PROGRESSIVE STUDENTS F3 END TERM 3 SERIES 1 EXAMS *(14 SUBJECTS TESTED)*



PROGRESSIVE STUDENTS
FORM THREE
END TERM 3 SERIES 1 EXAMS

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ORDER OF THE 14 SUBJECTS TESTED

(ALPHABETICALLY ARRANGED)

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

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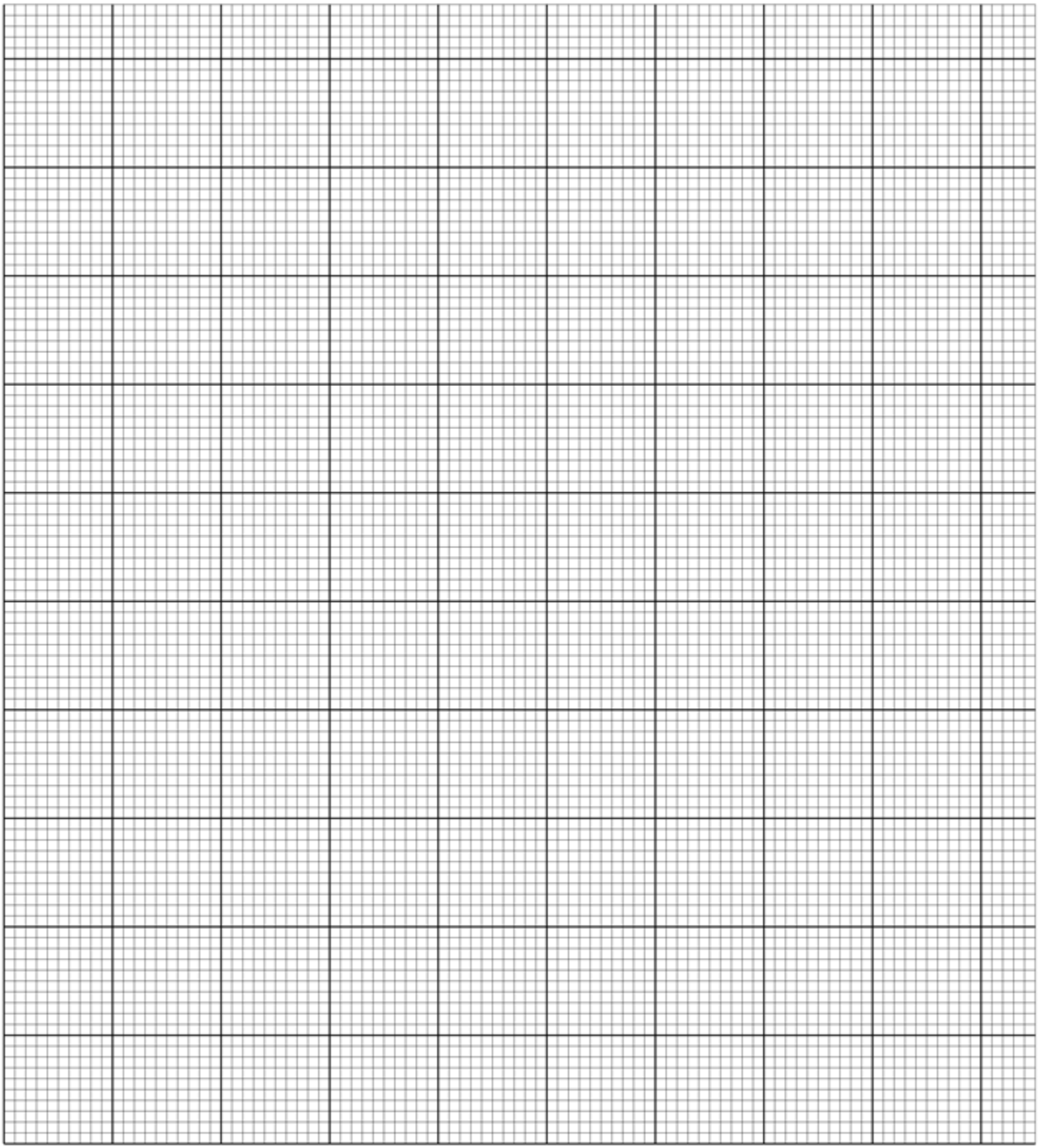
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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3
AGRICULTURE
FORM THREE
PAPER 1
Time: 2 Hours
INSTUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided
- This paper consists of three sections **A, B** and **C.**
- Answer all the questions in sections **A** and **B** and any other two in section **C**
- All answers must be written in the spaces provided in this booklet.

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-17	30	
B	18-21	20	
C	22-24	40	
	TOTAL SCORE	**90**	

SECTION A: 30 MARKS

1. Give **four** factors that would determine the stage at which a crop is harvested. **(2mks)**

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2. State **four** disadvantages of organic mulches. **(2mks)**

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3. Outline four functions of magnesium in crops . **(2mks)**

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4. State four objectives of land tenure reform. **(2mks)**

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5. State **two** disadvantages of late defoliation in pasture management. **(1mk)**

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6..Give **four** benefits of a good soil structure in crop production. **(2mks)**

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7. Name **four** farm records that should be kept by a poultry farmer. **(2mks)**

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8. State four ways in which burning of vegetation may lead to lose of soil fertility **(2mks)**

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9. State ***four*** symptoms of viral diseases in crops. **(2mks)**

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10. State ***three*** methods of classifying herbicides. **(1½mks)**

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11. Give ***four*** methods of applying fertilizers to crops. **(2mks)**

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12. State **three** advantages of drip irrigation **(1½ mks)**

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13. Outline **two** ways of controlling damping off diseases on vegetable seedlings in a nursery **(1mk)**

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14. State **three** reasons for top dressing pasture. **($1^1/_2$mks)**

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15. State **three** activities the farmer carries out on a store before storing grains. **($1^1/_2$mks)**

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16. Give **four** desirable characteristics of certified seeds. **(2mks)**

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17. State **four** factors that contribute to competitive ability of weeds. **(2mks)**

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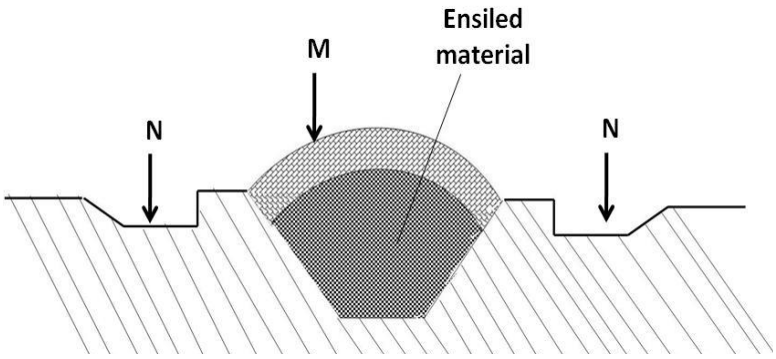
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SECTION B (20 MARKS)

Answer all the questions in this section in the spaces provided

18. The diagram below shows a silo. Study it carefully and answer the questions that follow.



(a) Identify the type of silo shown on the diagram. **(1mk)**

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(b) State the use of the part labeled M and N **(2mks)**

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(c) Give **two** ways of ensuring that anaerobic conditions are achieved during silage making process. **(2mks)**

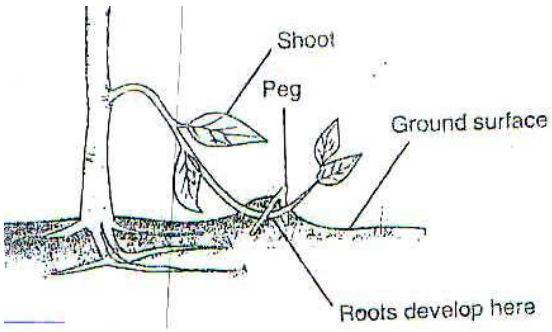
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19. Study the diagram below of crop propagation and answer the following questions



(a) Identify the propagation method **(1mk)**

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(b) State two factors that encourage root formation in the above method of propagation. **(2mks)**

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(c). Name two crops that can be propagated using the above method **(2mks)**

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20. The photograph below shows an irish potato plant attacked by a disease. Study it and answer the questions that follow.



(a) Identify the disease represented by the photograph**.** **(1mk)**

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(b) Name the causative agent of the diseases**.** **(1mk)**

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(c) Give one other crop that can be attacked by the same disease**.** **(1mk)**

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(d) List two control measures of the disease. **(2mks)**

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21. The photographs below show common weeds C and D in pasture land. Study them carefully and answer the questions that follow.



C



D

Identify weeds C and D**.** **(2mks)**

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Classify weed D according to plant morphology. **(1mk)**

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State the major problem posed by weed D in pasture land. **(1mks)**

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SECTION C (40 MARKS)

Answer any TWO questions from this section in the spaces provided after question.

22. (a) Explain **five** factors that should be considered when siting a vegetable nursery. **(5mks)**

(b) Explain six factors that should be considered when selecting seeds for planting. **(6mks)**

(c) Explain the different ways in which each of the following environmental factors Influence crop production:

(i) Temperature; **(4mks)**

(ii) Wind. **(5mks)**

23.(a) Explain the benefits of land consolidation. **(6mks)**

(b) Briefly explain **six** factors influencing mass wasting**.** **(6mks)**

(c) Describe **eight** cultural methods of controlling diseases in crop production. **(8mks)**

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24 (a) Explain five factors that determine the spacing to be used in crops. **(10mks)**

(b) Describe seven nursery practices carried out while seedlings are still growing**.** **(7mks)**

(c) Outline three precautions taken in harvesting tea**.** **(3mks)**

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FORM THREE

AGRICULTURE

PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- Write your **name** and **index number** in the spaces provided.
- 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	QUESTION	MAXIMUM SCORE	IDATE'S SCORE
A	1-20	30	
B	21-23	20	
C	24-26	20	
		20	
	TOTAL	**90**	

SECTION A (30 MARKS)

Answer all the questions in this section.

1. State the name of the tool used to widen screw holes for the screw heads to be below the surface. **(½mks)**

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2. Name **two** tropical dairy goats. **(1mk)**

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3. List **three** harmful effects of tsetse flies on livestock. **(1½mks)**

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4. State **two** reasons for including roughage in the ration of non-ruminant. **(1mk)**

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5. State **two** factors considered during tupping. **(1mk)**

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6. Give **two** reasons why teeth clipping is important in pig management. **(1mk)**

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7. State **two** reasons for seasoning timber before use. **(1mk)**

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8. State any **four** ways of preparing fish after harvesting. **(2mks)**

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9. Give **two** reasons why teaser rams are introduced to a flock of ewes some weeks before tupping. **(2mks)**

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10. State **four** factors that necessitate culling in sheep management **(2mks)**

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11. State **four** measures that should be taken to prevent an outbreak of Newcastle disease in poultry. **(2mks)**

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12. Explain the term digestibility as used in livestock production **(1mk)**

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13. State **four** factors considered in housing management to control endoparasites. **(2mks).**

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14. Name **three** methods used in selection of livestock. **(1½mks)**

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15. Mention **three** purposes of branding in cattle. **(1½mks)**

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16. State **four** methods used in controlling lice in Kenya. **(2mks)**

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17. Give **four** signs of heat in a rabbit. **(2mks)**

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18. List **four** advantages of practicing zero-grazing. **(2mks)**

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19. Differentiate between crutching and ringing in livestock management. **(1mk)**

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20. Mention **four** areas on a hen that are frequently affected by fleas. **(2mks)**

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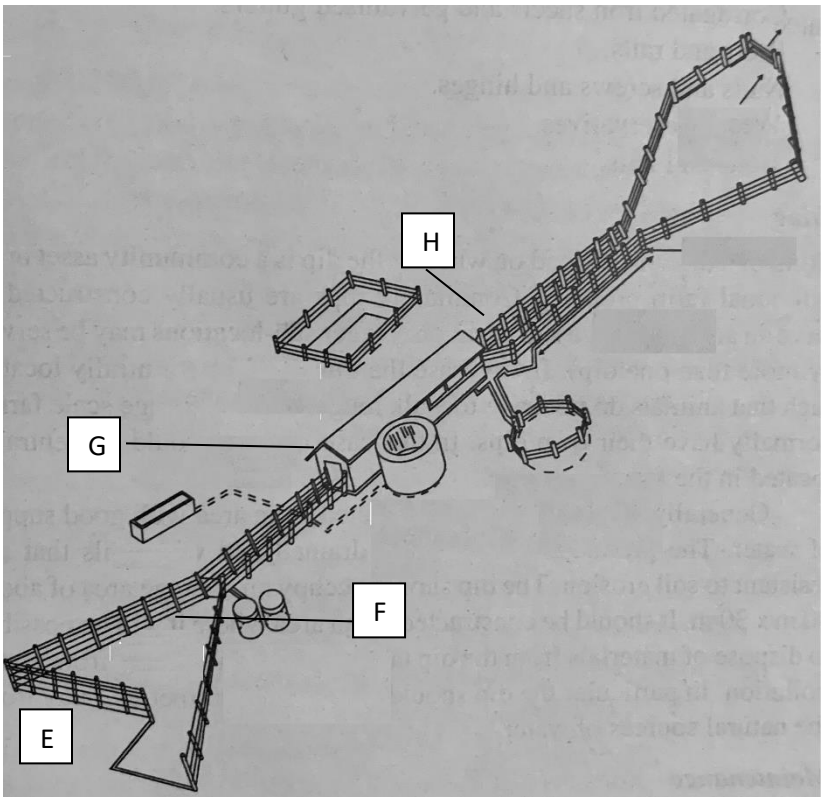
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SECTION B (20 MARKS)

Answer all questions in this section in the spaces provided in the question paper.

21. Study the diagram drawn below and answer the questions that follow:



(i) Name the parts labeled **E** and **F**. **(1mk)**

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(ii) State **two** importance of part **G**. **(2mks)**

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(iii) Give **two** reasons for holding animals for a short period in part **H** after dipping. **(2mks)**

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(iv) Outline **three** precautionary measures to be taken before dipping to ensure effective dipping. **(3mks)**

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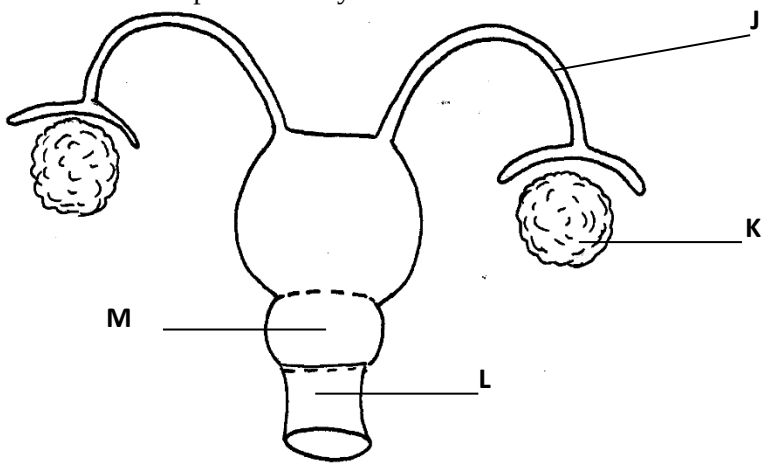
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22. The diagram below shows the reproductive system of a cow.



Study it carefully and answer the questions that follow.

(a)(i) Name the parts labeled **J, K, L** and **M.** **(2mks)**

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(ii) State the function of each of the parts labeled **J** and **K.** **(2mks)**

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(b) State **three** signs of parturition in cows. **(3mks)**

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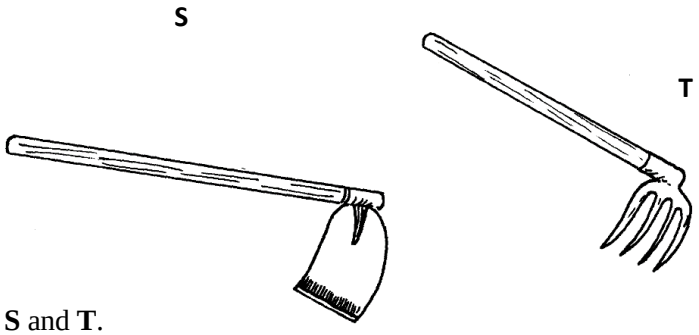
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23. Study the diagrams **S** and **T** below and answer the questions that follow:



(a) Identify the tools **S** and **T**. **(2mks)**

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(b) Under what conditions would you require to use tool **T** rather than tool **S**? **(2mks)**

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(c) State **two** maintenance practices for the above tools. **(1mk)**

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SECTION C (40 MARKS)

Answer any two questions from this section

24. (a) Outline the maintenance practices of farm structures. **(6mks)**

(b) Describe the requirement of an ideal calf pen. **(12mks)**

(c) Name **two** wood preservatives. **(2mks)**

25.(a) Name **two** types of fish kept in ponds in Kenya **(1mks)**

(b) What factors should be considered when sitting farm structures. **(10mks)**

(c) Describe the procedure of processing wax from honey combs. **(8mks)**

26. (a) What is aquaculture? **(2mks)**

(b) Describe **two** methods used in fish preservation. **(2mks)**

(c) Describe East Coast Fever under the following headings:

(i) Causal organism **(1mk)**

(ii) Four Symptoms **(4mks)**

(iii) Three Control measures **(3mks)**

(d) Describe the life cycle of a named three host tick **(8mks)**

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END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3

BIOLOGY – PAPER ONE (231/1)

FORM THREE (3)

Time - 2 Hours

Instructions to candidates:

- Write your name, class and admission number in the space provided above.
- Write the date of the examination and sign in the space provided above.
- Answer **all** the questions in the spaces provided.
- You may be **penalized** for wrong spelling, especially of technical terms.

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Question	Maximum Score	Candidate's Score
1-32	80	

1.(a) Flowering plants can be divided in two groups; monocotyledons and dicotyledons. Complete the table below to state the differences between these two types of flowering Plants **(2mks)**

Difference	Monocotyledons	Dicotyledons
Pattern of leave veins		
Number of petals present		

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(b) Explain why division Pteridophyta considered more advanced than division Bryophyta **(2mks)**

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2.Sometimes teeth develop dental decay. Describe how dental decay develops. **(3mks)**

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3. (a) Explain why each of the following steps is carried out during preparation of slides for microscopic preparation**.** **(3mks)**

i.Fixation

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ii. Cutting thin section

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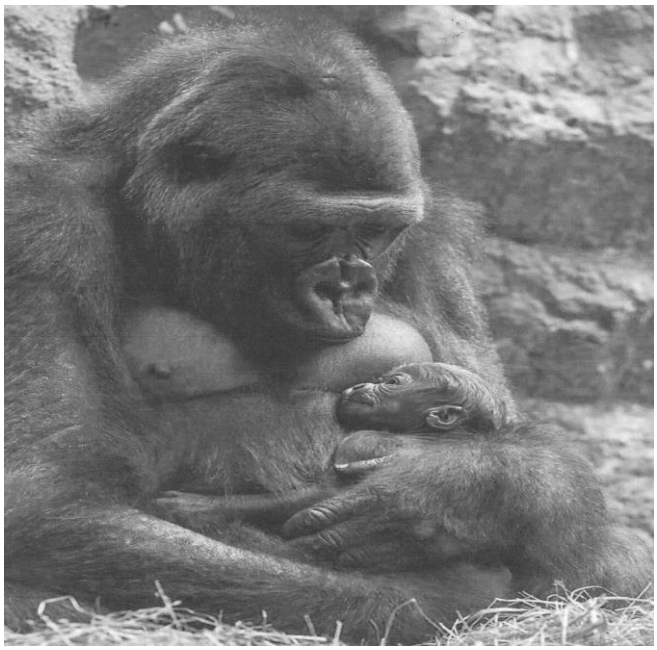
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iii. Staining

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4.The photograph below shows a gorilla with her baby.



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Gorillas have characteristics that are only found in mammals and not in any other vertebrate group.

State:

(i) One mammalian characteristic visible in the above photograph. **(1mk)**

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(ii) Two mammalian characteristics not visible in the photograph. **(2mks)**

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5. (a) What is **BMR?** **(1mk)**

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(b) Explain why Rat eats more food than Elephant? **(2mks)**

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6.Arteries are made of three layers. The innermost layer is endothelium. Differentiate the composition of the middle layer and the outer layer. **(2mks)**

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7. (a) Define the term Immunity **(1mk)**

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(b) Explain the events that leads to allergic reactions **(3mks)**

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8.State two uses of digested food in the bodies of animals**.** **(2mks)**

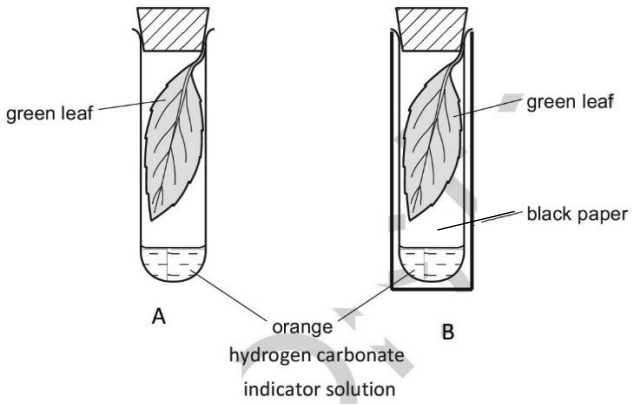
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9.Two similar leaves are set up in test-tubes as shown below.



