EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS *(13 SUBJECTS TESTED)*



EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

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ORDER OF THE 13 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. **HOMESCIENCE**
11. **KISWAHILI**
12. **MATHS**
13. **PHYSCIS**

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NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

END OF TERM 1

FORM 3

AGRICULTURE

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **admission number** in the spaces provided above.*
- *This paper consists of three section **A,B** and **C***
- *Answer **all** the questions in section **A** and **B***
- *Answer any **two** questions in section **C.***
- *Answers should be written in the spaces provided in this booklet.*

For Examiner's Use Only:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A		30	
B		20	
C		20	
		20	
	TOTAL	90	

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SECTION A (30 MARKS)
ANSWER ALL QUESTIONS.

1. State two ways in which the foreign exchange earned from agriculture is important to Kenya? **(2mks)**

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2. State four effects of excessive nitrogenous fertiliser application on tomatoes? **(2mks)**

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3. What is meant by the term preference and choice as used in agricultural economics? **(1mk)**

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4. State four disadvantages of shining cultivation? **(2mks)**

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5. What is meant by the term land tenure reform **(1mk)**

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6. An agronomist recommends 120kg N, 60 kg P_2O_5 and 80 kg K_2O after testing a soil sample. Calculate the amount of urea 46%N, single super phosphate 20% P_2O_5 and potassium oxide 50% K_2O that should be applied on the land **(4mks)**

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7. a) Identify the factors that a farmer at Kagumo will consider when choosing the tools to use when preparing his maize field. **(1½ mks)**

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b)What is the use of a spoke shave in a farm workshop? **(½ mk)**

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8. a) Classify goat breeds based on purpose for which they are kept. **(1½ mks)**

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b)Name any **three** breeds of sheep reared for wool in Kenya. **(1½ mks)**

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c) Differentiate the morphological characteristics of Dromedary and Bactrian species of camel. **(1½ mks)**

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9. a) Name any **four** ectoparasites affecting farm livestock. **(2mks)**

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b) Identify **three** ways by which farmers can apply acaricides when controlling ticks in livestock.**(1½mks)**

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10. a) Define the following terminologies as used in livestock breeding.

(i) Close breeding. **(½mk)**

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ii) Out breeding **(½ mk)**

b) Identify the different ways by which vaccines can be administered to farm livestock? **(2mks)**

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c) Name the chemical used in suppressing the growth of buds in calves. **(1mk)**

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d) Identify the **two** methods that farmers can use when manuring fishponds. **(1mk)**

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11. a) What name is given where hind legs come out first during parturition. **(½ mk)**

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b) Give **three** factors that would affect digestibility of food in livestock. **(1½mks)**

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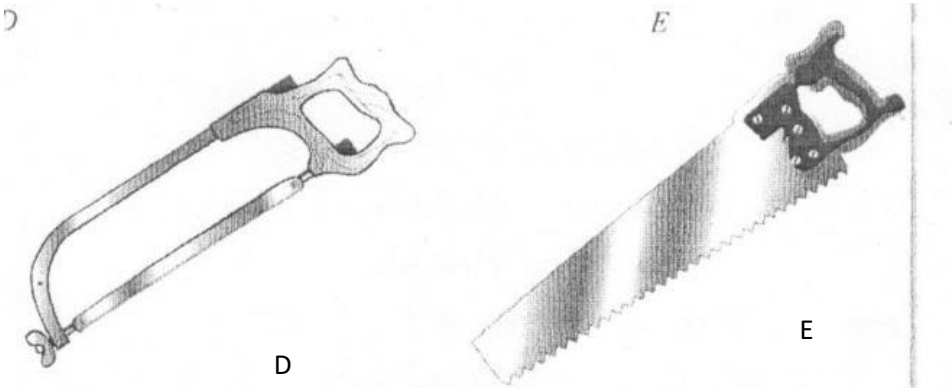
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SECTION B (20MARKS)

Answer ALL questions in the section.

12. Diagram D and E below are illustrations of workshop tools. Study them and answer the questions that follow.



a) Identify the tools marked D and E. **(2mks)**

D_____

E_____

b) State one function of each of the tool shown. **(2mks)**

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c) Give one maintenance practice of tool E. **(1mk)**

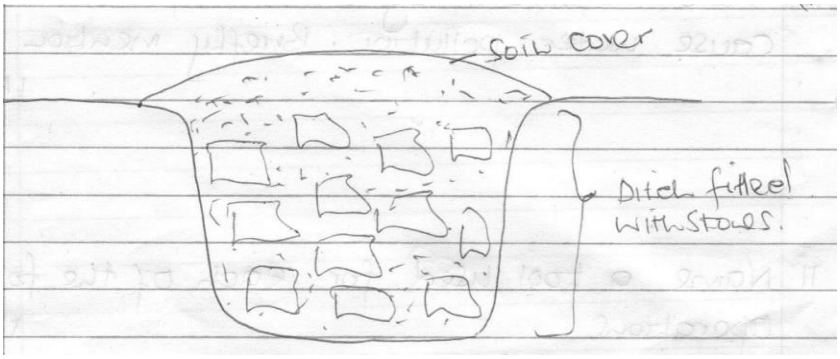
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13. a) Identify the method of drainage shown below. **(1mk)**



b) Other than the method shown in (a) above list other four methods used in draining farm land. **(2mks)**

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c) Outline four reasons for draining farm land. **(2mks)**

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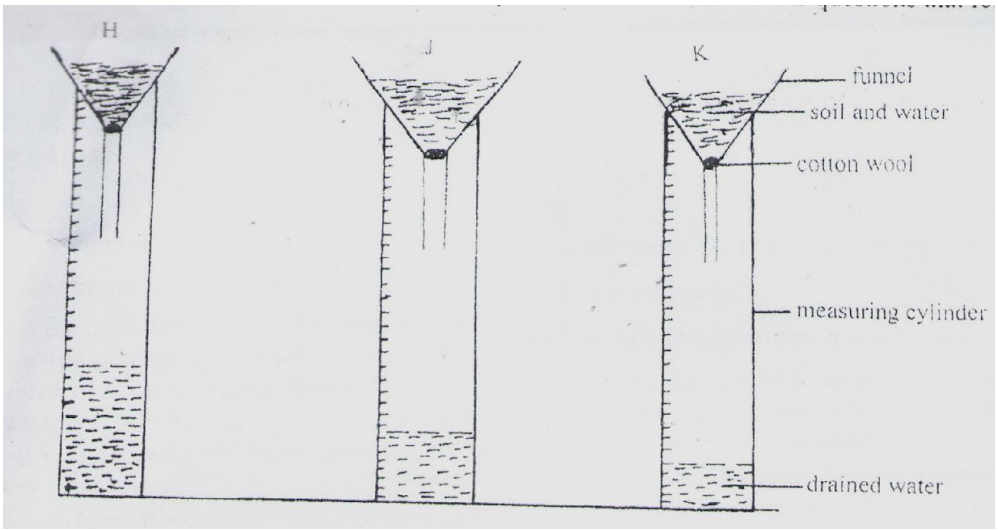
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14. The illustrations below represent an experiment to compare the porosity and water holding capacity of three of soils. Carefully study the experiment and then answer the questions that follow.



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a) Identify the soil in each of the funnel labeled. **(3mks)**

H _____

J _____

K _____

b) b) Which of the three types of soil can be said to have the highest porosity rate? **(1mk)**

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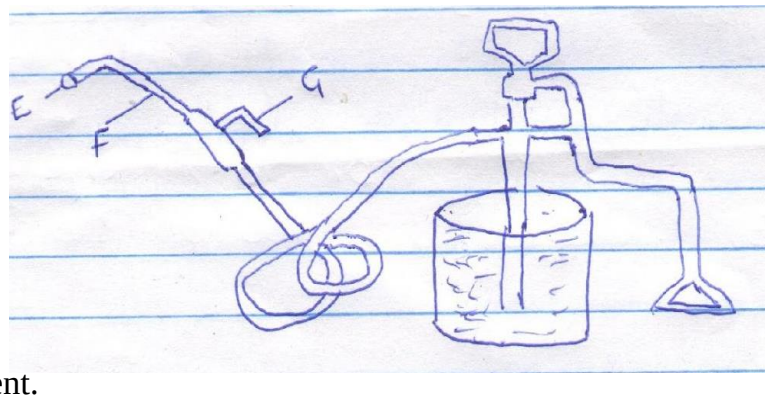
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c) Which type of soil would be suitable for planting paddy rice? **(1mk)**

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15. Below is a diagram of farm equipment. Use it to answer the questions that follows.



a) Identify the equipment. **(1mk)**

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b) State the use of the equipment. **(1mk)**

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c) Name the parts labelled E, F and G. **(3mks)**

E_____

F_____

G_____

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SECTION C (40 MARKS)

Answer any TWO questions in this section.

16. a) Describe the management practices that should be carried for a sow and piglets during the farrowing period. **(12mks)**

b) Explain reasons why a breeding boar may be culled. **(8mks)**

17.

a) Outline how six biotic factors influence agriculture. **(6mks)**

b) State the four aspects of rainfall that are important for crop growth. **(4mks)**

c) Explain five factors that determine the number of times secondary cultivation is done. **(5mks)**

d) Outline the advantages of minimum tillage. **(5mks)**

18. a) State four importance of water treatment. **(4mks)**

b) Explain the steps in chemical water treatment process **(16mks)**

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NAME: ……..

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BIOLOGY PP1
231/1
FORM THREE
TIME: **2HRS**

INSTRUCTIONS

- Write your answers correctly and clearly in the spaces provided
- Be keen on Spelling of Technical Terms

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TOTAL MARKS	STUDENT'S SCORE
80	

1. Give **TWO** unique features of members of Kingdom Monera **(2mks**

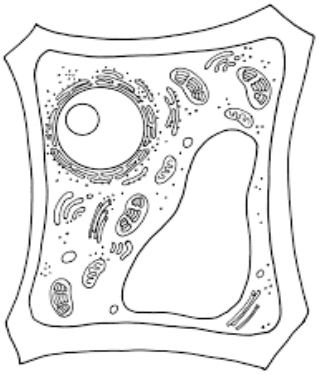
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2. The diagram shown below represents a cell



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Identify **TWO** reasons why this is a plant cell **(2mks**

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3. Name the organelle found in high number in the following structures **(3mks**

a) Palisade ……

b) Goblet cells ……..

c) Muscle ……..

4. Account for the following observations

i) A plant cell does not burst when placed in a hypotonic solution **(1mk**

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ii) An amoeba does not burst when placed in distilled water **(2mks**

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iii) Submerged hydrophytes have highly dissected leaves **(2mks**

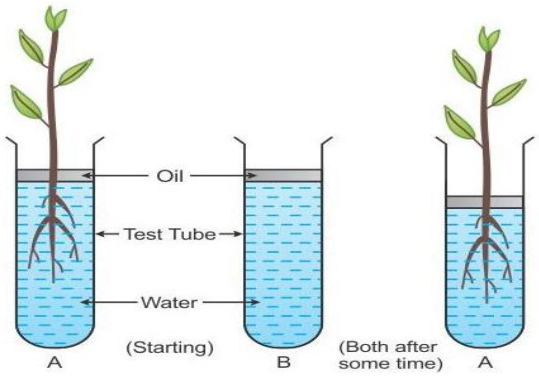
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5. The experimental set up shown below was used to study a physiological process



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a) State the function of oil in the experiment shown above **(1mk**

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b) Account for the observation made in **A** after the experiment **(2mks**

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c) What was the role of set up **B** in the experiment? **(1mk**

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6. a) Explain why plants in low altitude experience higher rate of growth than those in higher altitude areas **(2mks**

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b) A person climbing a mountain experiences increase in number of erythrocytes in their blood. Explain **(2mks**

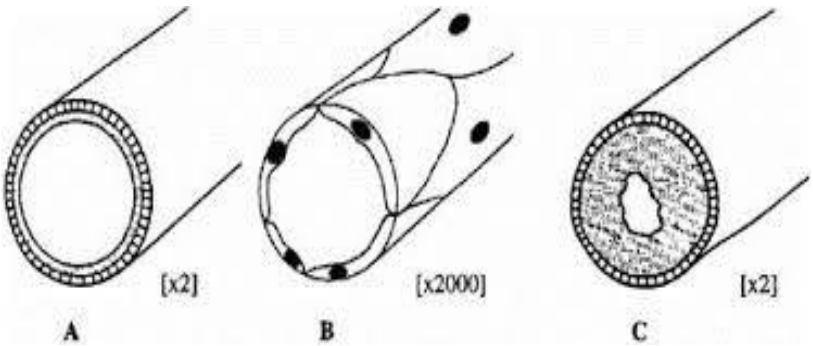
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7. The following are the blood vessels in a human body



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a) Which letter represents the blood vessel that: **(3mks**

i) Experiences pulsating action**……..……..**

ii) Has valves along its length **…….**

iii) Supplies blood to every tissue of the body **„„…….**

b) Why is vessel **B** the only one that experiences ultrafiltration? **(1mk**

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8. a) Define the term homeostasis **(1mk**

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b) State **TWO** ways plants expel their metabolic waste products

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9. Explain how sunshine contributes to having strong teeth **(3mks**

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10. State **TWO** roles of mucus in the stomach **(2mks**

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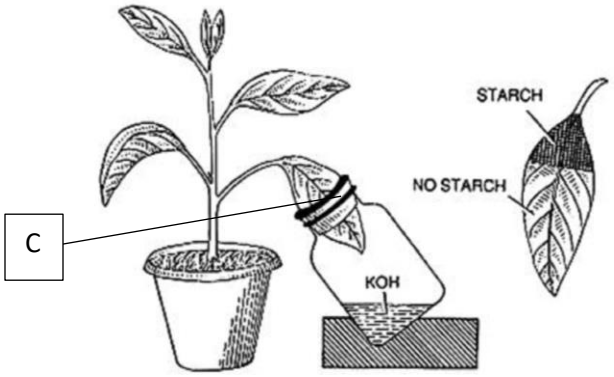
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11. The following is a set up used in a biological study. After a while a starch test was done on the leaf labelled **C** and the result is shown on the detached leaf



a) What was the aim of the experiment? **(1mk**

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b) Which colour observation on iodine solution informed the following conclusion?

i) Presence of starch **(1mk**

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ii) No starch **(1mk**

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c) Account for the observation made on part of Leaf **C** that was inside the bottle **(2mks**

