

PRE-MOCK 2 FORM 4 EXAMS

For marking schemes,call/WhatsApp Mdm Mariam@0746711892



'an investment of knowledge pays'

For marking schemes,prefer calling Mdm Mariam:0746711892

Other available resources are;

📌 well summarised primary and secondary notes

📌 FI-F4 termly exams

📌 primary exams

📌 KCSE past papers

📌 KCPE past papers

📌 Mocks

📌 lesson plans

📌 schemes of work

Note:Exam questions are always free of charge

Marking scheme are not free

Setbooks summarised notes, questions
and vedios are available. Contact
Mdm. Mariam-0746711892



For marking schemes, whatsapp/call Mdm Mariam-0746711892

NAME.....ADM NO.....

STEAM.....SIGNATURE.....

AGRICULTURE

PAPER 1

TIME:2HRS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education

Instructions:

- Write your name and index number in the space provided at the top of this page .
- Sign and write the date of the examination in the space provided above
- This paper consist of three section A, B, and C
- Answer all questions in section A and B
- Answer any two questions in section C
- All answers should be written in the spaces provided
- Candidate should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing .
- Candidate should answer the question in English

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
A	1-16	30	
B	17-20	20	
C		20	
		20	
	TOTAL SCORE	90	

SECTION A (30 MRKS)

For marking schemes,whatsapp/call Mdm Mariam-0746711892

Answer all question in this section in the space provided

1. Differentiate between olericulture and pomoculture as used in crop production .(1mrk)

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

2. List the physical weathering agents in soil formation process (1 ½ mrks)

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

3. Give four method of farming (2mrks)

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

4. Give two examples for each of the following types of cost incurred in broiler production .

- a) Variable cost (2 marks)

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

- b) fixed cost (2 marks)

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

5. Give four advantages of crop rotation .(2mrk)

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

6. State four factors that that should be considered when classifying crop pest (2mrks)

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

7. Give three reasons why a water logged soil is unsuitable for most crops(1 ½)

.....

.....

.....

.....

8. Give four advantages of tissue culture (2mrks)

.....

.....

.....

.....

.....

.....

.....

.....

9. Outline four observable indicators of economic development of a nation (2mrks)

.....

.....

.....

.....

.....

.....

.....

.....

10. Outline four indicators of well decomposed manure (1 ½)

.....

.....

.....

.....

.....

.....

11. Give two conditions where opportunity cost does not exist (2mrks)

.....

.....

.....

.....

.....

.....

.....

.....

12. Give four management practice that promote high herbage yields in pasture production (2mrks)

.....

.....

.....

.....

.....

.....

.....

.....

13. Give three reasons why primary cultivation should be done early before the onset of the rains(1 ½)

.....

.....

.....

.....

.....

.....

.....

14. Give two examples of farm records that are general in nature .(1mrk)

.....

.....

.....

.....

15. Give four role of nitrogen in plants (2mrks)

.....

.....

.....

.....

.....

.....

.....

.....

16. Give four benefits of possessing a land title deed (2mrks)

.....

.....

.....

.....

.....

.....

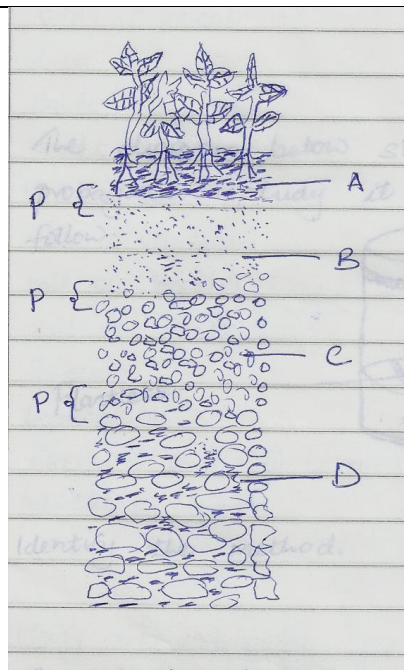
.....

.....

SECTION B (20 MRKS)

Answer all the questions in this section in the spaces provided

17. The diagram below illustrates a feature observed after digging the soil several metres deep Study the diagram carefully and answer the question that follow



a) Identify the feature that the diagram above represents in the study of soil (1mrk)

.....

b) What is the name given to the part labeled p(1mrk)

.....

c) Give a reason why part b is also referred to as layer of accumulation (1mrk)

.....

d) State two ways in which the knowledge of the above feature would be of benefit to farmer (2mrks)

.....

18The diagram below shows a method of crop propagation .Study it and answer the questions that follow



a) Identify the method (1mrk)

.....

.....

.....

.....

b Name two crops that can be propagated using this method.(1mrk)

.....

.....

.....

.....

c. Give three ingredients used when preparing the tissue culture.(1 ½)

.....

.....

.....

.....

19.The following information was obtained from the records of Mr Juma's farm for the year ended on 31st march 2011

<u>Particulars</u>	<u>kshs</u>
Opening Valuation	100,000
Calves	72,000
Hired Labour	21,000
Sales of milk	13,000
Sales of cereals	33,000
Rent	9,000
Feed	5,300
Seed	1,700

Fertilizers	4,700
Sales of Vegetables	9,300
Sales of poultry	1,800
Sales of fruits	700
Pesticides	1,250
Depreciation	650
Repair and Maintenance	950
Interest on loans	200
Closing Valuation	9,0000

a) using the information given above , prepare a profit and loss account for Mr Juma's farm for the year ended 31st March (7mrks)

b) Giving a reason, State whether Mr. Juma's farm made a profit or loss (½ mark)

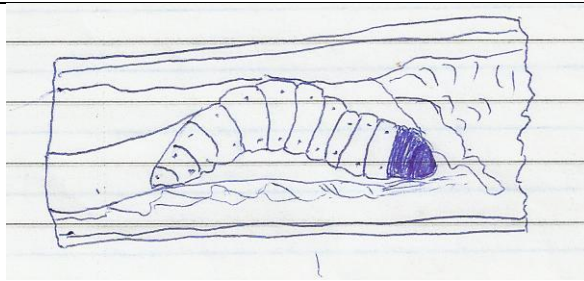
.....

.....

.....

.....

20) The diagram below shows a maize stalk infected by a certain pest .Study it and answer the questions that follow .



a) Identify the pest (1/2)

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

b) Apart from maize, name another crop attacked by the pest named above (½ mark)

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

c) Give three cultural measures that can be applied to control the pest (3mrks)

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

SECTION C (40MARKS)

Answer any two questions in this section in the spaces provided

21a) Describe six advantages of rotational grazing (6mrks)

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

c) Explain eight ways in which soil fertility can be maintained (8mrks)

[illegible]

d) Explain six factors considered when drawing a farm plan (6mrks)

[illegible]

22a) Explain the factors that influence the type of irrigation to be used in a farm (8mrks)

[illegible]

.....

.....

.....

.....

.....

b) Describe the procedure of silage making (10mrks)

.....

.....

.....

.....

.....

c) Describe five effect of over application of nitrogenous fertilizer(5mrks)

NAME.....ADM NO.....
STREAM..... SIGNATURE.....

AGRICULTURE

PAPER 2

TIME:2 HRS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education (KCSE)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. This paper has **THREE** sections: A , B and C
3. Answer **ALL** the questions in section A and B and any **TWO** questions in section C
4. ALL answers **MUST** be written in the spaces provided.
5. Do not remove any pages from this booklet.

FOR EXAMINER'S USE ONLY

	Questions	Maximum score	Candidate's score
A	01-17	30 marks	
B	18-22	20 marks	
C	23-25	40 marks	
		Total score	

SECTION A (30 MARKS)

Answer ALL questions in this section.

1.State four problems associated with nomadic pastoralism method of farming.

(2 marks)

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

2.State one use of the following tools in the farm.

(2 marks)

a.Spoke shave

.....
.....

b.Pipe wrench

.....
.....

c.Stock and die

.....
.....

d) Wire strainer

.....
.....

3.Name one exotic dairy cattle breed in Kenya which produces milk with:

a) Highest butter fat content.

(1 mark)

.....
.....

b) Lowest butter fat content.

(1

mark)

.....
.....

4.Name two dual purpose breeds of dairy cattle reared in Kenya.

(1 mark)

.....
.....
.....
5.Name two sources of energy concentrates.

1 mark)

.....
.....
.....
6.Using Pearson's square method, compute a 100kg ration with 20% DCP from sunflower seed cake which contains 10% DCP and simsim seed containing 60% DCP.

(4 marks)

7.Name three livestock diseases transmitted by ectoparasites.

(1½marks)

.....
.....
.....
8.Name an intermediate host for the following internal parasites.

(2 marks)

a.Tapeworms

.....
.....
b.Liver flukes

.....
9.Give any two reasons for docking in sheep rearing.

(1 mark)

.....

.....

.....

10.State two functions of the queen in a beehive.

(1 mark)

.....

.....

.....

11.State three maintenance practices carried out on a piggery unit.

(1½ marks)

.....

.....

.....

12.State four disadvantages of an electrical fence.

(2 marks)

.....

.....

.....

13.State four advantages of using a spray race for controlling parasites.

(2 marks)

.....

.....

.....

14.Give four disadvantages of artificial insemination in livestock production.

(2

marks)

.....

.....

.....

.....

.....

.....

15. Give any four structural requirements that a calf pen should possess.

(2 marks)

.....

.....

.....

.....

.....

.....

16. List two signs of infertility in cows.

(1 mark)

.....

.....

.....

17. Give two methods of introducing vaccines to livestock.

(2 marks)

.....

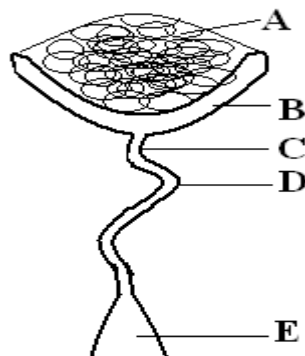
.....

.....

SECTION B (20 marks)

Answer ALL questions in this section.

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



For marking sch

m-0746711892

i) Name the parts labelled A, B, C, D and E in the diagram.

(2½ marks)

A.....

.....

B.....

.....

C.....

.....

D.....

.....

E.....

.....

ii) State the function of each part.

(2½ marks)

A.....

.....

.....

.....

B.....

.....

.....

.....

C.....

.....

.....

.....

D.....

.....

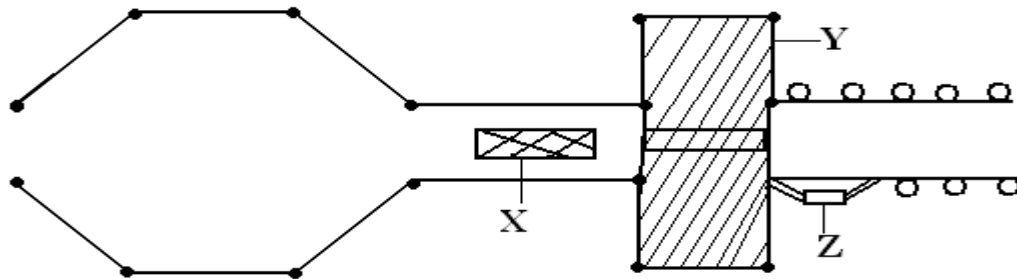
.....

.....
E.....

.....
.....
.....
19. Give two reasons why a jersey breed cattle is adapted to arid and semi arid areas.

(2 marks)

.....
.....
.....
20. The diagram below represents an aerial view of a farm structure. Study it carefully and answer the questions that follow.



a. Identify the structure.

(1 mark)

.....
.....
b. Name the parts labeled X, Y and Z.

(3 marks)

X.....

.....Y.....

.....Z.....

.....
c. List two roles of the part labeled Y.

(2 marks)

21. Give two reasons for carrying out hoof trimming.

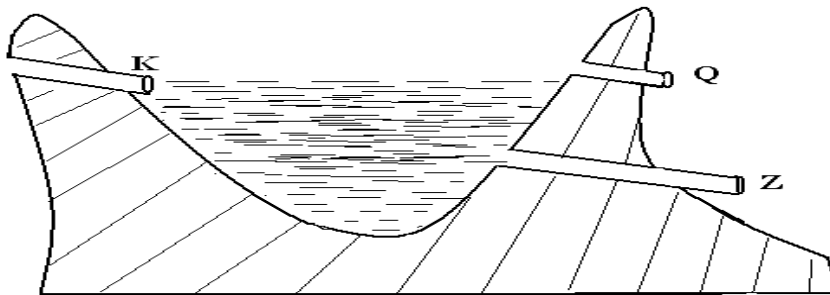
(1 mark)

.....

.....

.....

22. The illustration below is a farm structure.



a. Identify the structure.

(1 mark)

.....

.....

b. Name the parts labeled K, Q and Z.

(3 marks)

K.....

.....Q.....

.....Z.....

.....

c. Give four maintenance practices carried out on the above structure.

(2 marks)

.....

.....

.....

.....

.....

SECTION C (40 MARKS)

Answer ANY TWO questions in this section

23.a) Give five functions of vitamins in livestock production. **(5 marks)**

b) Describe the importance of colostrum to young animals within the first week of birth. **(10 marks)**

c) Outline five advantages of embryo transplant technology in cattle management. (5 marks)

24.a) Mention four methods of water harvesting.

(4 marks)

b) Describe the different types of micro catchments used in water conservation. (10 marks)

c) Explain the importance of micro catchments. (6 marks)

25.a) Outline ten factors to consider when selecting gilt for breeding stock. (10 marks)

b) Explain the economic importance of parasites to livestock animals. (10 marks)

(The page contains horizontal dotted lines for writing.)

[illegible]

[illegible]

.....

.....

.....

.....

.....

NAME..... ADM NO.....

STREAM.....SIGNATURE.....
E.....

231/3

BIOLOGY

PAPER 3(PRACTICAL)

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- Write your name and Index Number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided in the question paper.
- You are **NOT** allowed to start working with the apparatus for the first 15 minutes of the $1\frac{3}{4}$ Hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.
- All workings **MUST** be clearly shown where necessary.
- Mathematical tables and silent electronic calculators may be used.

For Examiners use only.

Section	Question	Maximum Score	Candidates Score
	1	14	
	2	12	
	3	14	
TOTAL SCORE		40	

*This paper consists of 7 Printed pages.
Candidates should check the question paper to ensure that all the
Papers are printed as indicated and no questions are missing*

1. You are provided with specimen labeled A. Obtain a cube measuring 1cm by 1cm from the specimen.

(a) Crush the cube using mortar and pestle, place the crushed parts in measuring cylinder, add 2 ml of hydrogen peroxide and quickly determine the volume of foam after 20 seconds and fill the table below. (1 mark)

Specimen	Volume of foam
Crushed cube A	

Explain why the reaction in (a) above occurs in living cells. (2 marks)

.....

(b) You are provided with a solution labeled B, unboiled C1 and boiled C2. Place 2ml of the solution B into two test tubes and carry out a food test using the reagents provided. Record your observation in the table below. (2 marks)

FOOD SUBSTANCE	PROCEDURE	OBSERVATION	CONCLUSION

Place 2ml of solution B into four test tubes labeled F, G, H and K. Carry out the following steps.

- (i) To test tube labeled F and its contents add 3ml solution C1 and 3 ml distilled water.
- (ii) To test tube labeled G and its contents, add 3ml solution C1 and 3 ml dilute hydrochloric acid.
- (iii) To test tube labeled H and its contents, add 3 ml solution C 1 and 3 ml sodium hydroxide solution.
- (iv) To test tube labeled K and its contents, add 3 ml solution C2.
- (v) Place the test tubes in a water bath at 37 °C for 20 minutes.
- (vi) Carry out a Benedict's test and fill the table below. (4 marks)

Test tube	PROCEDURE	OBSERVATION	CONCLUSION
F			
G			
H			
K			

(a) Account for the observation in:

(i) Test tube G. (2 marks)

.....

.....

.....

.....

.....

.....

(ii) Test tube H. (1 mark)

.....

.....

.....

.....

.....

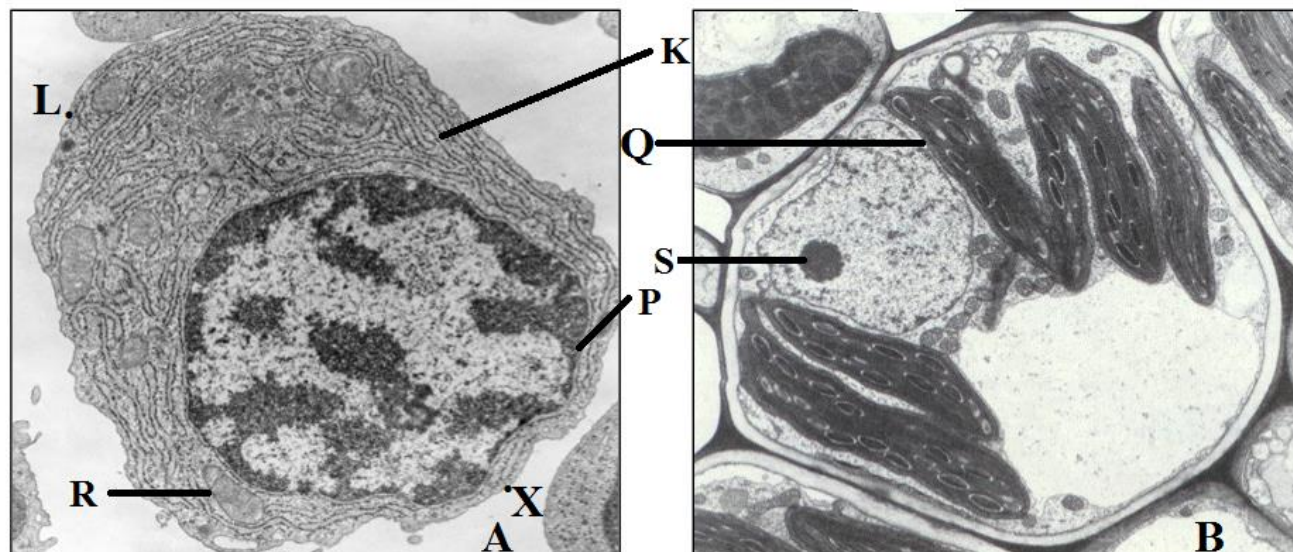
(iii) Test tube K. (2 marks)

.....

.....

.....

2. Use the illustration below to answer questions



(a) Identify the organism from which the cell labelled B was obtained from while giving a reason.

(ii) B. (1 mark)

.....
....

Reason. (1 mark)

.....
...

(b) Give the functions of the parts labeled:

(i) R. (1 mark)

.....
....

(ii) S. (1 mark)

.....
....

(b) Name the parts labeled:

(iii) Q. (1 mark)

.....
.....

(iii) P. (1 mark)

.....
.....

(iv) K. (1 mark)

.....
.....

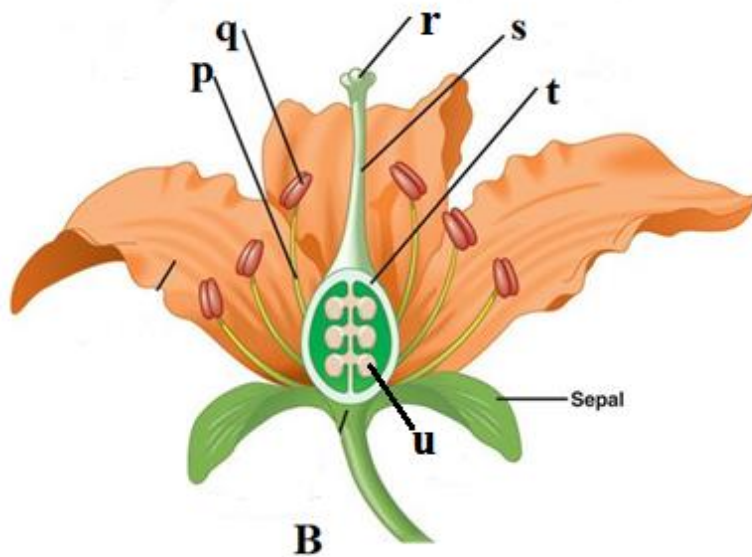
(d) Calculate the actual length of cell A in micrometers if its magnification is $\times 1000\ 000$. Use the points marked L and X.
(3 marks)

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

(e) Explain why cell A and B are believed to have a common ancestry. (2 marks)

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

3. Use the photographs below to answer questions



(a) (i) Name the type of flowers shown in A1 and A2.

(i) A1. (1 mark)

.....

(ii) A2 (1 mark)

.....

(ii) Describe the feature in flowering plants depicted in (a)(i) above. (1 mark)

.....
.....
(iii) Explain how flower labeled A1 is modified for pollination. (1 mark)

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

(b) Give the functions of the parts labeled p, r and s in specimen labeled B.

(i) p. (1 mark)

.....
.....

(ii) r. (1 mark)

.....
.....

(iii) s. (1 mark)

.....
.....

(c) State the structural descriptions of flower B.

(2marks)

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

(d) Explain what would happen to the following parts after pollination.

(ii) t. (1 mark)

.....
.....

(iii) u. (1 mark)

.....
.....

(e) You are provided with a specimen labeled K in a petri dish, observe the specimen using a hand lens and answer questions that follow.

(i) Make well labeled diagram to show the reproductive structure of the organism. (3 marks)

(ii) Give the type of asexual reproduction exhibited by the organism. (1 mark)

.....
.....

NAME.....ADM NO:.....

STREAM.....:.....SIGNATURE:.....

BIOLOGY

PAPER 1(THEORY)

TIME:2 HRS

PRE-MOCK 2 EXAM

Kenya Certificate Of Secondary Education

INSTRUCTION TO CANDIDATES

- Write your name and admission number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided.
- Answer ALL the questions in this question paper.
- Answers must be written in the spaces provided
- This paper consists of 10 printed pages.
- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- Candidates should answer all the questions in English.

FOR EXAMINER'S USE ONLY.

QUESTION	1	2	3	4	5	6	7	8	9
SCORE									

10	11	12	13	14	15	16	17	18	19

20	21	22	23	24	25	26

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. State two processes that take place during anaphase of mitosis. (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)

.....

.....

.....

.....

.....

.....

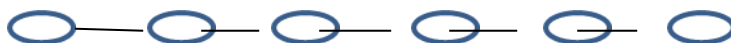
.....

.....

.....

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

8. The diagram below shows part of a starch molecule.



(a) Identify what the circles and the lines joining them represents. (2 marks)

Circles

.....
.....

Lines

.....
.....

(b) Draw how the structure will appear after the enzyme amylase has acted on the starch molecule and name the products. (2 marks)

Drawing:

Products

.....
.....

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. Identify three methods that cause fruit dispersal. (3 marks)

.....

.....

.....

.....

.....

.....

.....

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

.....

.....

.....

.....

.....

NAME:.....ADM NO:.....

STREAM:..... SIGNATURE:.....

231/2

BIOLOGY

PAPER 2(THEORY)

TIME:2 HRS

PREMOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES:-

- i. Write your **name** and **admnumber** in the spaces provided above.
- ii. This paper consists of **two** sections; **A** and **B**.
- iii. Answer **all** the questions in Section **A** in the spaces provided.
- iv. In section **B**, answer question **6(compulsory)** and either question **7** or **8** in the spaces provided after question 8.

For Examiner's Use Only:

Section	Question	Maximum score	Candidates score
---------	----------	---------------	------------------

A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7 or	20	
	8	20	
TOTAL SCORE		80	

This paper consists of 10 printed pages. Candidates should check to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A (40 Marks)

Answer all questions in this section in the spaces provided.

1. In human beings, a **downward pointed frontal hairline** (“windows peak”) is a heritable trait. A person with windows peak always has at least one parent who has this trait; where as persons with **frontal hairline** may occur in families in which one or even both parents have windows peak. Using **W** and **w** to symbolize genes for this trait

(a) Determine the F1 generation if a homozygous windows peak male parent is married to a homozygous frontal hairlined female parent (4mks)

(b) State two causes of variations

(1mk)

.....

.....

c) Name two sex linked genetic disorders affecting human females and males

(2mks)

.....

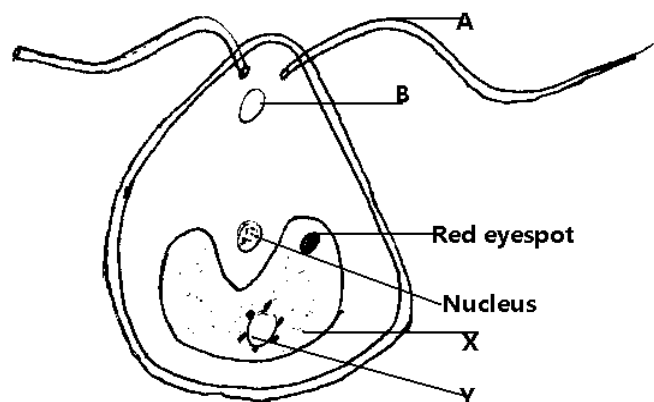
.....

(d) What is genome

.....

.....

2. The diagram below shows an organism obtained from an aquatic ecosystem



(a) **State** the kingdom in which the organism belongs. (1mk)

.....

(b) **Name** the parts labeled (1mk)

B

.....

Y

(1mk)

.....

(c) **State** the functions of the following parts

A

(1mk)

.....

.....

X

(1mk)

.....

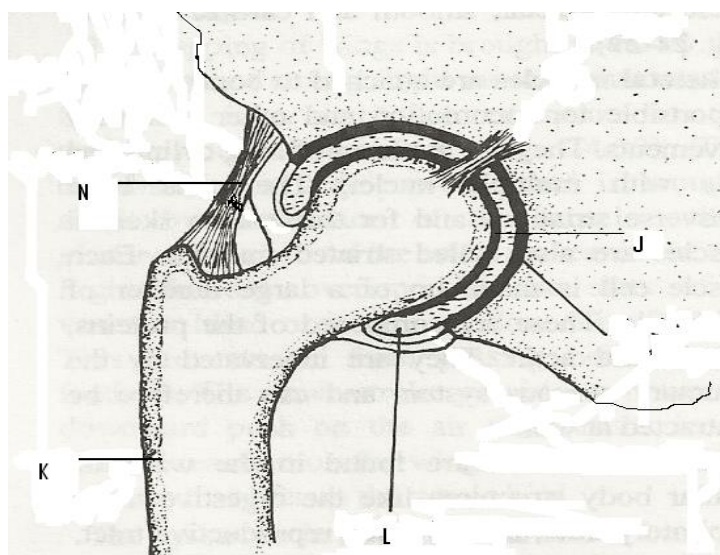
.....

Z

(1mk)

.....

3a) The diagram below shows some of the features of a synovial joint. Study the diagram carefully and answer the questions that follow.



(a) Name the type of synovial joint. (1 mark)

.....

(b) Name the parts labeled J, and L (2 marks)

J

L

(c) State **two** roles of the part labeled L. (2 marks)

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

(d) Suggest **one** advantage of this type of joint.

(1 mark)

.....
.....

b) State how the following tissues are adapted to provide mechanical support in plants (2mks)

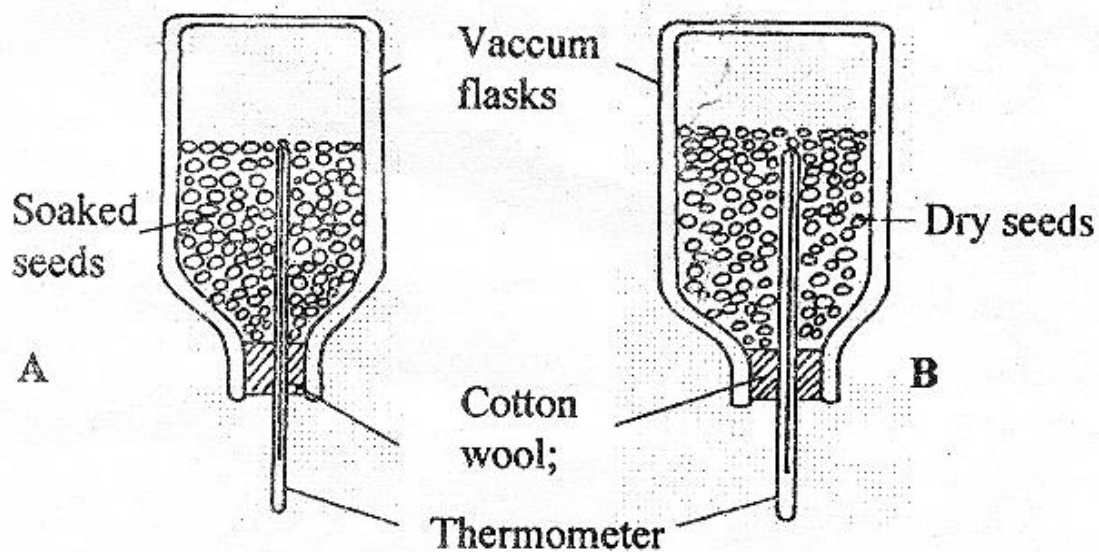
i) Parenchyma

.....

ii) Collenchyma

.....

4. A student set up an experiment using soaked and dry seeds as shown below



a) State the objective of this experiment (1mk)

.....

.....

b) State the observations made in each of the flask after 24 hours (2mks)

.....

.....

.....

c) Account for the observation made in (b) above (2mks)

.....

.....

.....

.....

d) Suggest why vacuum flasks were used in this experiment (1mk)

.....

.....

e) What alteration would you make in the set-up to make the results more reliable (1mk)

.....

.....

f) Why should the seeds be washed with antiseptic/10% formalin? (1mk)

.....

5 a) Explain how the following meristematic tissues contribute to growth of higher plants

i) Vascular cambium (2mks)

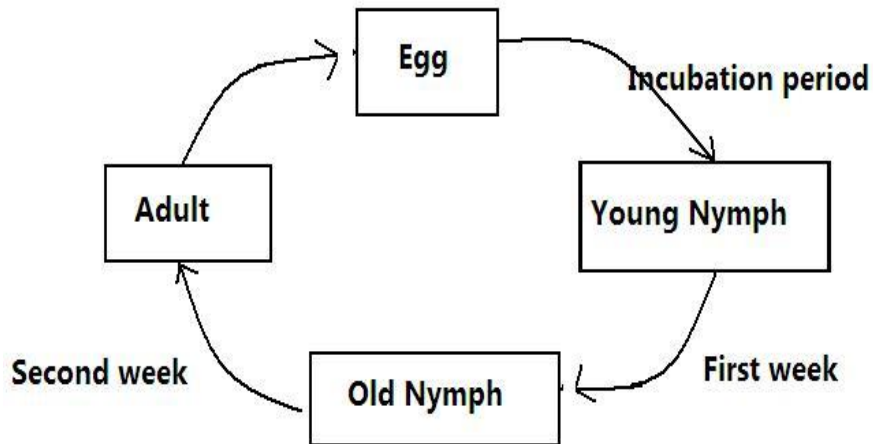
.....

.....

.....

ii) Cork Cambium (2mks)

b) The diagram below shows a life cycle of a cockroach



a) Name the hormone that would be at high concentration during.

(i) First week (1mk)

.....

(ii) Second week (1mk)

.....

b) Name the structure that produces hormone in a (ii) above (1mk)

.....

c) Name the series of stages through which the nymph undergoes to reach adult stage (1mks)

.....