After a few hours, which colour would be hydrogen carbonate indicator solution be in each tube? **(2mks)**

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10. Which organelles are present in large numbers in cells that produce Insulin? Give a reason for your answer.

(2mks)

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11. (a) Define Oxygen debt **(1mk)**

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(b) State mechanism by Oxygen debt is paid back **(1mk)**

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12. Define the following terms **(2mks)**

(a) Phyllotaxy

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(b) Taxonomy

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13. Name two processes that bring about the translocation of manufactured food. **(2mks)**

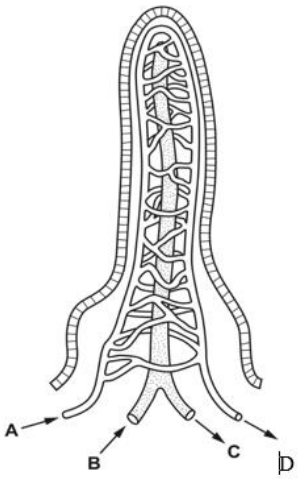
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14. The diagram shows a villus. The arrows show the direction of flow within vessels associated with the villus.



(a) Which vessel caries blood to the liver? **(1mk)**

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(b) Name 2 substances transported to the liver by the vessel named in **(a)** above**.** **(2mks)**

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15. State why the following processes are essential in living Organisms.

(i) Irritability **(1mk)**

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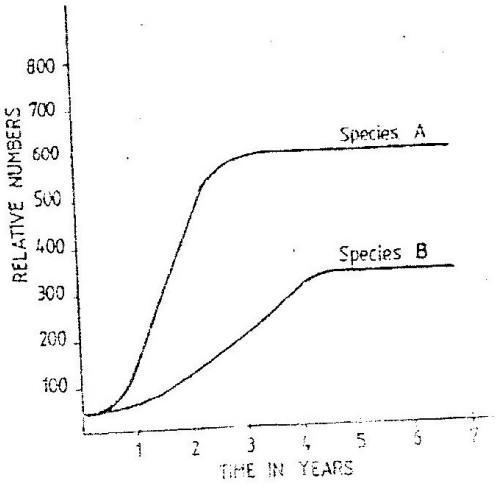
(ii) Reproduction **(1mk)**

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16. The herbivorous mammalian species were introduced into an ecosystem at the same time and in equal numbers. The graph below represents their populations during the first seven years. Study the graph and answer the questions that follow.



(a) Which species has a better competitive ability? **(1mk)**

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(b) Give reason for your answer; **(1mk)**

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17. *Toxoplasma* is a single –celled organism that has no cell wall and no chlorophyll. Gases are exchanged across the cell membrane of *Toxoplasma.*

Name:

(i) The gas produced by *Toxoplasma* **……..... (1mk)**

(ii) The process that produce the gas**…… (1mk)**

(iii) The method of removal of the gas **…… (1mk)**

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18. What is the significance of diffusion to plant pollination? **(1mk)**

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19. A researcher investigated the population growth of fish for fish farming. The researcher stocked a farmer's lake with a small number of these fish and recorded the number of fish over the next five years. The researcher's results showed that the population of fish had increased exponentially.

(i) Use the axes to show the **exponential growth** in the population of fish. Label the axes and draw a suitable curve**.** **(3mks)**



20. Single-celled Organisms with cell walls do not have contractile vacuoles. Suggest why. **(2mks)**

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21. Describe what is meant by the term *sustainable resource,* using forests as an example. **(2mks)**

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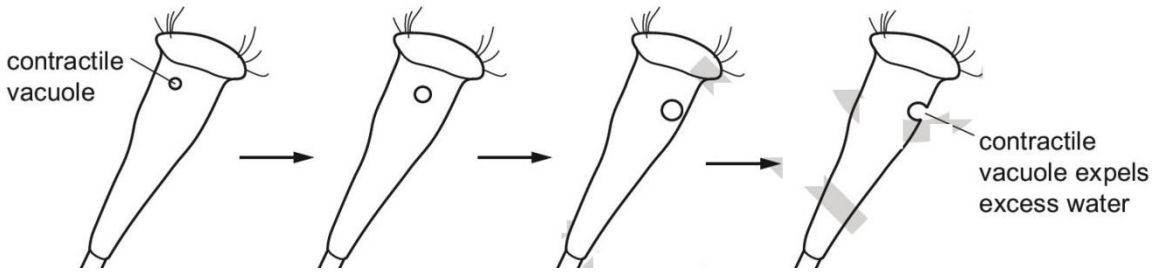
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22. *Rhabdostyla* lives in freshwater habitats, such as pond, lakes and rivers where solute concentration is low. *Rhabdostyla* has a contractile vacuole that fills with water and empties at intervals as shown in. The contractile vacuole removes excess water.

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Explain , using the term **water potential**, *Rhabdostyla* needs to remove excess water. **(3mks)**

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23. State the significance of the following adaptation in a leaf. **(1mk)**

(a) Thin

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(b) Presence of air spaces **(1mk)**

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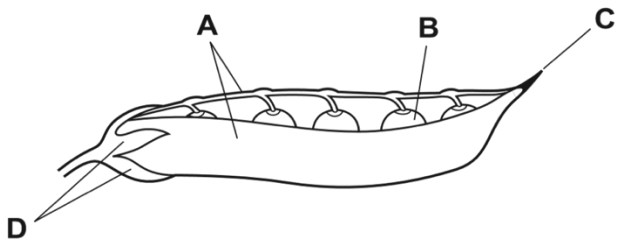
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(c) Spongy Mesophyll layer **(1mk)**

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24. The diagram below shows a section of a long pea pod, the fruit of a pea plant.



Name the parts of the original pea flower from which structures **A** and **B** have developed. **(2mks)**

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25. (a) Which organ produces urea? **(1mk)**

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(b) Name two organs that removes excretory products from the blood? **(2mks)**

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26. Name the root zone characterized by rapid and active absorption of water. **(1mk)**

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27. Explain the difference between self-pollination and cross pollination. **(2mks)**

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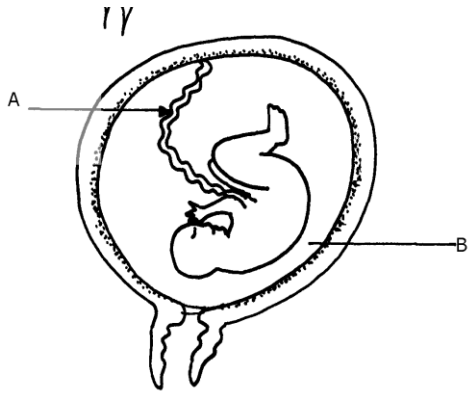
28. When blood is flowing through a venacava, which main blood vessel will it flow through next? **(1mk)**

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29. The diagram below represents a stage in the development of human foetus



(a) State **one** function of each of the structures labeled **A** and **B** **(2mks)**

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(b) A part from the size of the foetus what else from the diagram illustrates that birth was going to occure in the near future**.** **(1mks)**

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30. Name the sites through which transpiration takes place in a plant. **(3mks)**

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31. (i) Explain the role of enzymes in respiration. **(1mk)**

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(ii) Give a word equation for aerobic respiration. **(2mks)**

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(iii) Explain two disadvantages of anaerobic respiration **(2mks)**

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32. Give two reasons for loss of energy from one trophic level to another in a food chain. **(2mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3
BIOLOGY – PAPER TWO (231/2)
FORM THREE (3)
Time - 2 Hours

INSTRUCTIONS

1.This paper has **two** sections: **A** and **B.**
2.All Questions in **Section A** are **compulsory.**
3.Question 6 is **compulsory.**
4.Choose one question between questions 7 or 8.
5.Write your answers in the spaces provided after each question.
6.Wrong spelling of technical terms shall be **penalized**.

Section	Question	Max Score	Student's Score
	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
	6	20	
	7 or 8	20	
TOTAL SCORE		80	

SECTION A

1. The green plants are autotrophic hence carry a chemical reaction that is shown below under certain conditions.

Carbon (IV) Oxide + Water ⟶ X + Oxygen

a) What is the name of substance X. **(1mk)**

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b) State two conditions necessary for the process to proceed. **(2mks)**

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c) What process is represented by the process above.

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d) Name the tissue that are specialized to carry the process named in **(C)** above. **(2mks)**

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e) State adaptation of the organelle that serve as site of the process. **(3mks)**

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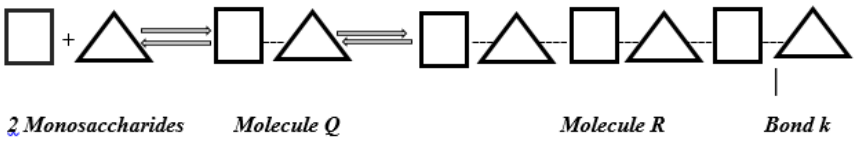
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2. The diagram below shows some reactions of carbohydrates. Study the diagram and use it to answer the questions that follow.



a) State **TWO** differences between molecules **Q** and **R.** **(2mks)**

Q	R

b) i) Identify bond labelled **K.** **(1mk)**

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ii) Suggest **TWO** ways of breaking bond labelled **K**. **(2mks)**

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c) How would u test a sample of urine for proteins. **(3mks)**

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3. a) List **THREE** ways through which energy is lost in an ecosystem. **(3mks)**

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b) Give **TWO** example of symbiotic relationship in a natural ecosystem. **(2mks)**

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c) i) What is ***density*** in relation to population size **(1mk)**

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ii) Differentiate between ***density dependent*** and ***density independent*** factors in population growth. **(2mks)**

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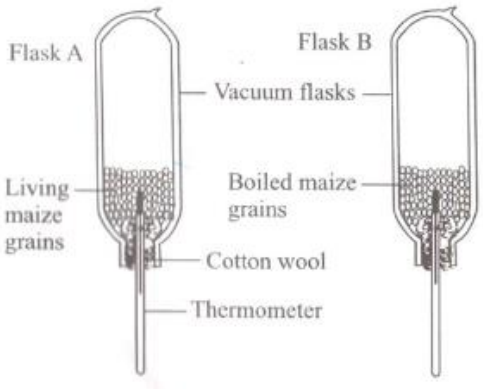
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4. A student set up an experiment using living maize grain and boiled maize grain as shown below.



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

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b) State the observations made in each of the flasks after 24 hours. **(2mks)**

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

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d) Suggest why the vacuum flasks were used in this experiment **(2mks)**

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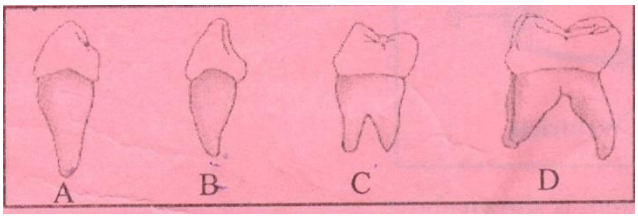
e) What alteration would you make in the set up to make the results more reliable **(1mk)**

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5. The diagram below were pulled out human cadaver. Study them and use them to answer the following questions.



a) Define the term homodont dentition. **(2mks)**

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b) Identify the teeth labeled **A** and **B** **(2mks)**

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c) State the use of the teeth **B** and **C** **(2mks)**

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d) Give reasons why **D** is prone to tooth decay **(2mks)**

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SECTION B

6.Some students used a model to demonstrate the effect of sweating on human body temperature. Two boiling tubes **A** and **B** were filled with hot water. The surface of tube **A** was continually wiped with a piece of cotton wool soaked in methylated spirit. The temperature of water in the tubes was taken at the start of the experiment and then 5 minutes interval. The results obtained are as shown in the table below.

Time(in minutes)	Temperatures(^oC) in tubes	
	A	**B**
0	**80**	**80**
5	**54**	**67**
10	**40**	**59**
15	**29**	**52**
20	**21**	**47**
25	**18**	**46**

a) On the same axis plot graphs of temperature of water in the tubes against time. **(7mks)**

(b) At what rate was the water cooling in tube **A?** **(2mks)**

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(c) Why was tube **B** included in the set up? **(1mk)**

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(d) Account for the rate of cooling in tube **A** **(3mks)**

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(e) State **two** processes of heat loss in tube **B.** **(2mks)**

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(f) What would be the expected results if tube **B** was insulated**?** **(1mk)**

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(g) What would the insulation be compere to in

i.Birds? **(1mk)**

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ii. Mammals? **(1mk)**

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(h) Name the structures in the human body that detect

i. External temperature changes **(1mks)**

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ii Internal temperature changes **(1mk)**

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7.a) Outline the role of the placenta in an expectant mother. **(4mks)**

b) Describe the menstrual cycle in human females. **(16mks)**

8 Describe the structure and functions of various organelles in a mature animal cell. **(20mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3

BIOLOGY – PAPER THREE (231/3)

FORM THREE (3)

Time - 2 Hours

Instructions to candidates:

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

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

c) Answer **all** the questions in this paper.

d) You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper reading the whole paper carefully.

e) This paper consists of **7** Printed pages.

f) Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing.

For Examiner's Use Only

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	17	
2	13	
3	10	
TOTAL	40	

1. You are provided with Specimen **Q**

a) Name the part that develops into specimen **Q** **(1mk)**

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b) Cut specimen **Q** longitudinally to obtain two separate halves. Draw a surface of the cut specimen and label a seed and pericarp. **(4mks)**

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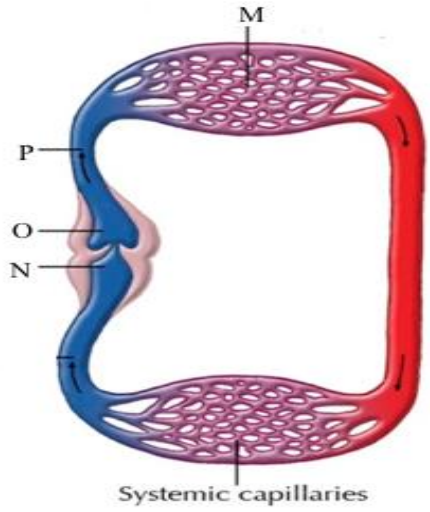
c) From the cut sections of specimen **Q** gently squeeze some juice into clean beaker labelled substance **R**

Using the reagents provided, test for the food substance in substance **R** **(12mks)**

Food substance	Procedure	Observation	Conclusion

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2.Below is a representation of the circulatory system in Fish.



a) With reference to the diagram, classify fish into the following taxa.

i.Kingdom **(1mk)**

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ii. Phylum **(1mk)**

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Reason **(2mks)**

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iii. Class **(1mk)**

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Reason **(2mks)**

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b) Name the parts labelled **M,N,O** and **P** **(4mks)**

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c) (i) State the type of circulation present in fish shown above **(1mk)**

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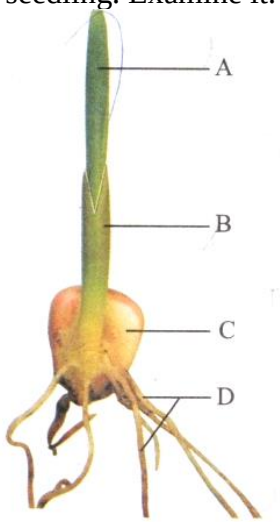
(ii) Give a reason for your answer **(1mk)**

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3.The photograph below is that of a plant seedling. Examine it.



(a) Using observable features, Name the class to which the specimen belongs.

Class **(1mk)**

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Reason. **(3mks)**

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(b) State the function of the parts labelled **A,B,C** and **D** **(4mks)**

PART	FUNCTION
A	
B	
C	
D	

(c) Name the type of germination and give reason of the above diagram**.** **(2mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

FORM 3

BUSINESS STUDIES PAPER 1

565/1

TIME: 2HRS

INSTRUCTIONS TO CANDIDATES:

i. Write your name, index number and admission number in the spaces provided above.

ii. Answer **ALL** the questions.

iii. Candidates should check to ascertain that all pages are printed and that no questions are missing.

For Examiner's Use Only:

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

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

TOTAL MARKS

1.Outline four elements of economic environment that may negatively influence the operations of a business. **(4mks)**

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2.State four circumstances under which a trader would adopt a policy of cash with order (C.W.O). **(4mks)**

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3.Highlight four functions of an office in an organization. **(4mks)**

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4.The following balances were extracted from the books of Noxx Traders on 31st December 2021.

Items	**Kshs**
Capital	500,000
Cash in hand	20,000
Buildings	200,000
Furniture	25,000
Motor vehicle	400,000
Creditors	18,000
Debtors	36,000
Bank	100,000
Bank loan	263,000

Using the above information, prepare Noxx Traders Trial Balance on 31st December 2021. **(4mks)**

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5.State four ways in which consumers may protect themselves against exploitation from unscrupulous traders. **(4mks)**

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6.State four features of human wants **(4mks)**

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7.Outline four reasons why an increase in per capita income may not necessarily lead to rise in the standard of living of the citizens. **(4mks)**

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8.Apart from memorandum of association, name four other documents required by the registrar of companies during the registration of a public limited company. **(4mks)**

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9.Outline four measures that the Kenya government may take to curb the problem of unemployment. **(4mks)**

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10. By use of the balance sheet equation, determine the missing figures in the table below. **(4mks)**

Business	Assets (shs)	Capital (shs)	Liabilities (shs)
A	40,000		15,734
B		158,300	61,500
C	17,670	5,680	
D	67,000		24,705

11. List four types of small scale retail businesses that one can run without a shop **(4mks)**

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12. Outline four demerits of using containers as a way of transporting goods. **(4mks)**

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13. Highlight four factors that would make two people taking the same type of life assurance policy with the same insurer to pay different amounts of premium. **(4mks)**

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14. State four factors that may cause the supply curve to shift to the left. **(4mks)**

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15. State four benefits of a bonded warehouse to the government. **(4mks)**

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16. From the following statements, identify the suitable characteristic of an entrepreneur. **(4Mks)**

Statement	Characteristic
Entrepreneurs are achievers who work towards set goals.	
Entrepreneurs can sense opportunities in the future by observing world trends.	
Entrepreneurs are commited to their work	
Entrepreneurs do not give up easily	

17. The following balance sheet belongs to Kipchoge during the period ended 30th June 2020.

Kipchoge Traders

Balance sheet

As at 30.06.2020

Fixed assets		Capital + liabilities	
Machinery	45,000	Capital	65,000
Current assets		Bank loan	10,000
Stock	7,750	Creditors	4,500
Debtors	1,375		
Bank	25,375		
	79,500		79,500

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The following transactions took place on July 1 2020.

(i) Paid creditors Sh 4000 by cheque.

(ii) Kipchoge took stock worth Shs 3500 from the business for his son's birthday.

(iii) Motor vehicle previously owned by Kipchoge values at sh 800,000 was converted into a business vehicle.

Required: Prepare the balance sheet of Kipchoge traders as at 2nd July 2020.

18. Outline four factors that may be considered when measuring the size of a firm. **(4mks)**

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19. Highlight four challenges that a person may encounter when using a cellphone. **(4mks)**

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20. Outline four disadvantages of advertising through the radio. **(4mks)**

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21. Identify the type of error made in recording each of the following transactions in the table below: **(4mks)**

Transaction	Type of Error
The amount in an invoice for goods purchased was recorded in the books as KES 8,000 instead of KES 800	
Purchase of office machine was debited to the purchases account.	
Despite agreement of the trial balance, sales and purchases had been overstated by KES 6,000 in each case.	
A cheque for KES 110,000 was recieved from Amwoka, debited in his account and credited in the bank account.	

22. Outline four ways through which a firm may acquire monopoly power **(4mks)**

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23. For each of the following transactions, indicate the accounts to be debited and those to be credited in the spaces provided. **(4mks)**

	Transaction	DR.	CR.
	Purchased office equipment on credit from Kairo Ltd.		
	Withdrew cash from business bank account to pay for son's school fees.		
	Paid creditors by cash.		
	Janet, a proprietor, converted a private car into a business asset.		

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24. Highlight four roles of intermediaries in the distribution of goods and services. **(4Mks)**

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25. Briefly highlight 4 disadvantages of direct production. **(4Mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

565/2
BUSINESS STUDIES PAPER 2
TIME 2 ½ HOURS

Instructions to candidate;

(i) This paper consists of six questions

(ii) Answer any five questions in the spaces provided

For examiners use only

Question	1	2	3	4	5	6	Total
Marks							

1.(a) Explain **five** factors that an entrepreneur would consider before investing in a business opportunity. **(10mks)**

(b) Outline **five** trends in product promotion. **(10mks)**

2. (a) Highlight **five** principles that guide the operations of a cooperative society **(10mks)**

(b) Explain **five** circumstances under which a firm can acquire monopoly power. **(10mks)**

3.(a) Outline **four** reasons why a farmer would choose to transport his produce by rail rather than road. **(8mks)**

(b) On 1st January 2010 Mwamba traders had Shs 130,000 cash in hand and bank credit balance of Shs. 134,000. During the month, the following transactions took place.

