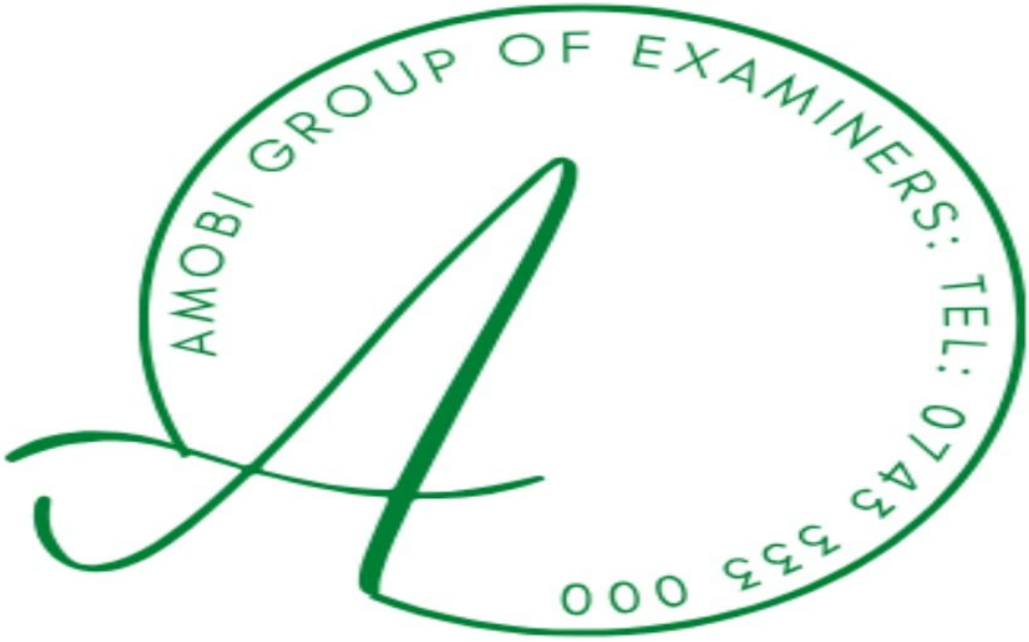
DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS *(14 SUBJECTS TESTED)*



DETERMINED STUDENTS FORM 3 MID TERM 2 EXAMS

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

ORDER OF THE 14 SUBJECTS TESTED

(ALPHABETICALLY ARRANGED)

1. AGRICULTURE
2. BIOLOGY
3. BUSINESS STUDIES
4. CHEMISTRY
5. COMPUTER STUDIES
6. C.R.E
7. ENGLISH
8. GEOGRAPHY
9. HISTORY
10. HOME SCIENCE
11. IRE
12. KISWAHILI
13. MATHS
14. PHYSCIS

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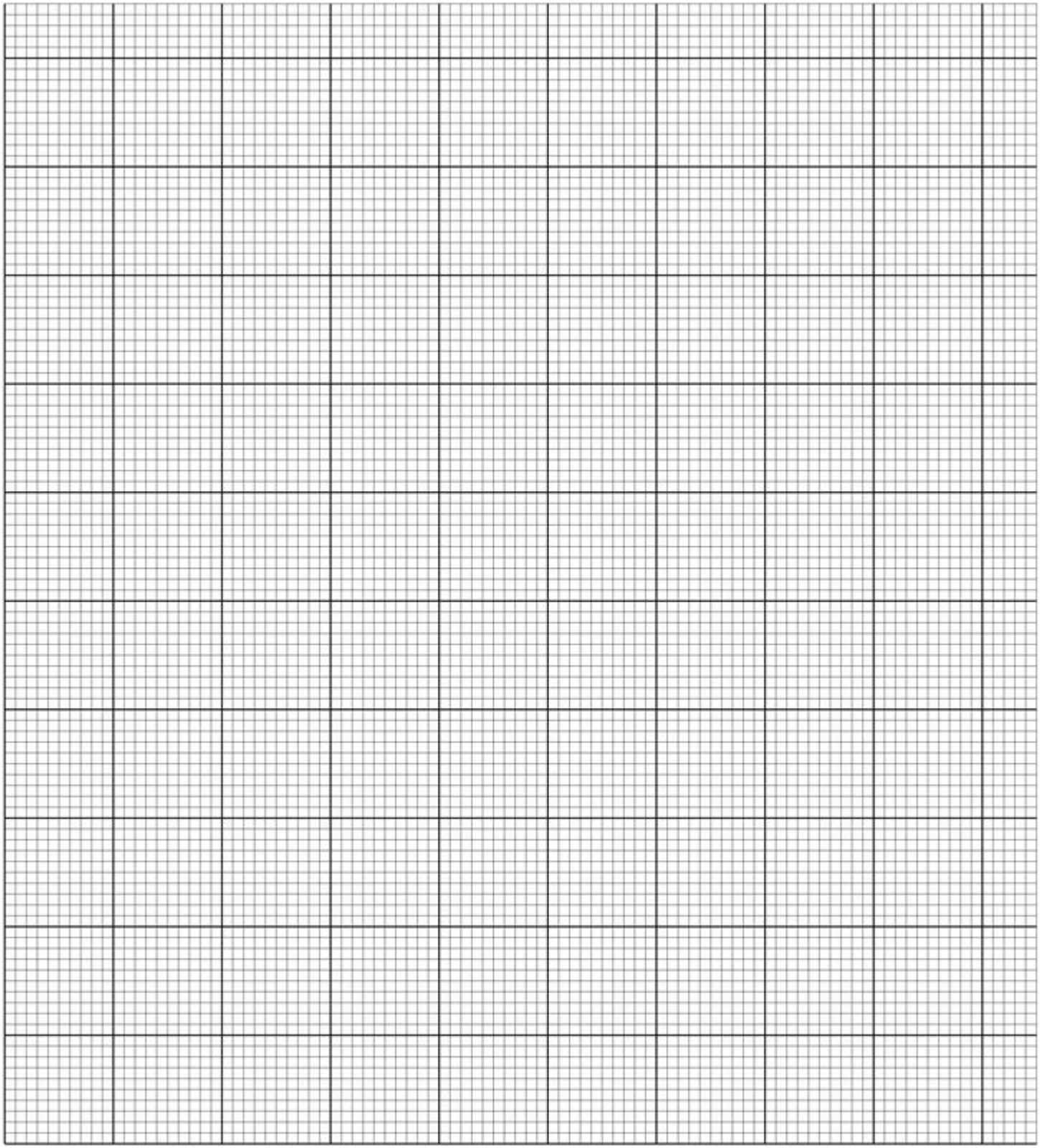
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- 70 Biology Graphical/Essays Qsns
- 70 Biology Pictorial Practical Qsns
- Poetry & Ushairi Qsns.... e.t.c



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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

443/1

AGRICULTURE

PAPER 1

(Theory)

TIME: - 2 hours

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of three sections: A, B and C.
- Answer all the questions in section A and B.
- Answer any two questions from section C.
- All answers must be written in the spaces provided.
- This paper consists of 12 printed pages.

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum score	Candidate's score
A	1 – 19	30	
B	20 – 23	20	
C		20	
		20	
	Total score	90	

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SECTION A 30MARKS (Answer all the questions in this section in the space provided.)

1. State **four** disadvantages of intensive farming system. (2 marks)

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2. State **four** advantages of nomadic pastoralism. (2 marks)

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3. State **four** characteristics of extensive farming system. (2 marks)

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4. State **two** causes of hard pans in the soil. (1 mark)

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5. State **two** reasons why green manure is not commonly used. (1 mark)

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6. State the **two** types of inventory records. (1 mark)

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7. Give **four** reasons for growing crops under optimum temperature. (2 marks)

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8. State **four** ways through which HIV/AIDS affect agriculture negatively. (2 marks)

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9. List **two** aspects of light that affect agriculture. (1 mark)

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10. State **two** methods of water conveyance. (1 mark)

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11. State **four** advantages of drip/trickle irrigation. (2 marks)

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12. State **four** deficiency Symptoms of nitrogen. (2 marks)

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13. List **four** examples of nitrogenous fertilisers. (2 marks)

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14. State **two** vegetative materials used to propagate pineapple. (1 Mark)

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15. State **four** methods of breaking seed dormancy. (2 marks)

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16. Distinguish between a seed bed and a seedling bed. (1 mark)

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17. List **four** characteristics of a good site for nursery bed. (2 marks)

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18. List any **two** pest that attack tomatoes. (1 mark)

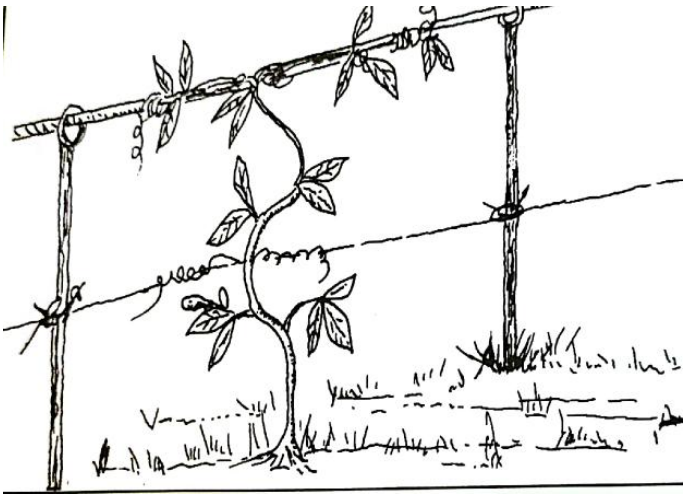
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19. List any **four** field practices carried out on carrots. (2 marks)

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SECTION B 20 MARKS (Answer all the questions in this section in the space provided)

20. The diagram below shows a field practice carried out on certain crops. Use it to answer the questions that follow.



a) Identify the field practice. (1 mark)

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b) Name any **two** crops where this practice can be done. (2 marks)

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c) Name **two** other field practices used to train a crop. (2 marks)

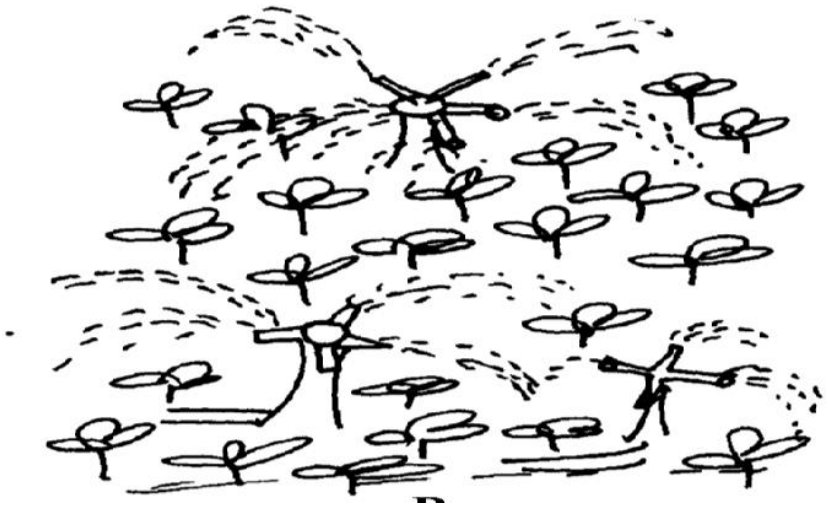
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21. Below is a diagram showing a method of irrigation.



a) Identify the method of irrigation shown above. (1 mark)

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b) State **four** disadvantages of the above system compared to furrow irrigation. (4 marks)

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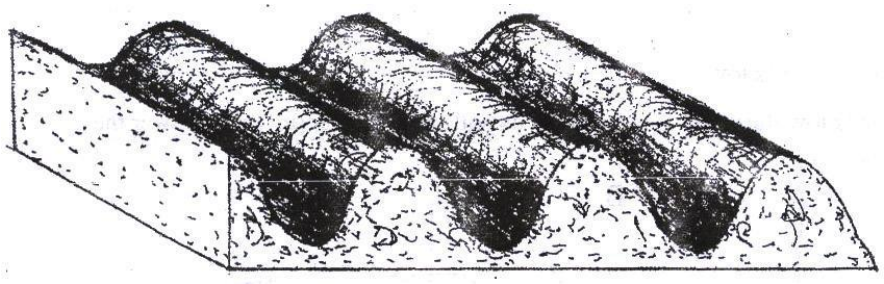
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22. The diagram below shows a tertiary operation carried out during land preparation.



(a).Identify the tertiary operation shown above. (1 mark)

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(b)Describe how the above operation is carried out. (2 marks)

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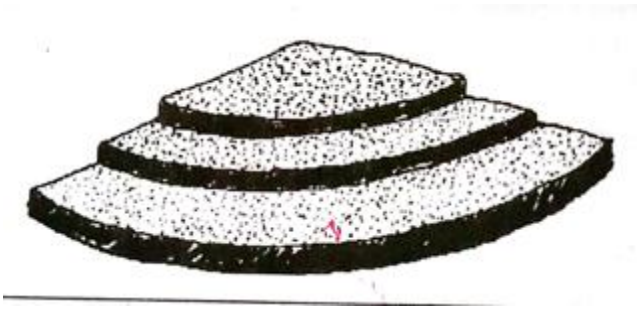
(c)Give **two** reasons why the above operation is carried out. (2 marks)

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23. Below is a diagram showing a certain soil structure.



a) Identify the soil structure shown above. (1 mark)

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b) State **two** disadvantages of the soil structure shown above. (2 marks)

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c) Name any **two** other types of soil structure. (2 marks)

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SECTION C 40 MARKS (Answer any two questions in this section in the space provided after question 26)

24. a). Describe how the following climatic factors influence agriculture.

i) Temperature (4 marks)

ii) Light. (6 marks)

b). Explain **five** properties of nitrogenous fertilisers. (5 marks)

c). State **five** pieces of information contained in the field operation records. (5 marks)

25. a) Explain **four** disadvantages of using organic manures. (4 marks)

b). Explain **six** factors that influence crop rotation. (6 marks)

c). Describe **five** field management practices carried out on onions. (10 marks)

26. a) Explain **ten** nursery management practices. (10 marks)

b). Explain **five** factors that influence seed rate. (5 marks)

c.) Explain **five** advantages of using vegetative materials for crop propagation. (5 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

443/2
AGRICULTURE
PAPER 2
(Theory)
TIME: 2 hours

INSTRUCTIONS TO CANDIDATES

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

FOR EXAMINER'S USE ONLY

Section	Questions	Maximum score	Candidate's score
A	1 – 16	30	
B	17 – 20	20	
C		20	
		20	
	Total score	90	

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SECTION A 30MARKS (Answer all the questions in this section in the space provided.)

1. State four reasons for maintaining farm tools and equipment. (2 marks)

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2. State four reasons why indigenous cattle are more suited to arid and semi-arid areas. (2 marks)

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3. State four structural requirements of livestock houses that help to control livestock diseases. (2 marks)

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4. State two characteristics of each of the following dairy goat breeds.

a)Saanen (1 mark)

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b) Toggeburg. (1 mark)

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5. State four characteristics of red maasai sheep. (2 marks)

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6. State two characteristics of each of the following breeds of rabbit. (2 marks)

a) Chinchilla

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b) California white

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7. State four heavy breeds of poultry. (2 marks)

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8. State four signs of external parasite infestation in livestock. (2 marks)

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9. State four characteristics of an effective acaricides. (2 marks)

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10. State four harmful effects of round worm attack. (2 marks)

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11. State four sources of proteins in livestock. (2 marks)

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12. State four disadvantages of inbreeding. (2 marks)

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13. State four disadvantages of using a plunge dip. (2 marks)

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14. State four Maintenance practices of a fish pond. (2 marks)

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15. State four advantages of using Kenya Top Bar Hive. (2 marks)

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16. State four disadvantages of live fences. (2 marks)

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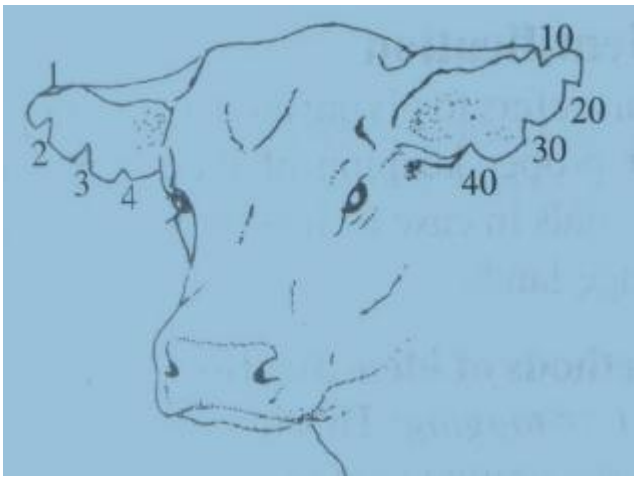
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SECTION B 20 MARKS (Answer all the questions in this section in the space provided.)

17. Below is a diagram showing method of identification in livestock.



a). Identify the method of identification shown above. (1 mark)

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b). Draw animal number 46. (1 mark)

c). State three disadvantages of the above method of identification. (3 mark)

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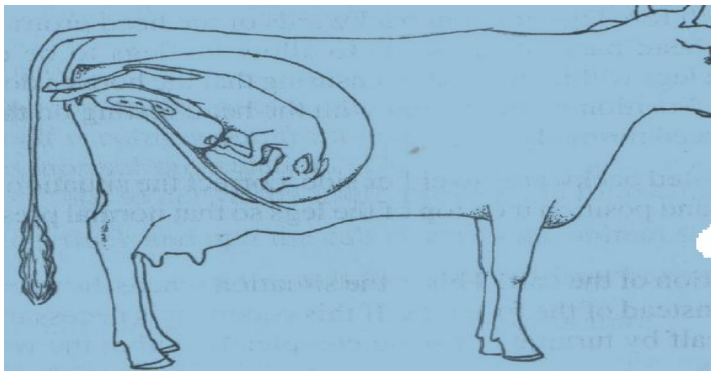
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18. Below is a diagram of a cow in the process of giving birth.



a). Name the method of presentation shown above. (1 mark)

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b) Describe the normal was of presentation during calving. (1 mark)

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c) State three signs of parturition seen on the vulva. (3 mark)

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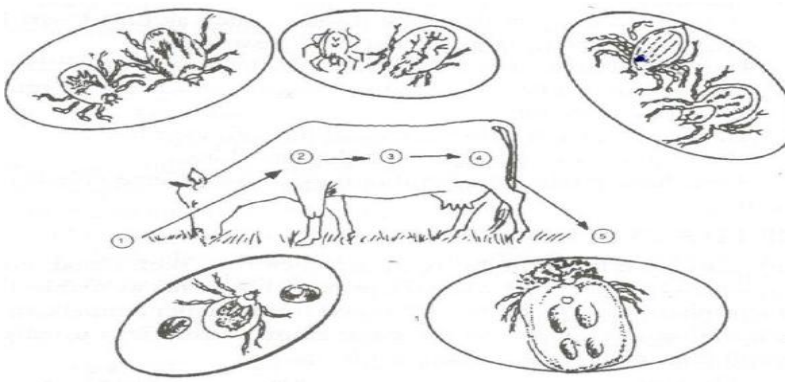
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19. A 300 kg pig ration containing 20% DCP was to be made from wheat bran (4% DCP) and cotton seed cake (24% DCP). Using the Pearson's square, calculate the amount of each feedstuff that is needed to prepare the ration. (5Marks)

20. The diagram below shows a life cycle of a tick. Use it to answer the questions that follow.



a) . classify the type of tick shown above. (1 mark)

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……

b). Describe what is happening in stage labelled 1. (1 mark)

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c). Name three harmful effects of ticks on livestock. (3 marks)

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SECTION C (40 MARKS). Answer any two questions in this section in the space provided after question 23

21. a).Explain five care and maintenance of saws. (5 marks)

b). outline five general characteristics of dairy exotic cattle breeds. (5 marks)

c). Describe five mechanical methods used to control ticks. (5 marks)

d). Describe five differences between ruminants and non-ruminants. (5 marks)

22. a) Describe any five parts of a truss. (10 marks)

b).Explain five factors to consider when siting the apiary. (5 marks)

c). Explain five disadvantages of natural mating. (5 marks)

23. a) Explain eight preventive measures used to control diseases in the farm. (8 marks)

b). Explain six control measures of roundworms. (6 marks)

c). Describe six deficiency symptoms of mineral salts in the livestock. (6 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM 3
231/1
BIOLOGY
Paper 1
Time: 2 Hours

INSTRUCTIONS TO CANDIDATES:

- *This paper consist of twenty six(26) questions.*
- *Answer **all** the questions*
- *All answers **must** be written in the spaces provided in this question paper.*
- *Write your name and Admission number in the spaces provided.*
- *Additional pages **must not** be inserted*

This paper consists of 7 printed pages. Candidates should check to ascertain that all papers are printed as indicated and that no questions are missing.

EXAMINER'S USE ONLY

Question	Maximum score	Candidates Score
1 - 26	80	

1.(a) Explain how the following adaptations minimize the rate of transpiration.

(i) Sunken stomata (1mrk)

.....

.....

(ii) Leaf drooping (1mrk)

.....

.....

2.An animal was found to have a large glomeruli and a short loop of henle. Account for the presence of ;

(i) Large glomeruli (1mrk)

.....

.....

(ii) Short loop of henle (1mrk)

.....

.....

(iii) State the possible habitat for the organism. (1mrk)

.....

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3. State two functions of blood in a human body. (2mrks)

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4.Give **two** adaptations of halophytes to survival in their habitats. (2mrks)

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5.Name the hormone involved in

(i) Conversion of glycogen to glucose (1mrk)

.....

.....

(ii) Regulation of the amount of water in blood. (1mrk)

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6.A person was found to pass out large volumes of dilute urine frequently.

(a) Name the disease the person was suffering from. (1mrk)

.....

.....

(b) Which hormone was likely to be deficient in the body? (1mrk)

.....

.....

(c) Name the gland that releases the hormone normal in **(b)** above. (1mrk)

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7.State the function of the following cell organelles. (3mrks)

(i) Mitochondrion

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.....

(ii) Ribosomes

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(iii) Lysosomes

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8.i).Explain the term binomial nomenclature (2 mrks)

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(ii) State the importance of classification. (3 mrks)

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9.(i)State **two** ways in which aerenchyma tissues in aquatic plants are adapted to their function. (2mrks)

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(ii) Name the structure used by plants growing in waterlogged soils for gaseous exchange. (1mrk)

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10.(i) Distinguish between nitrification and denitrification. (2mrks)

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(ii) Name **two** micro organisms involved in nitrogen fixation. (2mrks)

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11.State the role of each of the following components of the skin. (3mrks)

(i) Melanin

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(ii) Adipose fat deposit

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(iii) Sebum

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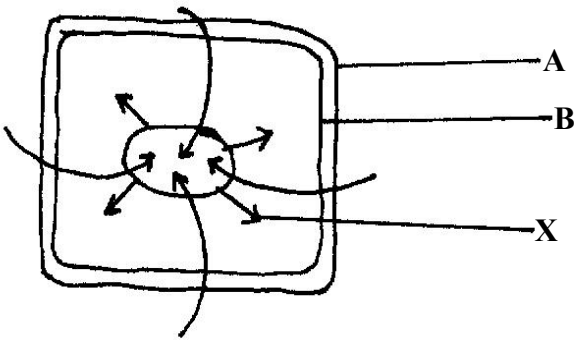
12.In a blood test, a drop of Anti-A serum were added to two samples of blood. No agglutination occurred. What were the blood groups of the two samples? (2mrks)

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13.Below is a diagram showing results of what happens when a plant cell is placed in a certain solution.



(a)(i) Name the force represented by the arrows labeled **X.** (1mrk)

.....

(ii) Name the cell structure labeled **A** and **B**. (2mrks)

A .....

B .....

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(ii)In one word, name the nature of the solution in which the cell was placed. (1mrk)

.....

.....

(b)Name the chemical compound that prevents the cell from osmotic bursting. (1mrk)

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14.Outline **three** physiological changes that occur in human skin that reduces heat loss. (3mrks)

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15.(a) Name a fat soluble vitamin that is manufactured by the human body. (1mrk)

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(b) (i) What is the function of the vitamin name in **(a) above**? (1mrk)

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.....

(ii) Name the deficiency disease that results from insufficiency of the vitamin named in (a) above. (1mrk)

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16.(a) State **two** roles of sodium hydrogen carbonate as a constituent of pancreatic juice. (2mrks)

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(b)What is the role of lacteal in nutrition? (1mrk)

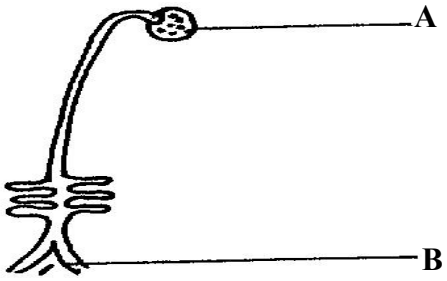
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17.Name **two** protozoan diseases in man and give the causative agent of each (4mrks)

Diseases	Causative agent

18.The figure below represents a plant.



(a) State the division the plant belongs to (1mrk)

.....

.....

(b) Name the parts labeled **A** and **B.** (2mrks)

A .....

B .....

19.Give an economic importance of; (2mrks)

(i) Tannin

.....

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(ii) Colchicine

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20.(a)What is homeostasis? (2 mrks)

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(b) Name three processes in the human body in which homeostasis is involved (2mrks)

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21.Joseph mounted a specimen on a slide onto the stage of a microscope but failed to see anything through the eye piece, suggest two possible reasons for this. (2mrks)

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22.Name **three** effects of dumping untreated sewage into a river. (3mrks)

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23.State **three** ways by which human body naturally prevent entry of pathogens into it. (3mrks)

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24.The scientific name for a domestic cat is felis catus. Outline the rule that were never followed in writing the name. (3mrks)

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25.State the use of the following apparatus used during collection of specimen for laboratory study.

(i) Pooter (1mrk)

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(ii) Pit fall trap (1mrk)

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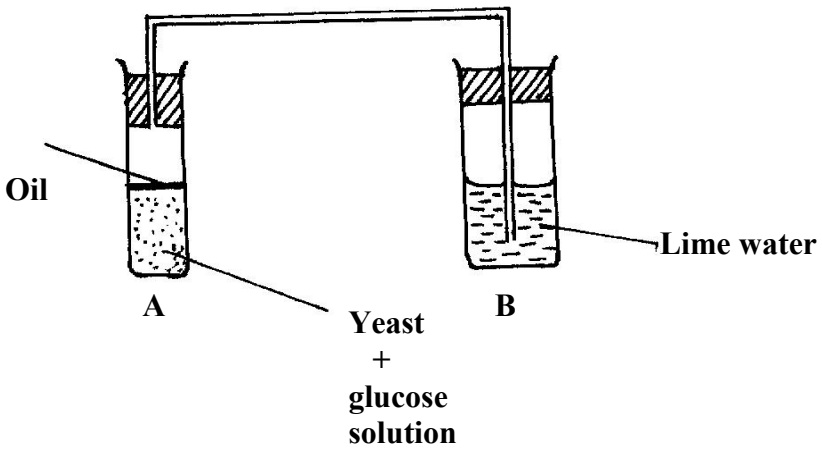
(iii) Sweep net (1mrk)

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26.Study the set up below and answer the question that follow.



(a)(i) What process was being investigated? (1mrk)

.....

.....