.....

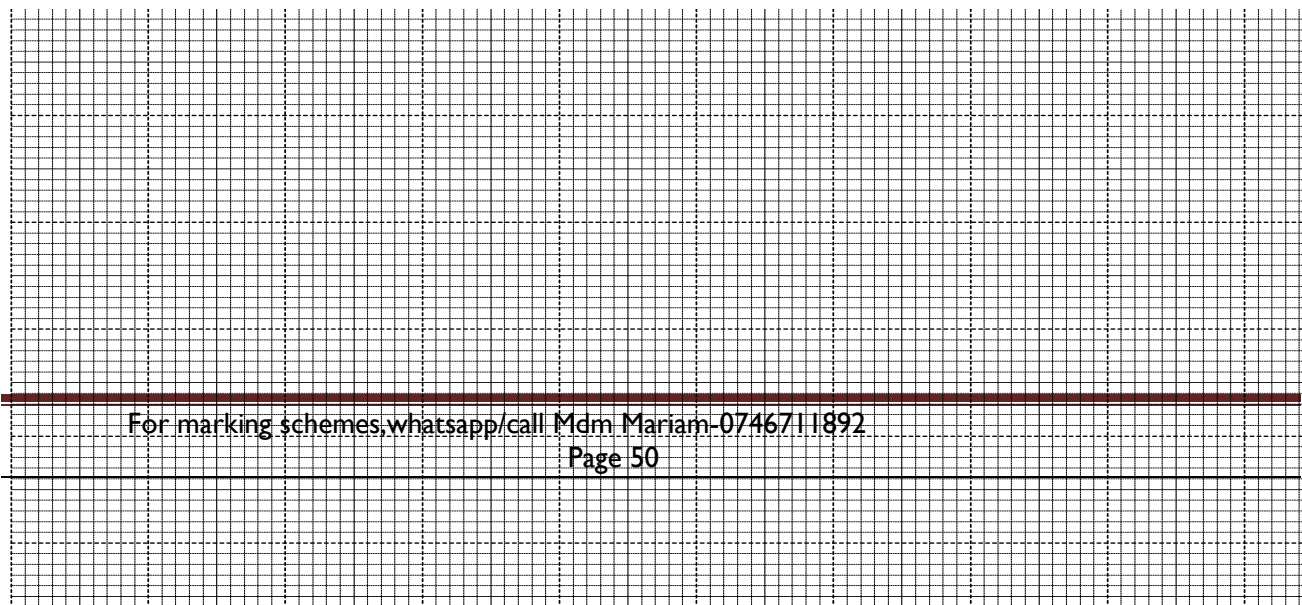
SECTION B (40 Marks)

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

6. The menstrual cycle is a sequence of events repeated monthly in the female production system. The table below shows the concentration of oestrogen and progesterone hormones and body temperatures of female against time.

Time in days	Oestrogen mg/100cm of blood	Progesterone mg/100cm ³ of blood	Temperature in 0°c
1	20	0	36.4
2	20.5	0	36.6
3	25	0	36.7
4	27.5	0	36.8
5	30	0	36.7
6	32.5	0	36.6
7	35	0	36.8
8	40	0	36.7
9	48	0	36.6
10	56	0	36.8
11	64	0	36.7
12	72	0	36.6
13	80	0	36.4
14	170	20	36.3
15	140	50	36.6
16	80	80	37.0
17	70	130	37.2
18	65	170	37.0
19	60	160	37.1
20	65	150	37.15
21	130	130	37.2
22	140	110	37.1
23	130	90	37.0
24	100	70	37.1
25	80	50	37.2
26	60	20	37.0
27	20	0	36.4

a). Using the same axis draw graphs of oestrogen and progesterone against time/days (8mks)



b) State the possible event taking place in the uterus during the first week? (1 mark)

.....
.....

c) State the events taking place in the ovary between day 1 and day 13. (2 marks)

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

d) Account for the sudden increase in the progesterone concentration between day 14 and day18.
(2 marks)

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

e) Account for the change in temperature between day 14 and 17. (1 mark)

.....
.....

f) Account for the change of the curve of progesterone between day 19 and 27. (2marks)

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

e) State the function of the following.

a. Ovary (1mark)

.....
.....

b. Progesterone (1 mark)

.....
.....

c. Oestrogen (1 mark)

.....
.....

7 a) Describe how the following evidences support the theory of organic evolution: geographical distribution, fossil records and comparative anatomy (10mks)

b) Explain tropic responses in plants and their survival values (10mks)

8 a) Describe the structural adaptations of mammalian heart to its Functions (10mks)

(10mks)

This image shows a full page of white paper with horizontal dashed lines, typical of primary school handwriting practice paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.

NAME:.....ADM NO...:.....

STREAM:.....SIOGNATURE.....,

561/1

BUSINESS STUDIES

PAPER 1

TIME 2 HRS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

Answer all the questions in spaces provided.

FOR EXAMINERS USE ONLY

QUESTIONS	1	2	3	4	5	6	7	8	9

MARKS									
--------------	--	--	--	--	--	--	--	--	--

10	11	12	13	14	15	16	17	18

19	20	21	22	23	24	25

TOTAL MARKS

This paper consists of 6 printed pages.

*Candidates should check to ensure that all pages are printed as indicated and no questions are missing*State four

1.factors that you would consider before extending credit facilities to a customer. (4 Marks)

i.....

ii.....

iii.....

(iv).....

2Give four characteristics of human wants.

(4

Marks)

(i)

(ii).....

(iii).....

(iv).....

3.The following information relates to businesses W, X, Y and Z.

(4 Marks)

BUSINESS

ASSETS

LIABILITIES CAPITAL

W	350,000b	150,000
X	a	160,000
Y	800,000450,000	d
Z	700,000c	280,000

Determine the figures represented by a, b, c and d. (4 Marks)

- i.....
 ii.....
 iii.....
 (iv).....

4.State any four principles that govern the operations of co-operative societies in Kenya. (4 Marks)

- (i).....
 (ii).....
 (iii).....
 (iv).....

5.Highlight four limitations posed by the use of national income statistics as a way of comparing the living standards of people for different countries. (4 Marks)

- (i).....
 (ii).....
 (iii).....
 (iv).....

6.State four merits associated with internal borrowing. (4 Marks)

- (i).....
 (ii).....
 (iii).....
 (iv).....

7.What four measures would you advice the government of Kenya to apply so as to curb the inflationary tendencies the country is currently experiencing? (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

8.State four factors that may influence the price elasticity of demand of a commodity. (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

9.State four possible factors that may contribute to a case of an abnormal demand curve. (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

10.The data below relates to Kimeu's business as at 31st Dec 2010.

(4 Mark)

	Shs
Capital as at 1 st Jan 2010	100,000
Additional investment in the year	40,000
Profit realized in the year	25,000
Drawings made in the year	45,000

Determine Kimeu's capital as at 31st Dec 2010

11. State four features of labour as a factor of production

(4

Marks)

(i).....

(ii).....

(iii).....

(iv).....

12.The table below shows descriptions relating to some documents used in home trade. Name the document fitting the description.

(4 Marks)

DESCRIPTION	DOCUMENT
18. Used to correct an undercharge error	
19. Seeking information on items stocked and their prices	
20. Inform the buyer that the goods ordered have been dispatched	
21. Requests payment for goods before they are sent to the customer	

13.Outline four reasons why governments participate in business.

(4

Marks)

(i).....

(ii).....

(iii).....

(iv).....

14.State four features of an oligopolistic type of Market. (4

Marks)

(i).....

(ii).....

(iii).....

(iv).....

15.The following information relates to Blue star traders in the year 2009.

Jan 1 started business by depositing Shs. 150, 000 in the business' bank account

Jan 2 bought stock worth shs. 10,000 by cash.

Enter these transactions in the relevant ledger accounts.

16.State four possible errors that may not be detected by a trial balance.

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

17.Under what four circumstances would a producer opt to sell his goods directly to his customers?

(4 Marks)

(i).....

(ii).....

(iii).....

(iv).....

18.The balances below were extracted from the books of Kazu traders as at 30th June 2010.

ITEM	KSHS
Furniture	20,000
Debtors	30,000
Creditors	42,000
Cash in hand	25,000
Cash at bank	60,000
Delivery van	280,000
Capital	348,000
Bank van	120,000
Net loss	45,000

Prepare Kazu's balance sheet as at 30th June 2010.

19.State four gaps in the market that may provide an opportunity to an entrepreneur. (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

20.State four reasons why an insured may not be compensated despite an insured risk occurring. (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

21.Under what four circumstances would an office manager think of replacing an existing machine with a modern one?

(4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

22.State four ways through which a consumer may be exploited. (4 Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

23.Give four differences between an ordinary share and a preference share.

ORDINARY SHARE	PREFERENCE SHARE
----------------	------------------

8.	➤
(ii).....	(ii).....
(iii).....	(iii).....
(iv).....	(iv).....

f) Kim insured his motor vehicle value at shs.1,000,000 for shs. 800,000. The motor vehicle was involved in an accident and declared a write off. Calculate the amount Kim should get from the insurer.

(4

Marks)

23.State four ways through which the piece of a commodity may be determined.

(4

Marks)

- (i).....
- (ii).....
- (iii).....
- (iv).....

NAME.....ADM NO:

STREAM.....SIGNATURE.....

BUSINESS STUDIES
PAPER 2
TIME:2HRS 30 MINS

PRE-MOCK 2 EXAM

Instructions to candidates.

- Write your name and admission number in the spaces provided.
- Answer all questions in the spaces provided.
- Answer **any five** questions
- Answers must be written in English.
- Avoid one word answers

1.a) Explain five features that differentiate a public company from a public corporation.(10marks)

- b) Jambo Tena enterprises had the following balances in the cash book on 1st November, 2018. Cash at hand shs. 10,000 and bank shs. 150,000
- g) Bought buildings paying by cheque shs. 50,000
 - h) Drew shs. 4,000 from Bank for office use.
 - i) Took cash shs. 1,000 for his personal use
 - j) Credit sales to Jema traders shs. 5,000
 - k) Took all the cash to the bank leaving a balance of only shs. 100

Required: prepare duly balanced a two column cash book.

2. a) Explain **five** emerging issues in office management. (10marks)

b) Explain five circumstances under which a partnership may be dissolved (10mks)

3a) Explain five circumstances under which a manufacturer would prefer to sell his products direct to consumers instead of selling through middlemen.(10 marks)

b) Explain five factors to consider when choosing a method of promoting products.(10 marks)

4.(a) In most secondary schools in Kenya, members of staff are accommodated in one large room. Explain **five** disadvantages associated with this kind of arrangement.(10mks)

(b) Explain Five benefits of warehousing to consumers (10 marks)

5.a) Explain five uses of National Income Statistics (10mks)

b) i) Explain four insurance policies that the owner of a supermarket may find useful for the business. 8mks

ii) A farmer's house valued at Ksh. 1,200,000 was insured against fire for ksh. 900,000. Fire occurred and damaged the house causing a loss of ksh. 500,000. Determine the value of compensation due to the farmer. (2mks)

6.a) The accounts of Maneno Traders showed the following balances as at 31st December 20-2. Required: Balance off the accounts and extract a trial balance (10 Mks).

Land and Buildings Account

Dr

Cr

	ulars		nt		ulars		nt
			00				

Motor Cars Account

Dr

Cr

	ulars		nt		ulars		nt

			00				

Cash Account

Dr				Cr			
	ulars		nt		ulars		nt
			30,000		ases		0
			5,000		ors		
	rs		3,000				

Creditors Account

Dr				Cr			
	ulars		nt		ulars		nt

Capital Account

Dr

Cr

	ulars		nt		ulars		nt
						00	

Sales Account

Dr

	ulars		nt		ulars		nt

b) Highlight **five** factors that may lead to rapid increase in population. (10mks)

NAME.....ADM NO...../.....
STREAM.....SIGNATURE.....

CHEMISTRY(THEORY)

PAPER 1

TIME:2 HRS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education (K.C.S.E) Trial Examination

INSTRUCTIONS TO CANDIDATES

- i. Write your **NAME** and **INDEX NUMBER** in the space provided above
- ii. Sign and write the date of examination in the spaces provided above
- iii. Answer **ALL** the questions in the spaces provided
- iv. ALL** working must be clearly shown where necessary.
- v. Mathematical tables and silent electronic calculators may be used.

FOR EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1 –31	80	
Total score	80	

This paper consists of 9 printed pages.

Candidates should check to ensure that all pages are printed as indicated and no questions are missing

1. An element K has atomic number 20 while element M has atomic number 8.

a. Write the electronic configuration for K and M

K

.....

1mark

M

.....

1mark

b. Write the symbol of the most stable ion of K and M

K

.....

1mark

M

.....

1mark

2. Molten Lead (II) bromide is electrolyzed using carbon electrodes. Write the half equations of the reactions that occur at the anode and the cathode.

a) Anode

.....

1mark

b) Cathode

.....

1mark

3. Explain why the conductivity of metals decreases with increase in temperature.

2marks

.....

.....

.....

.....

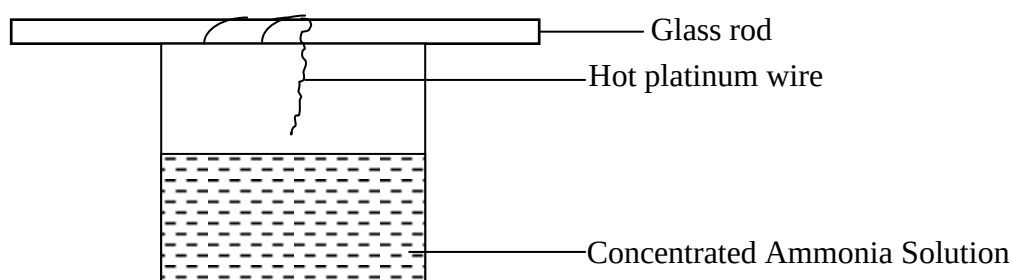
4. Three metal oxides XO, YO, and ZO are heated with powdered metal Y. Hot powdered Y will remove oxygen from XO but not from ZO. Arrange the metals in order of reactivity, starting with the most reactive.

1mark

5. Some sodium chloride was found to be contaminated with copper (II) oxide. Describe how a sample of sodium chloride can be separated from the mixture.

2marks

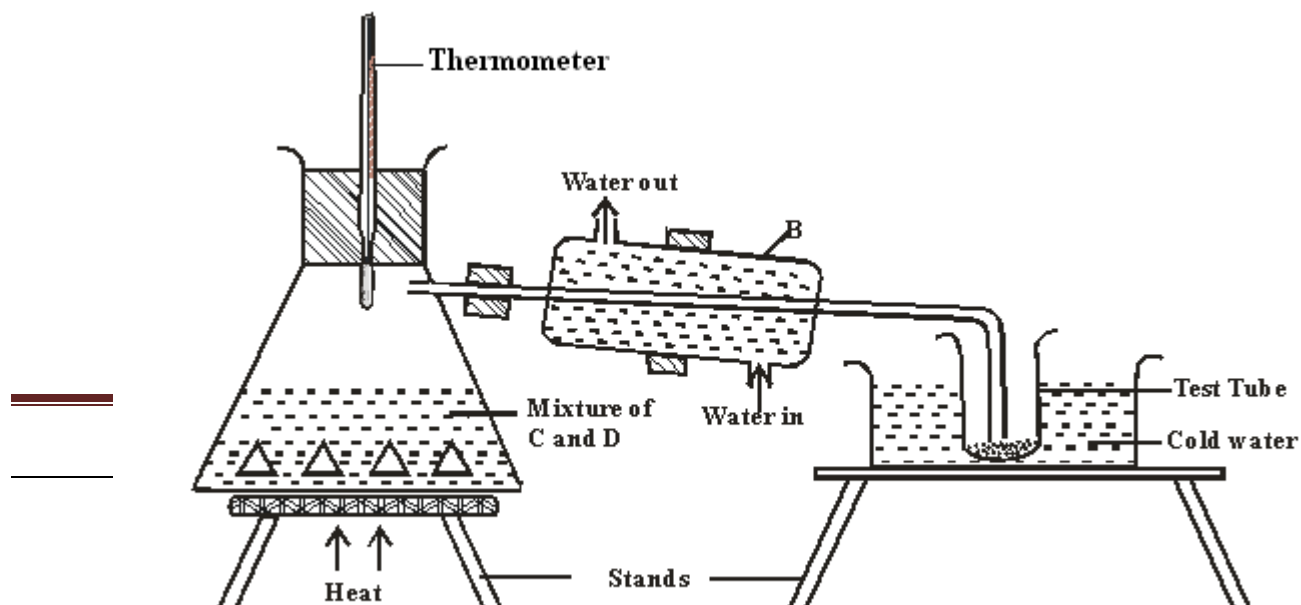
6. Hot platinum wire was lowered into a flask containing concentrated ammonia solution as shown below.



State and explain the observations made.

3marks

7. The set up below represents the apparatus that may be used to separate a mixture of two miscible liquids C and D whose boiling points are 80°C and 110°C .



a.Name B

.....

1mark

b.What is the purpose of the thermometer

1mark

.....

.....

.....

c.Which liquid was collected in the test tube?

1mark

.....

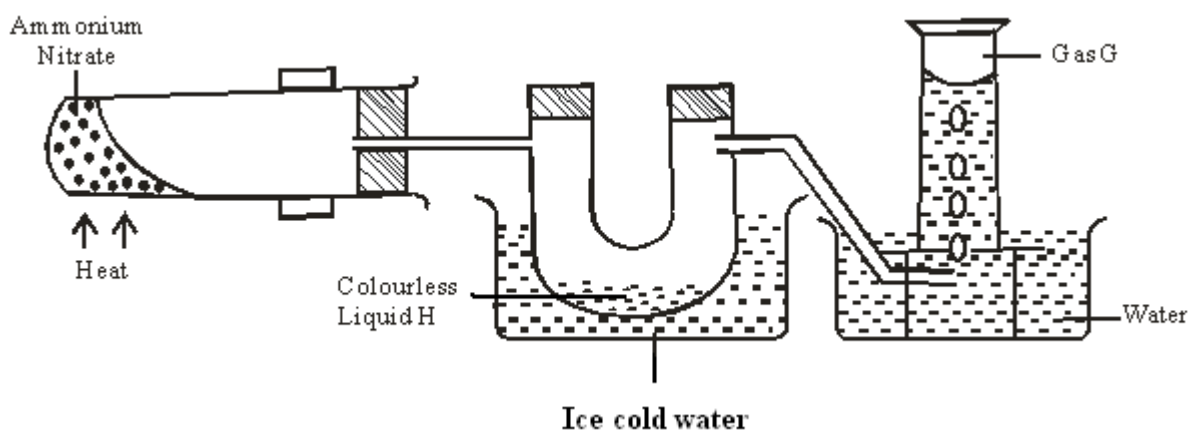
.....

.....

8.Draw a dot (.) and cross (x) diagram to show bonding in carbon (II) oxide.

2marks

9.Ammonium nitrate was gently heated and the products collected as shown in the diagram.



a. Identify:

i. Colourless liquid H

.....

1mark

ii. Gas G

.....

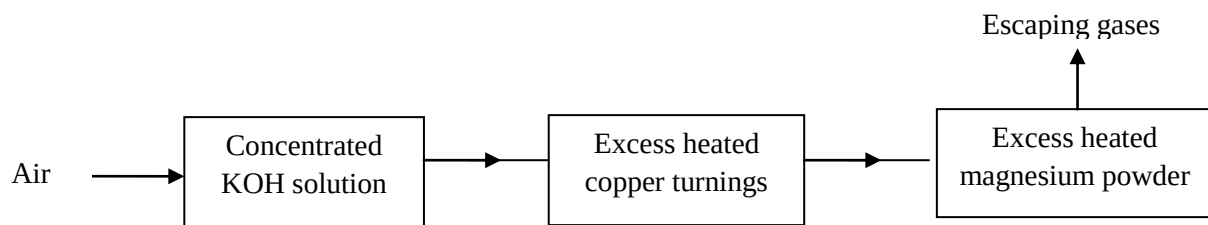
1mark

b. Describe one physical and one chemical test that can be used to identify gas G.

2marks

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

10. Air was passed through several reagents as shown in the flow chart below.



a. What is the purpose of concentrated potassium hydroxide solution?

1mark

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

b. Write an equation for the reaction which takes place in the chamber with magnesium powder.

1mark

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

c. Name one gas which escapes from the chamber containing magnesium powder.

.....
.....

Give a reason for your answer

2marks

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

11. Name the following substances.

a) $\text{CH}_2\text{CHCH}_2\text{CH}_3$

1mark

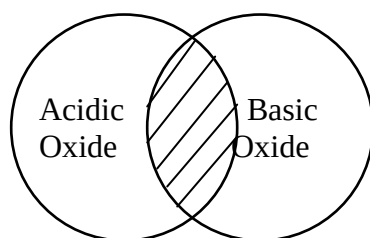
.....
.....
.....

b) $\text{CH}_3\text{CHCHCH}_2\text{CH}_3$

1mark

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

12. The diagram below shows the acidic and basic oxides fit into the general family of oxides.



a. State the name given to the type of oxide that would be placed in the shaded area.

1mark

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

b. Give the name of any oxide that would be placed in the shaded area.

1mark

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

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

Substance	Solubility in water	Electrical conductivity	
		Solid	Molten
A	Insoluble	Good	Good
B	Soluble	Poor	Good
C	Insoluble	Poor	Poor

i. Which of the substances is highly likely to be sodium chloride? Explain

2marks

.....

ii. What type of bond exists in substance A?

1mark

.....

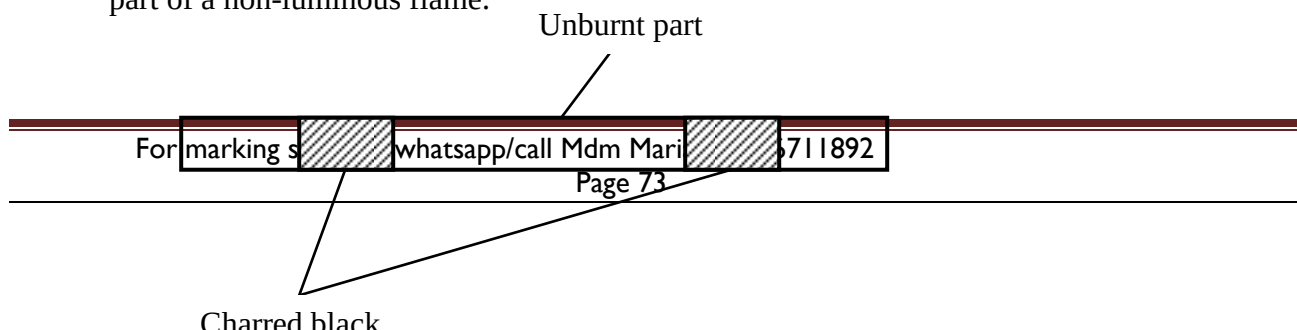
iii. State a possible structure in substance C?

1mark

.....

14. Laboratory results showed the composition of a compound to be 58.81% barium, 13.72% sulphur and 27.47% Oxygen. Calculate the empirical formula of the compound. Ba=137, S = 32, O = 16. **2marks**

15. The diagram below shows a wooden splint that was placed horizontally across the middle part of a non-luminous flame.



a.Explain the observation made

2marks

.....

.....

.....

.....

b.Explain why non-luminous flame is preferred for heating than the luminous flame.

2marks

.....

.....

.....

.....

16.200cm³ of oxygen gas took 60 seconds to diffuse through a porous plug. Determine the time taken by 300cm³ of sulphur (IV) oxide to diffuse through the same plug under the same conditions.

(O=16, S = 32)

3marks

17.Explain why?

- i) Both methane and diamond are covalently bonded. Methane is a gas but diamond is a solid with very high melting point.

2marks

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

ii) Ammonia is dissolved in water using an inverted funnel.

1mark

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

18 Explain giving reasons why?

a. Sulphuric acid is not used with marble in the preparation of carbon (IV) oxide

2marks

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

b. Water cannot be used to distinguish oil fire.

1mark

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

19. A gas occupies 4dm^3 at -23°C and 152 mmHg. At what pressure will its volume be halved, if the temperature then is 227°C ?

2marks

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

20a) Sodium, Magnesium and Aluminium are elements in the periodic table. Explain why aluminium has a higher melting and boiling point than sodium and magnesium.

2marks

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

- b) The ionization energy of an atom is strongly influenced by three atomic parameters. State two of these parameters.

2marks

.....

.....

.....

.....

22. 15cm^3 of a solution containing 2.88g/dm^3 of an alkali XOH completely reacts with 20cm^3 of 0.045M sulphuric acid. Calculate the molarity and relative atomic mass of X present in the alkali. **3marks**

22. Describe how a solid sample of calcium sulphate can be prepared using the following reagents; dilute nitric (v) acid, dilute sulphuric (vi) acid and solid calcium carbonate

4marks

.....

.....

.....

.....

.....

.....

.....

23. Crude oil is the main source of organic compounds such as hydrocarbons. The hydrocarbons in the crude oil have to be separated.

a. Name two important hydrocarbons obtained from crude oil.

2marks

.....

.....

.....

.....

b. Give the uses of the two hydrocarbons named in (a) above.

2marks

.....

.....

.....

.....
.....
24.A hydrocarbon Q was found to decolourise potassium manganate (vii) solution. When two moles of Q were burnt completely six moles of carbon (iv) oxide and six moles of water were formed.

- a) Write the structural formula of Q.

1mark

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

- b) Name the homologous series to which Q belongs

1mark

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

25.Dilute sulphuric acid was added to a compound X, of magnesium. The solid reacted with the acid to form a colourless solution, Y and a colourless gas Z which formed a white precipitate when bubbled through lime water.

Name:-

- i.Compound X

1mark

.....
.....

- ii.Solution Y

1mark

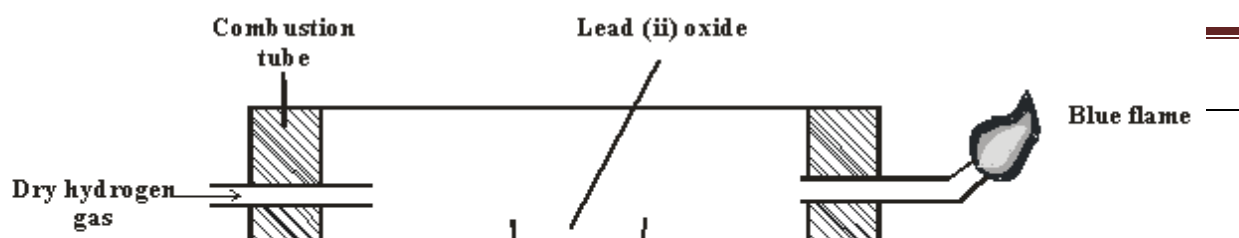
.....
.....

- iii.Colourless gas Z

1mark

.....
.....

26. When dry hydrogen gas passed over heated Lead (II) oxide in combustion tube, a grey solid was formed.



a. Identify the grey solid.

1mark

.....
.....

b. Write the equation of the reaction taking place in the combustion tube.

1mark

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

c. Write the equation involving the blue flame.

2marks

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

27. What do (C F C' S) mean?

1mark

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

28.

a. What is meant by the term allotropy?

1mark

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

b. Explain in terms of structure and bonding why graphite is soft with greasy feeling.

2marks

.....

.....

.....

.....

.....

233/3

NAME.....ADM NO...../.....
STREAM.....SIGNATURE.....

CHEMISTRY(PRACTICAL)

PAPER 3

TIME:2 HRS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education (K.C.S.E) Trial Examination
CHEMISTRY PAPER 3

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Answer **ALL** the questions in the spaces provided.
- You are not allowed to start working with the apparatus for the first 15 minutes of the 2¼ hours allowed time for the paper.
- Use the 15 minutes to read through the question paper and note the chemicals you require
- Mathematical tables and electronic calculators may be used.
- All working **MUST** be clearly shown where necessary.

FOR EXAMINER'S USE ONLY.

Question	Maximum score	Candidate's score
1	17	

2	8	
3	15	
Total score	40	

This paper consists of 6 printed pages.

Candidates should check to ensure that all pages are printed as indicated and no questions are missing

- l) Solution A is prepared by dissolving 6.3g of the organic acid $\text{H}_2\text{C}_2\text{O}_4 \cdot n\text{H}_2\text{O}$ in water to make a litre of the solution.

Solution B: 0.1M NaOH solution

Phenolphthalein indicator

Clamp and stand

Burette and pipette.

You are required to determine the value of n in the organic acid $\text{H}_2\text{C}_2\text{O}_4 \cdot n\text{H}_2\text{O}$

Procedure.

Fill the burette with solution A and adjust the volume to zero mark.

Add 2 to 3 drops of phenolphthalein indicator and titrate solution A against solution B until the colour just permanently changes. Record your results in the table below. Repeat the procedure two more times to obtain concordant results.

9.

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

**4m
arks**

10. Calculate the average volume of solution A used.

1mark

11. Calculate the moles of sodium hydroxide in the volume of solution B used.

2marks

-
12. Given that solution B - Sodium hydroxide and solution A organic acid react in the ration of 2:1, calculate the number of moles of the organic acid –solution A used?
2marks

13. Calculate the moles of organic acid solution A used per litre of solution

2marks

14. Calculate the relative formula masses of the organic acid solution A

3marks

15. Calculate the value of n in $\text{H}_2\text{C}_2\text{O}_4 \cdot n\text{H}_2\text{O}$ (H=1, C=12, O=16)

3marks

m) You are provided with CBI. Carry out the test below. Write your observation and inferences in the spaces provided.

c. Using a clean spatula, heat about one third of the solid CBI in a non-luminous Bunsen burner flame.

Observation	Inferences

1mark

1mark

- d. Put a half spatula endful of CBI in a test tube. Heat gently and then strongly. Test for any gas produced using litmus papers.

Observation	Inferences
1mark	1mark

- e. Put 2cm³ of dilute hydrochloric acid into a test tube. Add ¼ endful of CBI into the test tube.

Test for any gas procedure.

Observation	Inferences
2marks	2marks

- n) You are provided with solid Q, carry out the test below. Record your observations and inferences in the table. Identify any gas (es) evolved.

Place all the solid Q provided into boiling tube and add distilled water until the tube is ¼ full. Divide it into five portions.

- f. To the 1st portion add ammonia solution drop wise until excess.

Observation	Inferences
For marking schemes, whatsapp/call Mdm Mariam-0746711892	
Page 83	

1mark **1mark**

g. (i) To the 2nd portion add sodium hydroxide solution dropwise until in excess.
Keep the resulting mixture for the next test.

Observation	Inferences
1mark	1mark

ii) Warm the preserved mixture from b (i) above

Observation	Inferences
1mark	1mark

h. i) To the 3rd portion add silver nitrate solution. Preserve the mixture for the next test.

1mark

Observation	Inferences
1mark	1mark

Observation	Inferences

j. To the 5th portion add 2-3 drops of conc. Nitric acid.

1mark

NAME.....ADM NO...../.....
STREAM.....SIGNATURE.....