Jan 2, Cash sales Shs 215,000

Jan 5, Kenge a debtor settled his account of Shs. 800,000 by cheque less 5% cash discount

Jan 15, Paid salaries Shs 40,000 in cash

Jan 20, Settled Chacha a creditor's account Shs 80,000 by cheque less 2% cash discount.

Jan 24, Deposited Shs 100,000 into bank from office cash

Jan 25, Cash sales duly banked Shs 200,000

Jan 26, Paid daughter's medical fees Shs 365,000 from business bank account.

Jan 31, Banked all the cash except Shs 50,000

Required,

Prepare three column cash book duly balanced. **(12mks)**

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4.(a) Explain **five** characteristics of economic resources. **(10mks)**

(b) Kenya and Zambia are developing countries in Africa. Discuss **five** problems of using their national income statistics to compare the living standards of their citizens. **(10mks)**

5.(a) Explain **five** features of a good filing system. **(10mks)**

(b) Advertising in the Newspapers is one way of promoting sales of goods. Highlight **five** limitations of advertising goods in Newspapers. **(10mks)**

6.(a) Highlight any **four** disciplines that make business studies a great subject. **(8mks)**

(b) Kinyua, a form four leaver, started a small kiosk in his village immediately after his KCSE examinations and had the following assets and liabilities as at January 1st 2023.

Hustler Fund Loan	Kshs 3,800.	Cash	Kshs. 1,000.
Furniture	Kshs 3,500.	Creditors	Kshs. 2,500
Bank Overdraft	Kshs 1,600.	Stock	Kshs 4,000.
Debtors	Kshs 1,200.	Bicycle	Kshs 2,500.

During the month of January, the following transactions took place:

a) Sold good worth Kshs 1,800 for Kshs 5,000 which he duly banked.

b) Friends from school gifted him Kshs 5,000 which he instantly used to buy more stock.

c) Paid part of Hustler Fund loan Kshs 1,000 directly from bank.

d) A debtor paid Kshs 800 which he immediately used to settle a creditor who was in dire need of cash.

Required: Prepare Kinyua's Balance sheet as at 31st January 2023. **(12mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

CHEMISTRY233/1

Form 3- Paper 1

Term 3

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

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

(b) Write the school, date and sign in the spaces provided above.

(c) ALL workings must be clearly shown.

(d) Mathematical tables and electronic calculators may be used.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1 – 30	**80**	

1. Use the information in the table to answer the questions that follow (The letters do not represent actual symbols of elements)

Element	P	Q	R	S	T
Atomic number	20	8	18	8	19
Mass Number	40	16	40	18	39

a) Which two letters represent the same element? Give a reason **(1mk)**

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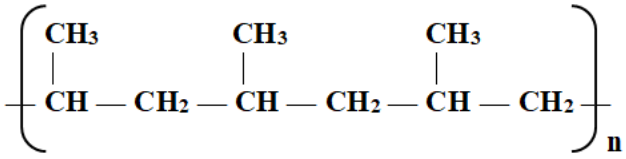
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b) Calculate the number of neutrons in an atom of element T. **(1mk)**

2.The structure given below represents a segment of a polymer. Use it to answer the questions that follow.



a) Derive the structure of the monomer. **(1mk)**

b) Given that that molecular mass of the polymer is 21,000. Find the number of the monomers. (C=12, H=1) **(2mks)**

3.Explain how you would separate the following chlorides from their mixture; Ammonium chloride, silver chloride and lead (II) chloride. **(3mks)**

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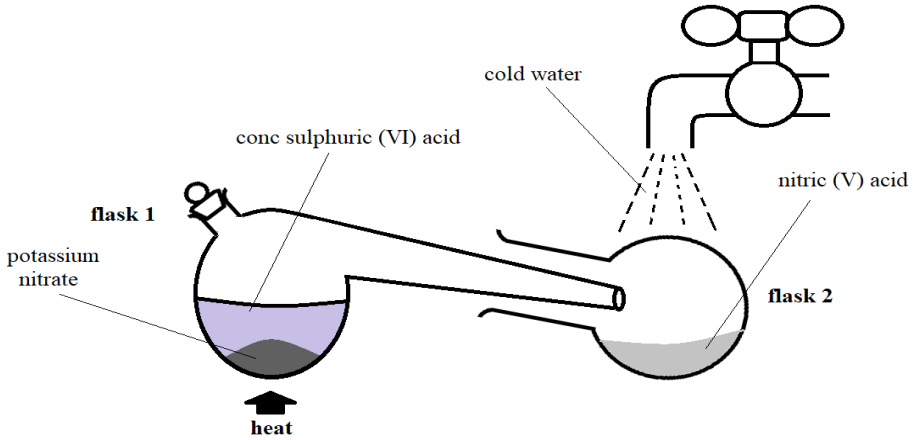
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4.The diagram below shows a setup that was used to prepare and collect a sample of nitric (V) acid in the laboratory.



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a) Why is it possible to produce nitric (V) acid in the setup above? **(1mk)**

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b) Write a chemical equation for the reaction that occurs in **flask 1** **(1mk)**

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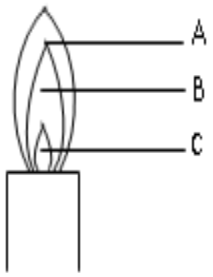
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c) Name another substance that can be used in the place of potassium nitrate **(1mk)**

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5.In the figure below:



a) Name the parts labeled **A, B**, and **C**. **(1½mks)**

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b) Which part of the flame above is the hottest? **(½mks)**

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6.The following observations were made on substances **P**, **Q**, **R**, and **S** before heating and after heating.

Substance	P	Q	R	S
Appearance before heating	Black liquid	Silvery solid	Colourless liquid	Colourless gas
Observation after heating	Liquids with different boiling points formed	Burns with a yellow flame; oxide formed	Liquid evaporates, leaving a white residue	Burns, forming carbon (IV) oxide and water

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a) Classify the substances as element, mixture, or compound **(2mks)**

i) P ……..

ii) Q ……..

iii) R ……..

iv) S ……..

b) How can the different liquids in **P** be obtained? **(1mk)**

……

……

……

7.Josephine walked into a chemistry laboratory, her long hair neatly tied back, her long toenails polished red and well visible in her lovely sandals, all ready for the afternoon experiment. Step one of the experiment was test for identity of a colourless solution which she quickly tasted to confirm. State two laboratory rules Mary broke during the session. **(1mk)**

……

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8.60 cm^3 of ozone (O_3) diffused through a semi permeable membrane in 80 seconds. Calculate the time taken for 90 cm^3 of nitrogen (IV) oxide (NO_2) to diffuse under the same conditions. (O=16, N=14). **(3mks)**

9.Give the names of the following types of reaction.

a) Reactions between chlorine and potassium iodide to form a dark brown solution. **(1mk)**

……

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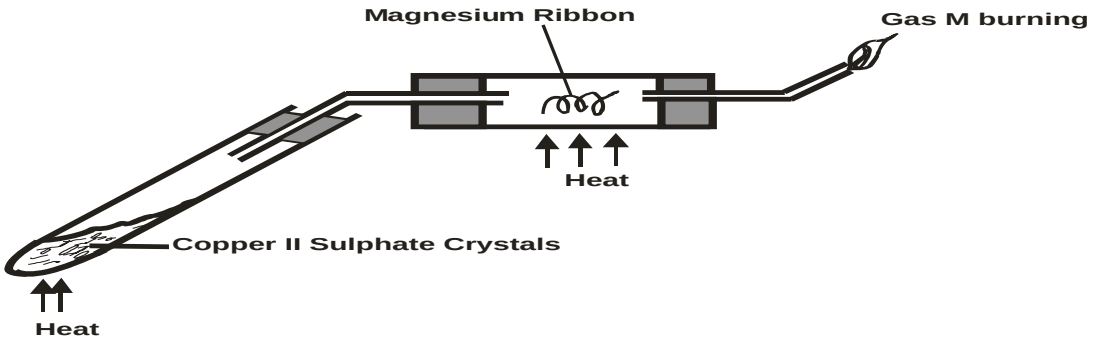
b) Reaction between bromine and methane in presence of U.V. light. **(1mk)**

……

……

10. The empirical formula of a hydrocarbon is C_2H_3. It has a molecular mass of 54 if H=1 C=12, determine and draw the structural formula of the hydrocarbon. **(3mks)**

11. Study the setup below and answer the questions that follow.



a) Identify gas M. **(1mk)**

……

……

b) State the observation made when copper (II) sulphate crystals are heated. **(1mk)**

……

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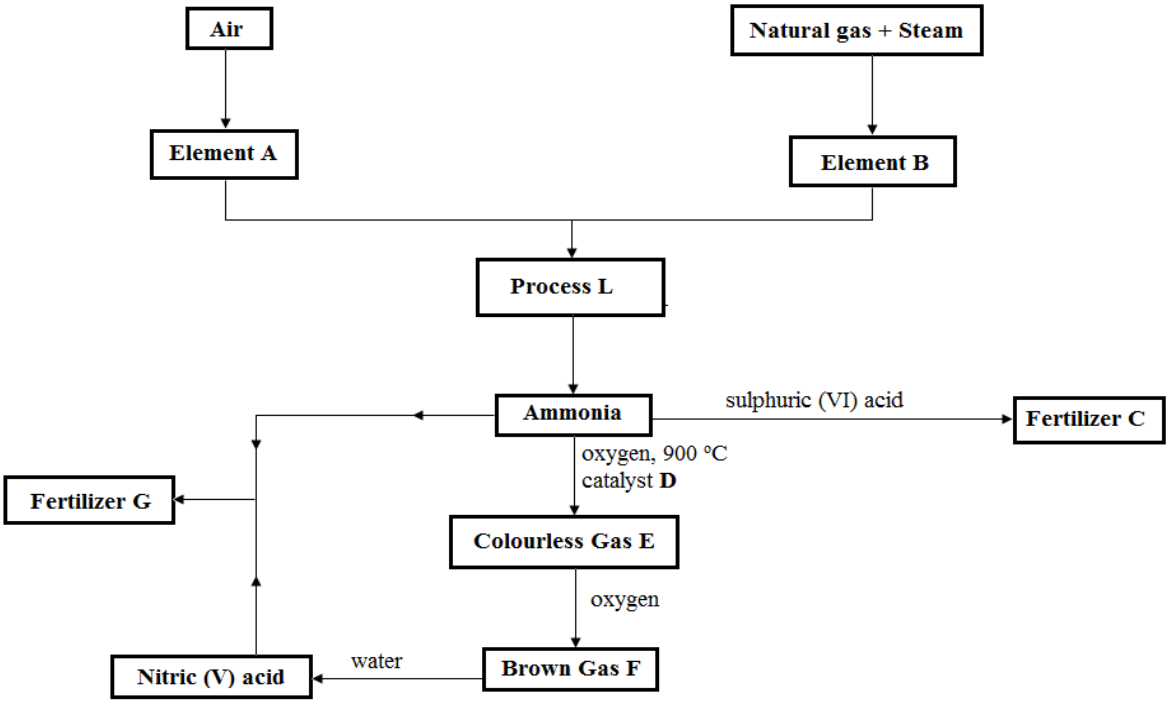
c) Write an equation of the reaction that takes place in the combustion tube. **(1mk)**

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12. The following is a reaction scheme that shows production of nitrogeneous fertilizers. Study it and use it to answer the questions that follow:



a) Which of the two fertilizers, **C** or **G** is better? Explain **(2Mks)**

(N = 14, S = 32, O = 16, H = 1)

……

……

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……

b) Write an equation to show formation of **Gas F** in the reaction scheme above **(1Mk)**

……

……

13. Using dots(.) or crosses(x) draw the structure of phosphonium ion PH_4^+ given $^{31}_{15}P$ **(2mks)**

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14. The table below solution L, M and N and their respective pH.

Solution	pH
L	2.0
M	7.0
N	14.0

a) Select two solutions that will react with calcium metal. **(2mks)**

……

……

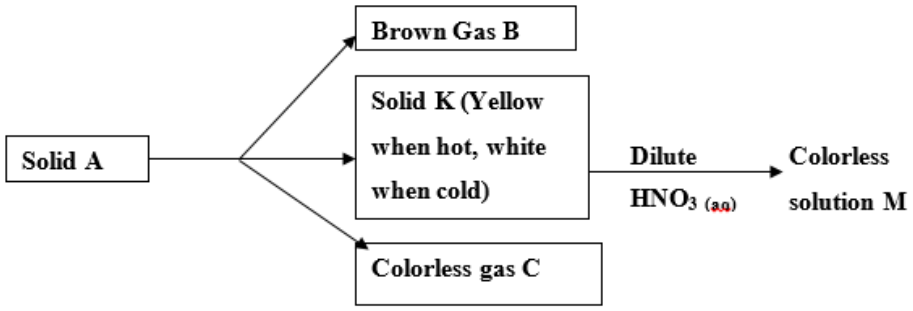
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b) Identify sodium chloride solution. **(1mk)**

……

……

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



a) Identify gases **(2mks)**

(i) B……

(ii) C……

b) Identify ions likely to be present in solid **A** **(1mk)**

……

……

……

16. The electronic configuration of ions X^{3+} and Y^{2-} are 2.8 and 2.8 respectively.

a) Write the electron configuration of each of the elements **X** and **Y** **(1mk)**

X……..

Y……..

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b) Write the formula of the compound formed when **X** and **Y** react. **(1mk)**

……

……

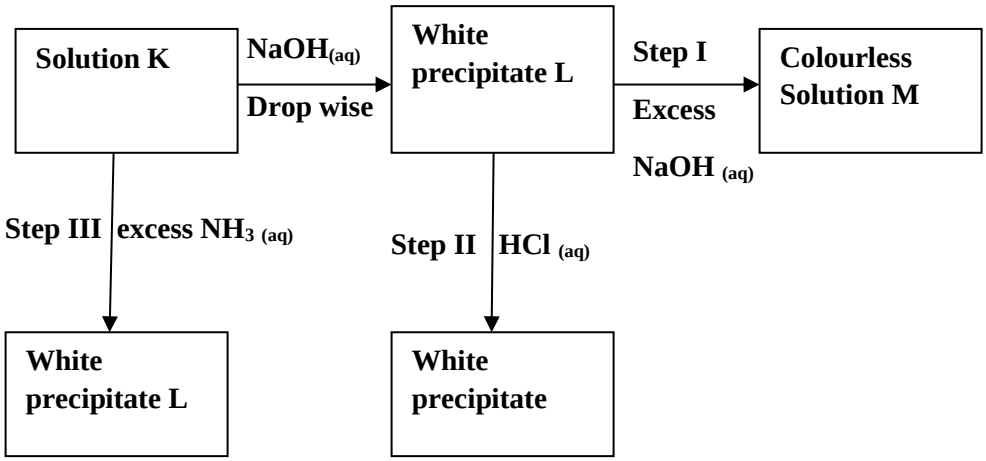
c) What type of bond would be formed in the compound named in **b)** above? **(1mk)**

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17. Study the flow chart below and answer the questions that follow:



a) Identify

(i) The cation present in solution K **(1mk)**

……

(ii) The complex in solution M **(1mk)**

……

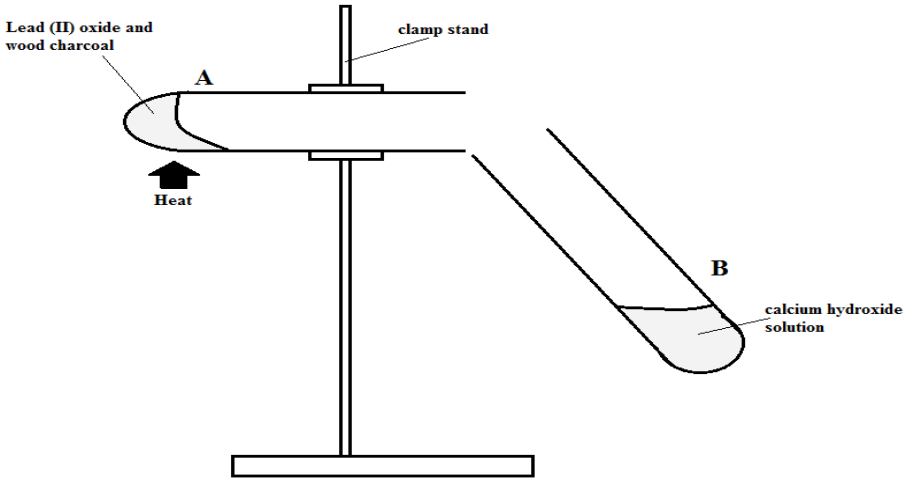
b) Write the ionic equation for the formation of white precipitate **L** **(1mk)**

……

……

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18. The diagram below shows an experimental setup to investigate a property of carbon.



a) State what would be observed in test tube **A** after heating has continued until there is no further change. **(1Mk)**

……

……

……

b) Write a chemical equation for the reaction resulting to the observation made above. **(1Mk)**

……

……

c) Name the reducing agent and oxidising agent in this setup. **(1Mk)**

Oxidising agent ……

Reducing agent ……

19. When a solid sample of sulphur is heated in a test tube, it changes into a liquid which flows easily. On further heating, the liquid darkens and does not flow easily. Explain these observations **(2mks)**

……

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20. Starting with Zinc; describe how solid Zinc carbonate can be prepared. **(3mks)**

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21. $20cm^3$ of a solution containing 4g per litre of sodium hydroxide was neutralized by $8.0cm^3$ of dilute sulphuric acid. Calculate the concentration of sulphuric acid in moles per litre. (Na = 23.0, O = 16.0, H= 1.0) **(3mks)**

22.

a) Name the process used to extract sulphur from its deposit. **(1mk)**

……

……

b) A burning magnesium ribbon continues to burn in a gas jar full of sulphur (IV) oxide gas while a wooden splint would be extinguished. Explain. **(2mks)**

……

……

……

23. Give a reason why Potassium hydroxide solution is not used to confirm the presence of carbon (IV) oxide gas in the laboratory**.** **(2mks)**

……

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24.

a) Define 'Saturated solution' **(1mk)**

……

……

b) How can one determine in the laboratory, that a given solution is saturated? **(2mks)**

……

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25. Argon and nitrogen are both unreactive at room temperature. However, nitrogen will combine with other elements at higher temperatures while argon will not. Explain this difference in chemical inertness of the two elements at room temperature. **(2mks)**

……

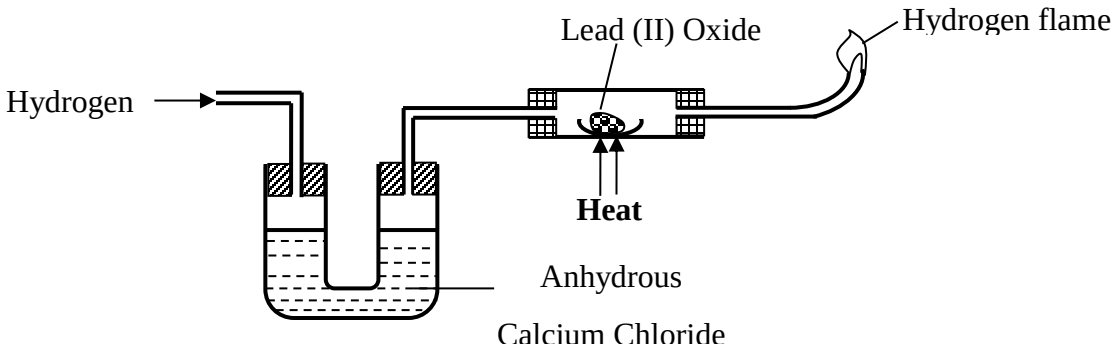
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26. Study the diagram below and answer the questions that follow.



a) Write an equation for the reaction that takes place in the combustion tube **(1mk)**

……

……

b) What property of hydrogen is being investigated in the set up? **(1mk)**

……

……

……

c) State the observation that would be made if zinc oxide was used instead of Lead (II) oxide? **(1mk)**

……

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……

27. Excess lead (II) oxide was added to warm dilute nitric (V) acid and the mixture stirred. After cooling, the mixture was filtered into a boiling tube, and a solution of sodium chloride added to the filtrate.

a) What observation was made when sodium chloride solution was added to the filtrate? **(1Mk)**

……

……

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b) What may be observed if the final content of the boiling tube is heated? Explain. **(2Mks)**

……

……

……

……

c) Write an ionic equation for the reaction in the boiling tube. **(1Mk)**

……

……

28.

a) What is isomerism? **(1mk)**

……

……

b) Draw and name **two** isomers of hexane **(2mks)**

29. Define the following terms:

a) Anion **(1mk)**

……

……

b) Isotope **(1mk)**

……

……

30. With reference to periods 2 and 3 of the Periodic Table, explain the following:

a) Trend in ionization energy from left to right **(1mk)**

……

……

b) Trend in ionization energy between corresponding period 2 and period three elements **(1mk)**

……

……

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

CHEMISTRY-233/2

FORM 3- PAPER 2

THEORY

TERM 3

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name and admission number in spaces provided above.
- Sign and write the date of examination in the spaces provided above
- Answer all the questions in the spaces provided above.
- KNEC Mathematical tables and silent electronic calculators may be used.
- All working must be clearly shown where necessary.
- Candidates must check to ascertain that all pages are printed as indicated and that no question is missing.
- Candidates should answer the questions in English.