(ii) Why was glucose included in the experiment ? (1mrk)

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(iii) What was the role of oil in the set-up? (1mrk)

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(b) Explain briefly the expected observation in test tubes **B** after a few hours. (2mrks)

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THIS IS THE LAST PRINTED PAGE

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

231/2
BIOLOGY
PAPER 2
(THEORY)
2 HOURS
FORM 3

INSTRUCTIONS TO CANDIDATES

- Write your name and Adm Number in the spaces provided above.
- This paper consists of **two** sections. Section **A** and section **B.**
- Answer **ALL** questions in section **A** in the spaces provided. In section **B** answer question **6** (compulsory) and either question **7** or **8** in the spaces provided after question 8
- *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*

For Examiners use only.

Section	Question	Maximum score	Candidates score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	Total score	80	

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SECTION A – (40 MARKS)

Answer ALL questions in the question

1. (a) Name the gaseous exchange structure in the following organisms.

(i) Amoeba (1mark)

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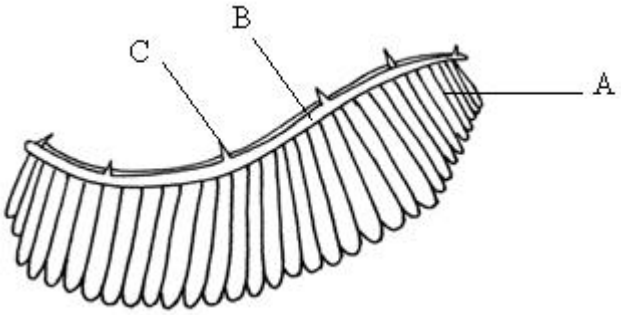
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(ii) Grasshopper (1mark)

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(b) The diagram below illustrates the structure of a gill from a bony fish.



(i) Name the parts labelled A, B, C (3 marks)

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……..

(ii) State the function of the part labelled C (1 mark)

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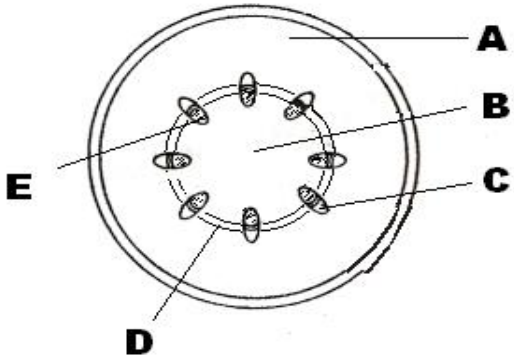
(iii) How is part A adapted to carry its functions (2 marks)

……..

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2. The diagram below represents a transverse section of a young stem.



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(a) Name the parts labelled A and B (2 marks)

……..

……..

(b) State the functions of the plants labelled C, D and E (3 marks)

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(c) List three differences between the section shown above and one that would be obtained from the root of the same plant. (3 marks)

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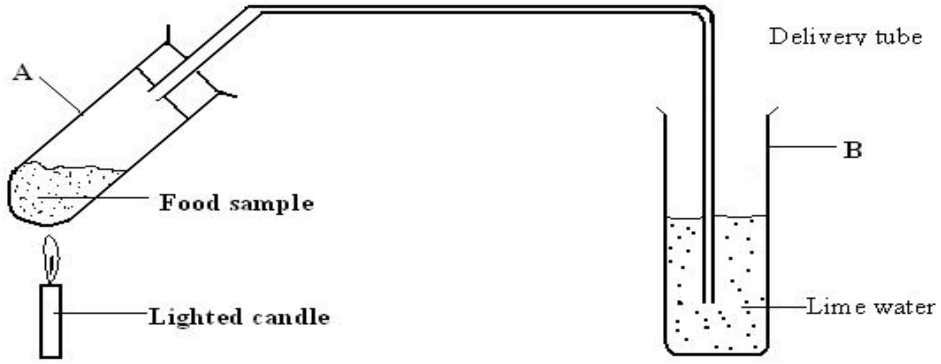
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3. (a) The diagram below shows an experimental set – up by form two students.



(i) State the aim of the experiment. (1mark)

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(ii) State the expected results at the end of the experiment. (2 marks)

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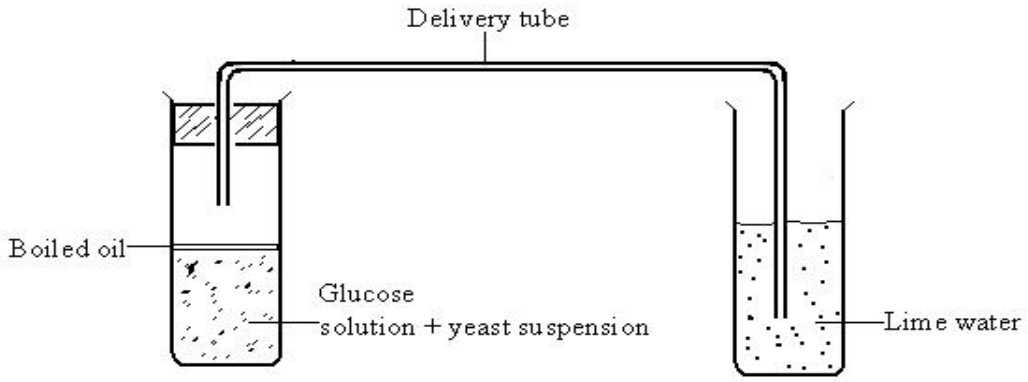
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(iii) What conclusion can you make from this experiment? (1 mark)

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(b) Examine the diagram which shows a set used to demonstrate a certain process.



(i) State the aim of the experiment. (1 mark)

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(ii) Why was it necessary to boil the glucose solution before adding the yeast suspension? (1 mark)

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(iii) Why was it necessary to cool the glucose before adding the yeast suspension? (1mark)

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(iv) Why was the oil layer added? (1 mark)

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4.(a) In each case, state one problem faced by fresh water fish and marine fish in their habitats.

(i) Marine water fish (1 mark)

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……..

(ii) Fresh water (1mark)

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(b) State two ways through which each of the fish overcome the problems identified in (a) above.

(i) Fresh water fish (2 marks)

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(ii) Marine water fish (2 marks)

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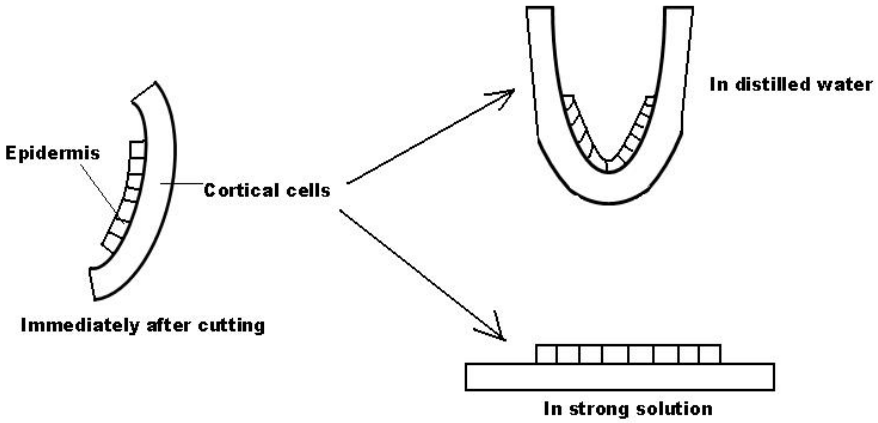
(c) Explain why a person discharges urine more often when the environment temperatures are low than when they are high. (2 marks)

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5.The diagram below shows the treatment given to strips of barbadoes stem which were cut lengthwise from the main stem.



(a) Account for the results obtained when the strips were put in:-

(i) Distilled water (3 marks)

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(ii) Strong salt solution (3marks)

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(b) Why did the strips curl slightly outwards immediately after being cut. (2 marks)

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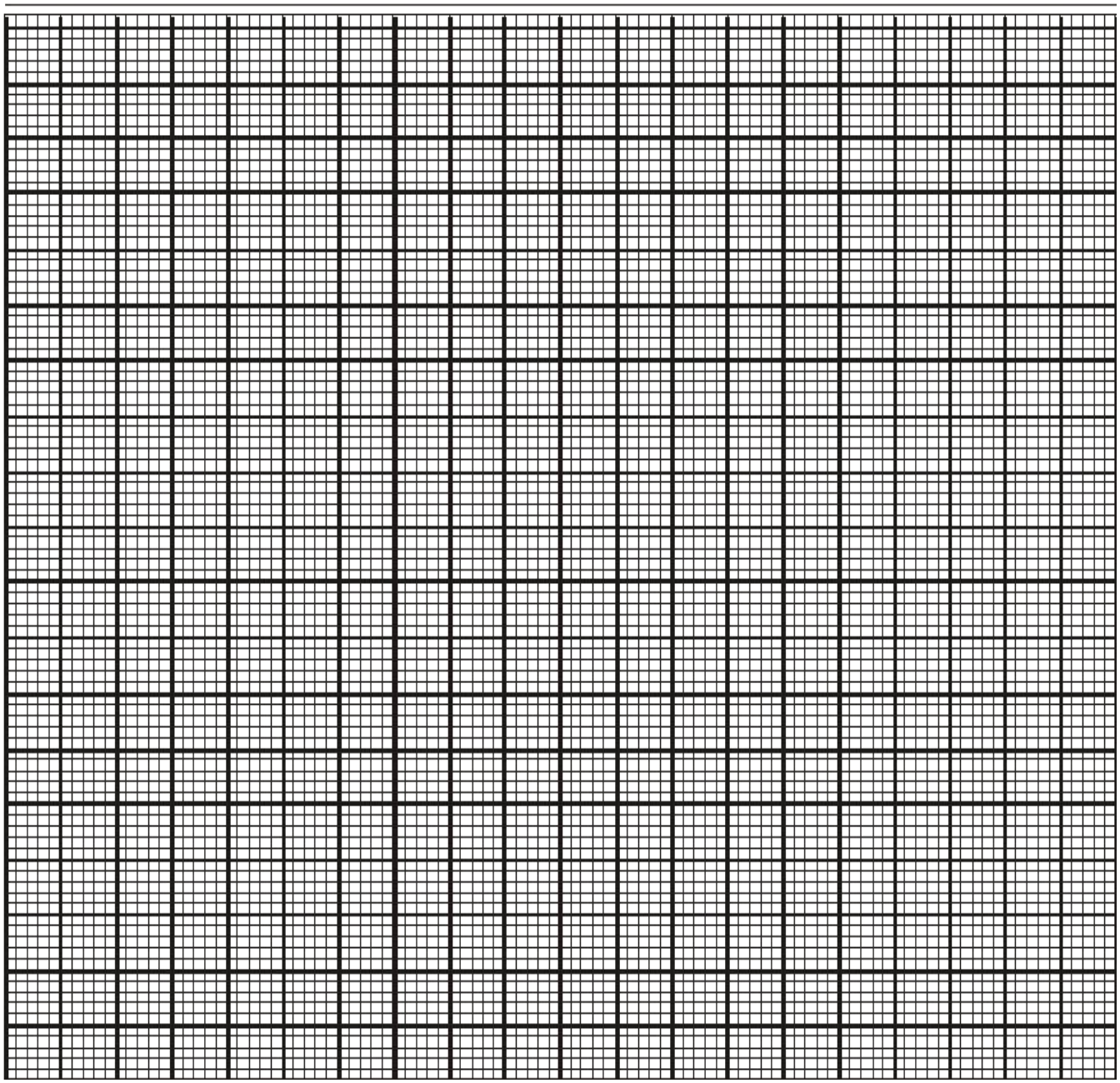
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6. The following data represent the development in dry mass of germinating seedlings within 18 weeks.

Time (wks)	0	1	2	4	6	10	13	15	16	18
Dry mass (gm)	1	2	3	10	18	32	44	45	44	38

(a) Plot a graph of dry mass against time. (6 marks)



(b) With reference to the graph, explain the changes in dry mass between.

(i) Week 0 to 2 (2 mark)

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(ii) Week 5 to 13 (2mark)

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(iii) Week 16 to 18 (2 mark)

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(c) (i) What is the significance of time zero. (1mark)

……..

……..

(ii) What difference would be expected from the above results if the experiment started with the seeds. Give a reason. (2marks)

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(d) (i) Describe how you carry out the experiment to obtain dry mass in the respective weeks. (3 marks)

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(ii) State one advantage of using dry mass and one disadvantage of using fresh weight in estimating growth.

Advantage (1 mark)

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……..

Disadvantage (1 mark)

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7. Blood has two broad functions, namely protective and transport.
   (a) Explain how blood is involved in transport, stating the constituents of blood involved. (12 marks)
   (b) Describe how blood protects the body (8 marks)
8. Describe how seeds and fruits are adapted to different modes of dispersal. (20 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

ASSESMENT

FORM 3

231/3
BIOLOGY
PAPER 3
(PRACTICAL)
$1^{3}/_{4}$ HOURS
FORM 3

INSTRUCTIONS TO CANDIDATES

- Write your name and Adm 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 $1^{3}/_{4}$ 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.

Question	Maximum Score	Candidates Score
1	12	
2	12	
3	16	
TOTAL SCORE	40	

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1.(a) You are provided with solution S. Use the reagents provided to identify the food substances in solution **S**. (9 marks)

Food substance	**Procedure**	**Observations**	**Conclusion**

(b) State any two ways in which the food substances present in **S** are used in the human body. (2 marks)

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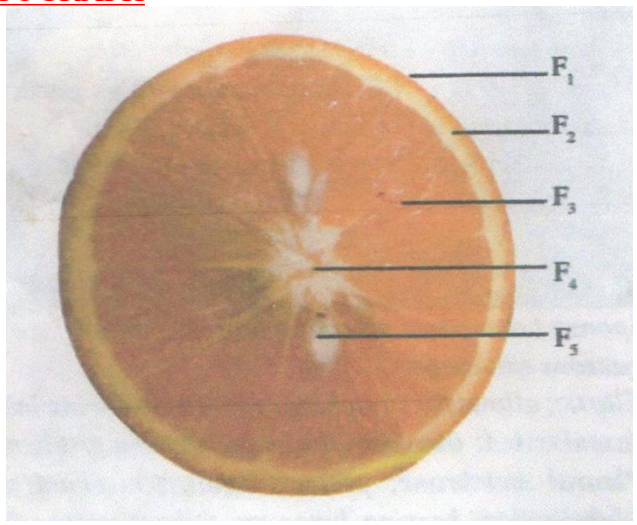
(c) Name one enzyme which can digest the food substances S into a simpler product. (1mark)

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2. You are provided with a photograph of a transverse section through specimen F.

QUESTION 2 PHOTOGRAPH



(a) On the photograph name the parts labelled F_1,F_2, F_3, F_4 and F_5 (5marks)

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(b) Name the type of fruit represented by specimen F (1mark)

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(c) State the type of placentation in specimen F. (1mark)

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(d) (i) By what means is the whole fruit of specimen F dispersed? (1mark)

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(ii) Give reasons for your answer in d (i) above. (4 marks)

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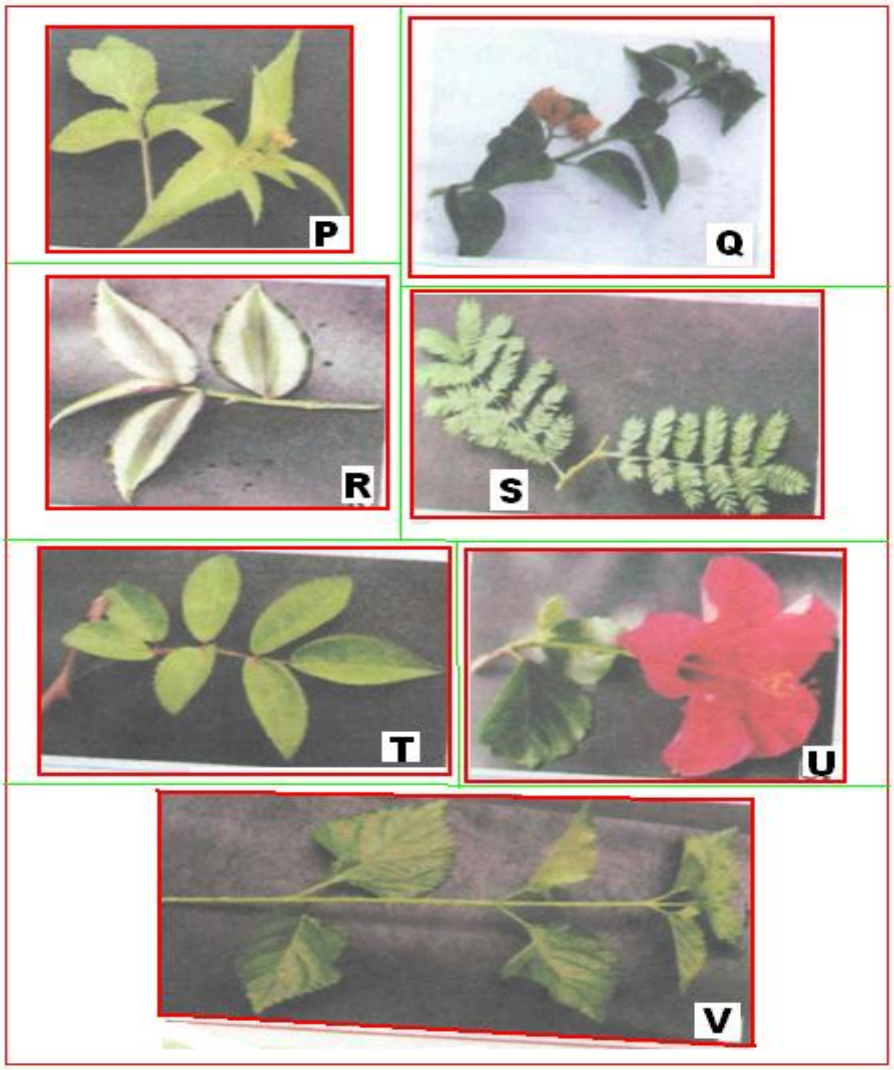
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3. (a) Using observable features in the photographs complete the dichotomous key given below.

(2 marks)

QUESTION 3 PHOTOGRAPHS



1. (a) Leaves parallel veined …….. Commelinaceae

   (b) ……go to 2
2. (a) Leaves simple……. go to 3

   (b) Leaves compound ……. go to 4
3. (a) Leaves alternate …… go to 5

   (b) Leaves opposite …… Verbanaceae

4. (a) Leaflets with serrated margin ……... Compositae

   (b) Leaflets with smooth margin …… go to 6
5. (a) Leaf margin smooth ……. Nyctaginaceae

   (b) Leaf margin serrated …… Malvaceae
6. (a) …….. Papilionaceae

   (b) Leaves bipinnate …….. Mimosaceae

(b) Use the completed dichotomous key to identify the family to which each plant. Show steps followed to reach each identity. (12marks)

Specimen	**Steps**	**Identify**
P		
Q		
R		
S		
T		
U		

(c) Name the classes to which plants R and V belong. (2marks)

Plant	**Class**
R	
V	

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

BUSINESS STUDIES PAPER 1

565/1
TIME: 2HRS

INSTRUCTIONS TO CANDIDATES:

i. Write your name, index number and admission number in the spaces provided above.
ii. Answer **ALL** the questions.
iii. Candidates should check to ascertain that all pages are printed and that no questions are missing.

For Examiner's Use Only:

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MARKS														

QUESTION	15	16	17	18	19	20	21	22	23	24	25
MARKS											

TOTAL MARKS

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

1. Outline four reasons why choice should be made when satisfying human wants (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

2. State four reasons why a farmer in Busia may opt to transport his sheep to Kenya Meat Commission (KMC) in Nairobi by the standard Gauge Railway (SGR) rather than by road (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

3. Outline four circumstances under which a firm would be located near the source of raw materials. (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

4. State four advantages of transacting business through E-Commerce (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

5. Give four unethical issues that traders should avoid in product promotion (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

6. Mention four features of perfect competition market structure (4mmks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

7. Identify with a tick (√) whether each of the following activities fall under primary, secondary or tertiary levels of production (4mks)

no	Activity	Primary level	Secondary level	Tertiary level
a	Milking cows			
b	Skimming milk			
c	Transporting potatoes to the market			
d	Building a cattle dip			

8. With the aid of appropriate examples distinguish between external business environment and Internal Business environment (4mk)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

9. State four ways in which a business idea can implemented (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

10. Highlight four methods that a government may use to protects consumers (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

11. State four channels that a Kenyan farmer would use ensure her goods reach consumers in another county (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

12. A property with a value of Ksh.4, 000,000 is insured for Ksh.6, 000,000. Part of the property worth Ksh.2, 500,000 is destroyed. Calculate the amount of compensation awarded and give the reason for your answer. (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

13. Highlight four advantages of proper filing in an office. (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

14. State four shortcomings of using per capital income as a measure of economic welfare (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

15. Give four differences between shares debentures (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

16. Demand for bread in coastal markets has been declining over time. Give four factors that may be responsible for this trend (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

17. State four circumstances under which downward communication is appropriate to an organization (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

18. Define the following terms as used in Business studies (4mks)

a) Goods

.....

b) Services

.....

c) Production

.....

d) Consumption

.....

19. State four advantages that consumers get from warehousing (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

20. Give four circumstances under which an insurance policy may be terminated (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

21. Outline four ways in which transport promotes growth of trade in the country (4mks)

a) .....

.....

b) .....

.....

c) .....

.....

d) .....

.....

22. Outline four ways in which the legal political environment contribute to business success (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

23. Highlight four disadvantages of advertising to the consumer (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

24. Name four factors that affect the circular flow of income (4mks)

a) .....
.....

b) .....
.....

c) .....
.....

d) .....
.....

25. Highlight five reasons why small-scale businesses are popular in Kenya (4mks)

a) .....

.....

b) .....

.....

c) .....

....

d) .....

.....

END

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

BUSINESS STUDIES (565/2)
FORM THREE (3)
Time: $2\frac{1}{2}$

Instructions to Candidates

a) *Write your name and Admission number in the spaces provided above.*
b) *Sign and write the date of examination in the spaces provided above*
*c) This paper consists of **SIX** questions*
*d) Answer any **FIVE** questions of your choice in the spaces provided.*
e) All questions carry equal marks
f) ***This paper consists of 2 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.***
g) ***All your answers must be written in English.***

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
	Total	

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1. a) Clearly discuss five features of economic resources (10mks)

   b) Explain five problems associated with measuring national income using the output approach. (10mks)

2. a) Since the year 2023 many small business in Kenya have expanded and grown into large enterprises. Discuss five causes of Business success (10mks)

   b) Describe five channels of distribution of imported manufactured goods (10mks)

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

   b) Discuss five merits of doing business through the internet (10mks)

4. a) In detail mention five circumstances under which the market may be the main factor in determining the location of a firm (10mks)

   b) Explain five documents used in home trade that are sent by the seller to the buyer after the ordering stage. (10mks)

5. a) Explain five roles played by the Kenya External Trade Authority (KETA) in promoting Kenya external trade (10mks)

   b) Kamau started a transport and logistics business and would want to safeguard his business property against the risk of fire. Explain to him the steps he needs to follow in order to acquire an insurance cover. (10mks)

6. a) With the help of a well labelled diagram explain the effects of the shift of the demand curve towards the left. On the equilibrium price and quantity (12mks)

   b) Discuss four factors to be put into consideration by Safaricom Company limited when deciding on a suitable media through which to advertise its 'Okoa chap chap' product (8mks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM THREE

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

233/1- CHEMISTRY – Paper 1

Instructions to candidates.

- This paper contains 11 printed pages with 29 questions.
- Answer all the questions in the spaces provided.
- Your work should be neat and legible.
- Non-programmable calculators may be used.
- All work must be clearly shown.

STUDENT SCORE

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

1. Name the apparatus that can be used for:

a) Holding corrosive substances (1 mk)

……

b) Holding a burette in place during titration (1 mk)

……

2. Two immiscible liquids P and Q are such that Q is less dense that P. Draw a diagram to show how a separating funnel can be used to separate them. (2 mks)

3. The following table shows atoms of a certain group of elements with their atomic and ionic radii respectively. The letters are not actual chemical symbols of the elements.

Element	Atomic radius (nm)	Ionic radius (nm)
P	0.109	0.148
Q	0.246	0.290
R	0.076	0.098

a) Do the elements belong to a metallic or non-metallic group? Give a reason. (1 mk)

……

……

……

b) Which of the elements is the most reactive? Give a reason. (1 mk)

……

……

c) Why are noble gases not entirely described as inert? (1 mk)

……

……

4. Substances around us are held together by bonds and structures.

a) Name two types of chemical structures in chemistry. (1 mk)

……

……

b) Compare the melting points of magnesium and aluminium. (2 mks)

……

……

……

5. (a) State Gay Lussac's law. (1 mk)

……

……

(b) If 100cm^3 of nitrogen gas is exploded in 200cm^3 of hydrogen gas to form ammonia, which of the two reactant gases is in excess and by how much? (2 mks)

……

……

……

(a) In the preparation of carbon (IV) oxide gas, a suitable carbonate is reacted with a dilute acid. By use of a balanced chemical equation, explain why lead carbonate cannot be used with dilute sulphuric (vi) acid to prepare carbon (iv) oxide. (2 mks)

……

……

……

(b) What is cloud seeding as an application of carbon (iv) oxide gas? (1 mk)

……

……

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

6. (a) Trona is a double salt with the chemical formulae Na_2CO_3. $NaHCO_3$. $10H_2O$. Write the formulae of the two ions that make it a double salt. (2 mks)

……

……

……

(b) Trona contains impurities, some of which are of economic importance. Name one such impurity which is extracted for use. (1 mk)

……

……

7. (a) Draw a diagram to show how sodium chloride can be prepared in the lab by reacting sodium metal and chlorine gas. (3 mks)

(b) What method of salt preparation is illustrated by your diagram above? (1 mk)

……

……

8. 5.6g of iron fillings were added to excess copper (ii) sulphate solution for a displacement reaction. Calculate the mass of copper that was deposited. (Cu = 63.5, Fe = 56) (3 mks)

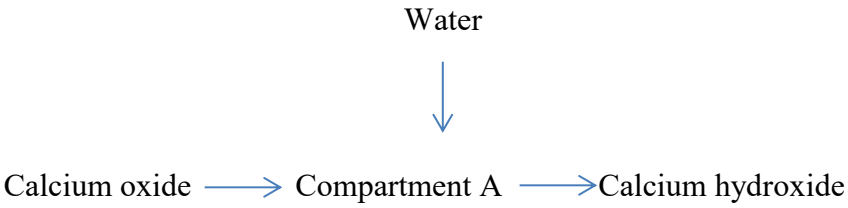
9. Despite its poisonous nature, carbon (ii) oxide can be put to good use. Mention two possible uses of carbon (ii) oxide gas. (2 mks)

……

……

……

10. The following scheme shows part of the Solvay process.



a) Name compartment A (1 mk)

……

……

b) Write a balanced chemical equation for the reaction happening in compartment A (1 mk)

11. Agnes found two solids in unnamed containers in the lab. The two solids were said to be silver chloride and lead (ii) chloride. Describe a simple solubility procedure which she can use to differentiate between the two.

