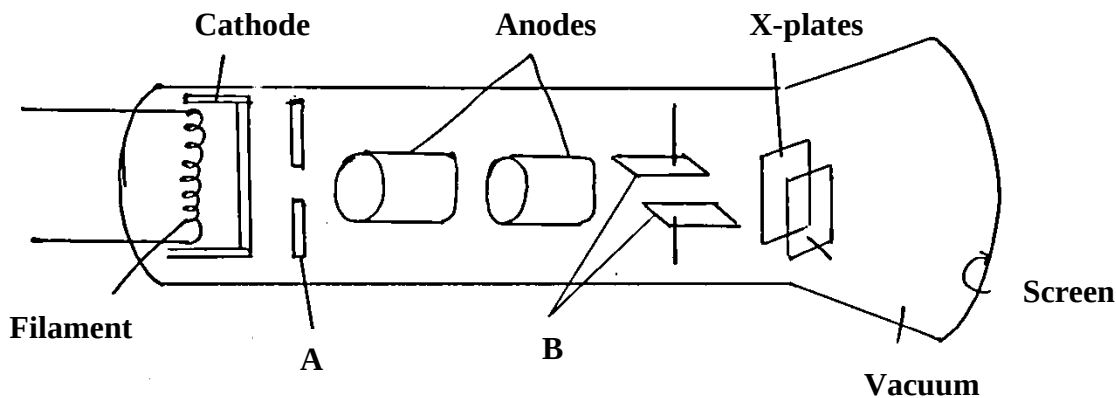
ii) Explain how the doping produces an n-type semi-conductor. (2 marks)

-
-
-
-
- e) In the circuit in the figure below, when the switch S is closed, the voltmeter shows a reading.



When the cell terminals are reversed and the switch is closed, the voltmeter reading is zero. Explain these observations. (2 marks)

- 16.a) The figure below shows the features of a cathode ray oscilloscope;-
-
-



i) Name the parts A and B. State the role played by each of the parts

A and B. (2 marks)

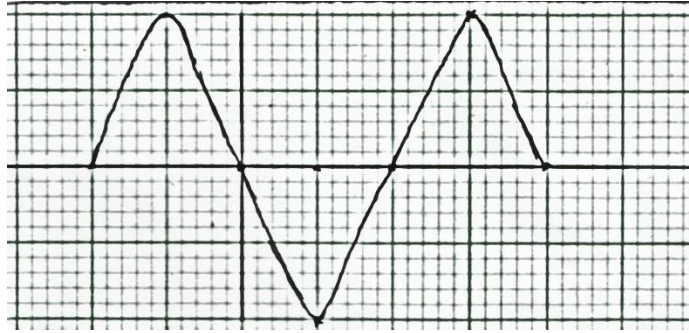
A _____

B _____

ii) Explain how electrons are produced. (2 marks)

iii) State the factors considered when choosing the material for the cathode. (1 mark)

- b) The figure below shows the trace on the screen of an a.c signal connected to the y-plates of a C.R.O with time base on. Given that the time base control is 100ms/div and the y-gain is at 120V/division.



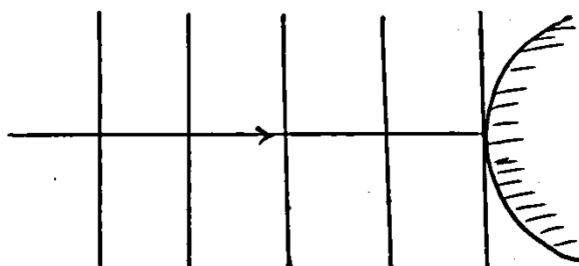
Determine:

- i) The frequency of the a.c signal. (2 marks)

- ii) The peak voltage of the input signal. (2 marks)

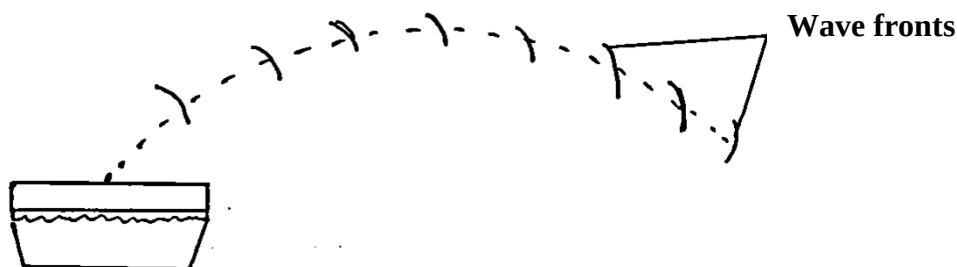
- 17.a) The figure below shows straight wavefronts incident on convex reflector.