For Examiners Use Only

Question	Maximum score	Candidate's score
1	14	
2	12	
3	13	
4	12	
5	10	
6	12	
7	07	
Total score	80	

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1. (a) The grid below represents part of the periodic table. Study it and answer the questions that follow.

(The letters do not represent the actual symbols of the elements).

A								
	B			C		D		E
F	G		H			I	J	
K								

(i) What name is given to the group of elements to which **B** and **G** belong? **(1mk)**

……

……

(ii) Which letter represents the:

(I) element that is least reactive; **(1mk)**

……

……

(II) element which can readily lose an electron **(1mk)**

……

……

……

(iii) What type of bond is formed when **G** and **J** react? **(1mk)**

……

……

……

(iv) State the nature of the solution formed when the oxide of F dissolves in water. **(1mk)**

……

……

……

(v) On the grid, indicate the position of element **L** which is in the third period of the periodic table and forms L^{3-} ions. **(1mk)**

(vi) Write the formula of the sulphate of element **H** **(1mk)**

……

……

(vii) How does the atomic radius of **D** and **E** compare? Explain **(2mks)**

……

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(b) Using dots (**.**) and crosses (**x**) to represent outermost electrons draw diagrams to represent the bonding in;

(i) PH_4^+ (P = 15, H =1) **(2mks)**

(ii) Sodium oxide **(2mks)**

(c) Give the reason why a phosphine molecule (PH_3) can combine with H^+ to form PH_4^+ **(1mk)**

……

……

……

2.(a)(i) In the space provided, sketch a labeled diagram to show how dry hydrogen chloride gas can be prepared and collected in the laboratory using sodium chloride and concentrated sulphuric (VI) acid. **(3mks)**

(ii) Write an equation for the reaction that takes place. **(1mk)**

……

……

(iii) Give **two** uses of hydrogen chloride. **(2mks)**

……

……

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(v) State and explain the observation that would be made when hydrogen chloride gas is bubbled through a solution of silver nitrate. **(2mks)**

……

……

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(b) A sample of hydrogen chloride gas was dissolved in water to make 250 cm^3 of solution. 20.0 cm^3 of the solution required 50.0 cm^3 of 4.0 M sodium hydroxide for complete neutralization.

(i) Calculate the number of moles of hydrochloric acid in 20.0 cm^3 of solution. **(2mks)**

(ii) Determine the mass of hydrogen chloride that was dissolved to make 250cm^3 of solution. (Cl=35.5; H=1.0)**(2mks)**

3.(a) Give the names of the following compounds

(i) $CH_3C_2CH_2CH_3$ **(1mk)**

……

……

(ii) $C(CH_3)_4$ **(1mk)**

……

……

(iii) $CH_2CHCH_2CH_3$ **(1mk)**

……

……

(b) Draw and give the name of all organic compounds with the molecular formula C_4H_8 **(3mks)**

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(c) Study the information in the table below and answer the questions that follow

Number of carbon atoms per molecule	Relative molecular mass of hydrocarbon
2	26
3	40
4	54

(i) Write the general formula of the hydrocarbon in the table. **(1mk)**

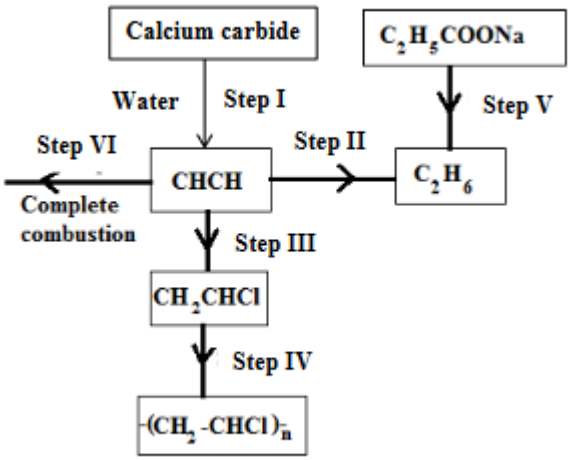
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(ii) Predict the relative molecular mass of the hydrocarbon with 6 carbons. **(1mk)**

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



(i) Name the reagents used in:

Step II **(1mk)**

……

Step III **(1mk)**

……

Step V **(1mk)**

……

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(ii) Write an equation for the reaction in **step I** **(1mk)**

……

……

(iii) Give **one** use of the compound formed in step **IV**. **(1mk)**

……

……

……

4. (a) Sulphur occurs naturally in two different forms called allotropes;

(i) What are allotropes? **(1mk)**

……

……

……

(ii) The two allotropes of sulphur are stable at different temperatures, as shown in the equation below.

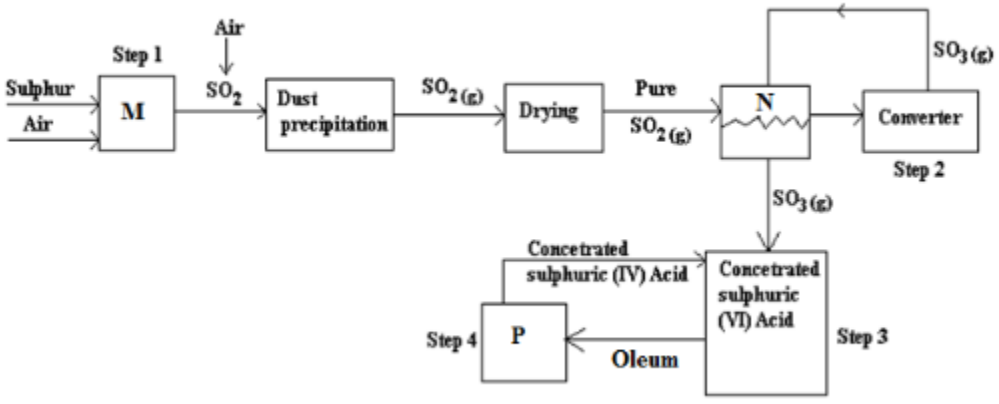
$$\text{Rhombic sulphur} \underset{\text{Below } 95.5^0\text{C}}{\overset{\text{Above } 95.5^0\text{C}}{\rightleftharpoons}} \text{Monoclinic sulphur}$$

Give a name to the temperature 95.5^0C **(1mk)**

……

……

(b) Below is a flow chart diagram for the manufacture of sulphuric (VI) acid.



(i) Give the name of chambers labeled **M** and **N** (2 marks)

……

……

……

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(ii) The catalyst used in the above process is vanadium (V) oxide. Give **two** reasons why it's preferred to platinum. **(2mks)**

……

……

……

……

(iii) Name the reagent used in chamber **P** **(1mk)**

……

……

(iv) Write a balanced equation for the reactions in the catalytic converter. **(1mk)**

……

……

……

(c) Calculate the volume of sulphur (VI) oxide gas in litres that would be required to produce 267 kg of oleum in **step 3**. (Molar gas volume = 24 000 cm^3, H=1, O=16, S=32) **(3mks)**

(d) State **two** uses of sulphuric (VI) acid, other than in the manufacture of fertilizers. **(2mks)**

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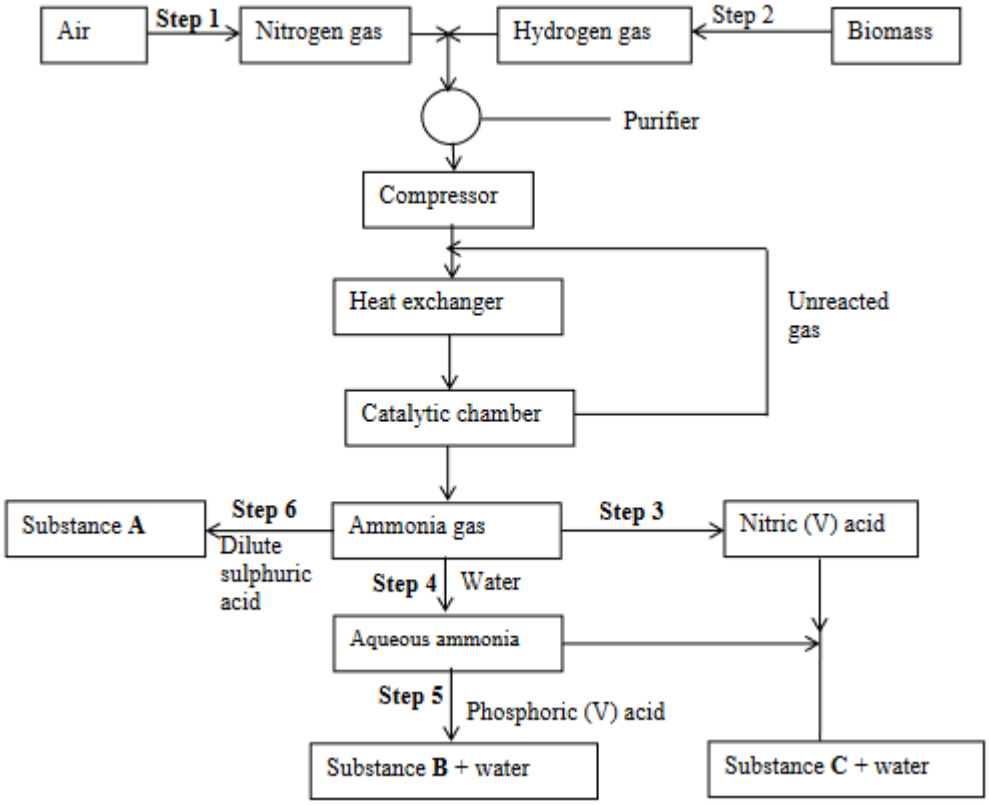
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5. The flow chart shows the industrial preparation of ammonia and the process used in the manufacture of some ammonium compounds. Study and answer the questions that follow.

(a) Give the name of the;



(i) Process in **step 1**……..…… **(1mk)**

(ii) Reaction that takes place in **step 5**…… **(1mk)**

(b) State **one** other source of hydrogen gas a part from biomass **(1mk)**

……

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(c) Explain why it is necessary to compress nitrogen and hydrogen in this process. **(2mks)**

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(d) Write an equation which takes place in **step 6**. **(1mk)**

……

……

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(e) Name the catalyst and the reagents used in **step 3** **(2mks)**

Catalyst……..……..……..……..

Reagent(s)……..……..……..

(f) Name substance **C** **(1mk)**

……

……

(g) Give **one** commercial use of substance **B** **(1mk)**

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6.(a) State and explain the observation made when carbon (IV) oxide is bubbled through solution of calcium hydroxide. **(2mks)**

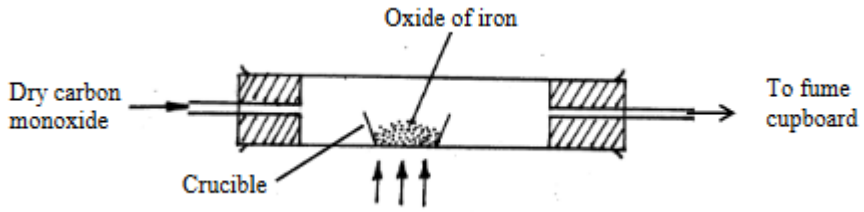
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(b) Excess carbon monoxide gas was passed over a heated sample of an oxide of iron as shown in the diagram below. Study the diagram and the data below it to answer the questions that follow.



Mass of empty dish	=	13.98g
Mass of empty dish 4 oxide of iron	=	16.30g
Mass of empty dish 4 residue	=	15.66g

(i) Determine the formula of the oxide of iron.

(Relative formula mass of oxide iron = 232, Fe = 56.0, O = 16.0) **(3mks)**

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(ii) Write an equation for the reaction which took place in the crucible. **(1mk)**

……

……

……

(c) Corrosion is a destructive process in which iron is converted into hydrated iron (III) oxide.

(i) State **two** conditions necessary for rusting to occur. **(2mks)**

……

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(ii) Name **one** method used to protect iron from rusting other than galvanizing **(1mk)**

……

……

(d) Explain why it is not advisable to wash cars using seawater. **(1mk)**

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(e) Name the **two** crystalline forms of carbon **(2mks)**

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7.(a) Molten copper (II) chloride was electrolysed using graphite electrodes.

(i) Name the product at the cathode **(1mk)**

……

……

(ii) Write the equation that occurs at the anode **(1mk)**

……

……

(iii) State and explain the observations made on the solution **(1mk)**

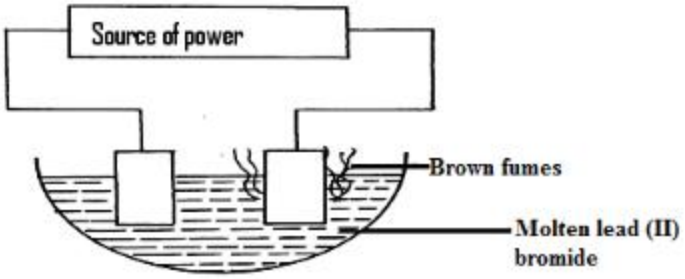
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(b) Use the set up below to answer the questions that follow.



(i) On the diagram label the cathode. **(1mk)**

(ii) Write the equation of the reaction on the cathode. **(1mk)**

……

……

(c) State **two** applications of electrolysis **(2mks)**

……

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

CHEMISTRY-233/3

TERM 3

FORM 3- PAPER 3 (PRACTICAL)

Instruction to the candidates

a)Write your name and index number, admission number and class in the spaces provided at the top of this page.

b)Answer all the questions in the spaces in the spaces provided in this paper using English.

c)KNEC mathematical tables and silent electronic calculators may be used.

d)All working must be clearly shown where necessary.

For examiner's use only

Questions	Maximum score	Candidate's score
1	20	
2	12	
3	8	
	40	

1.You are provided with:

- **Solution A**- sulphuric (VI) acid containing 4.9g of the acid in 1 liter of solution.
- **Solution B** – sodium hydroxide solution.
- **Solid Y** – 1.0 g of ammonium salt, NH_4X.

You are required to:

- Standardize the sodium hydroxide, solution B.
- Determine the relative formula mass of the ammonium salt.

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Procedure 1.

(i) Fill the burette with solution A.

(ii) Using a **pipette and a pipette filler**, transfer 25cm^3 of solution B into a 250 volumetric flask. Add distilled water up to the mark and label it solution C.

(iii) Using a **pipette and a pipette filler**, transfer 25cm^3 of solution C into a conical flask. Add 3 drops of phenolphthalein indicator and titrate against solution A from the burette.

(iv) Repeat the titration two more times and record your results in the table 1 below.

Table 1

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

(4mks)

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

(b) Calculate the number of moles of solution A used. **(1mk)**

(c) Calculate the number of moles of solution C used. **(1mk)**

(d) Calculate the concentration of solution C, in mole dm^{-3}. **(1mk)**

(e) calculate the concentration of solution B, in mole dm^{-3}. **(1mk)**

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Procedure 2.

(i) Place all the 1.0 g of the ammonium salt, solid Y into a 250 ml conical flask.

(ii) Using a **pipette and a pipette filler**, transfer 25 cm^3 of solution B into the conical flask containing solid Y and shake well until all the solid dissolves.

(iii) Heat the mixture until it boils for about one minute. Allow the mixture to cool.

(iv) Using a measuring cylinder, add 50 cm^3 of distilled water to the boiled mixture and shake well.

(v) Transfer the solution in the conical flask into a 100 ml volumetric flask and the add distilled water up to the mark. Label it as solution D.

(vi) Pipette 25 cm3 of solution D into a 250 ml conical flask, add 3 drops of phenolphthalein indicator and titrate with solution A from the burette.

(vii) Repeat the titration two more times and record your observations in table 2 below.

Table 2

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

(4mks)

Calculate the:

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

b) number of moles of solution A used. **(1mk)**

c) number of moles of sodium hydroxide solution in 25 cm^3 of solution D. **(1mk)**

d) number of moles of sodium hydroxide solution in 100 cm^3 of solution D. **(1mk)**

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e) number of moles of sodium hydroxide that reacted with the ammonium salt. **(1mk)**

f) number of moles of the ammonium salt in 1.0 g of solid Y. **(1mk)**

g) relative formula mass of the ammonium salt. **(1mk)**

2. You are provided with solid V. Carry out the tests below. Write your observations and inferences in the spaces provided.

(a) Add all solid V to about 10 cm^3 of distilled water in a boiling tube and shake well. Place the resulting mixture into 4 portions of 2 cm^3 into separate test tubes.

Observations	Inferences
(1mk)	**(1mk)**

(b) To the first portion, add 2M sodium hydroxide dropwise until in excess.

Observations	Inferences
(1mk)	**(1mk)**

(c) Warm the mixture in (b) above and test any gases produced using litmus papers.

Observations	Inferences
(1mk)	**(1mk)**

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(d) To the second portion, add 2 drops of lead (II) nitrate solution.

Observations	Inferences
(1mk)	**(1mk)**

(e) To the third portion, add 2 drops of barium nitrate solution followed by 2 M HNO_3, the shake.

Observations	Inferences
(1mk)	**(1mk)**

(f) To the fourth portion, add 3 drops of potassium dichromate (VI) solution.

Observations	Inferences
(1mk)	**(1mk)**

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

(a) Place about half of solid F on a metallic spatula and burn it in a Bunsen burner flame.

Observations	Inferences
(1mk)	**(1mk)**

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(b) Place the remaining solid F in a boiling tube. Add 10 ml of distilled water and shake the mixture well. Divide the mixture into four equal portions.

Observations	Inferences
(1mk)	**(1mk)**

(c) To the second portion, add the universal indicator and determine the pH.

Observations	Inferences
(1mk)	**(1mk)**

(d) To the third portion, add a spatula full of sodium hydrogen carbonate.

Observations	Inferences
(1mk)	**(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

COMPUTER STUDIES

FORM THREE TERM 3

PAPER ONE

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 question 16 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	QUESTIONS	CANDIDATE'S SCORE
A	1 -15	
	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

1.Jane has noticed the following problems in her computer:

It is taking a longer time to start up;

It is often hanging;

Applications are taking longer to load.

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State two possible causes of these problems and how they can be solved **(3mks)**

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2. The development of computers was done in various stages, outline some of the improvement found in modern computers and was not evident in older generation computers **(3mks)**

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3. With the aid of a diagram distinguish between a digital signal and analog signal **(2mks)**

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4. Describe two error detection methods in program development **(2mks)**

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5. James was given a passage of one page to type in Microsoft word. The teacher requested him to look for the word"***whenever"*** within the passage. Describe two search options that James would use to locate the word **(2mks)**

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6. A student obtained the following marks in an examination: 70, 80, 60, 33, and 76. If the values are entered in cells C5 to C9, write a formula that will be used to sum all marks greater than 50. **(2mks)**

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7.The table below was created using Ms-Word use it answer the questions that follows

Product Name	Quantity	Unit cost	Total
Bread	50	10	500
Biscuit	60	20	1200
Grand Total			1700

(i) Give the formulae used to calculate

Total for Bread **(1mk)**

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Grand Total **(1mk)**

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8.Explain the following features as used in Desktop Publishing software

(i) Layering **(2mks)**

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(ii) Group **(2mks)**

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9.List three devices that can be connected to the computer using HDMI cable **(3mks)**

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10. Given that your laptop has one hard disk partitioned in two portions, a functional DVD drive and a flash disk inserted at the USB port. Identify how the operating system installed on your computer will label these drives for ease of identification **(3mks)**

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11. Describe the impacts of Humidity on computer installed in a Computer Laboratory **(2mks)**

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12. Student intends to buy a new operating system for his computer. He was advised to consider the following factors: compatibility, hardware configuration and application intended when purchasing the operating system. Explain the factors listed above **(3mks)**

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13. Give three benefits of using DTP software in publishing over the word processor **(3mks)**

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14. Define the following terms as used in Internet and email **(2mks)**

(i) URL

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(ii) ISP

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15. Explain the following features with regard to spreadsheet

(i) What If analysis **(2mks)**

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(ii) Automatic Recalculation **(2mks)**

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SECTION B

Answer questions 16 and any other three questions from this section in this section

16.

(a) A form four class sat for an exam in **three** subjects. A student must get an average of 50% in all subjects in order to pass. A report is required that will show the name, marks obtained by each student per subject, the average mark and whether the student has passed or failed. Draw a flow chart for this report. **(7mks)**

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(b) State two features of web scripting languages **(2mks)**

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(c) Give two advantages of using compilers instead of interpreters during program translation **(2mks)**

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(d) Explain the following terms as used in algorithm development

(i) Definiteness **(2mks)**

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(ii) Finiteness **(2mks)**

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17.

(a) Use one's compliment to solve the following sum: $-18_{10}+12_{10}$ **(3mks)**

(b) What is the hexadecimal equivalent of 6768_{10} **(2mks)**

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(c) Perform the following binary arithmetic operations **(4mks)**

(i) 111011-10001

(ii) 100011.101-1001.10

(d) Workout three ways of representing -19_{10} in Binary number system **(3mks)**

(e) State three standard coding schemes used in computing and electronic systems. **(3mks)**

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18.

(a) State three causes of system entropy **(3mks)**

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(b) Mention three approaches used in Rapid Application Development when developing a computer based system **(3mks)**

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(c) State two reasons to justify why organizations spent a lot of money in staff training during system implementation **(2mks)**

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(d) Sabotage is a leading computer crime in the 21st Century and its impact can cause massive loses to organizations. Outline fours ways that can be employed by modern organizations to curb this menace **(4mks)**

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(e) State three ways of protecting your computer from virus infection. **(3mks)**

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19.