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12. Define:

a) Ionic bond (1 mk)

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……

b) Valence electrons (1 mk)

……

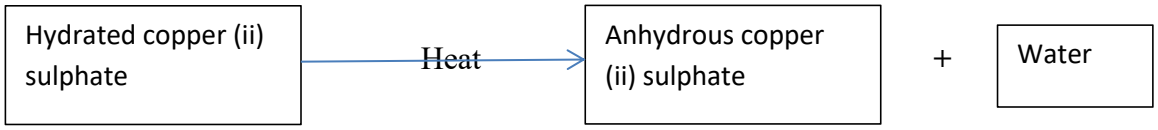
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c) Metalloid (1 mk)

……

……

13. Study the figure below.



a) Describe the physical appearance of hydrated copper (ii) sulphate. (1/2 mk)

……

……

b) Write a balanced chemical equation for the reaction above given that six moles of water were produced. (1 mk)

……

……

c) What type of change is undergone by hydrated copper (ii) sulphate? (1/2 mk)

……

……

14. (a) State two effects of impurities on boiling point of a substance (2 mks)

……

……

……

(b) State how the knowledge of effect of impurities on melting point fosters better transport in some countries. (1 mk)

……

……

15. An organic compound has a molar mass of 90. A 7.5g sample of the compound contains 3g carbon, 0.5g hydrogen and the rest oxygen. Determine its molecular formula. (C = 12, H = 1, O = 16) (3 mks)

……

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16. Fill the table below that shows products of thermal decomposition of some nitrates. (3 mks)

Compound	**Products after strong heating**
Ammonium nitrate	
Potassium nitrate	
Zinc nitrate	

17. It takes 30 seconds for 100cm^3 of carbon (iv) oxide to diffuse through an orifice. How long will it take 150cm^3 of nitrogen (iv) oxide to diffuse through the same orifice? (C = 12, O = 16, N = 14) (3 mks)

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……

18. Using dots and crosses to represent electrons, draw a diagram to show bonding in carbon (ii) oxide. (C = 6, O = 8) (2 mks)

19. Name the most suitable method of separating the following mixtures:

a) Oil from sunflower seeds (1 mk)

……

……

b) Gasoline from petroleum (1 mk)

……

……

c) Potassium carbonate from benzoic acid. (1 mk)

……

……

20. What concentration of sodium carbonate solution is used if 24.5cm^3 of this solution reacts with 14.8cm^3 of 0.32M hydrochloric acid? (3 mks)

21. Draw and write the electron configurations of;

a. The atom of aluminium (Atomic number = 13, mass number-27) (11/2 mks)

b. The ion of nitrogen (Atomic number = 7, mass number-14) (11/2 mks)

22. In terms of structure and bonding, explain why;

a. Ethanol has a higher boiling point than dimethyl ether whereas both have the same molecular mass.

(2 mks)

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……

……

……

b. Diamond is very hard (1 mk)

……

……

23. Give two properties of ionic substances. (2 mks)

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24. How many sodium ions are present in $50cm^3$ of 0.2M sodium sulphate?

(L = 6.023×10^{23}) (3 mks)

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25. Wanjau has two small pieces of calcium and sodium metals. He drops each of them in separate beakers containing about $50cm^3$ of cold water. State two differences in the observations he will make.

(2 mks)

Beaker containing sodium	**Beaker containing calcium**

26. State the reason why each of the following is not used to prepare hydrogen gas.

a) Dilute nitric acid. (1/2mk)

……

……

b) Magnesium metal. (1/2 mk)

……

……

27. A given mass of a certain gas occupies 250cm^3 at 20^{o}C and 740mmHg pressure. Find its volume at r.t.p. (3 mks)

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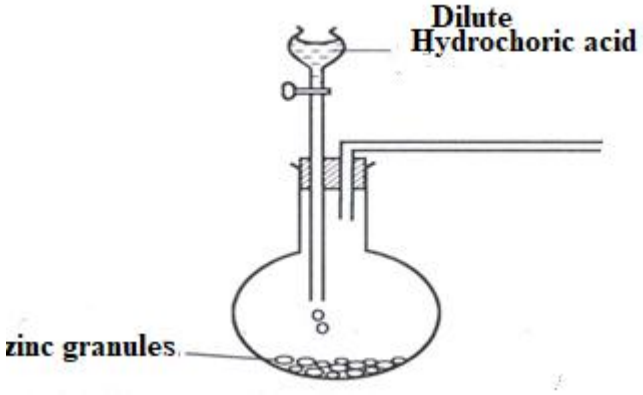
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28. Complete the diagram to show how hydrogen gas can be collected over water. (2 mks)



DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

233/2

CHEMISTRY PAPER 2

TIME: 2 HOURS

FORM THREE EXAM

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

INSTRUCTIONS TO CANDIDATES

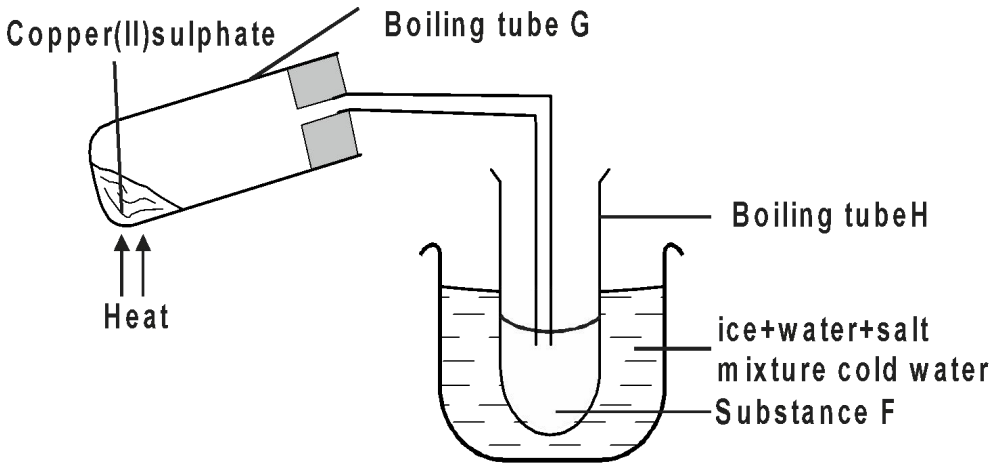
1. *Write your name, admission number in the space provided.*
2. *Answer all the questions in the spaces provided.*
3. *Mathematical tables and scientific calculators may be used.*
4. *All working must be clearly shown where necessary.*
5. *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.*

FOR EXAMINERS USE ONLY

QUESTION	MARKS	CANDIDATES SCORE
1	10	
2	12	
3	12	
4	11	
5	12	
6	13	
7	10	
TOTAL	**80 MARKS**	

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1.The set up below shows the effect of heat on hydrated copper (II) sulphate.



I.(a) State the observations made in tube G. (2 marks)

.....

.....

(b) Identify substance F. (1 mark)

.....

(c) Explain the use of the following in the above set up

(i) Ice cold water. (1 mark)

.....

(ii) Salt in ice cold water. (1 mark)

.....

(iii) Boiling tube G kept at a slanting position. (1 mark)

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(d) Describe a chemical test for substance F. (1 mark)

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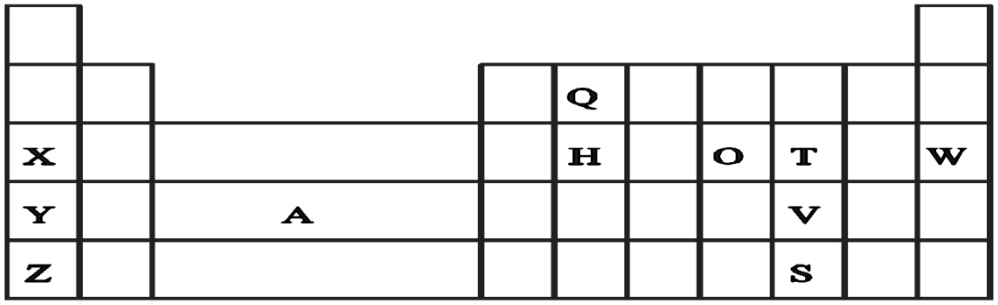
II.12.5g of hydrated copper (II) sulphate were heated to constant mass 8.0g of solid residue was formed Determine the formula of the hydrated salt. (Cu=63.5, S=32.0, O=16.0, H=1.0) (3 marks)

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



i) Which element will require the largest amount of energy to remove one of the outermost electrons in group I. (½ mark)

.....

(ii) Select the least reactive non-metal. (½ mark)

.....

(iii) Which of the elements has the largest tendency of forming covalent bonds in nature?

Explain your answer. (1mark)

.....

.....

(iv) Ions of element M (M^{2+}) have an electronic configuration of 2.8.8 Place element M on the above

grid. (1 mark)

(v) Write the electronic arrangement of element W hence give one use. (2 marks)

.....

.....

(vi) How does the atomic radius of X and H compare? Explain (2 marks)

.....

.....

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

Formula of chlorides	NaCl	$MgCl_2$	$AlCl_3$	$SiCl_4$	PCl_3	SCl_2	
M.P (°C)	801	714				-80	
Formula of oxides	Na_2O	MgO	Al_2O_3	SiO_2	P_4O_{10}	SO_2	Cl_2O_7
M.P (°C)	1190	3080	2050	1730	560	-73	-90

(i) Using (•) and crosses (×) to represent electrons, draw a diagram to show bonding in the following compounds.

(I) PCl_3 (1 mark)

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.....

.....

(II) NaCl (1 mark)

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(ii) Why is the melting point of $AlCl_3$ not indicated in the table above? (1 mark)

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(iii) Explain the large difference in the melting points of the compounds of formula MgO and P_4O_{10}.

(2 marks)

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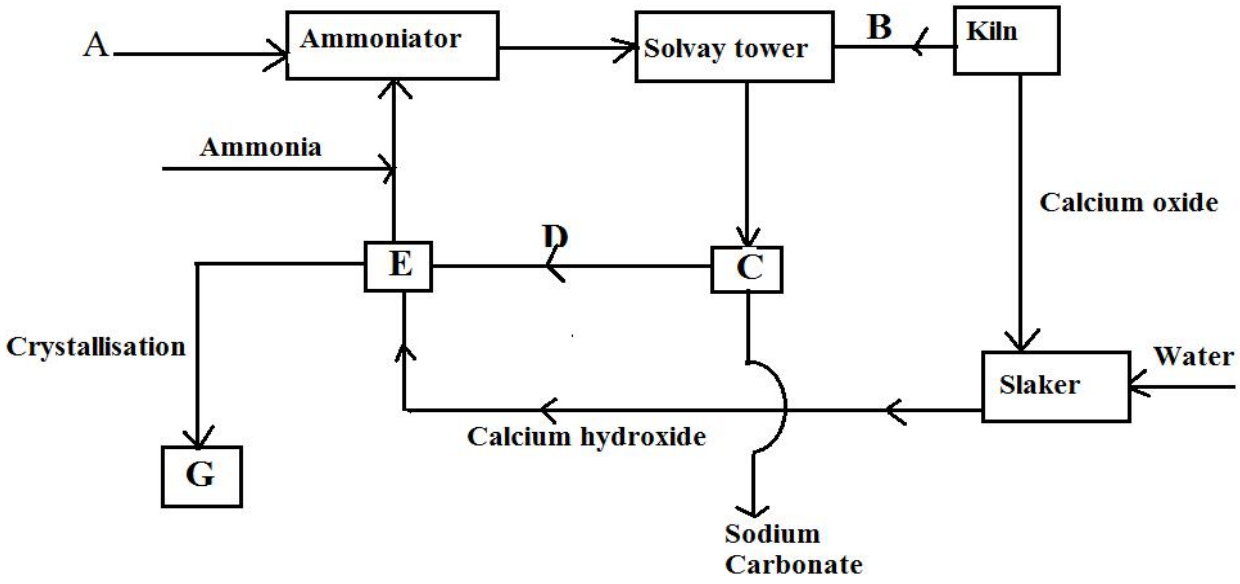
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3. The following diagram below shows a series of steps followed in the manufacture of sodium carbonate.



a) Name substances **A** and **B** (2marks)

A.....

B.....

b) Write equations for the reactions taking place in:

i) The solvay tower. (2marks)

.....

.....

ii) Chamber **E**. (1mark)

.....

c) i) Identify substance **G**. (1mark)

.....

.....

ii) State one laboratory use and one industrial use of substance **G.**

I. Laboratory use (1mark)

.....

.....

II. Industrial use (1mark)

.....

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d) Name **two** most important industry where sodium carbonate is used as a raw material. (2marks)

.....

.....

e) The reaction equation below represents a chemical change that occurs when hydrated sodium carbonate is exposed to the air for 24 hrs.

$$Na_2CO_3.10H_2O_{(s} \xrightarrow{\text{Exposure to air}} Na_2CO_3.H_2O + 9H_2O$$

i) Give the name of the chemical change represented by the above equation. (1mark)

.....

ii) What observable changes is accompanied by the above reaction? (1mark)

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4. a) Two reagents that can be used to prepare chlorine gas are manganese (IV)oxide and concentrated hydrochloric acid.

i) Write an equation for the reaction. (1mark)

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ii) Give the formula of another reagent that can be reacted with concentrated hydrochloric acid to produce chlorine gas. (1mark)

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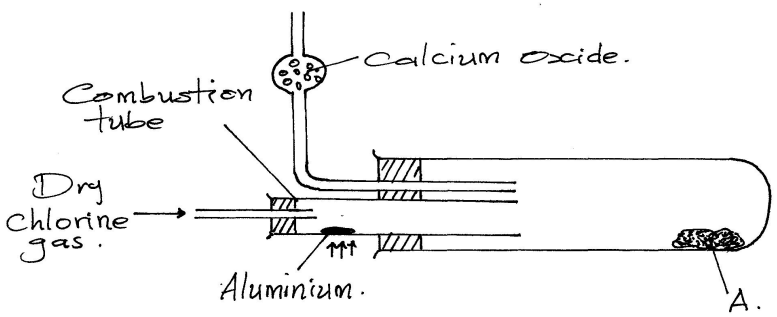
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iii) Describe how the dry chlorine gas could collected in the laboratory. (2marks)

.....

.....

b) In an experiment dry chlorine gas was reacted with aluminum as shown in the diagram below.



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i) Name substance A. (1mark)

.....

ii) Write an equation for the reaction that took place in the combustion tube. (1mark)

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iii) 0.84g of aluminium reacted completely with chlorine gas. Calculate the volume of chlorine gas used. (Molar gas volume is 24dm^3 Al = 27). (3marks)

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iv) Give **two** reasons why calcium oxide is used in the set-up. (2marks)

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5.(a)(i) State Gay Lussac's law of combining gas volumes. (1 mark)

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(ii)100 cm^3 of propane was ignited in 180 cm^3 of oxygen and the gaseous product allowed to cool. Determine the volume of the residual gas. (3 marks)

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(b)(i) What's is empirical formula? (1 mark)

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(ii) Vitamin C (ascorbic acid) contains 40.92 % C, 4.58 % H, and 54.50 % O, by mass. (C=12.0, H=1.0, O= 16.0)

Determine it's empirical formula. (2 marks)

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(iii) Given that the experimentally determined molecular mass of ascorbic acid is 176 amu, determine its molecular formula. (2 marks)

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(c) A solution of calcium nitrate is made by dissolving 16.4 g in 2 litres of solution. Calculate the concentration of nitrate ions in moles per liter. (Ca = 40, N = 14, O = 16) (3 marks)

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6. a) Draw a fully labeled diagram of the apparatus you would use to electrolyse an electrolyte in the aqueous state. (3marks)

b) Explain why crystals of sodium chloride are non-conductors of electricity but when melted they conducts electric current more readily. (2marks)

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c) Answer the following questions in relation to the electrolysis of molten lead (II) iodide.

i) State what happens to molten lead (II) iodide when an electric current is passed through it. (1mark)

.....

ii) At what electrode is a metal formed? Write an equation to show how the metal is formed. (2marks)

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.....

.....

iii) Why is it necessary to carry out this experiment in a fume chamber? (1mark)

.....

iv) What is a binary electrolyte? (1mark)

.....

.....

c)Give the application of electrolysis in

(i)Chemical manufacturing industry (1mark)

.....

.....

(ii)Metal extraction industries (1mark)

.....

.....

(iii)Jewellery e.g. necklaces manufacturing industries (1mark)

.....

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7. (a) Define the following terms

(i)Isotopes (1mark)

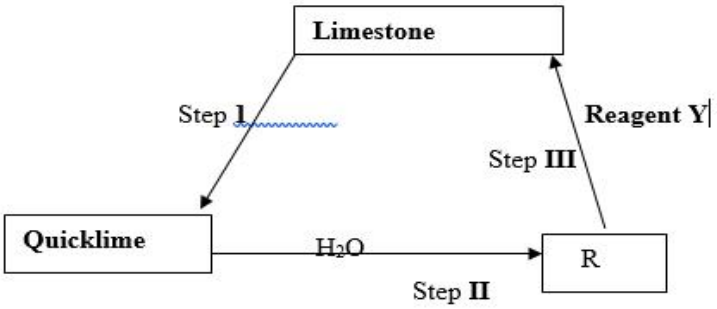
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(ii)Hydrogen bonding (1mark)

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(b) Below is a flow chart. Study it and answer the questions that follow: -



(i) Name the process in step **I** (1mark)

.....

(ii) Name compound **R** (1mark)

.....

(iii) Reagent **Y** (1mark)

.....

(iv) Write equation for the reaction in step **II** (1mark)

.....

(c) (i) Write down the observation made when a sample of copper (II) carbonate is heated in a test tube (1mark)

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.....

(ii) Write an equation for the action of heat on copper (II) carbonate (1mark)

.....

.....

(ii) State two observations when lead (II) nitrate is heated in a boiling tube (2marks)

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THIS IS THE LAST PRINTED PAGE.

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

(NOTE: CHEM PP3 CONFIDENTIAL NOT AVAILABLE)

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

233/3

Chemistry

Paper 3 Form 3

(Practical)

2 ¼ Hours

END TERM 1 EVALUATIONS

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

a) Answer all the questions in the spaces provided in the question paper
b) You are not allowed to start working with the apparatus for the first 15 minutes of the 2 ½ hours allowed for this paper. This time is to enable you read the questions paper and make sure you have all the chemicals and apparatus that you may need
c) All working must be clearly shown.

For Examiners Use Only

Question	Maximum Score	Candidate's Score
1	24	
2	08	
3	08	
TOTAL SCORE	40	

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(NOTE: CHEM PP3 CONFIDENTIAL NOT AVAILABLE)

1. You are provided with:

1.6g of solid A, a dibasic acid solution B containing 4.75g per litre of salt B

Aqueous sodium hydroxide solution C

Phenolphthalein indicator

You are required to prepare a solution of solid A and use it to determine:

Concentration of sodium hydroxide solution C

React salt B with excess sodium hydroxide and determine the relative molecular mass of salt B

Procedure I

a) Using a burette, place 250cm^3 of solution B in each of the 250ml conical flask. Using a pipette and a pipette filler add 25.0cm^3 of solution C to each of the two conical flasks. (The sodium hydroxide added is in excess) Label the conical flask 1 and 2

b) Heat the contents of the first flask to boiling and then let the mixture boil for 5 minutes. Allow the mixture to cool.

c) Repeat the procedure (b) with the second conical flask. While the mixtures are cooling proceed with procedure 2.

Procedure 2

a) Place all of solid A in a 250ml volumetric flask. Add about 150ml of distilled water shake well to dissolve the solid then add water to make up to the mark. Label this solution A.

b) Place solution A in a clean burette, using a pipette and a pipette filler place 25.0cm^3 of solution C in a 250cm^3 conical flask add 2 drops of phenolphthalein indicator and titrate with solution A. Record your result in table I. Repeat the titration two more times and complete the table below.

Table 1

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

(4 mks)

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Calculate the:

i) Average volume of solution A used (1 mk)

ii) Concentration in moles per litre of the dibasic acid in solution A, (RFM of A is 126) (2 mks)

iii) Moles of dibasic acid used (1 mk)

iv) Moles of sodium hydroxide in 250cm^3 of solution C (1 mk)

v) Concentration of sodium hydroxide in moles per litre. (2 mks)

PROCEDURE II

Add two drops of phenolphthalein indicator to the contents of the first conical flask prepared in procedure 1 and titrate with solution A. Record your results in the table 2. Repeat the procedure with the content of the second conical flask and complete the table below.

Table 2

	I	II
Final burette reading cm^3		
Initial burette reading cm^3		
Volume of solution A used cm^3		

(4 mks)

Calculate the:

i) Average volume of solution A used (1 mk)

ii) Moles of the dibasic acid used (1 mk)

iii) Moles of sodium hydroxide that reacted with the dibasic acid (1 mk)

iv) Moles of sodium hydroxide that reacted with 25.0cm of salt B in solution B (2 mks)

v) Given that 1 mole of salt B reacts with 2 moles of sodium hydroxide, calculate the:

i) Number of moles per litre of salt B in 25.0cm^3 of solution B (2 mks)

ii) Concentration in moles per litre of salt B in solution (1 mk)

iii) Relative molecular mass of B (1 mk)

2. You are provided with solid E, carry out the following tests and write observations and inferences in the spaces provided.

a) Place about one half of solid E in a dry test tube heat it strongly and test any gas produced using hydrochloric acid solution B on a glass rod.

Observations	Inferences
(1 mk)	(1 mk)

b) Place the rest of solid E in a boiling tube E. Add about $10cm^3$ of distilled water. Shake well and use $2cm^3$ portions for each of the test below.

i) To one portion add aqueous ammonia drop wise until in excess.

Observations	Inferences
(1 mk)	(1 mk)

ii) To the second portion add $1cm^3$ of hydrochloric acid.

Observations	Inferences
(1 mk)	(1 mk)

iii) To the third portion add 2 drops of aqueous lead (II) nitrate and heat the mixture to boiling.

Observations	Inferences

(1 mk) (1 mk)

3. You are provided with solid F. Carry out the test below. Write your observations and inferences in the spaces provided.

a) Place about one third of solid F on a metallic spatula and burn it using a Bunsen burner.

Observations	Inferences

(1 mk) (1 mk)

b) Place the remaining of solid F in a test tube. Add about $6cm^3$ of distilled water and shake the mixture well. (Retain the mixture for use in the tests below)

Observations	Inferences

(1 mk) (1 mk)

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i) To about $2cm^3$ of the mixture, add a small amount of solid sodium hydrogen carbonate.

Observations	Inferences

(1 mk) (1 mk)

ii) To about $1cm^3$ of the mixture, add $1cm^3$ of acidified potassium dichromate (VI) and warm

Observations	Inferences

(½ mk) (½ mk)

iii) To about 2cm3 of the mixture, add two drops of acidified potassium manganate (VII)

Observations	Inferences

(½ mk) (½ mk)

END

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. **ADM NO:** ……. **SIGN:**……

FORM THREE

451/1 Computer Paper 1

Time: 2½ Hours

Instruction to candidates

a) Write your name and index number in the spaces provided above

b) *This paper consists of* ***Two*** *sections* ***A*** *and* ***B***

c) Answer ***ALL*** *questions in section* ***A***

d) Answer question16 and any other ***THREE*** *questions from section* ***B***

e) All answers should be written in the spaces provided on the question paper.

f) ***This paper consists of 12 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicated and that no questions are missing.***

For Examiner's Use Only

SECTION	QUSTIONS	CANDIDATE'S SCORE
A	1 -15	
B	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

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SECTION A (40 MARKS)

Answer ALL the questions in this section

1. Explain the following input/output terms as used in computer systems. Give an example for each (4marks)

a) Read

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……..

b) Write

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2. Brian uses a browser to research information for her business. Give **three** functions of a browser. (3marks)

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3. List down **three** types of computer viruses (3marks)

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4. Define the following terms as used in disk management

i) Back up

(1mark) ……

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ii) Scan (1mark)

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5. Leonard has a new laser printer to print letters for his business. Leonard connects his printer to his computer using USB port. Give **three** benefits of using the USB port to connect the printer to the computer. (3marks)

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6. State **three** ways in which your school librarian can use a computer (3marks)

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7. Distinguish between stimulation and virtual reality (2marks)

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8. Give the **denary** value of each of the three 12-bit binary values. (3marks)

i) 000000001100

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ii) 000011000110

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iii) 010011000001

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9. a) One of the challenges that computer organizations face is unauthorized access to computer systems. Distinguish between logical access and physical access. (2 marks)

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b) State **one** way in which each of the types of unauthorized access to computer systems can be controlled. (2 marks)

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10. Give **Two** possible ways of fitting a document in one page (2marks)

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11. Differentiate between real time processing and batch processing giving examples where each could be used (2marks)

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12. Give **Two** advantages of an electric spreadsheet over traditional analysis ledger sheet (2marks)

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13. List **Four** E-mail services (2marks)

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14. Clive has a laptop computer that he uses for his business. He enters a username and password to log in to his laptop. Clive is worried about spyware being used to find out his username and password. Describe how spyware could be used to find out Clive's username and password. (3marks)

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15. Suggest **Two** possible causes of data and program loss in computer (2marks)

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SECTION B (60 marks)

Answer question 16 (Compulsory) and any other three questions from tis section

16. Glen is a landlord and she rents houses for ksh.5500 per month. A customer is awarded a 5% discount if she pays rent for over six months in advance. Currently, Glen has ten rental houses which are fully occupied. Develop a pseudo code that can capture the rent payment for all the ten tenants and calculate the total discount awarded. (7 marks)

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b) Draw a flowchart for the above algorithms (5 marks)

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c) Program documentation is writing of support materials explaining the program.

State **Three** types of program documentation (3marks)

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17.(a) i Define the term *Data integrity* (2 marks)

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ii.)State three ways of minimizing threats to data integrity. (3 marks)

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b.)Describe three challenges affecting electronic information processing (3 marks)

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c.)Most organizations today are migrating from manual file system to computerized filling system so as to have a competitive advantages in discharging their functions. State two advantages of adopting this innovation. (2 marks)

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d.)State three types of computational errors. (3 marks)

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e)Name two industries that extensively use Real-time processing. (2 marks)

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18.

a) Odhiambo noticed that his computer was idle but the hard disk light was blinking, indicating some activity. State **two** possible causes of this. (2 marks)

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b) Explain the importance of disk partitioning. (2 marks)

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c) Differentiate between pull down menu and pop-up menu as used in Graphical User Interface (GUI) operating systems. (2 marks)

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d) Lavender saved a document on a flash disk. Later on she found that the flash disk could not open and therefore the work got lost. Advise her on the precautions she should take to avoid such situations in future. (3 marks)

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e) The operating system helps to manage computer disks through disk defragmentation and compression.

i) What is the difference between disk defragmentation and disk compression?

(2 marks)

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ii) What is the purpose of disk defragmentation?

(2 marks)

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f) Olumbe accompanied the Computer Technician who was fixing the school computers prior to the KCSE exam. He noticed that there were three types of malicious programs the technician was dealing with. Name any **two** of the malicious programs that were being dealt with. (2 marks)

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19a) Define the term user interface as used in operating system. (1mark)

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b) Describe the directory: F:/> SCHOOL/CLASS/STREAM/MDYR.Exl. (4marks)

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c) Differentiate between in-house developed software and a suite software. (2marks)

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d) Describe **two** circumstances when a technician may have to carry out disk formatting on a hard disk. (4 marks)

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e) Describe any **two** techniques that a typist can use to proof read a document. (4 marks)

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20a) Differentiate between denary number system and hexa decimal. (3marks)

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b) Perform the following arithmetic: (4marks)

i) $10010.01_2 + 110010.011_2$.

ii) $10010.101_2 - 0011.0111_2$

c) In a certain number system the letter D is represented as 1101 write the word BAF in the coding scheme. (4marks)

d) Evaluate to convert: (4marks)

i) 110101.1012 to base 10

ii) 479_8 to Base 16

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

COMPUTER STUDIES PAPER II 451/2

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

TIME 2½Hrs.

