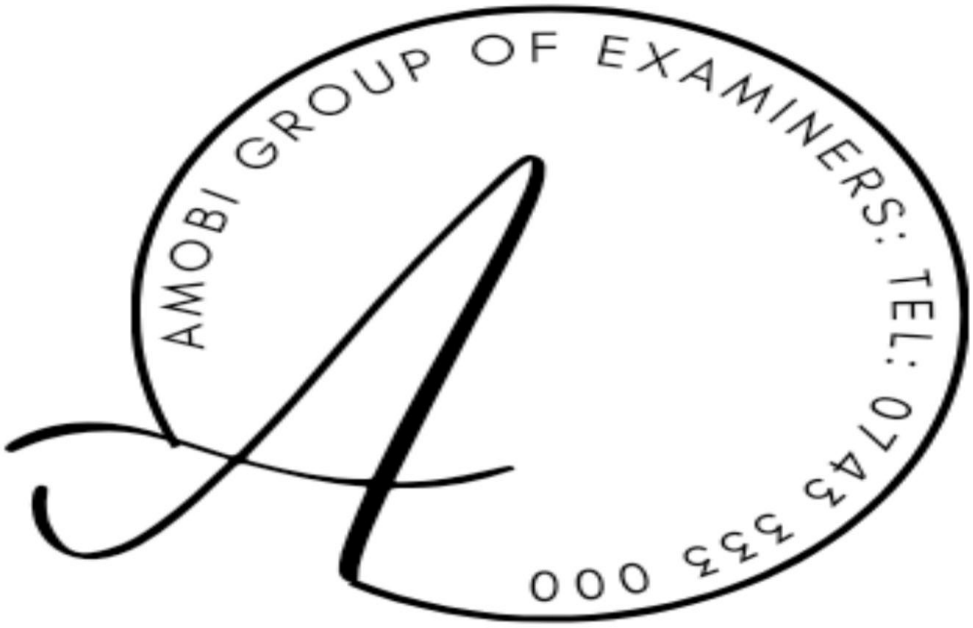
EXCELLING STUDENTS FORM 3 MID TERM 3 SERIES 1 EXAMS *(ALL SUBJECTS TESTED)*



EXCELLING STUDENTS FORM 3 MID TERM 3 SERIES 1 EXAMS

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ORDER OF THE 14 SUBJECTS TESTED

(ALPHABETICALLY ARRANGED)

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

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..…… DATE: …….

443/1
AGRICULTURE
PAPER 1
TIME: 2 HOURS.
FORM THREE

(Kenya Certificate of Secondary Education)
AGRICULTURE
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

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

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-18	30	
B	19-22	20	
C		20	

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		20	
	TOTAL SCORE	90	

SECTION A: (30 MARKS)

1. Outline three reasons for treating water for use in the farm. **(1½mks)**

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2. Give four advantages of carrying out minimum tillage. **(2mks)**

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

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4. Name any four surface sources of water in the farm. **(2mks)**

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5. State four important reasons of keeping farm records in the farm**.** **(2mks)**

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6. Give two ways in which organic mulch helps in the control of soil erosion. **(1mk)**
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7. Name any two examples of farm structures that are used in crop production. **(1mk)**
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8. Give two reasons for siting a nursery bed at a well sheltered place. **(1mk)**
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9. State four reasons as to why burning is not recommended in land. **(2mks)**
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10. Give four advantages of using certified seeds during planting. **(2mks)**
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11. Why is it necessary to allow freshly cut sorghum (Columbus grass) to wilt before feeding it to livestock? **(1mk)**

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12. Give two roles of nitrogen in maize production. **(1mk)**

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13. Distinguish between the terms hybrid and composite as used in maize breeding. **(1mk)**

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14. Outline three important aspects of rainfall a farmer should consider when growing crops. **(1½mks)**

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15. State two harmful effects of strong wind in agricultural production. **(1mk)**

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16. Give two ways in which cover crops help to conserve water in the soil**.** **(1mk)**

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17. Give a reason for carrying out each of the following management practices on a tree nursery.

a) Pricking out. **(½mk)**

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b) Shading. **(½ mk)**

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18. Outline two ways of controlling damping off disease off disease of cabbages. **(1mk)**

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19. Outline **four** indicators of well rotten compost manure. **(2mks)**

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20. Name four natural factors that may influence soil erosion. **(2mks)**

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21. What do you understand by the term opportunity cost? **(1mk)**

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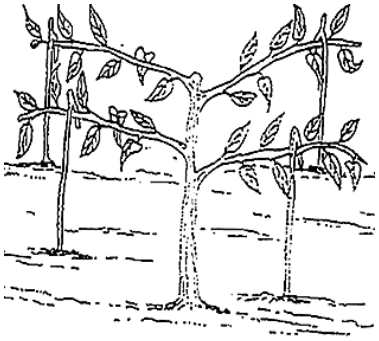
SECTION B (20 MARKS)

Answer ALL the questions in this section in the spaces provided.

22. Identify the method of pegging tea shown in the diagrams below;-

a)

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i) The pegging method is…….. **(½mk)**



ii) The pegging method is…… **(½mk)**

b) Give three reasons for pruning coffee plants. **(3mks)**

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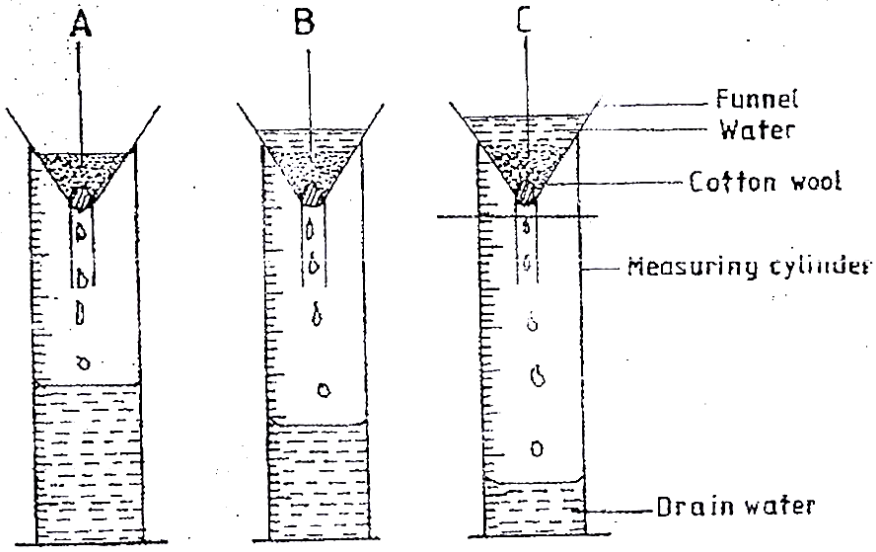
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23. The diagram below illustrates an experiment on soil. Study it carefully and answer the questions that follow.



a) State the aim of the experiment.t **(1mk)**

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b) If the volume of water illustrated in the measuring cylinders was observed after one hour, identify the soil samples labeled A and B.

A. …… **(½mk)**

B. …… **(½mk)**

c) State two ways in which the soil structure of the soil sample labeled C above can be improved. **(2mks)**

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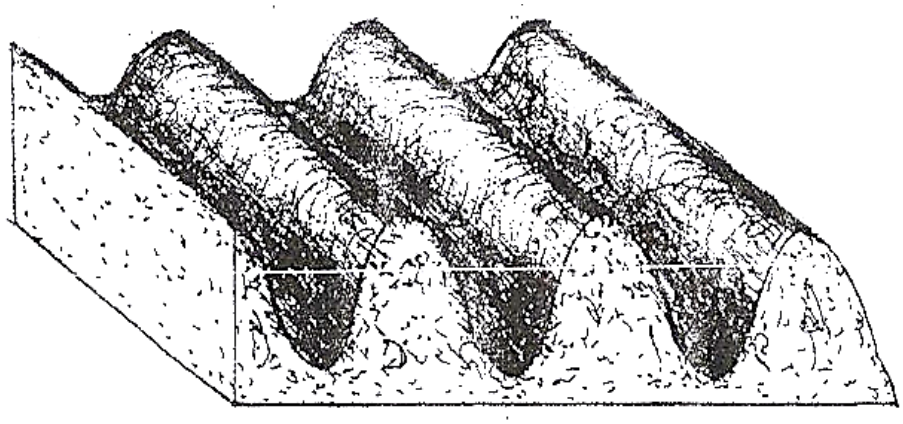
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24. The diagram below illustrates a final seedbed after tertiary operation done during land preparation. Study it carefully and answer the questions that follow.



a) Name the tertiary operation carried out on the seedbed. **(½mk)**

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b) Describe how the tertiary operation named in (a) above is carried out**.** **(1½mks)**

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c) Give two advantages of planting crops on the final seed back illustrated above. **(2mks)**

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25. What is the function of each of the following substances in the preparation of compost manure?

a) Wood ash. **(1mk)**

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b) Top Soil. **(1mk)**

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c) Wooden stick**.** **(1mk)**

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d) Adding manure. **(1mk)**

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26. Name the deficient nutrient element in plants showing the following symptoms;-

a) Stunted growth, die back of plant tips, leaves roll up and chlorosis along margins of younger leaves. **(½mk)**

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b) Yellowing of leaves appears first lower leaves turn brown and fall prematurely, stunted growth. **(½mk)**

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c) Leaf curling, yellowing of leaves, tips and edges of leaves are scorched and have small mottles. **(½mk)**

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d) Purpling of leaves, stunned growth, slender stalks and lateral buds remain dormant. **(½mk)**

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27.a) Why is the use of the following items essential during the harvesting of tea?

i) Plucking stick. **(1mk)**

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ii) Woven basket. **(1mk)**

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SECTION: C (4Omks)

Answer any TWO questions in this section.

28. a) Explain five advantages of vegetative propagation in crop production**.** **(5mks)**

b) Outline five benefits of organic farming. **(5mks)**

c) Discuss five factors to consider when choosing the type of irrigation system to use in a farm. **(10mks)**

29a) Describe ten safety precautions that should be taken when using herbicides to control weeds. **(10mks)**

b) Explain five biological agents of weathering. **(10mks)**

30. Describe tomato production under the following sub headings.

a) Nursery management practices. **(6mks)**

b) Land preparation. **(4mks)**

c) Transplanting. **(7mks)**

d) Harvesting. **(3mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

443/1
AGRICULTURE
PAPER 2
TIME: 2 HOURS.
FORM THREE

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- Answer all the questions in section A and B.
- Answer any two questions in section C.
- All answers should be written in the spaces provided.
- This paper consists of 12 printed pages.

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- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
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A	1-18	30	
B	19-22	20	
C		20	
		20	
	TOTAL SCORE	90	

SECTION A (30 Marks)
Answer ALL the questions in this section.

1.Name **four** breeds of rabbits. **(2mks)**

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2.List **four** functions of the rumen in the digestion of feed in; Ruminant animal. **(2mks)**

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3.State **two** reasons why drenching is not an effective method of internal parasite control. (IMC). **(1mk)**

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4.Give the functional difference between a cross-cut saw and a rip saw. **(1mk)**

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5.State **two** functions of a queen in a colony. **(1mk)**

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6.Give **two** reasons why rabbit hutches should be raised above the ground level. **(1mk)**

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7.State **four** disadvantages of natural mating as a method of breeding in dairy cattle. **(2mks)**

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8.Name **four** disorders in livestock caused by the lack of mineral nutrients**.** **(2mks)**

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9.Name the type of hammer that one would require for the following operations.

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(i) Striking cold chisel**.** **(½mk)**

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(ii) Driving and removing nails in wood. **(½mk)**

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(iii) Striking wooden chisels**.** **(½mk)**

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(iv) Breaking stones for masonry work**.** **(½mk)**

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10. State f**our** ways in which animal utilizes a production ration. **(2mks)**

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11. State **four** observable features of an indigenous cattle. **(2mks)**

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12. (a) Name **two** forms in which tapeworms are found in livestock. **(1mk)**

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(b) State **four** non-chemical control measures of ticks on the farm. **(2mks)**

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13. State **two** reasons why young rams should be docked. **(1mk)**

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14. State **four** ways of restraining cattle during routine management. **(2mks)**

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15. Give **four** features of housing that help to control livestock diseases. **(2mks)**

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16. State **two** functions of crop in the digestive system of chicken. **(1mk)**

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17. Give **four** characteristics of a good site for fish pond. **(2mks)**

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18. Give the meaning of the following terms used in livestock as used in livestock production. **(1½mks)**

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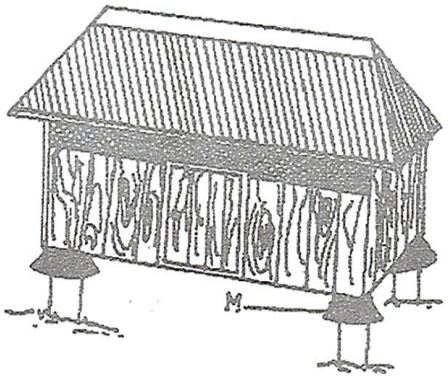
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SECTION B (20 Marks)

Answer ALL questions in this section in the spaces provided.

19. Below is a diagram of a farm structure for storing grains. Study it carefully and answer questions that follow.



(a) Identify the farm structure above. **(1mk)**

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(b) State the function of the part marked **M.** **(1mk)**

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(c) Give **two** maintenance practical that should be carried out on the farm structure illustrated in readings for grain storage. **(2mks)**

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(d) A part from the structure illustrated above, name two other structures used to store grains by NCBP. **(1mk)**

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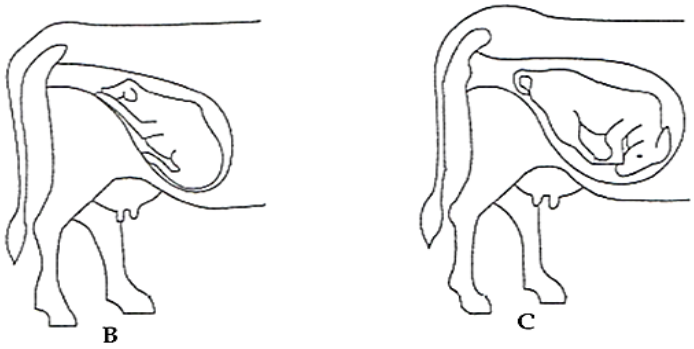
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20. Study the illustration below and answer the questions that follow.



(a) Which diagram represent the normal presentation of calf at birth**?** **(1mk)**

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(b) What term is used to refer to position shown in diagram B**?** **(1mk)**

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(c) State **three** signs of parturition in cattle **(3mks)**

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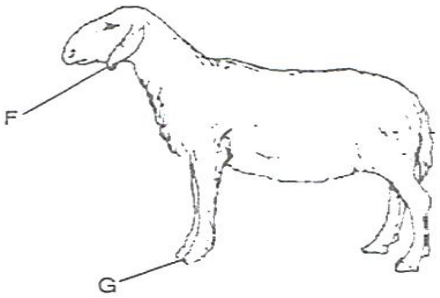
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21. The illustration below represents a sheep with parts marked **E**, and **G**. study it and answer the questions that follow.



(i) State the operation carried out on the parts labeled **F** and **G.**

F …… **(1mk)**

G …… **(1mk)**

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(ii) Name the tool used to carry out the operation on the part **G**. **(1mk)**

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(iii) Give **two** reasons for each operation carried out on the part labeled.

F……..… **(1mk)**

G……..…. **(1mk)**

22. (a) A 300kg pig ration containing 20% crude protein was to be made from wheat bran (3% crude protein) and cotton seed cake (24% crude protein). Using the peasons square method, calculate the amount of each feed stuff that is needed to prepare the ration. **(5mks)**

SECTION C (40 Marks)

Answer any two questions in this section.

23. (a) Discuss **eight** general methods of disease control. **(8mks)**

(b) Describe the procedure of processing honey using heat method. **(7mks)**

(c) Give **six** factors considered when selecting a heifer for breeding. **(5mks)**

24. (a) Describe the life cycle of a two-host tick. **(5mks)**

(b) State **six** functions of water in an animal body. **(6mks)**

(c) Outline **five** importance of farm building. **(5mks)**

(d) Give **four** signs of heat in a doe. **(4mks)**

25. (a) State **four** reasons for dehorning in cattle. **(4mks)**

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(b) Describe the procedure of egg formation in poultry. **(10mks)**

(c) Outline **six** advantages of live fences. **(6mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

BIOLOGY PAPER 1
FORM 3
TIME: 2 HRS

INSTRUCTIONS:

1.(a) Define the term species. **(2mks)**

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(b) Which taxonomic group has the largest number of members? **(1mk)**

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2. During a field trip, a student collected a specimen that had the following characteristics

- 2 body parts
- More than 4 pairs of limbs
-had a carapace

(a) Identify the class into which the organism belongs. **(1mk)**

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(b) Other than the head, name the other body part. **(1mk)**

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3.(a) State **two** functions of a microscope. **(2mks)**

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(b) A cell magnified 800 times using a light microscope whose eye piece was x20. What was the magnification of the objective lens? **(1mk)**

4. Give **two** functions of the endoplasmic reticulum. **(2mks)**

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5.(a) Define the following terms

(i) Cytology **(1mk)**

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(ii) Mycology **(1mk)**

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(b) State the importance of irritability in living organisms. **(1mk)**

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6. Name the gaseous exchange structures in;

(a) Insects **(1mk)**

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(b) Frogs **(1mk)**

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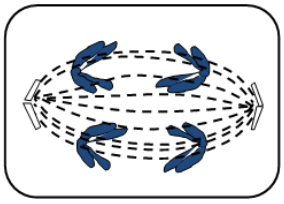
7. Two species in an ecosystem cannot occupy the same niche. Explain**.** **(1mk)**

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8. The diagram below represents a stage during cell division



a) Name the stage of cell division. **(1mk)**

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b) Give two reasons for your answer in (a) above**.** **(2mks)**

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c) State the significance of this stage of cell division in living organisms. **(1mk)**

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9. Name the causative agent for the following diseases;

a) Typhoid **(1mk)**

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b) Syphilis **(1mk)**

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10. A process that occurs in plants is represented by the equation below.

$C_6H_{12}O_6 \longrightarrow 2C_2H_5OH + 2CO_2 + \text{Energy}$

(glucose) (ethanol) (carbon (iv) Oxide)

a) Name the process. **(1mk)**

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b) State the economic importance of the process named in (a) above. **(1mk)**

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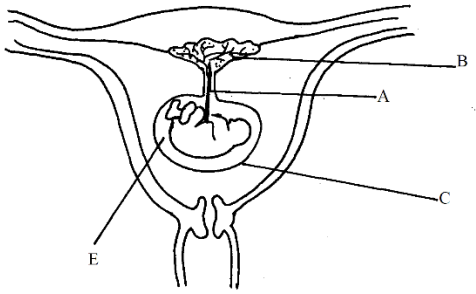
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11. In a class activity, a group of students from Star secondary school caught 50 grasshoppers and marked them using blue ink. They then released them. The following day they repeated the activity. They caught 100 grasshoppers out of them, 25 had a blue mark. Calculate the estimated population of grasshoppers in the area.

(3mks)

12. Study the diagram below and answer the questions which follow.

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a) Name the parts labelled **C** and **E** **(2mks)**

C ……

E……

b) State two function of part B. **(2mks)**

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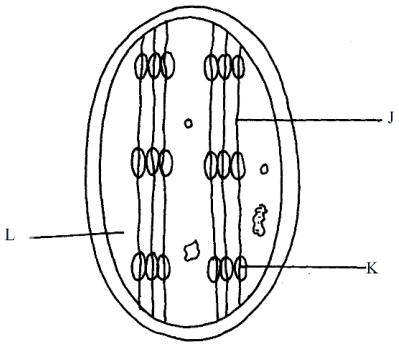
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13. Study the organelle below and answer the questions that follow.



a) Name the organelle. **(1mk)**

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b) Identify the structure labelled J and K. **(2mks)**

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c) State the function of the part labelled L. **(1mk)**

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14.a) Name the antigens that determine human blood groups. **(2mks)**

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b) State the adaptation that enables the red blood cells to move into blood capillaries. **(1mk)**

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15 (a) Name the kingdom into which the prokaryotes are placed. **(1mk)**

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(b) State two characteristics used to classify arthropods in classes. **(2mks)**

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16. A certain plant had the following characteristics:

- Presence of roots, stem and leaves.
- Found with sori on the under surface.
- Life cycle in sporophyte and gametophyte generations.
- Sporophyte generation being dominant.

Name the division to which the plant belongs. **(1mk)**

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17. Name the causative agent of the following diseases. **(2mks)**

(i) Cholera.

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(ii) Candidiasis.

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18. The diagram below represents part of the human digestive system.

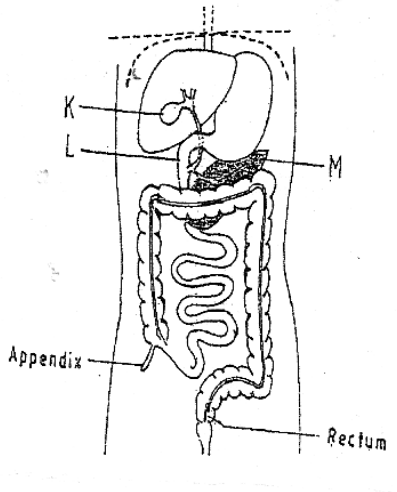
Name the organs labeled L and M. **(2mks)**

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19. (a) State **<u>two</u>** functions of the blood other than transport. **(2mks)**

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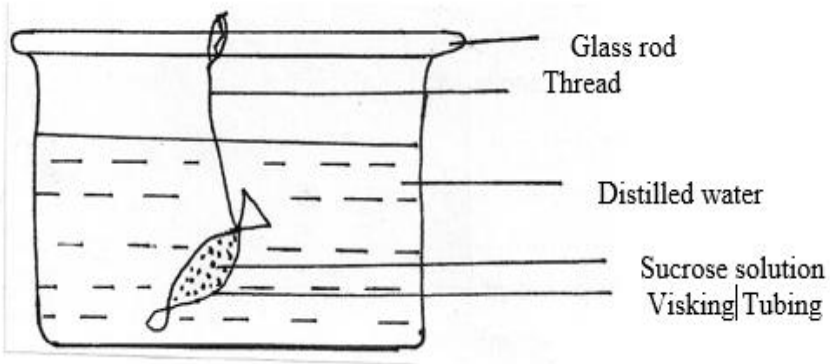
(b) Name **<u>one</u>** defect of the circulatory system in humans. **(1mk)**

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20. Form One student set up an experiment shown below to investigate a certain physiological process. The set up was left for 30 minutes.



(a) Name the process under study. **(1mk)**

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(b) State the expected results after 30 minutes. **(1mk)**

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(c) Explain your answer in (b) above. **(3mks)**

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19. (a) Give another name of the oviduct. **(1mk)**

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(b) Name the hormone responsible for production of milk after perturation. **(1mk)**

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20. Below is an example of a food chain.

Nappier grass ⟶ Mouse ⟶ Snake ⟶ Hawk

Identify the trophic level occupied by:

i. (a) Nappier grass **(1mk)**

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(b) Hawk **(1mk)**

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ii. What would happen if snakes are removed from the food chain? **(2mks)**

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21. a) State ***three*** characteristics of a wind pollinated flower. **(3mks)**

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b) Explain why sexual reproduction is important to organisms. **(1mk)**

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22. The table below shows the energy use per day in kilojoules

Age(years)	Male	Female
2	5,500	5,500
5	7,000	7,000
8	8,800	8,000
11	10,000	9,200
14	12,500	10,500
18	14,200	9,600
25	12,100	8,800

a). From the table, explain why after age 8 males require more energy than females. **(1mk)**

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b). Other than sex and age, name ***three*** other factors that determine energy requirements in human beings **(3mks)**

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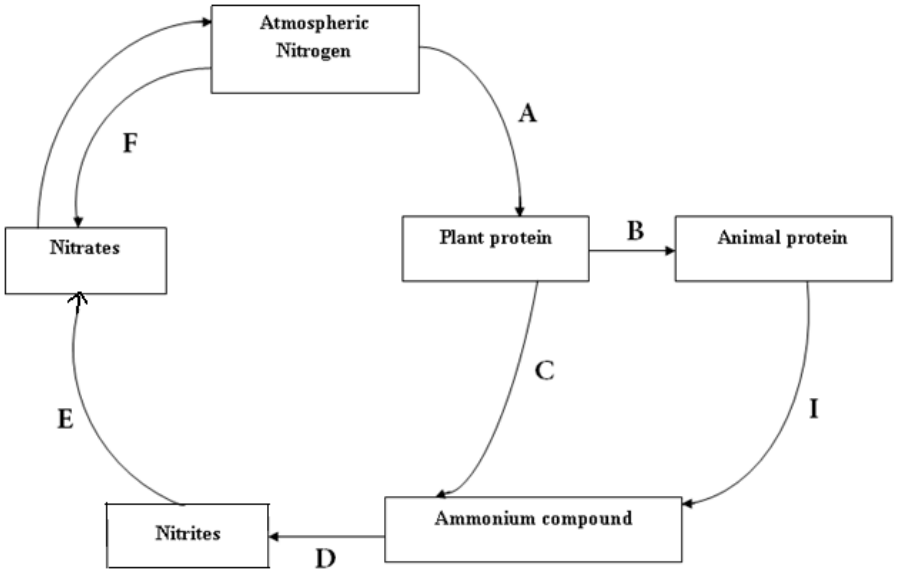
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23. The diagram below represents a simplified Nitrogen cycle

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(i) Name the organisms that cause the following process **(4mks)**

A……

D……

E……

ii) Name the process presented in I above

I……

24. The diagram below represent transverse section of an ovary of a certain flower



i) Identify the type of placentation illustrated in the diagram above **(1mk)**

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25. Name the type of competition exhibited by the following relationship. **(2mks)**

a) Second generation of tobacco plant and the parent plant.