Complete the diagram to show the reflected wavefronts. (1 mark)



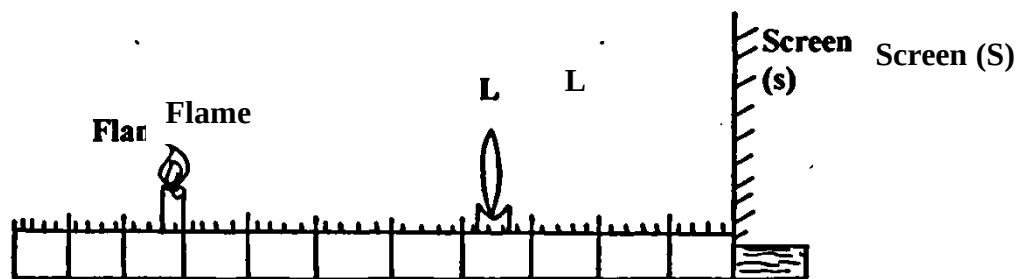
b) Narrow slits cannot be used to demonstrate interference of sound waves. Explain. (1 mark)

c) The figure below shows sound waves emitted by a drum struck.



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

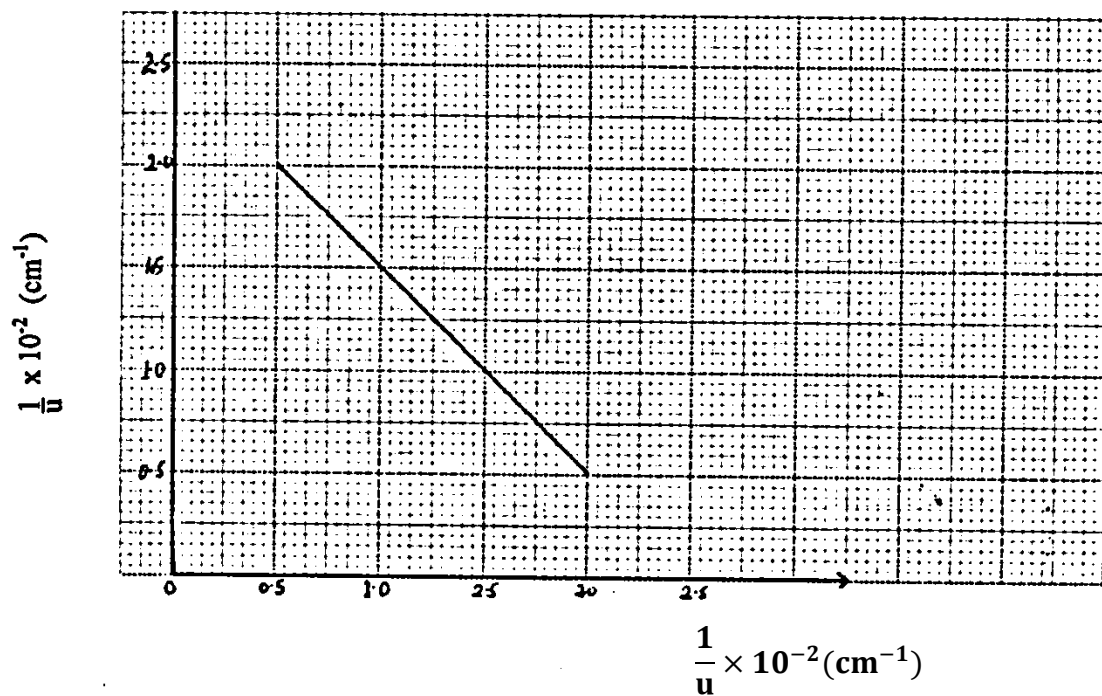
d) Figure below shows an experimental set up consisting of a mounted lens, I, A screens, a metre rule and a candle



i) Describe how the set up may be used to determine the focal length f , of the lens. (3 marks)

ii) State why the set up would not work if the lens were replaced with a diverging lens. (1 mark)

e) The graph figure below shows the relationship between $\frac{1}{u}$ and $\frac{1}{v}$ for a converging lens where u and v are the object and image distances respectively.