INSTRUCTIONS TO CANDIDATES:

(a) Indicate your name and Admission number at the top right-hand corner of eachprintout.
(b) Write your name and admission number on the CD/Removable storage mediumprovided.
(c) Write the name and version of the software used for each question attempted in theanswer sheetprovided.
(d) Answer all thequestions.
(e) All questions carry equalmarks.
(f) Passwords should not be used while saving in the CD/Removable storagemedium.
(g) All answers must be saved in your CD/Removable storagemedium.
(h) Make a printout of the answers on the answersheet.
(i) Arrange your printouts and tie/staple themtogether.
(j) Hand in all the printouts and the CD/Removable storage mediumused.
(k) This paper consists of 4 printedpages.
(l) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions aremissing.
(m) Candidates should answer the questions in English.

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1. **Rembo Company Ltd** deals with sales of **three** types of electronic goods namely television sets, radio systems and smart watches. Below is a table showing details of June2022sales.

RemboCompany Ltd. Sales asper30th June 2022							
Category Code	**Type**	**Item Description**	**Unit Price**	**Sold**	**Total**	**Tax**	**Net Amount**
TV001	TV	32" Vitron TV	16000	8			
TV002	TV	42" Hisense TV	60000	2			
RD001	Radio	Panda Radio	21000	12			
SW001	Watch	Oraimo Watch	7500	15			
TV003	TV	21" LG TV	11000	22			
SW002	Watch	Asorock Watch	6200	18			
TV004	TV	21" Sony TV	15800	14			
SW003	Watch	Apple watch	4500	20			
RD002	Radio	Sundar Radio	3200	30			
RD003	Radio	Revo Radio	4700	8			
TV005	TV	14" Samsung TV	8200	4			
SW004	Watch	Xiaomi Watch	6500	16			
			TV	**15%**			
		Tax Rates	Watch	**12%**			
			Radio	**8%**			

Required:

(a) i) Type the following data in a spreadsheet and save it as **Rembo Company(**14marks)

ii) Copy the entire worksheet to sheet2 and rename it as **Rembo New** (2marks)

(b) Format Rembo new worksheet as follows:

(i) Center the Title across columns. (2marks)

(ii) The text should be Cambria, 18 points, bold and centered within a cell. (2marks)

(iii) Column Headings to be wrapped within the cells and centered (2marks)

(c) The Unit Price to be in two decimals and currency symbol Ksh. (3marks)

(d) Use appropriate cell references to calculate:

(i) The total, rounded to two decimal places. (3marks)

(ii) The TAX is based on the type of the item. Use the rates given in the table above to calculate tax payable on each item sold. (3marks)

(iii) The Net Amount, which is the total less tax. (3marks)

(e) Sort the worksheet in ascending order according to category. (2marks)

(f) Calculate the **subtotals** and **grand total** for **the three** types of electronic goods. (6marks)

(g) On a separate sheet, create a bar graph that compares sales for the three types of electronic goods. Labelit appropriately. (6marks)

(h) Print the **Rembo new** and the bar graph (2marks)

2. i) Open a desktop publishing program and set the page layout in inches as follows. (5marks)

a) Paper size : 2.6” width by 3.2” height

b) Portrait: orientation

c) Margins: 0.25” all round

d) Layout type : multiple pages per sheet

e) Target paper size; A4



ii) Designs the card as it appears ensuring that the card covers all the space in the page. (42marks)

iii) Save the publication as anniversary card (1mark)

iv) Print out 8 copies of the card on a single A4 page (2marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

CRE

PAPER 1

FORM 3

END TERM 1 EXAMINATION

Time: 2 ½ HOURS

Instructions to Candidates:

This paper has SIX questions.

Answer FIVE questions only.

QUESTION	1	2	3	5	6	TOTAL
MARKS						

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1.

a. Outline the major division of both Old and New Testament. **(6 marks)**

b. Identify seven ways in which the Bible is misused in Kenya today. **(7 marks)**

c. How does God reveal himself to Christians today? **(7marks)**

2.

a. Describe how God prepared the Israelites for the making covenant while at Mt Sinai. (Exodus 19) **(7 marks)**

b. Give four reasons that made the Israelites to break the covenant at Mt Sinai. (Exodus 32:1-35) **(8 marks)**

c. What do Christians learn about the nature of God from the Exodus? **(5 marks)**

3.

a. Outline the achievements of Solomon as the King of Israel. **(7 marks)**

b. Outline the importance of the temple in Jerusalem. **(7 marks)**

c. How do Christians in Kenya demonstrate their faith in God? **(6 marks)**

4.

a. Explain for categories of true prophets in the Old Testament. **(8 marks)**

b. Outline social injustices condemned by prophet Amos in Israel. **(7 marks)**

c. Give five obstacles the church is facing in trying to curb injustice in Kenya today. **(5 marks)**

5.

a. Outline seven characteristics of the true prophets in the Old Testament. **(7 marks)**

b. Describe the call of Amos to become the prophet of God in Israel. **(6 marks)**

c. Give seven ways through which the youth in Kenya can avoid Gods punishment today. **(7 marks)**

6.

a. Give reasons why premature pregnancies were rare in Traditional African Community. **(7 marks)**

b. What is the role of a mid-wife in Traditional African communities **(7 marks)**

c. Identify the effects of divorce on children in Kenya today. **(6 marks)**

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

CRE

PAPER 2 [313 /2]

FORM 3

Time: 2 HOURS 30 MINUTES

Instructions to Candidates:

This paper has SIX questions.

Answer FIVE questions only.

QUESTION	1	2	3	5	6	TOTAL
MARKS						

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1 a) Outline Isaiah's prophecy about the messiah on the suffering servant in Isaiah 53.

(8marks).

b) Describe the message of angel Gabriel to Mary according to Luke 1:26-38 **(6marks)**

c) Outline six lessons on family relationships drawn from the incident when Jesus accompanied his parents to the temple at the age of twelve. **(6marks)**

2. a) with reference to Luke 5:17-26, describe the healing of the paralytic man. **(8marks).**

b) State seven teachings of Jesus on true discipleship from the sermon on the plain**. (7marks).**

c) Give reasons why modern Christians should accept to suffer in Christ's name. **(5marks).**

3a) Identify six petitions in the Lord's Prayer. **(6 marks)**

b) Narrate the parable of the rich fool in Luke 12:13-21 **(7 marks)**

c) What seven lessons can Christians learn from the parable of the prodigal son? **(7 marks)**

4a) Narrate the parable of the Good Samaritan (Lk 10:25-37). **(6 marks)**

b) Narrate the parable of the rich fool in Luke 12:13-21 **(6 marks)**

c) What seven lessons can Christians learn from the parable of the prodigal son? (6 **marks)**

5 a) State Seven instructions Paul gave to the church in Corinth on how to use spiritual gifts.

(7 marks)

b) Explain how the unity of believers is expressing in the image of the bride**.** **(8 marks)**

c) Explain the Importance of the Holy Spirit to Christians today. (7 **marks)**

6a) List the fruits of the Holy Spirit (Gal 5:22-23). **(6 marks)**

b) Explain Peter 's understanding of the person of Jesus during the Day of the Pentecost.

(6 marks)

(c) Seven reasons that make many Kenyans attracted to the church. **(8 marks)**

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM 3

101/1

ENGLISH

PAPER 1

(Functional Skills, Cloze Test and Oral Skills)

TIME: 2 Hours

Instructions to Learners:

a) Write your name and admission number in spaces provided
b) Sign and write the date of examination in spaces provided
c) Answer ALL questions
d) All answers must be written in the spaces provided

FOR EXAMINER'S USE ONLY

QUESTION	TOPIC	MAXIMUM SCORE	LEARNER'S SCORE
1.	FUNCTIONAL WRITING	20	
2.	CLOZE TEST	10	
3.	ORAL SKILLS	30	
	TOTAL	**60**	

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1. FUNCTIONAL SKILLS (20 MARKS)

Your brother has been admitted to Mount Kenya University for his studies. However, your parents are unable to raise the amount needed for his college fees. They have organized a harambee to offset the balance. Write a letter to your area Member of Parliament inviting her to the harambee.

2. CLOZE TEST (10 MARKS)

Read the passage below and fill in the gaps with the most appropriate words.

Your association's leadership 1_____ play an important role in fostering a culture that tolerates more risks. Most organizations have plenty 2 _____ employees who are observant, creative thinkers. 3 _____ these employees won't speak up if their managers are overly 4 _____ or negative when presented with new ideas.

Organizing a weekly brainstorm 5 _____ take some pressure 6 _____ employees and encourage them to share new ideas. For example, managers could take turns hosting a Friday afternoon brainstorming 7 _____ around pre-determined themes.

You could even take this a step further and organize an internal innovation lab. That's how Aptify, a global software company, took steps to shake up its approach to disruption and radical 8 _____. With time, the program 9 _____ directly to a grassroots App Store customers loved.

Be sure that any brainstorming group includes a 10 _____ collection of employees who work on different teams. Once you create the right environment, fresh ideas will start rolling in.

3. ORAL SKILLS (30 MARKS)

a) Read the poem below and answer the questions provided. (8 Marks)

Loved with everlasting love,

Led by grace that love to know,

Spirit breathing from above,

Thou hast taught me it is so,

Oh, this full and perfect peace!

Oh, this transport all divine!

In a love which cannot cease,

I am His, and He is mine.

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QUESTIONS

i) Identify the rhyming words in the above poem. (2 Marks)

_____

_____

_____

ii) Other than rhyme, identify and illustrate other two sound features evident in the poem above.(4 Marks)

_____

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_____

iii) If you were to recite the poem above to your classmates, how would you make it more interesting? (2 Marks)

_____

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_____

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_____

b) The underlined sounds are either /*s*/ o r/z/. Group them in the table below: -

His, iris, install, incense, improvise, impose, ice, class. (4 Marks)

/s/	/z/

c) Indicate the stressed syllable in the underlined words below. (5 Marks)

1) The <u>produce</u> from our farm is always sold.

_____

2) Can you <u>extract</u> iron from sand?

_____

3) We will throw away the <u>reject</u> in the thrush.

_____

4) My car <u>project</u> is at an advanced stage.

_____

5) A good speaker would <u>project</u> her voice well when singing.

_____

d) **Provide a word which sounds the same as each of the following. (5 Marks)**

i. Male - _____

ii. Queue - _____

iii. Hire - _____

iv. Blue - _____

v. Ate - _____

e) Underline the silent letters in the words provided. (3 Marks)

i. Maiden

ii. Lesson

iii. Said

f) Indicate whether the following sentences would be said with a falling or rising intonation. (5 Marks)

i. My mother took me to the best school. _____

ii. Why have you brought my books here? _____

iii. Does she like eating bread? _____

iv. You bought me a Mango? _____

v. Get out! _____

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM 3

101/2

ENGLISH

PAPER 2

(Comprehension, Literary Appreciation and Grammar)

Time: 2 ½ Hours

Instructions to Learners:

a. Write your name and index number in the spaces provided.
b. Sign and write the date of examination in the spaces provided.
c. Answer all questions in the question paper.
d. All the answers must be written in the spaces provided in the question paper.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	LEARNER'S SCORE
1	20	
2	25	
3	20	
4	15	
TOTAL	**80**	

1. COMPREHENSION (20 MARKS)

Read the following passage and answer the questions that follow.

Some people seem to have all the luck. But is that right? Is there really something like luck that makes the difference between winners and losers? Yes there is. It is called hard work. Winners just work harder. They develop the attitudes on and habits that make the most of every opportunity. This is getting up earlier, so you have more hours in the day, playing to your strengths and focusing on what you do best. It is also managing your time and focusing on your priorities, **putting off pleasures**, to practice, study and prepare first so that when an opportunity arises, you are quick to get going.

Winners never stop learning. They are active, independent, competitive and willing to take risks. They pay attention to the little things and aim for perfection. They make commitments and keep them. Losers do exactly the opposite. Winners spot opportunities better than everyone else. They like meeting people and are good at keeping in touch. They expect to get on with everyone – and so they do. Because if you meet someone assuming they will like you, and treat them like they do, then they will! So you should smile a lot, make good eye contact, and be easy to get along with. The more people you talk to, the more opportunities will come your way. In fact, almost every good thing that will ever happen to you involves meeting someone or influencing them. Losers choose losers. Winners notice more things. So listen hard, stay relaxed and receptive, and watch everything that is going on around you, rather than only looking for what you want to see. Seek out new people to meet, places to go and things to do. You never know what new opportunity will present itself.

Listen to your intuition. That works because your subconscious is very good at picking up everything that is going on around us and comparing it with our past experience – the countless **tiny gestures** people make**,** for example. This leaves us with a "gut-feeling" as to whether we can trust them. Winners believe they control their future, and do not get distracted from their goals. Losers feel just the opposite. Winners do not quit. They focus on solutions. Losers focus on problems. Winners expect to be healthy and so they look after themselves well. Losers see little point in trying to lead healthy lives. Winners are tough. They always seem able to see the positive side of whatever has happened to them. They do not dwell on their troubles, but instead

take the constructive steps to prevent them in the future. They try different strategies when they fall. Losers do the same thing again and again, somehow expecting different results. So stop wishing for better luck. You should work, meet loads of people, and be alert to every opportunity, and then you will be one of the winners.

QUESTIONS

a) From paragraph one, what makes the difference between winners and losers? (2 Marks)

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b) How do winners make the best of every opportunity? (2 Marks)

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c) In note form, state what it means to make most of every opportunity. (4 Marks)

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d) Which three things dominate winners' behavior? (3 Marks)

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e) Why do winners believe they control their future? (3 Marks)

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f) What is the attitude of the writer towards losers? (2 Marks)

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g) Rewrite the following sentences according to instruction given after each. (2 Marks)

i. Winners expect to be healthy and so they look after themselves well. (Rewrite using a participle).

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ii. Listen to your intuition (Rewrite adding a question tag)

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.....

h) Give the meaning of the following phrases as used in the passage (2 Marks)

I. Putting off pleasure-.....

II. Tiny gestures-.....

2. Read the following extract from the play "The Samaritan" by John Lara and then answer the questions after. *(25 marks)*

Seymour: (Springing to his feet with clenched fists) That cannot be possible. Nobody can write that kind of thing about me in this world!

Harvester: (Looking at Ted and Seymour) Copies of indisputable documentary evidence to that effect were all over today's newspapers and are being shared in all media platforms.

Seymour: (Resuming his seat and swearing with trembling voice) Those are fake documents! These are all barefaced falsehoods! And I can assure you one thing: Those behind the allegations now have their appointment with fate! Certainly!

Ted : (Sitting properly and looking up for the first time) **Supply of air?** I am beginning to think this is serious. Could we end up in Baneta Express Prison?

Harvester:(Turning pages of his note book)But that is only one of the allegations ,there are many more ,including drug trafficking, grabbing of public land, **inflation** of the cost of municipal projects, use of proxies to secure municipal tenders, undertaking shoddy public works, murder and gang warfare. The information is very detailed on the people and companies involved .

Mossi: There is a lot of personal information on municipal leaders on that evil thing , too; including lifestyles of individual municipal officials, where they live, the kind of houses they live in, their businesses, the vehicles they own, other properties in their possession, when the properties were acquired, and a lot of other personal details I don't want to mention here. (Looking at Bembe) There was a lot of talk yesterday on the Madingo Golf Club, with everyone Wondering where you got the money to put it up.

Bembe: (Sitting up with an expression of horror on his face) The Madingo Golf Club? No! I have always been very **discreet** about my private affairs! How did they get the Information it is mine?

Mossi: You see, there is hardly anything on earth you can do without somebody knowing About it. You should also remember that those we regard as our friends are Sometimes wolves in sheep's clothing. And they may have a lot of information about us,which could be damaging!

Bembe: This might be our worst nightmare!

Mossi: What worries me most is the recent formation of a lobby group, an amorphous virtual group, comprising mostly of lawyers, calling itself *The Samaritan*. It is calling upon the people to volunteer as witnesses and help in the prosecution of those involved in corruption and abuse of office in the Municipality. They are also planning to **petition** the Local Government Minister ,the Prime Minister, and the Chief Justice to take action. The situation is not pretty at all.

Ted: (Looking at Justice Jaden)Can such online allegations form a strong basis for prosecution and conviction?

Jaden: (Adjusting his eyeglasses) Yes, they can; provided there are valid documents supporting the allegations.

Bembe: (Throwing his hands in the air) I think we have no choice other than ban that thing within Maracas Municipality! The Municipal Council needs to pass a by-law to that effect urgently. I will enforce it immediately!

Jaden: (Adjusting his eyeglasses and then his tie) I think we need to be careful and strategic. On what basis do you ban it? And how can you police the use of mobile phones to ensure the ban is effective?

Seymour: We can think creatively about that. For example, we can claim that municipal authorities are concerned that suspect Apps, particularly spy Apps, are finding their way into our municipality. This may lead to theft of confidential information such as bank account details. We can also cite issues of cyberbullying and the sharing of pornographic materials in schools.

QUESTIONS

a)What is Seymour referring to at the beginning of the excerpt **?** **(2mks)**

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b)Identify and illustrate two aspects of style in this excerpt**.** **(4mks)**

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c) Discuss two themes evident in this excerpt **(4mks)**

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d)Discuss one character trait of Seymour and one character trait of Mossi as presented in this excerpt**.** **(4mks)**

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e) From your knowledge of the rest of the play, what two things does Mossi suggest could be done to control the use of the Samaritan App? **(2mks)**

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f) From your knowledge of the rest of the play , briefly explain the origin of the Samaritan App.**(4mks)**

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g) Explain the meaning of the following words and phrases as used in the excerpt **(5mks)**

i) Supply of air

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ii) inflation

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iii)discreet

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iv)amorphous

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v)petition

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3. POETRY (20 MARKS)

Read the poem below and answer the questions that follow

THE BREWING NIGHT (By Yussuf Kassam)

It was that memorable night when I heard it

Yes, I heard it all

That night sleep deserted me,

Mocked at me and tantalized me,

So I lay awake, sharp in all my senses.

It was long past midnight:

Time dragged on, the clock chime;
The dog wouldn't bark, nor the baby cry;
It was a moonless and windless night;
The whole universe seemed to stagnate
In dark, dreary, dead slumber.
What was amiss? I knew not.

The dead quietness and solitude
Seemed to be eternal, but
Waves of babbling and muttering
Began to trickle through the streets;
A distant roaring of heavy trucks filled the air,
Hurried footsteps eroded through the street.
What was a miss? I knew not.

I pulled my curtain
And there I saw it all
Heavy boots thick uniform and solid helmets
Dimly discernible under the pale street lamp
The atmosphere stood stiff and solid with
Brawny – faced and clenched – teeth determination

The night had pulsed with passion high and wild;
The streets were stained with new portraits framed;
The wheel changed hands and new plans were filed.
The morning saw the country strangely dresses
And everyone attended the rally.
To hear the eloquence from a strange face,
And everyone quietly nodded and said, 'yes'

QUESTIONS

a) Explain what the poem is about. (3 Marks)

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b) In what ways was the night described in the poem peculiar? (2 Marks)

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c) What was a miss? I knew not. (Rewrite as one sentence beginning I did ...) (2 Marks)

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d) Paraphrase in one sentence what the persona saw when he or she pulled the curtain to see. (1 Mark)

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e) What is the significance of stanza two? (3 Marks)

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f) Identify and explain any one personification in the poem. (2 Marks)

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g) Explain in your own words what happens in the last stanza. (5 Marks)

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h) Explain the meaning of the title. (2 Marks)

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4. GRAMMAR (15 MARKS)

a) Rewrite the following sentences in the passive voice. (3 Marks)

i. We ate lunch.

.....

ii. The prisoners are digging trenches.

.....

iii. Joha killed a snake.

.....

b) Rewrite the following sentences correcting the error in each. (2 Marks)

i. Some people imagine their race is more superior than the African race.

……

……

ii. I have met the principal severally.

……

c) Rewrite the following sentences indicating the words that should be in parentheses. (3 Marks)

i. None of them I believe was telling the truth.

……

ii. Dogs I must confess I fear but cats treat with affection.

……

iii. This class and I speak from experience is the best I have ever taught.

……

d) Fill in the blank spaces with phrasal verbs formed from the words in brackets. (3 Marks)

i. I plan to..... (plough) all my profits into the business.

ii. It is unfair when business men .....(cash) on people's weaknesses.

iii. Many workers were..... (lay) when the business collapsed.

e) Fill the blank spaces with phrasal verbs formed from the words in bracket. (4 Marks)

i. He did not visit his sick mother even once. (Begin: Not .....)

……

……

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ii. The TSC will not remit the unions' dues under any circumstances. (Begin: Under .....)

……

……..

iii. The two students were suspended but only because they were rude. (Begin: But .....)

……

…….

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

F0RM 3

101/3

ENGLISH

PAPER 3

(Creative Composition and Essays Based on Set Texts)

Time: 2 Hours 30 Minutes

Instructions to Learners:

a) Answer **three** questions only. Questions one and two are **compulsory.**

b) In question three, **choose only one** of the optional texts you have prepared on.

c) Each of your essays should not exceed 450 words.

d) All answers must be written in the English language.

e) This paper consists of 2 printed pages. Candidates should check to ensure that all the pages indicated are printed.

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QUESTION	MAXIMUM SCORE	LEARNER'S SCORE
1	20	
2	20	
3	20	
TOTAL	60	

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1) Imaginative Composition (Compulsory). (20 Marks)

EITHER

a) Write a composition with the following words:
A lost wallet, money and a Good Samaritan.

OR

b) Write a story to illustrate the saying; once bitten twice shy.

2) The Compulsory Text. (20 Marks)

Fathers of Nations by Paul B. Vitta.

"Sometimes going through challenges does not necessarily mean that is the end of the road. Using Prof. Kimani in Paul Vitta's Fathers of Nation, justify this statement.

3) The Optional Texts. (20 Marks)

Answer any <u>One</u> of the following Three questions.

a. The Short Story

A Silent Song and Other Short Stories by Godwin Siundu.

Ninema has admirable characters that contribute to the success of her as a person and her business. Write an essay in support of this statement.

b. Drama

Parliament of Owls by Adipo Sidang'

Wrong doings are expensive especially for leaders. Write an essay in support of this assertion basing your illustrations on Adipo Sidang's play "Parliament of Owls."

c. The Novel

Artist of the Floating World by Kazuo Ishiguro

War has devastating effects on the people. Using Kazuo Ishiguro's novel, "An Artist of the Floating World," write an essay to justify this statement.

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. **ADM NO:** ……. **SIGN:**……

GEOGRAPHY

QUESTION PAPER

FORM THREE

PAPER 1

TIME: 2 3/4 HOURS

INSTRUCTIONS TO CANDIDATES:

(a) *This paper has **two** sections **A** and **B**.*

(b) *Answer ALL questions in **Section A**. In **section B** answer question **6** and any other **two questions**.*

(c) *All answers to be written on the answer booklet provided.*

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Section	Questions	Candidate's Score	Maximum Score
A	1 – 5		25
B	6		25
			25
			25
	Total Score		100

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SECTION A (25 MARKS)

Answer ALL the questions in this section

1. a) Apart from the troposphere, name *two* other main zones of the atmosphere. 2mks

   b) State *three* characteristics of the troposphere. 3mks

2. a) Differentiate between primary data and secondary data. 2mks

   b) Apart from conducting interview, state *three* other methods of collecting statistical data.3mks

3. a) Give *three* characteristics of a composite volcano 3mks

   b) State *two* examples of composite volcanoes in East Africa. . 2mks

4. a) Identify the instruments used to measure the following weather elements.

   (i) Humidity (1 mark)

   (ii) Wind direction (1 mark)

   b) State *three* factors considered when siting a weather station. . 3mks

5. a) Define the term Hydrological cycle.. 2mks

   b) State *three* significances of hydrological cycle. 3mks

SECTION B

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Answer question 6 and any other two questions in this section

6. **Study the map of Kipkabus 1:50,000 (Sheet 104/1) provided and answer the following questions.**.

a) (i) What type of map is Kipkabus? 1mk

(ii) Identify *two* physical features found in grid square 8336. 2mks

(iii) What is the direction of photo air principle point87 in grid reference8338 from Trigonometrical station primary SKP 102 2mks

(iv) Calculate the area of Chof/ Chop forest. Give your answer in square kilometers. 2mks

(v) What is the six-figure grid reference of the air photo principal 92/KE/17/013? 2mks

b) (i) Draw a rectangle measuring 12cm x 8cm to represent the area between eastings 80 and 86 and Northings 30 and 37. 1mk

(ii) On the rectangle, mark and name

- Water hole 1mk
- Forest 1mk
- Dry weather road 1mk

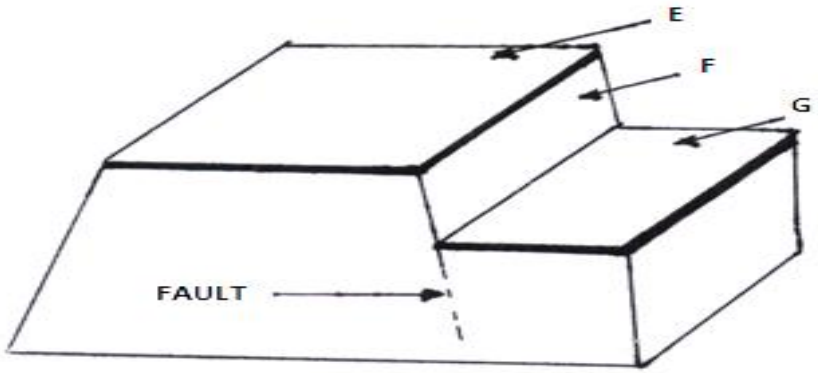
c) (i) Describe the drainage of the area covered by the map. 6mks

(ii)Citing evidence from the map name *two* economic activities carried out in the area. 6mks

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7. a) i) Distinguish between faulting and earth movements. 2mks

ii) The diagram below represents an area affected by faulting. Name the parts marked E, F and G. 3mks



b) Describe the formation of the Rift valley by anticlinal arching. 7mks

c) Describe the origin of the continents according to plate tectonics theory 4mks

d) (i) List *three* features formed as a result of faulting apart from Rift Valley 3mks

(ii)Explain *three* ways in which faulting may influence drainage of an area 6mks

8. a) (i) Differentiate between weathering and mass wasting 2mks

(ii) State *three* main agents of weathering 3mks

(b) Explain *three* effects of soil creep on the earth's surface 6mks

(c) Describe the following chemical weathering processes

(i) Hydration 3mks

(ii) Oxidation 3mks

(i) Carbonation 3mks

(d) Students from Koyude high school carried field study on weathering around their school.