CHEMISTRY

PAPER 3(THEORY)

TIME:2 HRS

PRE-MOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES

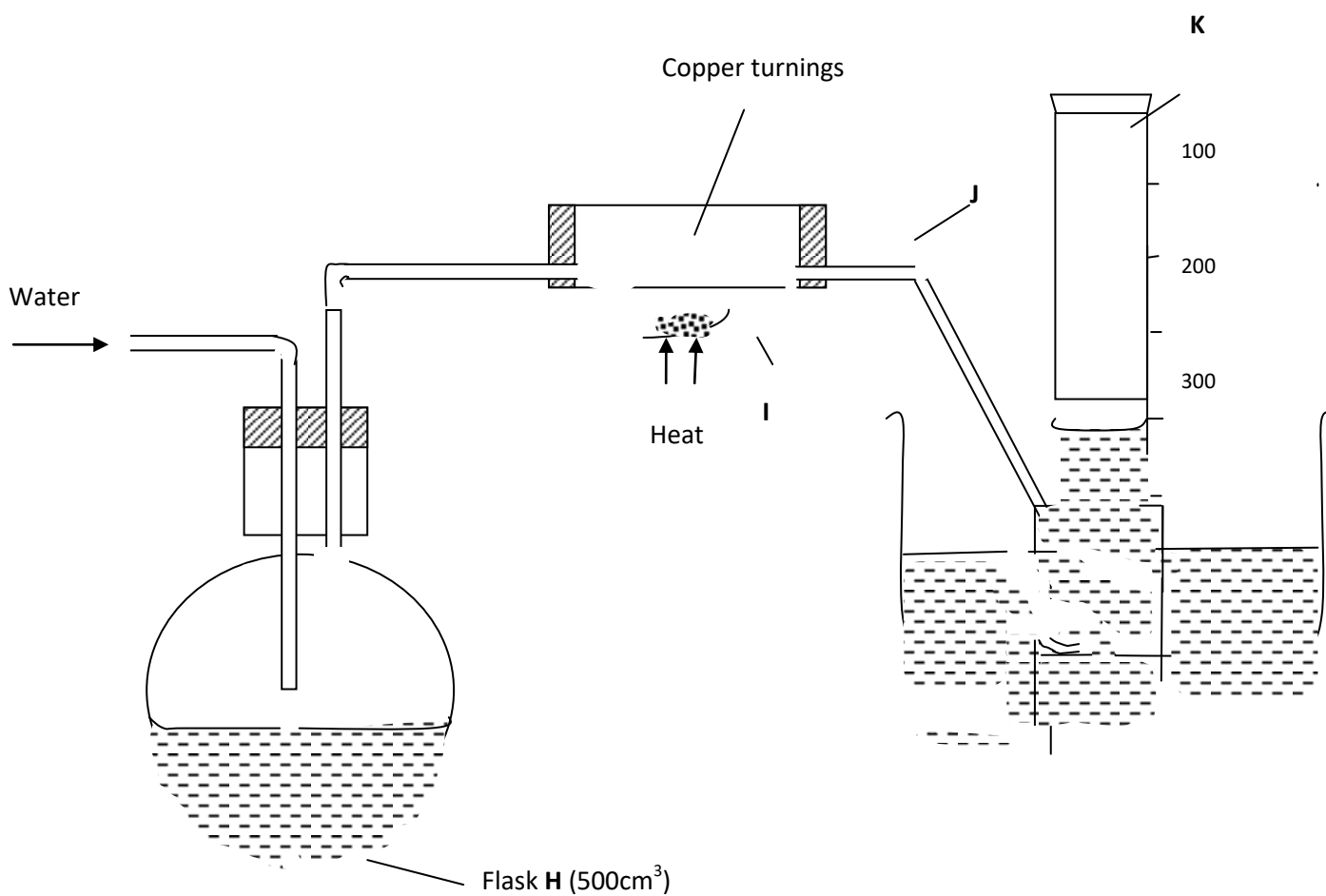
- i. Write your name, admission number, date and school in the spaces provided.*
- ii. Answer **all** the questions in the spaces provided.*
- iii. All working must be clearly shown where necessary.*
- iv. Scientific calculators may be used.*

FOR EXAMINERS' USE ONLY

Questions	Maximum Score	Candidate's Score
1	10	
2	12	
3	10	
4	12	
5	13	
6	12	
7	11	

This paper consists of **13** printed pages. Candidates are advised to check and to make sure all pages are as indicated and no question is missing.

1. A. In an experiment to determine the percentage of oxygen in air, the apparatus below were set up. Study the set up and the information provided to answer the questions that follow.



A 500cm³ measuring cylinder **K** was filled with water and assembled for gas collection. Copper turnings were heated red hot and water was slowly passed into 500cm³ flask **H** until it reached the 500cm³ mark. A colourless gas was collected in **K**.

(i) What was the purpose of passing water into flask **H**? (1 mark)

.....
.....

(ii) What observations were made in the tube **I**? (1 mark)

.....
.....

(iii) Name one of the gases that is likely to be found in **J**. (1 mark)

.....
.....

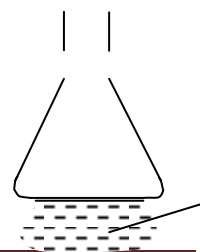
(iv) What was the volume of the gas collected in the measuring cylinder at the end of the experiment? (1 mark)

.....
.....

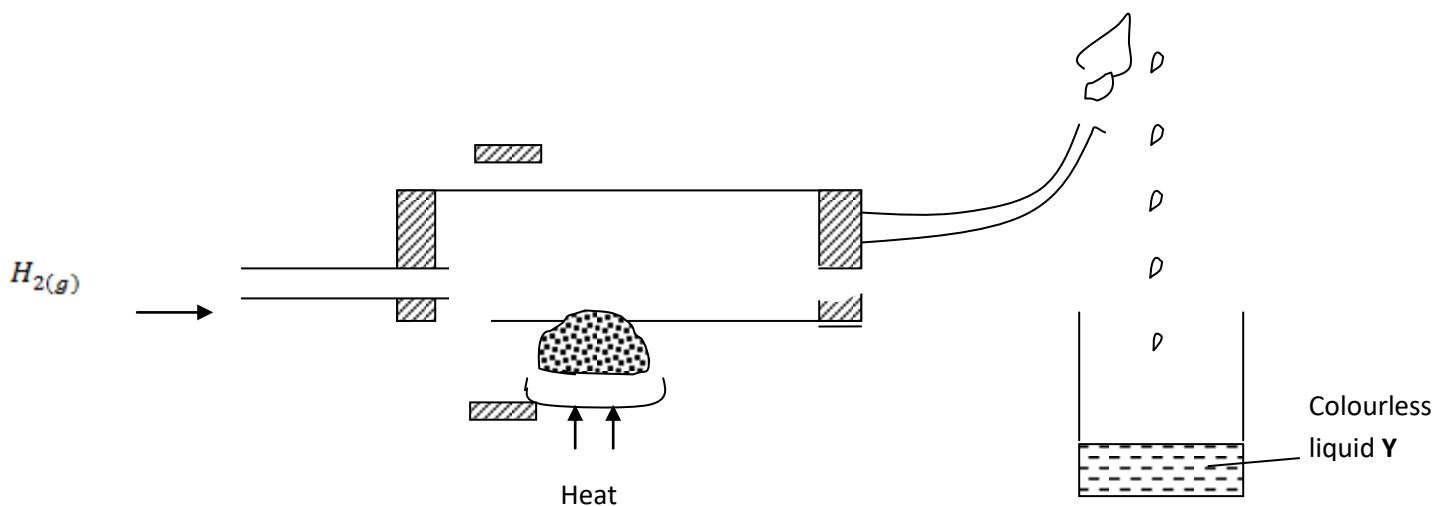
(v) Calculate the percentage of oxygen in air using the above results. (2 marks)

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

Copper (II) oxide



Ice cold water



- (a) Give **one** observation made in the combustion tube after some time. **(1 mark)**

.....

- (b) Write an equation for the formation of the colourless liquid **Y**. **(1 mark)**

.....

- (c) What was the aim of the above experiment as demonstrated in the combustion tube? Explain. **(2 marks)**

.....

2. Use the information below to answer the questions that follow. The letters are not the actual symbols of the elements.

Element	Atomic No.	M.P ⁰ C	B.P ⁰ C	Ionic radius (nm)
---------	------------	--------------------	--------------------	-------------------

P	11	98	890	0.095
Q	12	650	1110	0.065
R	13	660	2470	0.050
S	14	1410	2360	0.041
T	15	44.2 & 590	280	0.034
U	16	113 & 119	445	0.184
V	17	-101	-35	0.181
W	18	-189	-186	-

(a) (i) Write the electronic configuration of the atoms represented by letters **T** and **W**.
(1 mark)

(ii) State the nature of the oxides of the elements represented by **Q** and **U**.
(2 marks)

.....

.....

.....

.....

(b) Why does the elements represented by the letters **T** and **U** have two values of melting points?
(1 mark)

.....

.....

(c) Explain the following observations in terms of structure and bonding.

(i) There is an increase in boiling point from **P** to **R**. (2 marks)

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

(ii) Element **S** has a high boiling point. (2 marks)

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

(iii) There is a decrease in boiling points from **U** to **W**. (2 marks)

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

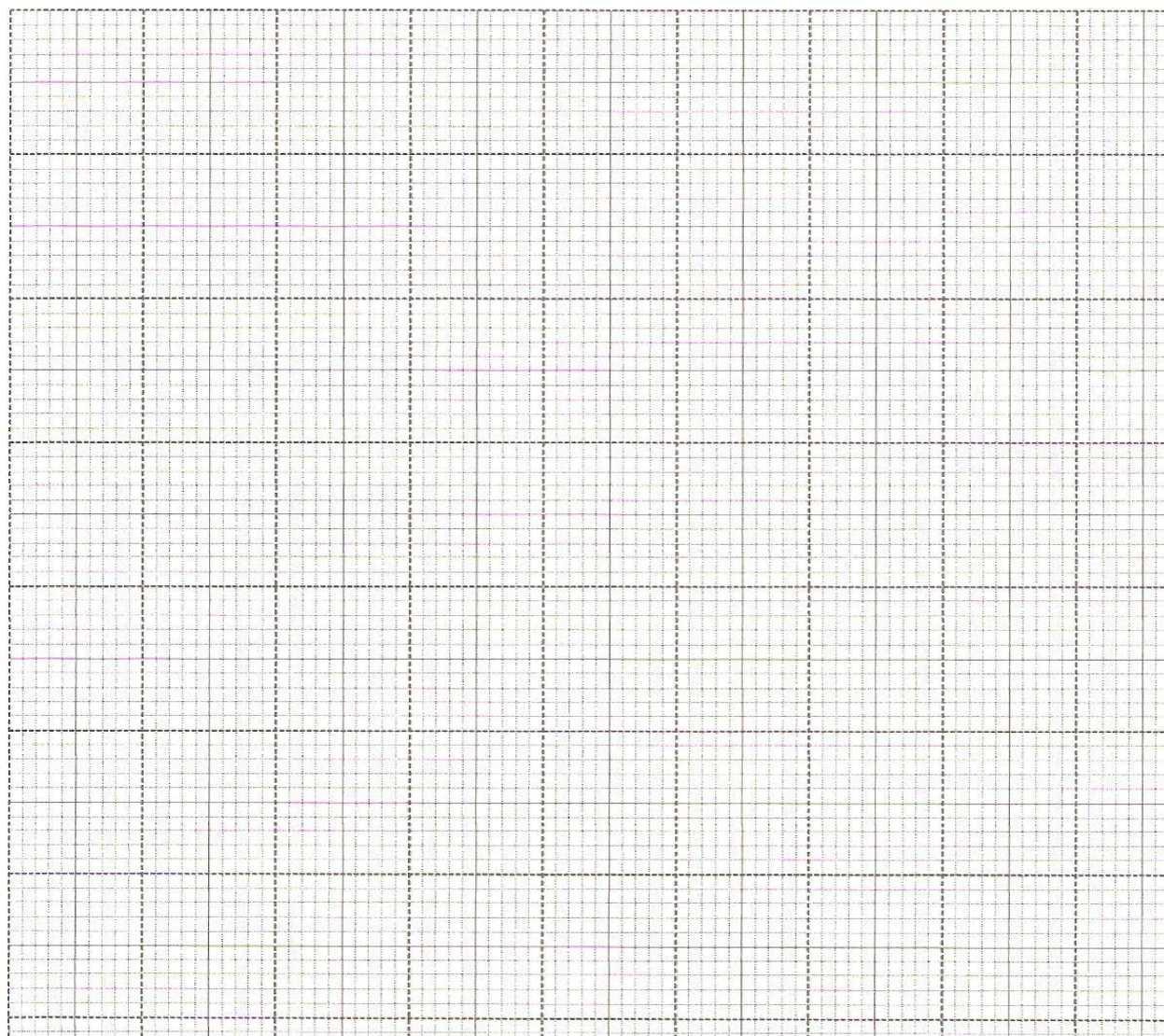
(d) (i) Compare the atomic radius of **U** and **V**. (1 mark)

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

(ii) Why is there no ionic radius for **W** reported in the table? (1 mark)

.....
.....

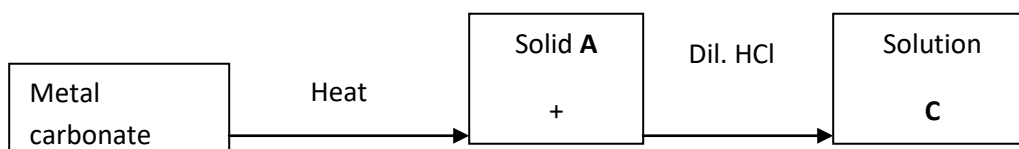
3. (a) The solubilities of potassium nitrate and potassium bromide at different temperatures was determined. The following data was obtained.



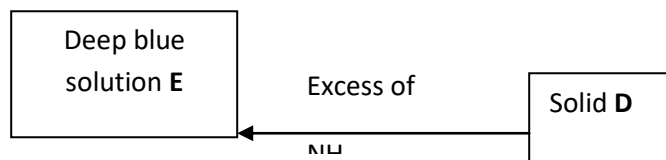
(ii) What was the solubility of each salt at 65°C ? **(1 mark)**

(iii) 100g of a saturated solution of potassium nitrate at 70°C was cooled to 20°C . What mass of the crystals will be crystallized? **(2 marks)**

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



A few drops of
 $\text{NH}_3(\text{aq})$



(i) Write an equation for the formation of solid A and gas B. (1 mark)

.....

(ii) Name;

Solution C - (1

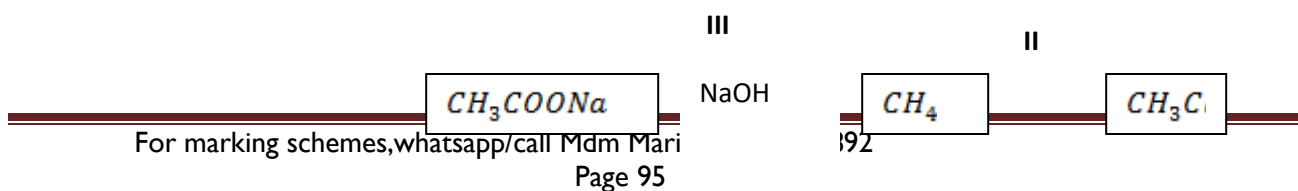
mark)

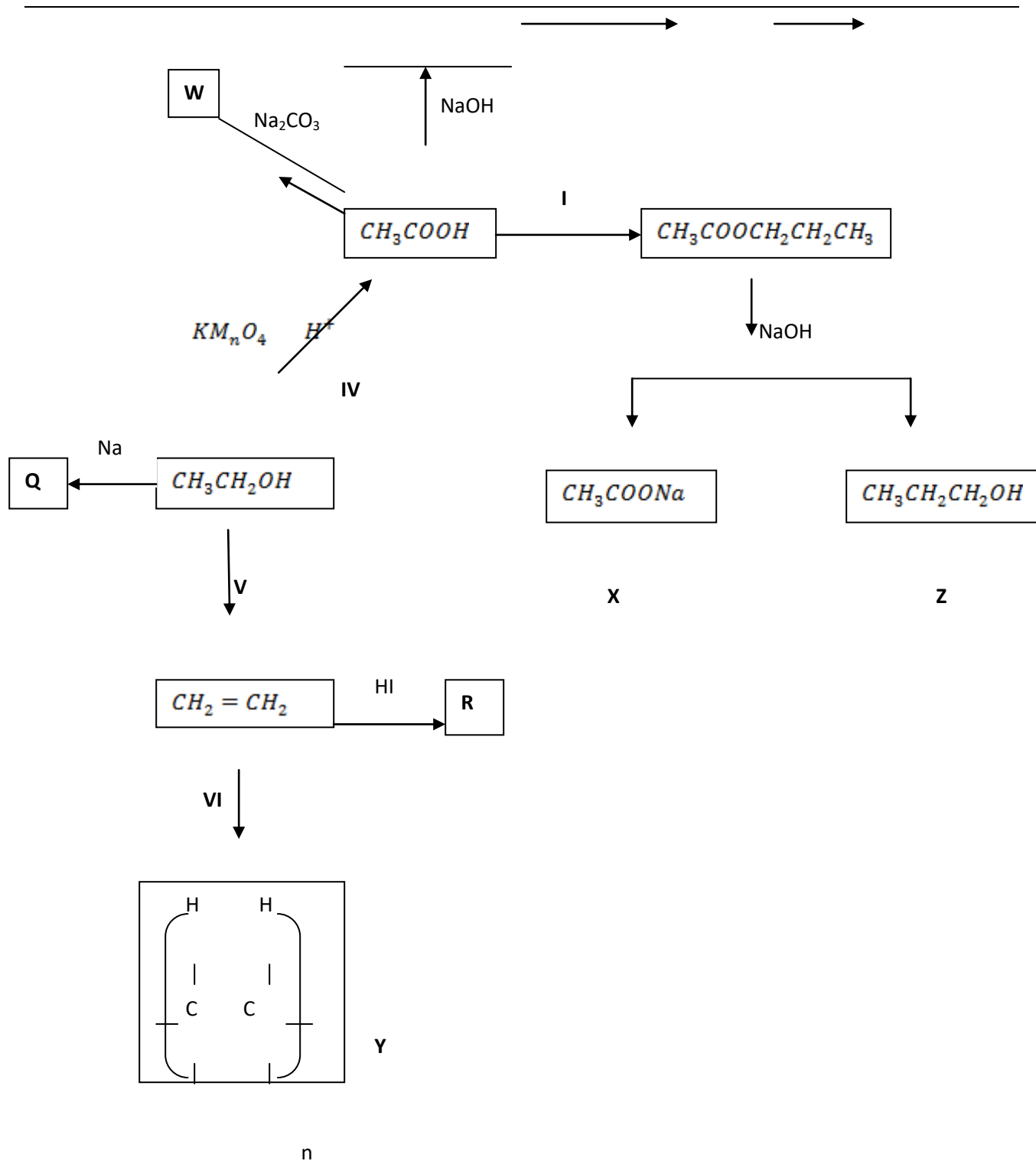
Solid D - (1 mark)

(c) Write the formula of the complex ion in solution E. (1 mark)

.....

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





(a) Name substance. (3 marks)

X -

Q -

R -

- (b) Write down an equation for the reaction represented by step III. **(1 mark)**

.....
.....

- (c) What are the conditions and reagent required for steps?

16. **I** **(2 marks)**

Reagent -
.....
.....
Condition -
.....
.....

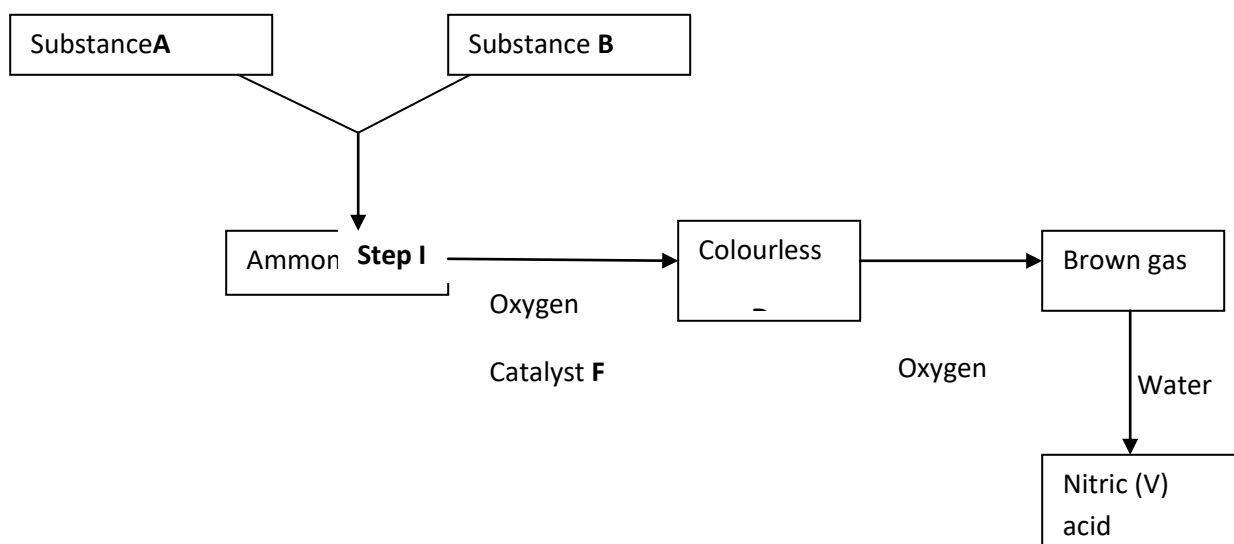
17. **IV** **(2 marks)**

Reagent -
.....
.....
Condition -
.....
.....

- (b) Name the process represented by: **(4 marks)**

I -
II -
IV -
V -

5. I. Study the scheme below and answer the questions that follow.



- (a) Identify substances. (3 marks)

A -

B -

D -

- (b) State the catalyst necessary for; (2 marks)

Step I -

.....

Step II -

.....

- (c) Write an equation for the reaction taking place in step II. (1 mark)

.....
.....

(d) Write two balanced chemical equations for the reaction between chlorine gas and;

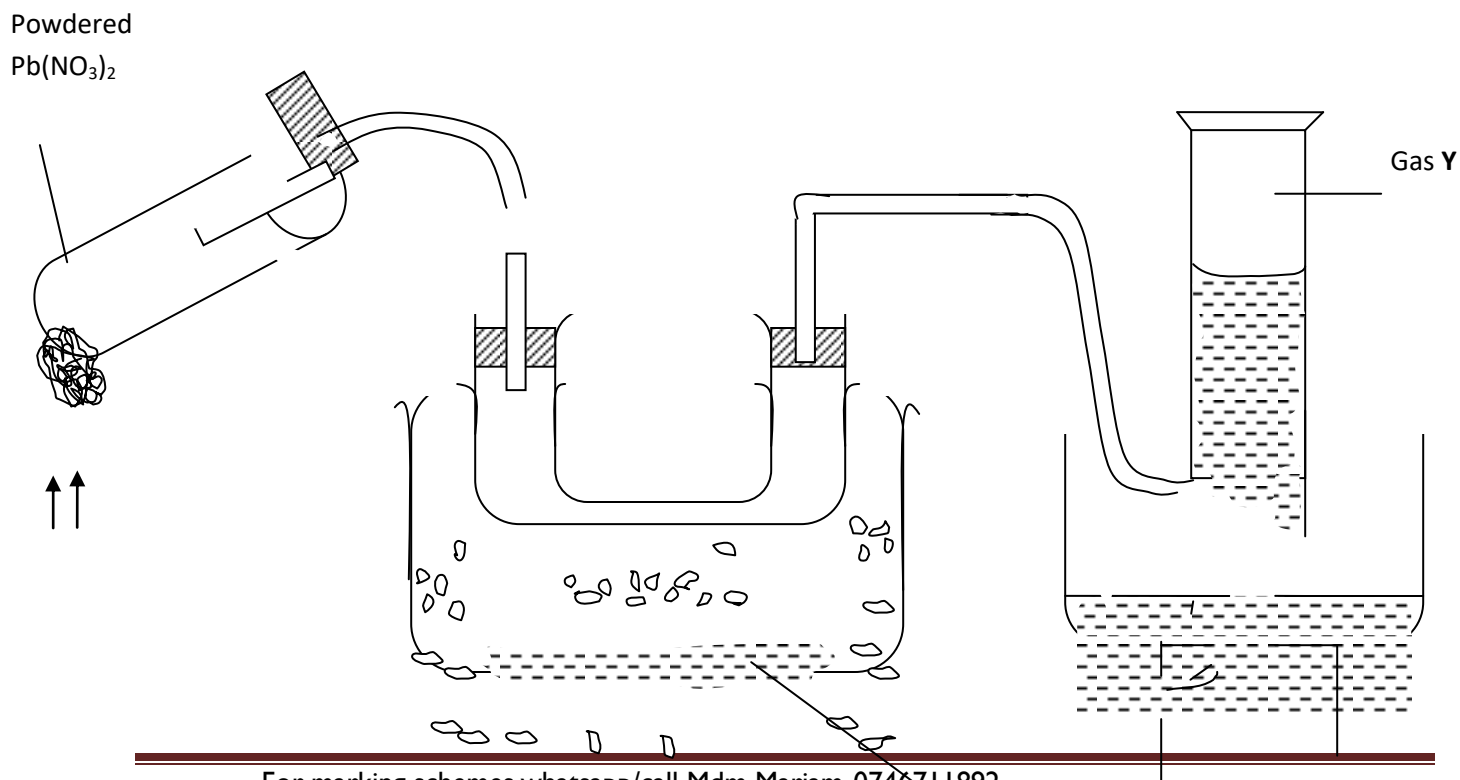
(i) Hot and concentrated sodium hydroxide. (1 mark)

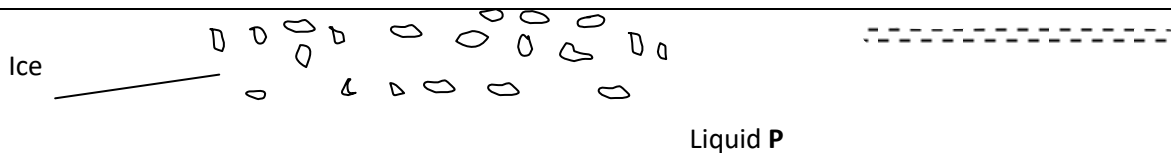
.....
.....

(ii) Dilute and cold sodium hydroxide. (1 mark)

.....
.....

II. The diagram below shows an experiment in which the Lead (II) nitrate crystals are heated.





a) Name; (2 marks)

c) Liquid **P** -
.....

d) Gas **Y** -
.....

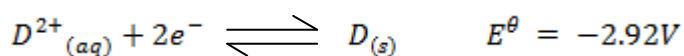
b) Write a balanced chemical equation for the decomposition of Lead (II) nitrate.
(1 mark)

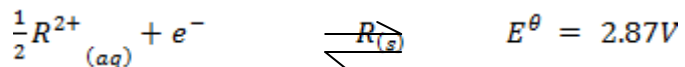
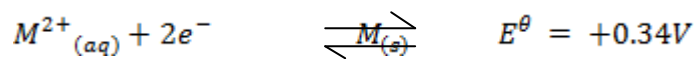
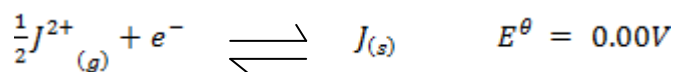
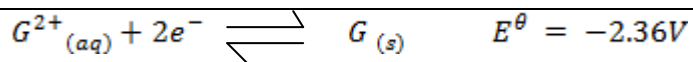
.....
.....

c) Explain how you can distinguish between nitrogen (II) oxide and nitrogen (I) oxide.
(2 marks)

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

6. I. Study the standard electrode potentials given below and answer the questions that follow.





a) Identify the strongest:

k. Reducing agent (1 mark)

l. Oxidizing agent (1 mark)

(b) Calculate the e.m.f of a cell made of G and M. (2 marks)

(c) Write the cell representation for the above cell in (b). (1 mark)

d) Draw a cell diagram for the cell in (b) above. (2 marks)

e) Write the cell reaction for the drawn cell diagram in (d) above. **(1 mark)**

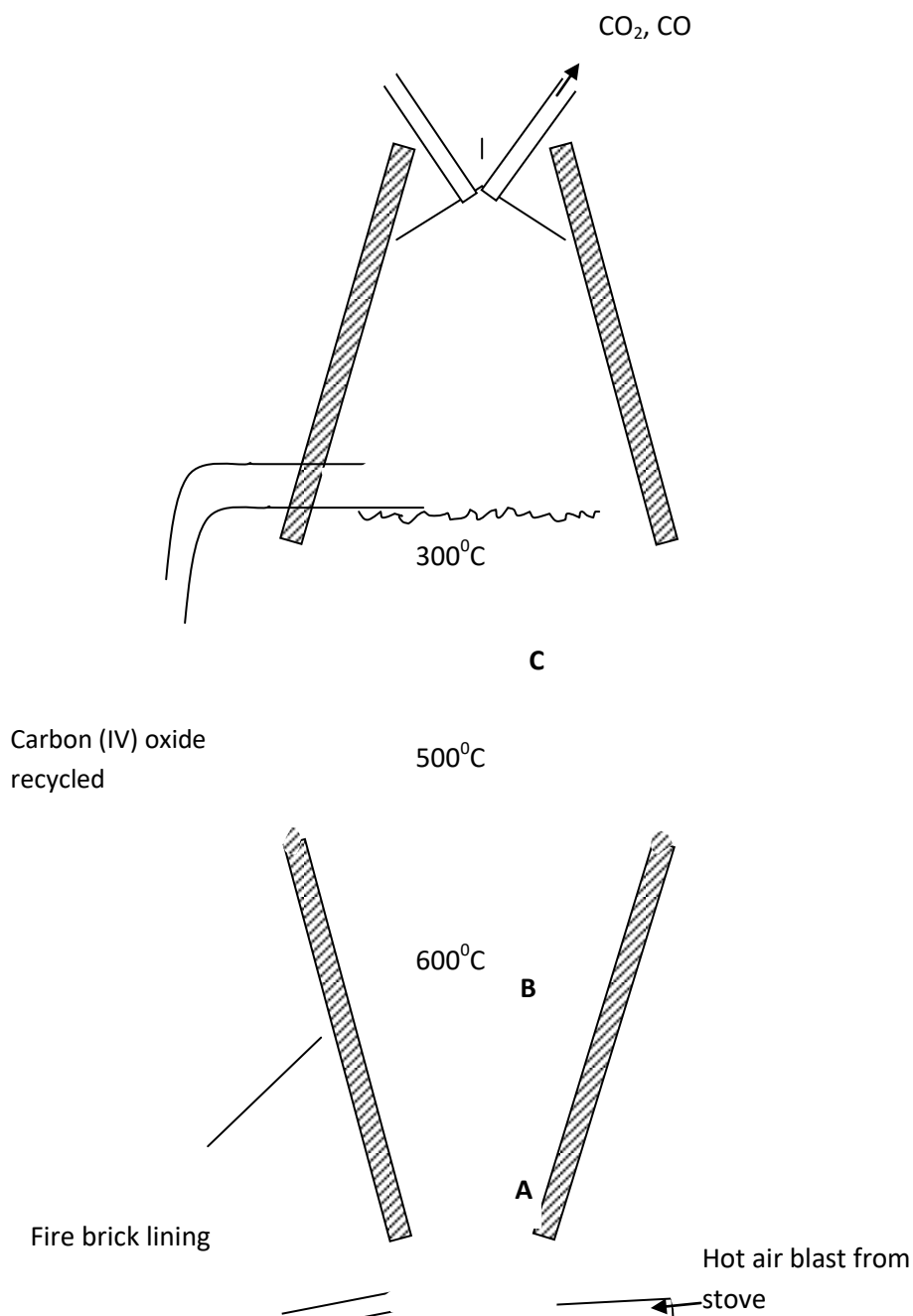
II. Electrolysis of aqueous solution of metal M resulted in the deposition of 1.07g of metal upon passage of a current of 1.32 amperes for 75 minutes.