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b) Different types of herbivores in an enclosed grass paddock.

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26. a) State **three** advantages of cross — pollination. **(3mks)**

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b) State **two** ways by which plants avoid self— pollination. **(2mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

231/2
BIOLOGY
PAPER 2
FORM THREE
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

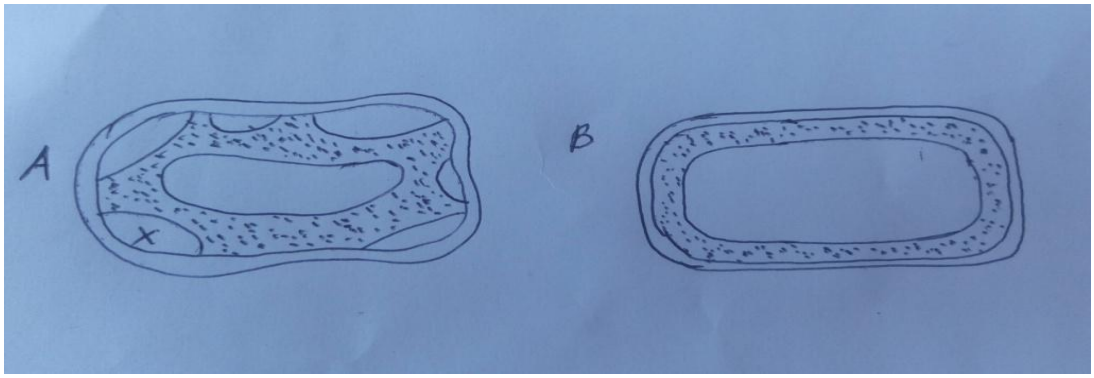
a) This paper consists of two sections A and B.

b) Answer All the questions in Section A in the spaces provided

c) In section B answer question 6. (compulsory) and either question 7 or 8 in the spaces provided after question.

SECTION A (40 MARKS)

1. The diagrams below represents two plants cell A and B placed in two different solutions. Study the diagrams and answer questions that follow.



a) Identify the nature of solution into which each cell was placed. **(2mks)**

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b) Name the physiological process responsible for the observed results. **(1mk)**

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c) Give the correct biological term used to describe cell A. **(1mk)**

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d) Describe what would happen if a red blood cell was placed in the solution in which cell B was placed.**(2mks)**

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e) Explain why freshwater amoeba do not burst when placed in distilled water. **(2mks)**

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f) Explain the fate of glucose after assimilation. **(2mks)**

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2. (a) Distinguish between the terms homodont and heterodont. **(2mks)**

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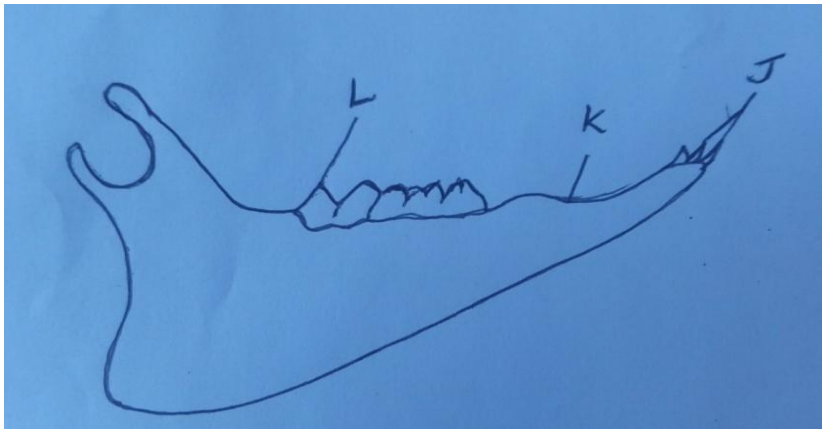
(b) What is the function of carnassial teeth? **(1mk)**

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(c) The diagram below represents the lower jaw of a mammal.



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(i) Name the mode of nutrition of the mammal whose jaw is shown above. **(1mk)**

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(ii) State one structural and one functional differences between the teeth labeled J and L. **(2mks)**

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(iii) Name the toothless gap labeled K. **(1mk)**

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(iv) State the function of the gap. **(1mk)**

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(v) Name the substance that is responsible for hardening of teeth. **(1mk)**

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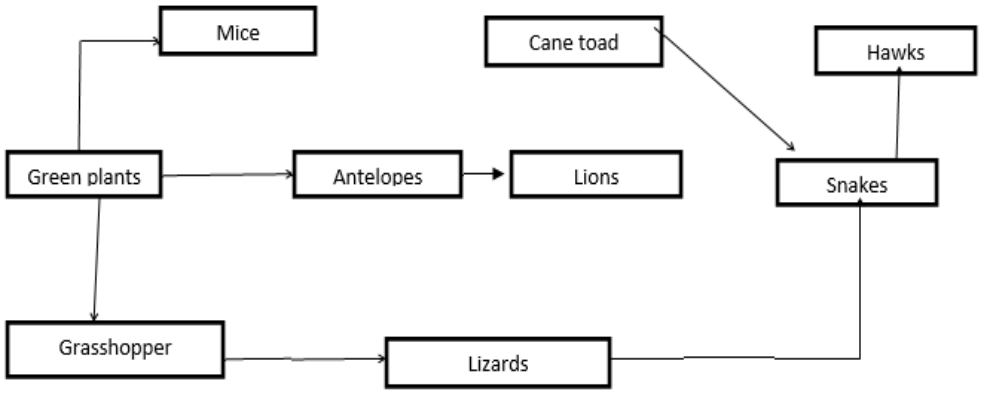
(v) What do you understand by the term 'dental formula'. **(1mk)**

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3.The diagram below represents a food web in a terrestrial ecosystem.



a) Which organism has the highest number of preys? **(1mk)**

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……

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b) Construct food chains with snakes as tertiary consumers. **(2mks)**

c) State the trophic level occupied by hawks in the food chains constructed in (b) above **(1mk)**

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d) Describe how capture-recapture method can be used in estimating the population of fishes in a lake. **(4mks)**

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e) Name the process through which:

(i) Producers convert chemical energy into heat energy lost to the environment. **(1mk)**

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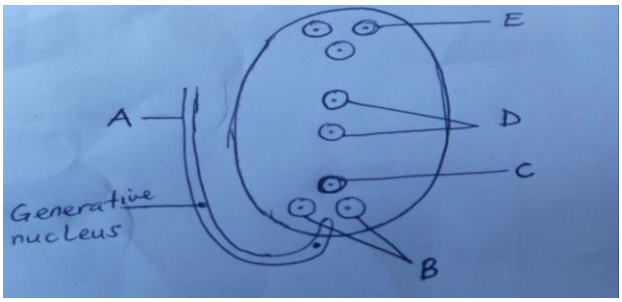
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(ii) Living organisms convert chemical energy into heat energy lost to the environments. **(1mk)**

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4.The figure below shows the embryo sac before fertilization.



a) Identify the structures labeled A and B **(2mks)**

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b) Identify the structures labeled in the diagram that will develop into the following after fertilization.

(i) Embryo **(1mk)**

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(ii) Endosperm **(1mk)**

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c) State the ploidy of each of the following nuclei after fertilization

i) C **(1mk)**

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ii) D **(1mk)**

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d) Briefly outline the process of 'double fertilization' in flowering plants. **(2mks)**

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e) Name two substances which are found in the intercellular air spaces in a green leaf during a hot sunny day. **(2mks)**

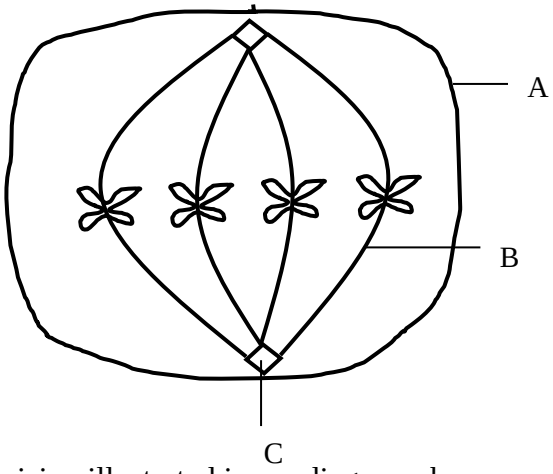
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5.The diagram below represents a state in cell division. Study it and answer the questions below.



(a) Name the stage of cell division illustrated in the diagram above. **(1mk)**

……

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(b) Name the parts labelled A, B and C **(3mks)**

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(c) State **THREE** differences between mitosis and meiosis. **(3mks)**

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(d) Name the process during which the exchange of genetic materials occur at prophase 1 of meiosis. **(1mk)**

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SECTION B(40 MARKS)

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

6. An experiment was carried out in which red blood cells were but in salt solutions of different concentrations. The table below show the percentage of cells which were destroyed by haemolysis in different salt concentrations.

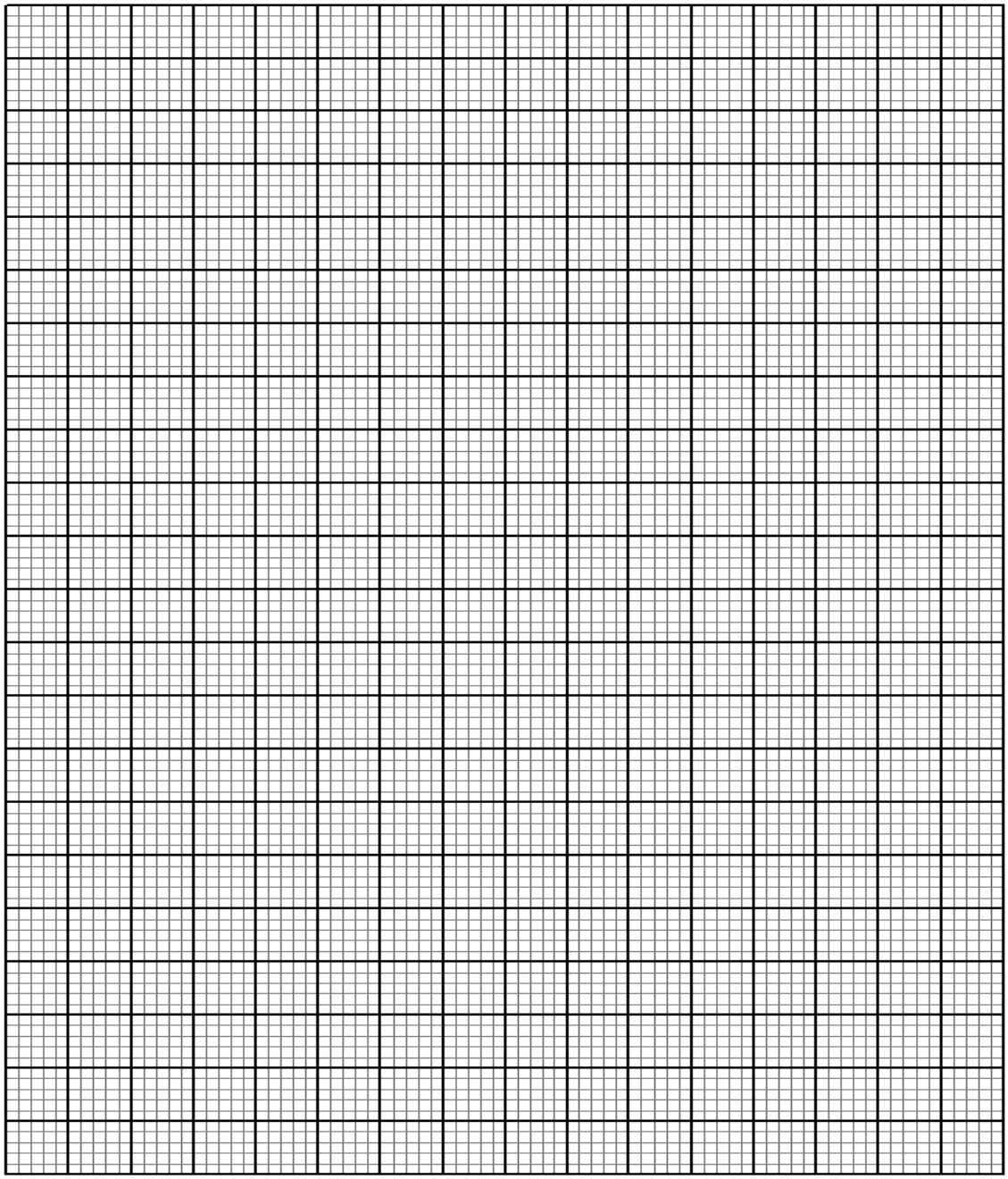
Salt concentration (g/dm^3)	% RBC destroyed by haemolysis
0	100
1	100
2	100
2.5	100
3.0	100
3.5	96
3.7	80
4.0	60
4.5	16

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4.7	0
5.0	0
6.0	0

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a)Draw a graph of percentage of red blood cells haemolysis againt salt concentration. **(7mks)**



b)Explain haemolysis of red blood cells **(3mks)**

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c) From the graph, state:

i)The salt concentration at which 50% red blood cells were haemolysed **(1mk)**

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ii) The highest salt concentration when the highest number of red blood cells were haemolysed **(1mk)**

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d)i) Suggest the normal salt concentration in the blood of the mammal from which thered blood cells were obtained **(1mk)**

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ii) Give a reason in d(i) above. **(1mk)**

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iii) What term is used to describe the solution with equal solute concentration as that of the cells **(1mk)**

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e) Name the process in the human body that ensures that haemolysis of red blood cells is prevented. **(1mk)**

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f) State the role of osmosis in organism **(4mks)**

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7.a) Describe how insect pollinated flowers are adapted to pollination **(10mks)**

b) Explain how seeds and fruits are adapted to wind and animal dispersal **(10mks)**

8 Describe causes and methods of controlling water pollution. **(20mks)**

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BIOLOGY PP3
FORM 3
TIME: 1 3/4 HOURS

INSTRUCTIONS TO CANDIDATES

- Answer **all** the questions.
- Answers **must** be written in the spaces provided in the question paper.
- Additional pages **must not** be inserted.
- Candidates may be penalized for recording irrelevant information and for incorrect spellings.

1. Study the photographs below and answer the questions that follow.



SPECIMEN Q



SPECIMEN R

a) The two specimen belong to the same Phylum. Giving **two** reasons, name the phylum of the specimen. **(3mks)**

i) Phylum……

ii) Reasons

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b i) Name the **class** to which the specimen belong. **(1mk)**

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ii) State **three** characteristic features common to both specimens that support youranswer. **(3mks)**

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c) Based on observation from the photos, state how the mouthparts of specimen **Q** and **R** are adapted to their functions. **(4mks)**

Specimen **Q**

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Specimen **R**

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d) Citing visible features, state **two** modes of locomotion for specimen **Q**. **(2mks)**

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2. You are provided with a 7cm visking tubing. Immerse it in water for 1 minute. Remove it from water, rub it between your fingers to open it. Using one piece of cotton thread, tie one end tightly.Put 4cm3 of solution X in the visking tubing and tie the other end tightly using a piece of the other cotton thread. Rinse off the visking tubing using distilled water. Immerse it in iodine solution contained in a 100ml beaker. Leave the set up to stand for 10 minutes. Make observation and answer question that follow.

(a) Suggest the likely food substance contained in solution **X.** **(1mk)**

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(b) State the physiological process under investigation. **(1mk)**

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(c) Account for the observation made at the end of the process. **(4mks)**

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(d) Using the reagents provided, carry out tests to determine the food substances present in solution X. Write the procedure, observation and conclusion in the table below; **(9mks)**

Food tested	Procedure	Observation	Conclusion
Reducing sugar			
Non-reducing sugar			
Protein			

3. Study the photographs below and answer the questions that follow.



Q



K

a i) Suggest the agent of pollination for specimen **Q**. **(1mk)**

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ii) Give **three** adaptations of the flower that support your answer in a (i) above**.** **(3mks)**

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b) State **five** differences between specimen Q and K. **(5mks)**

Specimen Q	Specimen K

c) On the photograph of specimen K, label the following:- **(3mks)**

- Stigma
- Anther
- Style

EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……

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SCHOOL: ……..

ADM NO: ……..... SIGN: ……..…… DATE: …….

BUSINESS STUDIES
PAPER 1
FORM 3
TIME: 2 HOURS

INSTRUCTIONS:
ANSWER ALL QUESTIONS IN THE SPAES PROVIDED

1.State four internal economies of scale that a firm can enjoy as its production increases. **(4mks)**

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2.Highlight four uses of national income statistics **(4mks)**

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3.Mention four ways of solving the problem of unemployment in Kenya. **(4mks)**

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4.Outline four features of perfect competition market structure. **(4mks)**

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5.Highlight four characteristics of basic human wants. **(4mks)**

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6.Highlight four reasons why Kiosks continue to exist in an economy despite stiff competition from supermarkets (**4mks)**

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7.The following information relates to karibu traders for the year ended 31st December 2008.

Details	Shs
Fixed Assets	1,840,000
Current assets	400,000
6 years bank loan	600,000
Current liabilities	150,000

Determine owner's capital using the information given above. **(4mks)**

8.Highlight five factors to consider when selecting an office equipment. **(5mks)**

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9.Outline four factors that may hinder effective communication in a classroom set up. **(4mks)**

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10. Kamau a young entrepreneur would like to start a business in Muhoroni town. Outline four factors that would show the existence of a business opportunity within the town. **(4mks)**

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11. Identify the office equipment that's used in each of the purposes. **(5mks)**

(i) Printing postage impressions on envelope -……..

(ii) Pinning papers together -……..

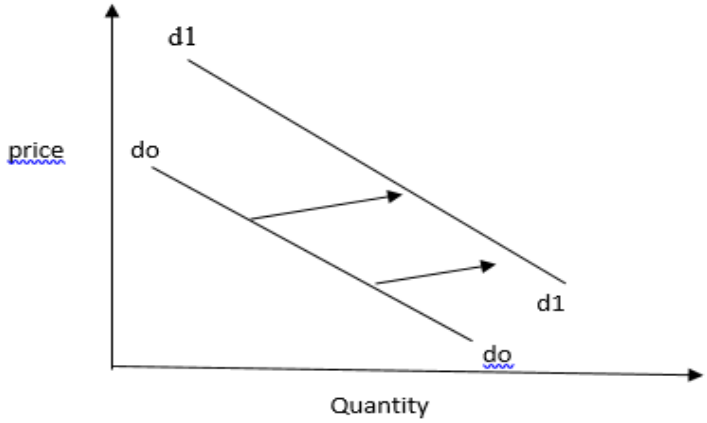
(iii) Preparing cash receipts -……..

(iv) Cutting unwanted documents into tiny pieces -…….

(v) Making holes in papers to facilitate filing -……

12. Outline any four factors that would have led to the phenomenon shown in diagram below. **(4mks)**

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13. Highlight four circumstances under which a trade may use air transport. **(4mks)**

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14. Record each of the following transactions into their relevant ledger accounts. **(4mks)**

- 2nd March 2023:
  Started a business with Kshs 10000 in cash
- 3rd March 2023: bought goods worth Kshs 12,000 on credit from Mawa Enterprises.

15. List four forms of retail businesses that a school leaver may engage in . **(4mks)**

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16. Highlight four roles played by the broker in the chain of distribution. **(4mks)**

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17. Highlight four benefits of localization of firms. **(4mks)**

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18. State four basic features of a market. **(4mks)**

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19. The following information relates to Kiboko traders as at 31st December 2015

Details	Kshs
Total drawings	4000,000
Added investments	8.000.000
Capital on 31st December 2015	7,000,000
Profit	3,100,000

Calculate Kiboko's initial capital. **(4mks)**

20. State the principles of Insurance described in the statements given below. **(4mks)**

(a) Restoring the Insured's financial position after suffering loss from an insured risk.

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(b) Existence of a very close relationship between the loss suffered and the Insured risk.

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(c) The Insurer taking ownership of the remains of the destroyed property after the Insured is duly compensated.

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(d) Proof that the Insured will suffer direct financial loss if property is destroyed.

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21. State the four principles that govern the co-operative societies in Kenya. **(4mks)**

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22. State five components of business studies. **(5mks)**

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23. Give four reasons why most banks prefer a landscape office. **(4mks)**

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24. Identify the ledgers in which the following accounts are maintained. **(5mks)**

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ACCOUNT	LEDGER
(i) Pendo (debtor)	
(ii) Machinery	
(iii) Rent	
(iv) Capital	
(v) Amolo (creditor)	

EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

565/2

BUSINESS STUDIES

PAPER 2

FORM THREE

TIME: 2 ½ HOURS

INSTRUCTIONS:

Answer any five questions only. All your answers must be written in the answer sheets provided.

1. (a) Explain five factors to consider when choosing a method of product promotion. **(10mks)**

(b) Explain five principles of insurance. **(10mks)**

2.(a) Describe five services rendered by retailers to consumers. **(10mks)**

(b) Despite the economies of scale enjoyed by large firms, some firms continue to operate on small scale basis. Explain five reasons. **(10mks)**

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3.(a) Explain five measures that would be taken to ensure smooth functioning of a warehouse. **(10mks)**

(b) The balances below were extracted from the books of Romano Traders as at 1st May, 2023

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	Shs
Equipment	320,000
Stock	180,000
Bank	104,000
Cash	20,000
Capital	544,000
Creditors	80,000

During the first week of May 2023, the following transactions took place.

May, 2023

May 2 -Romano Traders introduced additional funds into the business by depositing sh 76,000 into business bank account.

May 3 -Purchased a motor vehicle from CMC Motors worth sh 400,000 on credit.

May 5 -Paid a Creditor sh 12000 Cash

May 6 -Sold goods on credit to Wafula Sh 50,000

May 7 -Bought equipment Sh 100,000 by cheque.

Required:

Prepare the balance sheet of Romano Traders as at 7th May, 2023 showing the items in their relevant classes. **(10mks)**

4.(a) Explain five problems encountered when using the expenditure approach to compute national income. **(10mks)**

(b) Discuss five factors that may promote entrepreneurship in Kenya. **(10mks)**

5.(a) With the aid of a well labeled diagram, explain the effect on the equilibrium price and quantity when the supply of cabbages increases. **(10mks)**

(b) Explain five ways in which internal environment may contribute to the success of a business enterprise,. **(10mks)**

6.(a) Explain five reasons why human beings make choices on the wants to be satisfied. **(10mks)**

(b) On 1st September 2022, Mamboleo had Sh 55,000 in cash and sh 250,000 at bank. during the month, the following transactions took place.

September:

2nd -Cash sales banked Sh 35,260

3rd -Bought ribbons in cash sh 4,500

8th -Paid Wangila, a creditor Sh 94,000 by cheque in full settlement of his account after deducting 6% cash discount.

12th -Received a cheque for sh 58,800 from Wetu after allowing her a cash discount of sh 1,200

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15th -Paid salaries Sh 34000 in cash

25th -Withdrew Sh 50,000 from bank for office use.

28th -Anyango, a debtor paid her account of sh 75,000 by cheque less 10% cash discount.

30th -Deposited all the cash into bank except sh 13,700

Required:

Prepare a three column cash book and balance it off. **(10mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

233/1
CHEMISTRY PAPER 1
FORM 3 EXAMS
TIME: 2HOURS

*Answer **all** the questions in the spaces provided.*
*Write your **name** in the spaces provided above.*
Mathematical tables and electronic calculators may be used for calculations.
*All workings **must** be clearly shown where necessary*

For Examiner's Use only:

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 29	80	

1.a) What is meant by allotropy**?** **(1mk)**

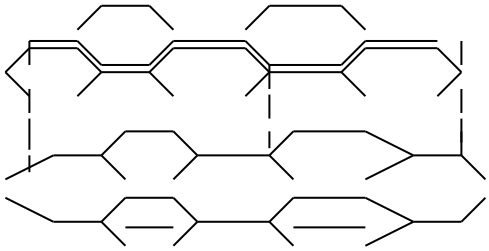
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b). The diagram below shows the structure of one of the allotropes of carbon



I. Identify the allotrope. **(1mk)**

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II. State **one** property of the above allotrope and explain how it is related to its structure. **(2mks)**

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

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(b). $60cm^3$ of oxygen gas diffused through a porous hole in 50 seconds. How long will it take $80cm^3$ of sulphur (IV) oxide to diffuse through the same hole under the same conditions**?** **(3mks)**

(S= 32.0. O=16.0)

3. The table below gives the atomic numbers of element w, x, y and z. The letters do not represent the actual symbols of the elements.

Element	**w**	**x**	**y**	**Z**
Atomic number	**9**	**10**	**11**	**12**

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I.Which **one** of the elements is least reactive? Explain. **(1mk)**

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II. Which **two** elements would react most vigorously with each other? **(1mk)**

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III. Give the formula of the compound formed when elements in (i) above react. **(1mk)**

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……

IV. Draw using dots (•) and crosses (x), diagram to show the bonding between **y** and **w** **(2mks)**

4.The following are observations made from two solid substances x and y.