(i) Give *three* reason why they carried out a reconnaissance survey 3mks

(ii) State *two* methods they used to record the data collected during field study. 2mks

9. a) Explain how the following factors influence climate.

i) Altitude 4mks

ii) Aspect 2mks

b) With the aid of a well labeled diagram, describe how relief rainfall is formed. 6mks

c) i) Define climax vegetation. 2mks

ii) Give *five* characteristics of coniferous forests in Canada. 5mks

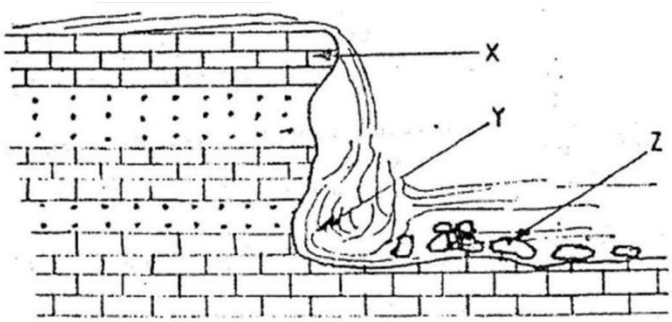
d) i) Give *four* significances of Savanna vegetation. 4mks

ii) Name *two* main areas with equatorial rainforest. 2mks

10. (a) (i) What is river divide? 2mk

(ii) Describe *three* ways by which a river transports its load 6mks

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



(i)Identify the features marked X, Yand Z. 3mks

(ii)A form four class is planning to carry out a field study of a waterfall. State *five* ways in which they would prepare for the study. 5mks

(iii)Give *five* methods they would use to collect information at the waterfall 5mks

(c) State *four* negative effects of rivers to human environment. 5mks

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

GEOGRAPHY (312/2)

PAPER 2

FORM THREE (3)

Time: 2 ¾ Hours

INSTRUCTIONS TO STUDENTS

- *This paper has **TWO** sections **A** and **B***
- *Answer **ALL** the questions in section **A**. In section **B** answer questions **6** and any other **TWO** questions.*
- *All answers **MUST** be written in the answer booklet provided.*

For Examiner's Use Only

Section	Questions	Candidate's Score	Maximum Score
A	1 – 5		25
B	6		25
			25
			25
	Total Score		100

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SECTION A (25marks)

Answer All the Questions in this Section

1. a) Distinguish between the terms forest and forestry. (2marks)

   b) State three reasons why agro-forestry is being encouraged in Kenya. (3marks)

2. a) Name two mining methods. (2marks)

   b) Give three uses of soda ash (3marks)

3. a) Define the term Statistical Data. (2marks)

   b) Give three characteristics of a questionnaire . (3marks)

4. a) What is sampling? (2marks)

   b) Give three types of sampling techniques. (3marks)

5. a)What is a reconnaissance? (2marks)

   b) State three importance of fieldwork. (3marks)

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SECTION B (75marks)

Answer question 6 and any **other two questions**

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



(a) i) What type of photograph is this one? (2marks)

ii) Supporting your answer with a reason, suggest the time of the day when this photograph was taken (2marks)

(b) i) Draw a rectangle measuring 12 cm by 6cm. On it, mark and label four main features. (6marks)

ii).Describe the photograph. (4marks)

iii).State three horizontal divisions of a photograph. (3marks)

(c). i).By giving evidence from the photograph, suggest two human activities practiced in the area. (4marks)

ii).Describe the animals shown in the photograph. (4marks)

7. The table below shows principal crops produced for a sale between 2006-2012 in `000tonnes.

Crop	2006	2007	2008	2009	2010	2011	2012
Wheat	98.6	107.5	82.1	123.1	190.2	100.9	155.0
Maize	470.7	508.8	340.5	191.0	294.6	405.8	387.3
Rice paddy	38.3	32.3	24.3	22.6	44.0	48.7	40.3
Pyrethrum	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Sugarcane	4932.8	5204.2	5112.0	600.0	5700.0	5300.0	5700.0
Seed Cotton	10.7	16.7	18.3	14.98	18.07	22.0	10.0
Clean Coffee	50.5	52.3	38.7	48.9	38.9	30.0	46.1
Sisal	25.5	24.6	22.2	21.5	22.8	27.6	27.8
Tea	310.6	369.6	345.8	304.2	399.0	377.9	369.4

a) i) Draw a compound bar graph for Wheat, Maize and Rice paddy from 2008 to 2012.
(Use a scale of 1cm rep 50,000 tonnes) (8marks)

ii) Give four disadvantages of using compound bar graph to represent data (4marks)

iii) Give three reasons why Kenya produces more maize than Rice. (3marks)

b) Apart from the compound bar graph name two other methods that can be
Used to represent the data in the table above. (2marks)

c) Make four conclusions from the graph you have drawn. (4marks)

d) Explain two measures the government of Kenya has taken to enhance crop production in the country. (4marks)

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8. a) i) What is re-afforestation? (4marks)

ii) Give four reasons why re-afforestation programs are being carried out in Kenya. (4marks)

b i) Name three softwood trees found in Kenya. (4marks)

ii) Explain how the following factors influence growth of natural forests in Kenya.

(8marks)

a) Soil

b) Rainfall

c) Human activities

d) Altitude

c) Explain four problems facing forestry in Kenya. (8marks)

9. a) State three factors that influence the occurrence of minerals in the crust of the earth.

(3marks)

b) i) Name two belts where diamond is mined in South Africa. (2marks)

ii) Explain three economic contributions of gold to the economy of the Republic of South Africa (6marks)

c) i) Identify four factors that have led to the presence of soda ash in lake Magadi (4marks)

ii) State four problems that are associated with mining in Kenya. (4marks)

d) A form three class from your school is planning to have a field study on soda ash mining in Lake Magadi

i) State three hypotheses formulated (3marks)

ii) State three objectives of the study (3marks)

10. You are required to carry out a field study to identify the major types of rocks within your local environment and their uses.

a) i) Give two differences between field excursion and field study. (4marks)

ii) Give two reasons why you would carry out a pre-visit of the area of study. (2marks)

iii) State three objectives for this field study. (3marks)

b) i) Name three secondary sources of information that you would use during this study. (3marks)

ii) Give two reasons each why you would need the following during the study.

a) A work schedule (2marks)

b) A route map (2marks)

iii) Describe how you would use the following in the field:

a) A fork jembe (1mark)
b) Polythene bags (1mark)
c) A hand lens (1mark)

c) i) Describe two ways which you would use to record your findings while in the field. (2marks)

ii) State four benefits of studying rocks through fieldwork. (4marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

311/1-HISTORY AND GOVERNMENT PAPER ONE

TIME: 2½ HOURS.

INSTRUCTIONS TO CANDIDATES

(a)Write your Name, Admission Number, Date of the examination and Sign in the spaces above.

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

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

(d)Answers to all questions **MUST** be written in the booklet/answer sheets/fools caps provided.

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

(f)Candidates Should answer questions in English.

For Examiner`s Use Only

Section	Question	Maximum Score	Candidate`s Score
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
Total Score		100	

SECTION A: (25MARKS)

Answer all the questions in this Section in the Spaces provided.

1. Identify the branch of History that deals with the occupation of People. (1 mark)

2. Give **two** archaeological sites found in Kenya. (2 marks)

3. Outline two environmental reasons for the migration of Kenyan communities by the 19th C. (2 marks)

4. State **two** economic results of the Oromo settlement in their present homeland. (2marks)

5. State the **main** role of diviners among the African communities in Kenya in the Pre-colonial period. (1 mark)

6. State **two** political functions of the council of elders among the Agikuyu in the 19th Century. (2marks)

7. Identify one cultural practice which the highland Bantus acquired from the Cushites. (1 mark)

8. State **two** functions of Fort Jesus to the Portuguese during their rule in East Africa. (2 marks)

9. State the **main** cause of increased slave trade in East Africa in the 19th Century. (1 mark)

10. Define the term Dual citizenship. (1 mark)

11. Give the **main** way in which Kiswahili promotes national unity in Kenya. (1 mark)

12. What is contained in chapter six of the Constitution of Kenya? (1 mark)

13. Identify **two** types of Democracy. (2 marks)

14. Identify **two** rights of the minority communities which are enshrined in the Constitution of Kenya (2 marks)

15. List down **two** methods that the British used to establish their colonial rule in Kenya. (2 marks)

16. Name **two** Communities in Kenya which collaborated with the British. (2 marks)

17. Name **two** fighting tactics used by Africans in their resistance against the establishment of British colonial rule in Kenya. (2 marks)

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SECTION B: (45MARKS)

Answer any three Questions from this Section

18. (a)Give **five** Sub-groups of the Ameru who moved into Kenya before 19th Century. (5 marks)

(b)Describe the political Organization of the Luo during the pre-colonial period. (10 marks)

19.(a)State **five** reasons for the Portuguese success in the conquest of the Kenyan Coastal City States. (5 marks)

(b) Explain **five** effects of long distance trade among the Kenyan coastal communities (10 marks).

20(a)Give **five** Social responsibilities of a Kenyan Citizen. (5 marks)

(b)Discuss the functions of Nairobi City. (10marks)

21.(a)State **three** social reasons why the British colonized Kenya. (3 marks)

(b)Explain **six** factors which enabled the Nandi to resist the British for a long time. (12 marks)

SECTION C:(30MARKS)

Answer any two Questions from this Section.

22(a)Give **three** circumstances in which one`s right to life may be taken away. (3 marks)

(b)Discuss **six** factors which undermine national Unity in Kenya. (12 marks)

23.(a)Identify **three** factors that should be considered while drafting the constitution of a country. (3 marks)

(b)Describe the stages of Constitution making process in Kenya. (12 marks)

24.(a)Highlight **three** Aspects of democracy. (3 marks)

(b)Explain **six** advantages of Democracy. (12 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

311/2-HISTORY AND GOVERNMENT PAPER TWO

TIME:2½HOURS.

INSTRUCTIONS TO CANDIDATES

(a)Write your Name,Admission Number ,Date of the examination and Sign in the spaces above.

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

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

(d)Answers to all questions **MUST** be written in the booklet/answer sheets/fools caps provided.

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

(f)Candidates Should answer questions in English.

For Examiner`s Use Only

Section	Question	Maximum Score	Candidate`s Score
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
Total Score		100	

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SECTION A (25 MARKS)

Answer all the questions in this Section in the spaces provided.

1.Identify **one** economic reason for studying History and Government. (1 mark)

2.Name **two** areas in Africa where the remains of australopithecus were first discovered

(2marks).

3.State **two** advantages of land enclosure in Britain during the Agrarian Revolution .(2 marks)

5.Identify **one** method of irrigation used in Mesopotamia during the early Agriculture.(2marks)

6.Name **one** engineer credited with the construction of Macadam roads. (1 mark)

7.State **two** disadvantages of horn blowing as a means of communication. (2 marks)

8.State **two** uses of water as early source of energy in industries. (2 marks)

9.State **two** negative effects of scientific inventions on medicine. (2 marks)

10.Identify **one** challenge Athens faced as an early urban center. (1 mark)

11.State **one** role of the annual Odwira Festival among the Asante in the 19th Century.

(1 mark)

12.Name the person who convened the Berlin conference of 1884-1885. (1 mark)

13.Identify **two** chartered companies which were used to administer European possessions in Africa. (2 marks)

14.Mention **one** country in Africa that was not colonized by European powers. (1 mark)

15.Name **one** treaty that was signed between king Lobengula of the Ndebele and the British.

(1 mark)

16. State **two** roles of the Emirs in Northern Nigeria during the colonial period. (2 marks)

17. State **two** privileges enjoyed by the assimilated Africans in the four French communes of Senegal. (2 marks)

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SECTION B:(45MARKS)

Answer any three questions from this section.

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

(b)Explain **five** effects of food shortage in the third world countries. (10 marks)

19.(a)State **five** roles of the Tuaregs in the Trans-Saharan trade. (10 marks)

(b)Discuss **five** factors which led to urbanization in Africa in the pre-colonial period. (10 marks)

20(a)Identify **five** means of modern communication in the world. (5 marks)

(b)Explain **five** ways through which the invention of railway speeded up industrialization in Europe. (10 marks).

21.(a)State **five** factors which facilitated Scientific Revolution. (5 marks)

(b)Discuss **five** factors which influenced industrialization in Brazil. (10marks)

SECTION C:(30MARKS)-Answer any two questions from this section.

22.(a)Give **three** duties of the Lukiko in the Buganda kingdom during the 19th Century. (3 marks).

(b)Explain **six** factors that led to the rise and growth of the Buganda kingdom. (12 marks)

23.(a)Identify **five** European powers which colonized Africa. (5 marks)

(b)Explain **five** reasons why Africans were defeated during the Maji Maji rebellion. (10marks)

24(a)Give **five** reasons why the British used Indirect rule to administer Northern Nigeria. (5 marks)

(b)Describe **five** effects of direct rule in Zimbabwe. (10 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

441/1

HOMESCIENCE

FORM 3

PAPER 1 (THEORY)

TIME : 2HRS 30 MINS

INSTRUCTIONS TO CANDIDATES

1. Candidates should check the question paper to ascertain that all pages are printed and no questions are missing.
2. Answer the questions in the spaces provided.
3. This paper consists of three sections A, B and C . Sections A and B are compulsory. Choose any TWO questions from section C.

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 20	40	
B	21	20	
C	22 23 24	40	
TOTAL SCORE		**100**	

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SECTION A (40 MARKS)
ANSWER ALL THE QUESTIONS IN THIS SECTION

1. Give two disadvantages of using hard water for laundry. (2mks)
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2. List four fat soluble vitamins. (2mks)
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3. Give two dangers of using skin lighteners. (2mks)
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4. Differentiate drainage from refuse disposal. (2mks)
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5. Give two reasons for polishing wooden surfaces. (2mks)
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6. Mention two qualities to look for in the choice of a tracing wheel. (2mks)
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7. Suggest two ways of preventing bilharzia. (2mks)

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8. Mention two methods of disinfecting household items. (2mks)

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9. Give two factors to consider when weaning a baby. (2mks)

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10. Give two causes of anaemia apart from diet. (2mks)

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11. State any two dangers signs of pregnancy which requires the doctor's attention. (2mks)

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12. Identify two ways in which doing exercise affects good grooming. (2Mk)

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13. State two uses of mineral fibres. (2mks)

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14. Give two disadvantages of using a knot when starting hand worked stitches. (2mks)

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15. Outline two advantages of dry cleaning. (2mks)

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16. Mention two factors which may cause meat to dry after roasting. (2mks)

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17. State two reasons for including a sauce in a meal. (2mks)

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18. Identify four sources of consumer information. (2mks)

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19. Give two ways of making water safe for drinking. (2mks)

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20. Identify two ways through which play can encourage a child to be responsible. (2mks)

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SECTION B (20 MARKS)
THIS SECTION IS COMPULSORY

21. You are preparing to go for long holiday from school. Describe how you would:

a) Clean your wooden locker. (8mks)

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b) Launder your woollen sweater. (12mks)

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SECTION C (40MARKS)
ANSWER ANY TWO QUESTIONS FROM THIS SECTION

22. a) Discuss five disadvantages of supplementary feeding (10mks)

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b) Give five examples of conditions at home that may interfere with a mothers lactating ability. (5mks)

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c) State five reasons why it is advisable for women to deliver in the hospital. (5mks)

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23. a) Mention five factors that affect individual nutritional requirements in meal planning. (5mks)

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b) Identify five points to consider when planning meals for adolescents. (5mks)

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c) State two functions of each of the following vitamins in the diet.

(i) Vitamin C. (2mks)

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(ii) Vitamin B1. (2mks)

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d) State six ways to prevent the loss of vitamins during preparation and cooking of food. (6mks)

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24. a) Explain five precautions to take when using an electric iron. (5mks)

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b) Explain five factors that determine the efficiency of a detergent during washing. (5mks)

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c) Explain five undesirable properties of nylon fabric. (5mks)

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d) Suggest five important aspects of table etiquette. (5mks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

441/2

HOMESCIENCE

CLOTHING AND TEXTILES

PAPER 2

FORM 3

HOMESCIENCE

CLOTHING AND TEXTILES PRACTICAL

INSTRUCTIONS TO CANDIDATES

1. Candidates should check the question paper to ascertain that all pages are printed and no questions are missing.
2. Candidates must use machine stitches appropriately in the construction of the garment.
3. Hand stitches used instead of machine stitches will not be marked unless where instructed.

TOPIC	No OF QUESTIONS
Pattern and garment construction	02
Clothing construction processes	04
Seams	03
Stitches	03

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

A pattern of a pair of shorts is provided. You are advised to study the sketches, instructions and the layout carefully before you begin the test.

MATERIALS PROVIDED.

1. Pattern pieces
   - A Short Front
   - B Short Back
   - C Pocket
   - D Waistband
2. Plain light weight cotton fabric 50cm long by 90cm wide.
3. Cotton sewing thread to match the fabric.
4. One large envelope.

THE TEST

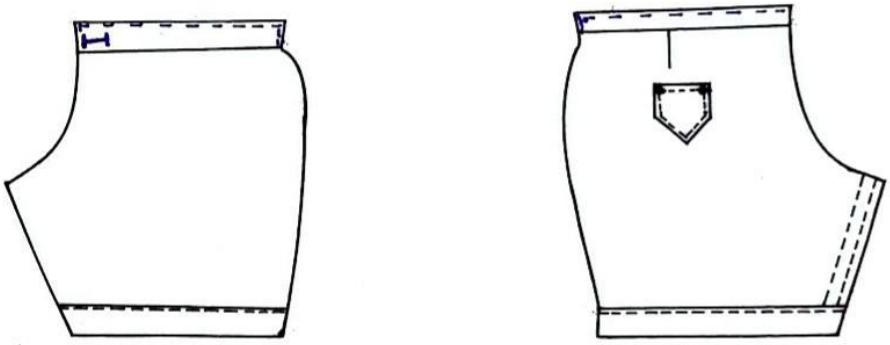
Using the materials provided, cut out and make ONE HALF of the Short to show the following processes.

a. Cutting out.
   (9mks)
b. Making of the back dart.
   (8mks)
c. Preparation and attachment of pocket on the short back. (8mks)
d. Working of the inner leg seam using machine fell seam. (8mks)
e. Working of the side seam using an open seam. Do not trim the notches.
   (8mks)
f. Preparation and attachment of the interfaced waistband. (18mks)
g. Holding down half of the waistband using hemming stitches. (6mks)
h. Managing the hem of the short by holding it in place using machine stitches.
   (10mks)
i. Making of the hand worked button hole.
   (9mks)
j. Overall presentation.
   (6mks)

At the end o the examination, firmly sew on your work, on a single fabric, a label bearing your name, and admission number. Remove the needles and pins from

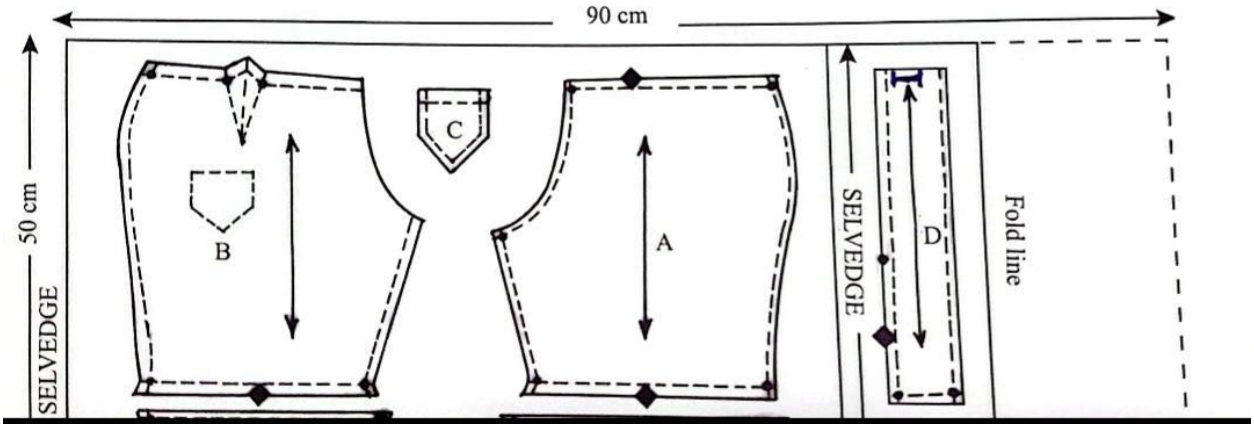
your work, then fold your work neatly and place it in the envelope provided. Do not put scraps of fabric in the envelope.

VIEW OF A PAIR OF SHORTS



FRONT BACK

LAYOUT (NOT DRAWN TO SCALE)



Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

HOMESCIENCE
FORM 3
PAPER 3

TIME: PLANNING SESSION -30 MINUTES
PRACTICAL TEST: 1 ¼ HRS

THE TEST

Your friend is visiting you over the weekend with her eight months old baby
Using the ingredients listed below, prepare ,cook and present a one course meal for both of you and a weaning dish for the baby.

Ingredients

-Maize flour/finger millet flour
-Irish potatoes/rice/spaghetti
-Salt
-Onions
-Coriander
-Milk
-Garlic
-Assorted spices
-Tomatoes
-Fat/oil
-Beef/Fish/Chicken
-Green vegetables

Planning session

For each task listed below, use separate sheets of paper and make duplicate copies using carbon papers then proceed as follows:

1. Identify the food items and write down their recipe
2. Write down your order of work
3. Make a list of the food-stuffs and equipment you will require

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: …….. SIGN:……

ISLAMIC RELIGIOUS EDUCATION (314/1)
FORM 3
PAPER 1
TIME: 2HRS 30 MINS

INSTRUCTIONS TO CANDIDATES:

Write your name and admission number on the question paper and the answer sheets given .1

This paper consist of six questions. .2

Answer any five questions. .3

This paper consist of two printed pages. .4

Candidates should check the paper to ascertain that all pages are printed and no questions are missing. .5

Candidates should answer the questions in English. .6

For Examiner's use only

Question							**Candidate's Total Score**
Candidate's Score							

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(5 marks) 1a. Highlight the lessons derived from the first portion of revelation of the Quran.

b. Form three learners were asked to search on the differences between compilation and
(8 marks) standardization of the Qura'n. Identify the differences they discovered.

(7 marks) c. Outline the significance of *Ayatul Kursiy*.

(8 marks) 2a. Discuss eight moral teaching of Surah An-Nur.

(6 marks) b. State six teachings on slander according to surah An-Nur.

(6 marks) c Indicate where each one of the following Surah was revealed.

Al-Fatiha(Q:1)

An-Nasr(Q:110)

An-Nur(Q:24)

Al-Alaq(Q:96)

Al-Fiil(Q:105)

Al-Asr(Q:103)

3 a. Give five reasons that necessitated the collection and compilation of Hadith after the
(5 marks) death of the prophet.

b. State the methods used by the Prophet (S.A.W.) to transmit his *sunnah* and
(8 Hadith.
marks)

c. The Prophet (S.A.W.) said, "Seeking knowledge is an obligation on every Muslim." State
(7 marks) the significance of the above hadith in eradicating illiteracy.

(8 marks) 4 a. What are the benefits of *swalatul Jamaa*?

b. Describe the factors that led to the development of schools of thought (*Madhhab*).
(7 marks)

(5 marks) c. Identify five items on which Zakat is payable.

(7 marks) 5a.Describe the challenges faced by the prophets of Allah in their mission.

b. Discuss the relevance of the belief in Tawheed to Muslims. eristics of angels of
(5 marks) Allah.

(7 marks) 6 a. Outline seven different Interpretations of the term *imam* in Islam

b. Explain seven conditions to be fulfilled for one to be considered a *Mujtahid* in
(7 marks) Islam.

(6 marks) c. State six similarities in the content of the revealed scriptures.

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

ISLAMIC RELIGIOUS EDUCATION (314/2)
FORM 3
PAPER TWO
TIME:2HRS 30MINS

INSTRUCTIONS TO CANDIDATES;

- **Write your name and admission number on the space provided**
- **This paper consists of SIX questions**
- **Answer any FIVE questions on the space provided.**
- **All answers must be written in English.**

For Examiner's use only

Question							**Candidate's Total Score**
Candidate's Score							

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

1 a) Outline the benefits of exercising *amana* (trust). (7 marks)

b) Your friend Masud and his family live in Nairobi town. Suggest measures they can take to retain the Islamic cultural values in the changing society of Nairobi. (7 marks)

c) Identify six rights of husband in Islam. (6 marks)

2 a) Explain seven Islamic measures put in place to guard the society against *Zinaa*. (7 marks)

b) Discuss the effects of sexual perversions on the society. (7 marks)

c) Describe the process of *talaq* in Islam. (6 marks)

3 a) State seven reasons why the family is considered as the foundation of the Islamic society. (7 marks)

b) A Kenyan Muslim, Lady Fatima, went to the khadi's court to terminate her marriage. What could be the reasons why she seeks a divorce? (7 marks)

c) Give six reasons why the Prophet (S.A.W.) married more than one wife. (6 marks)

4 a) Discuss challenges faced by Khalifa Abubakar during his reign. (6 marks)

b) What lessons can Muslims learn from the Battle of khandaq? (6 marks)

c) Describe the lessons that Muslims can learn from the Prophet's farewell speech. (8 marks)

5a) Highlight reasons why Abubakar Assidiq was elected as the first Khalifa. (6 marks)

b) Identify seven contributions of the *Muhajirun* to the development of Islam. (7 marks)

c) Outline the social achievements of the Prophet (S.A.W.) during his lifetime. (7 marks)

6(a) Discuss the contributions of Sheikh Abdallah swaleh Al farsy. (7 marks)

b) Outline six objectives of Ikhawanul muslimeen(Muslim brotherhood) movement. (6 marks)

c) Describe the achievements of Sheikh Hassan Al-Banna to the growth and development of Islam. (7 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

JINA:……

SHULE: ……

TAREHE:…….. ADM NO: ……. SAHIHI:……

MTIHANI WAMWISHO WA MUHULA WA KWANZA 2026

KIDATO CHA TATU

102/1

KISWAHILI

INSHA

102/1 – INSHA **KARATASI YA 1**

MUDA: SAA $1^{3}/_{4}$

MAAGIZO.

1. Andika jina na nambari yako ya usajili kwenye nafasi uliyopewa.
2. Tia sahihi kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
2. Andika insha **mbili.**Insha ya kwanza ni ya **lazima.**
3. Kisha chagua insha nyingine moja kati ya hizo tatu zilizosalia.
4. Kila insha isipungue maneno 400.
5. Kila inshai na alama **20**.
6. Kila insha lazima iandikwe kwa lugha ya Kiswahili.

Kwa matumizi ya mtihani pekee.

SWALI	**UPEO**	**ALAMA**
1.	20	
2.....	20	
JUMLA	**40**	

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1. **LAZIMA**

Umeteuliwa kuwa katibu wa kikao kitakachowaelimisha wananchi kuhusu njia mbalimbali za kupambana na umaskini nchini. Andika hotuba utakayoitoa.

2. **Andika insha mojawapo kati ya insha hizi tatu.**

a). Baadhi ya marafiki zako wanaendelea kutumia dawa za kulevya licha ya kuonywa vikali. Fafanua sababu wanazotoa na madhara yanayosababishwa na matumizi hayo.

au

b. Tunga kisa kinachodhihirisha ukweli wa methali hii:

Mchuma janga hula na wa kwao.

au

c). Andika insha itakayomalizia kwa maneno haya:-

.... sijawahi kujuta kama nilivyojuta siku hiyo.

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

JINA:……

SHULE: ……

TAREHE:…….. ADM NO: ……. SAHIHI:……

102/2
KISWAHILI
KARATASI YA 2
LUGHA.
MUDA: Saa 2 ½
MACHI 2026

MTIHANI 2026

KIDATO CHA TATU

Maagizo

a) *Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.*
b) *Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.*
c) *Jibu maswali **yote**.*
d) *Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.*
e) *Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.*
f) *Karatasi hii ina kurasa **11** zilizochapishwa.*
g) *Watahiniwa ni lazima wahakikishe kuwa kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.*

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
Jumla	80	

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1.SEHEMU YA A UFAHAMU (15)

Soma ufahamu huu kisha uyajibu maswali yanayofuata:

Basi huu ni mwanzo tu *Mwanzo wa ngoma ni lele*.Huu ni mwanzo wa safari ndefu .Itachukua miaka na mikaka.Lakini msiwe na papara.Sharti mwanzo tutanabahi twaelekea wapi ndipo tuamue tutasafirije .Tahadhari na hatari ya hasira , visasi na papara pamoja na maradhi yanayozidi yote yaani maradhi ya matumaini yanayozidi uhalisia.Matumaini yaliopindukia ndiyo huwalewesha watu wakadhani watapata afueni wakizifuata pepo za siasa za chama kimoja au siasa za vyama vingi , mfumo wa soko huria au mfumo wa ukiritimba , mfumo wa utandawazi au mfumo wa kibepari , utawala wa kidekteta au utawala wa kidemokrasia na udini, ujamaa na ukomonisti na kadhalika.