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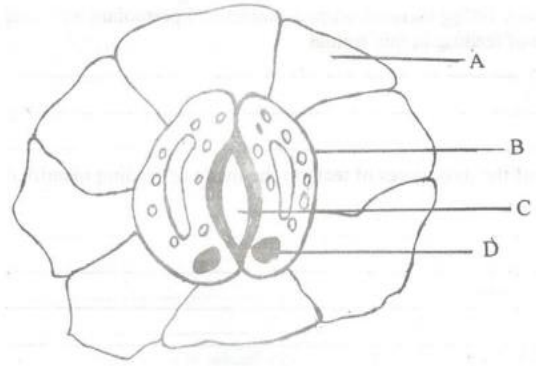
12. Name the parasites that cause the following human diseases **(2mks**

a) Bacterial human Pneumonia**…….**

b) Cholera **……..**

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13. The diagram shown below represents a structure found in plant leaves



a) State the importance of part **C** to photosynthesis **(1mk**

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b) State **TWO** unique structural features found in cell **B** and not in **A** **(2mks**

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14. Use the diagram shown below to answer the questions that follow



a) Give the identity of the instrument shown above **(1mk**

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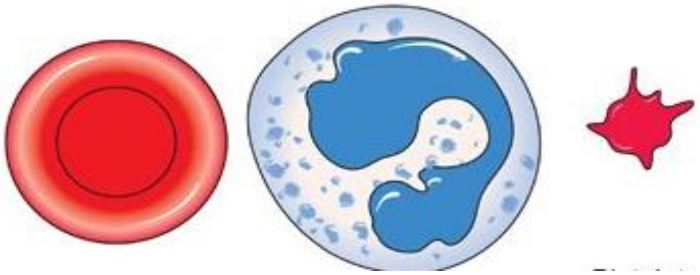
b) In which environment is the instrument used? **(1mk**

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15. The following are the three types of cells found in human blood



P **Q** **R**

a) State **TWO** roles of enzyme released when cell **R** bursts on exposure to air **(2mks**

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b) Give **TWO** ways cells represented by **Q** undertake their functions in the body **(2mks**

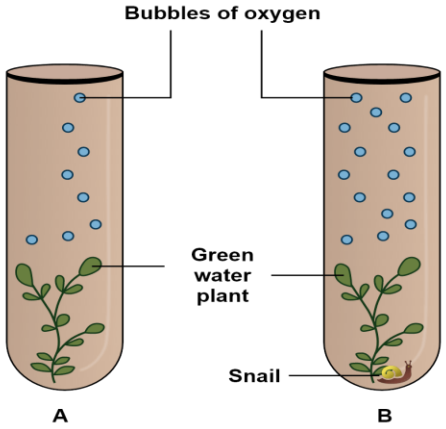
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16. Explain why there were more bubbles in set up **B** than **A** in the experiment shown below **(2mks**



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17. Use features shown of a common animal below to answer the questions that follow



a) Give **TWO** reasons to show that the animal above is carnivorous **(2mks**

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b) i) Name the class to which the animal above belong **(1mk**

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ii) Give **TWO** reasons for your answer in bi) above **(2mks**

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18. In a laboratory controlled experiment, students found that cells of a given tissue utilized 30 cm^3 of Oxygen and 20 cm^3 of Carbon (IV) Oxide was released during the same time.

a) Calculate the Respiratory Quotient **(2mks**

b) Why is fat not a desired respiratory substrate yet it yields a lot of energy **(2mks**

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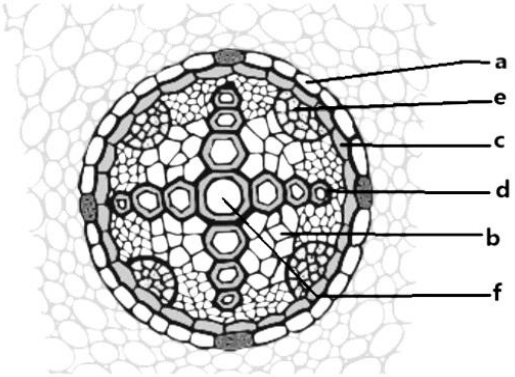
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19. The diagram below shows a section of a plant organ



a) State the function of part labelled **e** **(1mk**

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b) Give **TWO** reasons to show that the section above was obtained from a dicot root **(2mks**

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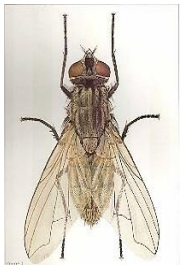
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c) Name the other type of tissue **d** apart from xylem vessels **(1mk**

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20. The specimens shown below were used by learners for a taxonomic study.



Housefly



Dragon fly

a) Samson indicated that the two specimen belonged to class Insecta. Give a reason. **(1mk**

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b) Use wings to construct a one-step dichotomus key for identification of the specimen **(2mks**

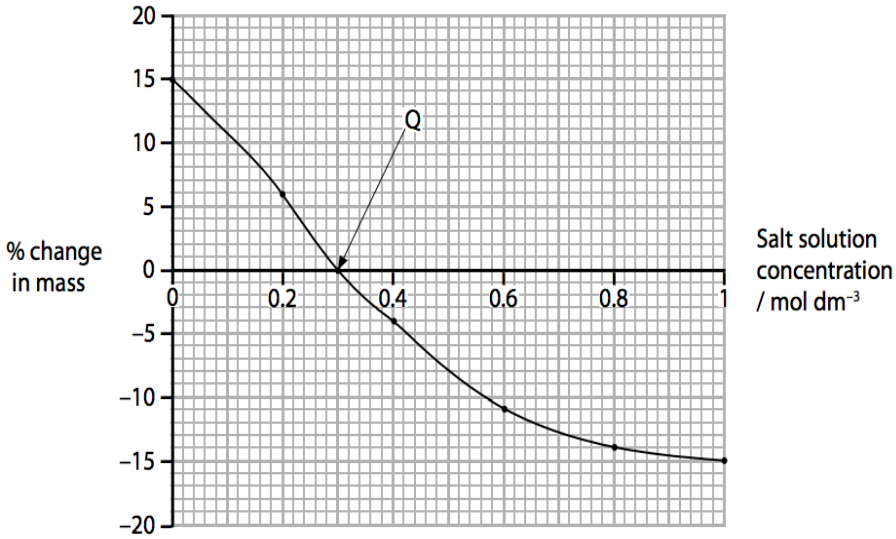
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21. The following graph was obtained after an experiment on potato strips



a) i) Which term is used to describe the cell when it experiences -15% change in mass? **(1mk**

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ii) From the graph give the normal cell sap concentration of the potato cells **(1mk**

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b) Account for the change in mass of potato strips at **Q** **(2mks**

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22. a) Name the part of the brain that regulates breathing **(1mk**

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b) Describe how intercostal muscles influence rib cage movements during inhalation **(4mks**

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23. a) Write a word equation for the process of photosynthesis **(1mk**

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b) Where do the following take place in the chloroplast? **(2mks**

i) Carbon fixation **…….. ……**

ii) Photolysis **……..……..…….**

24. a) State **TWO** roles of enzymes in the body **(2mks**

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b) Identify **TWO** factors that reduce rate of enzyme controlled metabolic reactions **(2mks**

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THE END

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SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

565 **BUSINESS STUDIES FORM THREE**

Time: 2 Hours

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

FORM THREE BUSINESS STUDIES

ANSWER ALL QUESTIONS IN THIS PAPER

1. State four economic elements that influence business operation **(4mks)**

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2. State four essential elements for a transport system to function efficiently **(4mks)**

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3. Apart from personal saving highlight four other sources of capital for a sole proprietorship **(4mks)**

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4. Give four differences between goods and services **(4mks)**

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5. Outline four circumstances under which a correctly drawn cheque can be dishonoured **(4mks)**

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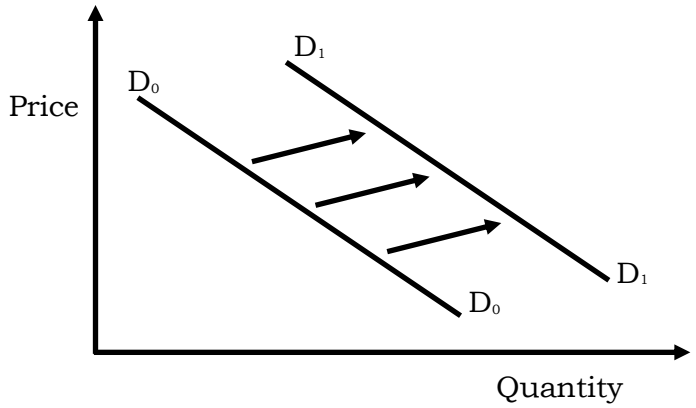
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6. The following are some of uses of office equipments. Indicate in the table below the most appropriate equipment one will use to perform the following functions

	Use	***Equipment***
	For trimming documents into required shapes and sizes	
	To make holes in papers to facilitate filing	
	To fold documents, place them in envelopes and seal the envelopes	
	For printing postage impression on envelopes	

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7. The diagram below shows a shift in demand curve.



From the above diagram state the factors that factors that could have contributed to the shift. **(4mks)**

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8. State the line of communication involved in each of the following **(4mks)**

(a) The Manager of Safaricom Ltd talking to the Manager of Zeraki Softwares Company Ltd.

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(b) A secretary asking for time off from her boss ……

(c) The Production Manager giving instruction to the secretary of the Sales Manager

……

(d) The store keeper giving explanations to the Chief Accountant ……

9. If a house worth Kshs. 1,200,000 was insured against fire for Ksh. 900,000 under the "with average clause" Fire occurred and damaged the house causing a loss of Kshs. 500,000. Determine the value of compensation due to the insured. **(4mks)**

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10. List four types of warehouses **(4mks)**

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11. Highlight four ways in which the government get involved in business **(4mks)**

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12. Outline **four** factors that should be considered of a means for transporting perishable goods. **(4mks)**

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13. Highlight **four** circumstances under which personal selling is appropriate**.** **(4mks)**

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14. Outline **four** benefits a firm will get by adopting division of labour and specialization in production **(4mks)**

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15. Outline **four** roles of Nairobi Securities Market in the economy**.** **(4mks)**

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16. State **four** factors that a trader should consider before offering a credit to a customer. **(4mks)**

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17. Highlight **four** features of an open – air market**.** **(4mks)**

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18. State **four** reasons why choice should be made in satisfying human wants**.** **(4mks)**

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19. Outline **four** reasons why the government issue licence to drivers. **(4mks)**

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20. Classify the following economic resources**.** **(4mks)**

RESOURCE	CLASSIFICATION
Oil	
Ship captain	
Hydroeletric power plant	
Standard gauge railway	

21. (a) Explain **five** roles of entrepreneurship to the economy of Kenya**.** **(10mks)**

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(b) Explain **five** external environment factors that may influence the operations of a business positively**.** **(10mks)**

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EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

CHEMISTRY PAPER 1(233/1)

FORM THREE (3)

TIME: 2 HOURS

Instructions to candidates

(a) Write your name, stream, and admission number in the spaces provided above.

(b) Answer **ALL** the questions in the spaces provided, and working **MUST** be clearly shown

(c) This paper consists of **9 printed pages**; Candidates should check the question paper to ascertain that all the pages are printed as indicated, and that no question is missing.

FOR EXAMINERS' USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 28	80	

1. Chewing chalk has been used for many years to reduce excess acid in the stomach. The indigestion tablet often contains magnesium carbonate.

a) Write a chemical equation to show the reaction that occurs in the stomach when the tablet is taken **(1mk)**

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b) Give **two** other applications of acid-base reactions **(2mks)**

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2. A luminous flame of a Bunsen burner is bright yellow in colour. Explain this phenomenon **(1mk)**

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3. Differentiate between a mixture and a compound. **(2mks)**

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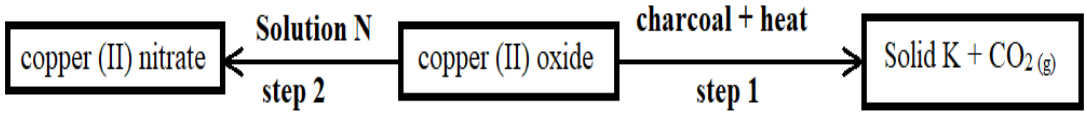
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4. Complete the table below. **(3mks)**

Representation	Atomic number	Number of neutrons	Mass number	Electron configuration
$^{39}_{19}M$		20		
$^{-}_{-}W$			31	2.8.5

5. The chart below represents a reaction scheme. Study it and use it to answer the questions that follow



a) Identify solution **N** and solid **K**. **(1mk)**

Solution **N** _____

Solid **K**_____

b) State an expected observation made in **step 1** **(1mk)**

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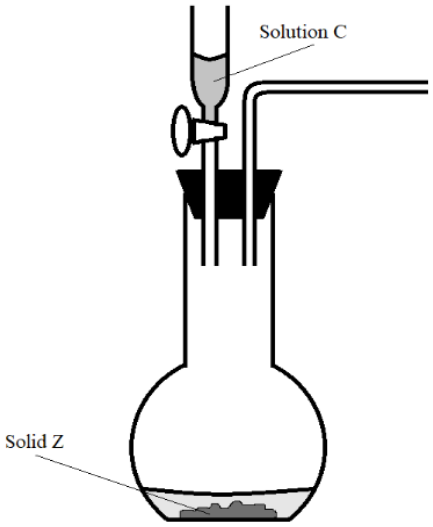
c) Name the type of chemical reaction in **step 2** **(1mk)**

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……

6. 20cm^3 sulphuric (VI) acid sample required 25cm^3 of 0.16M potassium hydroxide solution for complete neutralization. Determine the molar concentration of the acid. **(3mks)**

7. The diagram below represents part of a setup arranged for the collection of hydrogen gas in the laboratory. Study it and answer the questions that follow.



a) Complete **the diagram** to show how a dry sample of hydrogen can be collected. **(3mks)**

b) Give the most suitable identity of solid **Z**. **(1mk)**

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8. State and explain how the conductivities of sodium and potassium compare. **(2mks)**

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9. State **two** applications of the effect of impurities on the melting point of a substance **(2mks)**

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10. An element has two isotopes **Q** and **V** with mass numbers 28 and 29 respectively.

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

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b) Determine the percentage abundance of **Q** and **V** given that the relative atomic mass of the element is 28.09 **(3mks)**

11. Below, is a table of the first ionization energies of some metallic elements. The letters do not represent actual symbols of elements.