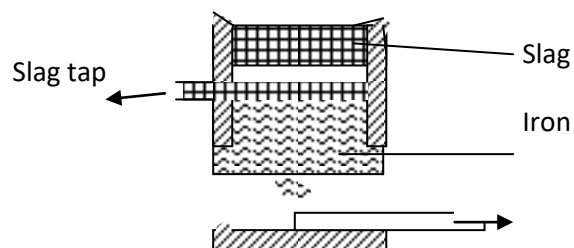
($M = 52$, $1F = 96500C$)

i) Calculate the quantity of electricity passed through the cell. **(1 mark)**

ii) Calculate the charge on the metal ion. **(3 marks)**

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





(a) (i) What does the word smelt mean? **(1 mark)**

.....

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

.....

iii) What is the role of the hot air blast in the process? **(2 marks)**

.....

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

A -

B -

.....

.....

C -

.....

.....

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

.....

.....

f) Write equations to show how impurities are removed from the ore.

(3 marks)

.....

.....

.....

.....

NAME..... ADM NO.....

STREAM.....SIGNATURE.....

COMPUTER STUDIES

PAPER 1

TIME:2HRS 30 MINS

PRE-MOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES

- This paper consists of TWO sections A and B
- Answer all questions in section A.
- Answer question 16 (Compulsory) and any other **THREE** questions in section B.
- All answers should be written in the spaces provided in the question paper

FOR EXAMINER'S USE ONLY.

Section	Question	Candidates Score
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

This paper consists of 8 Printed pages, candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing

SECTION A (40 MARKS)

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

1. List the components of a computer system hardware.

(2 Marks)

.....

.....

.....

2. Describe the term key to storage systems

(1 Mark)

.....

.....

.....

3. One classification of software is system software

(a) i. What is meant by system software (1 Mark)

.....

.....

.....

ii. Give one example of system software. (1 Mark)

.....

.....

.....

(b) i. Name one other software classification (1 Mark)

.....

.....

.....

ii. Give one example of this type of software (1 Mark)

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

4.a. What do you understand by the term database management system? (DBMS)? (1 Mark)

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

b. Define the following terms as used in a database. (2 Marks)

i. Primary Key

.....
.....

ii. Record

.....
.....

5.Differentiate between COMports and LPT ports (2 Marks)

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

6.List three factors to consider when deciding on the choice of electronic data processing method(3 Marks)

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

7.Ventilation is an important practice in the computer lab because it enhances proper circulation of air.

Outline three ways in which air is regulated in the computer room. (3 Marks)

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

8.What do the following control measures against computer crime involve? (4 Marks)

a. Audit trail

.....
.....

b. Data encryption

.....
.....

c. Log files

.....
.....

d. Passwords

.....
.....

9.Highlight the use of find and replace features in word processors. (2 Marks)

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

10.Explain why two's complement is preferred to one's complement in computing. (1 mark)

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

11.Computers have evolved through a number of generations. List any three characteristics of the first generation of computers.

(3 marks)

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

12.List four formatting techniques used in Ms excel

(2 Marks)

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

13.List four examples of flat panel displays.

(2 Marks)

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

14.Explain the following terms as used in the word processing.

(4 Marks)

a.Indenting

.....
.....

b.Alignment

.....
.....

c. Footnote

.....
.....

d. Endnote

.....
.....

15. Describe the role of an operating system in

i. Memory management

.....
.....

ii. Job scheduling

.....
.....

iii. Error handling

.....
.....

iv. Resource control

.....
.....

SECTION B (60 MARKS)

16a. State the three basic types of program control structures. (3 Marks)

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

-
- b. Draw a flowchart which will simulate the processing of student's report. The simulation should be such that the user repeatedly inputs marks per subject for six subjects using a looping control structure. The computer processes the total marks and mean score of the student.

NOTE:

1. It is assumed that the student does six subjects
2. The output required are: Average score and total marks

- c. Differentiate between analogue and digital data. (2 Marks)

.....

.....

.....

.....

.....

- d. Outline three advantages of using computers for data processing over other types of office and business equipment.

.....

.....

.....
.....

17.a. Convert the following numbers to their decimal equivalent.
(6 Marks)

i. 11.011_2

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

ii. 12.15_8

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

iii. $A3.3/6$

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

b. Outline four ways in which data integrity may be maintained. (4 Marks)

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

c. Explain four advantages of using questionnaires as a fact finding tool. (4 Marks)

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

.....
.....
d. What is the role of a recycle bin? (1
Mark)

.....
.....

18a. Masai teacher's college has decided to automate its library for effective services to the students. Identify four methods they are likely to use to gather information during system development. (4 Marks)

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

b. What do the following terms mean in relation to internet? (4
Marks)

i. Downloading

.....
.....

ii. Hyperlink

.....
.....

iii. Web browsers

.....
.....

(iv) Internet service providers

.....
.....

c. Differentiate between sorting and filtering as used in electronic spreadsheet program (2 Marks)

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

d. What do the following terms mean

i. Spam mail

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

ii. Disk

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

iii. Onboard modern

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

e. What does the term WIMP mean as used in computing?

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

19.(a) Define a database model

(1Mark)

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

b. List four advantages of using database systems

(2marks)

.....

.....

.....

.....

.....

c. In a database system, data integrity ensures the correctness and completeness of the data in the database. Differentiate the following types of integrity constraints:

i. Validity integrity

(1mark)

.....

.....

ii. Entity integrity

(1mark)

.....

.....

iii. Referential integrity

(1mark)

.....

.....

d. Briefly describe the three database models

(3

Marks)

.....

.....

.....

.....

e. Using diagrams describe the following three types of relationships.

(3Marks)

i. One – to – one

ii. One – to – many

iii. Many – to – many

f. File organization refers to the arrangement of records on secondary storage. Briefly describe the following file organization methods. (3 Marks)

i.Serial

.....
.....

ii.Sequential

.....
.....

iii.Random

.....
.....

20.a. Your School has decided to replace its library control system. The current system was implemented ten years ago but has restricted reporting facilities and has a text – based interface. The school intends to replace the old system with a new computerized system, and is now considering both ‘parallel running ‘ and ‘direct changeover’

i. Briefly explain the terms parallel running and direct change over as used in system implementation.

(2 Marks)

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

ii. Give two disadvantages of direct changeover over parallel running (1 Marks)

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

iii. Identify two main risks of direct changeover during system implementation (2 Marks)

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

iv. Mention any two advantages of running both the manual system and the computerized system simultaneously (2 Marks)

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

b. i. What is a website?

(2 marks)

.....

.....

.....

ii. Name three facilities that are needed to connect to the internet.

(3

Marks)

.....

.....

.....

.....

c. State three ways students can benefit by having internet in a school

(3 Marks)

.....

.....

.....

.....

NAME.....ADM NO.....

STREAM.....SIGNATURE.....

COMPUTER STUDIES

PAPER 2

TIME:2 HRS 30 MINS

PRE-MOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES

- Type your name and index number at the top right hand corner of each print out
- Write your name and index number on the diskette/CD-R provided
- Write the name and version of software used in each question on the answer sheet
- Answer **ALL** the questions
- Passwords **should not be used** while saving in the diskette/CD-R
- All answers **MUST** be saved in the diskette/CD-R
- Make print out of answers on the answer sheet provided

FOR EXAMINER'S USE ONLY

Question	Candidate's score
1	
2	
Total score	

QUESTION ONE

1. (a) Assume you are the Director AMACO INSURANCE COMPANY LTD you want to update your customers on the current dues as per the insurance cover each client have. Use mail merge to write an official letter to **FIVE CUSTOMERS** informing them of this. Your letter must meet the following conditions.

i. Must have the header at the top with the company's name as the letter head

(2mks)

ii. Must have footer at the bottom indicating the current date and time, left aligned.

(2mks)

iii. The insurance will cover the vehicles and each client due, car number will not be the same.

(2mks)

iv The address lines will include

Title

First name

Last name

Address

Country

Car no plate

Amount due

(14mks)

(b) (i) Prepare the table below in Ms word and then apply formatting as follows and save as MSS (8 mks)

MEYSA SYSTEMS AND SERVICES**Technical information****Action taken**

Machine description	Problems found		Diagnostic checks	Solutions	
Compaq / evo	hardware	software	Memory video	1	Replacing vga
6522	☐	☐	Faulty component	2	Installing drivers
Desktop	No display		VGA CARD	3	Rebooting system

(ii) Format the table with border line colour red and choose double line (5mks)

(iii) Shade the table to tight green colour for the first two rows and light blue shading for therest of the table (5mks)

(c) Type the paragraph below, save it as computer and apply formatting as stated (4mks)

Computer Program is a set of instructions that direct a computer to perform some processing function or combination of functions. For the instructions to be carried out a computer must execute a program, that is, the computer reads the program, and then follows the steps encoded in the program in a precise order until completion. A program can be executed many different times, with each execution yielding a potentially different result depending upon the options and data that the user gives the computer.

(i) The text "computer program" should be the title, change its case to upper case font TREBUCHET

MS size 16, colour green (2mks)

(ii). Find the word 'instructions' look for its meaning in the computer dictionary and finally replacethe word

with new meaning from the dictionary (3mks)

(iii). Format the whole paragraph to justified alignment shading colour light green (3mks)

NAME	BASIC PAY	DEPARTMENT	AGE	STATUS
Peter	15000	Computer	34	Single
John	17000	Computer	44	Married
Kamau	19000	Finance	33	Divorced
Charles	21000	Research	33	Single
Johns	23000	Research	25	Single
Thomas	25000	Computer	26	Married
Ann	27000	Finance	28	Married
Susan	29000	Finance	29	Divorced
Tina	31000	Research	24	Divorced
Andrew	33000	Computer	40	Single
Hardy	35000	Finance	20	Married
Njeri	37000	Finance	43	Single
Kimani	10000	Research	15	Single
Silamtoi	15000	Finance	35	Divorced
Tina	35000	Computer	25	Married

2.	Moses	59000	Research	33	Single
	Miriam	70000	Finance	56	Divorced
	Maurice	32876	Computer	70	Divorced
	Alphie	43876	Research	98	Divorced
	Albert	48098	Research.	32	Single
	Langat	6500	Computer	12	Single
	Phenny	29000	Finance	70	Single
	Hilda	32000	Computer	13	Married

Create data base called personnel and create a table named department (5 mks)

-
- (b) Create queries to determine (save each query using the alphabet numbers below)
- i. Number of people with basic salary greater than 32,000=
(5 mks)
 - ii. Number of people with basic salary less than 45,000= AND come from
computerdepartment(5mks)
 - iii. Names of people who are either married or single.
(4 mks)
 - iv. Those whose salary fall between 25,000/= and 50,000= (3mks)
 - v. Those whose name begin with letter M or end in letter S (3 mks)
- (c) (i) Create a query to compute the new salary if there is an increment of basic pay by 50%
(7mks)
- (ii) Filter using query those who earn above 33000/= and aged between 39 and 70
(5 mks)
- (d) (i) Create a form using form wizard using the Departmental table above.
(3mks)
- (ii) Create a form in design view using the departmental table above on the form calculate
the total basic

salary for the whole table, add current date and time on the form header (5
mks)
- (iii) Create a report for THE ABOVE table using design view and print. (5mks)

NAME:**ADM NO:**.....
STREAM......**SIGNATURE:**.....

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME:2 HRS 30 MINS

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education (KCSE)

INSTRUCTIONS TO CANDIDATES

- Answer ALL the questions.
- Each question on its own foolscap.
- Question must be answered neatly in a good hand writing

QTN	1	2	3	4	5	TOTAL SCORE
SCORE						

1.a)Outline the first account of creation in Genesis 1:1-2:49 (7mks)

b) State **seven** responsibilities given to human beings by God in the genesis stories of creation. (7mks)

c) Outline **six** ways in which Christians care for God's creation today. (6mks)

-
2. a) Explain the factors that led to the division of Israel after the death of King Solomon. (7mks)
- b) Identify **seven** reasons that led to the Mt. Carmel contest. (7mks)
- c) States**six** reasons why leaders are rejected in society today. (6mks)
3. a) Mention seven ways in which the old Testament prophets communicated their messages. (7mks)
- b) Give **seven** reasons why Israel and Judah would face God's judgement according to prophet Amos. (7mks)
- c) State six ways in which modern Christians may invite Gods punishment onthem. (6mks)
- 4.a) Describe the call of prophet Jeremiah. (7mks)
- b) Outline **seven** reasons why Jeremiah condemned human sacrifice. (7mks)
- c) States**six** ways in which Christians can reduce human suffering. (6mks)
5. a) Identify seven factors that promote harmony and social responsibility in traditional African Community. (7mks)
- b) Mention seven factors that influence the naming of children in traditional African society. (7mks)
- c) Show how modern trends have affected burial rites in traditional African communities. (6mks)

NAME: ADM NO:.....
STREAM:.....SIGNATURE:.....

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME:2 HRS 30 MINS

PRE-MOCK 2 EXAM

Instructions to candidates

- *Answer ALL the five questions.*
- *Each question should be done on a separate foolscap.*
- *Questions must be answered neatly in a good hand writing*

QUESTION	1	2	3	4	5	TOTAL SCORE
SCORE						

-
- 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.2:1-2 2 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)

**101/1
ENGLISH
P**

Name:.....**Index No:**.....**Adm.**
No:.....

Candidate's Signature:.....
Date:.....**Stream:**.....

**ENGLISH
PAPER 1
FUNCTIONAL WRITING
TIME:2 HRS**

PRE-MOCK 2 EXAM

Kenya Certificate of Secondary Education

Instructions to students

- I. Write your **name**, **admission number** and **class** in the spaces provided.*
- ii. Sign and write the date of the examination in the spaces provided.*
- iii. Answer **all** questions in the spaces provided*
- iv. All your answers must be written in the spaces provided in this question paper.*
- v. This paper consists of **6 printed** pages.*
- vi. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
- vii. Candidates must answer all questions in English.*

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	10		
3	30		
TOTAL	60		

1. Imagine you are the school captain. One of the students in your school has been invited for a two weeks Young Leadership Program to be held during the holiday. The organizing committee requires further information about the student and has asked you to write a recommendation letter. Write the **Recommendation letter** addressed to;

The Secretary,
Young Leadership Program
P.O Box 16950,
00100
Nairobi

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

2. Read the passage below and fill the blanks provided with a suitable word. (10 marks)

Conducting a job search 1_____the Internet has definitely2_____how job seekers contact hiring 3_____. The availability of copying and pasting a text version CV into a format 4_____company's Website has laid the foundation for an easier and 5_____convenient process. 6_____the Internet's convenience, a breeding ground for scam artists continues to 7_____each year as well. Identity thefts have increased to an overwhelming 10 million 8_____per year and many of them are the result of phishing-not surprisingly, the employment industry is 9_____attack as well. Knowing what to look for and how to stop fraud can be the best deterrent to ensuring you have a safe experience while conducting your 10_____search.

3.Oral skills

e) Read the poem below and answer the questions that follow

Breakthrough

When I reached the threshold
The gate was quickly locked
Though loud and long knocked
They left me in the cold

I stood outside for long
Wondering what was wrong
Honour wouldn't let me
A peeping to be

When night tiptoed behind
Me a stranded pilgrim
Ah, I made up my mind
To fight on for my dream

I crashed open the gate
Uncaring it was wrong
Wow, I was hugged with a song –
A welcome initiate

(Anonymous)

i.How has rhythm been achieved in the poem? (2 marks)

.....

.....

.....

ii.How would you say the last two lines of the poem and why? (2 marks)

.....

.....

.....

iii.Which words would you stress in the first stanza line 4 of this poem? (2 marks)

.....

.....

.....

b. Identify the silent letters in the following words (4 marks)

- o) Honour
- p) Could
- q) Badge.....
- r) Receipt.....

c. Identify the odd one out in each of the following sets of words (4 marks)

i. Respect, resist, religion, referee

ii. Resign, resolve, advice, waste.....

iii. Usual, visual, pleasure, passion.....

iv. Chef, chin, chic, chauffer.....

d. The underlining indicates the stressed word in the sentences below. Briefly explain what each sentence means. (3 marks)

i. Amanda rode the bus to school

.....
.....

ii. Amanda rode the bus to school

.....
.....

iii. Amanda rode the bus to school

.....
.....

e. A Non-governmental Organization is seeking to recruit four graduates to serve as clerks. You have been invited for an interview. Explain briefly what you will do before and during the interview. (6 marks)

.....

.....

.....

.....

.....

.....

f) Read the following telephone conversation and answer the questions that follow.

Secretary: (phone rings) Hello, Masomo Secondary School. How may I help you?

Caller: I want to speak to my mother.

Secretary: May I know who your mother is please?

Caller: (impatient and irritated) I have said I want to speak to my mother.

Secretary: Excuse me, I don't know who your mother is. Could you please tell me her name?

Caller: (shouting) You have been working in that institution for the last ten years and you don't know Mrs. Marita?

Secretary: (politely) oh, Mrs. Marita? She has just stepped out shortly. May I take a message for her please?

Caller: (bangs the receiver).

i. Identify three instances that show the caller's lack of etiquette (3 marks)

.....

.....

.....

.....

.....

.....

ii. What shows that the secretary demonstrates professional conversational skills during the telephone conversation? (4 marks)

NAME:..... ADM NO:.....

STREAM.....SIGNATURE

ENGLISH

PAPER 2

TIME:2HRS 30 MINUTES

PRE-MOCK 2 EXAM

Instructions to students

- I. Write your **name**, **admission number** and **class** in the spaces provided.*
- ii. Sign and write the date of the examination in the spaces provided.*
- iii. Answer **all** questions in the spaces provided*
- iv. All your answers must be written in the spaces provided in this question paper.*
- v. This paper consists of **11 printed** pages.*
- vi. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing*
- vii. Candidates must answer all questions in English*

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	25		
3	20		
4	15		
TOTAL	80		

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

20 marks

Writing skills are an important part of communication. Good writing skills allow you to communicate your message with clarity and ease to a far larger audience than through face-to-face or telephone conversations.

You might be called upon to write a report, plan or strategy at work; write a grant application or press release within a volunteering role; or you may fancy communicating your ideas online via a blog. And, of course, a well written CV or resume with no spelling or grammatical mistakes is essential if you want a new job.

Today, when anyone can be their own publisher, we see more and more examples of poor writing skills both in print and on the web. Poor writing skills create poor first impressions and many readers will have an immediate negative reaction if they spot a spelling or grammatical mistake. As just one example, a spelling mistake on a commercial web page may cause potential customers to doubt the credibility of the website and the organization.

Correct grammar, punctuation and spelling are key in written communications. The reader will form an opinion of you, the author, based on both the content and presentation, and errors are likely to lead them to form a negative impression.

If you are unconvinced about the importance of accurate writing, think of the clues we use to identify spam emails, “phishing” websites, and counterfeit products: poor grammar and spelling.

Similarly, some employers state publicly that any CV or resume containing spelling or grammatical mistakes will be rejected immediately, whilst a BBC news article quotes research that calculates spelling mistakes cost online businesses “millions” in lost sales.

Checking for poor writing and spelling mistakes should be seen as a courtesy to your readers since it can take them much longer to understand the messages in your writing if they have to think and re-read text to decipher these.

All written communications should therefore be re-read before sending to print, or hitting the send button in the case of emails, as it is likely that there will be errors. Do not assume that spelling and grammar checkers will identify all mistakes as many incorrect words can indeed be spelt correctly (for example, when “their” is used instead of “there” or “principle” instead of “principal”) or entire words may be missing. If at all possible, take a break before re-reading and checking your writing, as you are more likely to notice problems when you read it fresh.

Even if you know spelling and grammar rules, you should still double-check your work or, even better, have it proof-read by somebody else. Our brains work faster than our fingers can type the accidental typographical errors (typos) inevitably creep in.

The good news is that writing is a skill which can be learned like any other. One trick for checking and improving your work is to read it aloud. Reading text forces you to slow down and you may pick up problems with the flow that your eye would otherwise skip over.

As well as grammar, spelling and punctuation, it's important to remember your audience.

Always write with your audience in mind, and it can also help to bear in mind the medium in which you plan to publish. This knowledge will help you decide whether you need to write in a formal style or a more informal one, and will also help you to decide on a suitable structure.

1. Why are good writing skills important? (3 marks)

.....

.....

.....

.....

2. What effect does poor writing skills have? (2 marks)

.....

.....

.....

3. In a paragraph of not more than 50 words, summarise the steps involved in good writing. (5 marks)

Rough copy

.....

.....

.....

.....

.....

Final copy

.....

.....

.....

.....

.....

4. Explain the irony in paragraph three. (3 marks)

.....

.....

.....

.....

5. 'The good news is that writing is a skill which can be learned like any other.'

Rewrite beginning with a participle.

(1 mark)

.....
.....

6. Mention four things, apart from grammar, spelling and punctuation that the writer advocates we should remember when writing.

(2 marks)

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

7. Explain the meaning of the following expressions as they are used in the passage. (4 marks)

i. Counterfeit products

ii. Decipher

iii. Phishing

iv. Typographical errors

2. Read the passage below and answer the questions that follow 25 marks

Nasila River – cool, smooth and silent – swirled quietly about the boulders that were half submerged in it. It was deep and wide. She stood at its bank for a long time, staring down, into the water. Could the answer to her woes be in that river? Yes, it could be! Just a swift, cold shock as she fell into the water and then there would be peace. Yes, peace all over, from her father, from Oloisudori and from the fact that she had failed to get admission to Egerton University. As the idea floated in her mind, she felt a tap on her shoulder. Shocker, she turned around. It was Olarinkoi.

“What are you doing here at the river side”? he asked with little interest.

“Nothing,” Resian said nonchalantly. “I am just relaxing.”

“Don’t be foolish, little girl,” Olarinkoi said seriously. “You may not want to tell me what is happening, but I am not foolish and I can put one and one together. Oloisudori’s men are

now looking for you everywhere. They have instructions to seize you and take you to Nakuru to be his wife.

“Just leave me,” Resian said angrily, “Go tell them to come and find me here.”

“Listen, you stupid girl,” Olarinkoi said in his caustic language. “If you do not want to marry Oloisudori, I can rescue you the way I rescued you from those vagabonds who had accosted you and your sister. I know where Minik ene Enkoitoi the *Emakererei* lives and where she keeps girls rescued from the situation you are now in. There is no need to despair in life. There is always another chance.”

That could be something to consider, Resian thought, new hope rising in her heart. Yes, it would be wonderful to be received by *Emakererei*. And who knows, there could still be a chance to enrol at the Egerton University, through *Emakererei*.

“How could we ever get there?” asked Resian a flicker of hope lighting her heart. “I hear it is very very far from here.”

“Yes it is far,” confirmed Olarinkoi. “But where there is hope things always work out. The *Maa* people say home is never far for one who is still alive.”

a.Place this excerpt in its immediate context. (4 Marks)

.....

.....

.....

.....

.....

.....

.....

b.Describe the incident that Olarinkoi claims to have rescued Taiyo and her sister. (2Marks)

.....

.....

.....

.....

.....

.....

c. Discuss a thematic concern found in the excerpt. (2 marks)

.....

.....

.....

.....

d. What does the author imply when he says, “could the answer to her woes be in that river?” (2 marks)

.....

.....

.....

.....

e. Explain the irony in the excerpt. (2 marks)

.....

.....

.....

.....

f. Apart from irony, comment on any other **two** aspects of style that the writer has used in the excerpt. (4 marks)

.....

.....

.....

.....

.....

.....

g. From elsewhere in the novel, state the prophecy that Olarinkoi is trying to fulfill when he plans to rescue Resian. (3 marks)

.....

.....

.....

.....

h. Comment on the **character** of Olarinkoi later in the novel. (2 marks)

.....

.....

.....

.....

i. What is the **attitude** of Resian towards Oloisudori's proposal? (2 marks)

.....

.....

.....

.....

j. Give the meaning of the following words. (2 marks)

i) Nonchalantly

.....

.....

ii) Put one and one together

.....

c) *Read the poem below and answer the questions that follow* 20 marks

NATURALLY

I fear the workers: they writhe in bristling grass
And wormy mud: out with dawn, back with dusk
Depart with seed and return with fat-bursting fruit
And I eat the fruit

And still they toil: at boiling point
In head-splitting noise and threatening saws
They suck their energy from slimy cassava
And age-rusty taps: till they make a Benz

And I ride in the Benz: festooned
With striped rags and python copper coiling monsters
While the workers clap their blistered hands
And I overrun their kids

They build their hives: often out
Of the broken bones of their mates:
And I drone in them – ‘state-house’
Them, ‘collegize’ them, ‘officialize’ them

And I . . . I whore their daughters
Raised in litter-rotting hovels
And desiring a quickquick highhigh life
To break the bond

And I tell the workers to unite
Knowing well they can’t see hear or understand:
What with sweat and grime sealing their ears
And eyes already blasted with wielding sparks
And me speaking a colourless tongue

But one day a rainstorm shall flood
The litter-rotten hovels
And wash the workers’ eyes clean
Refresh the tattered muscles for a long-delayed

Blow

(By Austin Bukenya in *An Introduction to East African poetry*)

a. Who is the persona in the above poem? (2 marks)

.....

.....

.....

.....

b. What is the poem about? (3 marks)

.....

.....

.....

.....

c. Identify and comment on any **two** stylistic devices used in this poem. (4 marks)

.....

.....

.....

.....

.....

.....

d. Describe the **tone** of the poem. (2 marks)

.....

.....

.....

.....

e. Identify **one character trait** of the persona as shown in the poem. (2 marks)

.....

.....

.....

.....

f.Explain the meaning of the following lines as used in the poem. (4 marks)

i.Depart with seed and return with fat-bursting fruit

And I eat the fruit

.....

.....

.....

ii. But one day a rainstorm shall flood

The litter-rotten hovel

And wash the workers' eyes clean

Refresh the tattered muscles for a long-delayed

Blow

.....

.....

.....

.....

g.Identify **two** instances in the poem which describe the workers living in deplorable conditions. (2 marks)

.....

.....

.....

.....

h.Comment on the use of coordinating conjunction “And” in this poem. (1 mark)

.....

.....

.....

4.GRAMMAR

a.Rewrite the following sentences according to the instructions given without changing the meaning. (3 marks)

i.Maria said the young men had stolen her sweet potatoes. (Rewrite beginning with: Maria accused...)

.....

ii.It required a lot of planning and great courage to introduce free primary education in Kenya. (Begin: The...)

.....

iii.The judges declared that Cheptoo had won. (Finish: winner)

.....

b.Rewrite the following sentences using participle phrases (3marks)

i.Some people who are afraid of technology believe that technology will take over their lives.

.....

.....

ii.He knew nothing about the area so he decided to look for a house at a different place.

.....

.....

iii.The teacher repeated his favourite joke as he was encouraged by the applause of the students.

.....

.....

c.Use the correct form of the word in brackets in each of the sentences below (3 marks)

i.Your performance was..... (theatre)

ii.Maimuna is an girl. (adventure)

iii.Do you think the seats will fit in the space? (avail)

d.Complete the following sentences with a phrasal verb that begins with the word in brackets. (2 marks)

i.The athlete his competitors in the 800 metres race.
(drop)

ii.Despite the court order, the governor organizing the county meeting. (go)

e.Correct the underlined idiomatic expressions. (2 marks)

i.After the thorough beating by the crowd, the thief was living a borrowed life.

.....

ii. The young man was asked to clean up his state by the counselor.

.....

f. Explain two different meanings of the following sentence. (2 marks)

i. The chicken is ready to eat.

.....

.....

NAME:.....ADM NO:.....

STREAM.....SIGNATURE.....

ENGLISH

PAPER 3

TIME:2 HRS

PRE-MOCK 2 EXAM

Instructions to students

- I. Write your **name**, **admission number** and **class** in the spaces provided.*
- ii. Sign and write the date of the examination in the spaces provided.*
- iii) Answer **all** questions in the spaces provided*
- iv) All your answers must be written in the spaces provided in this question paper.*
- v) This paper consists of **2 printed** pages.*
- vi) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing*
- vii) Candidates must answer all questions in English*

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	20		
3	20		
TOTAL	60		

1.Imaginative composition. (Compulsory)

(20marks)

Either

a. Write a story ending with: . . . *I wish things did not end like this.*

OR

b. Write a story to illustrate the saying: ‘Pride comes before a fall.’

2.Compulsory Set Text

A Doll’s House by Henrik Ibsen

Women in *A Doll’s House* challenge society’s perception of the female gender. Write an essay justifying the assertion. (20 marks)

3.Optional set text

Answer any one of the two questions

Either

a) The Short story:

Memories We Lost and Other stories ED. Chris Wanjala

Children are imprisoned by mental ailments because of superstitious beliefs of those around them. Write an essay in support of the above statement drawing illustrations from Lidudumalingani Mqomboti’s story *Memories We Lost*. (20 marks)

OR

b) The Novel:

The Pearl by John Steinbeck

Good fortune does not necessarily guarantee happiness. Elucidate the truth of this statement drawing illustrations from the *Pearl* by John Steinbeck. (20 marks)

NAME: ADM NO:

STREAM.....SIGNATURE.....