Hatari kabisa ni ya kujenga nyumba ya karata.Nasema tena,tahadhari na ulevi wa ushindi .Mimi nashauri hivi ;hatua ya kwanza ya elimu si elimu ya shahada au stashahada zipatikanazo vyuoni.Elimu ya kuijielewa sisi ni nani twatoka wapi , twaelekea wapi na tutaurejeshaje utu pahali pake mahsusi toka kule mwituni kwa wanyama uliotokomea.

“Amani awe mtemi !”Umati ukadai Hapana hata kidogo.Badala yake acha amani iwe na mtemi mpya msinivishe joho ambalo si makamo yangu kulivaa,” aliwaambia .”Kaeni mfikirie vyema juu ya mustakabali wenu.Nilichodhamiria mimi ni kushirikiana na ndugu yangu Madhubuti kumnyonyoa kipungu mmoja , ila sikutaka niingie pahala pake niruke juu nikijihadaa kwamba nitafika mbinguni.”

Ila msikubali dhuluma .Dhuluma msikubali , ikija dhuluma tena msimlaumu mtu mwingine, jilaumini wenyewe.Jilaumini tu wenyewe .Nawakumbusha tu kwamba kuwepo mamlakani kwa mtemi Hamisi muda huu wote si kosa lake tu .Alisema Amani.Ni kosa letu sote .Ni kosa letu sote kwa kukubali dhuluma zake na udahlili wetu.Kwa kila mtawala katili kuna umma uliomruhusu ama kumpa uwezo wa kutekeleza ukatili wake.

Pia hatuwezi kuwa binadamu kamili endapo hatuoni walemavu kama wenzetu .Tutakuwa tumelemaa ulemavu mbaya zaidi kuliko ulemavu.Kauli hii ilkuwa tokeo la funzo alilojifunza Mwalimu Fasiri kutokana na amali na kalima za imani kuwaelekea Watoto wake walemavu.

Maswali

a)Kulingana na mwandishi ni mambo gani ambayo yafaa tujitahadharishe nayo? (alama 3)

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b)Tambua aina za elimu katika maisha . (alama3)

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c)Kulingana na taarifa ni mambo gani yanayochochea dhuluma katika jamii? (alama 4)

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d)Ukirejelea kifungu hiki, eleza maana ya ngoma ni lele. (alama 2)

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e)Binadamu kamili ana sifa gani? (alama 1)

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f)Eleza maana ya vifungu hivi kama vilivyotumika katika kifungu;

i)Nikijihadaa nitafika mbinguni (alama 1)

……

ii)Kumnyonyoa kipungu (alama 1)

……

2. UFUPISHO (Alama 15)

Tunapinga na kulaani vikali visa vya ugaidi vinavyoendelea kutetemesha usalama wa wananchi.Hivi nivitendo vya kinyama vinavovyotekelezwa na watu waliokosa ubinadamu na utu kabisa.Inakera mnokwa vitendo vya kigaidi .Inagadhabisha kuona Wakenya wasio na makosa wakiteswa na kuuwawakinyama bila huruma na watu wasio na utu. Hatuogopi wala hatuna fedheha kuamba magaidi hawawameelaaniwa na siku zao zimehesabiwa hapa duniani, damu ya mwananchi asiye na makosa katuwatailipia. Napinga vikali pale magaidi hawa wanapohusisha vitendo hivi kuwa vita vya kidini, vitahivi si vya kidini kwani hakuna dini yoyote iliyo na imani ya kumwua kinyama binadamu asiye namakosa.

Kando na tishio la ugaidi, Wakenya pia wanakabiliwa na hatari za ujambazi, mauji, unajisi, ubakaji namaovu mengine. Katika juhudi za kudumisha usalama, polisi wana jukumu la kutumia kila mbinukuhakikisha kuwa haki ya kikatiba ya Wakenya kuhusu kulindwa kwa maisha na mali yao. Lakini chakusikitisha ni kuwa, mbinu ambazo polisi wamekuwa wakitumia hasa ile ya kufanya misakoinayoishia kuwanasa mamia ya raia wasio na habari kinachoendelea, inawaongezea Wakenya mateso.

Hali hii inawaacha kwenye hatari ya kunaswa na majambazi ama polisi.Matumizi ya mbinu hii ya misako imeishia kunasa raia wengi wasio na makosa.Wanaponaswa,hurundikwa kwenye seli usiku mzima ama siku kadha na hata kama wanaaachiliwa huwa tayariwameteseka. Huu ni ukiukaji wa haki za raia. Kadhalika, mbinu hii yanaonekana kama hila ya polisikutaka kuonyesha wanafanya kazi lakini sio mwafaka kwani wanapokuwa wakiwanasa raia mijini namitaani, magaidi na majambazi wanaendelea na shughuli zao.

Badala ya kusaka wakora kwa kubahatisha kwenye umati, polisi wanapaswa kubuni njia ambazozitawapa mwelekeo mwafaka zaidi kuhusu wahalifu ili waweze kuwafuatilia. Ushirikiano baina yao namajasusi uwepo. Hii itawezesha polisi kupata habari muhimu

kuhusu vitisho vya uhalifu. Maafisa wausalama pia wanaweza kupata habari muhimu kutoka kwa raia.

MASWALI

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

Matayarisho:

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Nakala Safi

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

Matayarisho:

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Nakala Safi

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3. MATUMIZI YA LUGHA(ALAMA 40)

a) Kwa kutoa mifano mwafaka, fafanua dhana ya 'mzizi wa neno' (alama 2)

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b) Andika sauti zenye sifa hizi. (alama 2)

i) Irabu ya mbele juu

…….....……

ii) Kipasuo ghuna cha kakaa laini

…….....……

c) Tumia kivumishi cha pekee kisisitizi, nomino katika ngeli ya U-ZI kitunga sentensi. (alama 2)

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d) Tunga sentensi yenye muundo ufuatao. (Alama 2)

N+V+E+T

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e) Bainisha maneno katika sentensi hii (alama 2)

Karume ndiye mchezaji bora.

…….....……

…….....……

f) Yakinisha, (alama 2)

Askari wasiposhirikiana na raia wala kupiga doria hawatafaulu.

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g) Tunga sentensi mbili kutofautisha maana ya neno **kucha** (alama 4)

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h) Neno hili lipo katika ngeli gani? (alama 1)

Nyasi.....

i) Andika sentensi ifuatayo katika ukubwa (alama 2)

Nyumba hizo zilijengwa mbali na mji ule.

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j) Iandike sentensi upya katika hali ya kutendewa (alama 1)

Malik alipika uji.

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k) Tumia viwakilishi mwafaka badala ya maneno yaliyokolezwa wino.

Mtalii atazuru **mbuga.**

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l)Andika kinyume cha sentensi ifuatayo. (alama 2)

Uduni ulifichika baada ya kuanza kwa shughuli Ile.

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m)Ainisha vitenzi katika sentensi ifuatayo (alama 3)

Ndege **yu** taabani ,japo **anajaribu kujinasua**

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n)Tumia kirejeshi amba- badalaya 'O' rejeshi katika sentensi ifuatayo. (alama 1)

Vazi lililonunuliwa limeraruka.

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o)Eleza maana za sentensi zifuatazo. (alama 2)

(i) Mwandishi mwenyealituzwa.

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(i) Mwanafunzim wenye hati nadhifu ni huyu.

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p)Tumia neno **mle** kama: (alama 2)

Kiwakilishi

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Kielezi

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q)Ainisha viambishi . (alama 3)

Anayempikia

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r) Fafanua maana ya neno kiimbo. (alama 1)

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…….....

s) Kamilisha jedwali lifuatalo. (alama 4)

Tendwa	Tendeka	Tendesha
Liwa	-	Lisha
Pakwa	-	Pakisha
Katwa	-	-

t) Sahihisha sentensi. (alama 1)

Abiria walisafiri na ndege

……

4. ISIMU JAMII (ALAMA 10)

a) Fafanua maana ya (Alama 2)

i) Lugha ya taifa

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ii) Lugha rasmi

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b) Eleza sifa nane za sajili ya maabadini/ kanisani (alama 8)

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UKURASA WA MWISHO

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

JINA:……

SHULE: ……

TAREHE:…….. ADM NO: ……. SAHIHI:……

102/3
KISWAHILI
KARATASI YA 3
FASIHI.
MUDA: Saa 2 ½

KIDATO CHA TATU.

MASAA: 2 ½ .

Maagizo

a. *Andika **jina lako** na **nambari** yako ya mtihani katika nafasi ulizoachiwa hapo juu.*
b. *Tia **sahihi** yako kisha uandike **tarehe ya mtihani** katika nafasi ulizoachiwa hapo juu.*
c. *Jibu maswali yote **manne.***
d. *Majibu yote lazima yaandikwe kwa **lugha ya Kiswahili**.*
e. *Watahiniwa ni lazima wahakikishe **kwamba kurasa zote** zakaratasi hii zimepigwa **chapa** sawasawa na kuwa maswali yote yamo.*

Kwamatumiziyamtahinipekee

SWALI	**1**	**2**	**3**	**4**	**JUMLA**
ALAMA					
UPEO	**20**	**20**	**20**	**20**	**80**

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1. USHAIRI:

Soma shairi hili kisha ujibu maswali yanayofuata.

1. Tunda la elimu zote, wanasema wanazuoni
   Ni kwamba mtu apate, kumtambua manani
   Ndipo hadhi apate, akumbukwe duniani.

2. Elimu bilazote, haizidiasilani
   Giza na nurunuhali, kituhavitangamani
   Uwongoufekweli, ituenurumoyoni.

3. Elimu ni kama mali, haichoshi kutamani
   Ni bora yashinda mali, taji la wanazuoni
   Elimu njoma miali, langazayo gizani.

4. Mtu hachomwi na mwiba, na viatu miguuni
   Ulimwenguni una miiba, tele majiani
   Elimu ukiishiba, u salama duniani.

5. Wafuniwasiosoma, watazikwaardhini
   Hai ndio maulana, wapaaomaangani
   Elimu jambo adhima, asonayomaskini.

6. Toa wakfuujana, elimuukutamani
   Na uwe mzee sana, kujuausijihini
   Elimunijamboadhima, asonayomaskini.

7. Elimuinamalipo, utayalipwamwishoni
   Pale uitafutapo, utayalipwamwoshini
   Mwanachuoniafapo, mbinguhuwanahuzuni.

8. Haki yakuheshimiwa, niyaowanachuoni
   Wao wameongolewa, nanitaaduniani
   Kweli wanapoijua, watoebilakuhuni.

9. Elimubilaamali, mtiusiomajani
   Haumtiikivuli, aukaliayechini
   Inakuwa mashkeli, wa kughuri insani.

Maswali

a) Toa kichwa mwafaka kwa shairi hili. (al 2)
b) Taja na ueleze aina na bahari za shairi hili. (al 3)
c) Eleza umbo/ muundowashairi. (al 4)
d) Fafanua maudhui katika ubeti wa tatu na wa saba. (al 6)
e) Andika ubeti wa mwisho kwa lugha ya nathari. (ala 4)
f) Tambua mbinu yoyote ya lugha inayojitokeza katika shairi hili. (ala 1)

SWALI LA PILI
FASIHI SIMULIZI

a) Fafanua aina zifuatazo za nyimbo. (ala 6)
   i) Nyiso
   ii) Nyimbo za siasa
   iii) Bembelezi
b) Fafanua umuhimu wa nyimbo. (alama 10)
c) Fafanua umuhimu wa nyimbo katika utambaji wa hadidhi. alama 4)

SWALI LA TATU
TAMTHILIA YA BEMBEA YA MAISHA

"Eti alama! My foot! Eti ameshika nafasi darasani lakini akapandisha alama……."

a) i) Nani alisema maneno haya? (alama 1)
   ii) Nani alikuwa akiambiwa maneno haya? (alama 1)
   iii)Walikuwa wapi? (alama 1)
   iv) Kwa nini maneno haya yakasemwa? (alama 1)

b) Jadili sifa za mnenaji. (alama 10)
c) Ni nini umuhimu wa anayeambiwa maneno haya? (alama 6)

SWALI LA NNE
TAMTHILIA YA BEMBEA YA MAISHA

Bembea ya Maisha ni tamthilia inayohimiza mshikamano wa kijamii. Toa hoja zinazounga mkono kauli hii.

(alama 20)

UKURASA WA MWISHO

Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM THREE MATHEMATICS PAPER 1 (121/1)

2½ HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your **name** and **index** number in the spaces provided at the top of this page.*
- *This paper consists of two sections: **Section I** and **Section II**.*
- *Answer **all** questions in section **I** and any five questions from Section **II**.*
- *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*
- *Marks may be given for correct working even if the answer is wrong.*
- *Non- programmable silent electronic calculators and KNEC Mathematical tables may be used.*

For Examiner's Use Only

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

SECTION II

17	18	19	20	21	22	23	24	Total

Grand Total

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SECTION I :(50 MARKS)

Answer all the question in this section in the spaces provided:

1. Evaluate without using mathematical tables or calculator. (3 marks)

$$\frac{36 - 8x - 4 - 15 \div -3}{3x - 3 + -8\,(6 - (-2))}$$

2.All prime numbers less than ten are arranged in descending order to form a number.

a) Write down the number formed. (1mark)

b) State the total value of the second digit in the number formed in (a) above. (2mark)

3.Find the integral values of x which satisfy the inequalities below. (3marks)

$5 \leq 3x + 2 \; and \; 3x - 14 \leq -2$

4.Simplify without using tables (4marks)

$$\frac{\sin 135^0 - \cos 300^0}{\sin 150^0 + \cos 225^0}$$

5.A Kenyan company received US dollars 100,000. The money was converted into Kenyan shillings in a bank which buys and sells foreign currencies as follows

	Buying (In Kshs)	**Selling (In Kshs)**
	1 US dollar	**77.24**	**77.44**
	1 Sterling pound	**121.93**	**122.27**

a) Calculate the amount of money in shillings the company received (2marks)

b) The company exchanged the Kenyan Shillings calculated in (a) above into Sterling Pounds to buy a car from Britain. Calculate the cost of the car to the nearest Sterling Pound.
(3marks)

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6.The size of an interior angle of a regular polygon is 3x while its exterior angle is $(x + 20^o)$. Find the number of triangles that makes the polygon (3marks)

7.A contractor employs 40 men to do a piece of work in 60 days each man working 9 hours a day. He is then requested to do the job in 48 days. How many more men working 10 hours a day does he need to employ. (3marks)

8.Solve for *x* (3marks)

$$\frac{3^x}{9} = \frac{1}{3^{1-2x}}$$

9.A camera which is marked at Ksh. 2400 is sold to a consumer after allowing him 10% discount. By doing this, the trader still makes a profit of 20% on the cost of the camera. Determine the cost price of the camera (3marks)

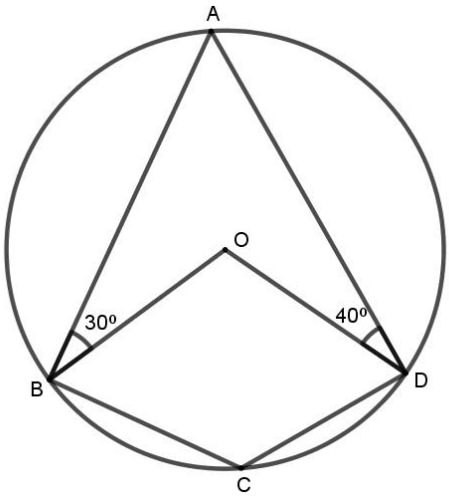
10.Simplify the expression: (3marks)

$$\frac{2a^2 - 3ab - 2b^2}{4a^2 - b^2}$$

11.Three bells ring at regular interval of 9 min, 15 min and 21 min. The bells ring at 5.45 p.m. By 10.00 a.m next day, how many times will they have rung together? (4 marks)

12.Using compass and ruler only construct a triangle ABC such that AB= 6cm ,BC = 5cm and angle ABC = 67.5^o measure the length of AC. (3marks)

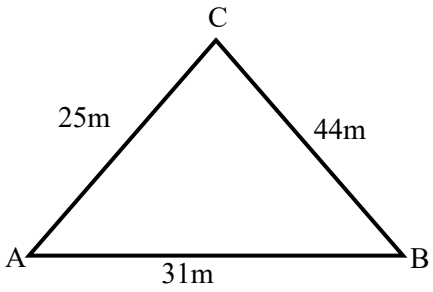
13. In the figure below, ABCD is a cyclic quadrilateral. Point O is the centre of the circle. Angle $ABO = 30°$ = and angle $ADO = 40°$



Calculate the size of angle BCD. (3marks)

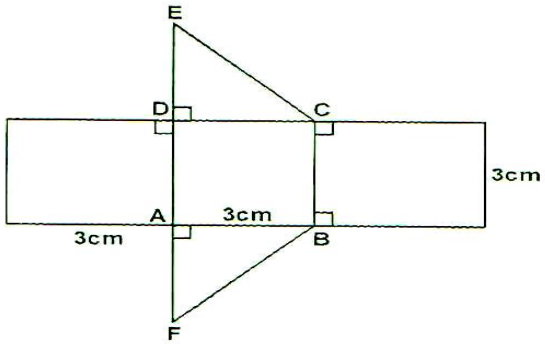
14.From a point 20 m away on a level ground, the angle of elevation to the bottom of a window is 27° and the angle of elevation of the top of the window is 32°. Calculate the height of the window. (4 marks)

15.Karis owns a farm that is triangular in shape as shown below.



Find the area of the farm in hectares. (3 marks)

16. The figure below shows a net of a solid which is not drawn to scale.



Sketch the solid ABCDEF with ABCD as the base. (3 marks)

Section 2: Answer Any Five Questions

17. A line T, which passes through the points (-3, -5) and (3, -6) and is perpendicular to a line the L at the point (-2, -2).

a)Find the equation of L. (3 marks)

b)Find the equation of line T in the form ax + by = c where a, b and c are constants.(2 marks)

c)Given that another line Q is parallel to T and passes through (1, -3) find x and y intercepts of Q. (2 marks)

d)Find the points of intersection of L and Q. (3 marks)

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18A surveyor recorded the measurements of a field in a field book using lines AB 260m as shown below.

	B	
	170	
E50	140	
	110	C60
F80	100	
	30	B50
	A	

a) Draw the map of the field. (4marks)

b)Find the area of the field in hectares. (6marks)

19.Atyang bought 3 blouses and 2 skirts for a total of Ksh.500. Awino bought 4 blouses and 5 skirts for a total of Ksh.900. Find the cost of 1 blouse and 3 skirts. (6marks)

b) A two digit number is such that the difference between the ones digit and the tens digit is 2. If the two digits are interchanged, the sum of the new and the original number is 132. Find the original number. (4 marks)

20.A bus left Nairobi at 8.00am and traveled towards BUsia at an average speed of 80km/hr. At 8.30 am a car left Busia for Nairobi at an average speed of 120km/hr. Given that the distance between Nairobi and Busia is 400km.

Calculate:

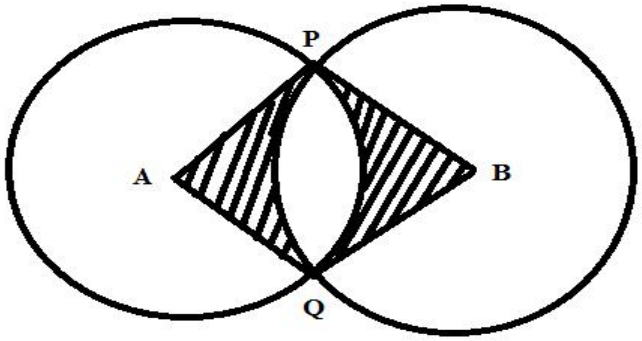
a) The time the car arrived in Nairobi. (2marks)

b) The time the two vehicles met. (4marks)

c) The distance from Nairobi to the meeting point. (2marks)

d) The distance of the bus from Busia when the car arrived in Nairobi. (2marks)

21 The diagram below shows two circles, centre A and B which intersect at points P and Q. Angle PAQ = 70^0 and PBQ = 40^0 and PA = AQ = 8cm.



Use the diagram to calculate to two d.p

a) The length PQ (2marks)

b) The length PB (2marks)

c) Area of minor segment circle centre A. (2marks)

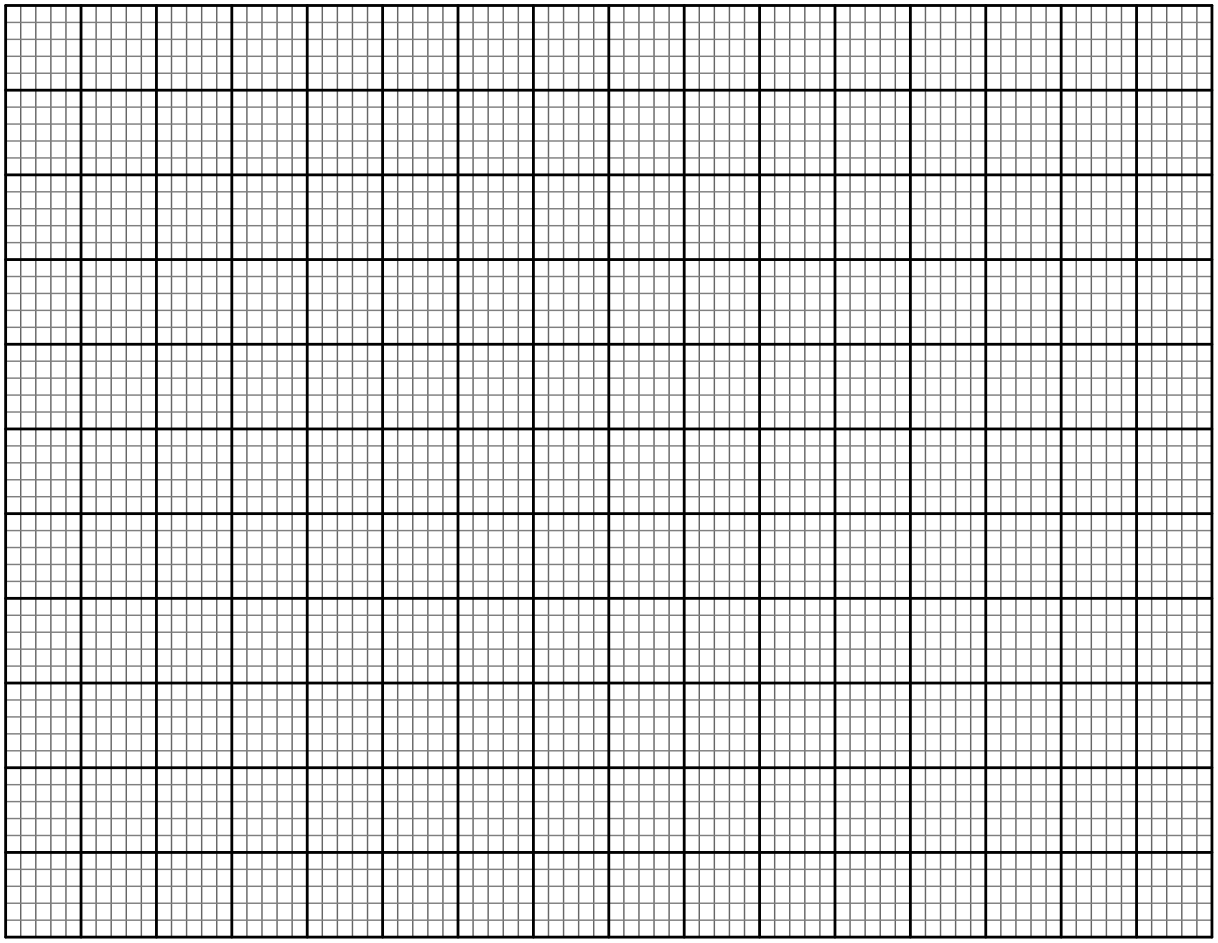
d) Area of the shaded region. (4marks)

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22(a) Complete the table below for the equation $y = 2x^2 - 3x - 5$. (2 marks)

x	-3	-2	-1	0	1	2	3	4
$2x^2$	18	8			2		18	32
-3x	9	6	3				-9	-12
-5	-5	-5	-5	-5	-5	-5	-5	-5
y	22		0				4	15

(b) Draw the graph of $y = 2x^2 - 3x - 5$ using the values of x and y in the table in the grid provided (3 marks)



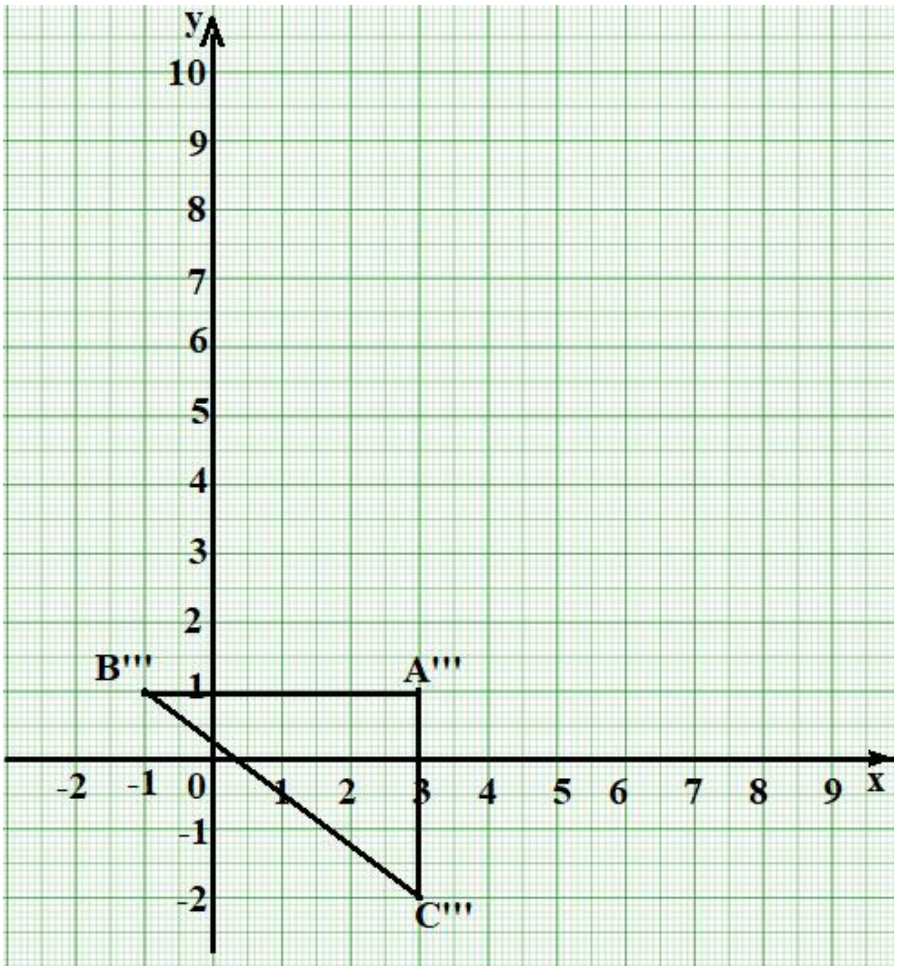
(c) Use the graph to solve the equations

(i) $2x^2 - 3x - 5 = 0$ (2 marks)

(ii) $2x^2 - 5x - 3 = 0$ (3 marks)

23. The vertices of triangle ABC are $A(6,2)$, $B(8,2)$ and $C(6,0)$.

a) On the grid provided below, draw triangle ABC. (1 mark)



b) Triangle $A'B'C'$ is the image of triangle ABC under a reflection in the line $y = x$. On the same grid draw triangle $A'B'C'$ and state its coordinates (2 marks)

c) Triangle $A''B''C''$ is the image of triangle $A'B'C'$ under and enlargement scale factor 2 about the centre $(-1,9)$. On the same grid, draw triangle $A''B''C''$ and states its coordinates.