Metal	A	B	C	D
First ionization energy (kJ/mole)	494	418	519	376

a) Arrange the metals in their order of decreasing reactivity. **(1mk)**

……

……

b) Identify the metal with the highest melting point. **(1mk)**

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c) State **one** factor that affects the magnitude of ionization energy. **(1mk)**

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12.

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

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b) On the axes provided below, sketch the curve that verifies Boyle's Law. (2 marks)



13.

a) State **two** laboratory apparatus that are used to measure fixed volumes. **(2mks)**

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b) State the use of a desiccator in the laboratory. **(1mk)**

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14. Excess samples of magnesium and copper were burnt in separate vessels with equal and fixed volumes of air. Explain the difference in volume of air used in the two vessels at the end of the experiment.

(3mks)

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15. Study the table below and use it to answer the questions that follow. The letters do not represent actual elements.

Element	G	H	I	J
Atomic number	11	12	16	18

a) Compare the atomic sizes of elements **H** and **I**. Explain. **(2mk)**

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b) Identify an element that forms an oxide with acidic properties. **(1mk)**

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16. The statements below are attributes of hydrogen gas. Give reasons for the properties mentioned.

a) An advantage of inflating aeroplane tyres with hydrogen gas. **(1mk)**

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b) A disadvantage of inflating aeroplane tyres with hydrogen gas. **(1mk)**

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c) List **two** industrial uses of hydrogen. **(2mks)**

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17. A measuring cylinder was used for investigating a certain property of concentrated sulphuric (VI) acid. The setup was left open in the fume chamber for two days without interference. **Figure 1** illustrates the initial condition of the acid in the measuring cylinder.

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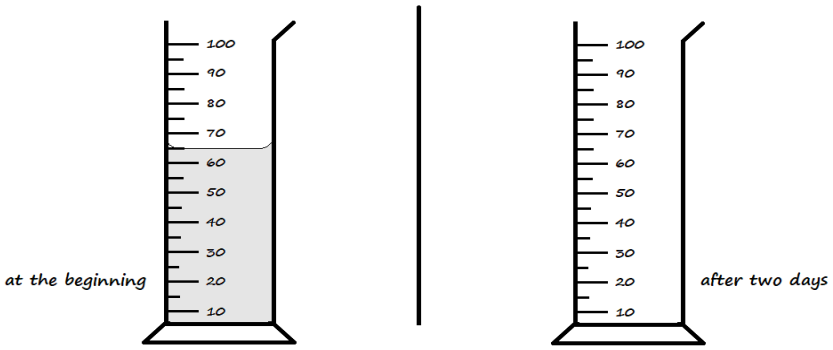


Figure 1 **Figure 2**

a) Draw the expected level of the acid in **Figure 2** after being left in the fume chamber for two days. **(1mk)**

b) Explain your illustration in the setup above. **(2mks)**

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18. Describe how the following reagents may be used to prepare a pure sample of lead (II) chloride in the laboratory: Distilled water, sodium chloride crystals, lead metal, dilute nitric (V) acid. **(3mks)**

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19. Rust affects the strength of iron structures. State **two** ways by which coating iron with a thin coat of aluminium paint prevents rusting. **(2mks)**

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20. Use dot (•) and cross (×) diagrams to represent electron bonding in the following substances.

a) Carbon (II) oxide, CO **(1½mks)**

b) Magnesium fluoride, MgF_2 **(1½mks)**

21. The diagrams below represent setups that were used to study properties of some halogens. Study them and answer the questions that follow.

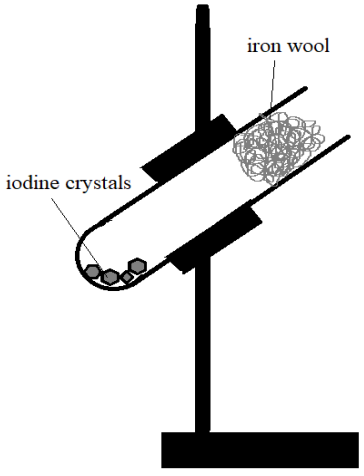


Figure 1

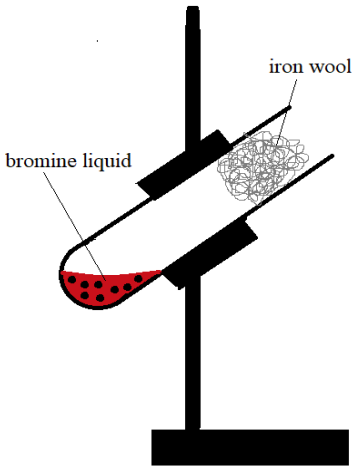


Figure 2

a) State the observation made on the iron wool in **Figure 2** during the experiment. **(1mk)**

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b) Name the compound formed in **Figure 1**. **(1mk)**

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c) State **one** precaution that should be observed when conducting the experiment above. **(1mk)**

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22. 120cm^3 of helium diffuses through a porous plug in 30 seconds. Determine the time required by 70cm^3 of nitrogen (IV) oxide to diffuse across the same plug **(2mks)**

(He = 4, N = 14, O = 16)

23. When carrying out titration, indicators are used to determine the endpoint.

a) What is an endpoint? **(1mk)**

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b) List **two** acid-base indicators that are suitable for use in titration in the laboratory. **(2mks)**

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24. The halogen compounds, hydrogen fluoride and hydrogen chloride have boiling points of 19.5^{o}C and -85.05^{o}C respectively.

a) State the expected physical state of hydrogen fluoride at s.t.p. **(1mk)**

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b) Explain the differences in boiling points between the two compounds. **(2mks)**

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25. The table below shows pH values of solutions **F**, **G**, **Y** and **Z**.

Solution	pH value
F	8.0
G	2.0
Y	12.0
Z	7.0

a) Which solution would react explosively with sodium metal? **(1mk)**

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b) State the expected colour of litmus solution in solution **Y**. **(1mk)**

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c) Describe how the pH value of solution **F** can be determined. **(2mks)**

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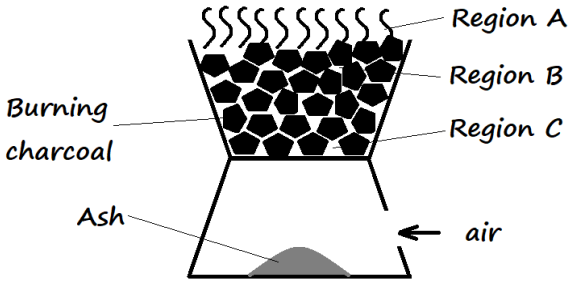
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26. A compound of carbon, hydrogen and oxygen contains 55% carbon, 9.01% hydrogen, and the rest oxygen. Determine the molecular formula of the compound, given that its relative molecular mass is 88. **(3mks)**

27. The diagram below represents a burning jiko.



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a) Write the equation for the reactions that occur in regions **A** and **B**. **(2mks)**

A _____

B _____

b) It is not advisable to leave a burning jiko overnight in a poorly ventilated room. Explain. **(1mk)**

_____

_____

28. The following table shows the products formed when nitrates of metals **J**, **Y**, and **W** are heated strongly.

Nitrate of	Products formed
J	Metal oxide + Nitrogen (IV) oxide + Oxygen
Y	Metal + Nitrogen (IV) oxide + Oxygen
W	Metal nitrite + Oxygen

a) Arrange the metals in their order of decreasing reactivity. **(1mk)**

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b) Which metal forms a soluble carbonate? **(½mk)**

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c) Give an example of nitrate **Y**. **(½mk)**

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NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

EXAMINATION

CODE451/1

SUBJECT: COMPUTER STUDIES

Paper 1

TIME $2\frac{1}{2}$Hours

INSTRUCTION TO CANDIDATES

- Write your name and index number in the spaces provided above
- This paper consists of **Two** sections **A** and **B**
- Answer **ALL** questions in section **A**
- Answer question16 and any other **THREE** questions from section **B**
- All answers should be written in the spaces provided on the question paper

FOR EXAMINER'S USE ONLY

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

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SECTION A (40 MARKS)

Answer ALL the questions in SECTION

1. Mention two functions of a file extension (**2mks)**

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2. Describe how data is recorded on optical storage media (**3mks**)

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3. What is normalization in databases **(2mks)**

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4.

(a) State three causes of data loss in computing (**3mks)**

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(b) List three precautions taken against crashing of hard disk **(3mks)**

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5. Describe the following terms as used in data security **(2mks)**

(a) Social Engineering

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(b) Patches

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6. Give two advantages of the higher number of pixels per square centimeter (**3mks)**

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7. Name four tools in Word processor that would help a user to minimize spelling mistakes when creating a document **(4mks)**

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8. A computer is built from three types of physical components: processors memories and I/O devices. State the functions of each of the above components (**3mks)**

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9. What is the function of the following Microsoft Access field properties (**2mks)**

(i) Caption

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(ii) Validation Rule

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10. During a computer lesson a student defined multitasking as a concept where a computer can process numerous tasks at the same time. Disagree or Agree with student then support your answer **(2mks)**

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11. Convert 12.125_{10} to binary number system **(3mks)**

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12. Identify the type of interfacing cables represented in Figure 1 and 2 **(2mks)**



Figure 1



Figure 2

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13. What is software License **(2mks)**

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14. State four non-printable guidelines supported by Ms-publisher **(4mks)**

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15. Mention three emerging issues that affects the use internet **(3mks)**

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SECTION B (60 MARKS)

16.

(a) State two differences between ones compliment and twos complement **(2mks)**

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(b) Give four benefits of using binary representation in computing (**4mks)**

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(c) 1001_2 is a binary representation of a negative number. Workout the likely positive equivalents in base ten **(3mks)**

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(d) Convert 765_8 to Hexadecimal number system **(3mks)**

(e) Use twos complement to subtract 15_{10} from 0110_2 **(3mks)**

17.

(a) The table below is an extract from a spreadsheet program showing transaction details of Ferry uniform Distribution. Use it to answer the questions that follow

	A	**B**	**C**	**D**	**E**
1	Customers	Items Bought	Price	Quantity Bought	Date Bought
2	Leeny Distributors	Tunic	600	1000	06/03/2021
3	Maky Distributors	Stocking	300	1500	07/04/2021
4	Top Hill Distributors	Pullover	1000	7000	14/05/2021
5	Kagiri Distributors	Tie	150	3000	13/06/2021
6	Lonny Distributors	Shirt	500	2000	23/06/2021
7	Maky Distributors	Shirt	500	1500	30/06/2021

(i) Identify two data types used to represent data in the table above **(2mks)**

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(ii) State how cell E7 will be presented using R1C1 style **(1mk)**

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(iii) Use a function to get the following

- Average price **(1mk)**

- The item with the least price **(1mk)**

(iv) Using absolute cell referencing. Determine the new cost of Pullover and tie given that a discount is awarded on each item bought as follows **(4mks)**

Price equal or above 500 = 5%

Price of below 500 =10%

(b) Mention three ways of disseminating processed information to the users **(3mks)**

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(c) Outline three methods that can be used to prevent transcription errors during data entry **(3mks)**

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18.

(a) Why is a control panel referred to as a computer toolbox? **(2mks)**

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(b) State three functions of the recycle bin **(3mks)**

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(c) Give the functions of the following disk management operations **(3mks)**

(i) Disk defragmentation

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(ii) Disk partitioning

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(iii) Formatting

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(d) Describe the following features of Spreadsheet

(i) Automatic recalculation **(2mks)**

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(ii) WhatIF **(2mks)**

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(e) What is filtering **(1mk)**

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(f) Name four number format applied in Microsoft Excel **(2mks)**

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19.

(a) Describe the following data types as supported by Ms-Access **(3mks)**

(i) Calculated

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(ii) Auto number

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(iii) Attachment

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(b) Briefly describe how a relationship can be established between **(3mks)**

(i) Husband and Wife

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(ii) Student and Subject

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(c) Explain four types of action queries **(4marks)**

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(d) The table shown below is an extract from a database use it to answer questions that follow

PNo	National ID	First Name	Last Name	Date Employed	Salary	Gender
201	12234	Faith	Karembo	16-03-2009	4000	M
203	12454	Alice	Malaika	16-03-2010	3700	F
207	22734	Daniel	Nzomo	16-03-2012	6000	M
208	12234	Patricia	Moraa	16-03-2011	3800	F

(i) Choose the most appropriate data type for Gender and PNo **(2mks)**

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(ii) Given that table name is employee Records write a sql statement that can be used to display the following fields in the dynaset First Name, PNo, Last Name and Salary >5000 **(3mks)**

20.

(a) State four ways in which computer virus can be prevented **(4mks)**

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(b) Give two reasons to justify why unstable power supply is considered as security threat **(2mks)**

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(c) Briefly explain how software piracy can be minimized especially in developing countries **(3mks)**

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(d) Distinguish between the following pair of terms **(4mks)**

(i) Uploading and Downloading

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(ii) Blog and Portal

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(e) Describe two factors that affects the provision of internet based services **(2mks)**

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EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

C.R.E

FORM THREE

TERM 1

TIME $2^{1}/_{2}$ HR

INSTRUCTIONS: Answer **ALL** the questions

1a) Describe the background to the call of Moses. **(8mks)**

b) Explain the Israelites new understanding of God from the Exodus to the renewal of Covenant (Exodus 12:1-3) **(6mks)**

c) What do Christians learn about the nature of God from the Exodus? **(7mks)**

2a) Outline the angel's message to Zechariah **(8mks)**

b) State the similarities between the Magnificat and the Benedictus **(5mks)**

c) Identify seven ways in which Christians play the role of John the Baptist today. **(7mks)**

3a) Outline six teachings of Jesus on the cost of Discipleship .Lk.9:51-62. **(5mks)**

b) Relate the parable of the widow and the unjust judge Lk 18:1-18 **(8mks)**

c) What lessons can Christians learn from the parable of the Pharisees and the tax collector? **(6mks)**

4 a) Explain how the unity of believers is expressed I the image of the bride **(8mks)**

b) Give six reasons why the gifts of the Holy Spirit brought disunity at Corinth **(6mks)**

c) Outline ways in which Christians promote unity in Kenya**.** **(6mks)**

5a) Identify the role-played by seers in traditional African Society. **(7mks)**

b) Identify ways in which a Christian can identify the true servant of God. **(6mks)**

c) Outline the importance of prophets in the New Testament. **(7mks)**

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NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

ENGLISH (101)

FORM THREE (3)

TIME: 2 HOURS

- Write your name and Index number in the spaces provided above. Sign and write the date of examination in the spaces provided above.
- Answer ALL the questions in this question paper
- ALL your answers must be written in the spaces provided in this question paper.