GEOGRAPHY

PAPEER 2

TIME:2HRS 45 MINS

PRE-MOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES

This paper has two sections A and B

Answer all questions in section A

In section B answer question 6 and any two questions

All answers must be written in English in the booklet provided

SECTION A

ANSWER ALL THE QUESTIONS IN THIS SECTION

1.a)What is the difference between a meteor and a meteorite (2mks)

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

b)State three effects of earth's revolution (3mks)

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

2.a)List two elements of weather(2mks)

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

b)Name three processes through which the atmosphere is heated (3mks)

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

3a)What is weathering (2mks)

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

b)Give three processes of chemical weathering (3mks)

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

4a)Name three types of coral reefs (3mks)

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

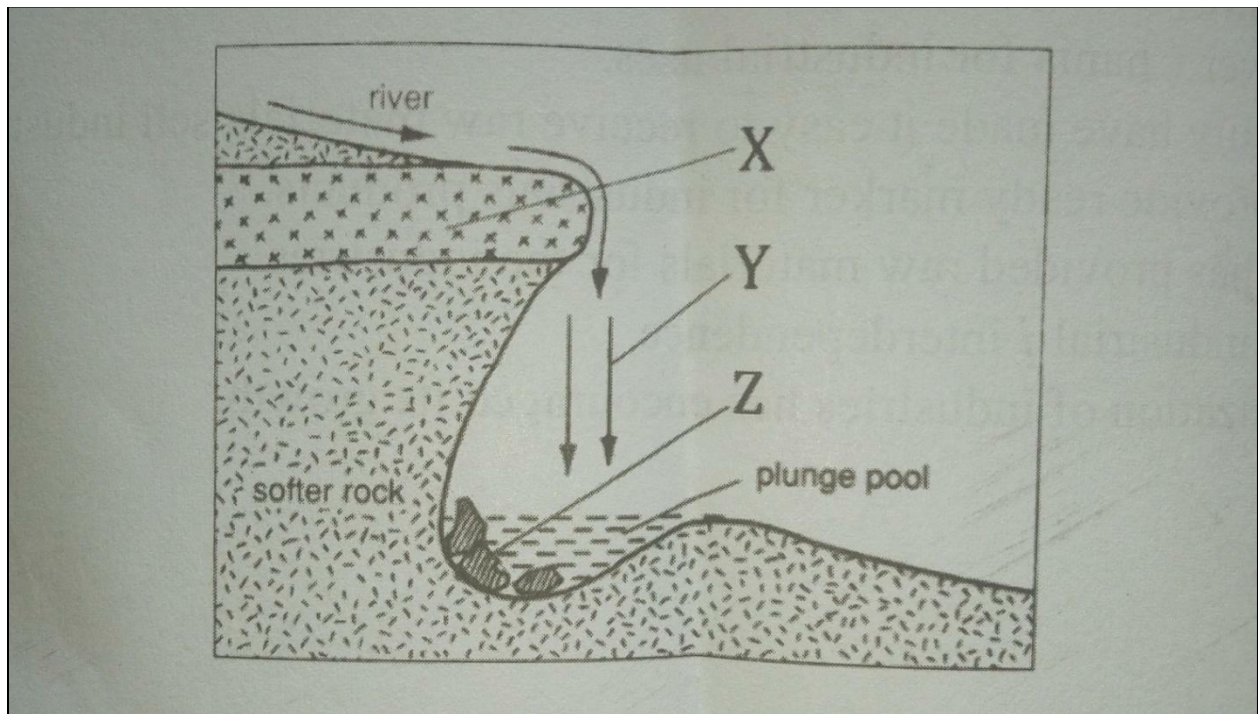
b)What are the benefits of coral reefs in the areas they have developed (2mks)

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

5a) State two factors which influence occurrence of surface run-off (2mks)

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

b)The diagram below shows a waterfall. Name the features marked X,Y, and Z (3mks)



X.....

Y.....

Z.....

SECTION B

ANSWER QUESTION 6 AND ANY OTHER TWO QUESTIONS FROM THIS SECTION

6. Study the map of Taita hills (scale 1:50,000) provided and answer questions while follows.

Ai) Give the latitudinal position of the South Eastern corner of the map extract (2mks)

.....
.....

ii) State the four figure grid reference of the school at Mrabenyi (1mk)

,.....
.....
.....
.....

iii) Identify the adjoining sheet number to the S.E of Taita hills (1mk)

.....
.....

Bi) Measure the length of dry weather road D535 from the junction at grid 4028 to the east of the map (2mks)

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

ii) Calculate the area enclosed by the railway line to the south Eastern part of the map (2mks)

Ci) Reduce the square enclosing Easting 37 to 42 and Northing 26 to 31 by 2, on the reduce square indicate the following.

-Ronge forest

-Road D535

-Outcrop rock (5mks)

ii) Give the new scale of the reduced square (2mks)

Di)Describe the drainage of the area covered by the map (4mks)

.....

.....

.....

.....

.....

.....

.....

.....

ii)Identify two methods of representing relief used in the map extract (2mks)

.....

.....

iii)Citing evidence from the map give two economic activities carried out (4mks)

.....

.....

.....

.....

.....

7ai)What is artesian well? (2mks)

ii)List four conditions necessary for the formation of an artesian well.(4mks)

b)With the aid of a well labeled diagram, describe the three zones of underground water(6mks)

ii)Identify three sources of underground waters (3mks)

c)Explain three ways in which a Karst landscape would influence human activities (6mks)

d)Your class intends to carry out a field study on limestone area near your school

i)Name two surfaces features you are likely to identify (2mks)

ii)State two problems you are likely to identify (2mks)

8a)i)Define the term glaciation 2mks

ii)Name three types of glaciers 3mks

b)Describe how the following features found in upland glaciated landscape are formed

i)U-shaped valley(5mks)

Pyramidal peak (5mks)

c)Explain three significance of upland glaciated features to human activities(6mks)

d)Suppose you were to carry out a field study of a glaciated lowland

i)State two advantages of using oral interview to collect information during the field study(2mks)

ii)Name two features found in glaciated lowlands that you are likely to study (2mks)

9ai) Differentiate between a soil profile and soil catena (2mks)

ii) Draw a well labeled diagram of a mature soil profile (4mks)

bi) Other than topography name three factors that influence formation of soil (4mks)

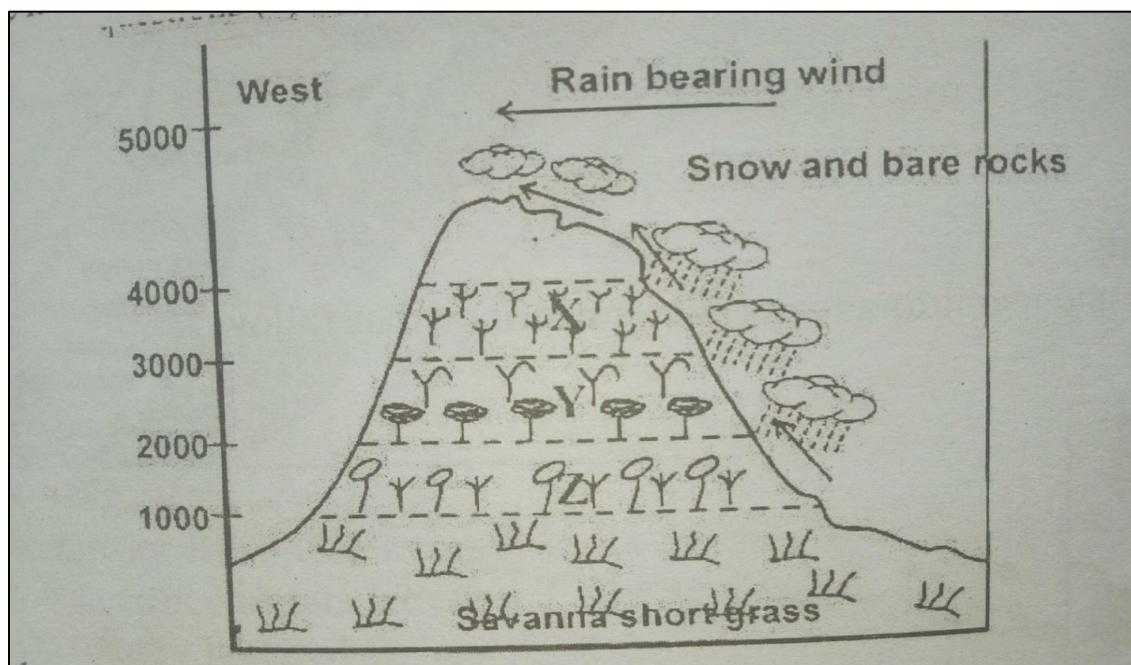
ii) Explain how topography influences formation of soil (3mks)

iii) List three characteristics of desert soils (3mks)

ci) Give three types of soil erosion (3mks)

ii) Explain three effects of soil erosion on human activities (6mks)

10a) The diagram below represents zones of natural vegetation on a mountain within tropical regions, use it to answer questions (a) and (b)



i) Name the vegetation zones marked X, Y and Z (3MKS)

ii) Give two reasons why the mountain top has no vegetation (2mks)

b) Describe the characteristics of savanna grasslands (4mks)

c) Explain four factors that have led to the decline of natural grassland in Kenya (8mks)

d) You carried out a field study of different tree species

i) Identify three activities you would carry out during the field study (3mks)

ii) How would you identify the different tree species? (3mks)

iii) State two methods you would use to determine the height of the trees (2mks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

This image shows a full page of primary-ruled paper. It features approximately 28 horizontal dotted lines spaced evenly down the page, providing a guide for handwriting practice. The paper is otherwise blank, with no margins, text, or other markings.

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

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

NAME:..... ADM NO

STREAM..... SIGNATURE.

GEOGRAPHY

PAPER 2

TIME:2HRS 45 MINS

PRE-MOCK 2 EXAM

INSTRUCTIONS TO CANDIDATES

- This paper consists of two sections: A and B.
- Answer ALL the questions in section A. in section B, answer question 6 and any two other questions.
- All answers must be written in the answer booklet provided.

SECTION A: 25 MARKS

Answer all the questions

1. (a) Distinguish between forest and forestry.
(2 mks)

(b) State **three** factors favouring growth of Mt. Kenya forest.
(3 mks)
2. (a) Name **three** middle east countries that are oil producers.
(3 mks)

(b) Give **three** by products obtained when crude oil is refined.
(2 mks)
3. (a) Name **two** counties in Kenya where wheat is grown on large scale.
(2 mks)

(b) Give **three** physical conditions that favor large scale wheat farming in the Prairies provinces of Canada.
(3mks)
4. (a). Define the term nomadic pastoralism.
(2 mks)

(b). Give **three** breeds of beef cattle reared in Kenya.
(3 mks)
5. (a) A photograph is divided into 3 parts. Name them.
(3 mks)

(b) State **two** limitations of using photographs.
(2 mks)

SECTION B: 75 MARKS.

6. (a). Differentiate between secondary and primary data.
(2 marks)
(b). Use the table below to answer the questions that follow.
Number of dairy animals in division X on the Kenyan highlands in 1992.

TYPE	NUMBER	
------	--------	--

Guernsey	8400	
Ayrshire	7200	
Jersey	10800	
Freshian	16400	
Shahiwal	5200	

(i). Using a scale of 1cm to represent 4000 animals, represent the above data using a divided rectangle.

(6mks)

(ii). State **two** advantages of using a divided rectangle to represent data.

(2mks)

(iii). Name **three** other ways through which the data above can be statistically presented.

(3 mks)

(c). State **three** physical factors that favour dairy farming in the Kenya highlands

(3mks)

(d) (i) Explain **three** ways in which dairy farming in Kenya is different from dairy farming in Denmark.

(6mks)

(ii). State **three** by-products of milk.

(3 mks)

7. (a) (i) Name **two** indigenous softwood trees in Kenya.

(2 mks)

(ii) State **five** factors that favour the development of softwoods in Kenya.

(5 mks)

(b) (i) Explain **four** problems experienced in commercial exploitation of tropical rain forests in Africa.

(8 mks)

(ii) Give **four** protective roles of forests in a country

(4 mks)

(c) Explain **three** problems Canada experiences in exploiting her forests.

(6 mks)

-
8. (a) (i) Name **two** major counties in Kenya known for high maize production.
(2 mks)
(ii) What is the importance of maize production to Kenya's economy.
(6 mks)
(iii) Name the Board that is known for buying and selling of maize in Kenya.
(1 mks)
- (b) What are the problems facing the maize farming in Kenya.
(8 mks)
- (c) Explain **four** physical conditions that favour maize growing in Kenya.
(8 mks)
9. (a) Define the term mineral
(2mks)
- (b) (i) Name **two** areas in South Africa where diamond is mined.
(2mks)
- (ii) Give **four** ways in which minerals occur.
(4 mks)
- (c). (i) Explain **three** negative effects of mining on the environment.
(6mks)
- (ii) Identify any **two** methods of mining.
(2mks)
- (iii) Name a port through which minerals in East Africa are exported.
(1mk)
- (d). Explain **four** ways in which soda ash contributes to the economy of Kenya
(8mks)
10. (a) (i) Differentiate between market gardening and floriculture.
(2mks)
- (ii) State **four** features of horticulture.
(4mks)
- (b). (i) State **three** physical factors that favour development of horticulture in Kenya.
(3mks)
- (ii) Explain why horticulture is more developed in Netherlands than in Kenya.
(8mks)

(c) State and explain **four** contributions of horticulture to the economy of Kenya.
(8mks)

NAME.....ADM NO.....

STREAM.....SIGNATURE.....

HISTORY AND GOVERNMENT

PAPER 2

TIME:2 HRS 30 MINS

PRE-MOCK 1 EXAM

Instructions

- a) This paper consists of three sections A, B and C
- b) Answer All the questions in section A, three questions from section B and two questions from section C .
- c) Answer to all the questions MUST be written in the answer booklet provided.
- d) Candidates should check the question paper to ascertain that no questions are missing.
- e) Candidates should answer the questions in English

SECTION A (25 marks)

Answer ALL the questions in this section

1. Identify two branches of history. (2mks)
2. Name two areas in Africa where the remains of Australopithecus were first discovered. (2mks)
3. State one theory that explains how early agriculture developed. (1mk)
4. Identify two methods of irrigation used in the ancient Egypt. (2mks)
5. Identify the main item from North Africa in Trans-saharan trade. (1mk)
6. Give two features of the Roman roads by 300AD. (2mks)
7. State two disadvantages of horn blowing as a means of communication. (2mks)
8. What is the main advantage of a cell phone. (1mk)
9. Identify the main source of energy used in the early stages of industrial Revolution in Europe. (1mk)
10. Give the name of the scientist who discovered electric magnetic radiation. (1mk)
11. Name two foreign powers that tried to conquer Cairo in the pre-colonial period. (2mks)
12. Identify two social functions of the ancient city of Athens in Greece. (2mks)
13. Identify two European powers that acquired colonies in East Africa. (2mks)
14. Mention one country in Africa that was not colonized by European powers. (1mk)
15. Name the chartered company that administered Zimbabwe during the process of colonization. (1mk)
16. Give one reason why the Burns constitution was rejected by Educated Africans in Ghana. (1mk)

-
- 17 Give one political development in south Africa between 1990 and 1994.
(1mk)

SECTION B. (45MKS)

Answer three questions from this section

- 18(a) Give five physical changes which occurred in early human beings as they evolved from ape like creature to modern man.
(5mks)

- (b) Explain five effects of early agriculture in Mesopotamia.
(10mks)

- 19(a) Give three methods used to acquire slaves from West Africa during the Trans-Atlantic trade.(3mks)

- (b) Explain six factors that led to the decline of the Trans-Atlantic trade
(12mks)

- 20(a) Give three developments that have taken place in road transport system since 1750 AD
(3mks)

- (b) Explain six ways through which the invention of the railway speeded up industrialization in Europe.(12mks)

- 21(a) State five causes of the chimurenga War of 1896-1897.
(5mks)

- (b) Explain five results of the Chimurenga War.
(10mks)

SECTION C(30MKS)

Answer TWO questions from this section

- 22(a) Give three social aspects of the Shona during the pre-colonial period.
(3mks)

- (b) Describe the political organization of Shona kingdom during the pre-colonial period.
(12mks)

- 23(a) State the reasons why the British used direct rule to administer Zimbabwe. (3mks)

(b) Explain six reasons for the failure of direct rule in Southern Nigeria.
(12mks)

24(a) Mention five factors that facilitated the growth of nationalism in Ghana.
(5mks)

(b) Explain five reasons why FRELIMO succeeded in its armed struggle against the Portuguese.

(10mks)

NAME.....INDEX NO.....

DATE.....

HISTORY AND GOVERNMENT

PAPER 1

TIME:2HRS 30 MINS

PRE-MOCK 1 EXAM

Instructions to candidates

- i.This paper consists of three sections: A, B and C
- ii.Answer **all** the questions in section A, three questions from section B and two questions from section C.
- iii.Answers to all the questions must be written in the foolscaps provided.
- iv.Candidates should check the question paper to ascertain that no questions are missing.
- v.Candidates should answer the questions in English.

For Examiner's Use Only

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

Question	14	15	16	17	18	19	20	21	22	23	24
Marks											

Total Marks

--

This paper consists of 2 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and that no questions are missing.

SECTION A (25 MARKS)

Answer all the questions in this section.

1. Identify two written sources of information on Kenyan history (2mks)
2. Name two aspects of history that you have studied (2mks)
3. Give the main reason for the migration of Eastern Bantu from Shungwaya (1mk)
4. Identify two functions of the warriors among the Bantu communities in the pre-colonial period (2mks)
5. Identify one reason that can lead to revocation of citizenship by birth in Kenya (1mk)
6. State ways in which the national accord and reconciliation act of 2008 affected the composition of government in Kenya (2mks)
7. Identify two types of democracy (2mks)
8. Give two social factors that led to the scramble and partition of East Africa (2mks)
9. Give two methods which were used by the British to establish their rule in Kenya (2mks)
10. Give the name of the Wanga leader who collaborated with the British (1mk)
11. Who was the British administrator in charge of the Imperial British East African Company (1mk)
12. Give two objectives for establishing colonial health centres (2mks)
13. Identify the political party formed in 1960 to champion the interest of the minority groups in Kenya (1mk)
14. Name the election body that organizes general elections in Kenya (1mk)
15. Give two types of elections held in Kenya (2mks)
16. Identify the main voting system used in Kenya during elections (1mk)
17. Who is the head of judiciary in Kenya (1mk)

SECTION B (45 MARKS)

Answer any THREE questions from this section

- 18.a) Give five reasons for the migration of the Luo into Kenya during the 19th century (5mks)
b) Explain five effects of migration and settlement of the Luo into Kenya (10mks)
- 19.a) State three reasons why Seyyid Said transferred his capital from Muscat to Zanzibar in 1840 (3mks)
b) Explain six factors which contributed to the development of trade between the Kenyan Coast and the outside world in the 16th century (12mks)
- 20.a) State three powers given to Imperial British East African Company by the British (3mks)
b) Explain the reasons for an end to the Imperial British East African Company rule in 1895 (12mks)
21. a) Give five early political organizations formed in Kenya up to 1939 (5mks)
b) Explain problems experienced by European settlers in Kenya (10mks)

SECTION C (30 MARKS)

Answer any TWO questions from this section

- 22.a) Give three levels of conflicts that can be experienced in Kenya (3mks)
b) Explain six factors that promote National Unity in Kenya (12mks)
- 23.a) State five principles of Democracy (5mks)
b) Explain the process of constitution review (10mks)
24. a) State five functions of returning officers in a general election in Kenya (5mks)
b) Explain five factors which can interfere with free and fair elections in Kenya (10mks)

JINA :.....NAMBARI YA USAJILI :.....

KIDATO:.....SAHIHI:.....

KISWAHILI

KARATASI JA KWANZA

MUDA:SAA 1 DAKIKA 45

MAAGIZO

- Andika insha mbili.Insha ya kwanza ni ya lazima.
- Chagua insha nyingine moja kati ya hizo tatu zilizobakia
- Kila insha isipungue maneno 400
- Kila insha ina alama 20

1.Mhariri wa jarida la shule yako ameamua kuchapisha habari kukuhusu.Andika tawasifu juu ya maisha yako tangu utotoni utakayomkabidhi mhariri huyo.

2.Pendekeza njia za kukabiliana na ongezeko la visa vya utovu wa maadili miongoni mwa vijana katika jamii.

3.Andika kisa kinachooana na methali``mchelea mwana kulia hulia mwenyewe’’

4.Andika insha itakayokamilika kwa maneno haya.Mshtakiwa alimwangukia hakimu kwa macho ya huruma,kisha akamwangukia mkewe na wanawe akatamani kuwaomba msamaha lakini hukumu ilikuwa imetolewa.

JINA:.....NAMBARI YA USAJILI:.....

KIDATO:.....SAHIHI.....

KISWAHILI

KARATASI LA 2

MUDA:SAA 2 DAKIKA 30

MAAGIZO

- **Jibu maswali yote**
- **Majibu yote yaandikwe kwenye nafasi zilizoachwa kwenye karatasi ya maswali**

Kwa matumizi ya mtahini

Sehemu	Upeo	Alama
Ufahamu	15	
Ufupisho	15	
Matumii ya lugha	0	
Isimu jamii	10	
Jumla	80	

1.UFAHAMU: (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali.

Gari lake kuukuu lilikuwa linapambana na barabara yenye mashimo yaliyoshiba na kutapika maji ya mvua ambayo sasa ilikuwa inaanza kupusa. Japo daima alipambana na usukani kunako mashimo haya yaliyotosha kuitwa magenge, alishukuru kwa hali hii. Vipi angeweza kulidhibiti gari lake hili kwenye barabara iliyosakafishwa nayo ikahitimu? Magurudumu haya yaliyong'ara kama upara wa shaibu aliyekula chumvi hadi ikamwogopa yangetii uelekezi wake? Mara ngapi gari hili limetaka kumwasi barabarani? Haya yalikuwa baadhi ya maswali yaliyompitikia akilini. Hakujitakilifu kutaka **kuyapa mji** maana mara ile mawazo yake yalitekwa na kubwagwa katika nchi ya mbali – nchi ambayo sasa aliiona kama sinema akilini mwake.

Alipofika nyumbani aliliegsha gari lake na kufululiza ndani. Siku mbili zilikuwa zimepita akiwa pale kazini. Madaktari kama yeye hawakuwa wengi. Alikuwa miongoni mwa madaktari wenye ujuzi katika hospitali hii ya kitaifa. Wenzake wengi walikuwa wamehamia ughaibuni walikokwenda kutafuta maisha. Mshahara wao wa mkia wa mbuzi uliwasukuma na kuwatema nje ya nchi yao. Wengi wa waliohamia ng'ambo waliona vigumu kubaki katika ajira ambayo kivuno chake kilishindwa kumvusha mtu hata nusu ya kwanza ya mwezi. Malalamishi ya kulilia ujira wa heshima yaligonga kwenye masikio yaliyotiwa zege. Na kweli wanavyosema, mwenye macho haambiwi tazama. Basi walitazama hapana pale wakaona penye mianya ya matumaini, nao wakaiondama.

Hadi leo hii hamna la mno lililofanyika. Ndiyo maana Daktari Tabibu anarudi nyumbani tangu kuingia kazini hiyo juzi alfajiri. Hafanyi kwa kuwa katosheka, maana pia yeye ana dukuduku. Ana shaka ya mustakabali wake ikiwa mazingira ni haya kumsoza, maana umri nao unazidi kumla. Japo anatia na kutoa, mizani ya hesabu yake imeasi ulinganifu.

Daktari Tabibu ni mfungwa. Ametekwa na kuzuiwa kwenye kipenda na kuchukia mambo. Ni kama mti uliodumaa. Anatamani barabara nzuri za lami. Anatamani mshahara wa kumwezesha kukidhi mahitaji yake na kutimiza majukumu yake ya kimsingi. Jana amesema na rafiki yake aliye ng'ambo kwa simu ambayo sasa imetulia mkabala naye. Ingawa mwenzake huyu alikuwa mchangamfu na kumdokolea hali ya maisha ya kuridhisha kule ugenini kama vile wanataaluma kuenziwa, yapo vilevile yaliyomtia unyonge mwoyoni. Upweke ndio ulimtia **fukuto** kuu. Licha ya hela zote hizo za kupigiwa mfano, watu hawana muda wa kutembeleana na kujuliana hali au hata kukutana tu mkahawani wakashiriki mlo. Eti ni kila mtu na hamsini zake. Halafu ipo changamoto ya hali ya hewa. Baridi ya ng'ambo haifanyi mzaha katika kumtafuna mtu. Ni hali tofauti na ile aliyoizoea.

Daktari Tabibu alizitia kauli za rafiki yake kwenye mizani ya moyo wake. Akawaza ikiwa kweli si bora kulemazwa na mzizimo ugenini badala ya kuishi katika kinamasi cha kuumbuliwa nyumbani. Kisha punde lilimjia wazo la marehemu nyanyake na wengine kama yeye waliofadhili masomo yake kupitia kwa serikali na njia ya kodi. Je si usaliti huu? Vipi aikimbie nchi kabla ya kuihudumia ilhali imemjenga hadi kuwa daktari? Na je wafanyakazi wake wa nyumbani watakwenda wapi? Atawaambiaje kuwa sasa hahitaji huduma zao kwa kuwa anakimbia nchi yake?

Mawazo yake yalikatizwa na simu iliyolia na kumshtua. Alipoitazama aliiona imeng'ara kwa mwangaza ulioweka wazi jina la mpigaji. Alifahamu kuwa leo hii tena dharura nyingine ilikuwa inamwalika hospitalini. Hapo ndipo alipoiinua ile simu tayari kusema na mwenzake upande wa pili.

“Haloo!” sauti nyororo kutoka upande wa pili iliita.

“haloo!”

“Naam!Dharura nyingine tena daktari.Unaombwa kuokoa maisha mengine tena!”

“Haya. Ila mwanzo nitahitaji kujimwagia maji,”na pale pale akaikata ile simu.

Daktari Tabibu aliingia hamamuni huku kajifunga taulo kiunoni tayari kuoga.Aliyafungulia maji lakini ule mfereji uligoma kutapika maji.Ulikuwa umekauka kabisa.Dakrari Tabibu aliduwa pale.Aliufunga ule mfereji kabla ya kuiaga bafu.

a.Eleza sababu **nne** zinazowafanya wataalamu kuhamia nchi za nje. (alama 4)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

b.“Hakuna masika yasiyokuwa na mbu.” Thibitisha kauli hii kwa kurejelea hali ya waliohamia nga'ambo.

(alama3).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

c) Fafanua athari **tatu** zinazoikumba nchi ya msimulizi kutokana na uhamiaji ng'ambo wa wataalamu.

(alama3).....

.....

.....

[illegible]

(alama2)

.....

.....

.....

ii. Fukuto

.....

.....

.....

Soma kifunqu kifuatacho kisha ujibu maswali.

Kwa mujibu wa katiba mpya, serikali kuu haina budi kuyasaidia maeneo yote ya ugatuzi ili yaweze kujinyanyua kiuchumi na kuboresha hali za maisha za wakazi wake. Vilevile ni jukumu la kila eneo la ugatuzi kuweka mikakati madhubuti ili kuchunguza na kubainisha rasirimali zote katika maeneo husika. Hili litasaidia kufumba rasilimali ambazo zinaweza kuchangia katika ustawishaji wa maeneo haya. Maeneo haya pia yanatakiwa kutafuta mbinu zitakazofanikisha uzalishaji na utumiaji wa rasilimali hizi

kwa njia endelevu. Mojawapo ya mbinu hizi ni uongezaji thamani katika rasilimali yoyote inayozalisha kwenye eneo mahususi.

Maeneo mengi ya ugatuzi nchini humu yanategemea kilimo cha ufugaji kama mhimili wa uchumi. Licha ya kuwa nguzo, kilimo hiki hakijawahi kupigiwa darubini vizuri kwa lengo la kukiimarisha ili kiwanufaishe wenyeji kikamilifu. Aghalabu wafugaji wengi huandama mbinu za jadi za ufugaji ambazo haziwahakikishii ongezeko la mapato. Isitoshe, wafugaji hawa wanakabiliwa na tatizo katika soko la mifugo ambapo wengi hupunjwa na matapeli. Pamoja na haya, baadhi ya wakazi huuza mifugo nje ya nchi wakiwa wazimawazima bila kuwazia matokeo ya kitendo hiki. Si ajabu kuwaona ng'ombe, ngamia, mbuzi na kondoo wakipakiwa kwenye malori na kusafirishwa nje ya nchi. Ukweli ni kwamba jambo hili ni hatari sana, si kwa uchumi wa maeneo husika tu, bali pia kwa Kenya kwa jumla. Hii ni kwa kuwa walionunua mifugo wazimawazima wanaweza kuhiari kutowachinja na badala yake kuwatumia kama mbegu kwani baada ya muda huenda wanaonunua mifugo wakijitosheleza na kukosa kununua mifugo wengine. Hali ikiwa hivyo, maeneo yaliyotegemea soko hili huenda yakalipoteza taratibu, na bila shaka kupoteza natija inayotokana na soko lenyewe.

Ili kudhibitisha hali hii, itakuwa bora ikiwa viwanda vya kuchinjia mifugo na kupakia nyama vitajengwa katika maeneo haya ya ugatuzi. Hili litawawezesha wakazi kuuza nyama badala ya kuuza mifugo wazimawazima. Fauka ya hayo maeneo haya yatajikinga dhidi ya kupoteza bidhaa zinazotokana na mifugo. Hizi ni kama vile ngozi, kwato na pembe ambazo bila shaka zina natija kuu. Ngozi kwa mfano, ni bidhaa muhimu sana katikasekta ya utengenezaji wa mavazi na mifuko. Viwanda vinavyotumia ngozi kama malighafi vikijengwa katika maeneo haya, wakazi wake watanufaika si haba. Madhalani, viwanda vya kutengenezea viatu, mishipi, mifuko na nguo vikianzishwa, wawekezaji watalazimika kuanzisha viwanda vingine tegemezi. Kathalika, ni dhahiri kwamba bidhaa zinazotokana na ngozi huhitaji kutiwa nakshi. Kuanzishwa kwa viwanda hivi basi kutazua haja ya kuanzishwa kwa viwanda vingine vya kutengeneza rangi, pamoja na maduka ya kuuza bidhaa zenyewe. Isitoshe, gundi ya kugandisha bidhaa hizi itahitajika, hivyo kusababisha haja ya kuanzishwa kwa kiwanda cha gundi. Matokeo ya shughuli hizi zote ni kuzalishwa kwa nafasi anuwaiza kazi kwa wakazi. Hili litakuwa na matokeo zaidi chanya, hususan kwa vijana. Badala ya kushiriki ulevi na burudani zinazowahatarisha, wataweza kujitafutia riziki katika viwanda hivi.

Juu ya hayo, mfumo wa ugatuzi utayaweza maeneo husika kuongeza thamani, utoaji wa huduma za kijamii na kuitawala kulingana na mahitaji ya maeneo haya. Ni muhimu hata hivyo kuzingatia kwamba kila eneo la ugatuzi lina upekee wake, navyo vipaumbele hutofautianakulingana na maeneo. Kuna yale ambayo yatasisitiza usalama, mengine ujezi na uimirishaji wa miundomusingi kama vile barabara, vituo vya afya na hata taasisi za elimu. La muhimu ni wakazi wa maeneo husika kubainisha ni lipi litatekelezwa kwanza.

Kinga na kinga ndipo moto uwakapo. Kufanikiwa kwa mfumo wa ugatuzi kutategemea juhudi za kila mkazi wa eneo husika. Ni muhimu kila mkazi kujiona kuwa mmiliki wa eneo zima la ugatuzi na kuwajibika katika kuliendelea kwa hali na mali. Uwajibikaji huu unajumuisha uteuzi wa viongozi wenye muono mzuri na ambao utawawezesha kuyafikia malengo yao ya kimaendeleo. Hakika, mustakabali na uwepo wa eneo la ugatuzi utakuwa zao la maamuzi ya wanaeneo. Vilevile ufanisi wa maeneo ya ugatuzi utakuwa msingi wa ufanisi wa taifa kwa jumla.

Matayarisho:

[illegible]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

3.MATUMIZI YA LUGHA (Alama 40)

a) i) Andika tofauti moja kati ya sauti zifuatazo. (al2)

i)|ng'| na |gh|

.....