(2 marks)

d) By construction, find and write down the co-ordinates of the centre and angle of rotation which can be used to rotate triangle $A''B''C''$ onto triangle $A'''B'''C'''$ shown on the grid above. (3 marks)

e) State any pair of triangles that are:

i) Oppositely congruent. (1 mark)

ii) Directly congruent. (1 mark)

\

24(a) The cost of making table consist of transport, labour and raw material in the ratio 4: 2: 6 respectively. During an inflation year the transport increased by 6%, the labour by 9% and raw materials by 20%.

i. Find the percentage increase in producing the table. (5 marks)

ii. What was the old price of the table if the new price is Sh. 680? (2 marks)

(b) The length of each side of a square is increased by 15%. Calculate the percentage increase in its area. (3 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

FORM THREE MATHEMATICS PAPER 2 (121/2)

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- *Write your **name** and **index** number in the spaces provided at the top of this page.*
- *This paper consists of two sections: **Section I** and **Section II**.*
- *Answer **all** questions in section **I** and any five questions from Section **II**.*
- *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*
- *Marks may be given for correct working even if the answer is wrong.*
- *Non- programmable silent electronic calculators and KNEC Mathematical tables may be used.*

For Examiner's Use Only

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

SECTION II

17	18	19	20	21	22	23	24	Total

Grand Total

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SECTION I 50 MARKS

Answer all questions in this section

1.Use logarithm tables to evaluate; $\sqrt[3]{\dfrac{648\times 0.0079}{(968-94)\div 0.0046}}$ (3marks)

2.The middle digit of a number between 100 and 1000 is zero, and the sum of the other digits is 11. If the digits are reversed the number so formed exceeds the original by 495. Find the number. (3marks)

3..Use the tables of reciprocals and square roots to evaluate.

$$\frac{0.1}{0.0351}+\sqrt{0.498}$$ (4 marks)

4.Twenty hustlers working 6 hours a day take 12 days to complete a job. How many more days will it take eight hustlers working 8 hours a day to complete the same job? (3marks)

5. Solve for θ in the equation Sin $(3\theta + 120^0) = \frac{\sqrt{3}}{2}$ in the range $0 \leq \theta \leq 180^{0.}$ (3marks)

6.Rationalize the denominator leaving your answer in the form **a** + **b**$\sqrt{c}$ where**a, b** and **c** are constants $\frac{5-2\sqrt{3}}{2+3\sqrt{3}}$ (3marks)

7.A farmer bought a machine at a current price of Ksh 224,000. If the depreciation rate is 5% in every 3 months. Calculate the sum of its value in 3 years ago and 3 years' time. (3marks)

8. Without using logarithm table or calculators, find the value of p in the equation.

Log n^3 + log 4n = 10 log2 – log ($^2/_8$) (4marks)

9.A cylindrical iron pipe is 2.1 m long and 12cm in external diameter. The metal is 1cm thick and its density is 7.8g /cm^3. Taking pie as $3\frac{1}{7}$, find its mass.

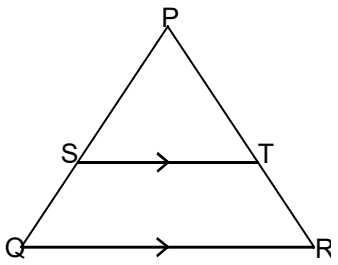
(3marks)

10.A line L is perpendicular to 3y - 4x = 7. Determine the acute angle between L and the x-axis. . (3marks)

11.Given that $\overrightarrow{OA}$ = 2**i** + 3**j** and $\overrightarrow{OB}$ 3**i** – 2**j**. Find the magnitude of AB to one decimal place

(3marks)

12.The figure below shows triangle PQR in which PR = 12cm. T is a point on PR such that TR is 4cm. Line ST is parallel to QR. If the area of triangle PQR is 336cm², find the area of the quadrilateral STQR. (3 marks)



13.From the roof of a house, a boy can see an avocado tree which is 20m away from the house. He measures the angle of elevation of the top of the tree as 21° and the angle of depression of the bottom of tree as 31°. Find the height of the avocado tree (3 marks)

14. Find the percentage error in calculating the volume of the cuboid whose dimensions are 8.2cm by 6.2cm by 5.7cm (3 marks)

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15.A bus moving at a speed of 80km/h is being overtaken by a car moving at 100km/h in a clear section of a road. Given that the bus is 21m long and the car is 4m long. How much time (in seconds) will elapse before the car can completely overtake the bus? (3marks)

16.The area of a rhombus is 120 cm^2. Given that one of its diagonals is 24cm, calculate the perimeter of the rhombus. (3marks)

SECTION II 50 MARKS

ANSWER ANY FIVE QUESTIONS

17. The table below shows the distribution of marks of 40 candidates in a test

Marks	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Frequency	2	2	3	x	12	5	2	3	1	1

(a)(i) Find the value of x (1mark)

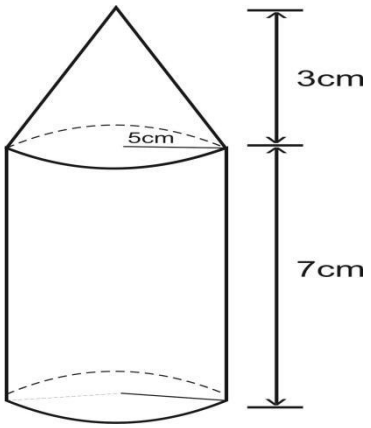
(ii) State the modal class (1mark)

(iii) Calculate the median (4marks)

(iv) Calculate the mean. (4marks)

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18.A wooden model of a grain silo consists of a cone of height 3 cm mounted on a cylinder ofheight 7 cm. The cone and cylinder have a common radius of 5cm



a)Determine the volume of the model. (3 marks)

b)Calculate the surface area of the model. (4marks)

c)The actual grain silo has a height of 7 metres. Calculate its volume to the nearest cubic metre.
(3 marks)

19.Two airports a and B are such that B is 500km due east of A. two plane P and Q take off from A and B respectively and at the same time.

Plane P files at 360km/hr on a bearing of 030^{o}

Plane Q flies at 240km/hr on a bearing of 315^{o}

The two planes land after 90 minutes.

Using a scale of 1: 10,000,000

a) Show the positions of the planes after 90 min. (6marks)

b) Find the distance between the planes after 90 min. (2marks)

c) Find the bearing of plane Q from plane P after 90 minutes (2marks)

20..The capacity of two similar rectangular tanks are 1,000,000 litres and 512,000 litres respectively.

(a)Determine the length of the larger tank if the smaller one is 240cm long. (4 marks)

(b)Calculate the surface area of the smaller tank if the larger tank's surface area is 1875m^2.

(3 marks)

(c)Estimate the mass of the smaller tank if the mass of the larger one is 800kg. (3 marks)

21.The following table shows the rate at which income tax was charged during the year 2023

Monthly taxable income in Ksh	Tax rate %
$0 - 9\,860$	10
$9\,861 - 19\,720$	15
$19\,721 - 29\,580$	20
$29\,581 - 39\,440$	25
$39\,441 - 49\,300$	30
$49\,301 - 59\,160$	35
$Over\ 59\,160$	40

Maina earns a basic salary of Ksh.42 000 and a monthly house allowance of Sh.13 000. He is entitled to a personal relief of Sh.2400 per month. Calculate:

a) His monthly Taxable income. (2marks)

b) Calculate his net monthly tax. (6 marks)

c) Maina's net monthly salary. (2 marks)

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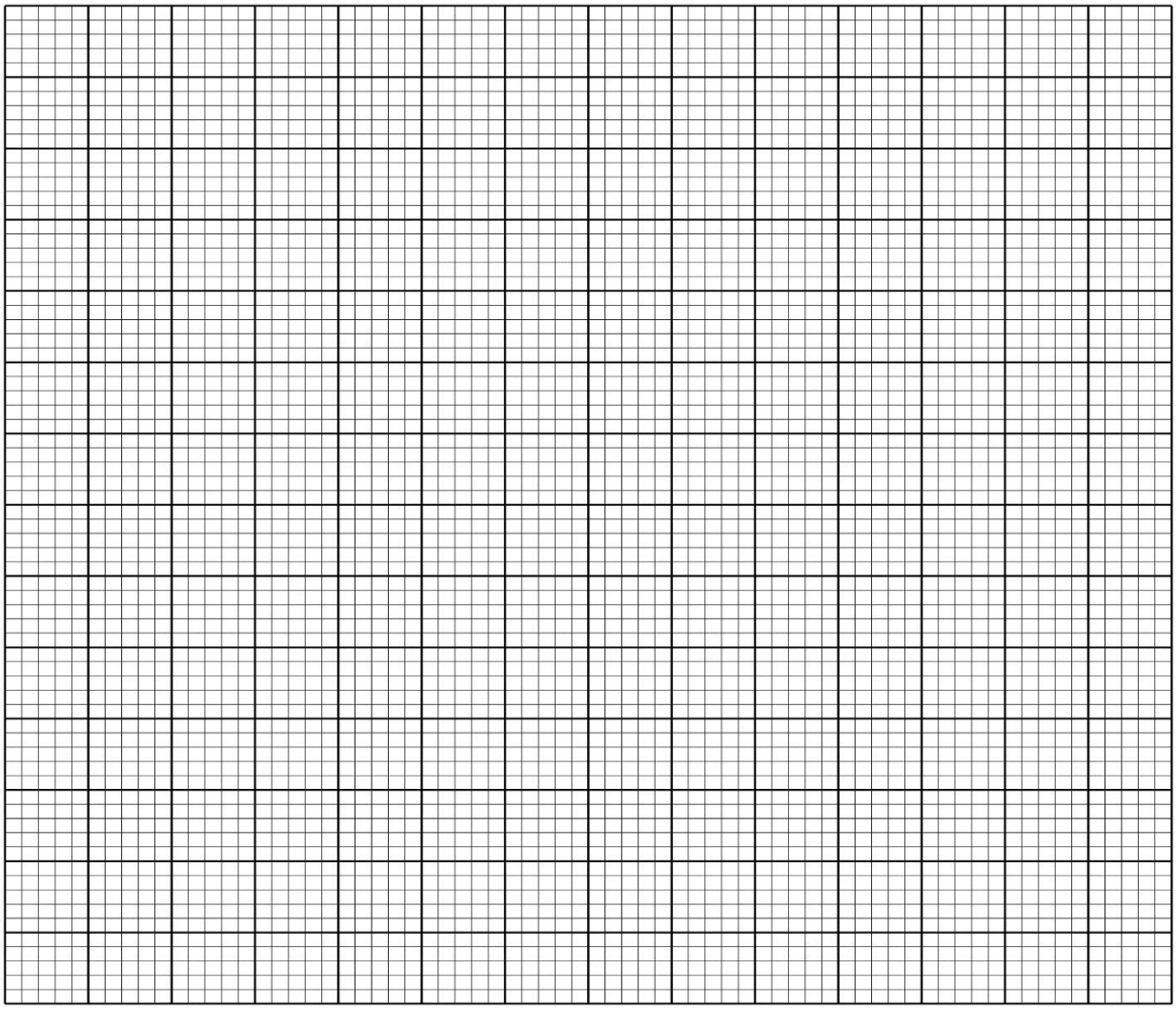
22.(a) Complete the table for $y = x^3 + 3x^2 - 6x - 8$ (2 marks)

x	-5	-4	-3	-2	-1	0	1	2	3
y									

(b) On the grid provided, draw the graph of $y = x^3 + 3x^2 - 6x - 8$ for $-5 \leq x \leq 3$

Use the scale: 1 cm represents 1 unit on the x – axis

1 cm represents 5 units on the y – axis (3 marks)



(c) (i) Use the graph to solve $x^3 + 3x^2 - 6x - 8 = 0$ (2 marks)

(ii) By drawing a suitable straight line on the graph, solve the equation; (3 marks)

$$x^3 + 3x^2 - 6x - 8 = 5x + 5$$

23.Given that the column vectors

$$\underset{\sim}{p} = \begin{pmatrix} -3 \\ 4 \end{pmatrix}, \underset{\sim}{q} = \begin{pmatrix} 16 \\ -4 \end{pmatrix}, \underset{\sim}{r} = \begin{pmatrix} 9 \\ 6 \end{pmatrix} and\ that\ \underset{\sim}{a} = 2\underset{\sim}{p} - \frac{3}{4}\underset{\sim}{q} + \frac{2}{3}\underset{\sim}{r}$$

Express a as column vector and hence calculate its magnitude (4mks)

b) Given that the midpoints of PQ is (-3,1) and Q (7,5), obtain the co-ordinates of P (3mks)

c) A translation T$\begin{pmatrix} 2 \\ 1 \end{pmatrix}$. maps triangle ABC onto triangle $A^1B^1C^1$. Given the co-ordinates A(2,3) , B(2,5) and C(4,4). Find the co-ordinates of A^1B^1 and C^1. (3mks)

24.(a) 200 cm^3 of water of density 1000 kg/m^3 is mixed with 300 cm^3 of milk of density 2000 kg/m^3. Calculate:

i. The volume of the mixture. (2 marks)

ii. The total mass of the mixture. (4 marks)

iii. The density of the mixture. (2 marks)

(b) Calculate the volume of a cylindrical measuring cylinder of radius 3.5 cm and height 12.5 cm. (2 marks)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

232/1
FORM THREE PHYSICS
PAPER 1
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- This paper consists of two sections, Section **A** and **B**.
- Answer **ALL** the questions in section **A** and **B** in the spaces provided.
- **ALL** answers and working **MUST** be clearly shown.
- Mathematical tables and electronic calculators **may be** used.
- Take acceleration due to gravity, g = 10m/s^2 and Density of water = 1g/cm^3

FOR EXAMINER'S USE ONLY

Section	Question	Maximum score	Candidate's score
A	1–11	25	
B	12	09	
	13	09	
	14	08	
	15	10	
	16	09	
	17	10	
	TOTAL	80	

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

Turn Over

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SECTION A(25MKS)

1. Figure 1 shows vernier calipers with a zero error of -0.05cm.

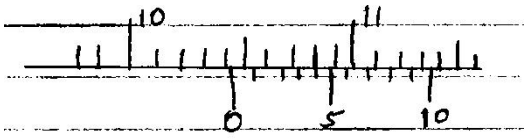
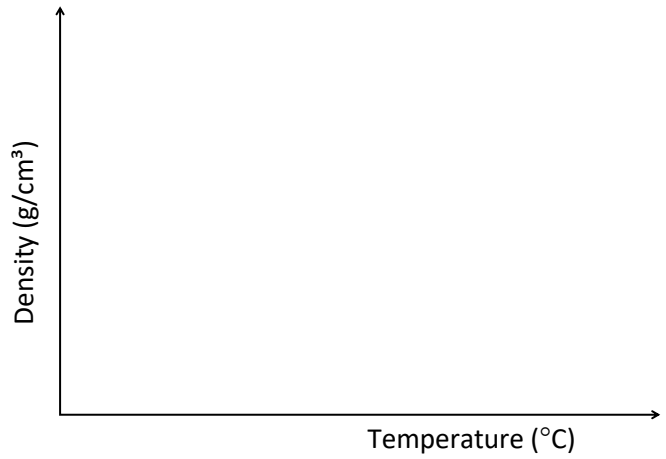


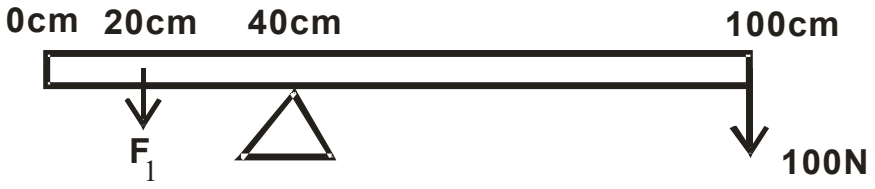
Figure 1

Indicate the actual reading on the instrument. (2 marks)

2. On the Cartesian plan below sketch a graph to show how the density of water varies from O°C to 10°C. (2 marks)



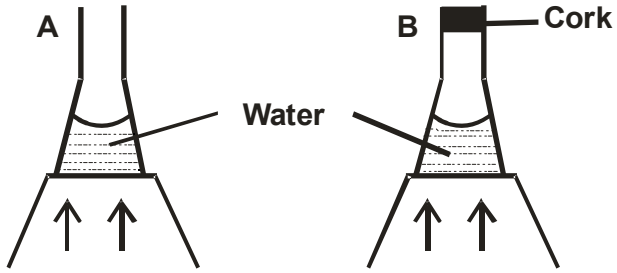
3 A uniform wooden bar of length 1m and mass 500g is pivoted at 40cm mark as shown in figure 2.



Calculate the value of F_1 if the system is to be in equilibrium. (3 marks)

4 State **two** assumptions made in a monolayer experiment to determine the thickness of an oil molecule. (2 marks)

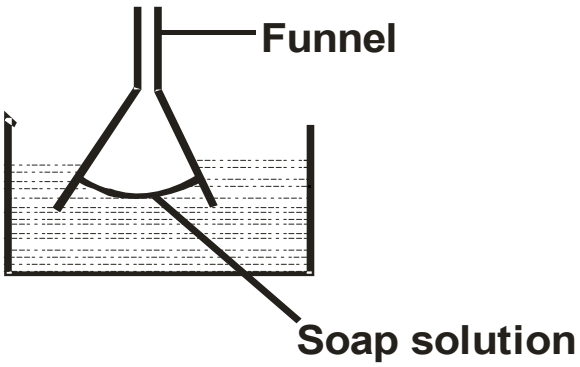
5 Figure 3 below shows two flasks with equal amount of water heated at the same rate.



State and explain which water boils first. (2 marks)

6 a) What is surface tension? (1 mark)

b) Figure 4 shows a funnel dipped into a liquid soap solution.

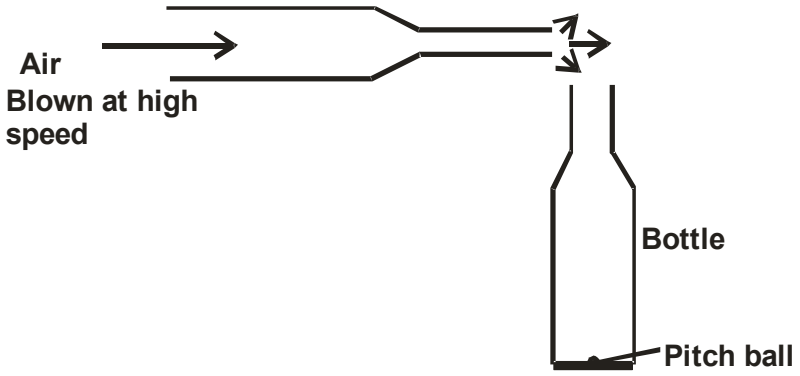


Explain what happens to the soap bubble when the funnel is removed from the soap solution. (2 marks)

7 Explain why fish can survive under water when the surface is already frozen. (1 mark)

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8Figure 6 shows a pith ball at the bottom of a bottle container.



State and explain what happens if air is blown over the mouth of the container. (2 marks)

9 A wet umbrella gets dried faster when its handle is rotated at a high speed. Explain. (2 marks)

10 Figure 7 shows a liquid being siphoned from a beaker to another.

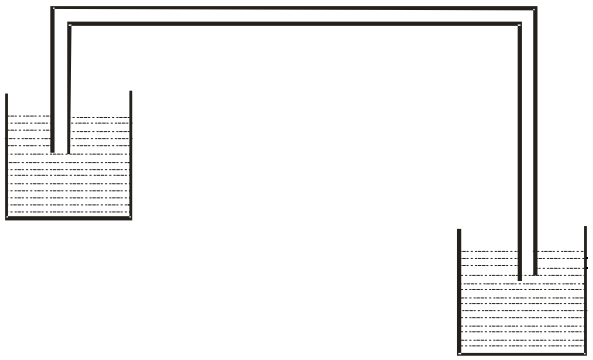


Figure 7

a) Indicate on the diagram the direction of flow of the liquid. (1 mark)

b) Explain what would happen to the flow of the system if it was put in a vacuum. (2 marks)

11. Figure 2 below shows horizontal copper wire tightly fixed on two stands. A mass P is suspended from the wire using a string that can freely slide.

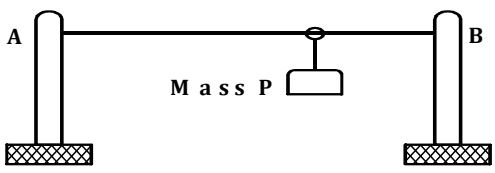


Fig 2

The copper wire is then heated for some time. State and explain what happens to mass P.(2 marks)

_____

_____

_____

_____

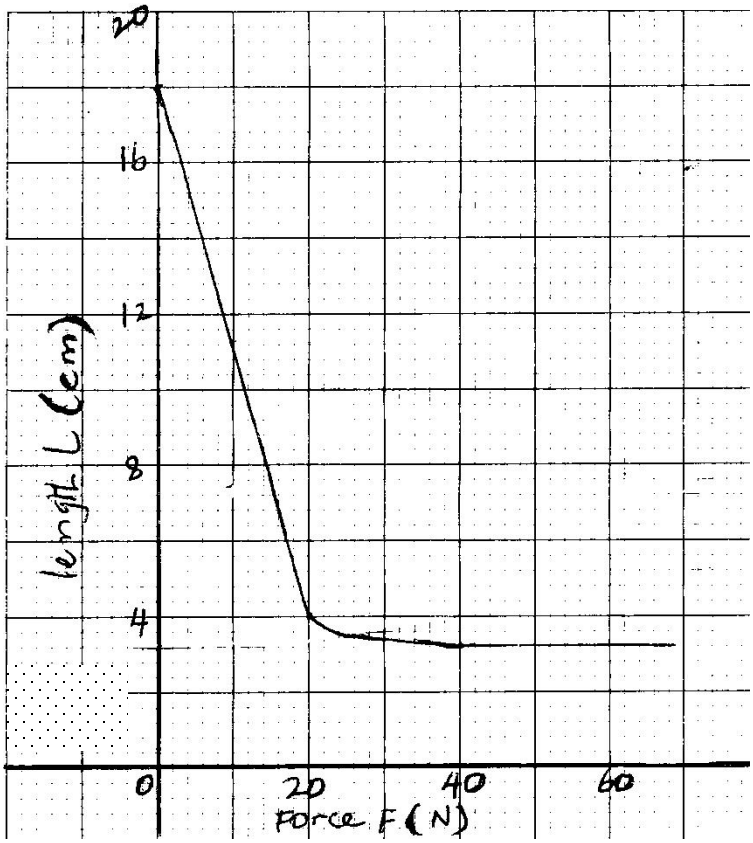
SECTION B (55 MARKS)

Answer ALL the questions

12a) Define elastic limit as used in Hooke's law. (1 mark)

b) An experiment was carried out to find out how the length of a spiral spring varies with the compressing force. Figure 8 shows the variation.

Figure 8

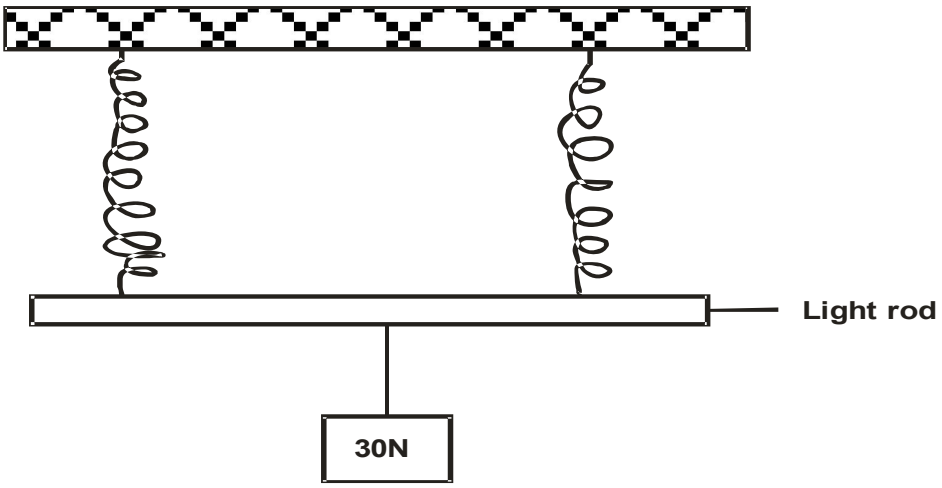


i) Over which range of the forces does the spring obey Hooke's law? (2 marks)

ii) Give a reason for the shape of the graph between 40N and 60N. (1 mark)

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c) Two identical springs of spring constant 3.0N/cm are used to support a load of 30N as shown in Figure 10.



Determine the extension of each spring. (3 marks)

d) State **two** factors that govern the strength of a spiral spring of a given material. (2 marks)

13a) Distinguish between distance and displacement. (1mark)

b) The tape in figure 5 below was produced by a ticker time with a frequency of $50H_z$.

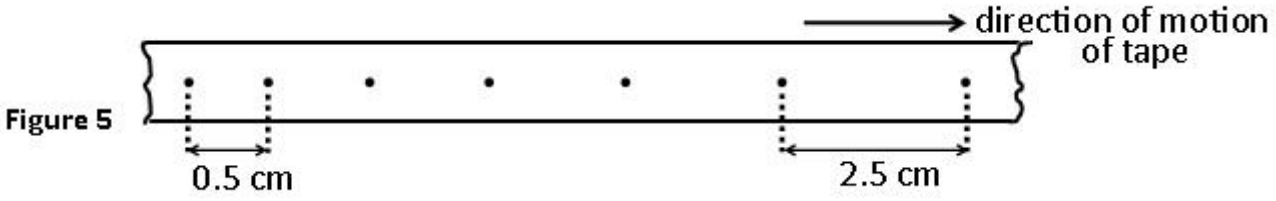


Figure 5

Describe the motion of the velocity of the body. (1marks)

ii. Time between two successive dots. (1mark)

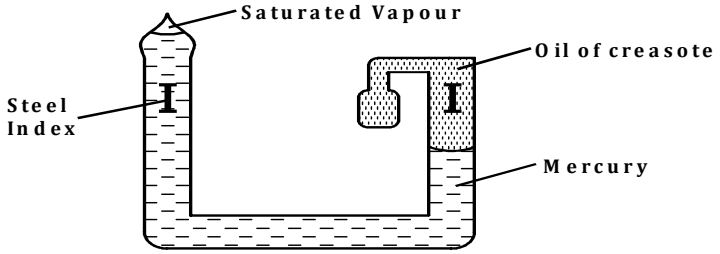
iii. Initial velocity of the body. (2marks)

iv. Final velocity of the body. (2marks)

v) The acceleration of the body (2mks)

14. a) State two properties of mercury that makes it a suitable thermometric liquid. (2 marks)

b) Figure below shows a six's maximum and minimum thermometer.



i) What is the thermometric liquid in the thermometer (1 mark)

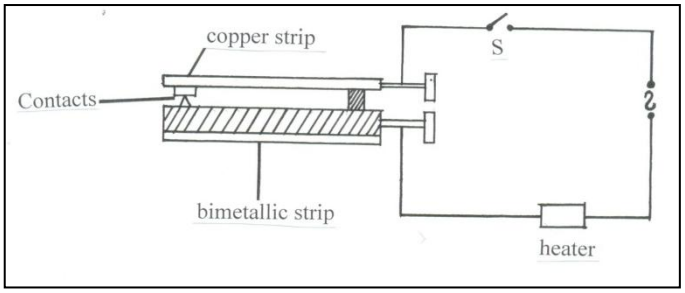
ii) Give a reason why vapour in bulb B is saturated. (1 mark)

iii) Describe how the thermometer above works. (3 marks)

iv) At what points is reading of temperature taken from the thermometer. (1 mark)

15 Explain why a glass container with thick walls is more likely to crack than one with a thin wall when a very hot liquid is poured into it. (2mks)

(b) The diagram below shows a circuit diagram for controlling the temperature of a room



(i) State and explain the purpose of the bimetallic strip (2mks)

(ii) Describe how the circuit controls the temperature when the switch is closed. (6mks)

16

(a) **Figure 14** shows a lift pump.