(a) Why is Internet considered to have made the World a global village **(2mks)**

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(b) Give three factors to consider when choosing Internet Service Provider **(3mks)**

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(c) State four negative effects of internet to society **(4mks)**

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(d)

(i) What is Batch processing **(2mks)**

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(ii) Give two application areas of Batch processing **(2mks)**

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(e) Explain how binary search technique is used in sequential file organization to reduce the time used for search a record **(2mks)**

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20.

(a) Study the Worksheet below and answer the questions that follow

	A	B	C	D	E	F
1	**ZERAKI ACHIEVERS ENTERPRISE**					
2	**PRODUCT**	**REGION 1**	**REGION 2**	**REGION 3**	**REGION 4**	**TOTAL SALES**
3	Maziwa	3400	3700	4000	4100	
4	Bread	2500	2600	2100	2500	
5	Maize	6000	6100	6300	1600	
6	Millet	1200	1500	1400	6400	
7	KDF	7000	6900	7200	8000	
8	**Total**					
9	**Maximum**					
10	**Average**					
11						

(i) Write functions that can be entered to get total, maximum, and average of each region. **(3mks)**

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(ii) Write a formula to give the highest sales in the five productions within the four Regions **(1mk)**

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(iii) Describe two types of data that can be entered in B10 **(2mks)**

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(b) The tables below were used to create a database using a DBMS. Use them to answer the questions that follow

Product Details

Product Name	Product ID
Sweat	PD001
Bread	PD002
Millet	PD045

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Customer Details

Product ID	Customer ID	Unit Cost	Quantity	Total
PD002	C2012	100	100	10000
PD001	C2023	300	120	36000
PD002	C2014	450	400	180000
PD045	C2045	10	600	6000

(i) Identify the most appropriate key field for each table **(2mks)**

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(ii) State the data type for Product ID and Product Name **(2mks)**

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(iii) Describe how Product and Customer Details tables can be linked in Microsoft access platform **(3mks)**

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(iv) A Student was trying run a select query to display data extracted from Customer details and product details table in a dynaset. The result of the query was not displayed instead an error ***Type mismatch in expression***. State the cause of this error **(2mks)**.

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

COMPUTER STUDIES (Practical)

FORM THREE- TERM THREE

Time 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- Indicate your name, admission number and stream at the top right of each printout.
- Write your name and admission number on the CD-R OR CD-RW
- Write the name and version of the software used for each question attempted in the answer sheet.
- Passwords should not be used while saving in the storage medium.
- Answer all the questions.
- All questions carry equal marks
- All answers must be saved in your storage medium
- Make a printout of the answers on the answer sheets provided.
- Hand all the printouts and the storage medium.

QUESTION	MAXIMUM SCORE	SCORE
ONE	50	
TWO	50	
TOTAL	**100**	

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1. KwetuMotors is a company that sale motor vehicles to its customers all over the country. Create a database named **KwetuMotors** with the following three tables:
(10marks)

Stock Table	**Sales Details** Table	**Customer Details** Table
V_IC Cd	InvoiceNo	ID No
Model Description	VehicleId	CustomerName
CountryOfManufacture	SaleDate	DateOfBirth
YearOfManufacture	Customer	TelephoneNo
Cost		
Quantity		

(a) For each of the tables above set appropriate primary keys as well as data types **(5mks)**

(b) create the relationship among the tables and enforce referential integrity. **(3mks)**

(c) Create **Model Form**, **Sales Form** and **Customer Form** to be used to enter data in the three Tables **(3mks)**

(d) Set a validation rule and appropriate validation text for the quantity field so that it only accepts values between 0 and 10 **(2mks)**

(e) Use the three forms created in (c) above to enter the data below in the respective tables

Stock Table

V_Id	ModelDescription	Country	Year	Cost	Quantity
M001	Alfa-Romeo	German	2000	1,350,000	2
M100	Ferrari	England	1990	1,950,000	1
M110	Aston Martin	German	2010	2,200,000	3
M223	Jaguar	Japan	1980	2,100,000	1
M202	Cardilac	German	1990	2,000,000	2

Customer Table

ID Number	Name	DateOfBirth	Telephone
112211	Peter James	10/02/2000	0711889922
221133	Christine Nyakawera	04/05/2001	0111887766
331122	Emily Contesh	12/24/1980	0223344556
443321	Peterson Williams	03/13/1979	0334455668
212380	Millicent Wainex	02/15/1982	0504679922

Sales Table

Invoice No	VehicleID	SaleDate	Customer
INV01	M202	12/23/2022	212380
INV03	M110	03/06/2023	221133
INV02	M001	02/05/2023	112211
INV05	M223	04/20/2023	443321
INV04	M100	12/24/2022	331122

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(f) Create a query named **GHighClass** to give **V_Id**, **Description**, **Customer Name** and **SaleDate** for vehicles manufactured in German and costing more than 1,500,000 **(4mks)**

(g) Create a query named **Quarter_1** to give the **V_Id**, **Customer Name**, **Customer** and **Year of Sale** for all the vehicles sold in the year 2023 **(4mks)**

(h) Create a report named Sales_Report to give the **V_Id, Description, Sale amount** and **customer name**. The report should display the total sales amount **(4mks)**

(i) Print the following:
Stock, Customer and Sales tables **(3mk)**
GHighClass query **(1mk)**
Sales_Report **(1mk)**

2.a) Using a word processing software type the following document as it appears and save it as DBMS **(31mks)**

DATABASE MANAGEMENT SYSTEM

What is a database management system?

When you use word processing software, you develop a document. When you use spreadsheet software, you develop a workbook or spreadsheet. When you use personal information management software, you develop a phone book or appointment calendar. The same is true in a database environment- you use software to develop a database. A ***DBMS*** is the software you use to specify the logical organization for a database and access it.

A DBMS contains five important software components

- ⇒ DBMS engine
- ⇒ Data definition subsystem
- ⇒ Data manipulation subsystem
- ⇒ Application generation subsystem
- ⇒ Data administration subsystem

The DBMS engine allows you work with database from a logical point of view, without worrying about physical and technical details. It accesses the database and data dictionary on the storage device.

The data definition subsystem helps to create and maintain data dictionary and file structure.

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The data manipulation subsystem helps you add, change and delete information in the database.

The application generation subsystem facilities include tools for creating data entry screens, programming languages, and interfaces to programming languages used.

The data administration subsystem is used by database administrator for backup and recovery, security management, queries and maintenance of the database.

Below is an example of a flat file that can be better presented using a DBMS:

DIGITAL COMPUTER SPECIFICATIONS						
S/No.	RAM (MB)	Hard Disk	Processor		Monitor Type	Cost
			SPEED	TYPE		
1	128	20 GB	2.4 GHz	INTEL	CRT	35,000
2	256	40 GB	2.8 GHz	CERELON	TFT	50,000
3	1024	80 GB	3.0 GHz	INTEL	TFT	60,000
TOTAL						145,000.00

b) Double underline the title and change the line colour to red **(2mks)**

c) Set the distance of the drop cap from the text to 0.1 cm **(1mk)**

d) Set the character spacing for the table title to 150%, expanded by 5 points **(3mks)**

e) Use a formula to calculate and format the total cost as shown **(2mks)**

f) Format the third paragraph starting with the words "The DBMS engine allows….." to two columns with a line in between the columns **(2mks)**

g) Set the top and bottom margins to 1.3 cm, the left and right margins to 1.27cm **(2mks)**

h) Insert a footnote to define the initials DBMS **(2mks)**

i) Space the whole document to 1.5 line spacing **(2mks)**

j) Create a footer and a header with your name and admission number respectively **(2mks)**

k) Print the document **(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1
FORM THREE (3)
Time: 2½ Hours
INSTRUCTIONS TO CANDIDATES

Answer **any five** of the given questions.
All answers **must be** written in the Answer Booklet provided.
All questions carry equal **marks**.
This paper consists of 2 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

For examiners use only

QUESTION	1	2	3	4	5	6	TOTAL
SCORE							

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1**. (a)** Explain the importance of learning Christian Religious Education in schools. **(7mks)**

(b) Describe the translation of the Bible from original to local languages. **(7mks)**

(c) Give **six** reasons why some Christians find it difficult to read the Bible **(6mks)**

2.a) Describe the covenant between God and Abraham in **Gen. 15:1**-9 **(7mks)**

(b) Identify **seven** conditions that God gave to the Israelites during the renewal of the Sinai covenant**.** **(7mks)**

(c) Identify **six** lessons Christians learn from the incident when Abraham was willing to sacrifice his son. **(6mks)**

3. (a) Identify **seven** factors which led to widespread of idolatry in Israel during the time Elijah. **(7mks)**

(b) State **six** commandments that King Ahab and Jezebel broke the story Naboth's Vineyard. **(6mks)**

(c) Give **seven** life skills one can apply to fight inter denominational conflicts as shown by Elijah **(7mks)**

4. (a). Outline the role of the prophets in the Old Testament. **(7mks)**

(b) Describe the social –economic background of prophet Amos. **(7mks)**

(c) State six reasons why Christians are encouraged to repent their sins. **(6mks)**

5. (a) Outline the content of prophet Jeremiah's letter to exiles in Babylon. **(7mks)**

(b) Give **seven** reasons why prophet Jeremiah condemned the practice of human sacrifice. (**7mks)**

(c). State the importance of prayer in the life of a Christian. **(6mks)**

6 a) Outline the causes of death in Traditional African Communities. **(6mks)**

b) Explain the significance of the rituals performed after the death of a person in traditional communities. **(7mks)**

c) List **Seven** moral values promoted during funeral ceremonies in Traditional African Communities. **(7mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

FORM THREE (3)

Time: 2½ Hours

INSTRUCTIONS TO CANDIDATES

Answer any five of the given questions.

All answers **must be** written in the Answer Booklet provided.

All questions carry equal **marks**.

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

For examiners use only

QUESTION	1	2	3	4	5	6	TOTAL
SCORE							

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1 a) Outline Jeremiah's prophecy about the Messiah. **(6mks)**

b) Describe what took place when Mary visited Elizabeth **Luke 1:39-59.** **(7mks)**

c) What lessons do Christians learn from the visit of Mary to Elizabeth? **(7mks)**

2.a) Describe the call of the first disciples of Jesus. **Luke 5:1-11** **(8mks)**

b) Give six reasons why Jesus chose the twelve disciples. **(6mks)**

c) Identify lessons Christians learn about Jesus from the raising of Jairus daughter **(6mks)**

3 a) Describe how Jesus revealed himself to the two men going to Emmaus. **Luke 24:13-2** **(8mks)**

b) Identify the signs of the end of times as taught by Jesus. **(6mks)**

c) State six lessons Christians learn from the suffering and death of Jesus. **(6mks)**

4 a) Outline the teaching of Jesus on the role of the Holy Spirit. **(8mks)**

b) With reference to the day of Pentecost, outline Pete's message to the people. **(6mks)**

c) State six reasons why some Christians find it difficult to help the sick. , **(6mks)**

5a) Identify the fruit of the Holy Spirit as taught by Saint Paul in **Galatians 5:22-23** **(7mks)**

b) Outline Saint Paul's teachings on the love. **1Corinthians 13.** **(7mks)**

c) Identify ways in which Christians can identify those who are led by the Holy Spirit among themselves. **(6mks)**

6.a) Explain six teachings of Peter concerning People of God. **1st Peter 2:9-10** **(6mks)**

b). State six reasons why the use of gift of the Holy Spirit brought disunity in the church of Corinth **(6mks)**

c) Identify ways in which Christians prevent divisions in the Kenyan church in today **(8mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3

ENGLISH (101)

PAPER 1

FORM THREE (3)

Instructions to the Candidates

(I) Write your details in the spaces provided at the top of this page.

(II) Candidates should check to ascertain that no questions are missing.

(III) Candidates must answer the questions in English.

Question	Maximum score	Candidate's score
1	20	
2	10	
3	30	
	TOTAL SCORE	

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FUNCTIONAL WRITING (20 MARKS)

1. You are the secretary of the drama club in your school. The club has just held its second meeting. Eight of its ten members attended. Two members sent their apologies. The club Patron and an invited speaker also attended. During the meeting, the following issues were discussed: A visit to the Bomas of Kenya, club's financial status, participation in Drama festivals. Members raised two other issues not captured in the Agenda. The issue of members' annual subscription fee was revisited. Write down the minutes of the meeting. **(20mks)**

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2. CLOZE TEST (10 MARKS)

Fill in the blank with the most appropriate word

The African business climate (1) _____ unpredictable. Many contracts are difficult (2) _____ enforce due to inefficient judiciary (3) _____ high level corruption. Africa is (4) _____ by aid money from wealthy nations. To cover (5) _____ for this fact, developed countries' media address the corruption issue by implying that African leadership is (6) _____ corrupt. Corruption is not an individual (7) _____. It is a process; a systematic issue that can only (8) _____ addressed by discouraging the incentive behind it. Part of the (9) _____ is the developed nations' willingness to bank all the stolen (10) _____ from Africa.

3. <u>ORAL SKILLS</u> (30 MARKS)

a). Read the oral narrative below and answer the questions that follow. **(7mks)**

The Stupid Monkey.

Once upon a time, a tribe of monkeys made their home in their pleasure garden of the king. On a certain holiday when the drum was beaten to call the people together, the king gardener, hearing the drum, said to himself, "Even though it is a holiday, the garden must be watered. Accordingly I will ask the monkeys to water the garden for me, so that I can be off to enjoy myself and the holiday with the rest." So he called the monkeys and asked them to water the garden. When the monkeys had promised to water all the young trees faithfully, the gardener gave them the water skins and the wooden pot with which to perform the task.

After the gardener had gone, the monkeys took up the water skins and the watering pot and began to water the young trees. But the leader of the monkeys stopped them. "Wait", he said, we must be careful not to waste water. Before you water them, you must first pull up each tree and look at the size of the roots. Then you must give plenty of water to those who have long deep roots, but less to those with short roots. For when this water is finished, we shall have to work to get any more.

"To be sure," said the other monkey," that is what we must do." So they pulled up all the trees just as their leader had told them to do and all the young trees died.

Questions

(i). What feature of oral narratives would you use to prepare your audience to listen to the above story. **(2mks)**

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(ii). What two devices of performance would you use in narrating this story effectively? **(2mks)**

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(iii). Which three things would indicate to you that the audience is following the narration? **(3mks)**

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(b). In each of the following set of words, identify the odd one out. **(5mks)**

(i). Fool	Pool	Full
(ii). Thin	Either	Thunder
(iii). Hard	Heard	Herd
(iv). Lone	Loan	Lorn
(v). Cell	Sell	Sale

(c). Imagine you are the leader of a discussion group in your class. How would you ensure that the discussion is fruitful? **(3mks)**

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(d). Study the following situations and write down what you would say in each case. **(3mks)**

(i). When walking along a corridor, you accidentally bump into somebody out of your own clumsiness.

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(ii). You are engaging in a conversation and you catch yourself interrupting the other person.

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(iii). You want to introduce a point during a discussion which contradicts what the other person has said.

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(e). You have been asked to present an item in this year's National Drama festivals. Just before you get to the stage, you feel a little nervous. Identify three ways of overcoming this. **(3mks)**

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(f). Place the stress mark in the underline words. **(4mks)**

(i). The intern will soon get his reward from the doctor.

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(ii). No one can contest what you have said.

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(iii). The death of his father made us to console him.

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(iv). Whose present is this?

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(g). Complete the following dialogue with the most suitable expression. **(5mks)**

You have just witnessed an accident. A matatu rammed into a stationary tractor. Many passengers have been seriously injured.

Matatu driver : Is there anyone with a mobile phone? We have to call the police immediately.

You: ……

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…… **(1mk)**

Matatu driver : Can you please call the station and inform them of the accident.

You: ……

……

…… **(1mk)**

Police officer: Yes. This is Bonet Police station. Constable Kirasa speaking. Can I help you?

You : Yes please. There has been a terrible accident.

Police officer: May I know who is calling please?

You: ……

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…….....…….. **(1mk)**

Police officer : Where has the accident taken place?

You : Along Silibwet – Tenwek route.

Police Officer : What happened?

You: ……

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…….....…….. **(1mk)**

Police Officer: Really! Are there any casualties?

You: ……

…….....…….. **(1mk)**

Police Officer: Don't worry: We will be there as soon as possible. Meanwhile call the ambulance and alert Tenwek hospital to be ready for casualties. Thank you very much Mr.Tonui for calling.

You: ……

…….....…….. **(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3

ENGLISH (101)

PAPER 2

FORM THREE (3)

TIME: 2 ½ hours

(COMPREHENSION, LITERARY APPRECIATION AND GRAMMAR.)

Instructions to Students

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

(b) Sign and write the date of exam in the spaces provided.

(c) Answer all the questions in this paper.

(d) All your answers must be written in the space provided.

(e) Students must answer all questions in English

For Examiners use only

Question	Maximum score	Student's score
1	20	
2	25	
3	20	
4	15	
Total score	80	

Check to ascertain that all pages are printed.

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

A lot of students think that learning is only in class. If students use two extra steps, most students will not forget what they learned in class. To achieve effective learning, students need to follow two extra steps in the three strategic learning processes.

The key to success is by following these three strategies. Review is essential to student success. Unless content is reviewed by students shortly after it is learned, it will soon be forgotten. To avoid forgetting what you learned, it is recommended to review daily.

It is also recommended to reduce large volumes of notes into point form and to paraphrase what you have learned. Other helpful tips include creating concept maps and diagrams; creating fact, concept or vocabulary cards and using visualization to better connect to what you learned. These are all important tools to helping students better understand and memorize lesson content.

The key to achieving academic success cannot be directly **correlated** to one specific area. Rather it requires students to be overall rounded in many different aspects. This includes attending class regularly to keep pace with the class. Falling behind in studies or homework can be **detrimental** to academic success and can induce stress onto students. Participating in class activities and discussions are also vital parts of learning and applying concepts learned. On the other hand, taking good, concise notes will always help in the long run when reviewing for tests and exams. To sum it all up, strategic learning is the password for many academic achievements. Being exposed to knowledge is the first step in the journey, the fact that young scholars can learn and be a part of history is a phenomenal step in furthering their search to success. Reviewing notes, in the way the young individual wishes, by himself/herself, or with a good friend, will help him/her to understand what has been learned in a way s/he understands. Lastly practice is a great way to memorize what has been learned, when practice achieves its full potential, the individual won't only be entitled for a good mark, but also a way to view, understand and think of things. Those three attributes will help scholars become more successful, but it's important to one as it is to the other, and each and every person should find the learning strategies **effectual** for him/ herself, and in extremely **exceptional** occasions even invent or innovate new strategies.

Questions

(a) What does the writer fault in the students thinking according to the first paragraph? **(2mks)**

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(b) Make notes on the **three** strategies that are key to success. **(3mks)**

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(c) Unless content is reviewed by students shortly after it is learned, it will soon be forgotten **Begin*: if*……*)***

(1mk)

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(d) The key to achieving academic success cannot be directly **correlated** to one specific area. ***Add a question tag.***

(1mk)

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(e) Identify and explain the tone of the passage. **(3mks)**

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(f) How, according to the passage, does practice help memorise what has been learned? **(3mks)**

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(g) Name three helpful tips to success. **(3mks)**

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(h) Explain the meaning of the following words and phrases as used in the passage. **(4mks)**

i) detrimental-**……..**

ii) correlated -**……...**

iii) effectual- **……..**

iv) exceptional-**……..**

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

Basdeo: Of course, it isn't. Politics is not about thc truth gentlemen, am teaching you politics now. We have to evoke the emotions of the people.

Ramdaye: So, how do I record that?

Basdeo: Yes, call it marginalization of other communities

Ted: This is not politics!

Basdeo: That's not even enough yet. You all know very well that some parts of our Municipality are allied to Mossi because of some projects he did there. We have to hive off part of this support if we ate to isolate him. **Seymour:** How do we do it?

Basdeo: The people in these areas are mostly of oriental descent. So we can create and widely circulate the story that the people of these parts are descended from the same ancestor with our people, the Indos. (Scratching his head and looking up in deep thought) Just a story... eh. .. like. .. in the beginning, there was an enormous egg, with a diameter of... like... five kilometres. When the egg broke mysteriously, Shang Ramas, the great, emerged, very thirsty.

Ted: That's an exciting fairy tale that no one can buy!

Basdeo: (Interrupting Ted) Don't worry, eh, yes, so when Shang Ramas went to fetch water, remember he was very handsome, he found two girls drawing water at the river. He married them promptly and settled them each on one side of the river. The girl on the Eastern side ofthe river became the mother of the Indo people. The other girl became the mother of all other oriental peoples.

Seymour: You think people will believe that?

Basdeo: People are very gullible! Don't you know that?

Ramdaye: So, what do I call that? **Basdeo:** It is called historical revisionism.' **Seymour:** What is that?

Basdeo: Don't worry, but it could mean exposing historical lies that have been concocted by Mayor Mossi to confuse the people about their heritage,

Ted: You are not exactly the man I thought you were!