.....

.....

.....

.....

ii) |v| na |f|

.....

.....

.....

iii)|r| na |l|

.....

.....

.....

iv)|m| na |n|

.....

.....

.....

b.Tunga sentensi mbili kuonyesha matumizi mawili ya kiambishi : O (al 2)

.....

.....

.....

.....

.....

c. Onyesha miundo miwili ya nomino katika ngeli ya U – ZI

(a12).....
.....
.....
.....
.....

d. Andika sentensi ifuatayo katika hali ya ukubwa. (a1 2)

Ngoma hizo zao ziliibwa na wezi wale.

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

e) Tumia ‘kwa’ katika sentensi kuonyesha :

s) Sehemu ya kitu kizima (a12)

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

t) Namna tendo lilivyofanyika

(a12).....
.....
.....

f) Bainisha maana mbili zinazojitokeza katika sentensi ifuatayo (a12)

Bedui

alimrushiatufe.

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

g) Andika visawe vya maneno yafuatayo (a12)

i) Doa

ii) Omba

h. Tunga sentensi moja kutofautisha maana ya rithi na ridhi (

a12).....
.....
.....

i. Bainisha silabi katika neno:

Wanyweshavyo (a1)

j.Bainisha kiima na chagizo katika sentensi ifuatayo (al2)

Mwenyewe alikipenda kwa dhati.

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

k.Andika sentensi ifuatayo katika umoja. (al2)

Mkihifadhi nafaka hizo vizuri maeneo haya yatakuwa na vyakula vya kutosha.

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

l.Andika neno moja lenye mofimu zifuatazo:

nafsi ya kwanza wingi, wakati uliopita, yambwa, mzizi, kauli ya kutendesha ,kiishio kutenda.(al2)

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

m.Changanua sentensi ifuatayo kwa kielelezo cha matawi (al 4)

Lililimwa vizuri sana.

n.Kanusha sentensi ifuatayo.

Wanafunzi waliingia darasani wakatoa vitabu wakaanza kusoma.(al2)

.....

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

o.Nomino zifuatazo zimo katika ngeli gani? (al2)

e) Furaha-

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

f) Nyasi-

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

p.Tunga sentensi mbili kuonyesha matumizi mawili tofauti ya nukta pacha. (al2)

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

q.Andika sentensi ifuatayo upya ukianzia kwa yambwa tendwa (al2)

Wafugaji waliwakatia ng'ombe wote majani ya mti huo.

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

r.Ainisha vishazi katika sentensi ifuatayo (al2)

Ingawa mshahara wake si mkubwa anaikimu familia yake.

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

s.Andika kinyume cha sentensi ifuatayo: (al2)

Watoto wameombwa waanike nguo.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[illegible]

.....

.....

.....

.....

.....

.....

.....

JINA:.....NAMBARI YA USAJILI:.....

MKONDO :.....SAHIHI.....

KISWAHILI

KARATASI YA TATU

FASIHI

MUDA:SAA 2 DAKIKA 30

MAAGIZO:

- 1.Jibu maswali MANNE Pekee.
- 2.Swali la kwanza ni la lazima.
- 3.Maswali mengine yachaguliwe kutoka sehemu zilizobaki.
- 4.Uvijibu maswali mawili kutoka sehemu moja.
- 5.Kila swali lina alama ishirini

1. SEHEMU A: USHAIRI (LAZIMA)

Eti

Mimi niondoke hapa

Niondoke hapa kwangu

Nimesaki, licha ya risasi

Vitisho na mauaji, siondoki

Mimi

Siondoki

Siondoki siondoki

Niondoke hapa kwangu!

Kwa mateke hata na mikuki

Marungu na bunduki, siondoki

Hapa

Siondoki

Mimi ni Pahame!

Niondoke hapa kwangu!

Fujo na ghasia zikizuka

Na kani ya waporaji, siondoki

Haki

Siondoki

Kwangu siondoki

Niondoke hapa kwangu!

Nawaje; waje wanaokuja

Mabepari wadhalimu, siondoki

Kamwe

Siondoki

Ng'oo hapa kwangu!

Katizame chini mti ule!

Walizikwa babu zangu, siondoki

Sendi

Nende wapi?

Si hapa kitovu changu

Niondoke hapa kwangu

Wangawa na vijikaratasi

Si kwamba hapa si kwangu, siondoki

Katu

Siondoki

Sihitaji karatasi

Niondoke hapa kwangu

Yangu mimi ni ardhi hii

Wala si makaratasi, siondoki

Maswali

-
- a) Shairi hili ni la aina gani? Kwa nini (alama 2)
- b) Taja masaiibu anayopitia mzungumzaji (alama 4)
- c) Eleza toni ya shairi hili (alama 2)
- d) Eleza muundo wa shairi hili (alama 3)
- e) Tambua matumizi ya mbinu ya usambamba (alama 2)
- f) Andika ubeti wa tano kwa lugha nathari (alama 4)
- g) Tambua idhini moja ya mtunzi (alama 1)
- h) Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi (alama 3)
- (i) Karatasi
- (ii) Nimesaki
- (iii) kitovu

2SEHEMU B TAMTHILIA YA KIGOGO

2. Uliona nini kwa huyo zebe wako ? Eti mapenzi!

- Eleza muktadha wa dondoo. (al. 4)
- Andika mbinu za lugha zinazojitokeza kwenye dondoo hili (al. 4)
- Taja hulka za mnenaji unajitokeza katika dondoo. (al. 2)
- Mwanamke ni kiumbe wa kukandamizwa. Thibitisha kauli hii ukirekjelea tamthilia. (al. 10)

3. wa kurejelea tamthilia ya 'Kigogo ya Pauline Kea, onyesha jinsi ambavyo viongozi wengi katika nchi za kiasia wamejawa na tamaa. (alama 20)

SEHEMUC. RIWAYA YA CHOZI LA HERI (ASSUMPTA MATEI)

4. “Kwa kweli ni hali ngumu hii”

Weka dondoo katika muktadha wake.

(alama 4)

Ni hali gani yamsemewa inayorejelewa kwenye dondoo.

(alama 16)

5) Ukabila ni tatizo sugu katika nchi nyingi za Kiafrika. Tetea kauli hii ukilejelea Choji la Heri (al. 20)

Alifa Chokocho na Dumu Kayanda: Tumbo Lisiloshiha na Hadithi nyingine jibu swali la 6 au la 7

6. Ukirejelea hadithi zifuatazo, eleza jinsi maudhui ya mapenzi na asasi ya ndoa yanavyojitokeza. (alama 20)

- a) Mapenzi ya kifaurongo
- b) Masharti ya kisasa
- c) Ndoto ya Mashaka
- d) Mtihamu wa maisha
- Au

Shibe inatumaliza : Salma Omar Hamad

7. “Hiyo ni dharau ndugu yangu. Kwa nini kila siku tunakula sisi kwa niaba ya wengine ?”

- a) Eleza muktadha wa dondoo hili. (alama 4)

b) Eleza sifa za msemaji.

(alama 6)

c) Eleza jinsi viongozi wanavyokuwa wabadhirifu.

(alama 10)

SEHEMU YA E: FASIHI SIMULIZI

8a) Fafanua mchakato/fomula ya uwasilishaji wa vitendawili.

(alama 4)

b) Linganisha naulinganue vitendawili na methali.

(alama 10)

c) Toa sababu sita za kudidimia kwa fasihi simulizi.

(alama 6)

NAME.....ADM NO
STREAM.....SIGNATURE.....

MATHEMATICS

PAPER 1

TIME:2HRS 30 MINS

PRE-MOCK 2 EXAM

Instructions toCandidates

1. Write your name, Admission number and class in the spaces provided.
2. Sign and write date of the examination in the spaces provided.
3. The paper contains TWO sections: Section I and II
4. Answer ALL questions in section I and **STRICTLY ANY FIVE** questions from section II.
5. All working and answers must be written on the question paper in the spaces provided below each question.
6. Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.
7. Marks may be awarded for correct working even if the answer is wrong.
8. Non-programmable silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.

For Examiner's use only

Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

Section II

17	18	19	20	21	22	23	24	25	TOTAL

GRAND TOTAL

--

121/1
Mathematics
Paper1

This paper consists of 15 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

Section I(50 Marks): Answer ALL questions in the section in the space provided.

1.Evaluate $\frac{-12 \div (-3) \times 4 - (-20)}{-6 \times 6 \div +(-6)}$ (2 Marks)

2.Mr. Owino spends $\frac{1}{4}$ of his salary on school fees. He spends $\frac{2}{3}$ of the remainder on food and a fifth of what is left on transport. He saves the balance. In certain month he saved Sh. 3400. What was his salary?

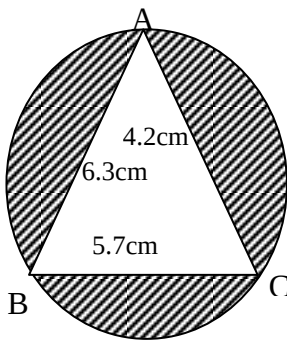
(3 marks)

3.Simplify:
(3 Marks)

$$\frac{2y^2 - 3xy - 2x^2}{4y^2 - x^2}$$

4. Find x if $3^{2x+3} + 1 = 28$
(2 Marks)

5. The circle below whose area is 18.05cm^2 circumscribes triangle ABC where $AB = 6.3\text{cm}$, $BC = 5.7\text{cm}$ and $AC = 4.2\text{cm}$. Find the area of the shaded part.
(4 Marks)



6. A salesman gets a commission of 2.4% on sales up to Sh. 100,000. He gets additional commission of 1.5% on sales above this. Calculate the commission he gets for sales worth Sh. 280,000. (3 Marks)

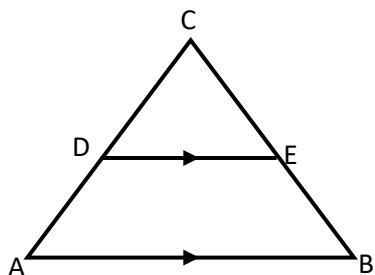
7. A rectangle whose area is 96m^2 is such that its length is 4 metres longer than its width.
Find

a. Its dimensions
(2 Marks)

b. Its perimeter
(1 Mark)

8. Give $\sin(90^\circ - a) = \frac{1}{2}$ find without using trigonometric tables the value of $\cos a$. (2 Marks)

9. In triangle ABC below, $AC = BC$, AB is parallel to DE, $AB = 15\text{cm}$, $DE = 7.5\text{cm}$ and $BE = 6\text{cm}$.



Calculate

a.Length CE
(2 Marks)

b.Area of quadrilateral ABED.
(2 Marks)

10.A measuring cylinder of base radius 5cm contains water whose level reads 6cm high. A spherical object is immersed in the water and the new level reads 10cm. Calculate the radius of the spherical object
(3 Marks)

11. Using a ruler and pair of compasses only, construct triangle ABC in which $AB = 6\text{cm}$, $BC = 8\text{cm}$ and $\angle ABC = 45^\circ$. Drop a perpendicular from A to BC to meet line BC at M. Measure AM and AC.

(4 Marks)

12. In a book store, books packed in cartons are arranged in rows such that there are 50 cartons in the first row, 48 cartons in the next row, 46 in the next and so on.

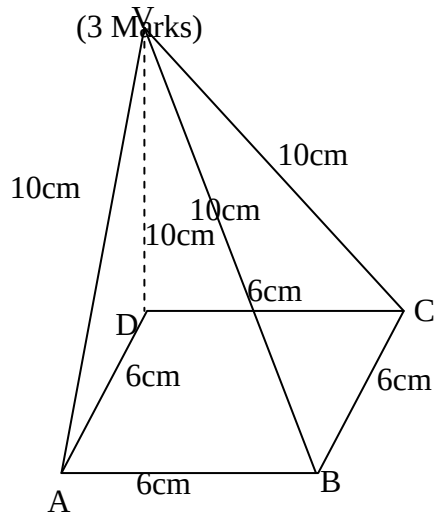
a. How many cartons will there be in the 8th row?

(2 Marks)

b. If there are 20 rows in total, find the total number of cartons in the book store.

(2 Marks)

13. Draw the net of the solid below and calculate the total surface area of its faces.



14. Town X is 20km in a bearing of 060° from Y, and Z is 30km in the direction 150° from Y. Using the scale 1cm represents 5km, find by scale drawing:

f) the bearing of Y from Z.

(2 Marks)

g) the distance of X from Z.

(2 Marks)

15. Solve for x in $2^{2x} - 18 \times 2^x = 40$
(3 Marks)

16. Oketch sells his car to Jane and makes a profit of 20%. Jane sells the same to Issa at Sh.180,000, making a loss of 10%. Determine the price at which Oketch bought the car.
(3 Marks)

Section II (50 Marks):

Answer ANY five questions in this section in the spaces provided.

17. The distance between towns A and B is 360km. A minibus left town A at 8.15 a.m. and traveled towards town B at an average speed of 90km/hr. A matatu left town B two and a third hours later on the same day and travelled towards A at average speed of 110km/hr.

a.(i) At what time did the two vehicles meet?

(4 Marks)

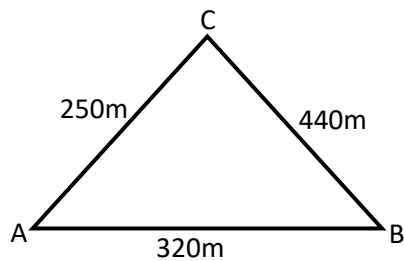
(ii) How far from A did the two vehicles meet?

(2 Marks)

b. A motorist started from his home at 10.30 a.m. on the same day as the matatu and travelled at an average speed of 100km/h. He arrived at B at the same time as the minibus. Calculate the distance from A to his house.

(4 Marks)

18. Karis owns a farm that is triangular in shape as shown below.



a. Calculate the size of angle BAC
(2 Marks)

b. Find the area of the farm in hectares
(3 Marks)

c. Karis wishes to irrigate his farm using a sprinkler machine situated in the farm such that it is equidistant from points A, B and C.

(i) Calculate the distance of the sprinkler from point C.
(2 Marks)

(ii) The sprinkler rotates in a circular motion so that the maximum point reached by the water jets is the vertices A, B and C. Calculate the area outside his farm that will be irrigated.
(3 Marks)

19. A ship leaves port M and sails on a bearing of 050° heading towards island L. Two Navy destroyers sail from a naval base N to intercept the ship. Destroyer A sails such that it covers the shortest distance possible. Destroyer B sails on a bearing of 20° to L. The bearing of N from M is 100° and distance

NM = 300KM. Using a scale of 1cm to represent 50km, determine:-

(i) the positions of M, N and L.
(3 Marks)

(ii) the distance travelled by destroyer A
(3 Marks)

(iii) the distance travelled by destroyer B.
(2 Marks)

(iv) the bearing of N from L.
(2 Marks)

20. A number of people agreed to contribute equally to buy books worth KSh. 1200 for a school library. Five people pulled out and so the others agreed to contribute an extra Shs. 10 each. Their contributions enabled them to buy books worth Shs. 200 more than they originally expected.

a. If the original number of people was x , write an expression of how much each was originally to contribute.

(1 Mark)

b. Write down two expressions of how much each contributed after the five people pulled out.
(2 Marks)

c. Calculate the number of people who made the contribution.
(5 Marks)

d. Calculate how much each contributed. (2 Marks)

21. Using a ruler and a pair of compasses only, draw a parallelogram ABCD, such that angle $DAB = 75^\circ$. Length $AB = 6.0\text{cm}$ and $BC = 4.0\text{cm}$. From point D, drop a perpendicular to meet line AB at N.

(7 Marks)

(i) Measure length DN
(1 Mark)

(ii) Find the area of the parallelogram.
(2 Marks)

22.The following measurements were recorded in a field book of a farm in metres (xy = 400m)

	Y	
	400	
C60	340	
	300	120D
	240	100E
	220	160F
B100	140	
A120	80	
	x	

- a.Using a scale of 1cm representing 4000cm, draw an accurate map of the farm.
(3 Marks)

b.If the farm is on sale at Kshs. 80,000.00 per hectare, find how much it costs. (7 Marks)

23.The table shows marks obtained by 100 candidates at Goseta Secondary School in Biology examination.

Marks	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85-94
Frequency	6	14	24	14	x	10	6	4

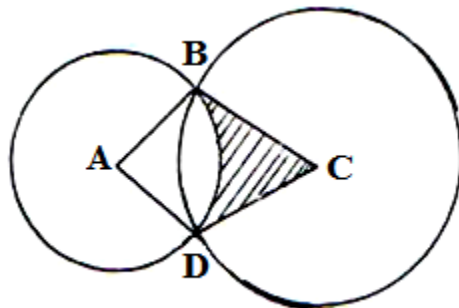
a.Determine the value of x
(2 Marks)

b.State the modal class
(1 Mark)

c.Calculate the median mark
(2 Marks)

d. Calculate the mean mark
(5 Marks)

24. In the diagram below, two circles, centres A and C and radii 7cm and 24cm respectively intersect at B and D. $AC = 25\text{cm}$.



a. Show that angle $ABC = 90^\circ$.
(3 Marks)

b. Calculate
(i) the size of obtuse angle BAD
(3 Marks)

(ii) the area of the shaded part
(4 Marks)

NAME.....ADM NO

STREAM.....SIGNATURE.....

MATHEMATICS

PAPER 2

TIME:2HRS 30 MINS

PRE-MOCK 2 EXAM

Instructions to Candidates

1. Write your name, Admission number and class in the spaces provided.
2. Sign and write date of the examination in the spaces provided.
3. The paper contains TWO sections: Section I and II
4. Answer ALL questions in section I and **STRICTLY ANY FIVE** questions from section II.
5. All working and answers must be written on the question paper in the spaces provided below each question.
6. Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.
7. Marks may be awarded for correct working even if the answer is wrong.
8. Non-programmable silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.

For Examiner's use only

Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

GRAND TOTAL

Section II

17	18	19	20	21	22	23	24	25	TOTAL

--

121/2
Mathematics
Paper 2

This paper consists of 16 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

Section I(50 Marks): Answer ALL questions in the section in the space provided.

SECTION I

1. Use logarithm tables correct to 4 significant figures to evaluate.

(3 Marks)

$$\frac{\sqrt[3]{0.07214 \times 2.037}}{69.8}$$

2. Find the equation of the perpendicular bisector of line PQ where the co-ordinates of P and Q are P (-2, 8) and Q (4, 7).

(3 Marks)

3. The surface areas of two spheres are 36cm^2 and 49cm^2 . If the volume of the smaller sphere is 20.2cm^3 , calculate the volume of the larger one.

(2 Marks)

4. The marked price of a shirt is Sh. 800. A customer buys the shirt after being given a discount of 13%. The seller then realizes that he made a profit of 20% on this sale. Find how much the seller had bought the shirt.

(2 Marks)

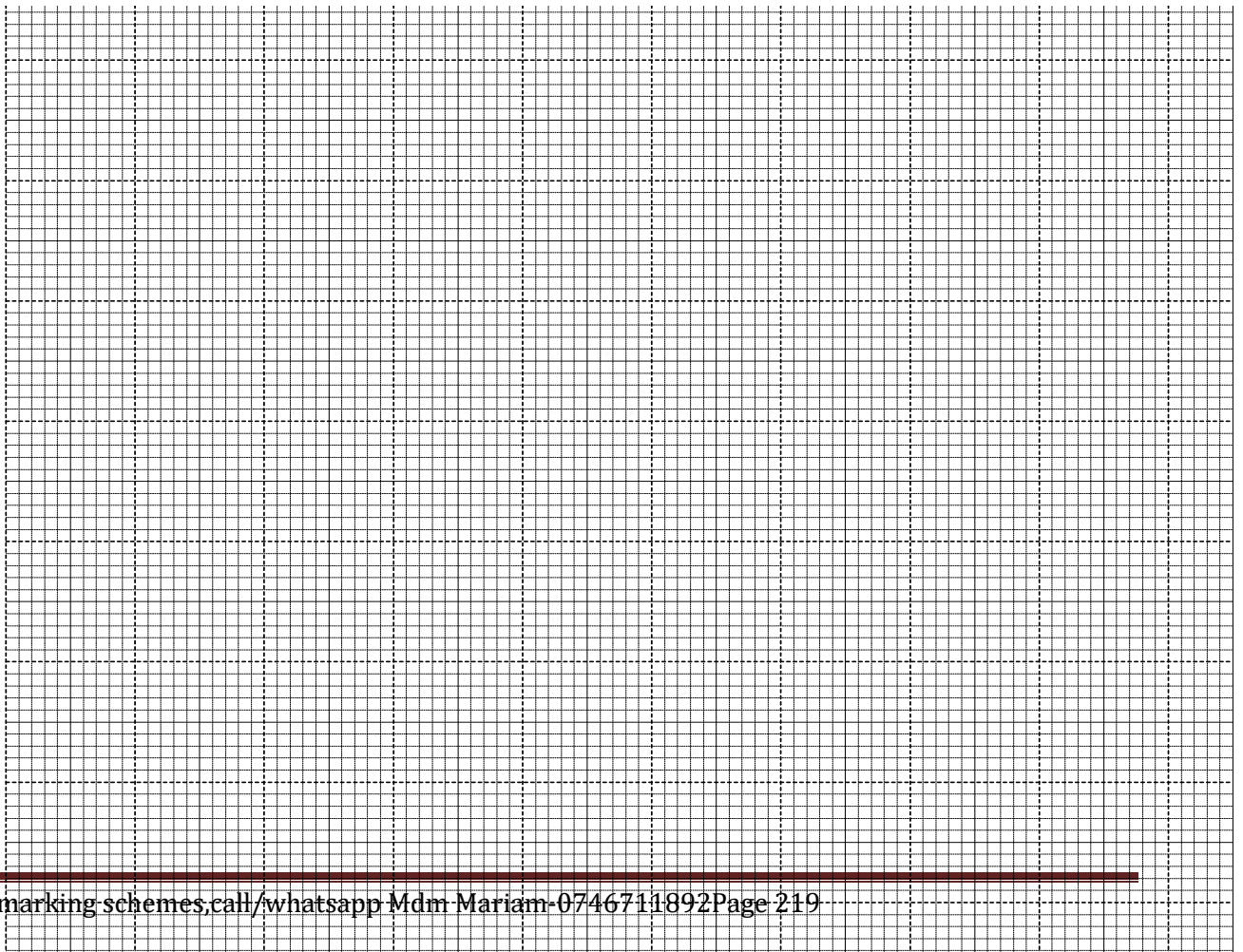
5. In the grid provided below, show the region R that is satisfied by the three inequalities given below.

$$Y \leq 6 - x$$

$$y < x + 4$$

$$y \geq 2$$

(4 Marks)



6. The radius of a cone increases in the ratio 4:3 while its height decreases in the ratio 3:4. Determine the percentage change in the volume of the cone.

(3 Marks)

7. Solve for x in the equation

(3 Marks)

$$\text{Log } (5x + 75) - 2 \text{ Log } 3 = \text{Log } (2x - 9)$$

8. Given that $\vec{a} = 3\vec{i} - 2\vec{j} + 3\vec{k}$ and $\vec{b} = 2\vec{i} - 4\vec{j} - 3\vec{k}$ where $\vec{i}$, $\vec{j}$ and $\vec{k}$ are unit vectors, find $|2\vec{a} + 3\vec{b}|$ (3 Marks)

9. Make x the subject of the formula in

$$a = \left(\frac{bx}{b+x} \right)^{\frac{1}{3}}$$

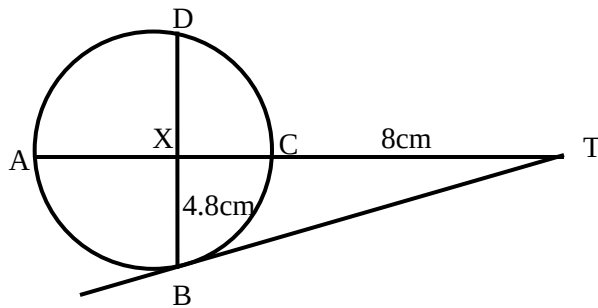
Hence find the value of x when $a = 2$ and $b = 6$.

(4 Marks)

10. In the figure below, BT is a tangent to the circle at B. AXCT and BXD are straight lines.

AX = 6cm,

CT = 8cm, BX = 4.8cm and XD = 5cm. (Figure not drawn to scale)



Find the length of

a. XC

(2 Marks)

b. BT

(2 Marks)

11. Simplify $\frac{3}{\sqrt{5}-2} + \frac{1}{\sqrt{5}}$ leaving your answer in the form $a + b\sqrt{c}$, where a, b and c are rational numbers.

(

3

Marks)

12. A quantity y varies partly as another quantity x and partly as the square of x . When $x = 20$, $y = 45$ and when $x = 24$, $y = 60$.

a. Express y in terms of x (3 Marks)

b. Find x when $y = 75$
(1 Mark)

13. Expand $(a - x)^6$ upto the term in $(x)^3$. Use your expansion to estimate the value of $(2.99)^6$ to 3 decimal places.
(4 Marks)

14. A pipe 3.0m long was cut into three pieces. The first piece and the second one were measured as 1.3m and 0.94m respectively. Find the limits within which the length of the third piece lies. (3 Marks)

15. A coffee blender has two brands of coffee, Tamu and Chungu. A kilogram of Tamu costs Sh. 70 while a kilogram of Chungu costs Shs. 64. In what ratio should he mix the two brands to make a blend which costs Shs. 68 per kilogram?

(2 Marks)

16. Find the centre and radius of a circle whose equation is $x^2 + y^2 + 8x + y^2 - 2y - 1 = 0$

(3 Marks)

SECTION II (50 Marks): Answer ANY FIVE questions in this section in the spaces provided.

17. In a Science class $\frac{2}{3}$ of the class are boys and the rest are girls. 80% of the boys and 90% of the girls are right handed. The probability that the right handed student will break a test tube in any session is $\frac{1}{10}$ and that for the left handed student is $\frac{3}{10}$, regardless of whether boy or girl.

a. Draw a tree diagram to represent this information.

(2 Marks)

b. Using the tree diagram drawn, find the probability that:

(i) A student chosen at random from the class is left handed

(2 Marks)

(ii) A test tube is broken by a left handed student.

(2 Marks)

(iii) A test tube is broken by a right handed student.

(2 Marks)

(iv) A test tube is not broken in any session

(3 Marks)

18. Matrix P is given by $\begin{pmatrix} 4 & 7 \\ 5 & 8 \end{pmatrix}$

a. Find P^{-1} (2 Marks)

b. Two institutions, Katulani High School and Nthia High School purchased beans at Sh. b per bag and maize at Sh. m per bag. Katulani purchased 8 bags of beans and 14 bags of maize for KSh. 47,600. Nthia purchased 10 bags of beans and 16 bags of maize for KSh. 57,400.

(i) Form a matrix equation to represent the information above.

(2 Marks)

(ii) Use matrix P^{-1} to find the prices of one bag of each item. (3

Marks)

c. The price of beans later went up by 5% and that of maize remained constant. Katulani bought the same quality of beans but spent the same total of money as before on the two items. State the new ratio of beans to maize.

(3 Marks)

19. James' earnings are as follows:-

Basic salary Sh. 38,000 p.m

House allowance Sh. 14,000 p.m

Travelling allowance Sh. 8,500 p.m

Medical allowance Sh. 3,300

The table for the taxable income is as shown below.

Income tax in K£ p.a	Tax in Sh. per pound
1—————600	2
6001————12000	3
12001————18000	4
18001————24000	5
24001————30000	6
30001————36000	7
36001————42000	8
42001————48000	9
Over 48000	10

a. Calculate James' taxable income in K£ p.a.

(2 Marks)

b. Calculate James's P.A.YE if he is entitled to a tax relief of Sh. 18000 p.a.

(4 Marks)

c. James is also deducted the following per month:-

NHIF	Sh. 320
Pension scheme	Sh. 1000
Co-operative shares	Sh. 2000
Loan repayment	Sh. 5000
Interest on loan	Sh. 500

(i) Calculate James' total deduction per month in KSh.

(2 Marks)

(ii) Calculate his net salary per month
(2 Marks)

20. Three consecutive terms of a geometric progression are 3^{2x+1} , 9^x and 81 respectively.

a. Calculate the value of x (3 Marks)

b. Find the common ratio of the series.
(1 Mark)

c. Calculate the sum of the first 4 terms of this series.

(3 Marks)

d. Given that the fifth and the seventh terms of the G.P form the first two consecutive terms of an arithmetic sequence, calculate the sum of the first 20 terms of the sequence. (3

Marks)

21. A tank has two inlet taps P and Q and an outlet tap R. When empty, the tank can be filled by tap P alone in $4\frac{1}{2}$ hour or by tap Q alone in 3 hours. When full, the tank can be emptied in 2 hours by tap R.

a. The tank is initially empty. Find how long it would take to fill up the tank

(i) If tap R is closed and taps P and Q are opened at the same time.

(2 Marks)

(ii) If all the three taps are opened at the same time.

(2 Marks)

b. The tank is initially empty and the three taps are opened as follows:-

P at 8.00 a.m.

Q at 8.45 a.m

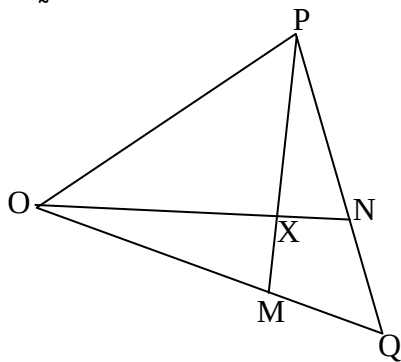
R at 9.00 a.m

(i) Find the fraction of the tank that would be filled by 9.00 a.m

(3 Marks)

- (ii) Find the time the tank would be fully filled up
(3 Marks)

22. In the figure below M and N are points on OQ and QP such that $OM:MQ = 2:3$ and $QN:NP = 2:1$. ON and PM intersect at X.



- a. Given that $\vec{OP} = \mathbf{p}$ and $\vec{OQ} = \mathbf{q}$. Express in terms of $\mathbf{p}$ and $\mathbf{q}$
- (i) $\vec{ON}$
(2 Marks)

(ii) $\vec{PM}$
 (2 Marks)

b. Given that $\vec{OX} = h\vec{ON}$ and $\vec{PX} = k\vec{PM}$ where h and k are scalars,

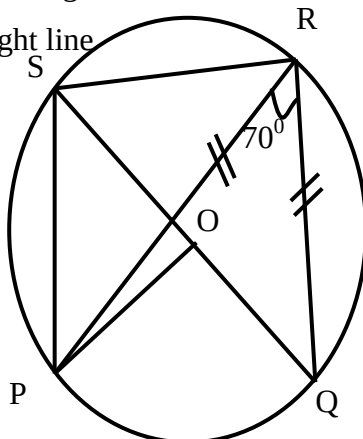
(i) Determine the values of h and k .

(5 Marks)

(ii) Determine ratio in which X divides PM .