Solid	Electrical conductivity in solution form	Solubility in water	Boiling point
X	Poor	Insoluble	Sublimes
y	good	soluble	high

I.State the most likely type of bonding in

a. Solid x **……** **(1/2mk)**

b. Solid y**……** **(1/2mk)**

5.When air is bubbled through pure water (PH=7) the PH drops to 6.0. Explain. **(2mks)**

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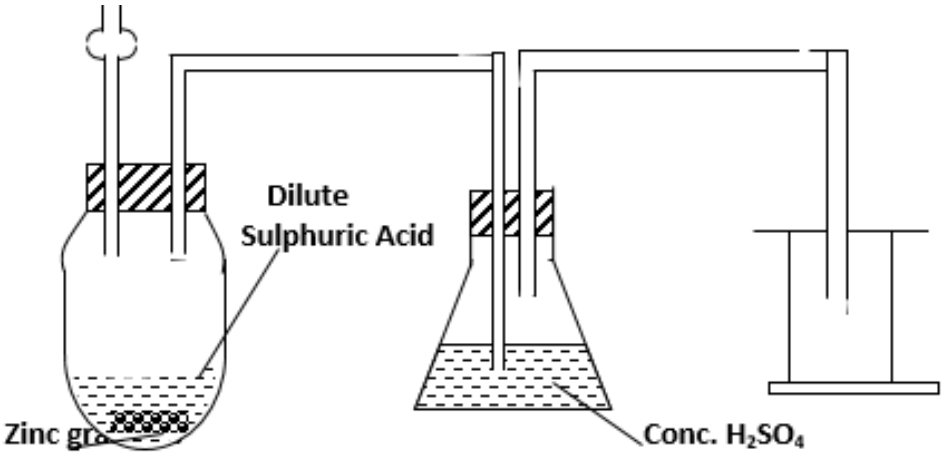
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6.The set-up below shows laboratory preparation of hydrogen gas, use it to answer the questions that follow.

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I. Identify **two** mistakes in the set-up **(2mks)**

……

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II. Why is dilute nitric acid not used in preparation of hydrogen gas**?** **(1mk)**

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7.Starting with copper (II) oxide, describe how you can prepare copper (II) sulphate crystals**.** **(3mks)**

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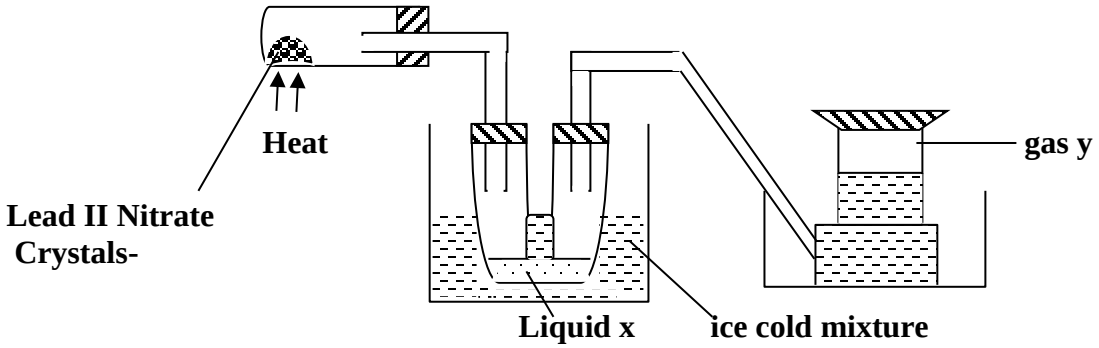
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8.The set-up below shows the products formed when solid lead (ii) nitrate is heated.



a) Identify:

(i) Liquid **x** **(1mk)**

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(ii) Gas **y** **(1mk)**

……

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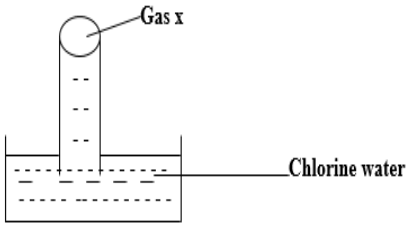
b). Write an equation for the reaction that takes place when lead (ii) nitrate is heated**.** **(1mk)**

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



a). Name gas **x** **(1mk)**

……

……

b). State the condition which is not indicated on the diagram for gas **x** to be formed**.** **(1mk)**

……

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……

10. (a). Aluminium chloride sublimes. State two other substances that sublime. **(2mks)**

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b) Aluminium is reactive metal yet utensils made of aluminium do not corrode easily. Explain. **(1mk)**

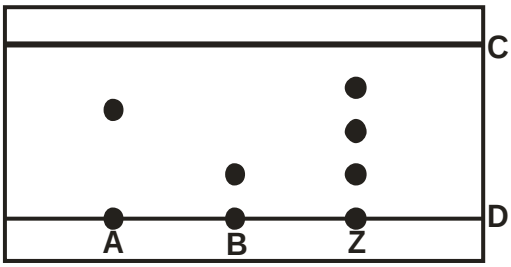
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11. Spots of three pure pigments A, B and mixture Z were placed on a filter paper and allowed to dry. The paper was then dipped in a solvent. The results obtained were as on the paper chromatogram.

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i) Identify;

a) Baseline. **(1/2mk)**

……

……

b) Solvent front. **(1/2mk)**

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ii) Which pure pigment was component of Z.? **(1mk)**

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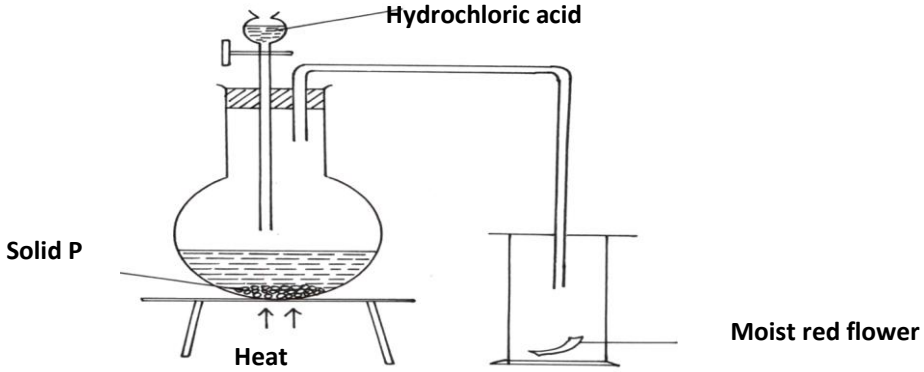
12. When excess ammonia solution is added to a solution of copper (ii) ions, a deep blue solution forms. Write the formula of the complex ions formed**.** **(1mk)**

……

……

13. 22.2cm^3 of sodium hydroxide solution containing 4.0g per litre sodium hydroxide were required for complete neutralisation of 0.1g of a dibasic acid. Calculate the relative formula mass of the dibasic acid. (Na = 23, O=16, H=1) **(3mks)**

14. The diagram below shows the set-up that was used to prepare and collect sulphur (iv) oxide gas.



(a). Identify solid P. **(1mk)**

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(b)(i) Why is it possible to collect sulphur (IV) Oxide as shown? **(1mk)**

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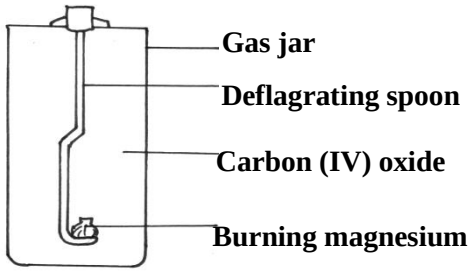
(ii) What happened to the red flower**?** **(1mk)**

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15. The set-up show how small pieces of magnesium are heated in carbon (IV) Oxide.



a) Write an equation for the reactions which occur in the gas jar. **(2mks)**

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……

b) Give **two** observation made in the gas jar. **(2mk)**

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16. A mixture contains iron (III) chloride, zinc (II) oxide and potassium chloride. Describe how each of the substance can be obtained from the mixture. **(3mks)**

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17. a) Name **two** types of flame of the Bunsen burner. **(1mk)**

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b) Which flame is better for heating in the laboratory? Give **two** reasons. **(2mks)**

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18. a) Both iodine and bromine belong to the same group and family in the periodic table, Name the family**.** **(1mk)**

……

……

19. A compound contains carbon 40%, hydrogen 6.71% and the rest is oxygen. The relative molecular mass of the compound is 60. (H=1.0, O=16, C=12)

a) Determine its empirical formula. **(3mks)**

b) Find the molecular formula of the compound. **(1mk)**

20. Given below are pH values of different solutions **P, Q** and **S**. Study it and answer the questions that follow.

Solution	PH
P	1
Q	7
S	14

a) Which **two** solutions would react together to give a pH of 7.0. **(1mk)**

……

……

……

……

b) Which solution can be considered to be sodium chloride? **(1mk)**

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21. The table below gives properties of four substances.

Substances	Melting points	Boiling points	Electrical conductivity	
			Solid	Liquid
A	1083	2567	Good	Good
B	-182	-164	Poor	Poor
C	1723	2230	Poor	Good
D	993	1695	Poor	Poor

a. State with a reason which of the above is:-

i). An ionic compound. **(1mk)**

……

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ii). A metallic structure. **(1mk)**

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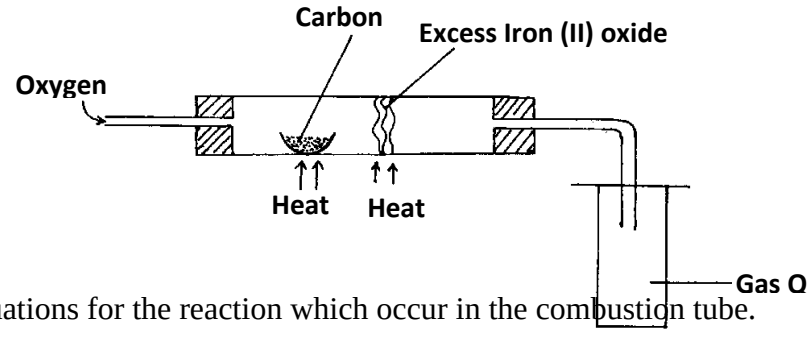
iii). A giant atomic structure. **(1mk)**

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22. The set up below was used to obtain a sample of iron.



i) Write **two** equations for the reaction which occur in the combustion tube. **(2mks)**

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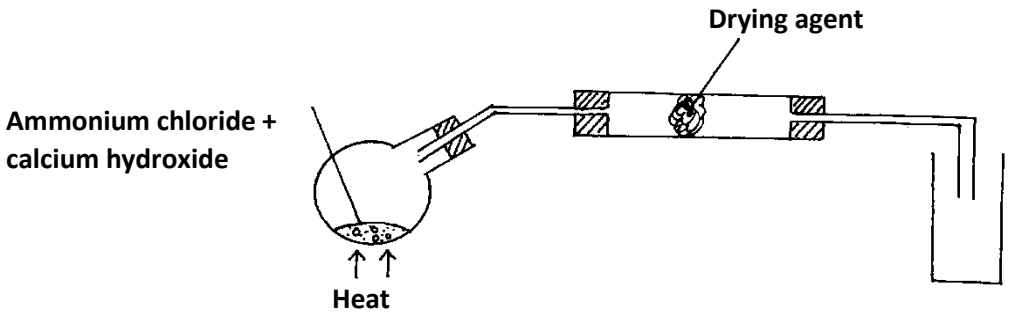
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ii) Identify gas **Q.** **(1mk)**

……

……

23. A student set up the apparatus as shown below to prepare and collect dry ammonia.



i) Identify **two** mistakes in the set up and give a reason for each mistake. **(2mks)**

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

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24. Explain why there is general increase in the first ionization energies of the elements in period 3 of the periodic table from left to right **(2mks)**

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25. 24.0cm^3 of a solution of 0.1M KOH were exactly neutralized by 30cm^3 of a solution of Sulphuric acid. Find the molarity of the acid. (3 marks)

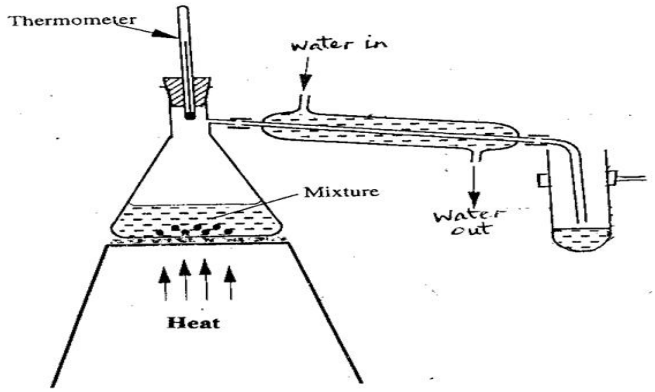
26. In temperate countries, salt is sprayed on roads to defrost and clear roads but the long term effect on this practice is costly to motorist.

I.Explain the role of salt in defrosting the ice. **(1mk)**

II. Explain why the long term effect is costing to motorist. **(1mk)**

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27. The set-up represented below can be used to separate ethanol from its mixture with water.



(a) Identify an error in the set-up. **(1mk)**

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(b) Name this method of separation. **(1mk)**

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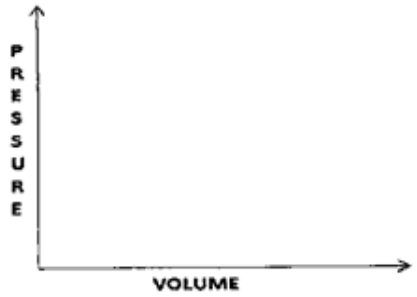
(c) What properties make it possible to separate ethanol from water by this method? **(1mk)**

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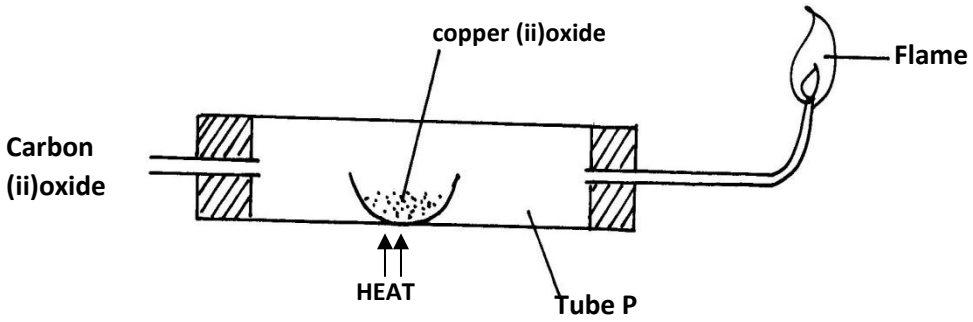
28. (a) On the grid provided sketch a graph of pressure against volume for fixed mass of gas at constant temperature. **(1mk)**



(b) 50dm^3 of a gas at 1 atmosphere was compressed to 4 atmospheres at Constant temperature. Calculate the volume occupied by the gas **(3mks)**

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29. Carbon (ii) oxide gas was passed over heated iron (iii) oxide as shown below



(a) Give one observation made in tube **P** **(1mk)**

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(b) Write an equation for the reaction which takes place in test tube **P** **(1mk)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

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SCHOOL: ……..

ADM NO: ……..... SIGN: ……..…… DATE: …….

CHEMISTRY PAPER 2

FORM 3 EXAMS

TIME: 2HOURS

- *Answer **all** the questions in the spaces provided.*
- *Write your **name** and **index number** in the spaces provided above.*
- *Mathematical tables and electronic calculators may be used for calculations.*
- *All workings **must** be clearly shown where necessary*

For Examiner's Use only:

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 8	80	

1.Study the table below and answer the questions that follow (The letters do not represent the actual Symbols)

element	Atomic number	Boiling point (oC)
R	13	2400
S	20	850
T	15	31
U	12	650
V	10	-249

i. Which elements belong to the same group, give a reason**.** **(2mks)**

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……

ii. Write the electron arrangement for the following ions

U^{2+} **(1mk)**

……

……

T^{3-} **(1mk)**

……

……

iii. Which element is a gas at room temperature? Explain. **(2mks)**

……

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iv. Write the formula of the compound formed when element **R** reacts with oxygen **(1mk)**

……

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v. Define the term Octet state; select an element from the table that shows octet state. **(2mks)**

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vi. Explain the difference in the boiling points of elements **R** and **S.** **(2mks)**

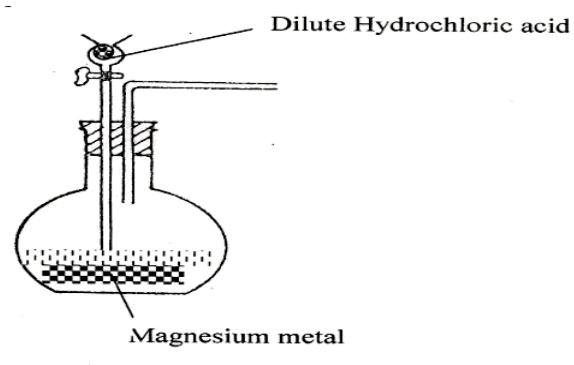
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2.A form three student wanted to prepare carbon (IV) oxide gas. The diagram below is part of the set up.



I. Identify one mistake and correct it**.** **(2mks)**

……

……

II. Complete the set up showing how a sample of dry carbon (IV) oxide can be collected**.** **(3mks)**

III. Write an equation for the above reaction (after making the collection). **(1mk)**

……

……

3.(a)(i) Name two allotropes of sulphur. **(2mks)**

……

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(ii) During extraction of sulphur super-heated water is used. State its two functions **(2mks)**

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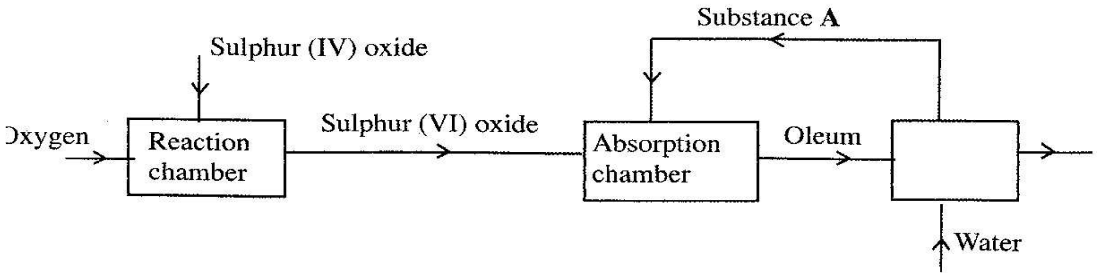
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(iv). Write an equation for the reaction of sulphur (IV) oxide and oxygen gas **(1mk)**

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(b). The flow diagram below show some of the process involved in production of sulphuric (vi) acid . Use it to answer the questions that follow.



I.Name substance A. (**1mk)**

……

……

II. Write an equation for the reaction that takes place in the absorption chamber. (**1mk)**

……

……

III. Vanadium V oxide is commonly used catalyst in contact process.Name another catalyst which can be used for this process. (**1mk)**

……

……

IV. Give two reasons why vanadium (v) Oxide is the commonly used catalyst. (**2mks)**

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V.Explain the reason why sulphur (vi) oxide is not dissolved directly in water during manufacture of sulphuric (vi) acid. (**2mks)**

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VI. Give three uses four use of sulphuric (vi) acid. **(3mks)**

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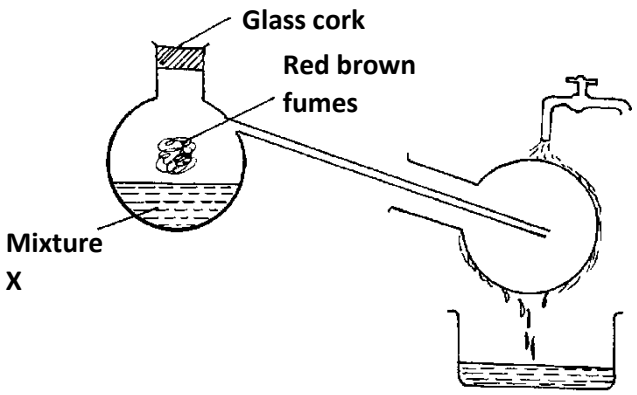
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4.The set up below is used to prepare nitric acid in the laboratory.



i.Name the reagents in mixture **X** **(2mk)**

……

……

ii. Write an equation for the reaction which takes place in the glass retort **(1mk)**

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……

iii. All the apparatus above must be made of glass give reason. **(1mk)**

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iv. Which property makes it possible to separate nitric (V) acid using sulphuric (VI) acid? **(1mk)**

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v.Nitric (V) acid is colourless, but the one obtained in the above setup was yellow. Explain. **(2mks)**

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vi. How can yellow color from the acid be removed? **(1mk)**

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vii. State thee uses of nitric acid. **(3mks)**

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5. Study the information below and answer the questions that follow:

Formula of the chloride	NaCl	$MgCl_2$	$AlCl_2$	$SiCl_4$	PCl_3	SCl_2	
M.P(^{0}C)	801	714	-	-70	-91	-80	
Formula of the oxide	Na_2O	MgO	Al_2O_3	SiO_2	P_4O_{10}	SO_2	Cl_2O7
M.P(^{0}C)	1190	3080	2050	1730	560	-73	-90

i.Aluminium chloride $AlCl_3$, has an unexpected bond type and structure.
State the type of bond and the structure in $AlCl_3$

a. Bond type **(1mk)**

……

……

b. Structure **(1mk)**

……

……

ii. What type of bonding would $AlCl_2$ be expected to have why? **(1mk)**

……

……

iii. Why is the melting point of $AlCl_3$ not indicated in the table above? **(1mk)**

……

……

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iv. A piece of blue litmus paper is placed in a solution of sodium chloride and a solution of aluminium chloride. Explain what would be observed in each case.

a. Sodium chloride solution **(1mk)**

……

……

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b. Aluminium chloride solution **(2mks)**

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v. Explain the large difference in the melting point of the compound of formula MgO and P_4O_{10} **(2mks)**

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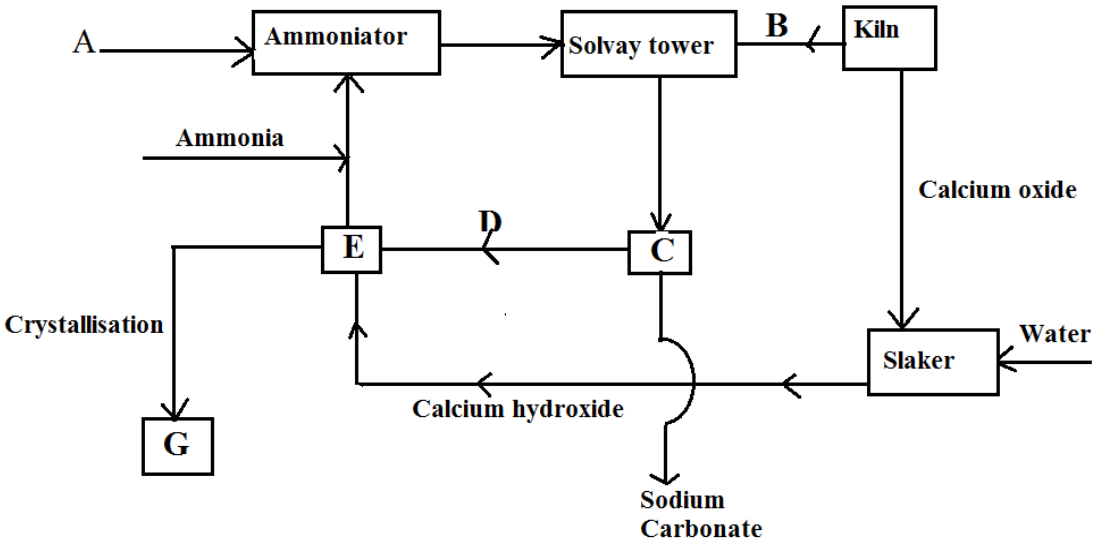
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vi. Write down the equations for the reaction between the compounds of formula Na_2O and water. **(1mk)**

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



a) Name substances **A** and **B.** **(2mks)**

……

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……

b) Write equations for the reactions taking place in:

i) The Solvay tower. **(2mks)**

……

……

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

……

……

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

……

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ii) State one laboratory use of substance G.