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Basdeo: We have to be very creative, my friends; power doesn't come by easily fact, we have to further divide Mayor Mossi's ethnic group from other races by emphasizing their differences. (Looking up again in deep thought) We will say... eh...that.,. the people of Mossi 's community have a peculiar smell.. , (Moving his nose up and down in distaste) resembling that of a beetle, while other people don't smell. Unlike other people, they also tend to believe in obeah!

Ramdaye: So, what do I write?

Basdeo: Celebrating people's cultural identity,

Rmndnye: (Writing) Okay,

red: I think those points ate adequate We don't need to belabour these matters. We need to get back to life (Dancing while still scated) We should have some drinks, and remember today is Calypso night at Vibrations! I need to be in places!

Seymour: (Looking angrily at Ted) Grow up. Ted! This is not time for celebrations

Red: We live only once, don't we?

Seymour: (Ignoring Ted and turning to Basdco) Okay, so how shall we approach this?

Basdeo: We will convene a huge political rally. The points I have given out will be mnong the core messages we will convey to the people at the rally. I suggest that Hon. Ted apportions the topics to Councillors and Aldermen who are on our side and who are good orators. Please alert them in good time so they can prepare adequately. They have to make passionate emotional appeals.

Ted: Very well, I will handle it.

Ramdaye: I think that is settled. So when do we hold the rally?

Ted: I suggest next week on Friday so that it coincides with the Carnival festivities. Several single pan bands are scheduled to perform at the Atobold Stadium on Friday. We expect there will be hundreds of people clad in colourful costumes and dancing to the exciting sounds of steel pan, soca and calypso music!

Seymour: Oh, yes,,l agree. The Carnival is not called the greatest party in the world for nothing! There can never be a better setting for exciting crowds than the carnival! In fact, we can arrange with the artists to compose anti-Mossi slogans and have them performed in ballad style rhythms.

Ramdaye: Unfortunately, we may need to hold the rally much earlier. I got information that Mayor Mossi consulting his lawyers on the possibility of our arrest and prosecution.

QUESTIONS

a) What happens just before this excerpt? **(6mks)**

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b) Identify and illustrate two stylistic devices used in this excerpt. **(4mks)**

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c) Describe Hon. Basdeo's attitude towards people. **(2mks)**

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d) Describe the character of Hon. Basdeo and Hon. Ted in this excerpt. **(4mks)**

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e) I got information that Mayor Mossi is consulting his lawyers on the possibility of our arrest and prosecution. Rewrite using ...having. **(2mks)**

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f) Identify and illustrate two themes in this excerpt. **(4mks)**

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g) State the events that happen immediately after this excerpt. **(3mks)**

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h) Explain the mean or the following expressions as used in the excerpt. **(4mks)**

Hive off

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Make passionate emotional appeals

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Carnival

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Prosecution

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3.Read the song below and then answer the questions that follow.

There is no needle without piercing point
There is no razor without trenchant blade
Death comes to us in many forms
with our feet we walk the goats earth
with our hands we touch God's sky
Some future day in the heat of noon,
I shall be carried shoulder high
Through the village of the dead
When I die, don't bury me under forest trees,
I fear their thorns

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Bury me under the great shade trees in the market,

I want to hear the drums beating,

I want to feel the dancer's feet.

(a) With a reason, classify the song above. **(2mks)**

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(b) Why does the singer choose not to be buried under forest trees? **(2mks)**

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(c) Where does the speaker want to be buried? Why? **(3mks)**

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(d) Identify and explain one economic and two social activities evident in the oral song. **(6mks)**

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(e) Explain the meaning of the following word as used in the poem. **(1mk)**

Trenchant

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(f) Identify and explain three features of style from the above poem. **(6mks)**

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4. GRAMMAR

(a) ***Rewrite the following sentences based on the instruction given after each.*** **(2 marks)**

(i) He understood why people had been laughing after he realized the ugliness of his headgear.

(***Rewrite using present participle****).*

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(ii) The President-elect was sworn in only after the Supreme Court had validated the Presidential result. (***Begin:*** **Not until...**)

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(b). (i) The maid had prepared supper by the time we got home.

*(**Rewrite to remove gender bias**).* **(1mk)**

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(ii) I have been studying in this school for four years complained the student but I have never scored one hundred per cent in any subject. (*Punctuate correctly)* **(1mk)**

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(iii) Chinua Achebe one of Africa's greatest writers passed on three months ago.

(***Rewrite using parenthesis****).* **(1mk)**

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(c.) ***Use the correct form of the word given in the brackets.*** **(3mks)**

(i) Sports persons need to arrive in the camp two days early in order to**.....** (climate)

(ii) Pope Francis I took over the **.....**after Pope Benedict XVI resigned. (Pope)

(iii) No single female candidate won the **.....**seat in the just concluded election. (Governor)

(d)*. Fill the blanks with the most suitable prepositions.* **(3mks)**

(i) He was sentenced to life imprisonment **.....**the law.

(ii) Unemployed youth often subscribe **.....**illegal gangs.

(iii) They attended the party dressed**.....**smart casual.

(e). ***Using the words in brackets, complete the following sentences with the most appropriate phrasal verbs.*** **(3mks)**

(i) My parents managed to **.....**high school although with difficulty. (see)

(ii) I was **.....**by his childish behavior during the academic parade. (take)

(iii) The new students could not **.....**their way to the dormitory. (make)

(f). His decision was a typical case of putting the cart before the ox.

(***Correct the idiomatic expression***). **(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

ENGLISH

TERM 3 FORM 3

ENGLISH

PAPER 3

TIME: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

Answer three questions only

- ***Questions one and two are compulsory.***
- In question three choose only one of the optional texts, for which you have been prepared.
- Where a candidate presents work on more than one optional text, only the first to appear will be marked
- Each of your essay must not exceed 450 words
- This paper consists of 2 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

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Answer Three Questions Only

1.Imaginative Composition (20mks)

Either

Write a composition ending with the following statement:

....."Given another chance I would have done things differently."

Or

Write a composition supporting or opposing this statement:

"Both boys and girls have equal rights to their parent's property."

2. The Compulsory Set Text. (20mks)

Fathers of Nations (20 marks)

A society driven by greed suffers a lot. Drawing your illustrations from Fathers of Nations by Paul B. Vitta write an essay supporting this statement.

3. The Optional Set Texts. (20mks)

Answer any one of the following questions.

Either

The short story: A Silent Song and Other Stories.

Drawing illustrations from Meja Mwangi's, **An incident in the park**, write an essay to discuss the problems of urbanization

Or

The novel: An Artist of the Floating World.

Yearning for reputation and social status can lead someone down to a path of fear and obsession. Making reference to Ono in the Novel 'An Artist of the Floating World', discuss the validity of this statement. **(20mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

FORM 3 END-YEAR EXAMINATIONS

GEOGRAPHY 312/1

Paper 1

TIME: 2¾Hours

Instructions to candidates

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

(b) This paper has **two** sections: **A** and **B**

(c) Answer **all** the questions in section **A**

(d) Answer **question 6** and any other **two** questions from section **B**

(e) All answers must be written in the spaces provided after Question 10.

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

For Examiner's Use Only

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

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SECTION A

*Answer **ALL** questions in this section.*

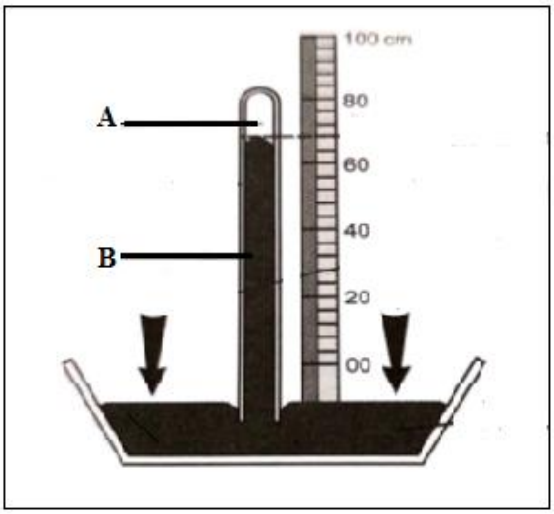
1. (a) What is environment? **(2mks)**

(b) Name **two** divisions of physical geography. **(2mks)**

2.(a) Name **two** layers of discontinuity in the interior part of the earth. **(2mks)**

(b) State **three** characteristics of the outer core. **(3mks)**

3.The diagram below shows one of the instruments used to measure weather. Use it to answer question (a)



(a) (i) Identify the instrument represented above. **(1mk)**

(ii) Name the parts labeled **A** and **B**. **(2mks)**

(b) Give **three** human activities that influence the climate of an area. **(3mks)**

4.Outline **four** processes involved in physical weathering. **(4mks)**

5.(a) Define the term hydrological cycle? **(2mks)**

(b) Explain **two** factors that influence the occurrence of surface run-off. **(4mks)**

SECTION B

*Answer **question 6** and any other **two** questions from this section*

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

(a) (i) Give the longitudinal extent of the area covered by the map. **(2mks)**

(ii) Give the six figure grid reference of the trigonometric station close to Rabuor chief's office. **(2mks)**

(iii) Calculate the area of Kisumu municipality. Give your answer in square kilometres. **(2mks)**

(b) (i) What is the bearing of the trigonometric station **SKP 14** from the Air Photo Principal Point 75 within the plantation? **(2mks)**

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(ii) Identify **three** man-made features in grid square **9992.** **(3mks)**

(iii) Give **three** drainage features found in the area covered by the map. **(3mks)**

(c) Describe the relief of the area covered by the map. **(5mks)**

(d) Citing evidence from the map, identify **three** social services offered in the area covered by the map. **(6mks)**

7.(a) Give **three** examples of non-ferrous minerals. **(3mks)**

(b) Describe the following characteristics of minerals.

(i) Tenacity **(2mks)**

(ii) Cleavage **(2mks)**

(iii) Lustre **(2mks)**

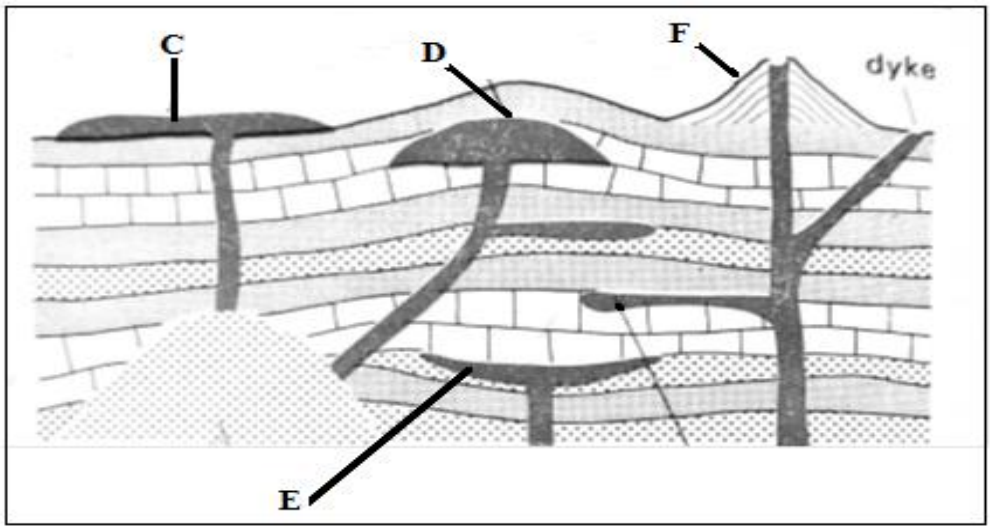
(c) (i) What is a metamorphic rock? **(2mks)**

(ii) Describe how sedimentary rocks are formed through mechanical process. **(6mks)**

(d) Explain **four** significance of rocks to the economy of Kenya. **(8mks)**

8.(a) Differentiate between magma and lava. **(2mks)**

(b) The diagram below shows some features of vulcanicity.



(i) Identify the features marked **C**, **D** and **E**. **(3mks)**

(ii) Give **two** examples of the feature marked **F** in Kenya. **(2mks)**

(c) Describe how the following features are formed.

(i) Lava plateau **(5mks)**

(ii) Hot springs **(5mks)**

(d) Explain **four** ways in which volcanic mountains influence human activities. **(8mks)**

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9.(a) Define the term mass movement. **(2mks)**

(b) Explain **three** physical factors that influence mass wasting. **(6mks)**

(c) Describe the following processes of mass wasting.

(i) Solifluction **(3mks)**

(ii) Earth flow **(3mks)**

(iii) Rock slump **(3mks)**

(d) Explain **four** effects of mass wasting on human environment. **(8mks)**

10. (a)(i) Give **three** types desert landscapes. **(3mks)**

(ii) State **four** factors that lead to the formation of desert land forms **(4mks)**

(b) Using a well labelled diagram, describe how a rock pedestal is formed. **(7mks)**

(c) Identify **three** landforms resulting from water action in arid areas. **(3mks)**

(d) Suppose you are to carry out a field study on desert landforms

(i) State **two** objectives you would formulate for the study. **(2mks)**

(ii) Give **two** methods you would use to record your data. **(2mks)**

(iii) Identify any **four** problems you are likely to face during field study in the desert**.** **(4mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3

GEOGRAPHY

PAPER 2

FORM THREE (3)

TIME 2 ¾ HOURS

INSTRUCTIONS TO CANDIDATES:

This paper consists of two sections: A and B

Answer all the questions in section A

Answer question 6 and any two questions from section B

All answers must be written in the answer booklet provided

SECTION A (25MARKS)

1.(a) What is Agroforestry? **(2mks)**

(b) Give **three** reasons why Agro-forestry is encouraged in Kenya. **(3mks)**

2.(a) Define the term mining. **(2mks)**

(b) List **three** challenges Kenya faces in the Exploitation of her Minerals. **(3mks)**

3.(a) Differentiate between Agriculture and Market gardening. **(2mks)**

(b) Mention **three** factors that have favored the horticulture industry in Kenya. **(3mks)**

4.(a) Define Beef farming. **(2mks)**

(b) State **three** similarities of beef farming in Kenya and Argentina. **(3mks)**

5.(a) Name **two** wheat-growing counties in Kenya. **(2mks)**

(b) State **three** human conditions that favor wheat growing in Kenya. **(3mks)**

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SECTION B

6.The table below shows the production of maize in tones between 2010 and 2014 in four divisions of Baringo County.

Division	2010	2011	2012	2013	2014
Bartabwa	200	240	250	280	285
Barwesa	116	135	138	170	275
Kabartonjo	100	80	60	50	45
kipsaraman	40	30	45	30	25

(a)(i) Calculate the percentage increase of the total maize production in the four divisions between 2012-2013. **(2mks)**

(ii) What is the difference in kilograms between the highest production and the lowest in five years? **(2mks)**

(b)(i) Using a vertical scale of 1cm representing 50 tonnes, **draw** a group line graph to represent the data above. **(7mks)**

(ii) State **three** advantages of using a group line graph. **(3mks)**

(c) State **three** climatic conditions favoring the growing of maize. **(3mks)**

(d) Explain **four** problems facing small-scale maize farmers in Kenya. **(8mks)**

7.(a)(i) What is forestry? **(2mks)**

(ii) State **three** characteristics of planted forests. **(3mks)**

(b)(i) Name **two** softwood trees that grow in Canada. **(2mks)**

(ii) Explain **three** ways in which coniferous forests are adapted to the cold climate. **(6mks)**

(iii) Give **four** problems facing forestry in Kenya. **(4mks)**

(c) State **three** measures taken by the Kenyan government to conserve forest. **(3mks)**

(d) Compare forestry in Kenya and Canada under the following sub-headings:

(i) Transportation. **(2mks)**

(ii) Harvesting **(2mks)**

(iii) Tree species **(1mk)**

8.(a)(i) What is Agriculture? **(2mks)**

(ii) Mention **three** social factors that influence agriculture. **(3mks)**

(b)(i) State the **main** characteristics of intensive subsistence dominated by food crops. **(4mks)**

(ii) Name **two** areas where intensive subsistence farming is practiced in Kenya. **(2mks)**

(c)(i) Define plantation Agriculture. **(2mks)**

(ii) State **four** main characteristics of plantation farming. **(4mks)**

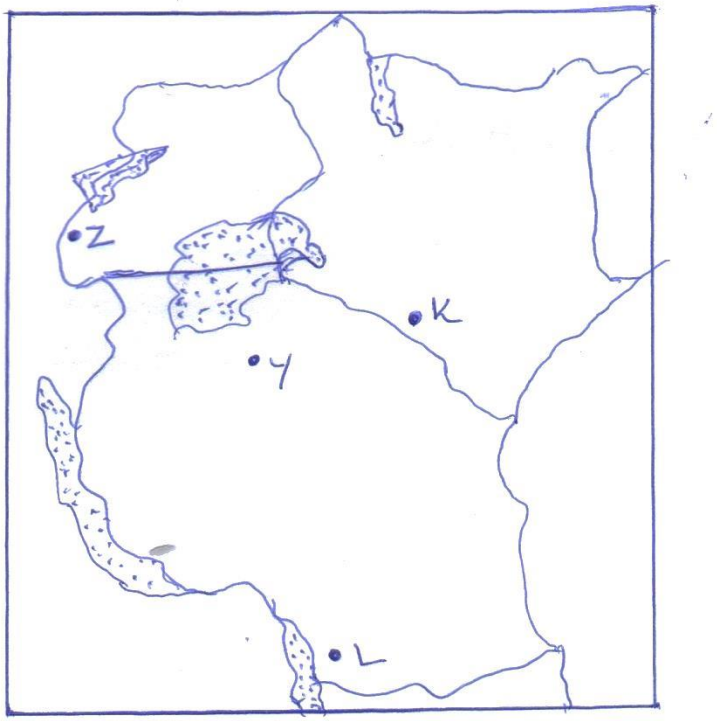
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(d) (i) What is mixed farming? **(2mks)**

(ii) Name **two** regions in Africa where it is practiced in Africa. **(2mks)**

(iii) State **two** advantages of mixed farming. **(2mks)**

9.The map below shows the location of some minerals in East Africa.



(a) Name the minerals mined in the areas marked K, L,Y and Z. **(4mks)**

(b) (i) State **two** conditions that are necessary for the formation of petroleum**.** **(2mks)**

(ii) List **three** ways in which open cast mining affects the environment. **(3mks)**

(c)(i) Give **two** uses of diamond. **(2mks)**

(ii) Explain **three** ways in which mining promotes industrialization in Kenya. **(6mks)**

(d) Apart from industrialization, explain **four** ways in which mining contributes to the economy of Kenya. **(8mks)**

10. (a) (i) Name **four** exotic dairy breeds reared in Kenya. **(4mks)**

(ii) State **five** factors favoring dairy farming in Kenya. **(5mks)**

(b) Explain **four** differences between dairy farming in Kenya and Denmark. **(8mks)**

(c) Explain **four** factors that favor beef farming in Argentina. **(8mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

311/1

HISTORY AND GOVERNMENT

FORM 3

TERM III

TIME: 2 ½ HOURS.

PAPER 1

INSTRUCTIONS TO CANDIDATES

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

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

FOR EXAMINER'S USE ONLY

Section	Question	Marks
A	1 – 17	
Total		

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SECTION A (25 MARKS) Answer all questions from this section

1.Identify the main the method used by Archaeologists to gather historical date in Kenya **(1mk)**

2.Name the major dispersal point of the Eastern Bantu in kenya during the pre- colonial period **(1mk)**

3.Give two cultural practices Agikuyu borrowed from the Gumba during the pre-colonial period **(2mks)**

4.Identify two commodities obtained from the Kenyan coast during the long distance trade **(2mks)**

5.State two factors which enabled the Arabs to sail from Oman to the Kenyan Coast **(2mks)**

6.List one political factor which causes conflicts in Kenya **(1mk)**

7.State the meaning of direct democracy **(1mk)**

8.Give two reasons why the government of Kenya may limit a person's freedom of speech **(2mks)**

9.State the main reason why the Local Native Council was established in Kenya during the colonial period **(1mk)**

10. Identify two ways through the construction of the Kenya Uganda railway facilitated colonization of Kenya**(2mks)**

11. State two grievances by the Asians in Kenya that was addressed in the Devonshire White paper **(2mks)**

12. Highlight one recommendations of the Lennox-Boyd constitution regarding the legislative council in Kenya **(1mk)**

13. Give the main contributions of Oginga Odinga in the history of Kenya **(1mk)**

14. List two ways in which a person becomes a member of parliament in Kenya **(2mks)**

15. Who chairs cabinet meetings in Kenya **(1mk)**

16. Name one type of elections in Kenya **(1mk)**

17. State two ways in which the rule of law is applied in Kenya **(2mks)**

SECTION B (45 MARKS)

Answer only three questions from this section

18. (a) Name three communities that belong to the Western Bantus **(3mks)**

(b) Describe the social organization of the Maasai during the pre-colonial period **(12mks)**

19.(a) State five factors which influenced Seyyid Said decision to transfer its capital from Muscat to Zanzibar **(5mks)**

(b) Discuss five reasons for the decline of the Portuguese rule along the Coast of Kenya during the 17th century **(10mks)**

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20.(a) Identify three causes of the Agiriama resistance to the establishment of colonial rule in Kenya **(3mks)**

(b) Explain six reasons which led to the migration of Africans to urban areas in Kenya during the colonial period **(12mks)**

21. (a) Give five factors that facilitated Mau Mau movement in Kenya **(5mks)**

(b) Describe five roles played by African Elected Members of Parliament during the struggle for independence in Kenya **(10mks)**

SECTION C (30 MARKS)

Answer only TWO questions from this section

22. (a) State three circumstances under which one can lose a Kenyan citizen by registration. **(3mks)**

(b) Explain six reasons why it's important to respect Human rights **(12mks)**

23.(a) Identify five features of a good constitution **(5mks)**

(b) Explain five factors that are likely to interfere with free and fair elections in Kenya **(10mks)**

24.(a) Give three functions of the Secretary to the cabinet in Kenya **(3mks)**

(b) Explain six roles of chief Justice in Kenya **(12mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3

HISTORY AND GOVERNMENT

PAPER 2 (311/2)

FORM THREE (3)

Time: 2½ Hours

Instructions to candidates:

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

b) Answer all 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		18-21		22-24		24	
25		45		30		100	

SECTION A (25 MARKS)

Attempt all the questions from this section.