(1 Mark)

23. The figure below shows a circle centre O , $PQRS$ is a cyclic quadrilateral and QOS is a straight line



Giving reasons for your answers, find the size of

a.Angle PRS

(2 Marks)

b.Angle POQ

(2 Marks)

c.Angle QSR

(3 Marks)

d.Reflex angle POS

(3 Marks)

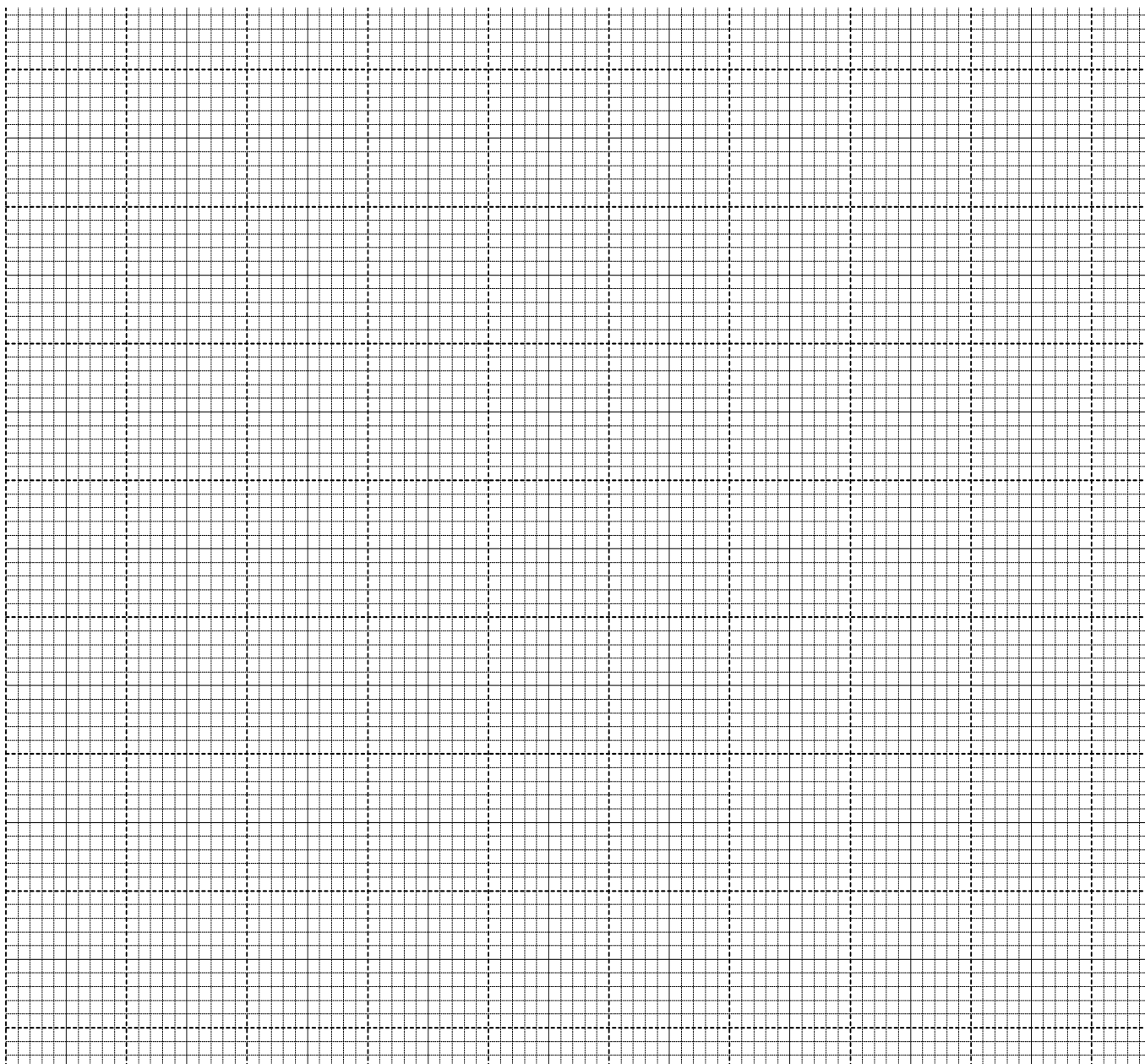
24.(a) Complete the table below for $y = x^3 + 4x^2 - 5x - 5$

(2 Marks)

x	-5	-4	-3	-2	-1	0	1	2
$y = x^3 + 4x^2 - 5x - 5$			19			-5		

(b) On the grid provided, draw the graph of $y = x^3 + 4x^2 - 5x - 5$ for $-5 \leq x \leq 2$

(3 Marks)



c.(i) Use the graph to solve the equation $x^3 + 4x^2 - 5x - 5 = 0$ (2 Marks)

(ii) By drawing a suitable straight line on the graph, solve the equation
(3 Marks)

$$x^3 + 4x^2 - 5x - 5 = -4x - 1$$

NAME ADM NO.

STREAM. SIGNATURE.....

PHYSICS

PAPER 1(THEORY)

TIME:2HRS

PRE-MOCK 2 EXAM

INSTRUCTIONS

Write your name and admission number in the space provided

Sign and write the date of the examination in the space provided above

This paper consists of two sections A and B.

Answer all the questions in the spaces provided.

All workings must be clearly shown.

Mathematical tables and silent electronic calculators may be used.

For examiner's use only

SECTION	QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
A	1-13	25	
B	14	14	
	15	10	
	16	11	
	17	10	
	18	10	
		GRAND TOTAL	80 MARKS

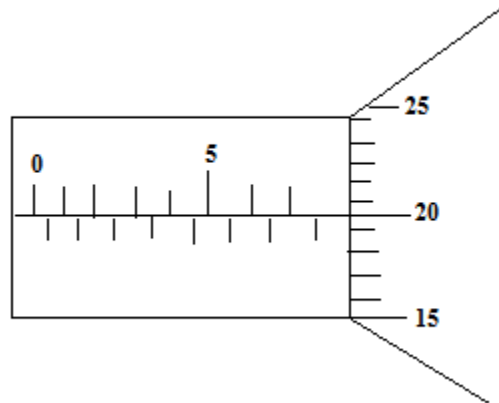
TOTAL CANDIDATE'S SCORE

Section A + section B =

This paper consists of 10printed pages

SECTION A (25 MARKS)

1. The figure below shows a micrometer screw gauge. What is the reading shown on the figure. (2 marks)



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

2. State pressure law. (1 mark)

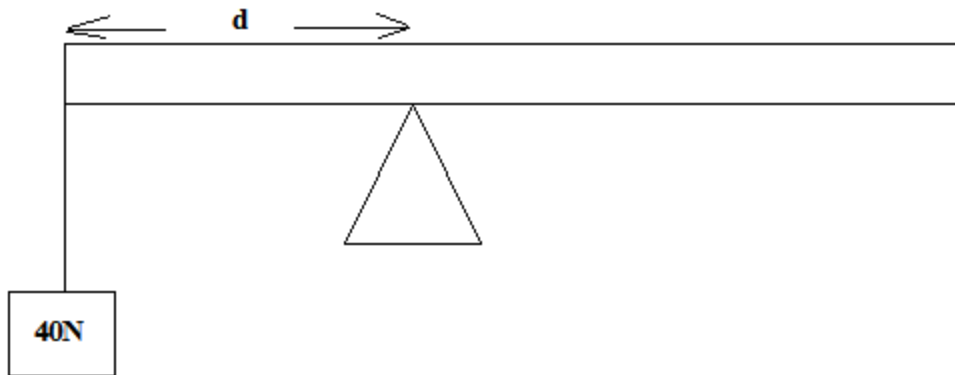
.....
.....
.....
.....

3. State two factors that affect stability of a body. (2 marks)

i)

ii)

-
4. The diagram below shows a uniform wooden plank of length 4m and weight 10N. The plank is held at equilibrium by a weight of 40N placed at one end as shown below.



Determine the distance d .

(3 marks)

.....

.....

.....

.....

5. Figure below shows a non-viscous fluid that is not compressible moving through a pipe of varied cross-sectional area.



If the area of the narrow region is 0.05m^2 , calculate diameter of the wider region. (3 marks)

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

6. State one use of thermal expansion. (1 mark)

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

7. State two factors that affect melting point of a substance. (2 marks)

i)

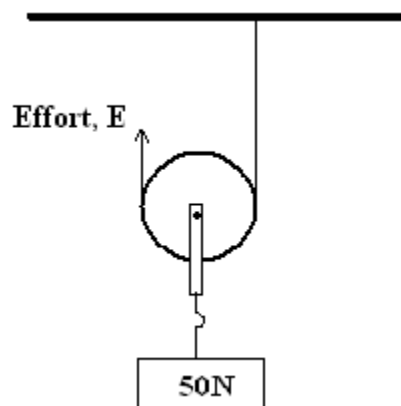
ii)

8. A body is projected vertically upwards from the top of a building. If it lands on the base of the building. Sketch the velocity-time graph for motion.
(2 marks)

9. State a reason why transfer by radiation is faster than by conduction.

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

10. The pulley system in the figure below supports a load of 50N.

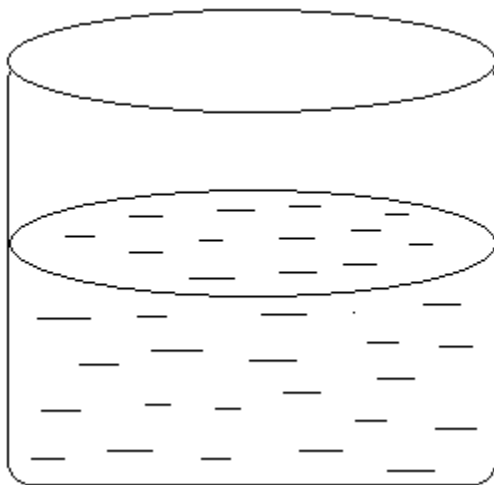


Given that the efficiency of the system is 80% calculate the effort, E.
(marks)

(3

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

11. The figure below shows a glass container with cross-section area of 50cm^2 .



When a wooden block of mass 120g is immersed into the water it floats while fully submerged and the water level rises by 4cm, determine the density of the water.
(3 marks)

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

12. Define the term momentum.
(1 mark)

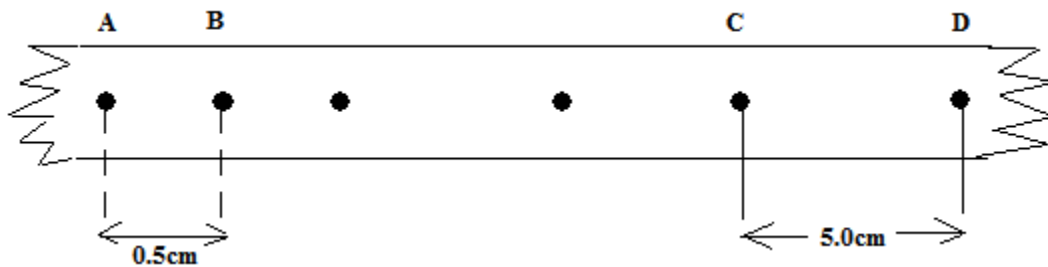
.....
.....
.....

13. What is a pitch of a screw. (1 mark)

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

SECTION B

14. The figure below shows the motion of a trolley on ticker timer. The ticker has a frequency of 100Hz.



- a) i) Calculate the initial velocity between A and B. (3 marks)

.....

.....

.....

.....

- ii) Calculate the final velocity between C and D. (3 marks)

.....

.....

.....

.....

- iii) Calculate the acceleration of the trolley during the motion. (3 marks)

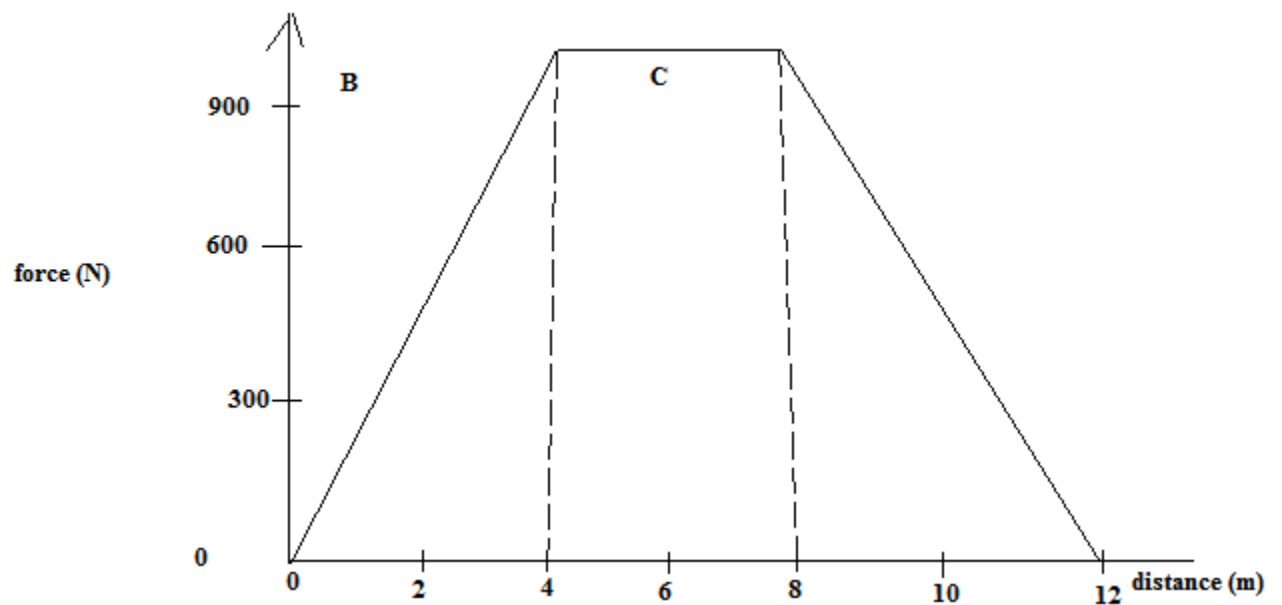
.....

.....

.....

.....

b) Figure below shows a force-distance graph for a car being towed on a level ground.



i) Calculate the total work done. (3 marks)

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

ii) If the velocity just before reaching point C is 0.6m/s. Calculate the power developed by the engine at this point. (2 marks)

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

15. a) A metal ball of mass 100g is dipped into boiling water at 100°C and then placed in a calorimeter containing 80g of water at 20°C. After stirring, the temperature of the mixture stabilizes at 23.4°C. Ignoring the heat gained by the calorimeter, determine the specific heat capacity of the metal. (Specific heat capacity of water = 4200J/Kg K). (4 marks)

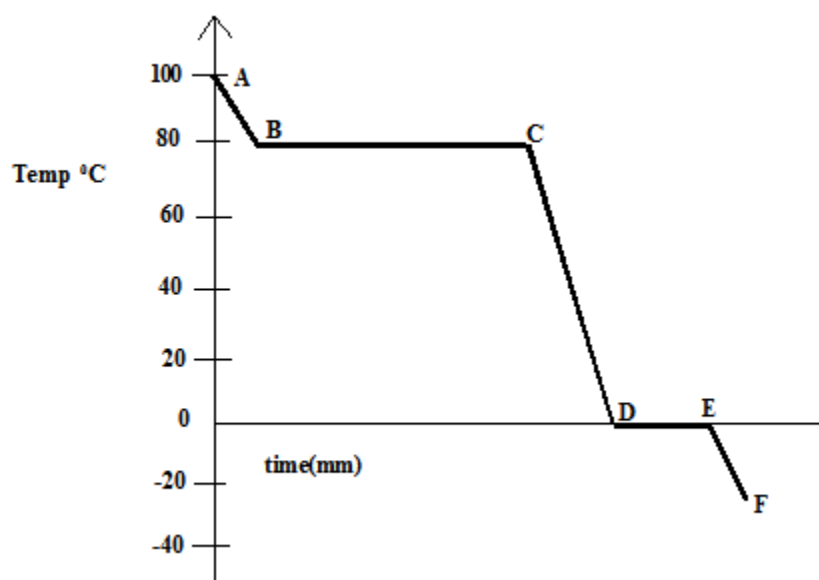
.....

.....

.....

.....

b) The cooling curve below is for a pure substance.



-
- i) What is the melting point of the substance.
(1 mark)

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

- ii) State two factors that affect boiling point of a substance.

i)

ii)

- iii) At what part of the curve is the substance.

Solid only?

.....

Liquid only?

.....

Solid and Liquid?
(3 marks)

.....

16. a) State Newton's second law of linear motion. (1 mark)

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

- b) The legal speed limit on motorways is approximately 30m/s. In an incident on a motorway, a car of mass 900kg leaves a skid mark 75m long when stopping. The maximum deceleration of the car when skidding is approximately 10m/s^2 .

- i) Show that before the incidence, the car must have been travelling above the legal speed limit.

(3 marks)

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

- ii) Calculate for this skid, the maximum average braking force between each of the four tyres and the road.

(3 marks)

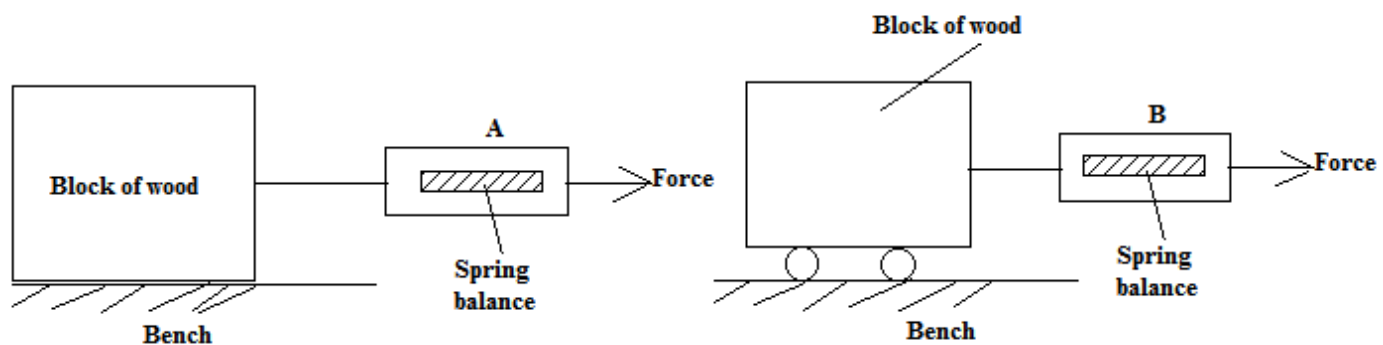
.....
.....
.....
.....

- iii) When the motorway is wet, the braking force provided by each wheel is reduced to 50% of the calculated in (ii) above. What is the effect of this reduced braking force on stopping distance, explain your answer. Assume that the speed of the car before breaking is the same in both cases.

(2 marks)

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

- c) A student carried out an experiment to measure static friction using identical wooden blocks arranged as shown in the figure.



State and explain which spring balance will indicate a smaller reading when the block just starts to move.

(2 marks)

.....

.....

.....

.....

17. a) Give a reason why people experience nose bleeding when they climb tall mountains. (1 mark)

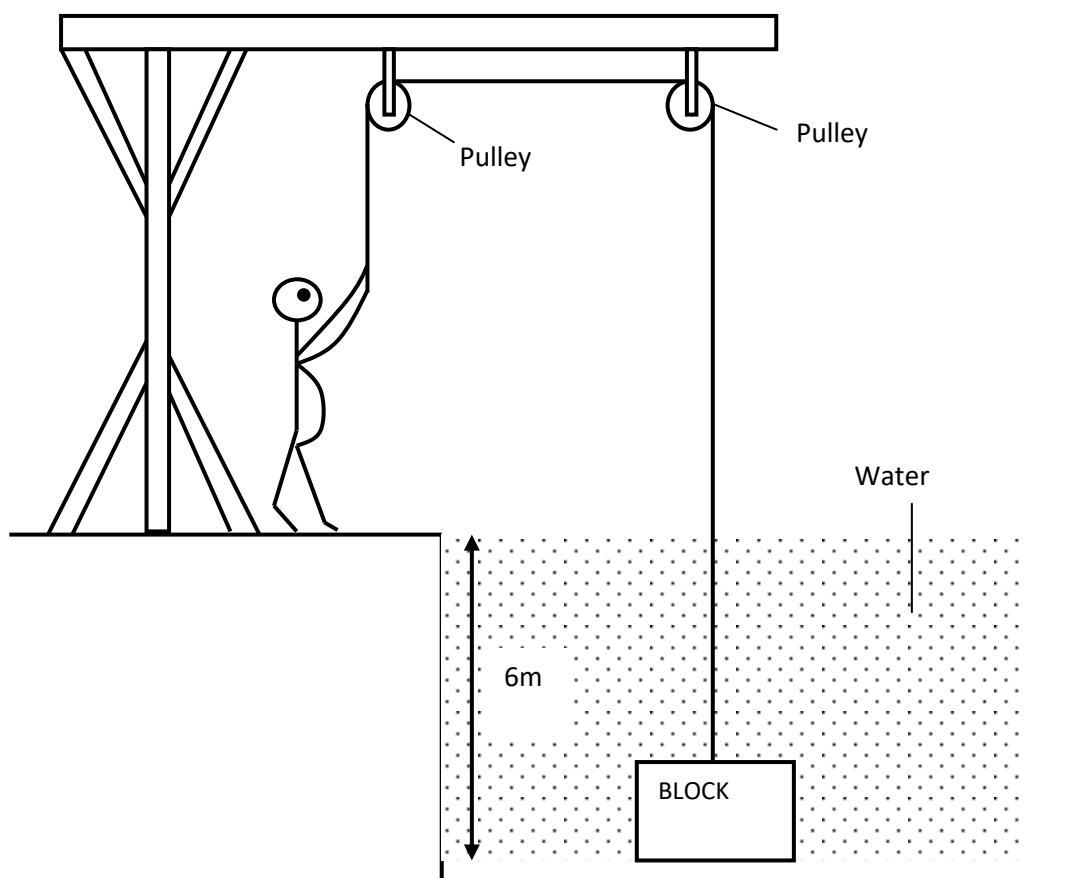
.....

.....

.....

.....

- b) The diagram shows a person raising a concrete block from a river bed by using two pulleys.



As shown in the diagram, the top of the block is 6.0m below the water surface. The density of water is 1000kg/m^3 and the acceleration of free fall is 10m/s^2 . Calculate the water pressure acting on the top of the block.

(3 marks)

.....

.....

.....

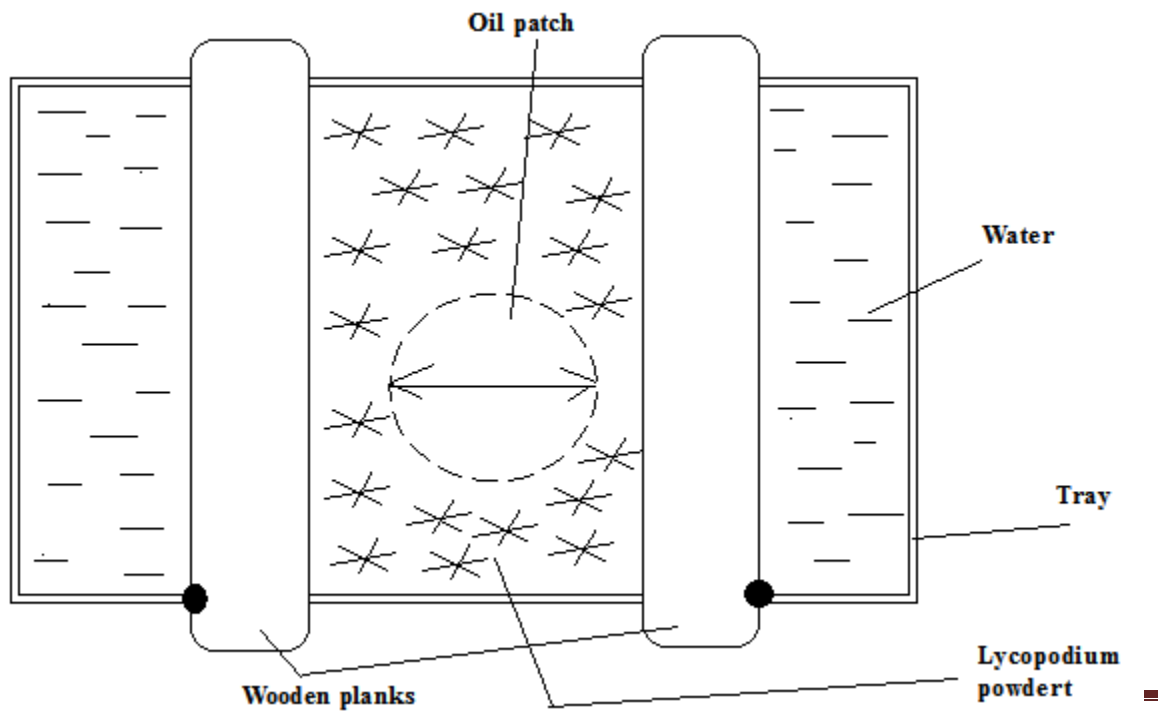
.....

- c) The block is raised through water. At one part, the water pressure acting on the top of the block $4.5 \times 10^4 \text{ pa}$. The area of the top of the block is 0.015m^2 . Calculate the downward force exerted by the water on top of the block. (3 marks)

.....

- d) When the block is clear of the water, it is raised a further 4.0m. The weight of the block is 550N. Calculate the work on the block as it is raised the 4.0m through air. (3 marks)

18. The figure below shows part of an experiment set up to estimate the diameter of an oil molecule.



i) Describe how the oil patch is formed.
(marks)

(2

.....

.....

.....

ii) What is the role of the Lycopodium powder.
(mark)

(1

.....

.....

b) An oil drop of average diameter 0.7mm spreads out into a roughly circular patch of diameter 73.5cm
on the surface of water in a trough.

i) Calculate volume of the drop in mm^3 . Take ($\pi = \frac{22}{7}$) (3
marks)

.....

.....

.....

ii) Calculate the area of the patch in mm^2 . (2
marks)

.....

.....

.....

iii) Calculate the thickness of the oil molecule and express your answer in standard form. (2 marks)

.....

.....

232/3

- PHYSICS -
(PRACTICAL)
M 2 ½ hours

PAPER 3

Kenya Certificate of Secondary Education (K.C.S.E.)

NAME..... ADM NO.....

STREAM. Date

Instructions to candidates

Answer All the questions in the spaces provided in the questions paper.

i. You are supposed to spend the first 15 minutes of the 2½ hours allowed for this paper reading the whole paper carefully before commencing your work.

ii. Marks are given for a clear record of the observations actually made, their suitability, accuracy and the use of them.

iii. Non-programmable silent electronic calculators and KNEC mathematical tables may be used.

For examiners use only

Questions 1

Question 2

Grand total

Question 1

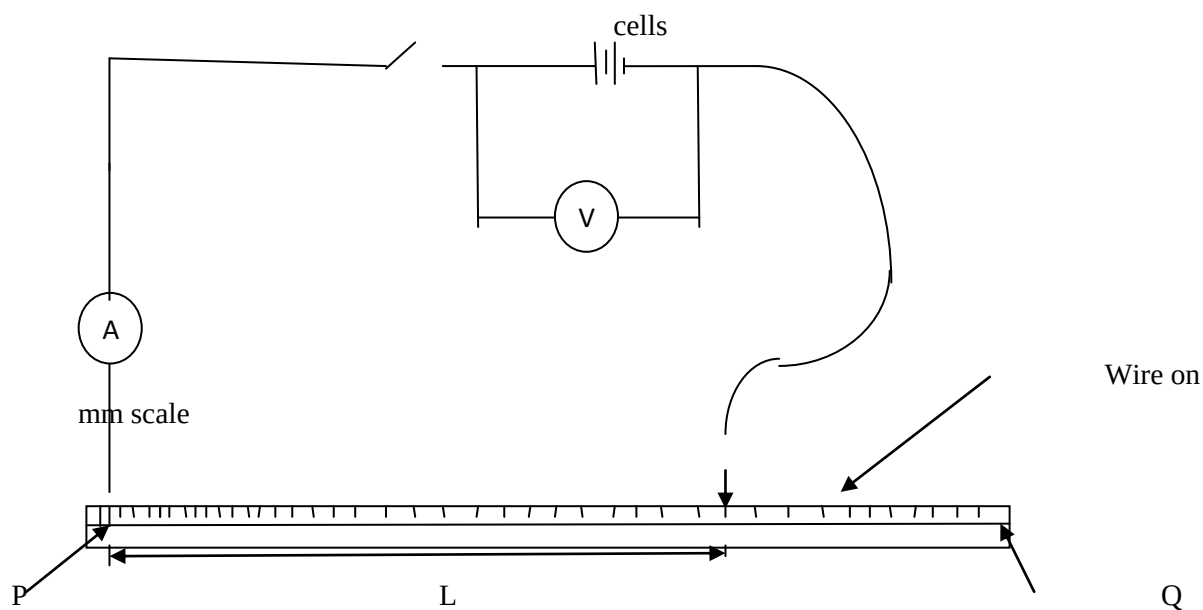
PART A

You are provided with the following.

- A resistance wire PQ mounted on a mm scale
- An ammeter
- A voltmeter
- A switch
- Two new dry cells and cell holder
- Seven connecting wires at least two with crocodile clips

Proceed as follows:

- a. Set up the circuit as shown in figure 1 below.