I. Laboratory use **(1mk)**

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d) Name two important industrial use of sodium carbonate. **(2mks)**

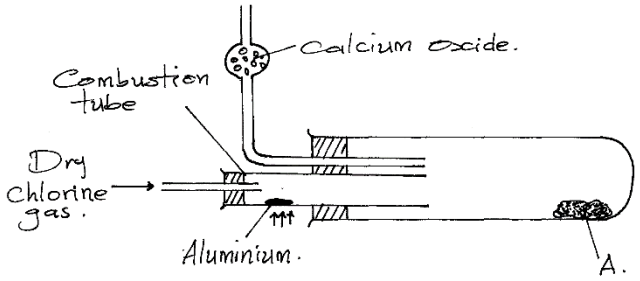
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7.In an experiment dry chlorine gas was reacted with aluminum as shown in the diagram below.



i) Name substance A. **(1mk)**

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……

ii). which property makes it possible to collect A as shown in the diagram. **(1mk)**

……

……

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iii) Write an equation for the reaction that took place in the combustion tube. **(1mk)**

……

……

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

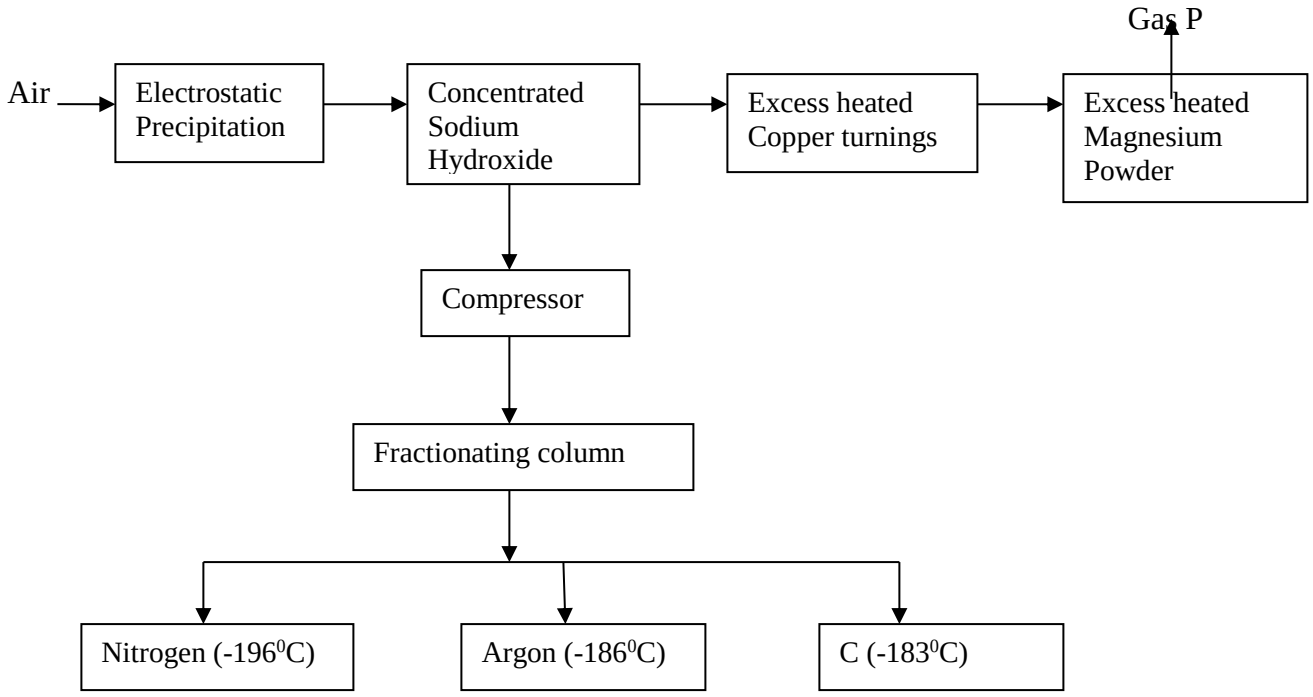
v). what is the purpose of calcium chloride. **(1mk)**

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



i.Name the major component of air. **(1mk)**

……

……

ii. Write an equation for the reaction which takes place in the chamber with:

a) Concentrated sodium hydroxide. **(1mk)**

……

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b) Excess heated copper turnings. **(1mk)**

……

……

c) Excess heated magnesium powder. **(1mk)**

……

……

iii. Name **<u>one</u>** gas which escapes from the chamber containing magnesium powder. Give a reason for your answer. **(2mks)**

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iv. Name the substance that was eliminated by electrostatic precipitation. **(1mk)**

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v.Name a reagent that can be used in place of concentrated sodium hydroxide**.** **(1mk)**

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vi. State **<u>three</u>** uses of gas C. **(3mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

233/3 CHEMISTRY PAPER 3

PRACTICAL

MID-TERM III EXAM

FORM THREE

Time: 2¼ hours

INSTRUCTIONS TO CANDIDATES:

- Write your name in the spaces provided.
- Answer **ALL** questions in the spaces provided in this question paper.
- All workings **MUST** be clearly shown where necessary.
- Mathematical tables and electronic calculators may be used.

FOR EXAMINER'S USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	22	
2	18	
TOTAL SCORE	40	

1. You are provided with the following:

- Solution A containing 2.95 dibasic acid in 250 cm^3 of solution.
- Solution B containing 4g of sodium hydroxide in 500 cm^3 of solution.

You are required to determine the value of X in the formula of the acid A.

Procedure

Fill the burette with solution A. Using pipette and pipette filler, place 25cm^3 of solution B in a conical flask. Add two drops of phenolphthalein indicator and titrate with solution A. Fill the table below. Repeat the titration two more times and record the results

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

(5mks)

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

b) Determine the molarity of sodium hydroxide solution **(3mk)**

c) Calculate the number of moles of sodium hydroxide in the $25cm^3$ used **(3mks)**

d) Given the equation of the reaction between acid A (dibasic Acid) and sodium hydroxide is:

$$2NaOH_{(aq)} + H_2X_{(aq)} \longrightarrow 2H_2O(l) + Na_2X_{(aq}$$

Determine:

(i) The number of moles of acid A in the average volume used**.** **(3mks)**

(ii) The molarity of acid A **(3mks)**

(iii) The molar mass of the acid A **(2mks)**

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e) Determine the mass of X in on mole of the acid. (H= 1.0) **(3mk)**

2. You are provided with solid C. Perform the following tests and write the observations and inferences.

I. (a). Place solid C in a boiling tube and add about 1/3 full of distilled water. Shake the mixture and filter. Keep the residue for tests (b) below and the filtrate.

Observations	**Inferences**
1mk	**1mk**

(b). Divide the filtrate into four portions.

(i) To the portion, add sodium hydroxide drop wise till in excess

Observations	**Inferences**
1mk	**1mk**

(ii) To the second portion, add ammonia solution drop wise until in excess.

Observations	**Inferences**
1mk	**1mk**

(iii). To the third portion add 4 drops of lead (ii) solution.

Observations	**Inferences**
1mk	**1mk**

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(iv). To the fourth portion, add 3 drops of barium chloride solution followed by 5 drops of dilute hydrochloric acid

Observations	**Inferences**
1mk	**1mk**

II. Place the residue into attest tube and add dilute nitric acid while shaking until the solid dissolves. Divide the solution into 3 portions.

Observations	**Inferences**
1mk	**1mk**

(i) To the first portion, add sodium hydroxide drop wise until in excess.

Observations	**Inferences**
1mk	**1mk**

(ii) To the second portion, add Ammonia solution drop wise until in excess.

Observations	**Inferences**
1mk	**1mk**

(iii) To the third portion, add 4 drops of sodium sulphate solution.

Observations	**Inferences**
1mk	**1mk**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

COMPUTER STUDIES

(THEORY)

451/1

FORM THREE

Time: 2½ Hours

INSTRUCTIONS TO CANDIDATES

1.Write your name and class in the space provided above.

2.This paper consists of TWO sections: A and B.

3.Answer all the questions in section A.

4.Answer question 16 and any other 3 questions from section B.

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

For official use only

SECTION	QUESTIONS	

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A	**1-15**	
B	**16**	
	17	
	18	
	19	
	20	
TOTAL MARKS		

SECTION A (40 MARKS)

Answer all questions in this section in the spaces provided.

1. Define the following terms:

a. Analog data **(1mk)**

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b. Digital data **(1mk)**

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2. Distinguish between transposition and truncation errors giving an examples of each.

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3. (a) Define the term auxiliary storage. **(1mk)**

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(b) State two examples of auxiliary storage devices. **(1mk)**

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4. **(a)** One of the factors to be considered when acquiring an operating system is user-friendliness. What is meant by the term user-friendly? **(1mk)**

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(b) Distinguish between the terms multi-tasking and multiprocessing operating system. **(2mks)**

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5. Outline the process you would follow incase fire breaks out in the computer laboratory. **(3mks)**

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6. Suppose you have been hired as an ICT manager in one of the most prominent consultancy firm's companies in Kenya. One of your responsibilities is to setup a wireless network which enable the company's stakeholders access Internet.

a.Define the term internet **(1mk)**

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b. State four internet connectivity requirements. **(2mks)**

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c.Explain the importance of an Internet Service Provider. **(1mk)**

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7. Differentiate between RS32 serial port and the universal serial bus (USB) **(2mks)**

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8. Explain three ways in which ICT can be used to enhance teaching and learning process. **(3mks)**

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9. Explain the following software terms. **(2mks)**

a. Interoperability

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b. Portability

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10. (a) State three advantages of using desktop publishing (DTP) software over typical wo processing software. **(2mks)**

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(b) Explain the following graphical objects manipulation terms.

i. Flip **(1mk)**

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ii. Render **(1mk)**

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11. Distinguish between tabs and indents as used in word processing. **(2mks)**

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12. (a) Differentiate between sorting and filtering as used in electronic spreadsheets. **(2mks)**

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(b) In each case of (a) above, outline the steps used. **(2mks)**

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13. suppose you've been assigned a new project to develop a payroll system. Give three methods you would use to collect required data from the stakeholders, **(3mks)**

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14. State two examples of solid state storage devices, **(2mks)**

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15. Convert the following binary fraction into its decimal equivalent.

1011.001_2 **(2mks)**

SECTION B (60 marks)

Answer question 16 and any other three questions from this section in the spaces provided.

16. (a) List examples of each of the following programming languages: **(3mks)**

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i. Second generation languages

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ii. Third generation languages

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iii. Fourth generation languages

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(b) State three advantages of a flowchart over a pseudocode in algorithm design. **(3mks)**

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(c) The Mathematics teacher has requested you to provide a solution for a problem of determining whether an integer is an odd number or not. Draw a flowchart that would be used to write such a program. **(6mks)**

(d) Determine the output from the flowchart if numbers 1, 2, 22, 40 and 66 are used as the test data. **(3mks)**

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17. (a) Explain three functions performed by an operating system. In each case state devise under the control.**(3mks)**

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(b) Sate three advantages of graphical user operating system over command driven. **(3mks)**

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(c) Describe the following categories of software.

i. Open Source Software **(2mks)**

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ii. Proprietary software. **(2mks)**

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d Explain how small scale farmers can benefit from the use of Information and Communication technology. **(2mks)**

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(e) Explain how Microsoft windows Operating system organizes information. **(2mks)**

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18.

a. Using two examples, explain the term field properties as used in database design. **(2mks)**

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b. Below is an extract from a hospital database table. State with reasons the most suitable data types for the following fields:

i. Patient ID **(4mks)**

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ii. Patient Name

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iii. Consultancy Fee

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iv. Visits

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c. i. Which would be the most appropriate primary key field for the above table? Explain your answer.**(3mks)**

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ii. Explain the type of integrity enforced by primary key in database design. **(2mks)**

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d. Describe how information about patients who visited the healthcare center more than two times can be extracted. **(4mks)**

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19.

a.Define the term data security. **(1mk)**

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b. Explain how data in a computer system is secured using: **(6mks)**

i.Encryption

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ii.User Accounts

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iii.Biometric sign in

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c.State three characteristics of a suitable password. **(3mks)**

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d. State two characteristics of a computer that is infected by computer viruses. **(2mks)**

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e.State three security control measure that can be used to safeguard a computer from viruses. **(3mks)**

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20. Most transactions are now done on networked environment whereby data is captured and processed using a remote terminal and then sent to a central server.

a.

i. Identify this type of data processing method. **(2mks)**

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ii. State three functions of the central server. **(3mks)**

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b. Explain each of the following types of errors. **(3mks)**

i. Transcription errors

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ii. Truncation errors

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iii. Rounding errors

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c. Distinguish between the following in file organization methods. **(4mks)**

i. Random and indexed-sequential access.

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ii. Logical file and a physical file

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d. Using an illustration, describe four data processing stages. **(3mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

451/1

COMPUTER STUDIES

FORM THREE

PAPER 2

PRACTICAL

TIME: $2^{1}/_{2}$ HOURS

INSTRUCTIONS TO CANDIDATES

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✓ Type your name and admission number at the top right hand corner of each printout.

✓ Write the name and version of the software used for each question attempted in the answer sheet.

✓ Passwords should not be used while saving in the diskettes.

✓ Answer all questions

✓ All questions carry equal marks

✓ All answers must be saved in your diskette. Make printouts of the answers on the answer sheets provided.

✓ Hand in all the printout and the diskette

✓ Candidates may be penalized for not following instruction given in this pager

✓ Arrange your printout and staple them together.

1.Table 1, table 2 and table 3 are extracts of records, kept in a carpentry shop. Use the information to answer the questions that follow;

CAPENTER _ID	CAPENTER NAME		CUSTOMER _ID	CUSTOMER NAME
CAP_001	JAMES		CUST_01	MARY K.
CAP_002	JOHN		CUST_02	DIANA K.
CAP_003	ALEX		CUST_03	ALEX N.
CAP_004	ISAAC		CUST_04	MARTHA K.
CAP_005	MAURICE		CUST_05	SARAH W.
			CUST_06	JOHNSON G.

Carpenter Table **Customer Table**

Order Table

CARPENTER _ID	CUSTOMER _ID	ORDER _NO	ITEM ORDERED	MONTH	AMOUNT
CAP_001	CUST _01	1721	Bench	January	18,000
CAP_002	CUST _02	1722	Coffee table	January	25,000
CAP_003	CUST _03	1723	Office table	January	10,000
CAP_004	CUST _04	1724	Single bed	January	18,000
CAP_005	CUST _05	1725	Arm chair	January	60,000
CAP_001	CUST _01	1726	Double bed	February	75,000
CAP_002	CUST _04	1727	Dining table	February	85,000
CAP_004	CUST _03	1728	Arm chair	February	60,000
CAP_001	CUST _02	1729	Double decker bed	February	72,000

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CAP_002	CUST _06	1730	Kitchen table	February	82,000
CAP_004	CUST _02	1731	Bench	March	18,000
CAP_003	CUST _06	1732	bench	march	18,000

a) i) Using database application package, create a database file named;

CARPENTERINFORMATION **(1mk)**

ii) Create three tables named **Carpenter Table, Customer Table** and **Order Table that will be used to store the above data.** **(10mks)**

iii) Set the primary key for the tables **(2mks)**

iv) Create relationship among the tables **(2mks)**

b) i) Create a data entry form for each table **(3mks)**

ii) Enter the data in **Carpenter Table, Customer Table and Order Table** respectively **(11mks)**

c) i) Create a query named **individual income** to display the amount received from each customer every month. **(4mks)**

ii) Create a database object that computers Total income for each month. Save the query as **Totalincomenomnthly.** **(6mks)**

d) Create a query named **loyalty** to compute the total number of orders made by each customer over the three months. **(3mks)**

e) Create a report to display order details, save the report as Order report **(4mks)**

f) Print the three tables and the report **(4mks)**

QUESTION 2

Use a spreadsheet to manipulate data in the table below.

Adm No	Name	Stream	Comp	Art	Bus	Eng	Mat	Student mean	Rank
C001	Barasa	H	56	45	36	56	26		
C002	Wangila	K	58	57	90	54	23		
C003	Wafula	H	48	56	54	45	25		
C004	Wanjala	K	78	95	78	46	24		
C005	Kerubo	H	49	86	68	35	52		
C006	Akinyi	K	56	45	25	63	54		
C007	Odhiambo	H	75	78	45	65	56		
C008	Okunyuku	K	89	69	65	53	51		
C009	Nekesa	H	69	58	45	54	52		
C010	Simiyu	H	85	46	78	52	53		
	TOTAL								

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	TOTAL	FOR H							
	TOTAL	FOR K							

a) Enter the data in all bordered worksheet and auto fit all column. Save the workbook as **mark 1**

(15mks)

b) Find the total marks for each subject **(3mks)**

c) Find total for each subject per stream using a function **(5mks)**

d) Find mean mark for each student using a function **(5mks)**

e) Rank mean student in descending order using the mean **(5mks)**

f) Create a well labeled column chart on a different sheet to show the mean mark of every student. Save the workbook as **mark 2.** **(7mks)**

g) Using **mark1,** use subtotals to find the average mark for each subject per stream. Save the workbook as **mark 3** **(7mks)**

h) Print **mark 1,mark 2** and the **chart**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

CRE 313/1 **PAPER 1** **FORM THREE**
TIME: $2^{1/2}$ HOURS **FORM THREE.**

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INSTRUCTIONS

a) This paper contains six questions.
b) Answer any five questions in the foolscaps provided.
c) Candidates must check the question paper to ensure all pages are printed and no questions is missing.

1). a) Give reasons why the bible is considered as the word of God. **(7mks)**
b) State **seven** reasons for translating the bible into local languages. **(7mks)**
c) Identify **six** ways in which the bible is misused in Kenya today. **(6mks)**

2) a) Narrate Abraham's attempt to sacrifice his son Isaac. (Genesis 22:1-19). **(6mks)**
b) Give out the similarities between the Jewish and the Traditional African practices of circumcision**.** **(7mks)**
c) Give reasons why the church leaders in Kenya takes vow before staring their mission**.** **(7mks)**

3) a) Give reasons why Elijah was forced to escape from Israel. **(7mks)**
b) Give **seven** characteristics of Canaanite religion. **(7mks)**
c) What lessons can Christian learn about social justice from the story of Naboth's vineyard. **(6mks)**

4) a) Identify reasons why God sent prophets to Israel. **(7mks)**
b) Outline the teachings of Amos on the day of the Lord**.** **(7mks)**
c) Outline reasons why Christians are encouraged to repent their sins. **(6mks)**

5) a) State the evils that prophet Jeremiah condemned during the temple sermon. **(6mks)**
b) Identify and explain four symbolic acts that Jeremiah used concerning God's judgment and punishment to the Israelites. **(8mks)**
c) Give **six** lessons Christin learn from prophet Jeremiah's temple sermon. **(6mks)**

6) a) Identify the regulations that any expectant mother is required to observe in traditional African communities**.** **(7mks)**
b) Give **seven** reasons why sacrifices are made in Traditional African societies**.** **(7mks)**
c) Outline reasons why witchcraft is feared in Traditional African Communities. **(6mks)**

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CHRISTIAN RELIGIOUS EDUCATION (C.R.E)
MID TERM 3 EXAMINATION
FORM THREE
TIME: 2½ hours

Instructions to Candidates

- *Answer **any five** questions from this paper.*

1. a) State seven similarities in the annunciation of the birth of John the Baptist and Jesus Christ. **(7mks)**

b) Explain the Jewish expectations concerning the Messiah. **(7mks)**

c) Identify six lessons Christian learn from the annunciation of the birth of John the Baptist. **(6mks)**

2.a) Describe the story of the forgiving of the sinful woman by Jesus. **(8mks)**

b) State the lessons that Christians lean from the story from the story of forgiving a sinful woman. **(6 mks)**

c) Outline ways in which Christian can help to predicate cases of discrimination in the society today. **(7mks)**

3.a) Narrate the miracle of feeding of the five thousand people. **(8mks)**

b) Outline the teachings from the feeding of the five thousand people. **(7mks)**

c) State ways in which Christians are taking care of the needy in the society today. **(6mks)**

4.a) Narrate the parable of the good Samaritan in Luke's gospel. **(7mks)**

b) What lesson do Christian learn from the parable of good Samaritan. **(7mks)**

c) State the factors which hinder Christians from practicing Jesus command to love ones neighbor. **(6mks)**

5.a) Explain the gifts of Holy Spirit as taught by Saint Paul. **(8mks)**

b) Give reasons why Saint Paul taught that the gift of prophecy was better than that of speaking in tongues. **(6mks)**

c) Outline guidelines did Saint Paul give to the Christians in Corinth on proper use of the gift of tongues and prophesy. **(6mks)**

6.a) Explain seven teachings of St. Paul on the unity of believers as demonstrated in the image of the body of Christ. **(7mks)**

b) In What ways was unity demonstrated by the Christians in the early church. **(6mks)**

c) State the factors which threatens unity in the Church today. **(7mks)**

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SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

FORM THREE

TIME : 2 HOURS

ENGLISH PAPER ONE

INSTRUCTIONS TO CANDIDATES

a) Write your name admission number and the class in the spaces provided.
b) Answer all the questions in this paper
c) Candidates should check and ensure that all the pages are printed and no question is missing.

FUNCTIONAL WRITING (20 Marks)

Students in your school have raised concerns about poor hygiene in the school. In a bid to address these concerns, the principal appoints a four member committee to investigate the health situation and give recommendations. You are the secretary of the committee. Write down the report you will present.

CLOZE TEST (10 Marks)

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

Gambling addiction is **(1) .....** the rise in Kenya leaving young people bankrupt and suicidal. Kenya is the third - largest gambling market in **(2) .....** behind South Africa and Nigeria. **(3) .....** losing Ksh. 48,000 on bad bets in just few hours, Jackson Kimani was thinking of **(4).....**suicide.
The 26-year-old is a salaried employee **(5) .....**works at a mobile money agency in Nairobi. Kimani took money from his shop to put a stake **(6).....** number of football **(7).....** consecutively lost his bets. It was Saturday afternoon and Kimani says he was fortunate his manager didn't come to check the balance.
On Sunday, he took **(8).....** chance and bet Kshs. 12000 on a number of games in European **(9).....** .If he didn't recover whatever he took, he would have to commit suicide (**10).....** he knew the police would swiftly catch him.

ORAL SKILLS

Read the poem below and answer the questions that follows.

Make me a grave where've you will
In a lowly plain or a lofty hill
Make it among earth's humblest graves,
But not in a land where men are slaves

I could not rest if around my grave
I heard the steps of a trembling slave;
His shadow above my silent tomb
Would make it a place of fearful gloom

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I could not rest if I heard the tread
Of a coffle going to the shambles led,

And the mother's shriek of wild despair
Rise like a curse on the trembling air.

a) Describe the rhyme scheme of the poem above **(2mks)**

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b) Apart from rhyme, mention two other ways they have achieved rhythm **(4mks)**

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c) Mention two ways in which you would know that your audience is fully participating during the recitation of the poem above**.** **(2mks)**

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d) How would you say the last line of the poem above? **(2mks)**

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e) Indicate whether the following items have a falling or rising intonation. **(4mks)**

i) Get out now! **.....**

ii) The man was accused of theft. .....

iii) How did you find the English exam? .....

iv) Could he have left? .....

f) Underline the silent letters in the following words. (4 marks)

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i) Corps -**……..**

ii) Leopard -**……**

iii) Fracas -**…….**

iv) Parliament - **…….....**

h) The underline indicates the stressed words in sentences below. Briefly explain how each sentence mean. **(3mks)**

i) The <u>lady</u> in a red dress lost her purse.

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ii) The in a <u>red</u> dress lost her purse.

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iii) The lady in red lost her <u>purse</u>.

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i) Identify the odd one out according to the pronunciation and underline the sounds **(2mks)**

i) Said Head. Gate. Led.

ii) Face. Phrase. Shepherd. Phase.

j) Read the following conversation between Jane and a trader and answer the questions that follow.

Jane : (Looking at phones on display) Good morning.

Trader : What do you want?

Jane : (surprised) Er, I would like to buy a nice phone.

Trader : All phones on display here are fantastic.
Which one of them do you want?

Jane : (pointing) This one looks great , how much is it?

Trader : Twenty thousand shillings only.

Jane : Goodness, you can't be serious! You are extremely
expensive.

Trader : Then find another shop.

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Jane : Um, what about a discount , please Iam serious
about buying a phone.

Trader : (Uninterested) Really?

Jane : (Exiting) I'm sorry to have bothered you.

Trader : (Cursing) Get lost!

(i) Give two illustration that shows Jane is polite. **(2mks)**

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(ii) In the dialogue, Jane hesitates to respond two times.
Explain one possible reason for hesitation. **(2mks)**

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(iii) In your own words rewrite any three responses by the trader to demonstrate negotiation skills and politeness.
(3mks)

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

ENGLISH PAPER 2
TIME 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

a) Write your name, admission number and the class in the spaces provided.
b) Answer all the questions in this paper.
c) Candidates should check and ensure that no question is missing.

COMPREHENSION (20 MARKS)

Read the following passage and then answer the questions that follows .

At the head of the court is a high seat where the judge sits. Down below is a table for officers of the court ,and to the left and to the right of the table are other seats. Some of these seats form a block that is enclosed,and they are for the jury if they is a jury. In front of the table are other seats arranged in arcs of circles, with curved tables in front of the seats, and it is there that the lawyers sit. And behind them is the dock, with a passage leading to some place that is underground, and from this place that is underground will be brought the men that are to be judged. At the back of the court there are seats rising in tiers, those on the right for Europeans, those for le left for non Europeans, according to the custom.

You may not smoke in this court , you may not whisper or speak or laugh. You must dress decently, and if you are a man , you may not wear your hat *unless such is your religion.*This is in honour of the judge and in honour of the king whose officerhe is; and in honour of the law behind the judge , and in honour of the people behind the law. When the judge enters you will stand and you will not sit till he is seated. When the judge leaves you will stand and you will not move till he has left. This honour of the judge and of the things behind the judge.

For the judge is entrusted a great duty, to judge and pronounce sentence even sentence of death. Because of their high office , judges are called Honourable, * and precede most other men* on great occasions. And they are held in great honor by men both white and black.

Because the land is a land of fear, a judge must be without fear, so that justice may be done according to the law; therefore a judge must be incorruptible.

The judge does not make the law. It is the people that make the law. Therefore, if the law is unjust , and if the judge judges according to the law, that is justice, even if it is not just.

It is the duty of the judge to do justice, but it is only that the people that can be just. Therefore, if justice be not just, that is not to be *laid at the door of the judge,*but at the door of the people, which means, at the door of the white people, for it is the white people that make the law.

In South Africa men are proud of their judges, because they are not incorruptible. Even the black men are proud of their judges, because they believe they are incorruptible. Even the black men have faith in them, though they do not always have faith in the law . In a land of fear this incorruptibility is like *a lamp set upon a stand*,giving light to that are in the house.

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Questions (20 marks)

a) What factors determine where you sit near the front of the court? **(2mks)**

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b) What does the seating arrangement at the back of the court reveal about the society? **(2mks)**

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c) Certain rules must be strictly observed inside the court. What would non - observance of the rules imply? **(2mks)**

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d) Why must a judge be fearless? **(2mks)**

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e) How has judges in South Africa earn respect and admiration**?** **(2mks)**

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f) Although the judge has great responsibilities and power, he has limitations. What are his limitations? **(4mks)**

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g) What does the second last paragraph reveal about the status of the black people? **(2mks)**

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h) Explain the meaning of the the following expressions as used in the Passage.

i) Unless such is your religion. **(1mk)**

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ii) and precede most other men **(1mk)**

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iii) Laid at the door of the judge**.** **(1mk)**

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EXCERPT (25 Marks)

Read the excerpt below and answer the questions that follow (25 marks)

Cute as a button and sharp as a needle, he thought. Her eyes were wide and white like a pairof moons. She continued. "My natural parents were Gambian, but I will never see them. aredead. Oh, well." She wriggled in her chair. "Goodness me, what am I doing? Dictating my autobiography?" She waved that idea away. "Let's talk business now, shall we?" She pulledout of her handbag a small device then switched it on. "Mind if I start recording?"