From the graph, determine the focal length, f of the lens. (3 marks)

FORM 4 END OF TERM 1 SERIES 1 EXAMS

NAME:

ADM NO: CLASS: SIGN.....

SCHOOL:

PHYSICS PRACTICAL

END TERM 1,

FORM 4

Paper 3

TIME: 2 ½ HOURS

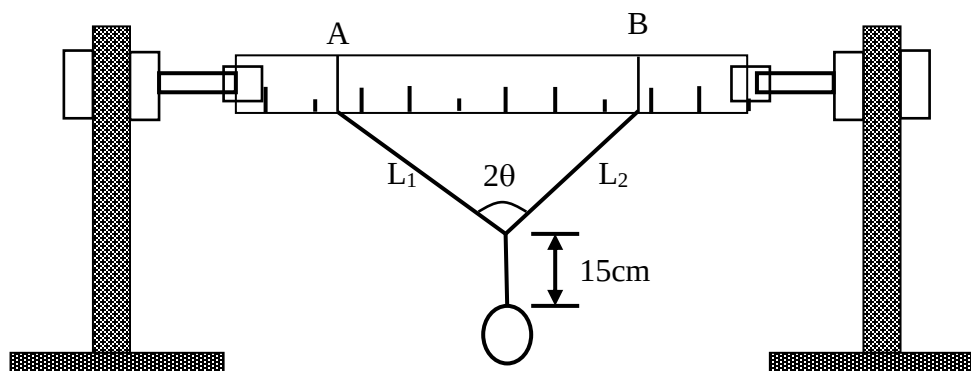
1. You are provided with the following apparatus

- A metre rule
- Two stands
- A pendulum bob
- Some plasticine
- Stop watch
- Two pieces of strings (long and short one)

Proceed as follows:

- (a) Attach one end of the length of string to the metre rule at 10cm mark.
Mark by use of a sliding loop of string round the meter rule.
- (b) Fix the string at this point with the small bob of plasticine.
- (c) Tie the string in a second loop at 90cm mark so that the string is stretched tight between the two marks.

- (d) Fix this loop with a small plasticine. Attach the pendulum bob to the centre of the string so that the centre of gravity is 15cm below the point of suspension.
- (e) If the attachments of the pendulum bob to the pieces does not produce a V-shape. Squeeze the string at the knot between the thumb and the fore finger.



- i) Measure the angle 2θ (1mk)
- ii) Pull the pendulum bob towards you through a small distance, release it; measure the time (t) of the motion by timing 10 oscillations.
- iii) Remove the plasticine at B and slide the loop towards A by 4cm and repeat (ii) above for other distances AB as shown in the table below.

Table (a) (8marks)

Length from A to B (cm)	80	76	72	68	64	60
Time for 10 oscillations (s)						
Period time T (s)						
$T^2(s^2)$						
2θ						
θ						
$\cos\theta$						

(f) Plot a graph of T^2 against $\cos\theta$ (5 marks)

PROVIDE A GRAPH PAPER

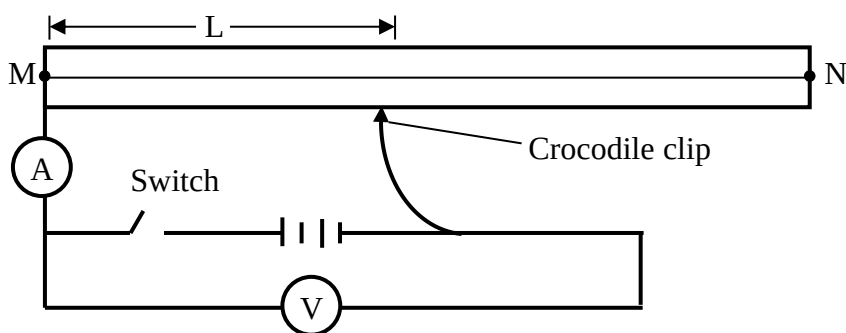
(g) Find the slope “s” of the graph. (3 marks)