EXAMINERS USE

Question	Maximum Score	Candidates Score
1	20	
2	20	
3	20	
4	20	
TOTAL	**80**	

COMPREHENSION **(20 marks)**

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

Gender is probably the most important social issue in the world today. It affects and influences every aspect of our lives: politics, economics, religion and leisure. People in the 21st Century strongly believed that every project must get the gender dimension right in order to succeed. But what is gender?

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Basically, gender is the expectation that people should do or not do certain things according to their sex. Every normal human being is either female or male. This is sex and it is a biological fact. Indeed, sex is the most conspicuous difference between human beings. The moment we look at a person, we can tell whether that person is a man or a woman, a boy or a girl. The question is if society should use this biological difference to tell people what they should or should not do.

Yet, since time immemorial, this is what human communities all over the world have done. Some African societies bring up their boys to believe that men must be fighters, take whatever they want – by force if necessary and never cry. If anyone asks why they should or should not do this and that, the ready answer is always: you are a man, and that's what men are supposed to do. Girls are told to be gentle and quiet, to obey men, not to climb trees and not to eat certain kinds of food. A girl who asks why she should not climb trees or speak loudly in public is told, you are a woman, and women don't do that. In other words, society is always telling us what we can do and what we cannot do just because we are men or women.

In most cases, there is no physical or logical reason for a man or a woman to do or not do certain things. Any girl can climb a tree as smartly as any boy. If a boy wants to go into the kitchen and cook, there is no reason why he should not do so. Indeed, some of the best cooks in the world, called 'chefs' are men. Yet in some societies, it is a taboo for a man or boy to enter the kitchen. Similarly, some societies do not allow their women to build houses, even work at building sites, whereas in other societies it is indeed the woman's role to build houses. Gender is thus society's assigning of roles to people according to their being ma le or female.

On the face of it, there is nothing wrong with sharing roles – indeed, there are many cases where it is logical to expect that certain people should do or avoid some activities. For example, it would not be safe for a woman in advance stages of pregnancy to go hunting wild animals or grazing livestock many miles away from home. However, this should not be taken as a blanket excuse to declare that all women must not hunt wild animals. The problem is even worse when some people use gender roles to exploit or oppress other people. Men for example, have for a long time invoked gender roles to force women to do certain things and to prevent them from doing things the women may want to do.

This oppressive practice may be called gender imposition, and it may be seen in all aspects of society.

In social relations, boys and girls are segregated from the earliest years of life. Members of each sex are strictly drilled into what 'feminine' or 'masculine' in behaviour, speech, dress and every activity. Boys and girls are told what work they should or should not do, what places they can or cannot go to. What

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games to play and even what foods to eat or not to eat; just because they are boys or girls. By the time a person is in his or her teens, he or she has learnt – from both example and direct teaching by older members of society – what exactly is expected of him or her as a man or a woman. These gendered roles often suggest that men should lead and command in everything, be 'tough' – meaning hard and even cruel – and 'strong', which often means aggressive and violent. The women on the other hand, are required to be soft and kind, submissive and unquestioningly obedient to men. Even in public affairs, such as politics or religion, the gendering of roles leads to some curious situations. In some places of worship for example, men and women are strictly separated. Several denominations do not permit women to preach in public or to be ordained as priests or pastors. Politics is widely regarded as a man's field. Some societies insist that a woman cannot be a leader, like President or Army commander. The nagging question, which many women and enlightened men are asking today is: Why not?

This is the challenge to the conventional gendering of roles. Is there any logical reason why a man should not change the nappies of his child, or go into the kitchen and cook? Why can a talented woman not become a top soccer or rugby player, or a bishop or a top business executive? Is it fair to prevent people from eating such nutritious foods as chicken and eggs simply because they are women? Should children be denied the right to inherit their parents' property on the grounds of sex? Is it not pathetic seeing men inflict beastly violence on their wives and children, or one another simply because men are expected to be 'tough' and 'strong'?

To avoid such absurdities, advocates of gender equity demand that sex should not be the main consideration in dealing with people. Assigning roles to people on the grounds of biological differences is a form of evil discrimination, like racism. A more sensible way of dealing with men and women is to take them strictly on the basis of their individual abilities. A human being is a human being, whether man or woman and each should be given every opportunity to realize his or her full human potential. An enlightened approach to gender equity is suggested by the old English saying "What's good for the goose is good for the gander".

Questions

Q1.(a) According to the passage, what is the difference between gender and sex? **(2mks)**

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(b) What is gender imposition? **(1mk)**

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(c) How are gender roles passed on? **(1mk)**

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(d) Add a question tag to the following:

Any girl can climb a tree as smartly as any boy…… **(1mk)**

(e) Identify a phrase in the passage that shows that it is not only women who are concerned with the problems created by gendering of roles. **(1mk)**

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(f) In not more than 60 words write a summary on what women are not allowed to do simply because they are women. **(6mks)**

Rough copy

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Fair copy

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(g) In not more than three sentences, paraphrase the author's argument. **(3mks)**

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(h) Change the following question into a statement: **(1mk)**

Should children be denied the right to inherit their parents' property on the grounds of sex?

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(i) What is the meaning of the following: "What is good for the goose is good for the gander." **(1mk)**

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(j) Explain the meaning of the following as they are used in the passage. **(4mks)**

(i) Segregated**…….**

(ii) Absurdities **……**

(iii) Blanket excuse **……..**

iv) Dreadful **……..**

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SECTION E: LITERARY APPRECIATION (20MKS)

Read the narrative below and answer the questions that follow

Once upon a time there lived a very beautiful girl known as Karia in a distant village. One day, Karia and her mother went to dig in their garden by the edge of the forest that was home to ogres that could talk and even sing. When it was time to leave, the mother called out to her daughter who was bathing in the stream near the garden, 'Karia, we had better rush home; darkness will soon descend upon us and there are many ogres along the way'.

Karia hurriedly picked up the luggage her mother had packed and they went home. On reaching home, Karia realized that she had left her beautiful necklace by the stream where she had taken a bath. Her grandmother had given it to her saying, 'Take good care of this necklace and pass it on to your eldest daughter.'

Karia was very depressed at the fact that she had left it beside the stream.

'Mother, I have to go back for the necklace. I forgot it by the stream,' Karia said. 'No my dear daughter, it is already dark outside and besides the ogres are roaming the forest.' She could not bear the thought of her only daughter setting out in the pitch of darkness.

The girl started crying , saying that if she waited for daylight, she would find the necklace missing. Her mother withdrew to the kitchen to check whether the food was ready, she came out only to find Karia missing.

"Karia! Karia! Karia! Where are you? Come!" She called out. It dawned on her that Karia must have gone back to the stream for the necklace. She immediately ran to her brother-in-law's home in search of her husband panting; 'Father of Karia, gather other men, Karia has gone back to the stream for her necklace! Oh, my only daughter…those ogres…what will I do? 'What is wrong with my daughter? I could have bought her another necklace,' said Karia's father.

It took about an hour for the men to prepare themselves and set out for the search. Their hearts beat with apprehension as they pressed through the dark.

Karia had been running swiftly and by this time she was by the edge of the forest. She slowed down for the remaining part of the journey in order to catch her breath. The early morning wind chilled her skin. The thought, 'If I failed to get back the necklace, what will I tell my granny?' quickened her pace to where she had undressed and found that her necklace was intact. Joy flooded her heart. She quickly picked up the necklace and started on her way home with a sprinty leap, laughing at her mother's fear of ogres.

She had hardly taken a few steps, when she met an ogre squarely planted at the middle of the path. In order to be allowed to pass she sang:

You ogre
Do not bother me
I am Njanwa's daughter
Take this bead
And let me pass

The ogre accepted the bead and let her pass only to run through the bush past her and stop in the middle of the road. She reached the point where it stood blocking the way and then she repeated her song. By the time she was half way back home, she had run out of beads.

Having no alternative, she tearfully said,

'Take this arm and let me pass.'

Through her sorrow and pain, she thought of the necklace and the ogre that still demanded something in exchange for passage.

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After a while, she had only one leg and so the ogre decided to eat her up. Her father and the village elders came upon the satisfied ogre. They speared it and slit it open its belly. To their delight, Karia emerged, holding the beautiful necklace. There ends the story.

(Adapted from Narratives from Africa and India for secondary schools and colleges)

Questions

a) Classify the narrative above **(2mks)**

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b) State any two functions of each of the formulae.

i."Once upon a time…" **(2mks)**

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(ii) "There ends my story." **(2mks)**

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c) Apart from the formulae "Once upon a time…" and "there ends my story", identify and illustrate three features that indicate that the story is an oral narrative. **(6mks)**

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d) Identify and illustrate two character traits of Karia**.** **(4mks)**

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e) Identify and illustrate one theme evident in the narrative above **(2mks)**

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f) With illustration, identify one economic activity that is practiced by the community in the narrative. **(2mks)**

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3. Read the poem below and answer the questions that follow. 20MARKS

I refused to take your brotherly hand

Your nails are black with dirt, brother
And your palms are clammy with sweat
I refuse to take the hand you extend in help
I shall not join hands with you brother
For unclean hands make me uneasy
For filthy fingernails rob me of my pride.

You argue, gesticulating with your once
Impeccably clean and beautiful hands
That before long it shall not matter
For 'everybody' is delving and digging
And all shall have hands dripping with dirt.

That nobody shall know clean hands look like
And there shall be comfort in the dirty crowd
And enough to eat, for there are good yields
When the stinking manure is well dug in
With strong and bold hands in time

I have seen hungry envious eyes
Watching silently through your chain-link fence
I have seen eyes in deep sunken sockets
Burning with anger intently watching you
I have seen parched mouths water with saliva
And heard the rumbling of hollow empty stomachs
As they watched you feed the dog with meat
From the heavy yields of city sludge

Have you entirely forgotten Brother
The fragrance and comfort of clean hands?
The confidence, the peace you have when you know
You'll leave no ugly smudge upon sheet?
Don't you remember the repulsion you had
When you shook hands with fat dirty men
With their dirty clammy plams?

Don't offer me your dirty hand in help.
Let me trudge the long way up
Let me trudge the long way up
For the short cuts are clammy with the sweat of fear
And your fingernails are clogged with dirt.

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Are you going blind brother?
I ask how many have the sludge
Or the strong and bold hands like yours
With which to dig and delve?
Brother the hands of many are too weak with hunger
And for many the sludge is out of reach
And yet for others the stink is too nauseating!
But all have eyes and hunger fills them with anger
As they watch your fingernails fill with dirt!

Questions

a) Briefly explain the message in the above poem. **(3mks)**

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b) Identify the **two** types of hands referred to in the poem and explain what they represent. **(2mks)**

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c) What reasons does the poet give in stanza one for referring to take the "Brotherly hand?" Give your answer in note form. **(3mks)**

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d) Why does the persona wonder whether the brother has gone 'blind'? **(2mks)**

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e) The 'brother' seems to have changed from a previous lifestyle. Write out **two** lines to prove this. **(2mks)**

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f) Identify and explain any **two** poetic devices used in the poem. **(4mks)**

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g) What is the persona's attitude towards the brother? **(2mks)**

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h) Explain the following as used in the poem. **(2mks)**

(i) Fingernails are clogged with dirt

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(ii) Parched mouths

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GRAMMAR **(15mks)**

4. ***A) Rewrite the following sentences according to instructions given after each*** **(3mks)**

i. Ali required two more good passes to win the prize. (Begin; If Ali got…….

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ii. She was a very beautiful girl and everyone admired her. (Rewrite using "so")

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iii. They were wondering if you would join them for the party. (Rewrite using..whether..)

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B) ***Join the following pairs of sentences using the words in brackets and making changes only where necessary.*** **(3mks)**

i. This is the house. Otieno built it. (that)

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ii. My friend is coming to stay with me. I have been writing him for two years. (to whom)

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iii. We enjoyed the picnic. The rain was heavy. (in spite of)

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C) Fill in the blank spaces of these sentences with most suitable words. **(3mks)**

i. The children were pleased **……**the new words.

ii. We heard it all …….. the radio

iii. We have not seen him …….Monday.

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D) Rewrite the following sentences using one word to replace underlined words. **(3mks)**

i. These workers jobs may be <u>put at risk</u> if you purchase this machine.

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ii. All <u>people having no fixed place of residence</u> were arrested

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iii. The <u>man who describes matches on radio</u> explained why the goal was disallowed

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E) Fill the blank spaces with correct phrasal verbs ***(3mks)***

i. Chirchiri**……..** all his energy in the third lap and came last in the race.

ii. The lorry driver tried to**……..**the policeman by offering him bribe.

iii. How is your experiment**……?** Asked the teacher.

F) Fill in the blank spaces using the most appropriate form of the word in the brackets (4mks)

i.It was never his_____ to start a fight. (intend)

ii.We all got angry because of the speaker's _____ remarks.

(offend)

iii.He is an _____expert .(electron)

iv.He _____ believes in hard work.(true)

G) Join the pairs of sentences into one sentence using the conjunction provided (1mk)

i. -He has never done any fighting.

-He is a soldier.(although)

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EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

GEOGRAPHY
QUESTION PAPER
FORM THREE
PAPER 1
TIME: 2 3/4 HOURS

INSTRUCTIONS TO CANDIDATES:

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

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

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

SECTION A (25 MARKS)

Answer ALL the questions in this section

1. a) Name two forces that give the Earth its Geoid shape. **2mks**

b) Apart from clouds, which two other solid particles are found in the Earth's Atmosphere. **2mks**

2. a) Outline two ways in which Earthquakes are measured. **2mks**

b) State three factors that influence folding of crustal rocks. **3mks**

3. a) Give three characteristics of nimbostratus clouds. **3mks**

b) State three factors that influence atmospheric pressure. **2mks**

4. a) State two natural causes of earth movement. **2mks**

b) Name three boundaries due to earth movement. **3mks**

5. a) List three causes of river rejuvenation. **3mks**

b) State three characteristics of a river in its torrential stage. **3mks**

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SECTION B

Answer question 6 and any other two questions in this section

6. Study the map of Nyeri (1:50,000) sheet 120/4 provided and answer the questions that follow.

a) (i) Give the magnetic declination of the map. **1mk**

(ii) Identify two physical features found in grid square 5649. **2mks**

(iii) Find the bearing of murram pit in grid square 6762 from the dam in grid square 6161. **2mks**

b) (i) Describe the drainage of the area covered by the map. **4mks**

(ii) Citing evidence from the map name two economic activities carried out in the area. **4mks**

c) (i) Draw a rectangle measuring 10cm x 7cm to represent the area between eastings 60 and 70 and northings 50 and 57. **1mk**

(ii) On the rectangle, mark and name

- Nyeri Hill Forest **1mk**
- Municipality boundary **1mk**
- Forest Guard Post **1mk**

(iii) Determine the new scale of the rectangle. **2mks**

d) Students from Kagumo College grid 7648 conducted a field study of Aberdare Forest.