"You're a reporter?" He had not thought she was."Yes, for the Gambian News."

"I see. Now, how can I help you, Ms Mckenzie?""I'd like to ask you a few questions, if I may."

"Yes, you may. In fact, why don't I start you off? My name is Abiola Afolabi, which you seem to know already. But you can just call me Abiola, my first name. Take it from there."

"I will: you studied at Harvard University in the USA. Now you teach at the University of Ibadan in Nigeria." She smiled. "I got that from the cover of your book: Failure of States." Heaverted his eyes to enjoy this fame in the correct manner— with humility, he hoped she would easily see through. This black Scotswoman surely knew her tread, he thought.

"when I heard you were heard at The Seamount Hotel, Dr Afolabi, I decided to come and seeyou. So here I am. This is also funny."

"Funny?"

"Yes. I expected to see an academic scarecrow dressed in jeans. Instead, I see a well- dressedman who might

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well be a business person..."

QUESTIONS

a) Explain what happens immediately g) Explain the meaning of the following before thisexcerpt. **(4mks)**

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

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c) Discuss one theme evident in this excerpt. **(2mks)**

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d) Discuss two-character traits of Fiona in the excerpt. **(4mks)**

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e) Briefly explain what happens what happens after this excerpt. **(2mks)**

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f) How are Afolabi's thoughts in his book fulfilled later in the book? Briefly explain **(4mks)**

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

i) Averted

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ii) Autobiography

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iii) Wriggled

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iv) Tread

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v) Menacingly

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3. POETRY. (20Mks)

Read the following poem and answer the questions that follow.

WHEN I WAS ONE - AND - TWENTY

When I was one - and -twenty
I heard a wise man say,
"Give crowns and pounds and guineas
But not your heart away;
Give pearls away and rubies
But keep your fancy free"
But I was one - and - twenty,
No one use to talk to me

When I was one - and - twenty
I heard him say again'
"The heart out of bossom
Was never given in vain;
" Tis paid with sighs a - plenty
And sold for endless rue."
And Iam two - and - twenty
And oh, ' tis true, tis true.
(A.E Housman)

a) Who is the speaker in this poem? **(3mks)**

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b) What advise does the wise man to the speaker? Does the speaker follow the advice ? Explain. **(3mks)**

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c) How much time has passed between the first and second stanza? Explain **(2mks)**

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d) Identify and illustrate the style used in the poem. What does the poet achieve by using them? **(6Mks)**

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e) Explain the meaning of the following lines. **(2mks)**

But I was one and twenty
No use to talk to me

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4. GRAMMAR (15 MKS)

A) Change the following sentences into direct direct speech. **(2mks)**

i) He said that when he saw them they were playing squash.

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ii) The pupils said that they wished they did not have to take exams.

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B) Fill in the blank space with the most appropriate preposition. **(3mks)**

i) Cat jumped ..... the mantel piece.

ii) The cook dipped the cup ..... the porridge.

iii) Some students were sent home for going ..... the perimeter wall.

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C). Write the following sentences according to instructions given. **(5mks)**

i) The child would have drowned were it not for the quick action taken by the life saver. (Begin But...)

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ii) Someone is watching us (Rewrite in the passive)

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iii) As soon as you see him inform the police. (Rewrite using no sooner)

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iv) Moses Set out for Canaan. His brother accompanied him (Begin with : setting)

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v) If he comes, he will hot be punished.

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D) Explain the meaning of the underlined expressions. **(2mks)**

i) Abdi will tidy up the room *When pigs begin to fly*

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ii) My mother has *green fingers*

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E) Complete the underlined verb to make the appropriate phrasal verb . **(3mks)**

i) The immigrant complained about being descriminated because of his face

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ii) I boarded the car and was dropped at the mall.

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iii) As she was was cleaning her gun , it went and killed her.

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NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

FORM THREE

ENGLISH PAPER THREE

TIME : 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

a) Write your name, admission number and class in the spaces provided.
b) Answer all the questions given.
c) Each question must not exceed 450 words.
d) Candidates must answer the questions in English.
e) Candidates should check the question paper to ascertain that no question is missing.

Answer all the questions

1a)Write a composition beginning with the following sentence.

"The night was different from all previous nights**..."** **(20mks)**

b) Write a composition explaining the importance of co-curricular activities in achieving a wholesome education in Kenya schools. **(20mks)**

C) Corruption molds suspicious leaders who will always work towards escaping punishment rather than working towards the progress of their nations. Using illustrations from The Samaritan by John Lara, write a composition. **(20marks)**

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NAME: ……..……

SCHOOL: ……..

ADM NO: ……... SIGN: ……..……. DATE: …….

FROM THEE GEOGRAPHY

PAPER 1

TIME: 2HRS 45 MIN

Instructions

- ✓ Answer **all** questions in this section A
- ✓ Answer question **6** and any other **two** questions in section B

SECTION A

1.a) What is the relationship between Geography and Mathematics **(2mks)**

b) State **three** reasons why it is important to study Geography **(3mks)**

2.a) Describe the solar system **(2mks)**

b) The local time at town x 60^0W is 11.30 a.m. What is the time in Nairobi 37^0E **(3mks)**

3.a) Name the **two** major types of earth movements that occur within the earth's crust **(2mks)**

b) State **three** evidences supporting the theory of continental drift **(3mks)**

4.a) What is an earthquake**?** **(1mk)**

b) Identify the scale used to measure

i) The intensity of the earthquake **(1mk)**

ii) The magnitude of the earthquake **(1mk)**

iii) Give **two** negative effects of earthquake **(2mks)**

5.a) What is hydrological cycle **(2mks)**

b) Give **three** depositional features in the old stage of the river **(3mks)**

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SECTION B

6. Study the map of Kisumu East (1:50,000) Kenya sheet 116/2 provided and answer the following questions.

(a). i) What type of map is Kisumu East. **(1mk)**

ii) Give three methods of representing relief used in the map. **(3mks)**

iii) Identify four physical features shown on the map. **(4mks)**

(b).i) Give the four figure grid reference of the agricultural research station. **(1mk)**

ii) Measure the length of road B2/1 from Kiboswa to the junction at Mambo Leo market. (Give your answer in kilometers). **(2mks)**

(c). Citing evidence from the map, identify four social services of Kisumu East. **(8mks)**

(d). Describe the drainage of the area covered by the map. **(6mks)**

7a) i) What is the difference between weathering and mass wasting? **(2mks)**

ii) Apart from plants give three other factors that influence the rate of weathering **(3mks)**

iii) Explain **two** ways in which plants cause weathering **(4mks)**

b)i) List **two** types of mass wasting other than soil creep **(2mks)**

ii) Explain **three** factors that cause soil creep **(6mks)**

c) Explain **four** effects of mass wasting on the environment **(8mks)**

8.(a)(i) Name three types of hot desert landscape. **(3mks)**

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

bi) Apart from Yardangs name three features that results from wind action in deserts. **(3mks)**

ii) Using well labelled diagrams, describe how Yardangs are formed**.** **(7mks)**

b) Explain how the following processes of wind erosion occur in the desert areas.

i)Saltation**.** **(2mks)**

ii)Surface creep**.** **(2mks)**

c) You intend to carry out a field study in an arid area near your school.

i) State two reasons for carrying out a pre-visit. **(2mks)**

ii) State four positive effects of desert features to man that you are likely to identify. **(4mks)**

9.(a)(i) Differentiate between a spring and a well. **(2mks)**

ii) State four conditions favoring formation of artesian well. **(4mks)**

b). (i) What is a Karst scenery? **(2mks)**

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(ii) Name five features formed on the surface in a Karst area. **(5mks)**

c). With the aid of a well labeled diagram describe how a limestone pillar is formed. **(6mks)**

d) Explain three significance of Karst scenery to human economic activities. **(6mks)**

10a) i) What are tides? **(2mks)**

ii) Give **three** causes of ocean currents **(3mks)**

iii) Name the **three** ocean currents along the Western Coast of Africa **(3mks)**

b) i) State **three** characteristics of submerged lowland coasts **(3mks)**

ii) Explain **three** factors that determine the rate of coastal erosion **(6mks)**

c) With the aid to labelled diagrams, describe the process through which a stack is formed. **(8mks)**

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SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

312/2
GEOGRAPHY PAPER 2
FORM 3
TIME: 2 ¾ HOURS
MID-TERM TWO EXAM

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

INSTRUCTIONS TO CANDIDATES

- ***Answer all questions***

1.a.i) Differentiate between forestry and forest. **(2mks)**

ii) Name three indigenous soft wood species in Kenya. **(3mks)**

b.i) Explain four importance of forests and forest products in Kenya. **(8mks)**

ii) Explain four problems facing forests in Kenya. **(8mks)**

iii) State four measures taken to manage and conserve forests in Kenya. **(4mks)**

2. Use table below to answer the following questions: Transport value in Ksh. Million

Year	2009	2010	2011	2012
Road	21,500	25,600	36,200	38299
Air	20,000	23,100	27,500	35,000

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Railway	10,500	16,200	22,130	24,600

a.i) Calculate the total transport for the year 2012. **(2mks)**

ii) Draw a comparative bar graph for the Road, Air and Railway transport between the years 2009 – 2012. **(6mks)**

b.i) what are advantages of using a comparative bar graph? **(4mks)**

ii) Explain three challenges facing internet services in Kenya. **(6mks)**

c. Students of Star boys went for a field study of a forest near their school.

i. State three methods they used to collect data. **(3mks)**

ii. Mention two objectives of their study. **(2mks)**

iii) List three methods they used to record their data. **(3mks)**

3.a) Mention the types of minerals mined in the following areas. **(3mks)**

i. Mwadui

ii. Kwale

iii. Kilembe

b.i) Identify three Middle East countries that produce oil. **(3mks)**

ii) Mention three conditions for the occurrence of petroleum. **(3mks)**

iii) Explain four benefits of petroleum to the economics of the middle East countries. **(8mks)**

c.i) Students of Mogotio boys went for field study of rocks near their school. Give reasons why they carried the following instruments:

1. A jembe
2. A bag
3. Hammer

ii. Mention how they prepared for the field study. **(5mks)**

4.a.i) Define the following terms; **(3mks)**

- Afforestation
- Reforestation
- Agroforestry

ii) Explain four factors that have favoured forestry in Canada. **(8mks)**

b.i) Compare soft wood forests in Kenya and Canada. **(6mks)**

ii) State four importance of forest exploitation in Canada.

iii) State four problems facing soft wood forests in Canada. **(4mks)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

HISTORY AND GOVERNMENT PAPER ONE (311/1)
FORM THREE (3)
Time: 2½ Hours

Instructions to candidates:

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

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

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

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

e) Answer all questions in English.

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SECTION A	SECTION B			SECTION C		TOTAL
1-17						

SECTION A (25 MARKS) Attempt all the questions from this section.

1. Give **one** example of audio – visual source of information on Kenyan History. **(1mk)**

2. State **two** practices introduced by Cushitic speakers among other Kenyan communities**.** **(2mks)**

3. What name did the Nandi give to their Supreme Being? **(1mk)**

4. List down **two** reasons why Omani Arabs were unable to control the coast immediately**.** **(2mks)**

5. What was the **main** pronouncement of the Devonshire White Paper of 1923? **(1mk)**

6. Give **two** features of missionary education. **(2mks)**

7. Name **one** Kenyan leader who signed the National Accord and Reconciliation Act on February 2008**.** **(1mk)**

8. State **one** aspect of Kenyan democracy. **(1mk)**

9. Give **one** strategic reason for the scramble and partition of East Africa. **(1mk)**

10. Name **two** Kenyan communities that showed mixed reactions. **(2mks)**

11. State **two** roles of Mekatilili in the Agiriama resistance. **(2mks)**

12. State **one** objective of the Local Native Councils (LNC) in Kenya. **(1mk)**

13. List down **two** roles of chiefs and headmen during the colonial period. **(2mks)**

14. Give **two** grievances of the early political organizations in Kenya. **(2mks)**

15. State **two** reasons why the colonial government encouraged white settlers to come to Kenya. **(2mks)**

16. Define the concept 'Dual Citizenship'. **(1mk)**

17. Give **one** cause of international conflicts. **(1mk)**

SECTION B (45 MARKS) Attempt any three questions from this section.

18 a) State **five** economic activities of the Somali**.** **(5mks)**

b) Explain **five** results of the migration and settlement of the people of Kenya. **(10mks)**

19 a) Give **three** factors that promoted trade between the East African Coast and the outside world. **(3mks)**

b) Explain **six** consequences of the long distance trade. **(12mks)**

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20 a) State **five** causes of the Nandi resistance (1895-1906**)** **(5mks)**

b) Explain **five** effects of the Wanga collaboration. **(10mks)**

21 a) List down **five** problems faced by the Uganda railway builders**.** **(5mks)**

b) Explain **five** impact of urbanization in Kenya during the colonial rule. **(10mks)**

SECTION C (30 MARKS) Attempt any two questions from this section.

22 a) State **five** importance of National Integration**.** **(5mks)**

b) Explain **five** ways in which the bill of rights protects the rights of an individual. **(10mks)**

23 a) List down **three** advantages of written constitution. **(3mks)**

b) Explain **six** features of the independence constitution. **(12mks)**

24 a) Give **five** disadvantages of democracy. **(5mks)**

b) Explain **five** functions of the Kenya National Human Rights and Equality Commission. **(10mks)**

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HISTORY AND GOVERNMENT PAPER TWO (311/2)
FORM THREE (3)
Time: 2½ Hours

Instructions to candidates:

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

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

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

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

e) Answer all questions in English.

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SECTION A	SECTION B			SECTION C		TOTAL
1-17						

SECTION A (25 MARKS) Attempt all the questions from this section.

1. Give **two** factors that influenced the Neolithic Revolution. (2 marks)
2. State **two** results of the Buganda collaboration. (2 marks)
3. Mention the **main** source of energy in early industrial revolution. (1 mark)
4. List down **two** duties of the indigenous rulers in Northern Nigeria. (2 marks)
5. Highlight **two** disadvantages of land enclosure system. (2 marks)
6. Name **one** community that participated in the Chimurenga war. (1896-1897) (1 mark)
7. State **two** ways in which a cell phone is used in communication. (2 marks)
8. State **one** commune in Senegal where Assimilation was fully applied. (1 mark)
9. Give **one** factor that led to the decline of Meroe as an early urban center. (1 mark)
10. State **two** terms of the Berlin Conference. (2 marks)
11. Give **two** negative impacts of scientific inventions on industry. (2 marks)
12. List down **two** types of trade. (2 marks)
13. Give **one** method used by Europeans to acquire colonies in Africa. (1 mark)
14. State **two** duties of the Katikiro. (2 marks)
15. Name the King of the Lozi who collaborated with the British. (1 mark)
16. Define the term 'Hansard' as used by British unwritten constitution. (1 mark)
17. State **one** characteristic of human rights. (1 mark)

SECTION B (45 MARKS) Attempt any three questions from this section.

18. a) State **five** features of early Agriculture in Britain before Agrarian Revolution. (5 marks)
    b) Explain **five** steps that Kenya has taken to solve food shortages. (10 marks)

19. a) Give **three** factors that facilitated the scientific revolution. (3 marks)
    b) Explain **six** obstacles to Industrialization in India. (12 marks)

20. a) State **five** factors that led to the growth of Trans – Atlantic trade. (5 marks)
    b) Describe the organization of Trans – Saharan trade. (10 marks)

21. a) List down three positive results of African rebellion in Tanganyika. (3 marks)
    b) Explain **six** factors that enabled Samori Toure to resist the French for so long. (12 marks)

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SECTION C (30 MARKS) Attempt any two questions from this section.

22. a) Give **five** political aspects of the Shona. (5 marks)
    b) Describe the economic organization of the Buganda. (10 marks)

23. a) State **five** characteristics of a good constitution. (5 marks)
    b) Other than Hansard, explain **five** sources of British unwritten constitution. (10 marks)

24. a) List down **five** consequences of the Land Apportionment Act for the Africans. (5 marks)
    b) Explain **five** reasons for the use of indirect rule in Northern Nigeria. (10 marks)

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102/1 Kiswahili – Insha Karatasi ya 1
KIDATO CHA TATU Muda: Saa 1 ¾

MAAGIZO

a) Andika jina lako na nambari ya usajili kwenye nafasi ulizoachiwa hapo juu.
b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
c) Andika insha **mbili**. Insha ya kwanza ni ya **lazima.**
d) Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.
e) Kila insha isipungue maneno **400**.
f) Kila insha ina alama **20.**
g) Kila insha lazima iandikwe kwa lugha ya **Kiswahili.**
h) Insha zote sharti ziandikwe katika nafasi ulizoachiwa kwenye kijitabu hiki cha maswali.
i) Karatasi hii ina kurasa 2 zilizopigwa chapa.
j) Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.

Kwa matumizi ya mtahini pekee

SWALI	UPEO	ALAMA
1	20	
	20	
JUMLA	40	

1.Wewe ni katibu wa jopokazi lililoteuliwa na Waziri wa Elimu kuchunguza njia mbalimbali za udanganyifu katika mitihani ya kitaifa. Andika **kumbukumbu** za mkutano uliofanyika kuwasilisha uchunguzi huo.

2.Serikali ndiyo ya kulaumiwa kutokana na kupanda kwa gharama ya maisha nchini Kenya. Jadili.

3.Tunga kisa kitakachodhihirisha matumizi ya methali ifuatayo:
Jifya moja haliinjiki chungu

4.Tunga kisa kitakachokamilika kwa maneno yafuatayo:
Kweli nimetambua kuwa, familia ni nguzo muhimu katika ujenzi wa jamii.

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JINA: .....

SHULE: .....

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NAMBARI YA USAJILI: ……..... SAHIHI: ……..……. TAREHE: ……..

KIDATO CHA TATU
SAA: 2½
1.**UFAHAMU: (Alama 15)**

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

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

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

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

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

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

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

Maswali

a) Ipe taarifa hii anwani mwafaka. **(alm1)**

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b) Eleza dhana ya mwanamkiwa kwa mujibu wa kifungu. **(alm2)**

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c) Eleza imani za kijadi kuhusiana na wanawakiwa. **(alm2)**

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d) Jadili masaibu yanayowakumba wanawakiwa. **(alm4)**

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e) Eleza haki mbili za kikatiba zilizokiukwa kuhusiana na wanawakiwa. **(alm4)**

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f) Eleza maana ya msamiati ufuatao kulingana na kifungu. **(alm2)**

i) Inakera

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ii) Majukumu

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2.**UFUPISHO: (Alama 15)**

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

Runinga kama kifaa kingine chochote cha mawasiliano kina manufaa yake. Kwanza kabisa, ni nyenzo mwafaka ya kufundishia. Vipindi vinavyopeperushwa katika runinga huwa na mafunzo kemkemu kwa mtu wa kila rika. Halikadhalika, runinga huweza kuleta vipindi ambavyo huwafahamisha watu mambo yanayoendelea katika mazingira yao na duniani. Aidha, runinga ikitumika pamoja na michezo ya video huauni katika ukuzaji na ustawishaji wa stadi ya kujifundisha au kujielimisha. Michezo ya video, hasa ya kielimu, huwafanya watu kujenga umakini pamoja na kuchua misuli ya ubongo na kuwafanya watu kuwa macho wanapofanya kazi.

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Fauka ya hayo, televisheni ni chemchemi bora ya kutumbuiza na kuchangamsha. Hakuna mtu asiyependa kuchangamshwa. Televisheni ni mojawapo ya vyombo mwafaka vya kutekeleza hayo kutokana na vipindi vyake. Uburudishaji huu huwa ni liwazo kutokana na shinikizo na migogoro tunayokabiliana nayo kila siku. Uburudishaji huu hupatikana kwa urahisi majumbani mwetu.

Vivyo hivyo, runinga hutumika kama nyenzo ya kuendeleza utamaduni, kaida na amali za jamii. Vingi vya vipindi vya runinga huwa ni kioo ambacho huakisi mikakati na amali za jamii.

Kwa upande mwingine, hakuna kizuri kisichokuwa na dosari. Licha ya manufaa yake, televisheni imedhihirika kuwa na udhaifu wake. Kwanza, baadhi ya vipindi vya runinga na video hujumuisha ujumbe usio na maadili, kama vile matumizi ya nguvu za mabavu, ngono za kiholela, lugha isiyo ya adabu, ubaya wa kimavazi na maonevu ya rangi, dini, jinsia, kabila na utamaduni. Si ajabu kuwa baadhi ya vijana wetu wanaiga baadhi ya mambo haya. Vijana wetu siku hizi wameingilia ulevi wa pombe na afyuni, ngono za mapema kabla ya ndoa na mavazi yanaowaacha takribani uchi wa mnyama. Wengi wamekopa na kuyaiga haya kutoka katika runinga. Ukiwauliza wafanyacho, watakujibu kuwa ni ustaarabu kwani wameupata katika runinga.

Matumizi ya runinga na michezo ya video yasiyodhibitiwa huweza kuwa kikwazo cha mawasiliano bora miongoni mwa familia. Matumizi kama haya huwapa wanafamilia fursa ya kujitenga. Imedhihirika kuwa runinga haichangii kujenga uhusiano bora wa kijamii. Ukilinganisha na vyombo vingine vya burudani ambavyo hutoa nafasi ya watu kutangamana na kujenga uhusiano bora, televisheni haichangii haya. Badala yake, tajriba ya televisheni huwa ya kibinafsi. Hali hii inapotokea katika kiwango cha familia, televisheni inaweza kutenganisha wazazi na watoto wao.

Halikadhalika, runinga na video aghalabu hueneza maadili yasiyofaa. Mathalani, baadhi ya vipindi vya televisheni huendeleza hulka ya kuhadaa, ngono za kiholela, kuvunjika kwa ndoa, n.k. Hulka hizi zisizoendeleza maadili ya kijamii huchukuliwa kama zinazofaa na zinazofuatwa na waliostaarabika. Huu ni upotovu.

Isitoshe, baadhi ya matangazo huhimiza matumizi ya dawa za kulevya kama tembo na sigara. Vitu hivi vinapotangazwa, hupambwa kwa hila na udanganyifu mwingi ambao huwavutia vijana na watoto wengi. Si ajabu mtu anapouliza wanaotumia vileo hivi walivyoanza, watajibu kutokana na athari za matangazo katika runinga na vyombo vingine.

Utafiti umeonyesha kuwa vipindi vya runinga na video ni chanzo cha matumizi ya nguvu za mabavu miongoni mwa wanafunzi. Wazazi wengi huchukulia vibonzo katika televisheni kuwa vinalenga kuburudisha tu na havina ubaya wowote. Lakini ukweli ni kuwa vipindi vingi vya vibonzo hushirikisha matumizi ya hila na nguvu za mabavu. Haya huibusha hamu ya vijana na watoto huyaiga.

Kwa hivyo, ni muhimu wazazi na jamii kutambua madhara ya televisheni. Utambuzi huu utawafanya wawaelekeze vijana na watoto jinsi ya kutumia televisheni na video ili kuepukana na madhara yake.

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a) Fupisha aya tatu za kwanza za (maneno 70 – 75) (alama 7, 2 za utiririko)

Matayarisho

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Jibu

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b) Eleza udhaifu wa runinga na video. (maneno 50 – 51) (alm5, 1 ya utiririko)

Matayarisho

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Jibu

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Matumizi ya lugha (al. 40)

1.Andika sauti zenye sifa zifuatazo. **(AL.2)**

i.Sauti ya kaakaa laini

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ii. Kikwamizo cha ufizi

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2. Tofautisha maana ya sentensi zifuatazo. **(AL.2)**

i. maji yote yamemwagika

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ii. Maji yoyote yatamfaa mzee

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3. Unda nomino kutokana na vitenzi vifuatavyo . **(AL.2)**

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i.Lima

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ii.tuma

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4. Tunga sentensi mbili kuonyesha maana tofauti za neno jua. **(AL.2)**

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5.Andika ukubwa wa : **(AL.2)**

i. Mwizi aliiba kikapu na ng'ombe

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6. kanusha sentensi ifuatayo **(AL.2)**

i. Mkiondoka mapema mtafika kwa wakati .

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7.Yakinisha kwa umoja. **(AL.2)**

i.Kamba zizisingekatika zisingepotea.

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8.Ainisha vielezi katika sentensi ifuatayo. **(AL.2)**

i.Wamesoma kitabu hicho mara nyingi darasani.

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9.Andika aina mbili za silabi na utolee mfano. **(AL.2)**

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10. Changanua sentensi ifuatayo kwa njia ya matawi. **(AL.4)**

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i. Wazazi wameenda sokoni.

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11. Tambua kiima na kiarifa katika sentensi hii . **(AL.4)**

i. Gari lake linatoa moshi mwingi.

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12. Tambua matumizi ya - ni – katika sentensi hizi. **(AL.4)**

i. Ameenda ibadani.

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ii. Mwanafunzi ni mtukutu.

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13. Onyesha virai katika sentensi ifuatayo na ueleze ni vya aina gani. **(AL.2)**

i.Wanafunzi wanapenda kusoma.

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14. Ainisha mofimu katika neno hili. **(AL.3)**

i.Walimchezea

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15. Eleza maana ya kishazi. **(AL.2)**

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16. Andika katika usemi wa taarifa. **(AL.3)**

i. “Wachezaji wa michezo ya raga hufanya mazoezi kila jioni “. Juma aliwaambia watoto.

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ISIMU JAMII (al.10)

Taja na ueleze sababu za vijana kutumia lugha ya sheng’.

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

JINA: ……..……

SHULE: ……

NAMBARI YA USAJILI: ……..... SAHIHI: ……..……. TAREHE: ……..