- b. Open the switch and record the voltmeter readings

E=.....volts
(1mk)

c.(i) Starting with $L = 70\text{cm}$, read and record the readings of voltmeter in table 1 provided.

c.Starting with $L=70\text{cm}$,read and record the readings of voltmeter in table 1 provided

Table 1

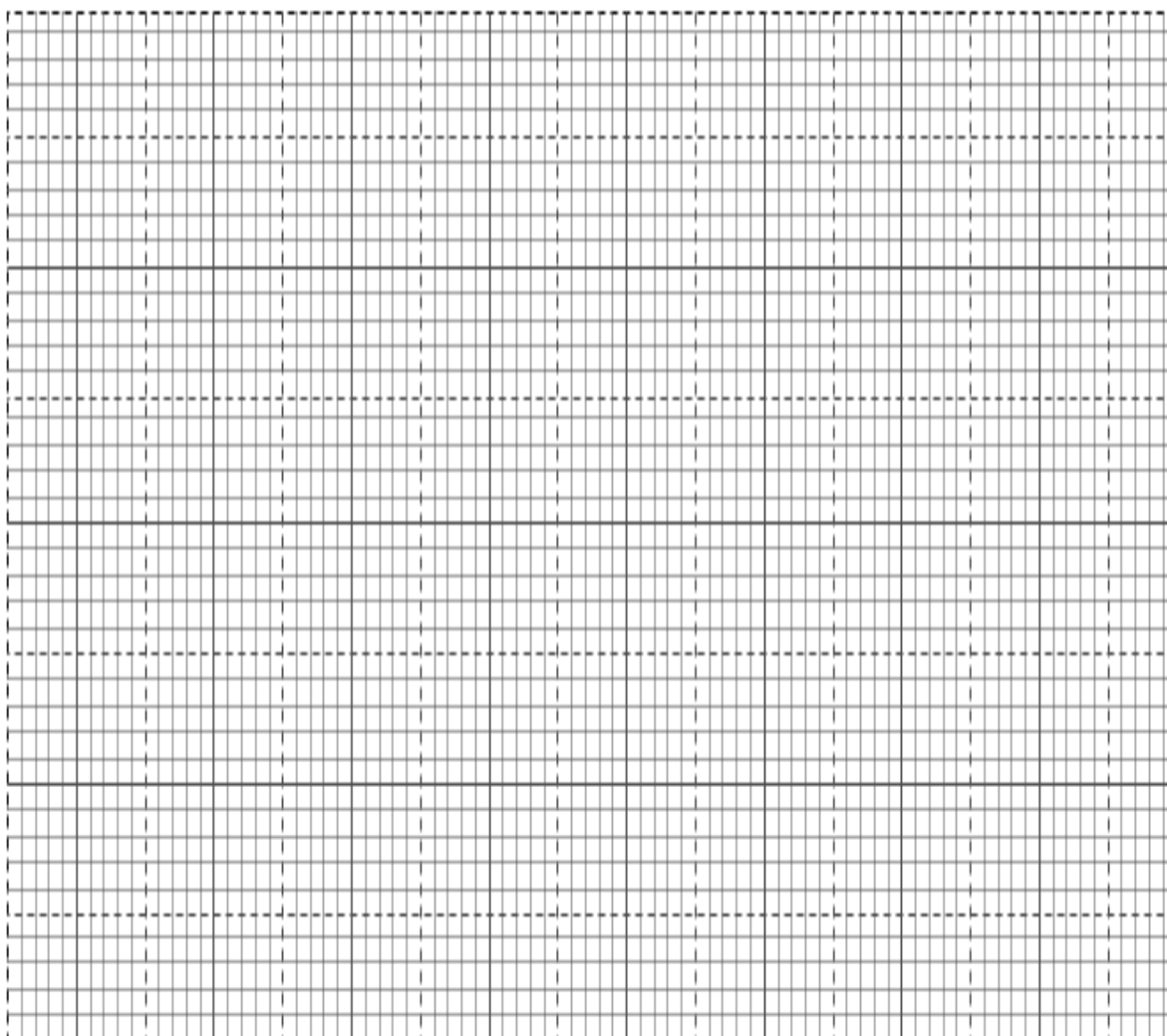
Length L (cm)	70	50	40	30	20	10
Current $I(\text{A})$						
P.d $V(\text{volts})$						

(ii) Repeat step c (i) above for other values of L given in the table 1 above

(5marks)

d.Plot a graph of p.d (y-axis) against I

(5marks)



e. Given that the graph is governed by the equation $E = V + Ir$, determine

i.

i. The e.m.f of the two cells in series (2marks)

ii. The internal resistance of the two cells (2marks)

PART B

You are provided with the following

-A lens and lens holder

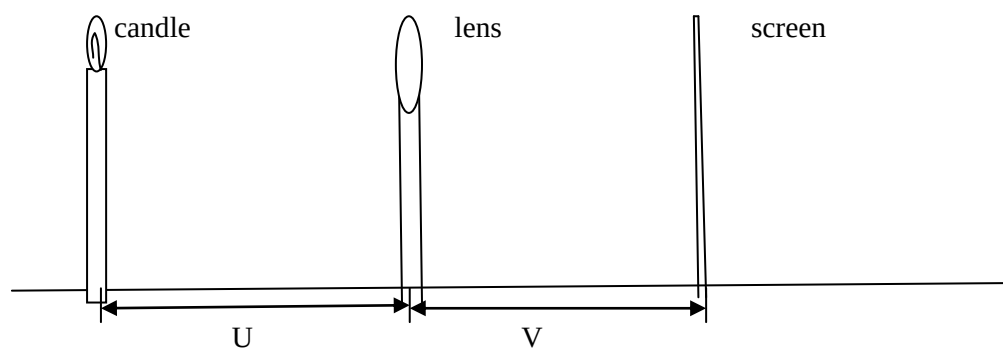
-A candle

-A screen

-A metre rule

Proceed as follows:

Set up the apparatus as shown in figure 2



f.) Starting with $U = 30\text{cm}$, adjust the position of the screen to obtain a sharp image of the candle. Record the value of V in table 2

g) Repeat the procedure in (f) for $U = 40\text{cm}$. Complete the table. (2marks)

U(cm)	V(cm)	$m = \frac{V}{U}$
30		
40		

Table 2 tfbvg

- h) Given that the focal length of the lens satisfies the equation $f = \frac{V}{1+m}$ determine the average value of focal length f.

1+m

(3marks)

Question 2

PART A

You are provided with the following :

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

Proceed as follows:

- a. Balance the metre rule on the knife edge and record the reading at this point

Balance point.....cm (1mk)

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

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

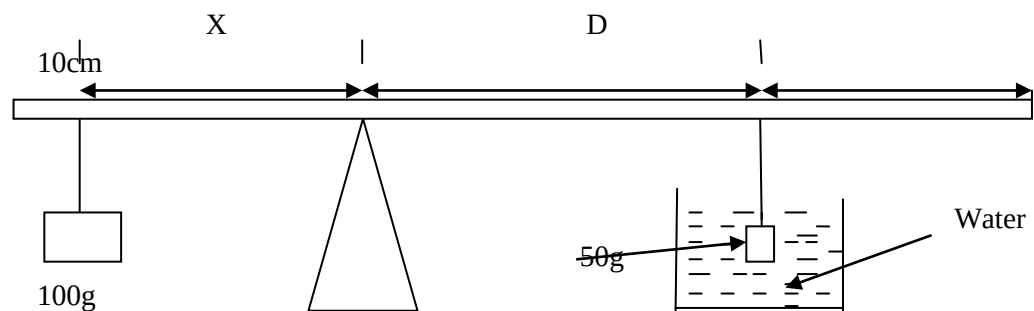


Figure 1

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

X=.....cm (1mark)

D=.....cm (1mark)

Apply the principle of moments to determine the weight W_1 of the 50g mass in water and hence determine the upthrust U_w in water

W_1 =..... (2marks)

U_w =..... (1mark)

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

c.(i) now balance the metre rule when the 50g mass is fully immersed in the liquid L. Record the value of distance X

X=.....(1mark)

iii)Apply the principle of moments to determine the weight W_2 of the 50g mass in the liquid L and hence determine the upthrust U_L in the liquid.

W_2 =..... (1mark)

U_L =..... (1mark)

d)Determine the relative density R.D of the liquid L given that:

R.D = $\frac{U_L}{U_w}$ (1mark)

$$U_L$$

e. Find the density of liquid X in kg/m^3 . (given that density of water is 1000kg/m^3) (1mark)

PART B

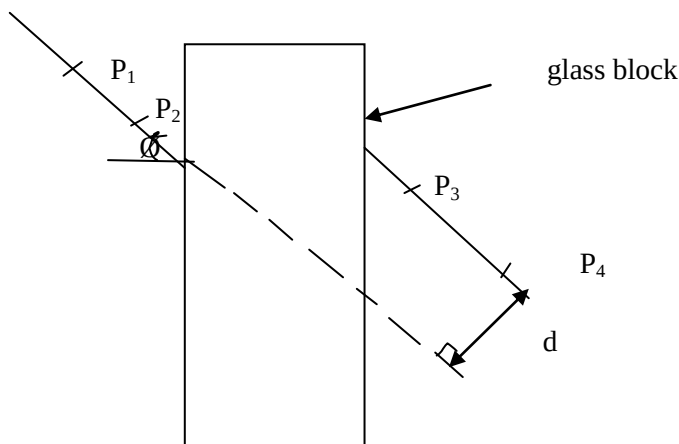
You are provided with the following

- A rectangular glass block
- Four optical pins
- A piece of soft board
- A plain sheet of paper
- 4 thumb pins

Proceed as follows

f) Place the plain sheet of paper on the soft board and fix it using the thumb pins provided .

Place the glass block at the centre of the sheet, draw its outline. Remove the glass block .



g) Draw a normal at a point 2cm from the end of the longer side of the block outline. This normal line will be used for the rest of the experiment. Draw a line at an angle of $\theta = 25^\circ$ from the normal .Stick two pins p_1 and p_2 vertically on this line.

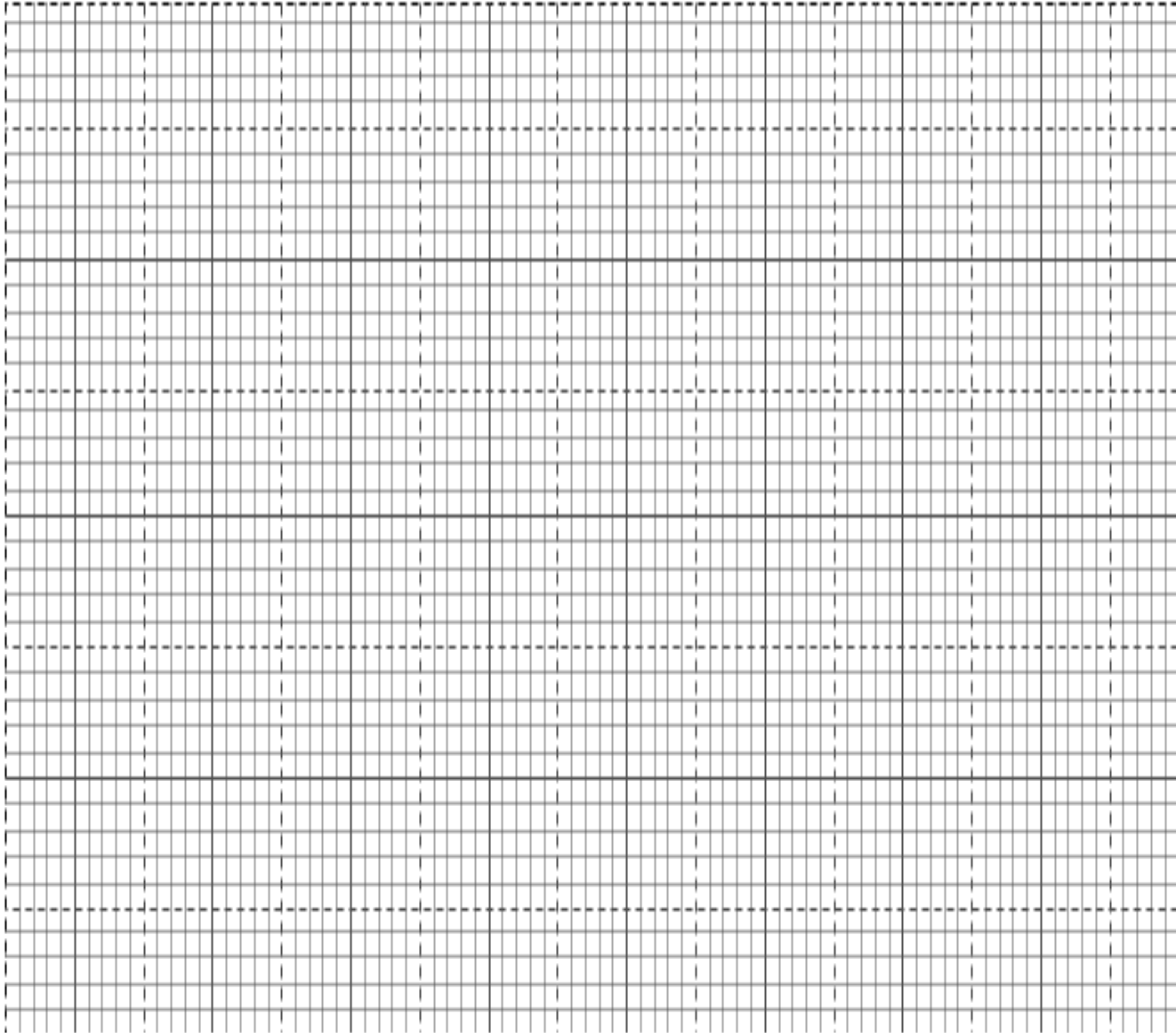
h) By viewing through the glass from the opposite side, stick two other pins p_3 and p_4 vertically such that they are in line with the images of the first two pins. Draw a line through the marks made by p_3 and p_4 to touch the outline. Extend the line p_1p_2 through the outline (dotted line) .Measure and record in the table the perpendicular distance d between the extended line and the line p_3 and p_4 Record this value in the table.

i) Repeat the procedure in (g) and (h) for other values of θ shown in the table.

θ (deg)	25	35	40	45	55	60	65
d (cm)							

(3marks)

-
- (i) plot a graph of d against Θ
(5mark)



- (ii) Use the graph to estimate the value of d when $\Theta = 0$

(1mark)

NAME ADM NO.....

STREAM.....SIGNATURE.....

PHYSICS

PAPER 2(THEORY)

TIME:2HRS

PRE-MOCK 2 EXAM

Instructions to candidates

- i..This paper consists of two sections A and B.*
- ii.Answer **all** the questions in the two sections in the spaces provided after each question*
- iii.All working must be clearly shown.*
- iv.Electronic calculators, mathematical tables may be used.*
- v.All numerical answers should be expressed in the decimal notations.*
- vi.This paper consists of 14 printed pages and check to ensure all the pages are there.*

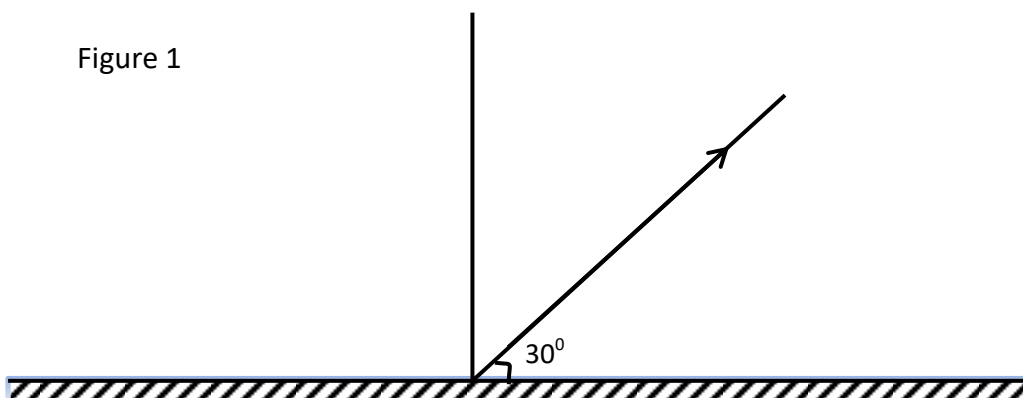
SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1 – 11	25	
B	12	10	
	13	13	
	14	11	
	15	11	
	16	10	
TOTAL		80	

SECTION A (25 MARKS)

Answer all the questions in the space provided

1. Figure 1 below shows a ray of light reflected from a mirror.

Figure 1



Complete the ray diagram and find the new angle of reflection after it is rotated 10° anticlockwise with the incident ray fixed. (2marks)

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

2. Three electric bulbs are connected in series with a battery of two dry cells and a switch. At first the bulbs light brightly.

a. State a reason why they gradually light dim. (2marks)

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

b. The switch is put off for sometimes. Explain why the bulbs again shine brightly. (1mark)

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

3.A positively charged rod is brought near the cap of a lightly charged electroscope. The leaf first collapses and as the rod comes nearer, the leaf diverges.

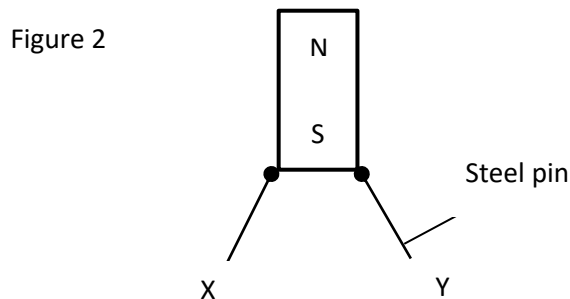
i.What is the charge on the electroscope? (1mark)

.....
.....

ii.Explain the behavior of the leaf. (2marks)

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

4. Figure 2 below shows a bar magnet attracting steel pin as shown

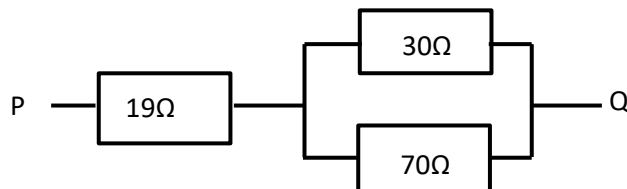


State and explain what would happen when a North pole of a bar magnet is brought near the tips of steel pin X and Y. (2marks)

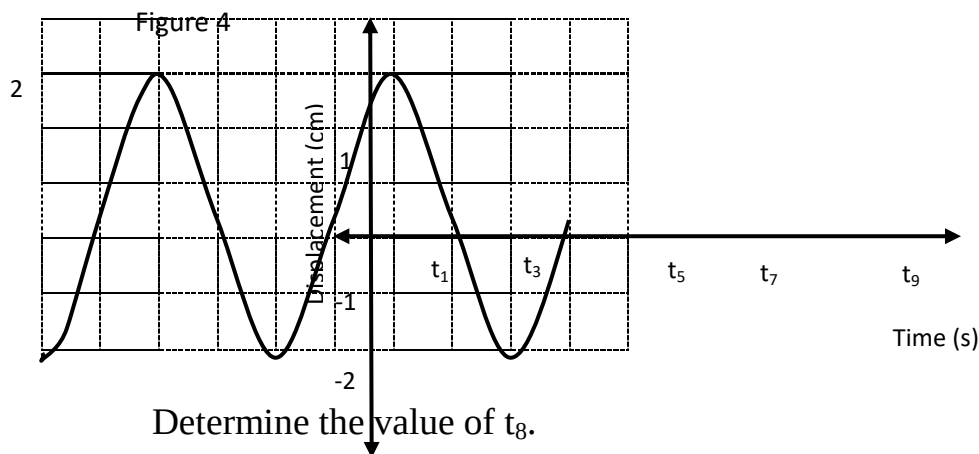
.....
.....

5. Determine the equivalent resistance between P and Q for the following resistors shown in Figure 3. (2marks)

Figure 3



6. Figure 4 below shows a wave profile for a wave whose frequency is 5Hz.



Determine the value of t_8 .

(2marks)

7. An electromagnetic radiation whose wavelength is greater than that of microwaves has a wavelength of 306.1224 m. Take speed of light in air, $c = 3 \times 10^8$ m/s.

a. Identify the radiation. (1mark)

.....
.....

b. Calculate its frequency.
(2marks)

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

8. Two heating coils A and B connected in parallel in a circuit produces power of 36W and 54W respectively. What is the ratio of their resistance?(2marks)

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

9. State **two** conditions necessary for total internal reflection to occur.
(2marks)

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

10. Define coherent source of a wave. (1mark)

.....

.....

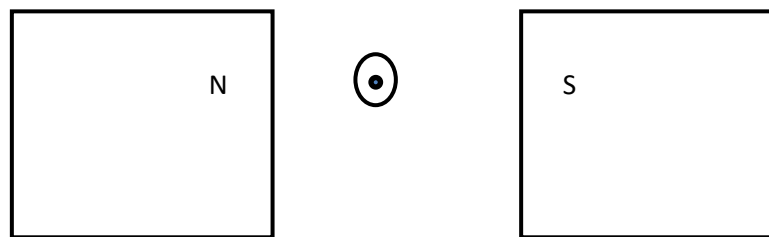
.....

.....

.....

11. Figure 5 below show a conductor carrying electric current place between two magnetic poles.

Figure 5



Complete the diagram by sketching the magnetic field and also show the direction of the force on the conductor. (3 marks)

Section B (55 marks)

Answer ALL the questions in the spaces provided

12. (a) State **one** factor that affects the force between two charged bodies. (1mark)

.....

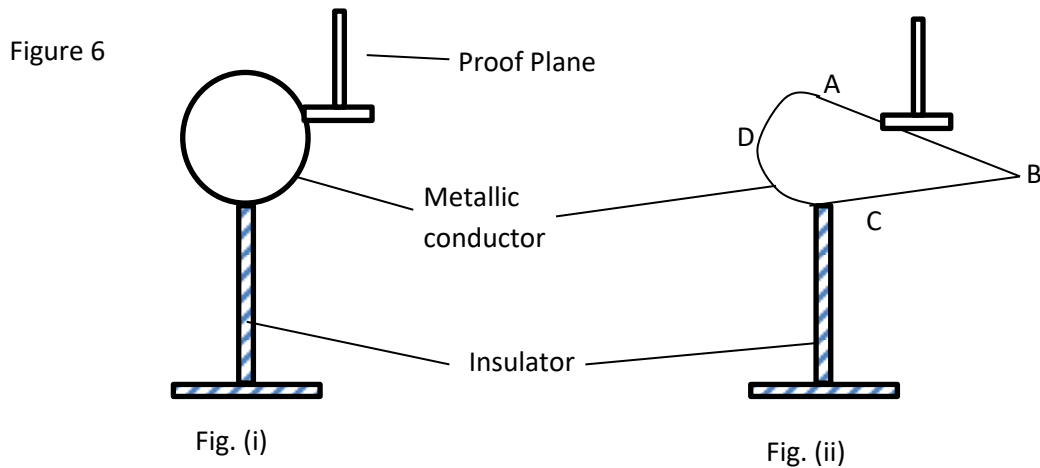
.....

.....

.....

.....

(b) To investigate charge distribution on metallic surfaces, electric charges were collected from different parts of the surfaces using a proof plane as shown in figure 6 below:



The proof plane was then placed on the cap of a neutral electroscope.

i. State and explain the leaf divergence of the electroscope as the proof plane is placed at various points round the spherical surface in figure (i) above.
(2marks)

.....

.....

.....

.....

.....

ii. State with reason which part of the conductor in figure (ii) gave the greatest deflection of the electroscope.
(2marks)

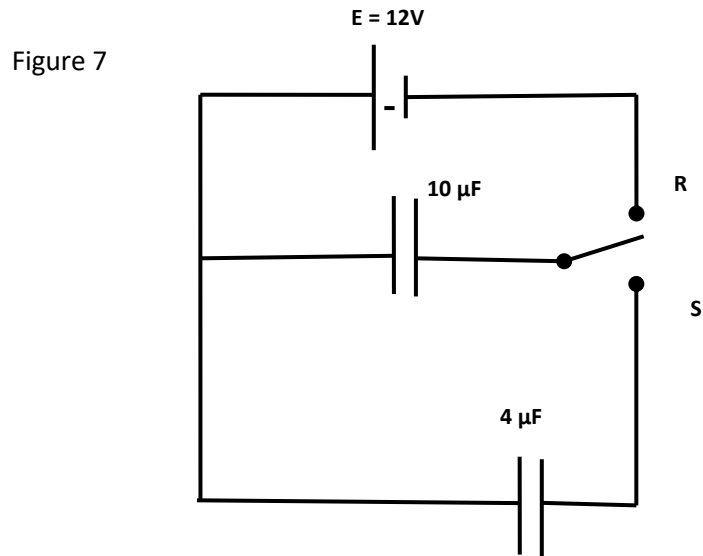
.....

.....

.....

.....
.....

(c) Figure 7 shows a $10\mu\text{F}$ capacitor being charged from a 12V battery by connecting the switch terminal on R. The switch is then connected to S to discharge the $4\mu\text{F}$ capacitor.



- i. Determine the resultant potential difference between the two capacitors.
(3marks)

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

ii.State two uses of capacitors.
(2marks)

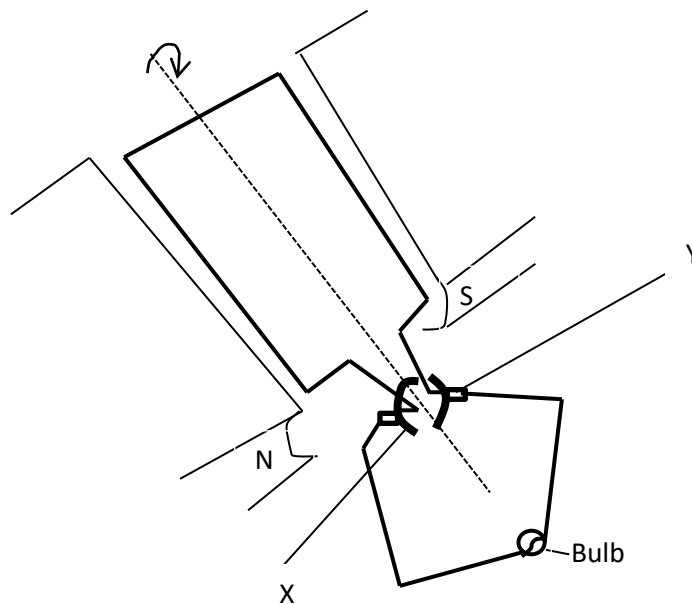
.....
.....
.....
.....
.....

13.(a) State Faradays law of electromagnetic induction. (1mark)

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

(b) Figure 8 below shows a simplified circuit of a generator.

Figure 8



i.Identify parts X and Y. (2marks)

X:

Y:

ii.State **two** ways of making the bulb light brighter. (2marks)

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

(c) An a.c generator produces an e.m.f of 50.0V which is used to operate a circuit that requires a minimum of 250.0V. If the power of the generator is 200W, determine the:

(i) Current generated by the a.c source. (2marks)

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

(ii) Current supplied to the circuit by the transformer assuming 100% efficiency. (2marks)

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

(iii) Ratio of turns in the coils of the transformer, primary: secondary. (2marks)

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

.....

.....

(d) Explain how power losses in a transformer are minimized. (2marks)

(i) Eddy currents

.....

.....

.....

.....

.....

(ii) Hysteresis losses

.....

.....

.....

.....

.....

14.(a) A disc of a siren with 100 holes is rotated at constant speed making 0.5 revolutions per second. If air is blown towards the holes, calculate:

i.The frequency of the sound produced. (2marks)

.....

.....

.....

.....

.....

ii.The wavelength of the sound produced, if the velocity of sound is 340 m/s. (2marks)

.....

.....

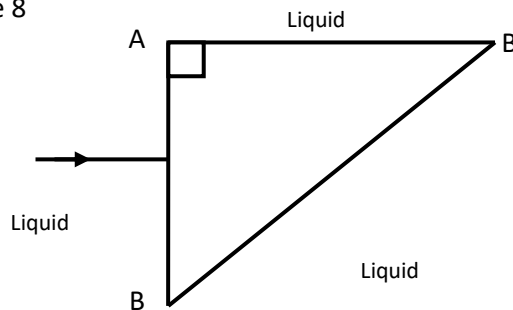
.....
.....
.....

(b) A ship sends out an ultrasound whose echo is received after 5 seconds. If the wavelength of the ultrasound in water is 0.05 m and the frequency of the transmitter is 50 KHz, calculate the depth of the ocean. (3marks)

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

(c) A ray of light is incident at right angles to the face AB, of a right angled isosceles prism of refractive index 1.6 as shown in Figure 8 below.

Figure 8



If the prism is surrounded by a liquid of refractive index 1.40, determine:

i. The angle of incidence on the face BC.
(1mark)

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

(ii) The angle of refraction on the face BC. (3marks)

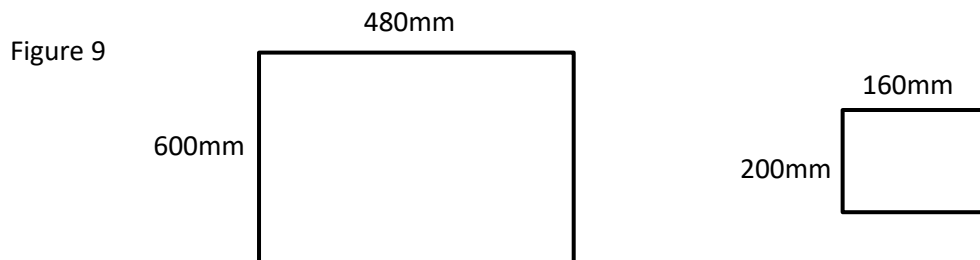
.....
.....
.....
.....
.....

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

15.(a) Distinguish between principal focus and focal length of a concave lens.
(1mark)

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

b. Figure 9 below shows sketches of a window frame and its image formed on a screen by a convex lens.



i. State the nature of the image formed. (2marks)

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

ii. Calculate the linear magnification of the image formed. (2marks)

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

.....
.....

iii.The imaged of the frame was produced 500mm from the lens. Calculate the focal length of the lens. (3 marks)

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

c.A student finds that at a distance of 25 cm, the words in a book looked blurred.

i.What eye defect does the student suffering from? (1mark)

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

ii. In which direction does he/she move the book to be able to see the words clearly from the distance? (1mark)

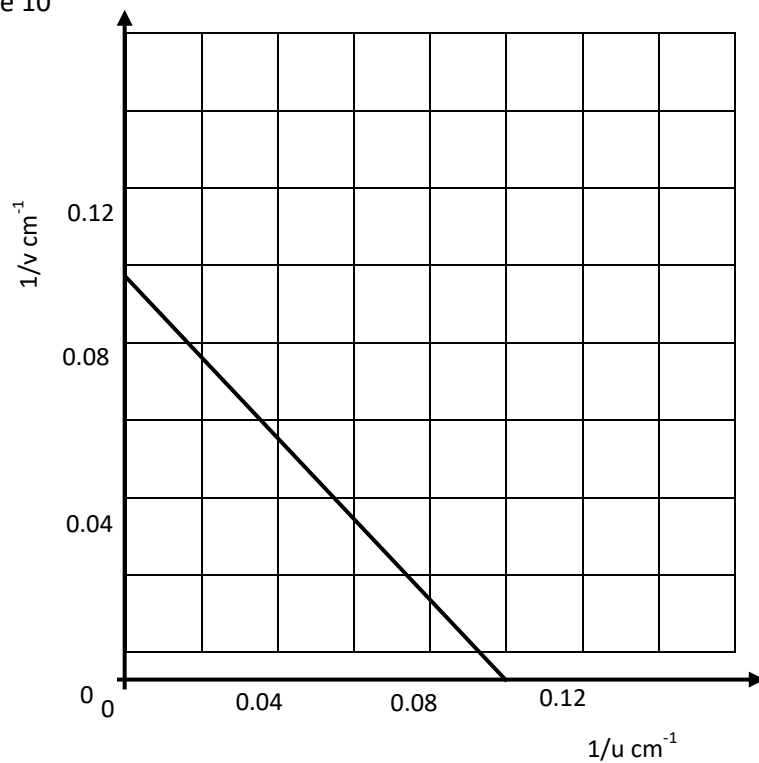
.....
.....
.....

iii.Which lens can be used to correct the eye defect? (1mark)

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

- 16.(a) (i) Figure 10 shows a graph of $1/v$ against $1/u$ for a concave mirror. Use your graph to determine the focal length of the mirror. (2marks)

Figure 10



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

.....

.....

.....

.....

.....

.....

.....

.....

(ii) Determine the image distance when the magnification is $m = 2$ for the concave mirror above. (3 marks)

.....

.....

.....

.....

.....

(b) State **one** application of each of the following

(i) Convex mirror. (1mark)

.....

.....

.....

(ii) Parabolic mirror. (1mark)

.....

.....

.....

(c) A small object is placed 15 cm in front of a convex mirror of focal length 10 cm. Determine the position of the image.

(3marks)

.....

.....

.....

.....

.....

.....

.....

.....



'an investment of knowledge pays

The following KASNEB notes are available;

-  ATD
-  CPA
-  CS
-  CIFA

Call Mdm.Mariam:0746711892 to acquire them