(i) Calculate area in km^2 of part of the forest between National Park Road and the National Park boundary that they studied. **2mks**

(ii) State three follow-up activities they undertook after the field study **3mks**

7.a)(i) Outline two differences between plutonic and volcanic rocks. **2mks**

(ii) Give two examples of hypabyssal rocks **2mks**

b) Describe the three ways by which sedimentary rocks are formed. **6mks**

c) Students from your class conducted a field study on rocks around the school.

(i) State three characteristics they would look for while identifying different types of rocks. **3mks**

(ii) List three methods they would use to record data while in the field. **3mks**

d) Suppose from the field, they identified the following rock samples, augite, flint, gabbro, graphite, haematite and horn blende.

(i) Attempt to classify the above rocks by mode of formation. **3mks**

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(ii) State how they would use the following tools during the field study.

- Geological hammer **1mk**
- Magnifying lens **1mk**
- Polythene bag **1mk**
- Dilute hydrochloric acid **1mk**

e) Give two uses of rocks **2mks**

8.a) Distinguish between weathering and mass wasting **2mks**

b) Explain how the following factors contribute to the process of weathering

(i) Climate **2mks**

(ii) Animals and plants **2mks**

c) Describe the following processes of weathering

(i) Exfoliation **3mks**

(ii) Freezing and thawing **3mks**

(iii) Carbonation **3mks**

d) State and explain the significance of mass wasting in areas they have occurred. **6mks**

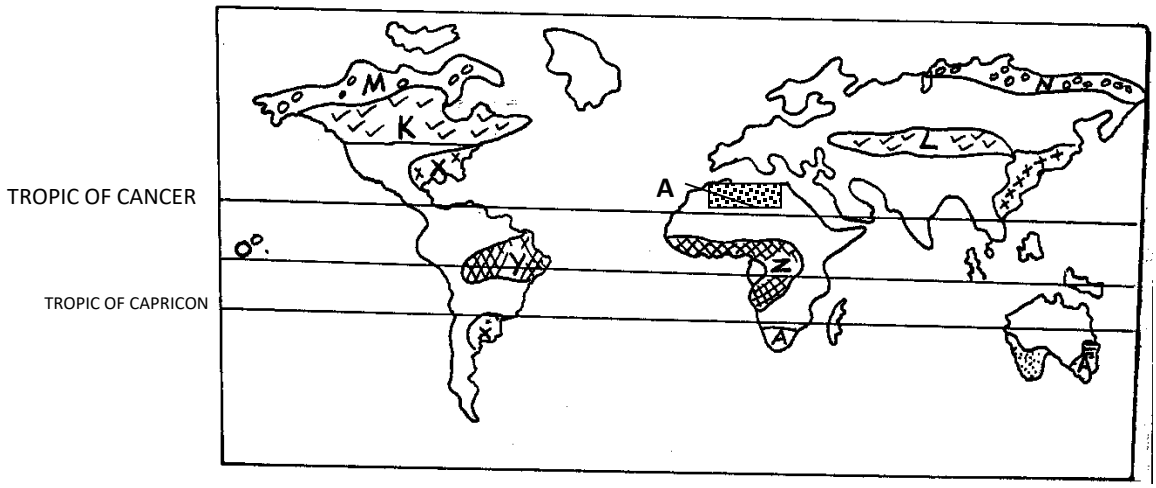
e) You intend to carry out a field study on mass wasting around your school.

(i) State how you would prepare for the study. **2mks**

(ii) What problems are you likely to encounter while out for the field study. **2mks**

9. Study the map of the world provided and answer the following questions, a and b.

THE WORLD VEGETATION ZONES.



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(a) Name the types of forests found in the regions marked X and Y, the grasslands in region K and the vegetation in region M. **4mks**

(b) Describe the forest vegetation characteristics of the zone marked A identified. **4mks**

(c) Give the names of

(i) The types of grassland vegetation found in:

-South Africa

-Australia **2mks**

(ii) Explain four adaptations of the trees in the coniferous forests to climatic conditions. **8mks**

(d) Students went to carry out a field study on vegetation zonation on the Mount Kenya slope.

(i) State two activities they would be involved in during the field study. **2mks**

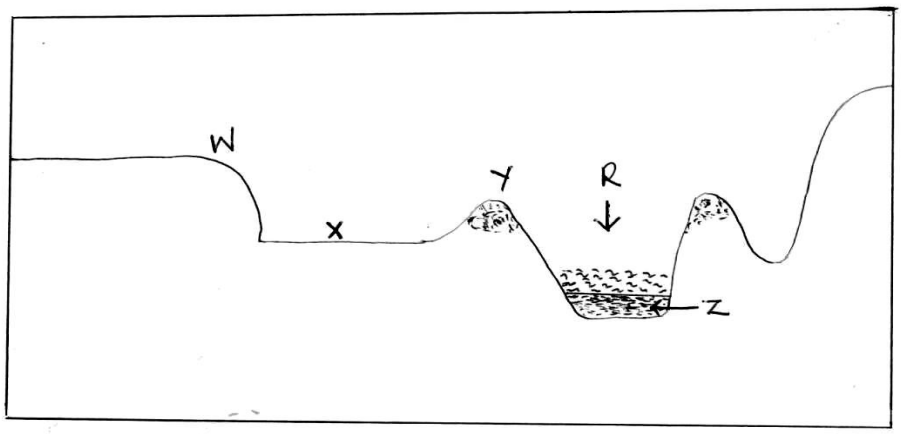
(ii) List three features they were likely to study. **3mks**

(iii) State two problems they may have encountered. **2mks**

10.(a)(i) Define River regime. **1mk**

(ii) Describe how river erosion takes place through abrasion. **2mks**

(b) The diagram below represents some features formed at the old stage of a river. Use it to answer questions (i), (ii), (iii).



(i) Identify the features marked W, X and Z. **3mks**

(ii) Describe the formation of the feature marked Y. **3mks**

(iii) Outline the significance of a river at the stage shown on the diagram. **5mks**

(c) (i) Describe Trellis drainage pattern. **5mks**

(ii) With the aid of well labeled diagrams, describe how an ox-bow lake is formed. **6mks**

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EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

HISTORY AND GOVERNMENT (311)

FORM THREE (3)

Time: 2 ½ Hours

Instructions to candidates:

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

b) Answer all questions in section A, Three questions from section B and Two questions from 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 no Questions are missing.

e) Answer all questions in English

For Examiner's use only

SECTION A	SECTION B			SECTION C		TOTAL
1-17						

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

1. What type of government is practised in Kenya? (1 mark)

2. State the main reason why the savannah grassland was ideal for early human. (1 mark)

3. Give one advantage of land enclosure system in Britain. (1 mark)

4. Identify two treaties signed between the British and Lewanika. (2 marks)

5. State the main way through which River Nile influenced British occupation of Kenya. (1 mark)

6. State two chemical methods of dating fossils. (2 marks)

7. Name two types of trade. (2 marks)

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8. State two disadvantages of road transport. (2 marks)

9. Mention one community that belongs to Plains Nilotes. (1 mark)

10. State two functions of Johannesburg. (2 marks)

11. How did the Mwari Cult lead to growth of Shona Kingdom? (1 mark)

12. State two social aspects of the Luo in the 19th Century. (2 marks)

13. Give one evidence of Chinese presence at the East African coast in the past. (1 mark)

14. State one limitation to Freedom of Association. (1 mark)

15. State two social causes of conflicts. (2 marks)

16. Highlight two uses of water in industries during the 18th century. (2 marks)

17. Name one group that monitors Human Rights in Kenya. (1 mark)

SECTION B (45 MARKS)

Attempt any three questions from this section.

18. a) Give five factors that facilitated Plantation Agriculture by Seyyid Said in East African Coast. **(5mks)**

b) Explain five effects of long distance trade. **(10mks)**

19. a) State five factors that led to early urbanization in Africa. **(5mks)**

b) Suggest five solutions to problems facing the modern urban centers in Africa. **(10mks)**

20. a) Identify three methods used by Europeans to acquire colonies in Africa. **(3mks)**

b) Explain six effects of colonization of Africa. **(12mks)**

21. a) Give five reasons why armed resistance failed in Kenya. **(5mks)**

b) Explain five reasons for the Nandi long resistance. **(10mks)**

SECTION C (30 MARKS)

Attempt any two questions from this section.

22. a) State five characteristics of government. **(5mks)**

b) Explain five importance of studying History and Government. **(10mks)**

23. a) State three documents that form part of the British unwritten constitution. **(3mks)**

b) Explain six features of the Constitution of Kenya, 2010. **(12mks)**

24.a) List down three special groups of people in Kenya whose rights are protected in the Bill of Rights, **(3mks)**

b) Explain six principles of democracy. **(12mks)**

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EXCELLING STUDENTS FORM 3 END TERM 1 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

441/1

HOME SCIENCE

Paper 1

(THEORY)

2 ½ hours

Instructions to students

a) *Write your name, admission number and class in the spaces provided*

b) *Sign and write the date of the examination in the spaces provided*

c) *This paper consists of **three** sections: **A**, **B** and **C***

d) *Answer **all** the questions in sections **A** and **B** and any **two** questions in section **C***

e) *Answers to all the questions must be written in the spaces provided in the paper*

f) ***This paper consists of 13 printed pages***

g) ***Students should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing***

h) ***Students should answer the questions in English***

For examiner's use only

Section	Question	Maximum Score	Student's Score
A	1- 20	40	
B	21	20	
		20	
		20	
TOTAL SCORE		100	

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SECTION A: (40 marks)

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

1. Name **two** types of play a child can be engaged in. **(1mk)**

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2. Differentiate between nutrient **supplementation** and nutrient **fortification**. **(2mks)**

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3. Mention **two** causes of poor sanitation in a poor rural area. **(2mks)**

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4. Suggest **two** reasons why roughage is important in the diet. **(2mks)**

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5. Give **two** reasons for tacking when sewing. **(2mks)**

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6. Describe a soak pit in relation to drainage. **(2mks)**

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7. Suggest **two** reasons why some people are vegetarian. **(2mks)**

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8. Mention **two** categories of permanent stitches. **(1mk)**

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9. Differentiate between print and calico patch. **(2mks)**

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10. Other than pregnancy, mention **three** reasons why a woman would miss her menstrual periods. **(3mks)**

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11. Give **two** differences between osteomalacia and rickets. **(2mks)**

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12. Suggest **three** uses of salt in laundry work. **(3mks)**

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13. Identify **four** symptoms of food poisoning. **(2mks)**

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14. Mention **three** indicators of health in a 3 month old baby. **(3mks)**

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15. Give **three** qualities of a well-made seam. **(3mks)**

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16. Identify **two** possible disadvantages of advertising to a consumer. **(2mks)**

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17. List **two** disadvantages of deep frying as a method of cooking. **(1mk)**

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18. Give **two** reasons why cotton fabric is suitable for making bedsheets. **(2mks)**

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19. Highlight **two** functions of ascorbic acid in the body. **(1mk)**

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20. Suggest **two** advantages of home delivery. **(2mks)**

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SECTION B: (20 marks)

COMPULSORY

Answer question 21 in the spaces provided after the question

21. You are visiting your aunt who has recently delivered.

a) Outline the procedure you will follow in laundering her fast coloured pyjamas with milk stain. **(10mks)**

b) Describe how you would clean the bathtub for her use. **(6mks)**

c) Outline the procedure of cleaning the bottle used to store milk that she had expressed earlier. **(4mks)**

SECTION C: (40 marks)

*Answer any **two** questions from this section in the spaces provided at the end of this section.*

22.

a) Discuss **three** considerations to bear in mind when buying play items for children. **(6mks)**

b) Explain **five** causes of malnutrition in the arid areas of Kenya. **(5mks)**

c) Giving reasons, state **five** merits of breastfeeding. **(5mks)**

d) Give **four** factors that influence the cleaning frequency of a kitchen. **(4mks)**

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23.

a) Give **five** advantages of taking adequate water in the body. **(5mks)**

b) Explain **five** hygiene rules that should be observed by cooks in a school. **(5mks)**

c) Discuss **four** points to consider when packing meals for a school going child. **(6mks)**

d) Mention **four** disadvantages of using silk to make swimming costumes. **(4mks)**

24.

a) Explain **four** essential nutrients in the diet of an expectant mother. **(6mks)**

b) Discuss **three** reasons why child immunisation is important. **(6mks)**

c) Mention **five** qualities of fabrics used to make babies clothes. **(5mks)**

d) Outline **three** qualities of a good pit latrine. **(3mks)**

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JINA: ……..

SHULE: …….....

TAREHE:…….. NAMBARI YA USAJILI: …… SAHIHI:……

MTIHANI WA PAMOJA WA ZERAKI ACHIEVERS

KISWAHILI (102)

MUHULA WA KWANZA

KIDATO CHA TATU (3)

MUDA: SAA 2:30

MAAGIZO:JIBU MASWALI YOTE KATIKA NAFASI ULIYOACHIWA

A.UFAHAMU (alama 15)

Soma taarifa kisha ujibu maswali

Ulimwengu unatakiwa kuzua mbinu za kulitatua tatizo la ufukara ambao ni kikwazo kikuu cha juhudi za maendeleo.Ufukara unayakabili mataifa mengi yanayoendelea kuyatosa kwenye shida nyingi huku mataifa ya magharibi yakazidi kupiga hatua kubwa kimaendeleo.Tofauti iliyopo kati ya mataifa yanayoendelea inaendelea kuongezeka kila siku.

Miongoni mwa sababu zinzochangia katika ufukara huu ni pamoja na ufisadi , uongozi mbaya, turathi za kikoloni na uchumi unaotegemea kilimo ambacho hutegemea mvua isiyoweza kutabirika. Vilevile , maarifa yanayoendelea yana idadi kubwa ya watu inayopiku uwezo wa mataifa husika.Pamoja na haya , mataifa haya hayana uwezo wa kuwakomboa raia wake kutoka lindi la umaskini huu unaokithiri .Ukosefu wa elimu na nafasi adimu za kazi huchangia pia katika tatizo hili.