MTIHANI WA MUHULA WA TATU KATI **KISWAHILI-FASIHI** **KARATASI YA 3**

KIDATO CHA TATU **MUDA:$2^{1/2}$**

<u>MAAGIZO</u>;

Jibu maswali mannne

Kila swali ni alama 20

Swali la kwanza ni la lazima

Maswali hayo mengine yatoke katika sehemu hizo zingine

Mwanafunzi asijibu maswali mawili kutoka sehemu moja

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Majibu yaandikwe kwa lugha ya kiswahili

SEHEMU A: TAMTHILIA

T.Arege: Bembea Ya Maisha

1a). Jadili maudhui ya utamaduni katika jamii ya Bembea ya maisha**.** **(Al.10).**

b). Fafanua sifa za mhusika Sara**.** **(Al.10)**

SEHEMU B: RIWAYA

C.Momanyi

2). Eleza namna maudhui ya ubinafsi yalivyoshughulikiwa katika riwaya hii**.** **(Al.20).**

3). Mwanao? Mimi mwanao mimi? Tangu siku ile uliyonila kivuli, mimi si mwanao tena……'

a) Weka dondoo hii katika muktadha wake **(Al.4)**

b).Tambua na ueleze tamadhali mbili za usemi zilizotumiwa katika dondoo hii. **(Al.4)**

c). Taja na ueleze sifa za msemaji. **(Al.6)**

d). Taja na ueleze umuhimu wa msemewa. **(Al.6)**

SEHEMU C: USHAIRI

4). Soma shairi lifutalo kisha ujibu maswali yanayofuata;

Akufaaye kwa dhiki, huyo ndo rafiki
Usije kumhiliki , wala usimdhihaki
Kummudhi sidiriki, utavunja urafiki
Akufaaye kwa dhiki, simlipe unafiki.
Anayekusaidia , shida ikikikufika,
Huyo kwa kweli tambua, ndiye wa kutegemea,
Popote atakufaa, atakuonesha njia,
Akufaaye kwa dhiki, simlipe unafiki.

Madhali ameamua, huyo mtu elewa
Muhali kukubagua, yeye ameshapania,
Anayo nzuri tabia, usimlipe udhia
Akufaaye kwa dhiki, simlipe unafiki.

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Simtoe maanani , alokutoa jauani,
Kakutika kivulini, amejaliwa Imani,
Amekuvukisha mtoni, umadharau kwa nini?
Akuffaye kwa dhiki, simlipe unafiki

Wengi sana duniani, wachoyo sana baini,
Wakusaidie kwani, wewe ni wa kwao nini?
Wachache wenye Imani , hao ndio wenye thamani,
Akufaaye kwa dhiki, simlipe na unafiki.
(Riziki M. Juma , Tamthilia ya Maisha)

Maswali:

a)Fafanua bahari ya shairi hili ukizingatia :

i)Mpangilio wa vina. **(Alm4)**

b)Taja aina nne za urudiaji **(Alm4)**

c) Eleza matumizi ya swali la balagha katika shairi. **(Alm2).**

d) Fafanua toni katika shairi hili. **(Alm2).**

e) Taja nafsi nenewa katika shairi. **(Alm2).**

f) Andika mifano ya tamathali za usemi zinazojitokeza katika ubeti wa nne**.** **(Alm4).**

g) Fafanua mbinu mbili ambazo mshairi ametumia kutosheleza mahitaji ya kiarudhi. **(Alm2).**

5). Soma shairi lifuatalo kasha ujibu maswali.

Nikiwa na njaa nammatambara mwilini,
Nimehudumika kama hayawani,
Kupigwa na kutukanwa,
Kimya kama kupita kwa shetani,
Nafasi ya kupumzika hakuna,
Yakulala hakuna.
Yakuwaza hakuna,
Basi kwani hili kufanyika,
Nikosa gani lilotendeka,
Lilonileta adhabu hiii somalizika?
Ewe mwewe urukaye juu angani,

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Wajua lililomo mwangu moyoni,
Niambie pale mipunga inapopepea,
Ikatema miale ya jua,
Mamangu bado angali amesimama akinisubiri?
Je nadhari hujitokeza usoni Ikielekea huku kizuizini?
Mpenzi mama,nitarudi nyumbani,
Nitarudi hata kama ni kifoni,
Hata kama maiti yangu imekatikakatika,
Vipande elfu,elfu kumi,
Nitarudi nyumbani.
Nikipenya kwenye ukuta huu Nikipitia mwingine kama shetani Nitarudi mpenzi mama...
Hata kama kifoni.

Maswali

a)Lipe shairi hili kichwa mwafaka **(al.1)**

b)Tambua nafsi neni katika shairi hili **(Al.2)**

c)Eleza toni katika shairi hili **(al.2)**

d)Taja mambo manne ambayo mshairi analalamikia **(Al.4)**

e)Fafanua dhamira katika shairi hili **(al2)**

f)Thibitisha kuwa hili ni shairi huru **(al2)**

g)Taja na ufafanue sifa mbili za mshairi **(al2)**

h). Fafanua mbinu tatu za kimtindo zilizotumika katika ubeti wa ne**.** **(Al.3)**

i)Eleza maana ya maneno yafuatoyo kama yalivyotumiwa katika shairi hili **(Al.2).**

i). Hayawani

ii). Nadhari

SEHEMU D: FASIHI SIMULIZI

6). Soma kifungu kifuatacho kisha ujibu maswali.

Hapo zamani za kale paliishi sungura na ndovu.Wanyama hawa waliishi baharini. Maulana alikuwa amewatunukia mapenzi si haba. Makazi yao yalikuwa yamepambwa yakapambika. Walitegemea matunda mbalimbali yaliyokuwa baharini kama mapera, matomoko, matikitimaji na kadhalika. Siku moja usiku wa manane,maji yakaanza kupwa.

Ndovu aliathirika zaidi. Alijaribu kuinama majini lakini hakuweza. Alimwita sungura amsaidie lakini sungura alikuwa ametoweka.

Ndovu aliamua kwenda kumtafuta sungura. Alimtafuta hadi msituni lakini hakumpata. Alihofia kurudi baharini na hadi wa leo yumo msituni.

Maswali

(a) Tambua utanzu na kijipera chake. **(al.2)**

(b) Taja fomyula zingine mbili za kutanguliza kifungu hiki. **(al.2)**

(c) Eleza umuhimu wa kijipera hiki. **(al.5)**

(d) Eleza sifa za kifungu hiki. **(al.5)**

(e) Eleza umuhimu wa fomyula:

(i) Kutanguliza **(al.3)**

(ii) Kuhitimisha **(al.3)**

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EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

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MATHEMATICS

FORM 3 EXAMS

TIME: 2 ½ HOURS

Kenya Certificate of Secondary Education
MATHEMATICS
TIME: 2 ½ HOURS

Instructions

- Write your name, index number, school, date and signature in spaces provided above.
- The paper contains **two** sections **I** and **II.**
- Answer **all** questions in section **I** and **any five** questions from section **II** in the spaces provided below each question.
- 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
- Any negligent and slovenly work will be penalised
- Non-programmable silent electronic calculator and mathematical tables may be used except where stated otherwise.
- Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing
- Write the answer in English

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

SECTION I (50 MARKS)
ANSWER ALL THE QUESTIONS IN THIS SECTION

1. Evaluate: $\dfrac{\frac{5}{6}of\left(4\frac{1}{3}-3\frac{5}{6}\right)}{\frac{5}{12}\times\frac{3}{25}+1\frac{5}{9}\div2\frac{1}{3}}$ **(3mks)**

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2.Find the value of *k* in the quadratic expression $x^2 - kx + 49$ that will make it a perfect square? **(3mks)**

3.Solve for x in the equation: $27^x x\ 3^{(2x-2)} = 9^{(x+2)}$ **(3mks)**

4.Three bells ring at regular interval of 9 min, 15 min and 21 min. The bells ring at $5.45p.m$. At what time will they ring together again? **(3mks)**

5.From a point 20m away on a level ground the angle of elevation to the bottom of the window is 27 $^\circ$ and the angle of elevation of the top of the window is 32 $^\circ$. Calculate the height of the window. **(3mks)**

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6.The currency exchange rates of a given bank in Kenya are as follows;

Currency	Buying	Selling
1 sterling pound	135.50	135.97
1 US dollar	72.23	72.65

A tourist arrived in Kenya with 5,000US dollars which he converted to Kenya shillings upon arrival. He spent Ksh.214,500 and converted the remaining to sterling pounds. How many pounds did he receive? **(3mks)**

7.Given that $\sin(90 - a) = \frac{1}{2}$, find without using trigonometric tables the value of;

(i) $\cos a$. **(2mks)**

(ii) $\tan(90 - a)$ **(2mks)**

8.The sum of the interior angles of a regular polygon is 1260^0. Find the number of sides of the polygon; hence give the name of the polygon. **(3mks)**

9.Find the integral values of *x* which satisfy the following inequalities;

$2x + 3 > 5x - 3 > -8$ **(3mks)**

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10. Given that log 2=0.3010, log 3=0.4771 and log 7=0.8451, find without using tables the value of log 42. **(3mks)**

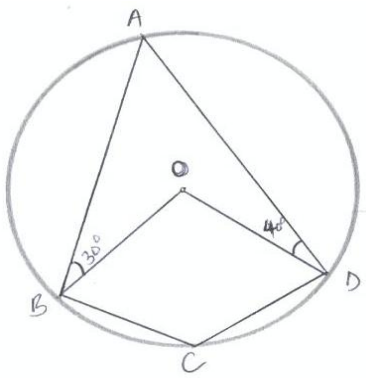
11. The mean of n numbers is 15. If the same numbers together with 20 have a mean of 16, find the value of n **(3mks)**

12. Use reciprocal and square tables to calculate to 4 significant figures the value of $0.4766^2 + \frac{1}{2754}$ **(3mks)**

13. A shirt whose marked price is Ksh.800 is sold to a customer after allowing him a discount of 13%. If the trader makes a profit of 20%, find how much the trader paid for the shirt. **(3mks)**

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14. 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;

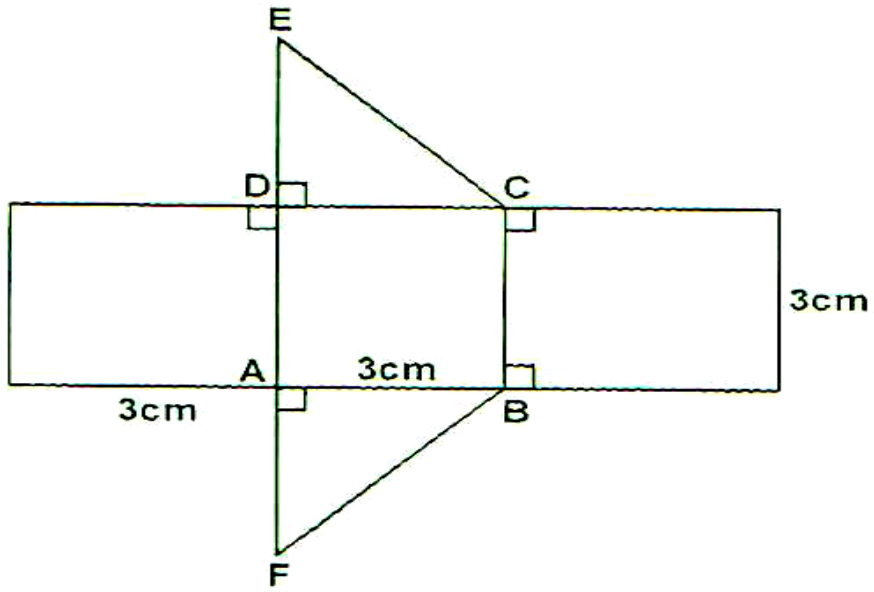
i) $\angle BAD$. **(2mks)**

ii) $\angle$ BCD **(2mks)**

15. Using a pair of compasses and a ruler only construct a triangle ABC such that $AB = 4cm$, $BC = 6cm$ and angle $ABC = 135°$. **(3mks)**

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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. **(3mks)**

SECTION II (50MKS)

ANSWER ANY FIVE (5) QUESTIONS IN THIS SECTION

17. The masses of 40 students were measured to the nearest kilogram and recorded as shown below.

52 58 54 x y 53 56 51 43 41 53 58 54 65 58 59 49 63 49 49 47
45 46 52 52 55 52 55 49 47 53 63 42 45 46 48 60 49 48 53

a) Find x and y if x + y =110

y - x = $\sqrt{64}$ **(2mks)**

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b) Using a class interval of 5, and starting with 40 as the lower limit, make a frequency distribution table for the above data. **(2mks)**

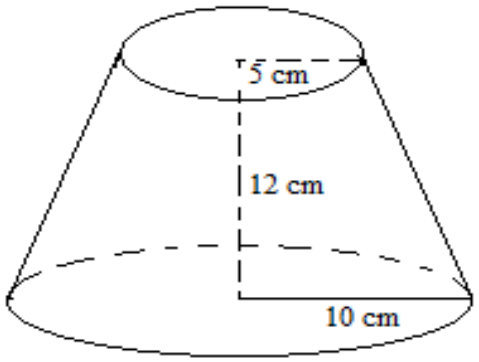
c) From the above data:

i. State the modal class **(1mk)**

ii. Calculate the mean mass **(2mks)**

iii. Calculate the median mass **(3mks)**

18. The figure below shows a frustum. The top and bottom radii are 5cm and 10cm respectively, while the vertical height of the frustum is 12cm.



Find the:-

a) Slant height of the frustum. **(3mks)**

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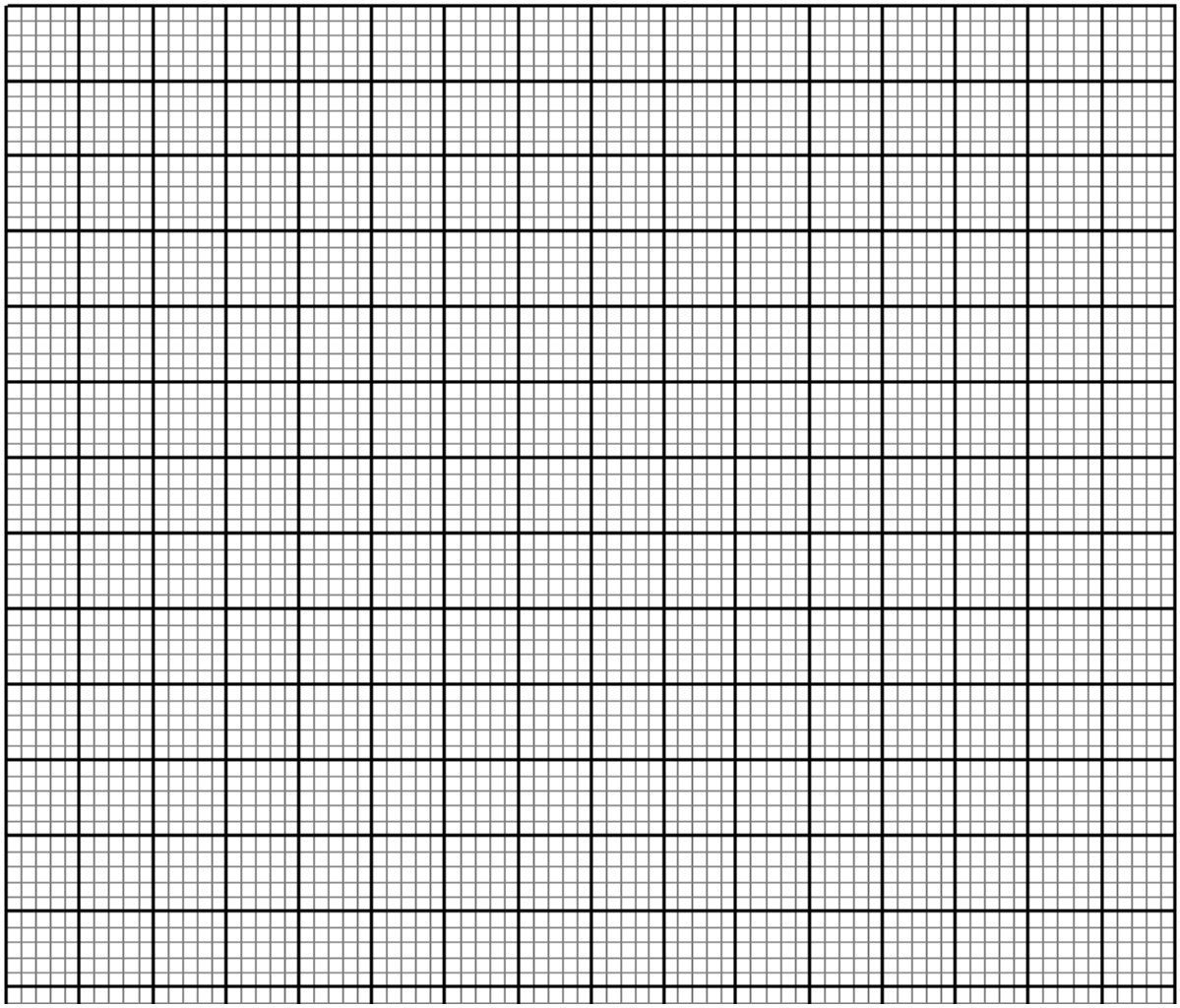
b) Curved area of the frustum. **(3mks)**

c) Volume of the frustum. **(4mks)**

19. A triangle ABC has vertices A(2,1), B(5,2) and C(0,4).

(a) On the grid provided plot the triangle ABC. **(2mks)**

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(b) $A^1B^1C^1$ is the image of ABC under a translation $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$. Plot $A^1B^1C^1$ and state its coordinates. **(2mks)**

(c) Plot $A^{11}B^{11}C^{11}$ the image of $A^1B^1C^1$ after a rotation about the origin through a negative quarter turn. State its coordinates. **(3mks)**

(d) $A^{111}B^{111}C^{111}$ is the image of $A^{11}B^{11}C^{11}$ after a reflection on the line y = 0. Plot $A^{111}B^{111}C^{111}$ and state its coordinates. **(3mks)**

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20. A group of people planned to contribute equally towards a water project which needed Ksh. 2,000,000 to complete. However 40 members of the group withdrew from the project. As a result each of the remaining members were to contribute Kshs. 2,500 more.

a) Find the original number of members in the group **(5mks)**

b) Forty five percent of the value of the project was funded by constituency Development fund (CDF). Calculate the amount of contribution that would be made by the remaining members. **(3mks)**

c) Members contribution were in terms of labour provided and money contributed. If the ratio of the value of labour to the money contribution was 6:9. Calculate the total amount of money contributed by the members **(2mks)**

21. a) A line, $L1$ passes through the points $(3,3)$ and $(5,7)$. Find the equation of $L1$, in the form of $y = mx + c$ where m and c are constant. **(3mks)**

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b) Another line $L2$ is perpendicular to $L1$ and passes through $(-2,3)$. Find:

i) The equation of $L2$. **(3mks)**

ii) The x- intercept of $L2$. **(1mk)**

d) Determine the point of intersection of $L1$ and $L2$. **(3mks)**

22. (a) find A^{-1} the inverse of matrix $A = \begin{pmatrix} 5 & 6 \\ 7 & 9 \end{pmatrix}$ **(2mks)**

(b) Mr. Rotich bought 5 Biology books and 6 Chemistry book for a total of Ksh 2,440. Mrs. Njuguna bought 7 Biology books and 9 Chemistry books for a total of Ksh 3,560.

i) Form matrix equation to represent the above information. **(1mk)**

ii) Use matrix method to find the price of a Biology book and that of Chemistry book. **(4mks)**

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c) A school bought 36 Biology books and 50 Chemistry books. A discount of 5% was allowed on each Biology book whereas 8% was allowed on each Chemistry book. Calculate the percentage discount on the cost of all the books. **(3mks)**

23. A bird flies from tree P to another tree Q which is 50m on a bearing of 030° from P. From Q it flies 80m on a bearing of $N60^{0}W$ to another tree R and finally flies due South to another tree S which is on a bearing of 320° from P.

a.using the scale 1cm = 10m, construct an accurate scale drawing showing the positions of P,Q,R, and S **(4mks)**

b.by measurement from your scale drawing determine;

i. the distance and bearing of R from P **(2mks)**

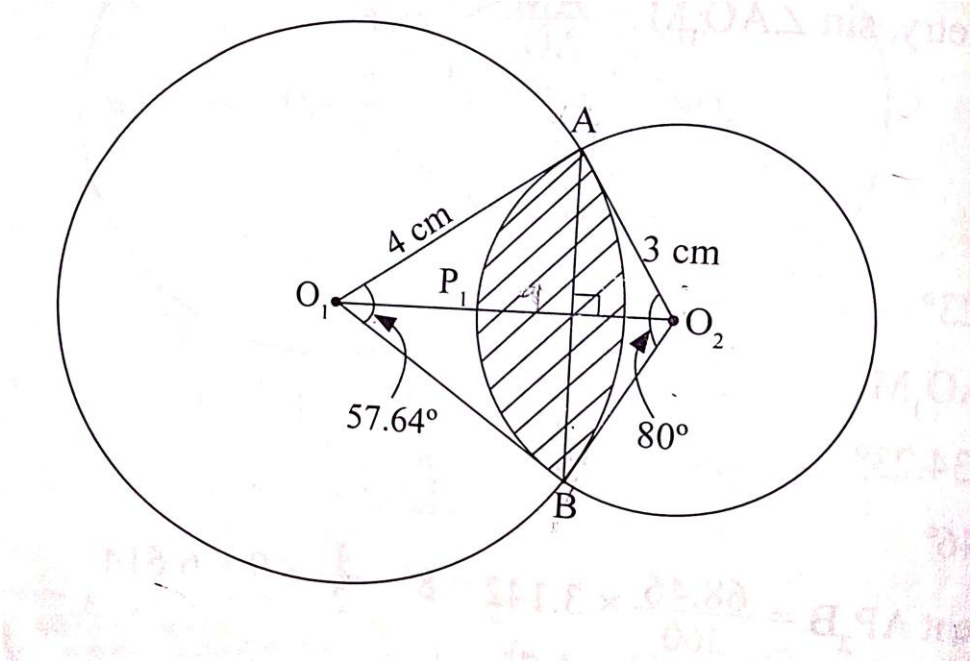
ii. the distance and bearing of S from Q **(2mks)**

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iii. the distance of S from P **(1mk)**

iv. the distance of S from R **(1mk)**

24.The figure below shows two intersecting circles with centres O_1 and O_2 having radii 4cm and 3cm respectively. Angle $AO_1B=57.64^0$ and angle $AO_2B=80^0$. O_1O_2 is a perpendicular bisector of AB.



Calculate:

(a)the length of **AB** **(3mks)**

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(b)the area of the shaded region **(7mks)**

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MATHEMATICS PAPER 2
MID-TERM 2
TIME –

INSTRUCTIONS TO CANDIDATES.
Answer all the questions in the spaces provided.

SECTION A

1.The base and perpendicular height of a triangle measured to the nearest cm are 6cm and 4cm respectively. Find:

a) The absolute error in calculating the area of triangle. **(2mks)**

b) The percentage error in the area answer to 1 d.p. **(2mks)**

2.Simplify: **(4mks)**

$$\frac{4}{\sqrt{5}+\sqrt{2}} - \frac{3}{\sqrt{5}-\sqrt{2}}$$

3.Solve the equation: **(3mks)**

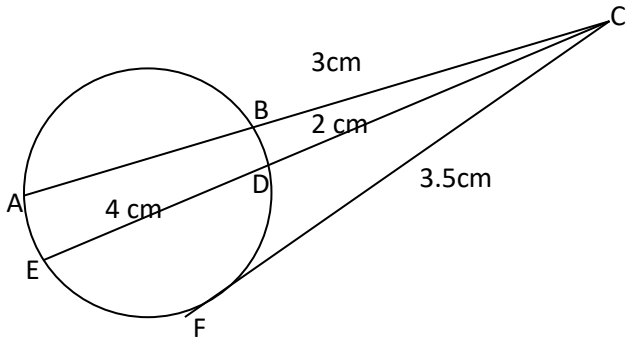
Log (x + 24) - 2 log 3 = log (9 -2x)

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4.Use completing square method to solve: **(3mks)**

$3x^2 + 15x - 6 = 0$

5.The figure below shows a circle with tangent CF and secant ABC and CDE, BC =3cm.



Find:

a) Length of CF **(2mks)**

b) Length of AB **(2mks)**

6.Mr. Man deposited 80000 in a bank account that paid compound interest at the rate of $8\ ^1/_3\%$ p.a, calculate the interest earned after 4 years if compounding was done quarterly. **(3mks)**

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7. A carpenter wishes to make a ladder with 15 cross pieces. The cross pieces are to diminish uniformly in length from 67 cm at the bottom to 32cm at the top. Calculate the length in cm, of the seventh cross piece from the bottom. **(3mks)**

8. Given that $A = \begin{pmatrix} 2 & 3 \\ 4 & 4 \end{pmatrix}$ $B = \begin{pmatrix} x & 1 \\ 2 & 3 \end{pmatrix}$ and that AB is a singular matrix. Find the value of x. **(3mks)**

9. Make S the subject of the formula. **(3mks)**

$$W = \sqrt{\frac{3\ s + t}{S}}$$

10. A varies partly as the square of R and partly as a constant. When A = 23, R= 3. When A=55, R=5. Find A when R=7. **(3mks)**

11. Solve the simultaneous equations: **(4mks)**

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$2x - y = 3$
$x^2 - xy = -4$

12. The cash price of a gas cooker is Ksh. 30000. A customer brought a cooker on hire purchase terms by paying a deposit of ksh 15000 followed by 18 equal monthly installments of ksh 1000 each annual interest, compound quarterly, was charged on the balance for a period of 18 months. Determine the rate of interest per annum. **(3mks)**

13. The size of an interior angle of a regular polygon is $3x^o$ while exterior is $(x - 20)^o$. Find the number of sides of the polygon. **(3mks)**

14. Find x if $\cos x = \sqrt{3}$ for $0 \leq x \leq \frac{180^o}{2}$. **(2mks)**

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15. The rate of the length corresponding sides of two similar tanks is 3˙5. the volume of the smaller tank is $8.1m^3$.Calculate the volume of the large tank. **(2mks)**

16. Given that log 2 = 0.3010 and log3 = 0.4771 solve log(5) **(3mks)**

SECTION B.