1. Identify the period in history that deals with the study of man in recent times. **(1mk)**

2. State **two** disadvantages of the use of Anthropology as a source of information on history and government. **(2mks)**

3. Name **two** species of Australopithecus**.** **(2mks)**

4. Who invented the seed drill during Agrarian revolution in Britain**?** **(1mk)**

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5. List down two types of trade. **(2mks)**

6. Give **two** political impacts of Trans – Atlantic trade in Africa**.** **(2mks)**

7. Mention **one** early source of energy**.** **(1mk)**

8. State **two** functions of Meroe. **(2mks)**

9. Identify the **main** symbol of unity among the Shona. **(1mk)**

10. Name **one** urban coastal area in Senegal where French policy of assimilation was applied. **(1mk)**

11. Name the political party that led Mozambique to independence. **(1mk)**

12. Give **two** social reasons for the scramble for Africa. **(2mks)**

13. Identify one community outside East Africa that collaborated with the British. **(1mk)**

14. State **two** advantages of electronic sources of information**.** **(2mks)**

15. Which type of constitution does Britain use? **(1mk)**

16. Mention the **main** aim of Berlin Conference of 1884**.** **(1mk)**

17. Identify **two** forms of government. **(2mks)**

SECTION B (45 MARKS)

Attempt any three questions from this section.

18. a) Give **five** reasons why Africa is regarded as the cradle of man**.** **(5mks)**

b) Explain **five** importance of the study of history**.** **(10mks)**

19. a) State **five** benefits of domestication of animals. **(5mks)**

b) Explain **five** causes of food shortages in Africa. **(10mks)**

20. a) List down **three** earliest water vessels**.** **(3mks)**

b) Explain **six** positive effects of modern means of communication. **(12mks)**

21 a) Give **five** reasons for Samori's Long resistance. **(5mks)**

b) Explain **five** reasons for Samori's defeat. **(10mks)**

SECTION C (30 MARKS)

Attempt any two questions from this section.

22 a) State **five** social aspects of the Asante Empire. **(5mks)**

b) Describe the political organisation of Buganda Kingdom. **(10mks)**

23 a) Give **five** reasons why it was difficult for Lugard to apply indirect rule in Southern Nigeria. **(5mks)**

b) Explain **five** reasons why French policy of assimilation failed in Senegal**.** **(10mks)**

24. a) Give **five** reasons for slow decolonisation of Mozambique. **(5mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

FORM THREE END OF YEAR EXAM

441/1

HOME SCIENCE

THEORY

Paper 1

2 ½ hours

INSTRUCTIONS TO CANDIDATES

- Write your name and number in the spaces provided.
- Sign and date the examination in the spaces provided.
- This paper consists of three sections **A**, **B** and **C**.
- Answer **ALL** questions in section **A** and **B** and any **two** questions from section **C**.
- Answers must be written in the spaces provided.

For Examiners use only.

Section	Question	Maximum Score	Candidate's Score
A	1-20	40	
B	21	20	
		20	
		20	
Total		100 marks	

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SECTION A (40 MARKS)

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

1.Mention **two** things involved in food presentation. **(2mks)**

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2.State **two** main ways of cleaning clothes. **(1mk)**

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3.Give **two** possible causes for each of the following machine faults. **(3mks)**

a) Needle breaking.

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b) Machine feeding fabric through poorly.

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c) Thread breaking.

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4.List **four** fabrics that should not be soaked during laundry. **(2mks)**

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5.Suggest **two** reasons why Chicken Curry with Fried Potatoes is not a suitable meal for a pregnant woman. **(2mks)**

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6.Mention **two** openings that can be used on a long sleeve. **(1mk)**

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7.Give **two** precautions to take when handling calabashes. **(2mks)**

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8.Suggest **two** reasons why free drainage is not a very appropriate method of draining water at home. **(2mks)**

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9.Highlight **two** reasons why pattern markings should be transferred correctly on to fabric. **(2mks)**

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10. Suggest **three** possible signs of a miscarriage in pregnancy. **(3mks)**

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11. Identify **two** differences between cotton and linen. **(2mks)**

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12. List **four** ways of introducing raising agents in flour mixtures. **(2mks)**

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13. Highlight **two** differences between a print patch and a calico patch. **(2mks)**

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14. Mention **two** sources of information for a consumer. **(1mk)**

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15. Fill in the table on family expenses below by ticking in the appropriate box. **(3mks)**

Expense	Flexible	Fixed
House helps' salary Hospital bills Clothes Medical cover Food Tax		

16. Give **two** reasons why there is increased need for iron in an expectant mother. **(2mks)**

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17. Write the following abbreviations in full. **(2mks)**

a) OPV

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b) KEPI

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c) TBA

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d) VCT

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18. State **two** uses of vinegar in laundry work. **(2mks)**

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19. Mention **two** reasons why milk production may reduce during breastfeeding. **(2mks)**

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20. State **two** reasons why seams should be neatened. **(2mks)**

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SECTION B (20 MARKS)

Compulsory question.

Answer question 21 in the space provided after the question.

21. You are taking care of your ailing grandmother during the holiday.

a) Describe how to launder her crocheted chair backs. **(9mks)**

b) Outline the procedure you would use to thoroughly clean the living room in her semi-permanent house. **(8mks)**

c) Mention **six** activities you may carry out when attending to the compound. **(3mks)**

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SECTION C (40 MARKS)

*Answer any **TWO** questions in the space provided after question 24.*

22. a) Highlight **four** rules on the use of a refrigerator to avoid food poisoning. **(4mks)**

b) Discuss **three** effects of intestinal parasites on the human body. **(6mks)**

c) Explain the effect of each of the following on the growth of yeast. **(6mks)**

i. Hot water.

ii. High amounts of sugar.

iii. Placing yeast dough in a refrigerator.

d) Suggest **four** reasons why finger nails should be kept short and smooth. **(4mks)**

23. a) Discuss **four** factors that may have negative effect on a family budget. **(8mks)**

b) Identify **four** procedures that may damage clothes that contain elasto-fibres. **(4mks)**

c) Mention **four** reasons why zippers may not be the best fasteners for toddlers' clothes **(4mks)**

d) Highlight **four** disadvantages of using a credit card for shopping. **(4mks)**

24. a) Outline **five** rules to observe when using the sewing machine as a beginner. **(5mks)**

b) Identify **five** reasons why the crust of Cornish pasties made from short crust pastry may be hard and tough. **(5mks)**

c) Explain **four** disadvantages of charcoal irons. **(6mks)**

d) Suggest **four** dangers of regularly packing a meal of Chips (Potato Fries), Fried Smokie and Soda for a school going child. **(4mks)**

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THIS IS THE LAST PRINTED PAGE

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

441/2

CLOTHING AND TEXTILES

Paper 2

PRACTICAL

Time: 2½ hours

These instructions consist of 3 printed pages

Candidates should check the question paper to ascertain that bot pages are printed as indicated and no part of the question is missing.

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A pattern of a girl's skirt is provided. You are advised to study the sketches, the question paper and the layout carefully before you begin the test.

MATERIALS PROVIDED

1.Pattern pieces:

A Skirt front

B Skirt back

C Pocket

D Front yoke

2.Light weight cotton fabric 50cm by 90 cm wide.

3.Sewing thread to match the fabric.

4.One large envelope.

THE TEST

Using the materials provided, cut out and make up the RIGHT HALF of the skirt to show the following processes:

(a) Cutting out. **(14½mks)**

(b) The making of the back skirt dart. **(6½mks)**

(c) Preparation of the gathers on the skirt front piece. **(3mks)**

(d) Attachment of front yoke piece to the skirt front piece using a neatened overlaid seam. **(10mks)**

(e) Attachment of the front pocket piece to the skirt front and the back pocket piece to the skirt back. **(8mks)**

(f) The making of a neatened open seam at the side above and below the pocket mouth. **(15mks)**

(g) The joining of the pocket bag and neatening half of the pocket bag using loop stitches. **(7½mks)**

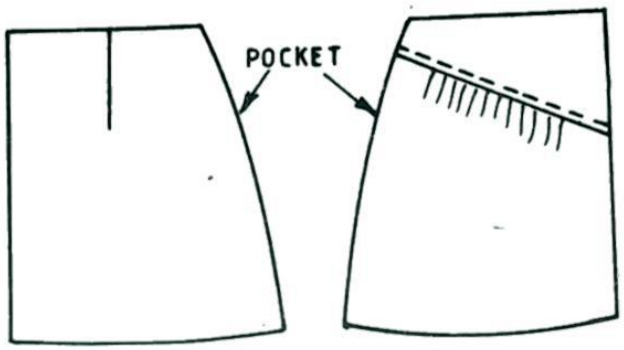
(h) Managing the hem, slip hem half of the hem. Do not remove tacking stitches. **(19mks)**

(i) Final presentation. **(6½mks)**

At the end of the examination, firmly sew onto your work, on a single fabric a label bearing your name and index number. Remove the needle and pins from your work, then fold your work carefully and place it in the envelope provided. Do not put scraps of fibre in the envelope.

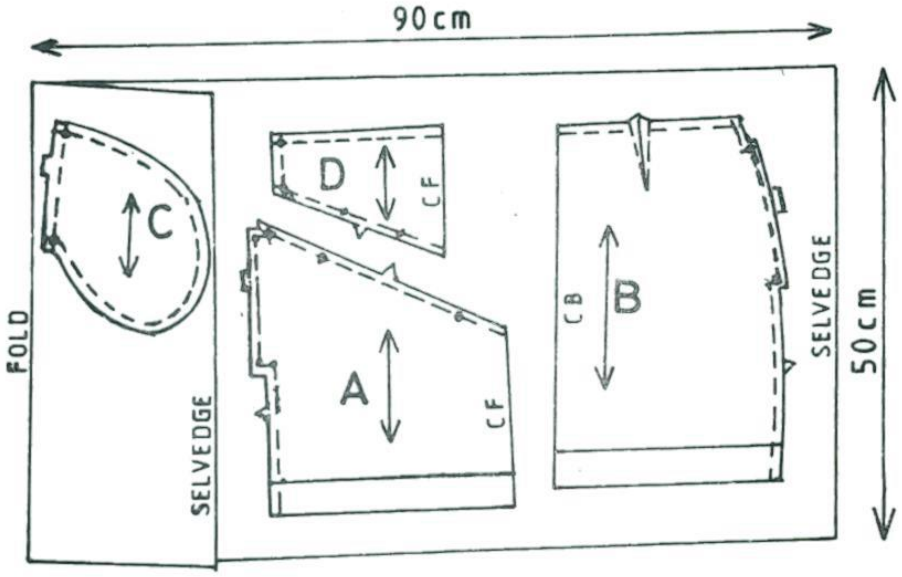
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SKIRT VIEW



BACK FRONT

THE LAYOUT (Not drawn to scale)



PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

441/3

HOMESCIENCE

FOODS AND NUTRITION

Paper 3

PRACTICAL

1 ¾ hours

FORM THREE END OF YEAR EXAMINATION

PLANNING SESSION: **30 minutes**

PRACTICAL TEST SESSION: **1 ¼ hours**

INSTRUCTIONS TO CANDIDATES

1.Read the test carefully

2.Write your name and admission number on every sheet of paper used

3.Textbooks and recipes may be used during the planning session as reference materials

4.You will be expected to keep your order of work during the practical

*5.You are allowed to take away **only** your materials at the end of the planning session*

6.You are not allowed to bring additional notes to the practical sessions

These instructions consist of 2 printed pages

Candidates should check the question paper to ascertain that bot pages are printed as indicated and no part of the question is missing.

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THE TEST

You are going for a picnic with two of your friends.

Using the ingredients listed below, prepare, cook and pack two suitable items for the picnic for the three of you. Include a refreshing drink.

Ingredients

Eggs/sausages

Salt

Plain wheat flour

Eggs

Oil/cooking fat

Milk

Oranges/pineapple

Sugar

PLANNING SESSION- 30 minutes

For each task below, use separate sheets of paper and a carbon paper to make duplicate copies then proceed as follows:

1.Identify the dishes and write their recipes.

2.Write your order of work.

3.Make a list of foodstuff and equipment you will require.

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3

ISLAMIC RELIGIOUS EDUCATION (314/1)

FORM THREE (3) PAPER 1

Time: 2½ Hours

INSTRUCTIONS:

1. This paper contains six (6) questions.
2. Answer any 5 questions
3. Write your answers in the answer sheet provided.
4. All answers must be in English.

Answer any 5 questions

1 a) What is the importance of the Quran to a Muslim. **(7Mks)**
b). What is the punishment for zinaa and qadhf according to *Surah An-Nur*? **(8Mks)**
c) What is the importance of *Suratul Al-Fatiha?* **(5Mks)**

2. a) Discuss ways in which the Quran has been protected from interference. **(8Mks)**
b) Explain the significance of the compilation of the Quran. **(6Mks)**
c) Mention the attributes of Allah mentioned in *Ayatul Kursy*. **(6Mks)**

3 a) What are the conditions that a Hadith should fulfill before it is accepted as sound? **(6Mks)**
b) Mention six authentic books of hadith (*Sahihul Sitta*) **(6Mks)**
c) Explain four ways through which hadith evolved. **(8Mks)**

4 a) Discuss the factors that led to the development of schools of thought. **(8Mks)**
b) List the items on which zakat is not payable. **(7Mks)**
c) What are the contributions of Imam Abu Hanifa to the development of Fiqh? **(5Mks)**

5 a) Describe various ways of performing swalatul musafir **(6Mks)**
b) Enumerate the rights that a Muslim should accord him/herself. **(6Mks)**
c) Mention acts forbidden for a pilgrim in the state of ihram. **(8Mks)**

6 a) What is the Significance of belief in the oneness of Allah? **(8Mks)**
b) Mention the different manifestation of shirkul Akbar **(7Mks)**
c) State the qualities of an Imam **(5Mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

ISLAMIC RELIGIOUS EDUCATION/314

PAPER 2
TERM THREE FORM THREE
TIME: $2^1/_2$ HRS

INSTRUCTIONS:

1. This paper contains six (6) questions.
2. Answer ANY 5 of the questions
3. Write your answers in the answer sheet provided.
4. All answers must be in English.

1. a) Why is it **important** to seek permission before entering people's houses? **(6mks)**
b) Identify the **circumstances** when a Muslim is required to exercise *Swabr.* **(6mks)**
c) Discuss **eight** effects of adultery in the society. **(8mks)**

2. a) State seven rights of a Muslim child **(7mks)**
b) Give the reasons that can make a man to marry an additional wife. **(5mks)**
c) What are the obligations of the husband over his wife? **(8mks)**

3. a) Outline any **four** heirs and their shares for inheritance mentioned in the Qur'an**.** **(8mks)**
b) Identify **five** legitimate sources of earning. **(5mks)**
c) Discuss the **measures** that can be taken by Muslims to curb corruption. **(7mks)**

4a) Describe the circumstances that led to the prophet (S.A.W's) migration to Yathrib. **(7mks)**
b) State the terms of the treaty of Hudaybiyah. **(6mks)**
c) Explain the importance of the Madina constitution. **(7mks)**

5. a) State the accusations which were made against Caliph Uthman bin Affan (R.A) **(7mks)**
b) Discuss the factors that contributed to the decline of the Umayyad dynasty. **(7mks)**
c) Explain six factors that facilitated the spread of Islam in the East African Coast. **(6mks)**

6.a) Outline the **contributions** of Sheikh Swaleh Farsy to the spread of Islam in East Africa. **(7mks)**
b) Discuss **six** achievements of the *Ikwaan Al-Muslimunin* Egypt. **(6mks)**
c) Explain the **lessons** that Muslims can learn from Imam Al-Ghazali**.** **(6mks)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

JINA: ……..……

SHULE: ……..……

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

Hati ya Kuhitimu Elimu ya Sekondari Kenya (K.C.S.E)

KIDATO CHA 3

102/1

KISWAHILI

Karatasi ya 1

INSHA

MUDA: SAA 1 ¾

MAAGIZO KWA MTAHINIWA:

1) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya majibu.

2) Karatasi hii ina maswali manne.

3) Jibu maswali mawili pekee.Kila swali lina alama 20.

4) Swali la kwanza ni la lazima. kisha chagua swali la pili kutoka miongoni mwa matatu yaliyosalia.

5) Majibu yote yaandikwe katika lugha ya Kiswahili.

SWALI	UPEO	ALAMA
1.	20	
2.	20	
3.	20	
4.	20	
JUMLA	40	

1.LAZIMA

Wewe ni katibu wa jopo lililoteuliwa kuchunguza kudorora kwa matokeo ya mtihani wa masomo ya sayansi katika mtihani wa KCSE nchini Kenya.

Andika ripoti ya uchunguzi wenu.

2.Uhifadhi wa mazingira una manufaa mengi kwa binadamu .Thibitisha.

3.Andika insha itakayoeleza methali: Ajizi ajizi ni nyumba ya njaa.

4.Ilikuwa hamkani za hapa na pale shuleni mwetu . Kila mwanafunzi alikuwa mbioni kuinusuru roho yake kutokana na janga hilo .... Endeleza kisa hiki

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

JINA: ……..……

SHULE: ……..……

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

KIDATO CHA 3

102/2

KISWAHILI

Karatasi ya 2

LUGHA

MUDA: SAA 2 ½

Maagizo

a. Jibu maswali **yote**

b. Majibu yote yaandikwe katika nafasi ulizoachiwa katika karatasi hii ya maswali

c. Majibu yote **lazima** yaandikwe kwa lugha ya Kiswahili

d. Karatasi hii ina kurasa 10 zilizopigwa chapa

e. Watahiniwa ni lazima wahakikishe kuwa kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.

Kwa matumizi ya mtahini pekee

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
Jumla	80	

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1.UFAHAMU

Soma makala yafuatayo kisha ujibu maswali.

Mojawapo kati ya misingi na nguzo za maendeleo uliwenguni ni viwanda. Viwanda ni muhimu kwa kuwa ndivyo vinavyoigeuza malighafi inayopatikana na kuwa bidhaa zinazoweza kutumiwa na watu. Katika nchi zinazoendelea, ambazo hazina uwezo mkubwa wa mitaji viwanda vinavyoimarika ni vile vidogo. Hivi ni viwanda ambavyo huhusisha amali za mikono. Kuimarika kwa viwanda hivi vidogo kunatokana na sababu mbalimbali.

Nchi zinazoendelea huwa na masoko finyu sana kwa kuzingatia uwezo wa ununuzi wa wanaolengwa na bidhaa za viwanda. Katika msingi huu viwanda vikubwa vitawiwa ugumu kufanya biashara katika mazingira ambako masoko yake ni finyu au utashi wa bidhaa zake sio mkubwa. Viwanda vidogo pia vinao uwezo wa kuwaajiri wafanyikazi wengi hasa kwa kuwa havina uwezo wa kugharamia mashine. Uajiri huu wa wafanyikazi wengi ni muhimu katika maeneo mengi ambako tatizo la ajira ni mojawapo wa matatizo sugu. Tofauti na mataifa ya kitasmia (yenye viwanda vingi) mataifa mengi yanayoendelea hayana mifumo imara ya kuwakimu watu wasiokuwa na kazi. Utegemezi wa jamaa wanaofanya kazi kwa hivyo unakuwa nyenzo ya pekee ya kuyamudu maisha.

Kuanzisha viwanda vidogo vidogo hakuhitaji mtaji mkubwa tofauti na viwanda vikubwa. Hali hii inasahilisha uwezekano wa watu wengi **kujasurisha** shughuli yoyote ile. Sambamba na suala hili ni kuwa ni rahisi kujarisha bidhaa mpya kwa kiwango kidogo cha kiwanda kidogo. Ikiwa mzalishaji yeyote atazalisha bidhaa mpya kwa mapanu, kwa mfano kama ilivyo kwa viwanda vikubwa, pana uwezekano wa kupata hasara kubwa. Huenda utashi wa bidhaa hiyo uwe mdogo ukilinganishwa na ugavi wa bidhaa yenyewe. Majaribio mazuri huwa ni kwa kiwango kidogo.