Ni wazi kuwa ufukara una athari hasi ulimwenguni.Aghalabu, ufukara huchipuza matendo mabaya .Ni rahisi kuwashawishi wananchi maskini kushiriki katika uhalifu ili kujinasua kutoka lindi la umaskini.Udhaifu huu huweza kuzaa mbegu ya kuatika maovu ya kila aina ukiwemo ugaidi.

Mataifa yanayoendelea yanatakiwa kuyaburai madeni yanayodai mataifa yanayoendelea kama njia moja ya kupambana na ufukara.Mataifa haya maskini hutumia aslimia kubwa ya mapato ya kitaifa kuyalipia madeni haya. Hali hii imedyafanya mataifa haya kushindwa kujikwamua kutoka kwa minyororo ya

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ufukara. Njia nyingine ya kuwasaidia mataifa hay ani kukubali kotoa ruzuku ya kimaendeleo badala ya mikopo kwa nchi husika.

Mataifa yanayoendelea pia yanatakiwa kuchukua hatua katika kuwanusuru raia wake kutoka dhiki hii.Ni sharti yaibuke na mikakati kabambe ya kupambana na ufukara. Itakuwa faida kubwa iwapo mataifa yataunda sera zinazotambua ufukara kama tatizo kuu linalozikabili na kuweka mikakati ya kuwaokoa raia wake kutoka kwenye tatizo hili.

Pamoja na mikakati hii kuna kuzalisha nafasi za kazi , kuimarisha miundo msingi , kuendeleza elimu inayolenga kutatua matatizo maalumu katika jamii na kupanua viwanda.

Kuna haja ya viongozi kuwa waangalifu ili mfumo wa soko huru ambao unaendelezwa na mataifa yalioendelea usiishie kuwa chanzo cha kufa kwa viwanda asilia.Maamuzi yote ya sera za kiuchumi sharti yauzingatie uhalisia wa maisha ya raia wa mataifa haya.

Maswali

a) Eleza athari za madeni kwa nchi zinazoendelea. **(alm2)**

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b) Kwa nini umaskini unatawala mataifa yanayoendelea? **(alm4)**

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c) Mwandishi anatoa mapendekezo yapi kwa mataifa yanayoendelea katika kutatua tatizo la ufukara?**(alm4)**

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d) Mfumo wa soko huru una madhara gani kwa mataifa yanayoendelea? **(alm2)**

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e)Taja visawe vya maneno yafuatayo kama yalivyotumika katika kifungu**.** **(alm3)**

i)Turathi za kikoloni**……**

ii) Kuatika**……**

iii) Kuyaburai**……**

B.UFUPISHO (alama 15)

Soma kifungu kifuatacho kisha ujibu maswali

Suala la jamii kujitosheleza kwa mahitaji ya chakula na lishe ni jambo ambalo halina budi kushughulikiwa kwa dhati.Chakula ni mojawapo ya mahitaji ya kimsingi ya binadamu na kila mja ana haki ya kupata chakula na si chakula tu , bali chakula chenye virubutisho muhimu.Nchi isiyowakimu raia wake kwa chakula ni sawa na ng'ombe anayeshindwa kumnyonyesha ndama wake.

Kwa mda mrefu, viongozi wamekuwa wakipambana a tatizo la ukosefu wa chakula. Msimu wa kiangazi unapobisha hodi ,watu wengi hasa wale wahitaji hupukutika kutokana na mng'ato wa njaa. Japo serikali utuma vyakula vya msaada kwa jamii zilizoathirika Zaidi,chakula hiki huwa kama nguo ya kuazima , na bila shaka ya kuazima haikidhi haja.

Mojawapo ya vianzo vikuu vya uhaba wa chakula ni kiwango cha chini cha uzalishaji na uhifadhi wa chakula cha chenyewe.Zipo sehemu nyingi nchini ambazo ni kame. Sehemu hizi hukabiliwa na ukosefu wa maji kwani mvua hainyeshi au inaponyesha haitoshelezi mahitaji ya mimea.Mimea mingi hujikaukia ikiwa michanga hudhihaki juhudi za wapanzi .Zipo sehemu katika nchi ambazo huenda kwa misimu zaidi ya mitano bila kuapata zao lolote kutoka mashambani.Hali ikiwa hivi makali ya uhitaji na wakazi

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wa sehemu hizi hulazimika kuwa wategemezi kwa majirani na serikali. Wengine wanapokosa chakula kabisa huazimia kula visivyoliwa.Waama la mbwa ni nzuri baada ya kukosa la mama.

Hali kadhalika, japo zipo sehemu nyingine ambazo hazina tatizo la ukame , mbinu hasi za kilimo husababisha utoaji wa mavuno haba , hivyo kutojitosheleza kwa chakula.Bila shaka wanapopanda ovyo, wanavuna ovyo. Kuna wakulima ambao hupalilia mmomonyoko wa udongo kwa kulima kandokando ya mito, kupanda zao lile lile katika sehemu ya ardhi miaka nenda miaka rudi na kutopanda mimea ambayo hukinga tabaka la juu la udongo dhidi ya kumommonyolewa na maji au upepo.Matatizo ya yanaweza kutabiriwa , udongo wenye rutuba huoshwa na mashamba kutwaa utasa ambao huzidisha kuzalishwa kwa chakula haba.Wakulima wengine hukaidi wito wa kupanda mimea ambayo hustahimili ukame kama vile mibaazi, mihogo ,mtama, ulezi na wimbi.Si ajabu kupata kwamba katika baadhi ya maeneo , mizoga ya ng'ombe n ahata ngamia imezagaa kote , tanuri a kiangazi linapofanya kazi yake.

Sehemu nyingine zimeharibikiwa kwa ukwasi wa chakula. Hata hivyo , baadhi ya wakazi wa sehemu hizi hawana mwao kuhusu umuhimu wa lishe bora.Wapo wanaodhani kuwa chakula ni chakula , bora tumbo lipate haki. Hawa hula vyakula kama vile viazi , mahindi na wengine hula nyama bila kujua wanahitaji vyakula vyenye virutubisho yaani wanga ,protini, vitamini na madini.Wapo wanaodhani kuwa protini pekee ni nyama. Hawa hula nyama mawio hadi machweo , matokeo yake kuambulia magonjwa kama vile shinikizo la damu.

Katika kukabiliana na tatizo la uhaba wa chakula , serikali kupitia wizara husika , imeanzisha miradi ya kuhakikisha kuwa kuna uzalishaji wa chakula kwa kiwango cha kuridhisha. Visima vya maji na mabawa yamechimbwa katika sehemu kame ili kunyunuzia mashamba maji.

Baadhi ya wakulima wameanza kupanda mimea ambayo inapevuka na kutoa mazao haraka.Ipo mimea ya kuatika ambayo hutoa matunda baada ya muda mfupi, hivyo kusaidia kupunguza makali ya njaa.Wafugaji wengine wameanzisha miradi ya kufuga kuku wa kututumuliwa.Hawa hukua na kukomaa kwa muda mfupi na huwezi kutoa nyama na mayai.Wafugaji wa kuku hawa huwezi kuwauzia kununua aina nyingine ya vyakula.

Wakulima pia huhimizwa kutumia njia za kisasa za kuzalisha na kuhifadhi chakula. Chakula kinapohifadhiwa vyema, hata mvua isiponyesha raia huweza kujitegemea.Ikiwa maghala ya halmashauri za kuhifadhi chakula nchini hayahifadhi chakula , mara nyingi nchi hulazimika kuagiza chakula kutoka nje kiangazi kinapojiri.Aidha, chakula kisipohifadhiwa vyema huishia kuharibika na kuhasiri wanaokila , ikawa msiba juu ya mwingine.

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Ni muhimu kufahamu kuwa jukumu la kupambana na ukosefu wa chakula ni la kila raia.Hali kungojea kila mara kulishwa na serikali inatufanya kuwa wategemezi zaidi. Wakulima wadogowadogo ambao huuza vyakula vyao kwa bei ya chini sana mara tu wanapovitoa mashambani wanapaswa kujiasa dhidi ya mazoea haya na kujua kuwa akiba haiozi.Wanaoishi katika sehemu zenye vinamasi wasaidiwe kuzitunza sehemu hizi na kuzitumia kwa njia endelevu.Vijana wahimizwe wawaunge wazee mkono kushughulikia kilimo katika sehemu za mashambani badala ya kuhamia mijini kutafuta kazi za ajira ambazo ni haba. Wanaoishi mijini nao wajifunge nira kutumia nafasi walizo nazo kuendeleza kilimo cha bustani.

Maswali

a)Fupisha ujumbe wa aya za tatu kwanza kwa maneno 100.(alma 9. 1 ya mtiririko)

Matayarisho

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Jibu

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b) Kwa kurejelea aya tatu za mwisho ,eleza njia sita za kukabiliana na uhaba wa chakula.

(alama 6, 1 ya mtiririko)

Matayarisho

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Jibu

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3.SARUFI NA MATUMIZI YA LUGHA **(alm40)**

a.i) Taja aina za sauti za Kiswahili **(alm1)**

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ii) Andika sauti ambazo ni nazali **(alm1)**

b) Akifisha sentensi ifuatayo ili iwe katika kauli tatu tofauti. **(alm3)**

Mwalimu amefika

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c)Badilisha sentenzi hizi katika hali ya umoja na wingi. **(alm2)**

i) Mhubiri anahubiri injili.

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ii)Nyavu za kuvulia Samaki zina mashimo makubwa .

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d)Bainisha aina ya maneno katika sentensi zifuatazo. **(alm2)**

i) Fahima ni mtulivu shuleni.

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ii) Lo! Umemwibia mwanafunzi mwenzako ?

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e)Taja aina tatu za sentensi**.** **(alm3)**

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f)Tambulisha kauli za vitenzi vilivyotumika katika sentensi hizi**.** **(alm2)**

i) Wasichana wale walichezeana shere.

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ii) Alimpigia mamake simu.

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g) Bainisha viambishi awali na tamati katika maneno yafuatayo **(alm2)**

i)Tuliwafurahia

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ii) Sokoni

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h)Bainisha aina za mofimu **(alm2)**

i) chapa**……**

ii)maovu**……..……..**

iii) meza **……..……**

iv)walitafakari**……..……**

i)Tambua aina za nomino katika sentensi hizi **(alm2)**

i)Kikosi cha askari kiliongoza gwaride la jana.

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ii) Januari ni mwezi wa kwanza katika mwaka.

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j)Tumia maneno haya katika sentensi kama vielezi **(alm2)**

i) Shule

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ii) Jana

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iii) Tumia kivumishi kisisitizi cha karibu sana kukamilisha hii sentensi**.** **(alm2)**

Ni gari **……..** ulionalo limeharibika.

k)Tunga sentensi katika umoja na -enyewe**.** **(alm2)**

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l)Pigia mstari viwakilishi na ubainishe ni vya aina gani**.** **(alm2)**

i) Yeye amelala sana.

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ii) Cha mlevi huliwa na mgema.

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m)Yakinisha sentensi hii **(alm2)**

Asingesoma kwa bidii asingepita mtihani.

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n) Andika kinyume cha sentensi hii **(alm2)**

Ukiingia ndani uketi chini.

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o)Andika sentensi ifuatayo katika ukubwa **(alm2)**

Mwizi alivunja nyumba yetu jana usiku.

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p) Onyesha kikundi tenzi na kundi nomino katika sentesi ifuatayo; **(alm2)**

Rubani mkakamavu anaendesha ndege.

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q)Tumia vitate hivi katika sentensi moja ili kubainisha maana **(alm2)**

i) Vaa

ii)Faa

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D. ISIMU JAMII (ALAMA 10)

Longi ni mia . Hundred bob kuona ni bure.Ni viatu aina zote.Buda karibu ujionee. Niaje maze come tu… karibu jionee. Hata za manzi ziko. Mali motomoto kutoka ng'ambo. Watu wote wanabuy huku! Dungaree ni soo mbili za watoi na wasupa.

a)Tambua sajili hii**.** **(alm2)**

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b)Eleza sifa za lugha iliyotumiwa katika sajili hii. Thibitisha jibu lako kwa mifano inayofaa**.** **(alm8)**

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E. Fasihi simulizi

i)Eleza maana ya istilahi zifuatazo

a)Ayari

b) Misimu

c) Nyiso

d) Mbolezi

e)Mbazi

f) Lakabu **(alm8)**

ii) Fafanua mbinu nne za kukusanya data katika Fasihi simulizi. **(alm8)**

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MWISHO

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NAME: ……..

SCHOOL: ……..

DATE:…….. ADM NO: …… SIGNATURE:……

MATHEMATICS (121)

FORM THREE (3)

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

i. Write your name and Index number in the spaces provided above.

ii. This paper consists of two sections: Section I and Section II.

iii. Answer all questions in **Section I** and only Five questions from **Section II.**

iv. Show all the steps in your calculations giving your answer at each stage in the spaces provided below each question.

v. Non-programmable silent electronic calculators and KNEC mathematical tables may be used.

For Examiner's use only.

Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

Section II

17	18	19	20	21	22	23	24	Total

Grand Total

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SECTION 1 (50 MARKS)

Answer all the questions in this section

1. Use logarithms to evaluate to 4s.f. **(4mks)**

$$\frac{(0.6845)^2 \times (0.08416)^{1/3}}{0.995937}$$

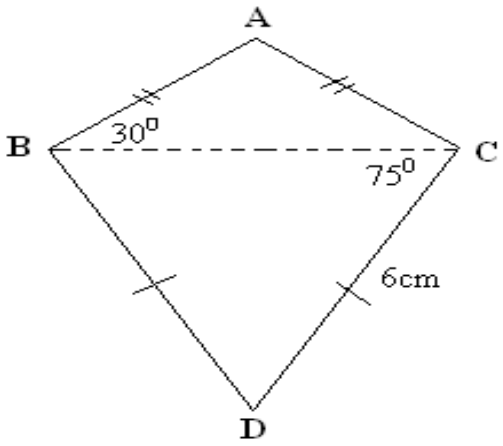
2. A line passes through the points A(2, 6) and B(4, -8). Find the equation of the perpendicular bisector of line AB. **(3mks)**

3. Find the integral values that satisfy the inequality. $2x + 3 \geq 5x - 3 \geq -8$ **(3mks)**

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4. Solve the equation $2x^2 + 3x=5$ by completing the square method. **(4mks)**

5. Find the area of the following figure. **(3mks)**



6. Solve the simultaneous equations below **(3mks)**

$\log_x y = 2$

$\log xy = 8$

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7. The angles of elevation from two points A and B to the top of a storey building are 48^0 and 57^0 respectively. If AB = 50m and the point A and B are opposite each other;

Calculate

a) The distance of point A to the building. **(2mks)**

b) The height of the building. **(2mks)**

8. Simplify as simple as possible. **(3mks)**

$$\frac{(4x + 2y)^2 - (2y - 4x)^2}{(2x + y)^2 - (y - 2x)^2}$$

9. The cost of a van outside Kenya is US$10000. Wanda intends to buy one van through an agent who deals in Japanese Yen. The agent charges him a commission of 5% on the price of the van and further 1260 Yen as importation tax. How many Kshs. will he need to send to the agent to obtain the van, given that:- **(3mks)**

1 US$ = 105.00 Yen

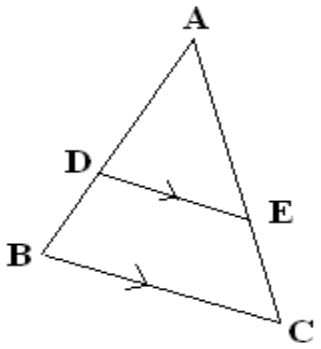
1 US$ = Kshs. 63.00

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10. Simplify without using calculators and tables. **(3mks)**

$$\frac{5^{-1/2} \times 20^{1/2}}{64^{1/2} \times 3^{0} \times 5^{2}}$$

11. The area of triangle ADE is $15cm^2$. Given that BD: BA = 1:3, and DE is parallel to BC. Find the area of triangle ABC in the figure. **(3mks)**



12. Oilibya filling station in Machakos makes a profit of Ksh. 520 for every 1000 litres of petrol sold and Ksh. 480 for every 1000 litres of diesel sold. In a certain month the dealer sold twice as much diesel as petrol. If the total fuel sold that month was 900,000 litres, find the dealer's profit for the month.**(3mks)**

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13. Solve for a in Sin(30 - 2a) = Cos(150 - 3a). **(2mks)**

14. Show that the points P(3,4), Q(4,3) and R(1,6) are collinear**.** **(3mks)**

15. Given that $\frac{3}{2-\sqrt{8}} - \frac{2}{2+\sqrt{8}} = a + b\sqrt{c}$. Find the values of a, b and c. **(3mks)**

16. A rectangular room was measured and its measurement was found to be 40m by 80m to the nearest metre. Calculate the percentage error in working out its area. **(3mks)**

SECTION II (50 MARKS)

Answer any five questions from this section

17. Senjeni and Mkimwa entered into a business partnership in which they contributed Kshs. 120,000 and Ksh. 150,000 every year respectively. After one year, Kuku joined the business and contributed Kshs. 90,000.

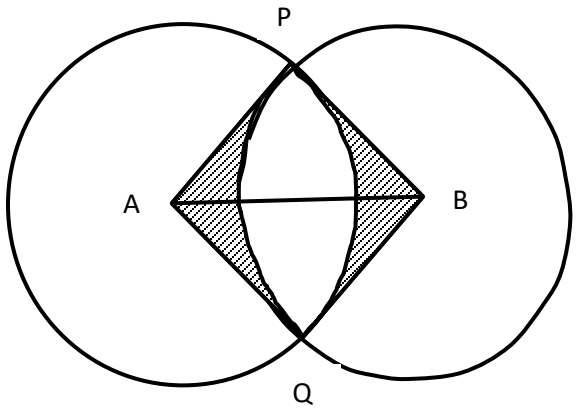
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a) Calculate the ratio of their investment after 3 years of business. **(3mks)**

b) It was agreed that 30% of the profits after 3 years be used to cater for the cost of running the business, while the remaining would be shared proportionally. Calculate each person's share, if the profit made after three years was Kshs. 187,000. **(4mks)**

c) If each of them invested their shares back in the business, find their new individual investments at the beginning of the fourth year. **(3mks)**

18. In the figure below A and B are centres of the circle intersecting at point P and Q. Angle PBQ = 97.2^0 while PAQ = 52^0. PB = 4cm while AP = 10 cm.



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Determine;

a) The length of AB **(3mks)**

b) The area of the sector APQ **(2mks)**

c) The area of the quadrilateral APBQ **(3mks)**

d) Area of the shaded region **(2mks)**

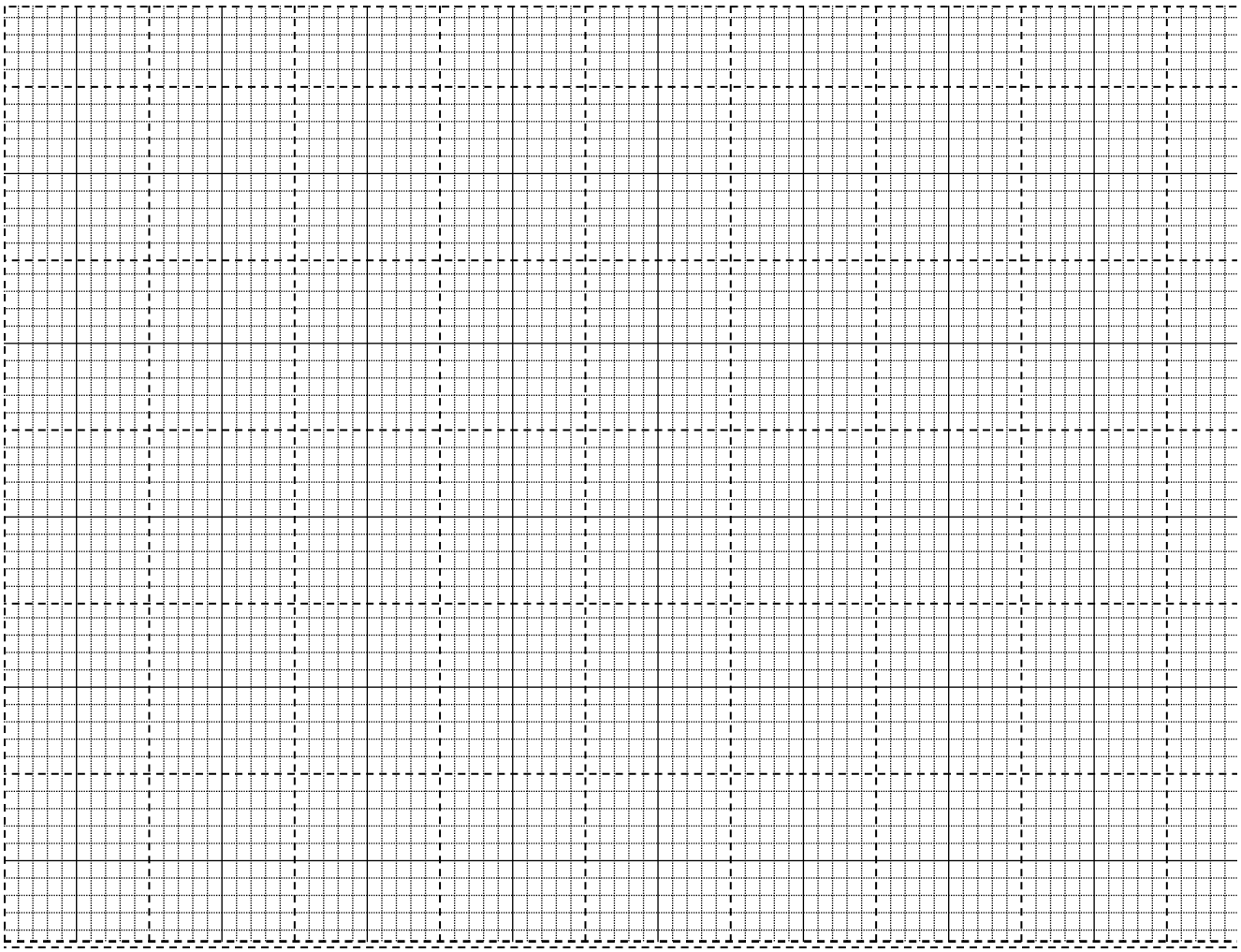
19. Given that equation of a curve $y = x^2 + 5x - 3$

a)i) Complete the table below for the function $y = x^2 + 5x - 3$ for $-6 \leq x \leq 1$ **(2mks)**

x	-6	-5	-4	-3	-2	-1	0	1
Y								

ii) Draw the graph of $y = x^2 + 5x - 3$ for $-6 < x < 1$ **(3mks)**

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b) i) State the equation of the line of symmetry for the graph. **(1mk)**

ii) Use the graph you have drawn to solve the equations:

A. $x^2 + 5x - 3 = 0$ **(1mk)**

B. $x^2 + 4x - 2 = 0$ **(2mks)**

C. $x^2 + 5x - 3 = -3$ **(1mks)**

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20. The table below shows how income tax was charged in a certain year.

(Kenya pounds)	(Ksh. Per Kenya pound)
1 – 3630	2
3631 – 7260	3
7261 – 10890	4
10891 – 14520	5
14521 – 18150	6
18151 – 21780	7
21781 and above	7.5

During the year Mwadime earned a basic salary of Ksh. 25,200 and a house allowance of Ksh. 12,600 per month. He was entitled to a personal tax relief of Ksh. 1,162 per month.

(a) Calculate:

(i) Mwadime's taxable income in Kenya pounds per annum **(2mks)**

(ii) The net tax he pays per month **(6mks)**

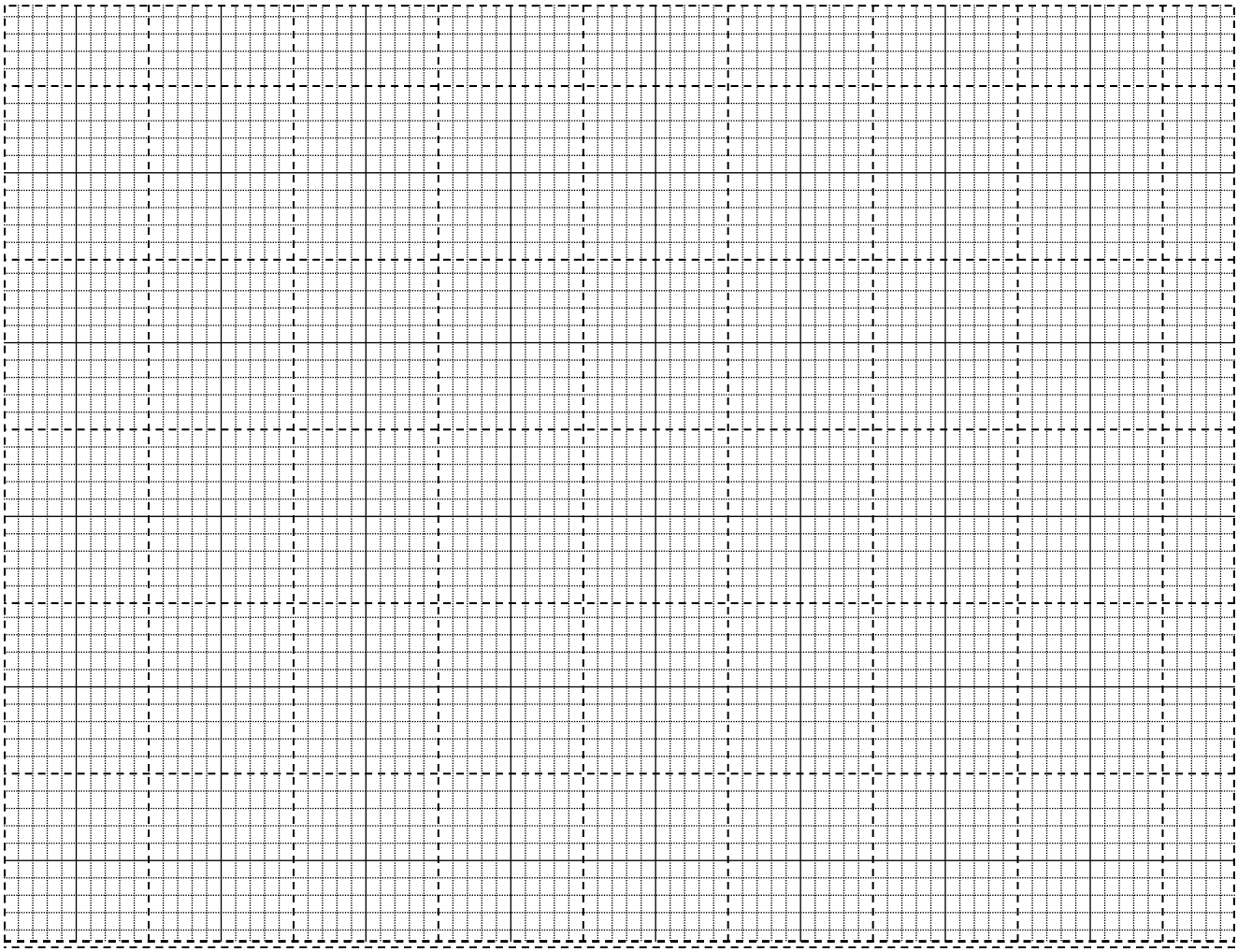
(b) Apart from income tax he also contributes monthly NHIF Ksh. 1600, WCPS Ksh. 1000. Calculate his net monthly pay **(2mks)**

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21. (a) Draw the graph of $y = \tan x$ and $y = \sin (2x + 30)^0$ for $0^0 \leq x \leq 90^0$ on the same axes.

Take the scale: x - axis 2cm represent 10^0

y - axis 4cm represents 1 unit **(8mks)**



b) Use your graph to solve the equation.