17. In a certain year income tax for all the income earned was charged at the rate shown below.

Monthly taxable pay In kshs	**rate of tax % in each**
1-9680	10%
9681-18800	15%
18801-27920	20%
27921-37040	25%
Excess over 37040	30%

Mr. Man earned a basic salary of kshs. 25000 and a house allowance of kshs. 10000 per month. He claimed a tax relief of shs1056 per month. She had a life insurance policy and she claimed the maximum relief of Kshs. 3000. Calculate:

a) Net tax **(7mks)**

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b) Other than tax, the following deductions are made:

i. A service charge of sh. 100

ii. Health insurance fund shs. 320

iii. A cooperative loan of sh 3200

iv. Burial bonovelent fund of ksh 200.

v. Risk fund sh 100

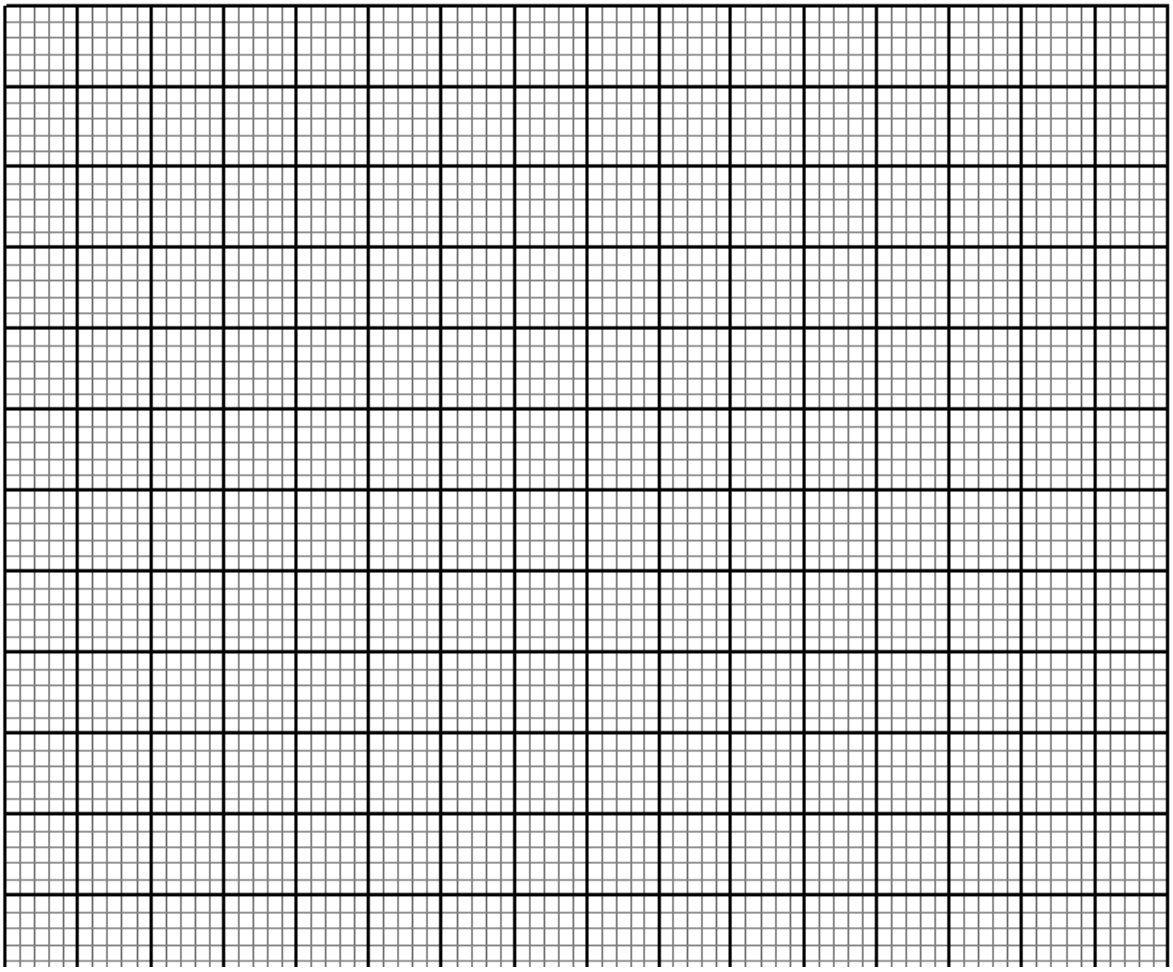
Calculate the net pay. **(3mks)**

18. Complete the table below for y = sin x and y=2cos x in the range $0 \leq x \leq 360^{o}$. **(2mks)**

x^{o}	0	30	60	90	120	150	180	210	240	270	300	330	360
Sin x	0.00		0.87	1.00		0.50		-0.5	-08.7		-0.87	-0.50	0.00
2 cos x		1.73	1.00	0.00		-1.73	-2.00			0.0	-1.73	1.73	2.00

a) On the grid provided, plot on the same axes the graphs of y=sinx and y = 2 cos x. **(4mks)**

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b) Use your graph above to:

i. Determine the value of $\cos 72^{o}$. **(1mk)**

ii. Determine the value of $\cos 48^{o}$. **(1mk)**

iii. Determine the angle whose sin is 0.26. **(1mk)**

iv. Determine the value of x for which $\sin x = 2 \cos x$. **(1mk)**

19. Construct triangle ABC sides AB=8cm BC= 6cm and $< ABC = 90^{o}$. **(3mks)**

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ii) Inscribe a circle and measure its radius. **(4mks)**

iii) Calculate the area inside the triangle but not part of the circle. **(3mks)**

20. Three quantities X, Y and Z are such that x varies directly as the square root of y and inversely as the fourth root of Z when x=64, Y=16, Z=625.

a) Determine the equation connecting X, Y and Z. **(4mks)**

b) Find the value of Z when y=36 and x=160. **(2mks)**

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c) Find the percentage change in x when Y is increased by 44%. **(2mks)**

21. The first, fifth and seventh terms of an A.P corresponds to the first three consecutive terms of a decreasing G.P. the first term of each progression is 64, the common difference if the A.P is d and the common ratio of the G.P is r.

a) Write two equations involving d and r. **(2mks)**

ii) Find the value of d and r. **(4mks)**

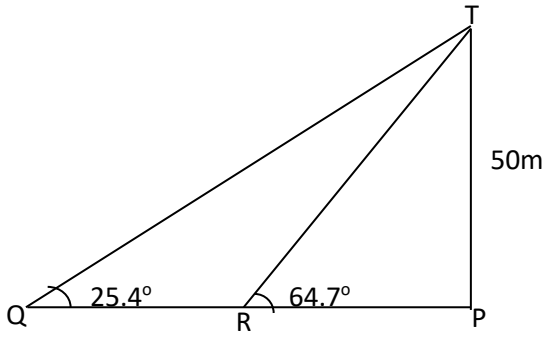
b) Find the values of the first 10 terms of:

i) The A.P **(2mks)**

ii) The G.P **(2mks)**

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22. The figure below shows the position of a boat Q which is observed sailing directly towards the pillar P at the base of a vertical cliff PT. the angle of elevation of the top of the cliff from Q is 25.4°. After 14 seconds the boat is at R and the angle of elevation of Y is now 64.7°.



If the cliff is 50m high, calculate:

i.The distance PQ. **(2mks)**

ii. The distance QR **(4mks)**

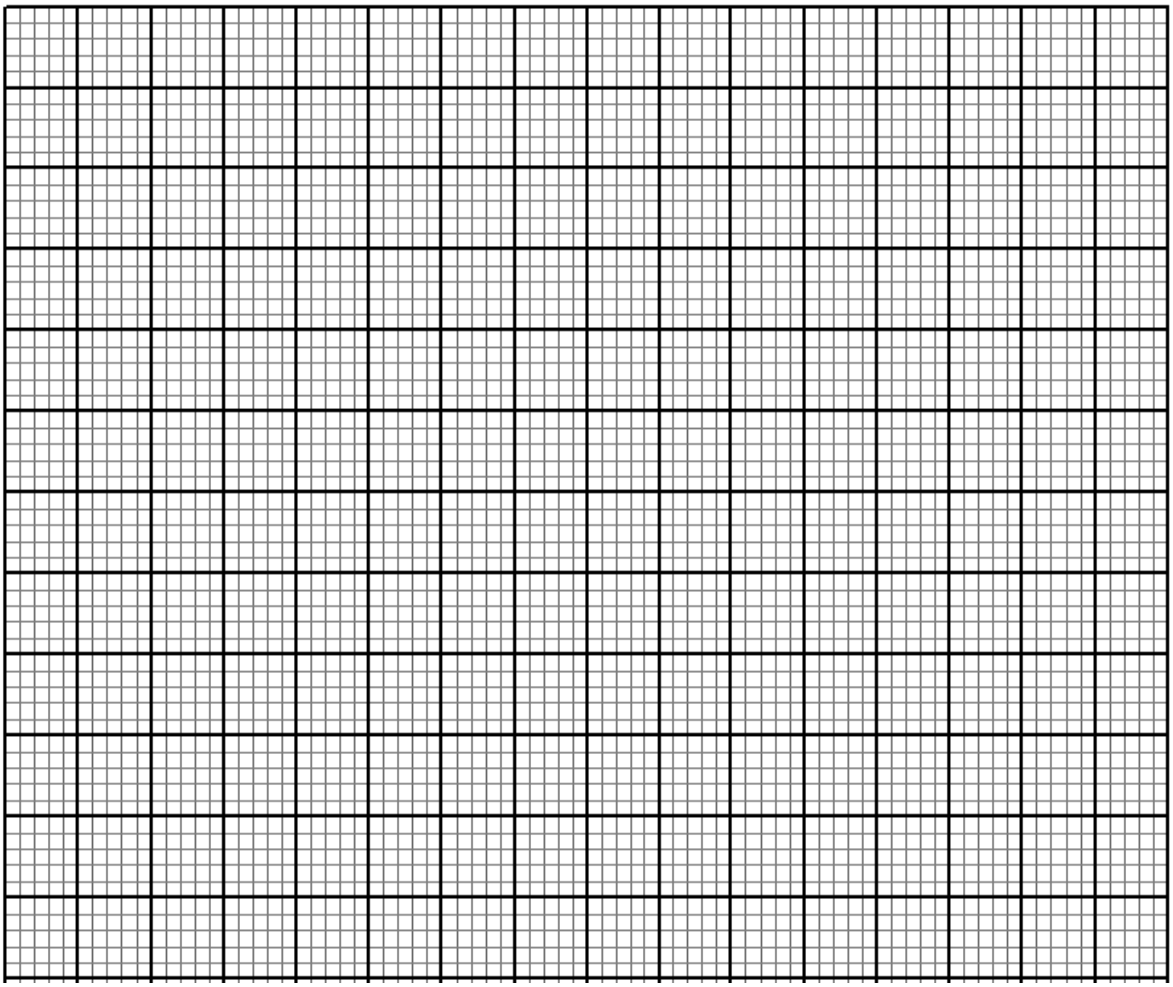
iii. The speed of a boat in km/h.

23. Complete the table below for the equation $y = x^2 - 4x + 2$ **(2mks)**

X	0	1	2	3	4	5
Y						

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b) On the grid provided draw the graph:
$y=x^2- 4x+2$ for $0\leq x\leq 5$.



Use 2cm to represent 1 unit of the x axis and 1 cm to represent 1 unit on the y axis. **(3mks)**

c) Use the graph to solve the equation. **(2mks)**
$x^2-4x+2=0$

d) By drawing a suitable line, use the graph in (b) to solve the equation. **(3mks)**
$x^2-5x+3 =0$

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24. Mbaka bought some plots at kshs 400,000 each. The value of each plot appreciated at the rate of 10% per annum.

a) Calculate the value of a plot after 2 years. **(2mks)**

b) After some time t, the value of the plot was ksh 558,400. Find t, to the nearest month. **(4mks)**

c) Mbaka sold all the plots he had bought after 4 years for kshs. 2,298,200. Find the percentage profit Mbaka made correct to 2 d.p. **(4mks)**

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PHYSICS

PAPER ONE

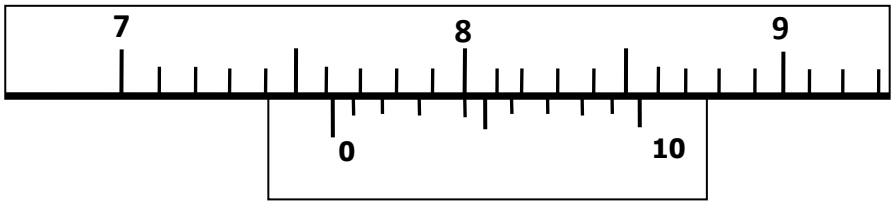
FORM 3

TIME: 2 hours

Instruction : Answer all questions

SECTION A (25 MARKS)

1.The figure below shows a vernier calipers scale



State the correct reading of scale if the instrument has a zero-error of **-0.02cm** **(1mk)**

2.Apart from the diameter and length, name another factor that determines the spring constant of a spiral spring. **(1mk)**

3. It **is** observed that a drop of milk carefully put into a cup of water turns the water whiteafter sometime. Explain this observation **(1mk)**

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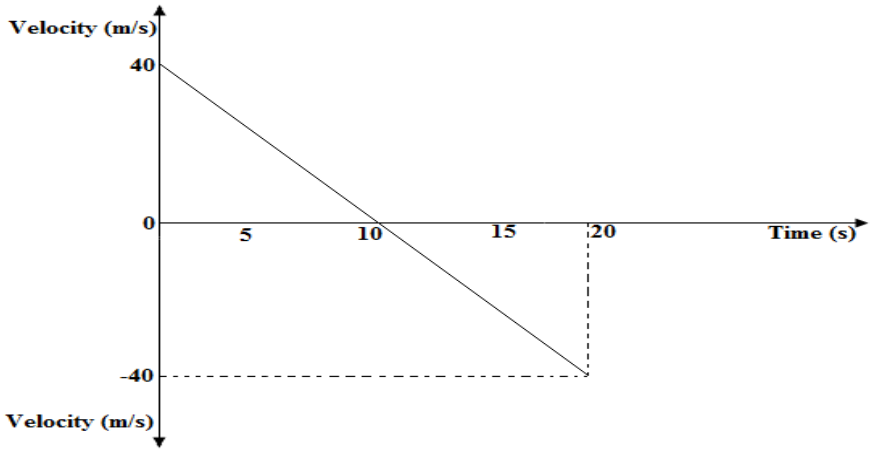
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4.A micrometer screw gauge which had an error of +0.02mm was used to measure the diameter of a spherical marble whose diameter was 3.67mm. Determine the actual reading of the gauge. **(2mks)**

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5.Figure 1 shows graph of velocity against time for a body in motion for 20 seconds. Study the graph and answer the questions that follow



Describe the motion of the object in the 20 seconds. **(2mks)**

……

……

……

……

5.When a steel ball is allowed to fall freely in a viscous fluid, it is observed to attain terminal velocity after some time. State the reason why the ball attains terminal velocity **(2mks)**

……

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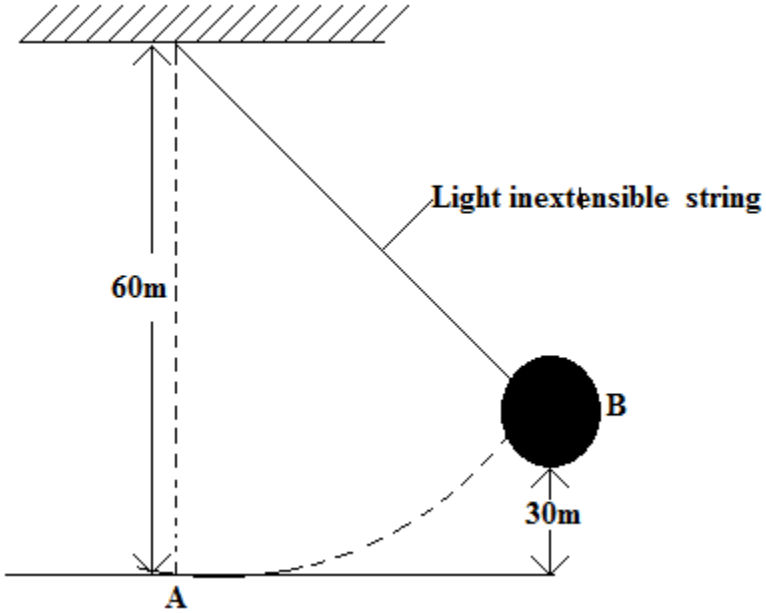
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6 A weightless non- uniform rod balanced by two forces of 5N and 4 N placed at either ends. The position of the centre of gravity of the rod is at 1.2cm mark..Given that the system is at equilibrium and the 5N force is acting at the 0 cm mark, determine the length of the rod **(3mks)**

7.Figure 3 shows a bob of mass 100g is suspended using a string of 50cm from a support and swings through a vertical height of 30 cm as shown below:

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Calculate the velocity of the bob as it moves from point A to B **(3mks)**

8. A highly inflated balloon bursts when transferred to a hotter environment. Explain this observation using kinetic theory of gases **(2mks)**

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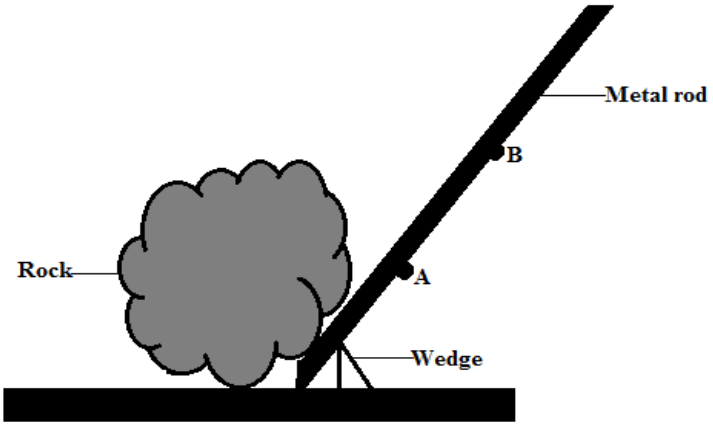
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9. FIGURE shows a metal rod used to roll a rock. Study the diagram and answer the questions that follow



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State with a reason at which point A or B on the metal rod where it is easier to roll the rock **(2mks)**

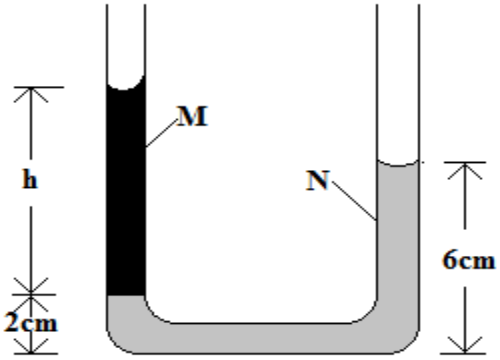
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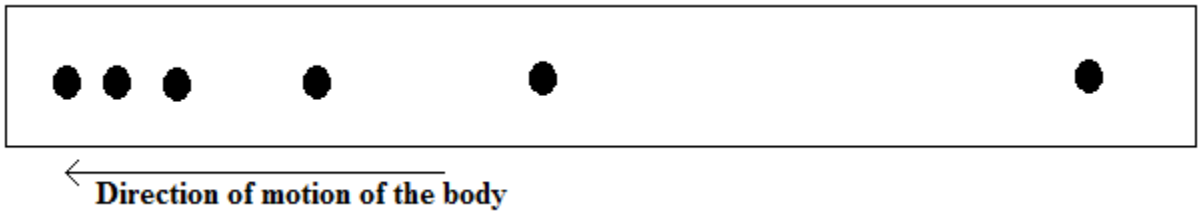
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10. Figure 6 shows two immiscible liquids M and N placed in a u-tube manometer. Liquid M has a density of $0.8g/cm^3$ while that of N is $1.2g/cm^3$. Study the diagram and answer the questions that follow



Determine the height h **(3mks)**

11. Figure 8 shows an extract from a ticker timer (not to scale) obtained from an experiment using a timer of frequency 50Hz



State whether the body is decelerating or not the acceleration of the body whose motion is represented in the tape. **(2mks)**

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SECTION B (55 MARKS)

12.(a) Distinguish between distance and displacement. **(1mk)**

……

……

……

(b) Differentiate speed from velocity. **(1mk)**

(c) A body accelerates uniformly from initial velocity**, U** to the final velocity **V**, in time **t**, the distance traveled during this time interval is **S.** If the acceleration is shown by the letter **a**, show that;

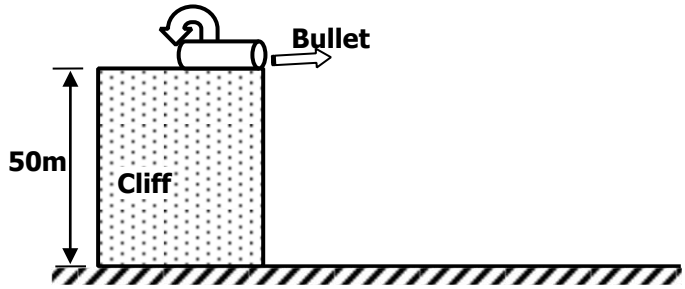
i) $\mathbf{V = U + at}$ **(2mks)**

ii) $\mathbf{S = Ut + \frac{1}{2} at^2}$ **(2mks}**

(iii) $\mathbf{V^2 = U^2 + 2aS}$ **(2mks)**

(d) A bullet is fired horizontally at a velocity of 400m/s from a cliff which is 50m tall as shown below.

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On the diagram draw the trajectory of the bullet until it comes to rest. **(1mk)**

(i) Find the time taken for the bullet to hit the ground. **(2mk)**

(ii) Find the range. **(2mk)**

13. (a) Define the State the law of conservation of energy. **(1mk)**

……

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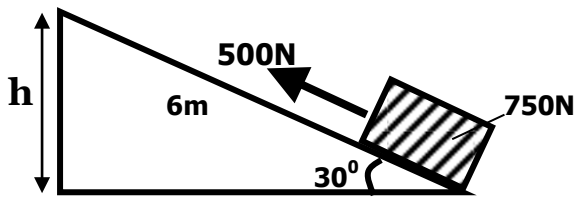
(b)Define the term work and state S.I unit Work **(1mk)**

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(c)A person pulls a box of weight **750N** up an inclined plane **6m** long using a force of **500N** as shown in figure below. Find the :



(i) The **VR** **(2mks)**

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(ii) The height **h** **(2mks)**

(iii) The work done by effort. **(2mks)**

(iv) The useful work done. **(2mks)**

(v) The efficiency of the plane. **(3mks)**

14.(a) Explain why unboiled egg stops faster than a boiled egg when both are rolled together on a flat horizontal surface with same velocity. **(2mks)**

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

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(c) A minibus of mass **1200kg** travelling at a constant velocity of **15m/s** collides with a stationary car of mass **600kg.** The impact takes **1.5** seconds before the two move together at a constant velocity for **25** seconds.

Calculate.

(i) The common velocity **(2mks)**

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(ii) Distance moved after impact **(2mks)**

(iii) The impulsive force **(3mks)**

(iv) The change in kinetic energy **(3mks)**

15.In an experiment to estimate the diameter of an oil molecule, an oil drop of diameter **0.05 cm** spread over a circular patch whose diameter is **20cm**
Determine:

(a) The volume of the oil drop. **(2mks)**

(b) The area of the patch covered by the oil **(2mks)**

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(c) The diameter of the patch covered by the oil. **(3mks)**

(d) State any assumption made in (b) above. **(1mk)**

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(e) State two possible sources or errors in this experiment. **(2mks)**

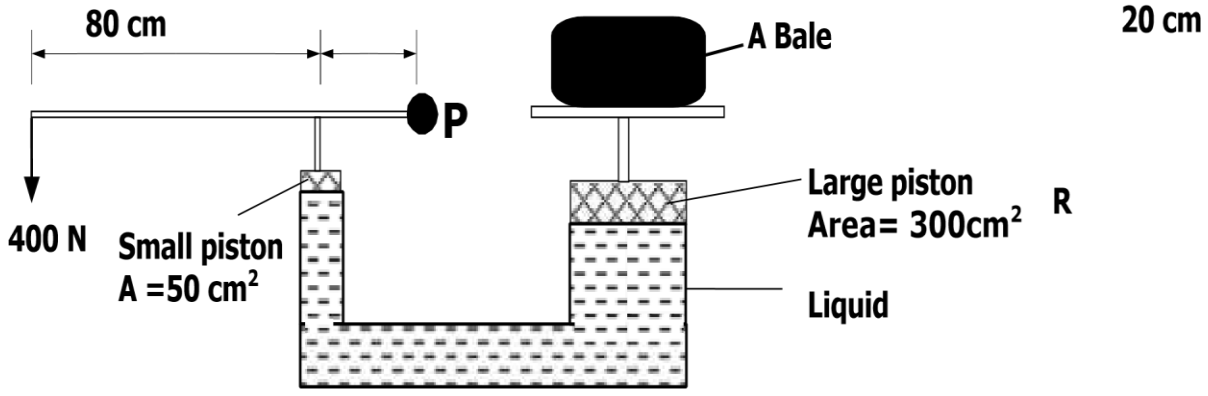
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16. Figure shows a hydraulic press system using a lever of negligible mass on the side of a small piston pivoted at point **P**. A force of **400N** is applied at **R**.