(h) Given that $k = \frac{1.6\pi^2}{s}$ find k. (2 marks)

2. (a) You are provided with the following apparatus:

- Resistance wire fitted on a scale labelled MN
- Switch
- Voltmeter
- Ammeter
- Two dry cells
- Six connecting wires

(i) Set up the apparatus as shown in the figure below;



(ii) Remove the crocodile clip to the resistance wire such that MN and close the switch. Record the voltmeter reading.

Y=.....V

(1mk)

(iii) Attach the crocodile clip to the resistance wire such that L=10cm

(iv) Record the voltmeter and ammeter readings in the table below.

(v) Repeat the procedure in (iii) and (iv) for L=20cm, 30cm, 50cm, and 80cm

(vi) Complete the table below;

(5 marks)

Length L=cm	10	20	30	50	80
Current I (A)					
p.d $V_{(v)}$					
Y-V					
$\frac{V}{y-v}$					
$R = \frac{V}{I}$					

b) Plot a graph of R (vertical axis) against $\frac{v}{y-v}$ (5 marks)

PROVIDE A GRAPH PAPER

c) Determine the slope m of the graph

(2marks)

d) The graph is given by the equation $R = \frac{5mv}{y-v} + d$ determine the value of m and d (2 marks)

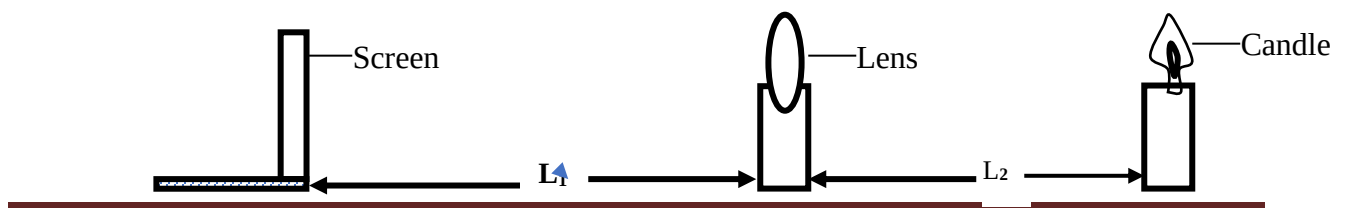
Question 2 (b)

You are provided with the following set of apparatus

- A metre rule
- A white screen
- A candle
- Lens and lens holder

Procedure

i) Set up the apparatus as shown



ii) Starting with $L_1=30\text{cm}$, adjust the position of the candle in order to obtain a sharp image on the screen. Record the value of L_2

(1mk)

iii) Repeat the procedure for $L_1=60\text{cm}$

iv) Fill and complete for values of L_1/L_2 below.

(3 marks)

$L_1\text{cm}$	$L_2(\text{cm})$	$\frac{L_1}{L_2}$
30		
60		

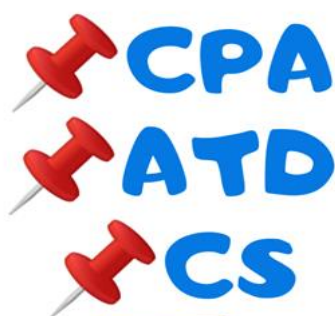
v) Given the equation

$$F_1 = \frac{L_1}{m + 1}$$

When m =magnification determine the value of focal length f , (2 marks)

**PREFER CALLING SIR OBIERO AMOS @
0706 851 439
FOR QUICK SERVICE**

**ACQUIRE THE FOLLOWING
KASNEB NOTES/REVISION KITS
NOW :**



AMOT SOFT COPY PUBLISHERS
Transparency, Honesty and Accountability Defined

KASNEB
Study Materials