$\tan x - \sin (2x + 30^0) = 0$ **(2mks)**

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22. The heights of some trees in a nursery were measured to the nearest centimetre and recorded as shown below

23	33	29	34	25	25	31	31	37	23
28	16	23	21	31	36	36	40	42	32
22	21	27	30	35	19	27	22	38	34
31	28	29	24	32	20	35	15	17	29
40	32	27	26	28	23	32	28	26	20

(a) Use the above data to complete the table below **(3mks)**

Height in cm	Mid-point (x)	Frequency(f)	(fx)
15 – 19			
20 – 24			
25 – 29			
30 – 34			
35 – 39			
40 – 44			

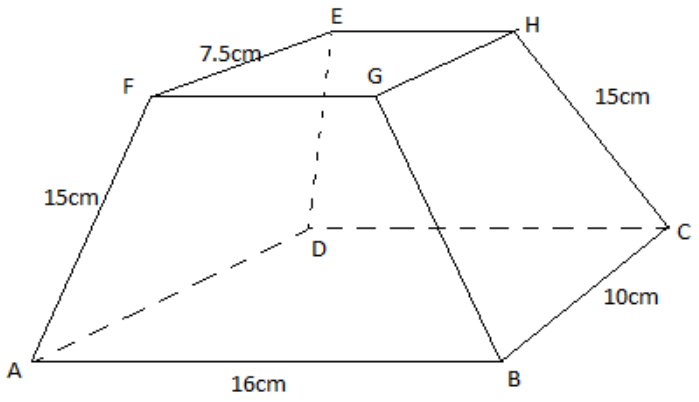
(b) Calculate **(i)** the mean height **(2mks)**

(ii) to 2 decimal places the median height **(2mks)**

(c) State the modal class. (1 mark)

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23. The figure below shows a frustrum made from a right pyramid, such that AB=DC=16cm, BC=AD=10cm, FG=EH=12cm, GH=FE=7.5cm, CH=BG=AF=DE=15cm. If the altitude of the frustrum is 14.6cm, find:



(a) The altitude of the pyramid from which the frustrum was made. **(2mks)**

(b) The surface area of the frustrum. **(5mks)**

(c) The volume of the frustrum. **(3mks)**

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24. A bus left Nairobi at 7.00am and travelled towards Eldoret at an average speed of 80km/hr. At 7.45a.m a car left Eldoret towards Nairobi at an average speed of 120km/hr. The distance between Nairobi and Eldoret is 300km. Calculate ;

a) The time the bus arrived at Eldoret. **(2mks)**

b) The time of the day the two met. **(4mks)**

c) The distance of the bus from Eldoret when the car arrived in Nairobi. **(2mks)**

d) The distance from Nairobi when the two met. **(2mks)**

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NAME: ……..

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PHYSICS PAPER 1

QUESTION PAPER

FORM THREE

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.
- You may use 'g' as $10m/s^2$

For Examiner use only

SECTION	QUESTION	MAX MARKS	CANDIDATE'S SCORE
A	1 – 13	25	
	14	13	
	15	13	
	16	13	
	17	10	
	18	06	
	TOTAL	80	

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SECTION A (25 MARKS)

1. The figure 1 shows a measuring cylinder which contains water initially at level A. A solid mass 11g and density 1.571g/cm^3 is immersed in the water. The level rises to B.

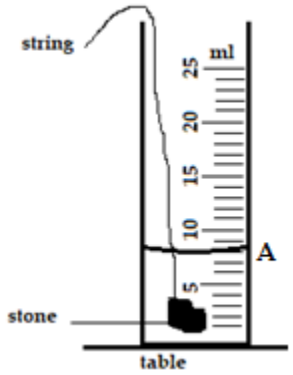


Figure 1

On the same diagram, indicate the level, B (carefully show your working) **(3mks)**

2. Name two types of forces which can act between objects without contact. **(2mks)**

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3. Figure 2 shows a beaker placed on a bench. A block of ice is placed in the beaker as shown. State and explain the change in the stability of the beaker when the ice melts. **(2mks)**

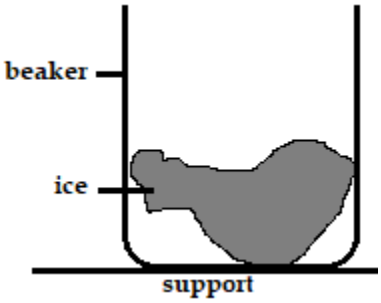


Figure 2

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4. Give a reason why water is not a suitable liquid for use in a barometer **(1mk)**

……

……

……

5. An astronaut is on the moon. He drops a hammer from a height of 3.2m and it takes 2.0s to hit the lunar landscape. What is the acceleration due to gravity of the moon? **(3mks)**

6. Give a reason why a concrete beam reinforced with steel does not crack when subjected to changes in temperature. **(1mk)**

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7. Liquids expand more than solids. Explain **(1mk)**

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……

8. The Screw of micrometer screw gauge has a pitch of 0.5mm. The thimble is divided into 50 equal divisions. What is the smallest unit it can measure? **(2mks)**

9. It is easier to bend an iron rod than a glass rod of the same dimensions at room temperature. Give a reason for this **(1mk)**

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10. A pupil blows a current of air over the surface of a sheet of paper held close to its mouth. State and explain what happens to the paper. **(2mks)**

11. Sketch a velocity- time graph showing the motion of a ball vertically upwards with an initial velocity of u. **(2mks)**

12. The figure shows a speed-time graph for part of the journey of a motorcar

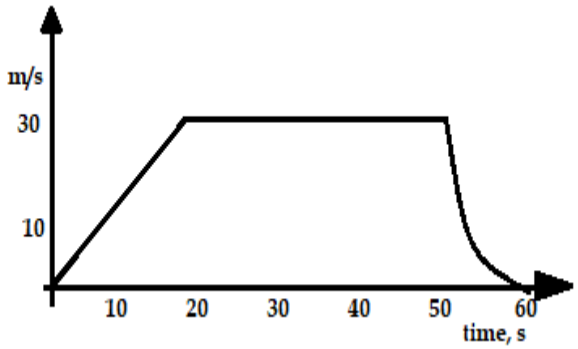


Figure 3

Determine the distance the car travels in the first 40 seconds **(3mks)**

13. In a vacuum flask the walls enclosing the vacuum are silvered on the inside. State the reason for this **(2mks)**

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SECTION B (55 MARKS)

14. Figure 4 shows a cylindrical can filled with a liquid of density 0.8 gcm^{-3}. A hole of diameter 2.0 cm is drilled at a depth of 2.8 m from the top of the can.

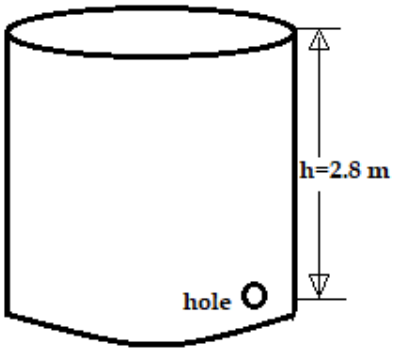


Figure 4

a. Determine:

i. The cross-sectional area of the hole. **(2mks)**

ii. The maximum pressure exerted by the liquid at the hole. **(2mks)**

iii. The maximum force exerted on a jet of liquid through the hole. **(2mks)**

b. State the principle of moments **(1mk)**

……

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……

……

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c. A metre-rule whose centre of gravity is at the 50cm mark balances at the 35cm mark when a mass of 500g is placed at the 25cm mark as shown in the figure 5 below.

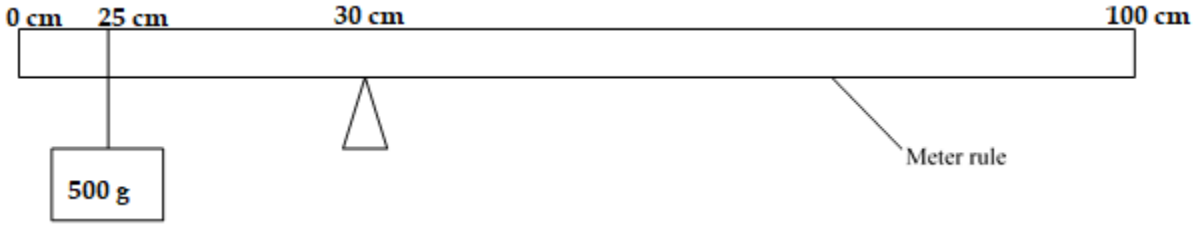


Figure 5

Determine:

i. The mass of the meter-rule **(3mks)**

ii. With the metre-rule remaining on the knife-edge at the 30 cm mark, a mass of 125g is suspended from the 70 cm mark. The mass of 500g is moved until the rule is balanced. Determine the new position of the 500g mass **(3mks)**

15. The diagram below (not drawn to scale) shows part of the motion of a tennis ball, which is projected vertically upwards from the ground and allowed to bounce on the ground. Use this information to answer questions that follow.

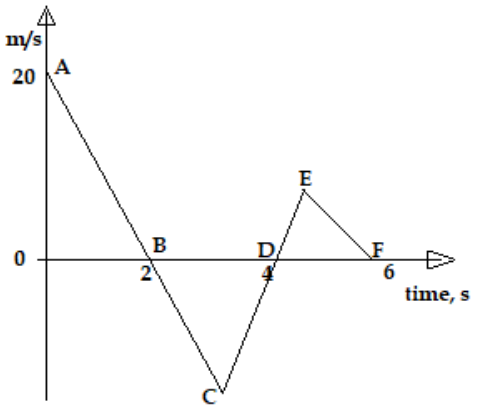


Figure 6

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a. Describe the motion of the ball relating it to different positions of the ball along the following AB, BC, CD. **(3mks)**

i.AB

……

……

……

BC

……

……

……

CD

……

……

……

b. From the graph, calculate the acceleration due to gravity. **(2mks)**

c. Explain why E is not at the same level as A. **(1mk)**

d. An object dropped from a height h attains a velocity of 6m/s just before hitting the ground, find the value of h. **(3mks)**

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e. A helicopter, which was ascending vertically at a steady velocity of 20m/s, released a parcel that took 20 second to reach the ground. State and explain the direction in which the parcel moved immediately it was released. **(1mk)**

f. An airplane is flying horizontally over a camp at 250m/s and drops a pack. How far from the camp will the pack land if the plane was flying 300m above the ground? **(3mks)**

16.

a. Define the following terms:

i. Momentum **(1mk)**

……

……

ii. Terminal velocity **(1mk)**

……

……

……

b. A body is initially in motion. If no external force acts on the body, describe the subsequent motion. **(1mk)**

……A force of 6N acts on a 2kg trolley and accelerates at 2 m/s^2. Calculate the retarding force acting on the trolley. **(3mks)**

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c. A car of mass 800kg starts from the rest and accelerates at $1.2ms^{-2}$. Determine its momentum after it has moved 400m from the starting point. **(3mks)**

d. The diagram shows a tall measuring cylinder containing a viscous liquid. A very small steel ball is released from rest at the surface of the liquid as shown.

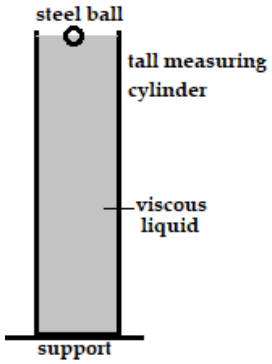


Figure 7

i.On the space alongside the diagram, sketch the velocity- time graph for the motion of the ball from the time it is released to the time just before it reaches the bottom of the cylinder. **(1mk)**

ii. Name all the forces acting on the ball when it is mid-way through the tall measuring cylinder **(3mks)**

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17.

a. The figure 7 below shows a tube of varying cross-section area. V_1, V_2, V_3 and V_4 represent the speeds of water as it flows steadily through the section of the tube.

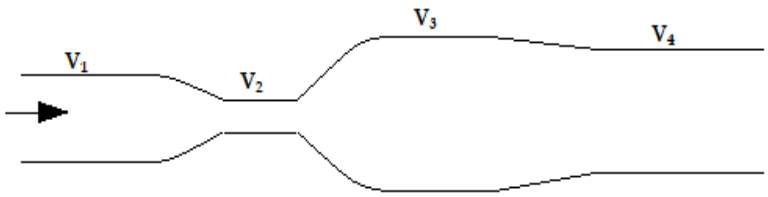


Figure 8

i. Arrange the speeds V_1, V_2, V_3 and V_4 in decreasing order starting with the highest **(1mk)**

……

……

ii. Figure 9 shows two identical inflated balloons hanging vertically on light threads. When a stream of air is blown in the space between the balloons, they are observed to move towards each other. Explain this observation. **(2mk)**

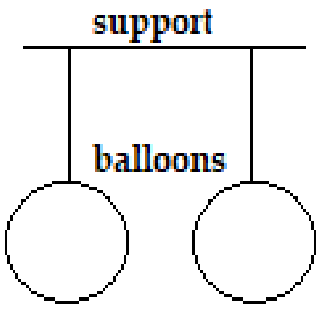


Figure 9

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b. The figure below is an illustration of a Bunsen burner. Explain how air is drawn into the burner when the gas tap is opened **(3mks)**

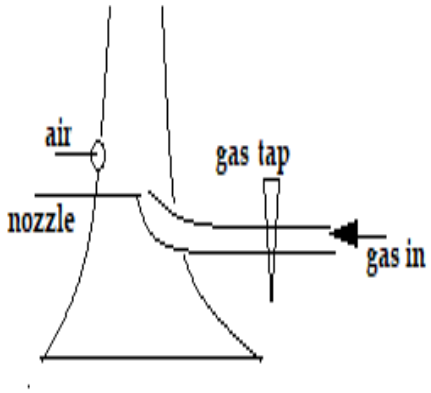


Figure 10

c.

i.State Hookes' law **(1mk)**

ii. The figure 11 shows a spring balance of spring constant 125N/m. The scale spreads over a distance of 20 cm.

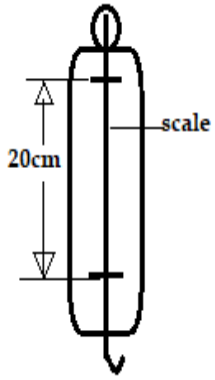


Figure 11

Determine the maximum weight that can be measured using the spring **(3mks)**

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18. The figure below shows a liquid being siphoned from one beaker to another.

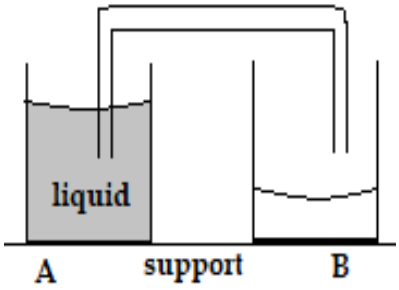


Figure 12

a.

i. Indicate on the diagram the direction of flow of the liquid **(1mk)**

ii. State any two conditions necessary for the above machine to operate **(2mks)**

b. Describe the difference between a liquid and gas in-terms of intermolecular distance **(1mk)**

c. State the reason why it is easier to separate water into drops than to separate a solid into smaller pieces **(1mk)**

d. A bottle containing a smelling gas is opened at the front bench of a classroom. State the reason why the gas is detected throughout the room **(1mk)**

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