(a) Calculate the force **F** exerted by small piston on the liquid due to the lever. **(3mk)**

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(b) Find the weight of the Bale supported by the large piston. **(3mk)**

(c) State one properties of the liquid used as the brake fluid **(1mk)**

EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

Mid Term 3
PHYICS (232/2)
FORM THREE (3)
PAPER 2
Time: 2 Hours

Instructions to candidates

- This paper consists of two sections ***A*** and ***B***.
- Answer **all** the questions in the two sections in the spaces provided after each question
- All working **must** be clearly shown.
- Electronic calculators, mathematical tables may be used.
- All numerical answers **should be expressed** in the **decimal** notations.

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SECTION	QUESTION	MAX MARKS	ANDIDATE'S SCO
A	1	25	

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B	12	10	
	13	12	
	14	11	
	15	12	
	16	10	
	TOTAL	80	

SECTION A (30 marks)

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

1.A pinhole camera is used to take a photograph. What happens to the image formed if the hole is:

(i) Small **(1mk)**

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(ii) Large **(1mk)**

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2.Figure 1 below shows the features of a gold-leaf electroscope

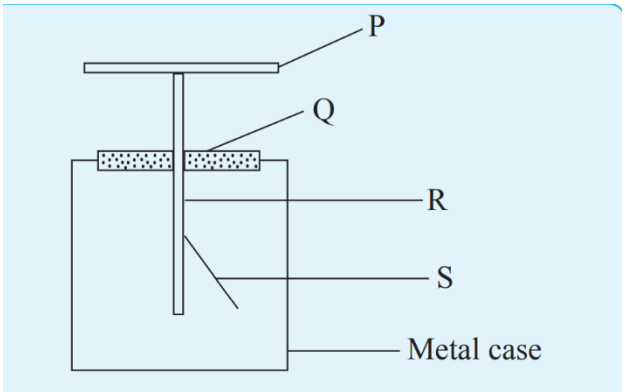


Figure 1

(i) Name the parts P and S. **(2mks)**

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(ii) Explain the purpose of the metal case. **(1mk)**

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3.Figure 2 below shows the set up for a simple cell.

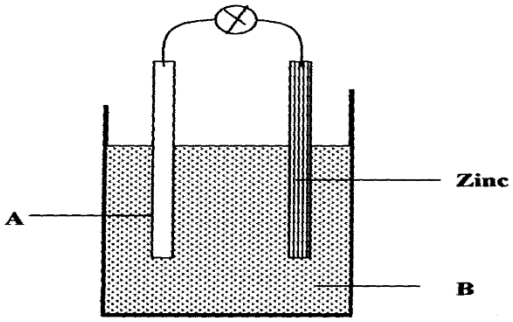


Figure 2

a) Name the Electrode A and the solution **B** **(2mks)**

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b) State two reasons why the bulb goes off after a short time **(2mks)**

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4.State two ways of increasing the strength of an electromagnet **(2mks)**

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5.Figure 3 below is used to study sound in vacuum.

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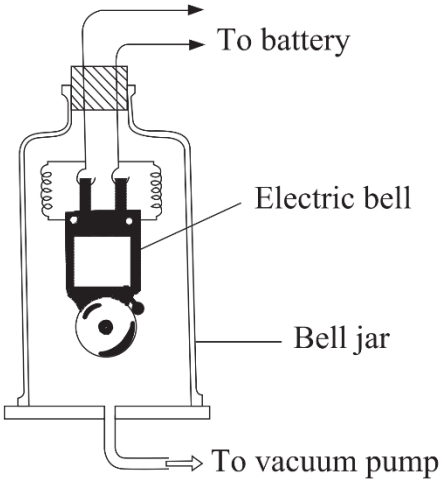


Figure 3

As air is gradually pumped out of the jar, it is noted that the sound from the bell slowly fades away to the extent of almost getting inaudible. Explain**.** **(1mk)**

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6.A boy stands 190 m from a high wall and claps his hands. If he hears an echo 1.3 seconds later, calculate the speed of sound in air**.** **(3mks)**

7.One way of demagnetizing bar is to place it in a solenoid in which an alternating current (ac) flows. How is the demagnetization achieved? **(1mk)**

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8.The frequency of a water wave is 6.4 Hz. If the wave travels a distance of 8 m in 4 seconds, find its wavelength. **(3mks)**

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9. State two factors that account for the concave mirror being suitable for use by dentists when inspecting teeth of a patient. **(2mks)**

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10. The speed of light in air is 3×10^8 m/s. Calculate the speed of light in a glass of refractive index 1.5. **(2mks)**

11. Explain why ammeters are always connected in series and voltmeters in parallel with the components in electrical circuits **(2mks)**

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SECTION B: 50 MARKS

*Answer **ALL** the questions in this section in the spaces provided*

12. (a) State the laws of refraction **(2mks)**

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(b) The graph in figure 4 below was obtained by form 3 students from an experiment they conducted to verify Snell's Law. Use the graph to determine the refractive index of the transparent material use. **(2mks)**

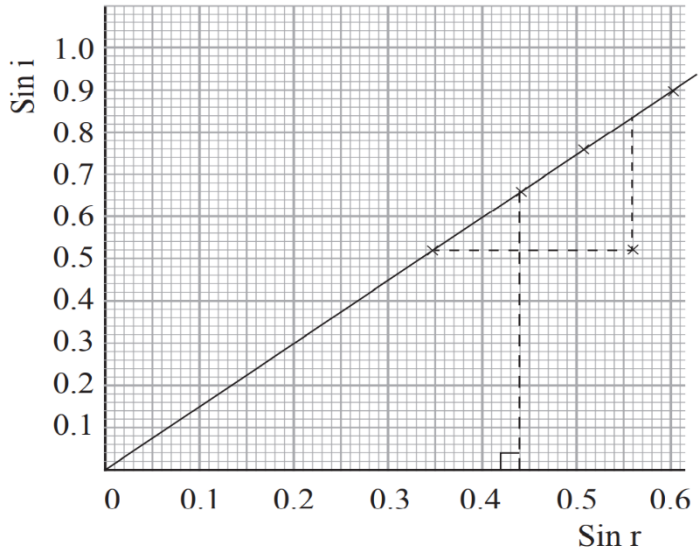


Figure 4

(c)(i) What do you understand by the term critical angle? **(1mk)**

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(ii) What conditions are necessary for total internal reflection to occur? **(2mks)**

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(iii) Diamond has refractive index of 2.4. Calculate critical angle. **(2mks)**

(iv) State one advantage of using glass prisms over mirrors in a periscope**.** **(1mk)**

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13. (a) State Ohm's law. **(1mk)**

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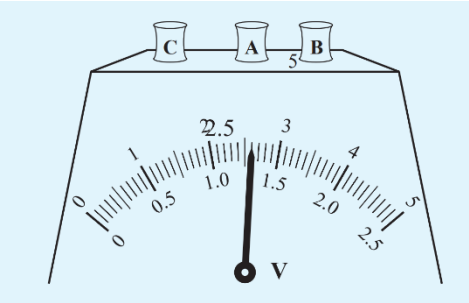
(b) What would be the effect on the resistance of a metal wire if its diameter is increase**?** **(1mk)**

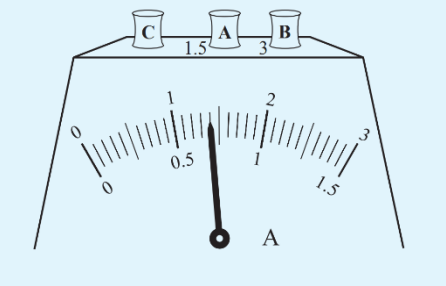
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(c) A student connected an ammeter and voltmeter in a circuit and obtained the results as shown in the meters below.





Determine the reading on each of the instruments if he used:

(i) The common terminal C and terminal A for the ammeter. **(1mk)**

(ii) the common terminal C and terminal B for the voltmeter. **(1mk)**

(d) Six resistors are connected in a circuit as shown in the figure 5 below.

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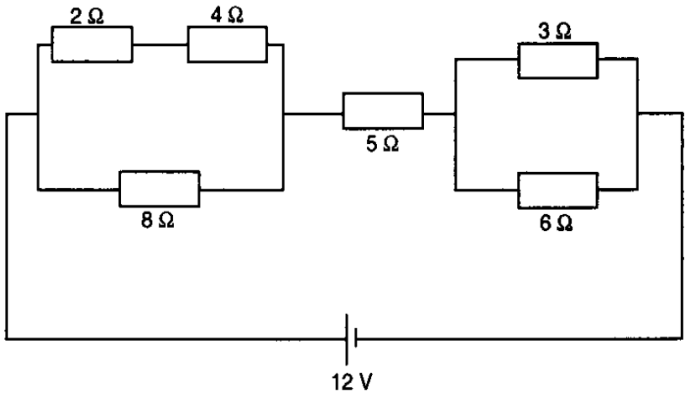


Figure 5

(i) Calculate total resistance **(3mks)**

(ii) Total current through the circuit **(2mks)**

(iii) The current through the 8 Ω resistor **(3mks)**

14. (a) State Fleming's left hand rule. **(1mk)**

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(b) Figure 6 shows a current-carrying conductor, gripped by the right hand. State what the direction of the thumb and the other fingers indicate. **(2mks)**

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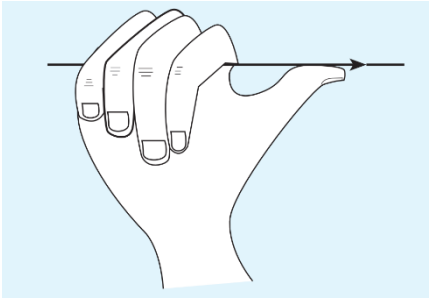


Figure 6

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(c) Describe how the type of polarity of a magnet could be experimentally determined. **(3mks)**

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(d) Figure 7 illustrates a circuit diagram of an electric bell.

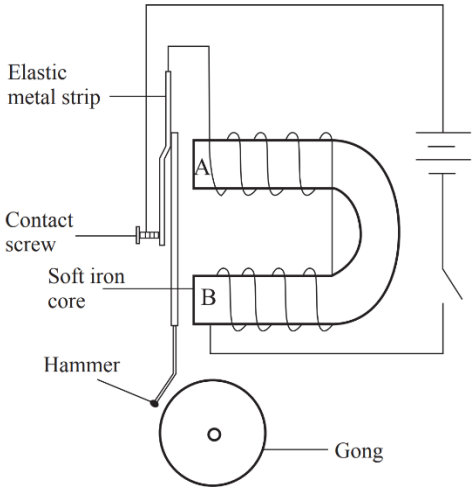


Figure 7

(i) Identify poles A and B of the electromagnet. **(2mks)**

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(ii) Explain how the bell works. **(3mks)**

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15. (a) State the condition under which a concave mirror forms:

(i)A virtual image **(1mk)**

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(ii) Image at infinity **(1mk)**

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(b) The length of a pinhole camera is 8 cm. It forms an image of linear magnification 0.25. Find the distance between the object and the camera **(3mks)**

(c) Illustrate by ray diagram construction the formation of the image for an object placed before a convex mirror. **(3mks)**

(d) An object and its image are on opposite sides of a mirror of focal length15cm.If the image height is 3 times that of the object:

(i) State what type of mirror it is. **(1mk)**

……

……

(ii) Determine the object and image distance **(3mks)**

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16. (a) Distinguish between longitudinal and transverse waves. **(2mks)**

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(b) Figure 8 shows a displacement distance graph of a transverse wave:

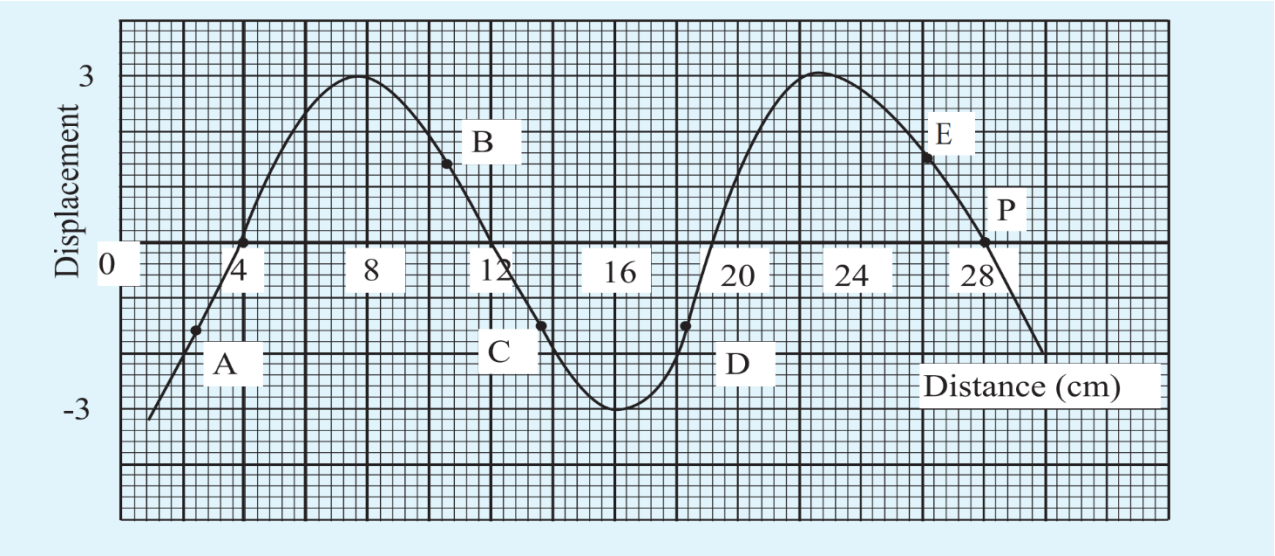


Figure 8

(i) Find the amplitude. **(1mk)**

(ii) Determine wavelength**.** **(1mk)**

(iii) If time taken by the wave to move from O to P is 0.14 seconds, find the frequency of the wave **(3mks)**

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#END

EXCELLING STUDENTS FORM 3 MID-TERM 3 SERIES 1 EXAMS

NAME: ……..……

SCHOOL: ……..

ADM NO: ……..... SIGN: ……..……. DATE: …….

232/3

PHYSICS

PAPER 3

FORM THREE

2½ HOURS

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MID TERM TWO EXAMINATION

INSTRUCTIONS

a) Write your **name, class** and **admission number** in the spaces provided above.
b) Answer all the questions in the spaces provided.

c) You are supposed to spend the first 15 minutes of the 2 ½ hours allowed for this paper reading the whole paper clearly before commencing your work.

d) Non – programmable silent electronic calculators and KNEC mathematical tables may be used.

e) Candidates are advised to record their observations as soon as they are made.

For Examiner's use Only

Question 1	b	d	e	f	g(i)	g(ii)	TOTAL
Maximum Score	1	7	5	3	2	2	20
Candidate's Score							

Question 2	a	f	g	h	i	j	TOTAL
Maximum Score	1	6	5	3	3	2	20
Candidate's Score							

GRAND TOTAL

QUESTION ONE

You are provided with the following:

- 2 dry cells
- A pair of cell holders
- A nichrome wire mounted on a metre rule
- An ammeter, A (0-1A)
- A voltmeter, V(0-3V)
- A jockey J
- A switch S
- 8 connecting wires

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Proceed as follows:

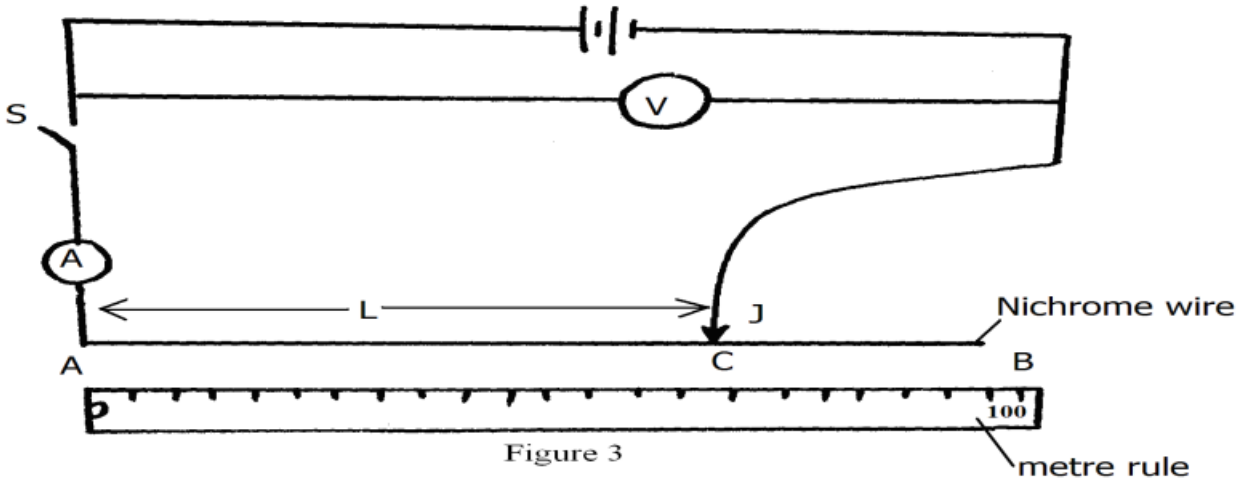


Figure 3

(a) Set the apparatus as shown in figure 3

(b) With the switch open, record the reading E, of the voltmeter

E = ……V **(1mk)**

(c) Place the jockey, J , on the nichrome wire at 100cm mark. Close the switch, read and record the values of I (ammeter reading) and the corresponding values of V (voltmeter reading) in table 2

(d)Repeat (c) above for length, L = 70cm, 60cm, 50cm, 40cm and 20cm. Complete table 2 (7mks)

L (cm)	100	70	60	50	40
I (A)					
V (V)					
E – V (V)					

Table 2

(e) Plot a graph of **(E – V) (V) (y axis)** against **I(A)** **(5mks)**

(f) Determine the slope of the graph **(3mks)**

(g) Given that E = V + Ir, from the graph determine

(i) The internal resistance, r, of the battery **(2mk)**

(ii)V when I is 0.3A **(2mk)**

QUESTION TWO (20 MARKS)

You are provided with the following;

- a rectangular glass block
- 4 optical pins
- 2 thumb pins
- a soft board
- a plain paper

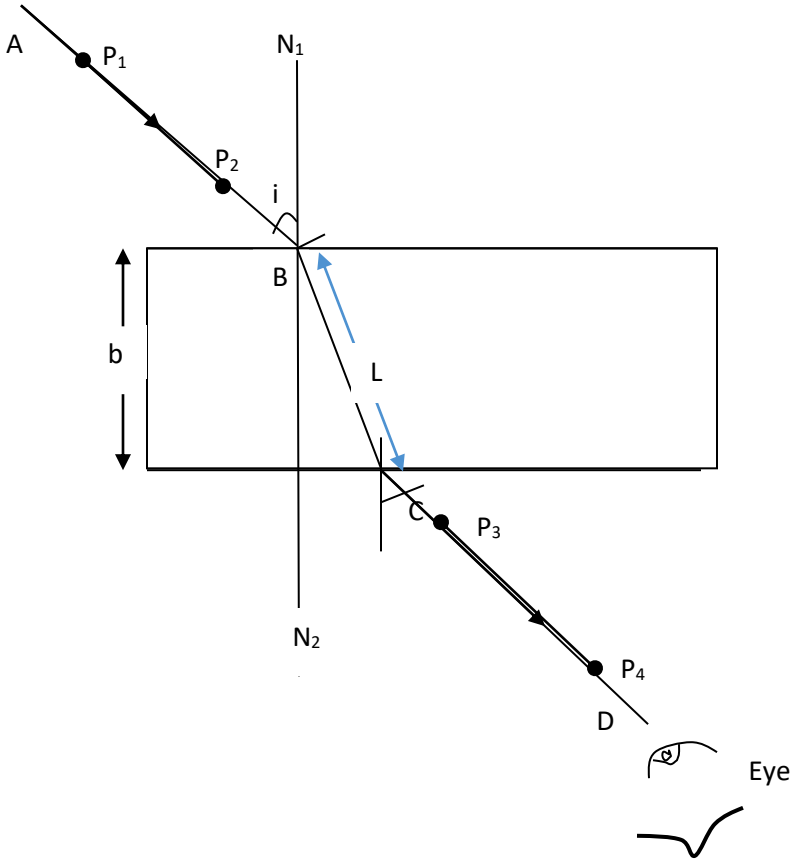
Proceed as follows:

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(a) Measure the breadth, b, of the glass block **(1mk)**

b= ……cm

(b) 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. Remove the glass block and construct a normal at B. Construct an incident ray AB of angle of incidence, i = 20^0



b) Replace the glass block carefully to its original position.

c) Fix two pins P_1 and P_2 on the line AB in such a way that they are vertical and are a distance away from each other.

d) Looking through the glass block through the other side, fix two pins P_3 and P_4 so that they are exactly in line with pins P_1 and P_2

e) Remove the glass block and draw the path of the ray ABCD using a pencil.

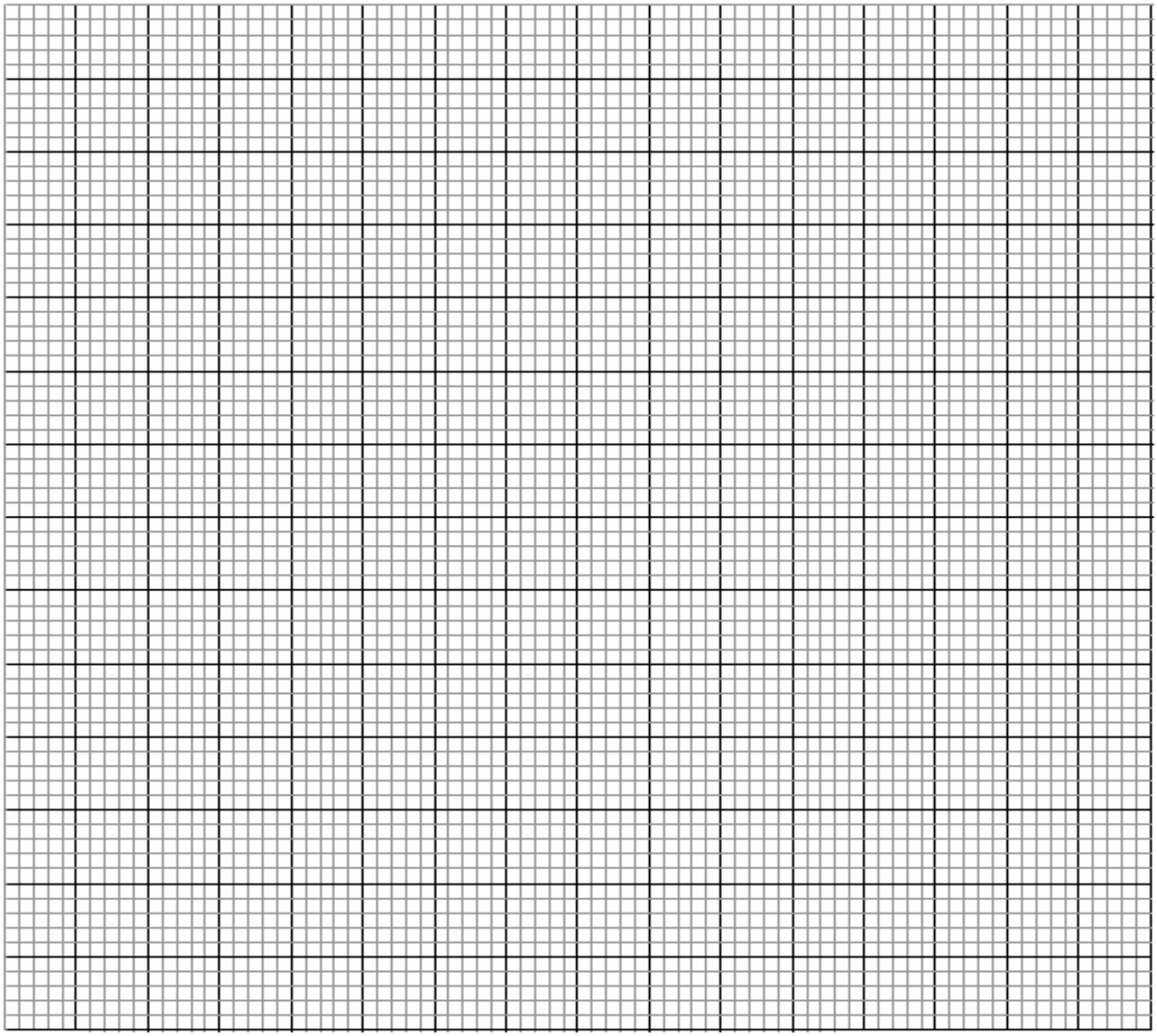
f) Measure the length L and record it in the table below. Repeat the procedure above for the angles of incidence given and fill in the results in the table below. **(6mks)**

Angle i^0	**L (cm)**	**L^2 (cm) ^{2}**	**$\frac{1}{L^2}$ (cm-^{2})**	**(Sin i^0)^2**
20				
30				
40				

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50				
60				
70				

g) Plot a graph of $\frac{1}{L^2}$ **(y-axis)** against **(Sin i)^2.** **(5mks)**



h) Calculate the gradient S of the graph. **(3mks)**

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i) Given that the equation of that graph is; $\frac{1}{L^2} = -\frac{1}{n^2 b^2}\left(\text{Sin}^2 i \right) + \frac{1}{b^2}$, determine the value of n **(3mks)**

j) Present your work sheet; attached to the exam paper. **(2mks)**

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