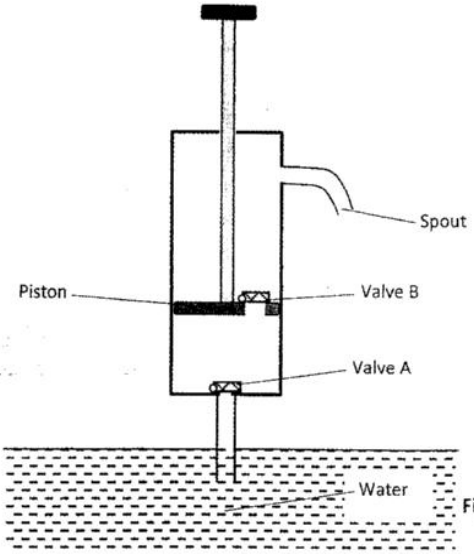


Figure 14

Explain why, when the piston is:

(i) pulled upwards, valve A opens while valve B closes. (2 marks)

.....

.....

(ii) pushed downwards, valve A closes while valve B opens. (2 marks)

.....

.....

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15

(b) After several strokes, water rises above the piston as shown in **Figure 15**.

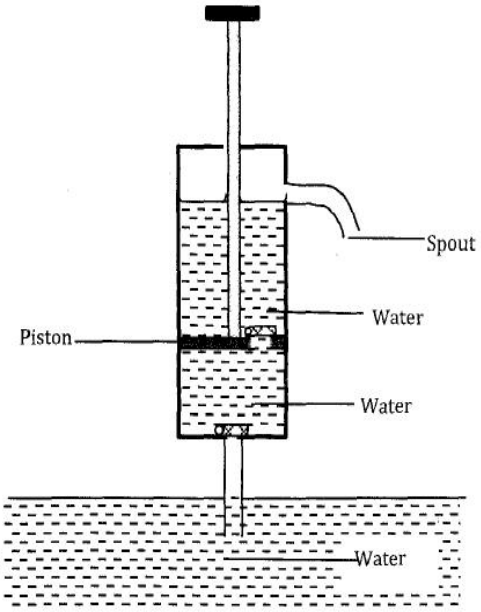


Figure 15

State how water is removed from the cylinder through the spout. (1 mark)

.....

(c) A lift pump can lift water to a maximum height of 10 m. Determine the maximum height to which the pump can raise paraffin.
(take density of paraffin as 800 kgm^{-3} and density of water as 1000 kgm^{-3}). (3 marks)

.....

.....

.....

(d) State **one** factor that determines the height to which a force pump can lift water. (1 mark)

.....

17(a) (i) Distinguish between elastic collision and inelastic collision. (1mark)

b) 14. A bullet of mass 20g travelling at a velocity of 600m/s hits a suspended wooden block of mass 400g. The bullet gets stuck inside the wooden block and the two bodies move together in one direction. If the string holding the wooden block is not cut; Find

(i) The common velocity of the bullet and wooden block. (3mks)

(ii) Maximum height the two bodies reach (3mks)

(iii) The time taken by the two bodies to reach maximum height (3mks)

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NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

232/2

PHYSICS

PAPER 2

THEORY

2 HOURS

INSTRUCTIONS TO CANDIDATES

Answer all questions in both sections in the spaces provided after each question.

Mathematical tables and electronic calculators may be used.

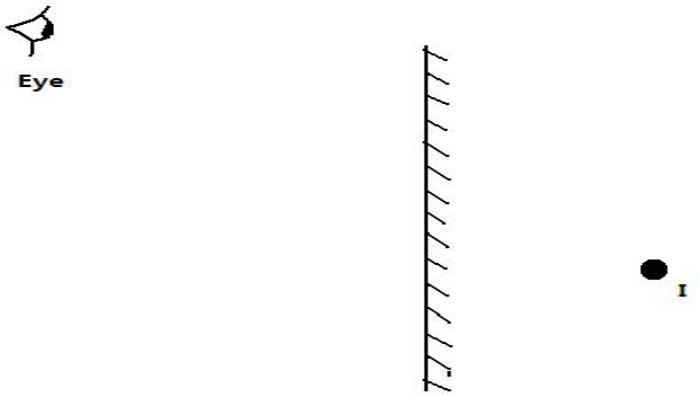
For examiner's use only

Section	Question number	Maximum score	Candidate score
A	1 – 11	25	
B	12	11	
	13	11	
	14	11	
	15	11	
	16	11	
Total		**80**	

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SECTION A (25 MARKS)

1. The figure below shows an image behind a mirror.

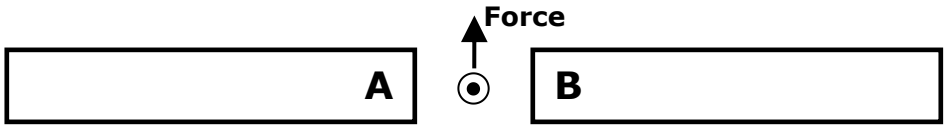


By ray diagram construction, locate the position of the object. (3 marks)

2. A negatively charged rod is brought rear the cap of a leaf electroscope. The cap is then earthed momentarily by touching with the finger. Finally the rod is withdrawn. State and explain the observation made. (3 marks)

3. A boy observes his face in a concave mirror of focal length 100cm. If the concave mirror is 80cm away, state two characteristics of the image observed. (2 marks)

4. The figure shows a current – carrying conductor in a magnetic field. The direction of force on the wire is as shown by the arrow.



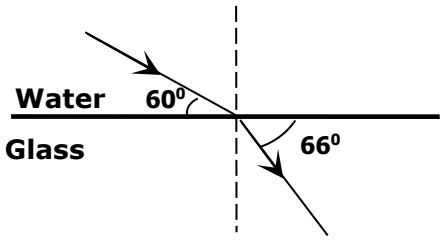
State the polarities of A and B (2 marks)

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5. The speed of sound in air at a certain place is **320m/s**. The distance between a sound source and a wall is **800m**, find the time taken for the echo to be heard. (3 marks)

6. State two differences between sound waves and electromagnetic waves (2marks)

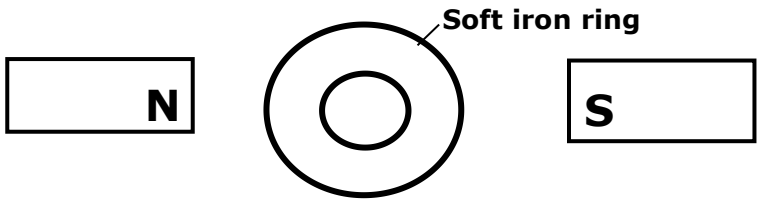
7. The figure below shows a ray of light traveling through water, whose refractive index is 1.33 and glass.



Determine the refractive index of glass. (3marks)

8. Calculate the amount of current flowing through a bulb if **300C** of charges flow through it in **2.5** minutes. (3 marks)

9. A soft iron ring is placed between two magnets. Draw the magnetic field pattern between the two magnets. (2 marks)



10. State the basic law of magnetism (1 mark)

11. State one factor that affect speed of sound in air (1 mark)

SECTION B (55MARKS)

Answer ALL the questions in this section.

12. a) Explain the following terms and state their S.I units

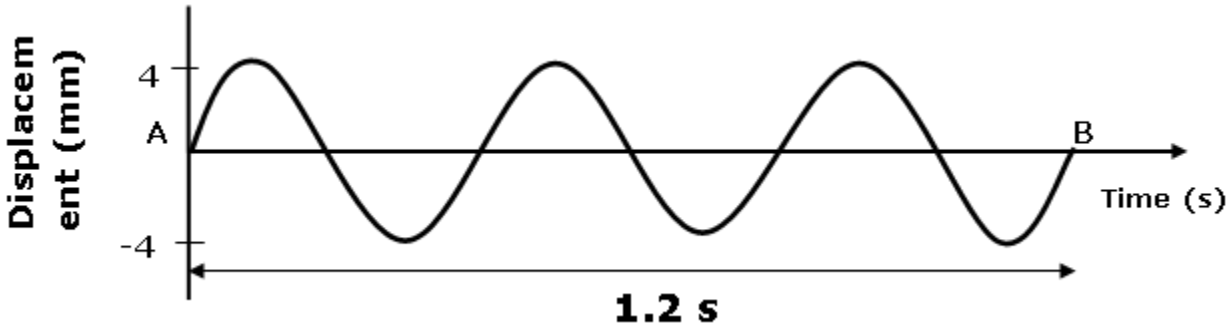
(i) Wavelength (1 mark)

(ii) Amplitude (1 mark)

(iii) Periodic time (1 mark)

(iv) Frequency (1 mark)

b) The sketch is a displacement – time graph of a wave traveling at $320ms^{-1}$ .the wave takes 1.2 seconds to move from point **A** to **B**.



Determine the

(i) Amplitude in SI units (2marks)

(ii) Frequency (3marks)

(iii) The wavelength (λ) (2marks)

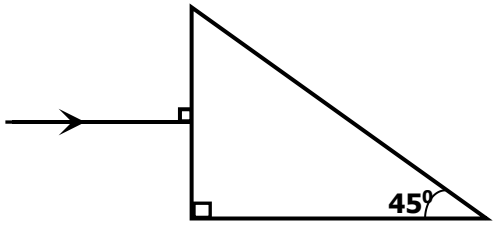
13. a) Distinguish between reflection and refraction of light (1 mark)

b) State the **two** laws of refraction of light (2marks)

c) A glass prism has a refractive index of 1.5. Calculate the critical angle of this glass prism. (3marks)

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d) Complete the path of the ray shown until when it leaves the glass prism, given that refractive index for glass is n= 1.5 and the critical angle of glass is 42^0. (Show all the angles).(3marks)

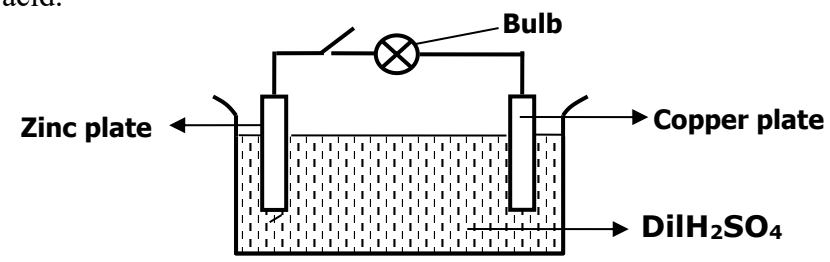


e) State two applications of total internal reflection of light (2 marks)

14. a) Name two advantages which a lead accumulator has over a dry cell (2marks)

b) Recharging is one of the practices of maintenance of accumulators. State two measurements, which need to be taken to help you decide when an accumulator is due for charging. (2 marks)

c) The figure below shows a simple cell made of copper and zinc electrodes dipped in dilute sulphuric acid.



i) Identify the cathode and the anode. (2 marks)

Cathode……..

Anode ……..

ii) State the two common defects in a simple cell. (2 marks)

iii) Explain how the defects in ii) are minimized. (2 marks)

d) Give a reason why it is not advisable to arrange cells in parallel unless they have identical e.m.f

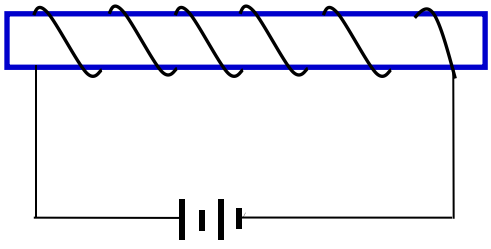
(1 mark)

15. a) State two properties of magnets. (2marks)

b) Distinguish between soft and hard magnetic materials and give examples in each case.
(2 marks)

c) Given a bar magnet, a steel bar and a string describe a simple experiment to distinguish between the magnet and the steel bar. (4marks)

d) The figure below shows a solenoid connected to a battery.



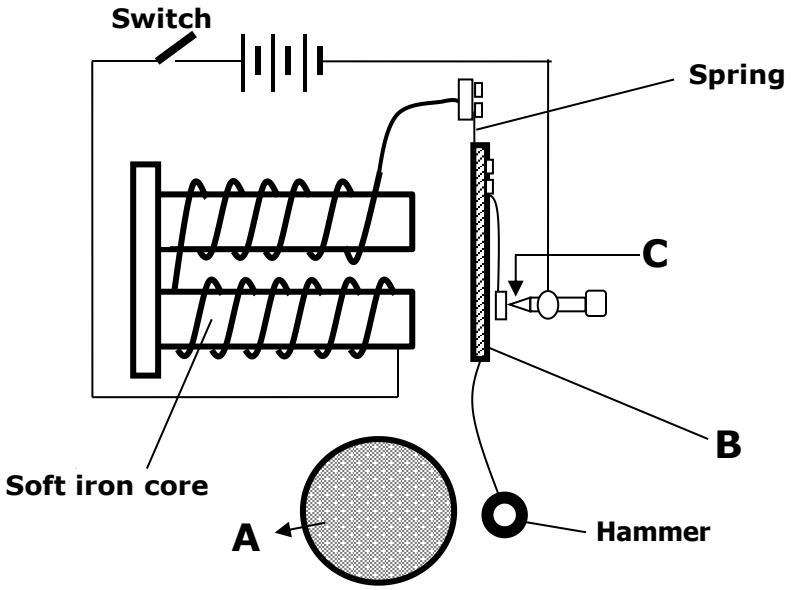
On the diagram indicate.

i) The current direction in the external circuit and around the solenoid. (1mark)

ii) The polarity of the resulting electromagnet. (1mark)

iii) State one way that can be used to make the electromagnet stronger (1 mark)

16. The figure below shows a simple electric bell circuit



i) Name the parts labeled. (3marks)

I) **A** …….

II) **B** ……

III) **C** ……

ii) Describe how the electric bell works (5marks)

iii) State and explain what would happen if the armature is made of steel metal. (2marks)

iv) What adjustment should be done to the system to make it operate effectively (1mark)

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DETERMINED STUDENTS FORM 3 MID-TERM 2 EXAMS

NAME:……

SCHOOL: ……

DATE:…….. ADM NO: ……. SIGN:……

232/3
PHYSICS
PAPER 3
(PRACTICAL)
TIME: 2½ HOURS

Kenya Certificate of Secondary Education
PAPER 3
(PRACTICAL)
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

1. *Write your **name** and **admission number** in spaces provided **above**.*
2. ***Sign** and write the date of examination in spaces provided **above**.*
3. *Answer **all** the questions in spaces provided in the question paper.*
4. *You are supposed to spend the first 15 minutes of 2½ hours allowed for this paper reading the whole paper carefully before commencing the work.*
5. *Marks are given for clear record of the observations actually made, their suitability, accuracy and the use made of them.*
6. *Candidates are advised to record their observations as soon as they are made.*
7. *Non-programmable silent electronic calculators / Mathematical table may be used.*

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Question 1

Section	A	B
Maximum score		
Candidate's score		

Question 2

Section	A	B
Maximum score		
Candidate's score		

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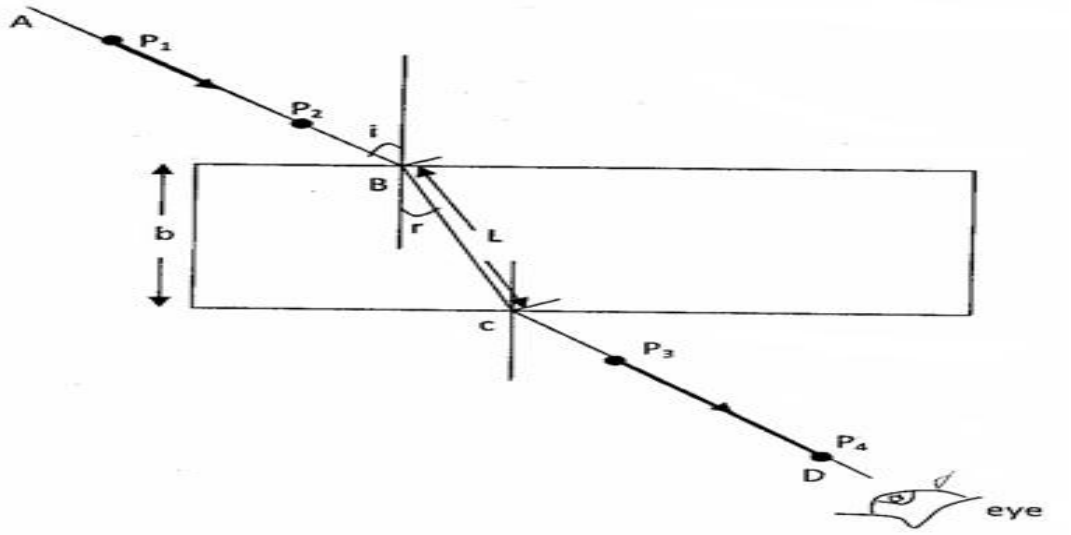
QUESTION ONE

You are provided with the following:

- A rectangular glass block.
- A plain paper.
- 4 optical pins.
- Geometrical set
- A softboard.

Proceed as follows:

(a) Place the glass block on the plain paper with one of the largest face upper most. Trace round the glass block using a pencil as shown below.



(b) Remove the glass block and draw a normal at B. Draw an incident ray AB of angle of incidence, i = 20°.

(c) Replace the glass block and trace the ray ABCD using the optical pins.

(d) Remove the glass block and draw the path of the ray ABCD using a pencil. Measure length L and record it in the table below.

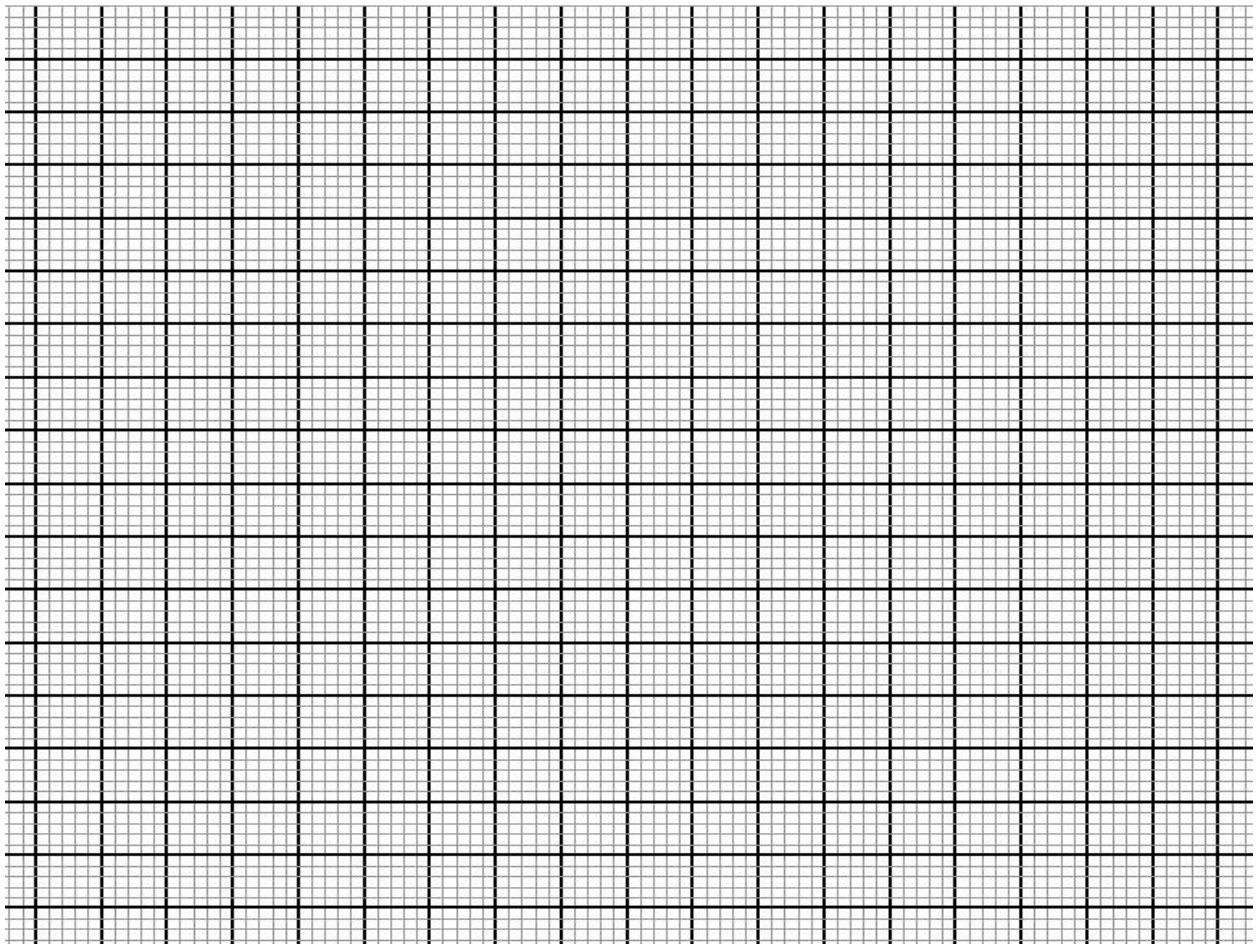
Angle i°	L(cm)	$L^2(cm^2)$	$\frac{1}{L^2}\left(cm^{-2}\right)$	$\sin^2 i$
20				0.1170
30				0.2500
40				0.4132
50				0.5868
60				0.8830

(6 marks)

(e) Repeat the procedure above for the angles of incidence given.

(f) Calculate the value of L^2 and $\frac{1}{L^2}$; Record in the table.

(g) Plot a graph of $\frac{1}{L^2}$ (y-axis) against $Sin^2 i$ (χ-axis). (5 marks)



(h) Calculate the gradient, S. (3 marks)

(i) Given that the equation of that graph: $\frac{1}{L^2} = -\left(\frac{1}{n^2 b^2}\right) Sin^2 i + \frac{1}{b_2}$

(I). Determine the $\left(\frac{1}{L^2}\right)$ intercept C and the ($Sin^2 i$) intercept B.

C = …… (1 mark)

B = …… (1 mark)

(II). Calculate the value of Q given by: (2 marks)

$$Q = -\left(\frac{C}{S}\right) \div B$$

Note: Remember to hand in the plain paper used. (2 marks)

QUESTION TWO

Part A

You are provided with the following apparatus

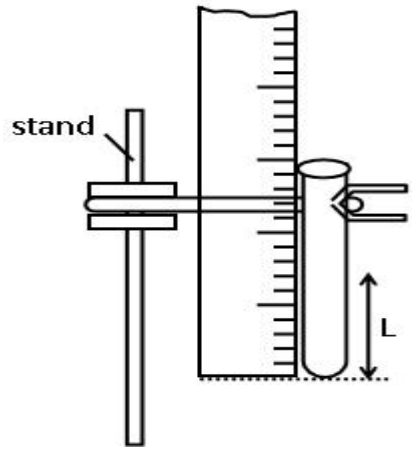
- One test tube
- One 10ml measuring cylinder
- A piece of string
- A metre rule and electronic beam balance.
- One retort stand
- One boss and a clamp
- A plasticine

a). Proceed with the experiment as follows

(i) Measure and record the mass 'm' of the test tube

m=……g (1mark)

(ii) Clamp the boiling tube vertically with its base resting on a flat surface. Pour 2cm^3 of water from the measuring cylinder into the boiling tube.



b). Record the length 'L' of the water column in the test tube in the table below. Repeat with values of V=2cm^3 and V=4cm^3 (2 marks)

Volume V (cm^3)	Length L (cm)
2	L_1=
4	$L_{2=}$

(iii). Measure the length L_o, of the test tube

L_O=……cm (1mark)

(iv). Wind the cotton thread round the test tube. The turns should touch one another but must not overlap. Count the number of turns and record.

n=…….. turns (1mark)

(v). Unwind the cotton thread of n turns and measure its length

L_T =…….cm (1mark)

(vi). Calculate the quantity V of the glass material of which the test tube is made using the formula

$$\frac{V}{L_0} = \frac{0.08{L_T}^2}{n}$$ (3marks)

c). Roll the plasticine to form a spherical ball that can freely enter the test- tube measure its mass and record.

M_o=……g

M_o=……Kg (1mark)

(d) Empty the test tube and put $\frac{1}{2}$ of water from the measuring cylinder into the test tube. Measure and record the length , L_3.

$L_{3=}$…… cm (1marks)

(e) Carefully slide the ball into the test tube and record the new length, L_4

L_4=…….cm (1mks)

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(g) Determine the density, of the plasticine ball given that (2 marks)

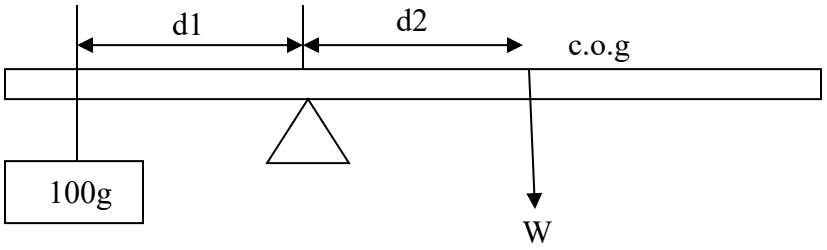
$\rho = \frac{Mo}{L4-L3}$

PART B

You are provided with:

- A metre rule
- a piece of cellotape.
- a 100g mass
- a wedge.

i) Arrange the apparatus as shown. With the pivot at the 30 cm mark, Let the metre rule balance horizontally as shown below.

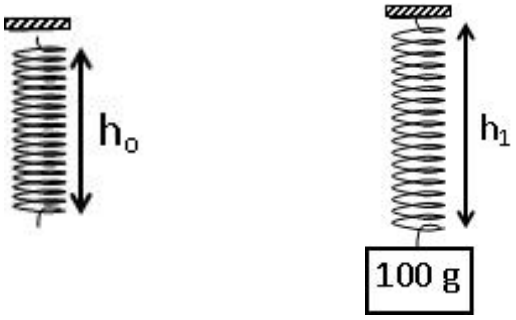


d_1 =..... (1mk)

d_2 =..... (1mk)

Use your measurements to determine the weight, W of the metre rule. (2mks)

ii) The spring constant K using the 100g mass



h_o=……cm(length of the spring) (½ mk)

h_1=.....cm (length of the spring holding 100g mass) (½ mk)

Hence determine the spring constant K (2mks)

Given that $k = \frac{m}{h_1 - h_0}$ (where m is the mass in grams)

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