Kuwepo kwa viwanda vidogo huwa chocheo kubwa la usambazaji wa viwanda hadi maeneo ya mashambani. Hali hii inahakikisha kuwa nafasi za ajira zimezambazwa nchini hali ambayo inasaidia kuhakikisha kuwa pana mweneo mzuri wa kimapato nchini. Mweneo huo wa mapato unachangia katika kuboresha uwezo wa kiununuzi wa umma. Huu ni msingi muhimu wa maendeleo. Upanuzi na ueneaji wa viwanda vidogo vidogo ni msingi mkubwa wa kujitegemea kiuchumi. Aghalabu viwanda vikubwa huegemea kwenye mitaji ya mashirika ya kimataifa na huwa msingi wa kuendelezwa kwa utegemezi wa kiuchumi.

<u>Maswali</u>

a) Kwa nini viwanda ni muhimu? **(alm2)**

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b) Ni nini kiini cha matatizo ya uuzaji wa bidhaa katika nchi zinazoendelea? **(alm2)**

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c) Eleza faida zinazotokana na kuwepo kwa viwanda vidogo vidogo. **(alm4)**

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d) Usambazaji wa viwanda katika maeneo ya mashambani una faida gani? **(alm4)**

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e) Fafanua maana ya msamiati huu kama ulivyotumika katika kifungu . **(alm3)**

i) Kujasurisha

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……

ii) Amali

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……

iii) Utashi

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2.MUHTASARI

Soma kifungu kifuatacho cha habari kisha ujibu maswali yanayofuatia.

Taifa la Kenya limekuwa na tatizo la njaa kwa muda mrefu na hili ni tatizo ambalo hutokea mwaka baada ya mwaka. Kuna sababu kadhaa ambazo zimelifanya tatizo hili likithiri. Wananchi wengi hutegema ukulima kujipatia pato pamoja na chakula. Jambo hili limekuwa shida kubwa kwa vile kilimo hutegemea mvua isiyotabirika. Watabiri wa hali ya hewa huwashauri wakulima wapande mbegu zitakazohimili jua lakini mvua nayo inakuwa nyingi na kuharibu mimea.

Bidhaa za ukulima kama mbegu za kupanda, mbolea, dawa za kunyunyizia n.k, zimekuwa ghali. Kuna sehemu kubwa ya ardhi ambayo ni kame na haiwezi kutumika kwa kilimo. Mazao yanayotolewa shambani hayahifadhiwi vizuri. Mengine yanaharibikia shambani na mengine yanavamiwa na wadudu kiasi kwamba hayawezi kutumika.

Tatizo lingine ni vita vya kikabila. Kabila tofauti zinapopigana, watu huhama na kuacha mashamba ilhali wengine huchoma maghala ya chakula. Wafanyabiashara pamoja na serikali huwanunulia wakulima mazao yao kwa bei ya chini sana mpaka wanakosa shauku ya kuyashughulikia mashamba,yao. Siku hizi wakulima hawashughuliki tena kuzuia mmomonyoko wa udongo. Hivvo mvua inaponyesha rotuba yote inachukuliwa. Serikali haina sera mwafaka za kukabiliana na njaa. Hii ndiyo sababu sehemu zingine kama Turkana zimekabiliwa na njaa kwa muda mrefu.

Tatizo hili linaweza kutatuliwa ikiwa wakulima wataelimishwa juu ya mbinu bora za ukulima. Pia wakulima waishio katika sehemu ambazo hazina mvua ya kutosha wapewe mbegu ambazo zitahimili kiangazi. Ukulima wa kunyunyuzia mimea maji unafaa kuzingatiwa.Mazao yanayotolewa shambani yahifadhiwe vizuri kwa kuwekwa dawa za kuwaua wadudu.

Sehemu kubwa za ardhi ambazo hazitumiwi zitolewe kwa kilimo. Ni muhimu wakulima waelimishwe kuhusu jinsi ya kuzuia mmomonyoko wa udongo na umuhimu wake. Wakulima wanunuliwe mazao yao kwa bei nafuu ili wajibidiishe katika kazi yao. Serikali inafaa iwe na sera mwafaka ili iweze kutatua tatizo hilo ambalo limekuwa ni janga kuu.

MASWALI

a) Bila kupoteza maana iliyokusudiwa na mwandishi, fupisha aya tatu za mwanzo kwanza hadi ya tatu.
(maneno 70) **(alm7)**

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Matayarisho

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Nakala safi

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b) Dondoa hoja muhimu zinazojitokeza katika aya mbili za mwisho. (Maneno 60) **(alm6)**

Matayarisho

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Jibu

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3.MATUMIZI YA LUGHA (ALAMA 40)

a) Andika neno lenye sifa zifuatazo **(alm1)**

Nazali ya midomoni, kipasuo ghuna cha midomo, irabu ya nyuma juu,kikwamizo ghuna cha ufizi, irabu ya mbele juu.

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b) Andika sifa za kimatamshi za sauti zinazounda neno lifuatalo **(alm1)**

tai

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c) Weka shadda kwenye maneno yaliyopigiwa mistari ili kuleta maana iliyokusudiwa. **(alm2)**

Barabara mtazamaji, karibu kwenye kipindi chetu leo nikitumai hali yako ni salama bila walakini yoyote.

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d) Tambua mofimu katika neno ‘msamehevu’ **(alm2)**

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e) Eleza tofauti ya kisarufi ya maneno yaliyopigiwa mstari. **(alm2)**

i) Kitabu hiki ni cha Omari

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……

ii) Hiki ni cha Omari

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f) Bainisha aina za vishazi katika sentensi hii **(alm2)**

Watoto walioachwa mayatima wamesaidiwa na shirika la Tujiinue

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g) Andika sentensi ifuatayo kwa ukubwa wakati ujao hali timilifu **(alm2)**

Sahani zote zimepelekwa nyumbani

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h) Andika sentensi yakinishi hali ya wingi kutokana na sentensi ifuatayo. **(alm2)**

Mgonjwa hajasumbuka sana kutokana na uwele huo

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i) Andika katika usemi wa taarifa

"Nitawatuza watahiniwa wote watakaopita mtihani mwaka huu". Mwalimu aliwaahidi wazazi. **(alm3)**

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j) Ainisha shamirisho na chagizo katika sentensi ifuatayo **(alm4)**

Juma alimchinjia mamake mbuzi mzuri kwa kisu butu

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k) Eleza maana mbili za sentensi ifuatayo. **(alm2)**

Wanafunzi waliandikiana barua.

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l) Ainisha vielezi katika sentensi zifuatazo. **(alm2)**

(i) Jaribu kujitahidi kisabuni usianguke mtihani.

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(ii) Wachezaji wote wameingia mara tatu

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m) Onyesha matumizi mawili ya herufi kubwa. **(alm2)**

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n) Changanua sentensi ifuatayo kwa kutumia jedwali. **(alm4)**

Ouma na Kadzo walianguka mtihani ila wengine walifuzu vizuri.

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o) Eleza matumizi ya "na" katika sentensi ifuatayo. **(alm2)**

Wageni na wenyeji wanaliwazana baada ya kupatwa na msiba

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p) Bainisha kiima na kiarifu katika sentensi ifuatayo. **(alm2)**

Wezi wale walikamatwa na polisi jana usiku.

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q) Unda nomino moja moja kutokana na vitenzi vifuatavyo. **(alm2)**

i) Zawidi

……

……

ii) tubu

……

……

p) Kamilisha jedwali **(alm2)**

Mzizi	Kutendea	Kutendewa
-l-		
-f-		

r) Kamilisha pengo lililoachwa kwa neno lifaalo. **(alm1)**

Mlolongo wa magari ya kijeshi ulionekana siku ya kufuzu kwa **.....**cha wanajeshi.

4.<u>ISIMU JAMII(ALAMA 10)</u>

a) Eleza mambo manne yanayopelekea kufifia/kufa kwa lugha. **(alm4)**

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b) Soma makala yafuatayo kisha ujibu maswali yafuatayo

.....Sipendi wanafunzi wasiozingatia kazi yao ipasavyo. Kila mtu aingie darasani na kuanza kudurusu Kemia .Mmesikia?

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i) Bainisha sajili ya mazungumzo hayo. **(alm2)**

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ii) Huku ukitoa mifano mwafaka, eleza sifa nne za sajili hii kwa mujibu wa kifungu hiki. **(alm4)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

JINA: ……..……

SHULE: ……..……

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

KISWAHILI

KARATASI YA 3

FASIHI

KIDATO CHA 3

MUDA: SAA 2 ½

MAAGIZO KWA MTAHINIWA

a) Jibu maswali **manne** pekee

b) Swali la **kwanza** ni la **lazima**

c) Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki ; yaani : riwaya, Tamthlia, hadithi fupi na ushairi.

d) Usijibu maswali mawili kutoka sehemu moja.

Kwa matumizi ya mtahini pekee

Swali	1	2	3	4	5	6	7	8	Jumla

SEHEMU YA A: LAZIMA:FASIHI SIMULIZI

(i) Soma kisa kifutacho kasha ujibu maswali

Hapo zamani za kale paliishi mtoto katika kisima kimoja. Siku moja, mtoto aliokota kijiwe karibu na soko kuu. Kijiwe kilikuwa kikimeremeta kwa rangi mbalimbali na kuzingirwa na pete ya dhahabu.

Mtoto huyo na wenzake walianza kurushiana kijiwe hicho. Baada ya muda kikaanza kuongezeka umbo na kuonekana kama kiwiwili cha binadamu. Kikaanza kuwakimbiza wale watoto wawili. Kutokana na ukelele wao,

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watu walikuja kutazama ni nini kilikuwa cha mno. Walipofika walikutana ana kwa ana na dubwana hilo. Lilizidi kuongeza kwa umbo na likawameza wote pamoja na mifugo wao. Wachache waliojaribu kukimbia liliwashika kwa mikono yake mirefu na mipana. Kwa bahati njema kulikuwa na mama mmoja aliyeyaona hayo yote. Alikuwa mbali kiasi na hapo. Aliteremka kutoka kilele cha mlima na kuwapata wakulima makondeni na sawia akawajuza kuhusu kilichomwogofya sana. Wote wakaacha shughuli zao na wakatwaa silaha zao wakaelekea soko kuu.

Dude sasa lilikuwa limejilaza baada ya shibe. Wakulima wale waliwachagua watu sita ambao walijulikana kwa ushujaa wao. Pamoja walilinyemelea lile nyangarika na kulikata mara moja. Lilitoa mkoromo mkuu kabla halijakata kamba. Punde, wanakijiji kwa uangalifu mkubwa walitoboa tumbo lake wakitarajia kupata maiti za wapenzi wao. Wote walijawa na furaha kuu walipoona wapenzi wao wakichomoza kutoka tumboni, mmoja baada ya mwingine hadi akatoka yule wa mwisho. Mbuzi, kondoo na ng'ombe wote walitoka mmoja mmoja.

Siku hiyo kuliandaliwa sherehe kuu ya kumshukuru muumba kwa wema wake. Watoto wakashauriwa wasithubutu kuchezea vitu wasivyojua. Hadithi yangu inaishia hapo.

(a) Bainisha kipera cha utungo huu. **(alm1)**

(b) Fafanua sababu nne za kuthibitisha jibu lako. **(alm4)**

(c) Eleza manufaa manne ambayo jamii itapata kwa kurithisha kipera hiki kwa jamii. **(alm4)**

(d) Bainisha shughuli mbili za kiuchumi zinazoendelezwa na jamii inayosawiliwa na utungo huu **(alm2)**

(e) Bainisha mbinu za kimtindo ambazo msimulizi ametumia kufanikisha ujumbe wake. **(alm4)**

(f) Kipera hiki kimeanza kudidimia kutoka kwa jamii yako. Eleza hatua tano ambazo utashauri jamii yako ichukue ili kudumisha kuwepo wake katika jamii. **(alm5)**

SEHEMU YA B: USHAIRI

(ii) Soma shairi hili kisha ujibu maswali.

Wasiwasi n'ondokeya, ondoka enenda zako,
Ondoka andama ndiya, n'ondosheya uso wako,
Ondoka!wanisikiya? ziwate jeuri zako,
Jishughulishe na yako, yangu wayatakiani?

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Wasiwasi siitaki, suhuba yako si nzuri,
Haisatahimiliki, uwovu umekithiri,
Inganyoshwa hainyoki, ikukutene kikiri
Siitaki yako shari, enda zako wasiwasi

Huna kazi ufanyayo, ela kuwafitinisha,
Viumbe na zao nyoyo, vitwa kuwagotanisha,
Hiino ndiyo kaziyo, yenye kukufurahisha,
Ni kazi isokuchosha, mno umeizoweya.

Tukaapo wanambia, hayawi niyatakayo,
Kwamba tamaa ngatiya, nasumbuwa wangu moyo,
Kwamba hata ningojeya, hayo niyangojeyayo,
Ng'o siyapati hayo, ni bure najisumbuwa.

Mara waja na bahari,mambo yalivyo nyumbani,
Ati mambo si mazuri, mambo yote tafashani,
Wanitaka nifikiri,usemayo ni ya yakini,
Nisononeke moyoni, upate kufurahika.

Au mara unijiya, na kingine kisahani,
Kukhusu zao afiya,hao waliyo nyumbani,
Huwa hwishi kunambiya, hali zao taabani,
Zingawa; watakiyani? Ni zako au ni zao?

Na mara huja nambiya, nitakapotoka humu,
Ya kwamba yaningojeya, nde maisha agumu,
Ulilonikusudiya, ni kunitiya wazimu?
Kama ndiyo yako hamu, basi ushatahayari

Huo urafiki wako, wa kuja niungulisha,
Kunipa masikitiko, na mateso yasokwisha,
Kutoka leo ni mwiko, sitautaka maisha,
Kamwe hutanikondesha, tokomeya mwanakwenda.

(Abdilatif Abdala, 1971)

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Maswali

a) Eleza ujumbe wa shairi hili. **(alm3)**

b) Taja na ueleze umuhimu wa aina ya urudiaji katika shairi hili. **(alm2)**

c) Bainisha aina zifutazo za idhini za kishairi katika shairi hili **(alm4)**

Inksari

Lahaja

Mazda

Kubananga sarufi

d) Eleza namna sheria za kiarudhi zimetumiwa kuboresha ubeti wa kwanza wa shairi hili **(alm4)**

e) Bainisha nafsinenewa wa shairi hili. **(alm2)**

f) Eleza toni katika shairi hili. **(alm1)**

g) Andika ubeti wa mwisho katika lugha nathari. **(alm4)**

SEHEMU YA C:

NGUU ZA JADI: JIBU SWALI LA 3 AU 4

3. Bainisha nguu mbalimbali zilizotinga maendeleo ya nchi ya Matuo kulingana na riwaya ya Nguu za Jadi. **(alm20)**

4. ‘‘Mrima, dunia yote inajua aliyemsaliti Yesu Kristo. Unajua mtu huyo aliishia wapi?

a) Fafanua muktadha wa dondoo hili **(alm4)**

b) Tambua mbinu mbili za kimtindo zinazojitokeza katika dondoo hili. (**alm4)**

c) Fafanua namna wahusika walivyowaendea kinyume wenzao katika riwaya ya Nguu za Jadi. **(alm12)**

SEHEMU YA D:

BEMBEA YA MAISHA: JIBU SWALI LA 5 AU 6

5. ‘‘Japo nilipungukiwa na mengi niliyotamani, nilitaka nyinyi muote mbawa mpae juu na kuitazama dunia kutoka kule juu kwa niaba yangu. Stahamala yangu haikuniletea hasara...’’

a) Fafanua muktadha wa dondoo hili (alama 4)

b) Bainisha toni inayojitokeza katika dondoo hili (alama 2)

c) Eleza umuhimu wa mandhari ya dondoo hili (alama 8)

d) Onyesha namna stahamala ya msemaji ilimletea manufaa (alama 6)

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6.‘‘....Mara ile ya kuzuka, ulikuwa kimbaumbau mwiko wa pilau. Upepo kidogo tu ungekuyumbisha kama jani kavu wakati wa kipupwe.’’

a) Tambua mbinu nne za kimtindo katika dondoo hili **(alm4)**

b) Onyesha namna wahusika mbalimbali walivyoyumbishwa na hali tofauti katika tamthilia **(alm10)**

c) Eleza umuhimu wa msemaji wa maneno haya katika kukuza : **(alm6)**

i) ploti

ii) wahusika wengine

SEHEMU YA E:

MAPAMBAZUKO YA MACHWEO NA HADITHI NYINGINE: JIBU SWALI LA 7 AU 8

7. Fafanua namna ukiukaji wa haki umeendelezwa katika hadithi zifuatazo **(alm20)**

a) Fadhila za Punda

b) Sabina

c) Kifo cha Suluhu

d) Nipe Nafasi

Pupa: F.M. Kagwa

8. a. “Pupa imenitumbukiza kwenye kisima nilichochimba, sasa naingia mwenyewe …”

a) Bainisha mbinu za kimtindo katika dondoo hili. **(alm2)**

b) Huku ukitolea mifano mwafaka, onyesha ukweli wa kauli hii. **(alm8)**

Kila Mchezea Wembe: Pauline Kea Kyovi

8. b“Dunia hii nayo kubwa, anasa zake nyingi huwezi kuzimaliza”

a) Eleza muktadha wa dondoo hili. **(alm4)**

b) Fafanua toni katika dondoo hili. **(alm2)**

c) Jadili namna ambavyo anasa imejitokeza katika hadithi hii. **(alm4)**

MWISHO

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

TERM 3

PAPER 1

MATHEMATICS (Alternative A)

FORM THREE (3)

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

(a) Write your name, admission number, school and class in the spaces provided at the top of this page.

(b) Sign and write the date of the examination in the spaces provided above.

(c) This paper consists of **two** sections: **Section I** and **Section II.**

(d) Answer **ALL** questions in **Section I** and **any five** questions from **Section II.**

(e) Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.

(f) Marks may be given for correct working even if the answer is wrong.

(g) Non-programmable silent electronic calculators and KNEC Mathematical Tables may be used.

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

For Examiners' Use Only

SECTION I

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

SECTION II

17	18	19	20	21	22	23	24	Total	Grand Total	

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SECTION I (50 Marks)

*Answer **all** the questions in this section*

1.Simplify completely the expression **(3mks)**

$$\frac{9a^3b - 4ab^3}{6a^2b^2 - 4ab^3}$$

2.Without using a calculator or mathematical tables, evaluate: **3mks)**

$$\frac{\left(5\frac{1}{3} + \frac{9}{10}\right) - 3\frac{1}{5}\text{of}\frac{7}{8} \div \frac{6}{11}}{\frac{2}{3} - 1\frac{1}{4} + \frac{5}{6}}$$

3.Security lights have been erected along both sides of a street in Nakuru town. The lights are 50 metres apart along the right-hand side of the road and 80 metres apart on the left-hand side. At one end of the road, two lights are directly opposite each other. Find the total number of lights that will be erected when the poles are directly opposite each other again at the end of the road. **(3mks)**

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4.Use logarithms only to 4 decimal places, to evaluate; **(4mks)**

$$\sqrt{\frac{0.8008 \sin 67.12^0}{34.59^2}}$$

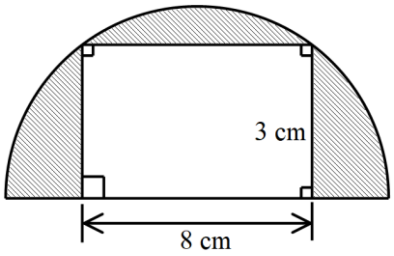
5.3 men working 8 hours a day can complete a piece of work in 5 days. Find how long it will take 10 men working for 6 hours a day to complete the work. **(2mks)**

6.Find the range of integral values of x for which **(3mks)**

$$\frac{1}{2187} < 3^{2x-1} \leq 27$$

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7.The figure below shows a rectangle of dimensions 8 cm by 3 cm inside a semi-circle (not drawn to scale).



Calculate the shaded area. Use $\pi = \frac{22}{7}$. **(3mks)**

8.An M-pesa agent has 22 notes of Ksh. 1,000 and Ksh. 200. The total amount of money she has is Ksh. 11,600. Calculate the difference in the number of notes she had. **(3mks)**

9.The exterior angle of a regular polygon is given by $(x - 50)^0$ and the interior angle is given as $(2x - 40)^0$. Calculate the sum of the interior angles of the polygon. **(4mks)**

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10. Marvin sold a cell phone to a retailer making a profit of 20%. The retailer then sold the cell phone for Ksh. 31,200 making a profit of 30%. Calculate the amount of money Marvin had paid for the cell phone. **(3mks)**

11. The position vectors of R, S and T are $2\boldsymbol{i} - \boldsymbol{j}$, $8\boldsymbol{i} + 11\boldsymbol{j}$ and $12\boldsymbol{i} + 19\boldsymbol{j}$ respectively. Show that R, S and T lie on a straight line. **(4mks)**

12. Use tables of cubes and reciprocals only to evaluate **(3mks)**

$$\frac{3}{0.06714} - \sqrt[3]{385.22}$$

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13. From the third floor of a building, an engineer observes a water tower, 50 metres away from the building as follows: the angle of depression of the foot of the tower is 19^0 while the angle of elevation of the top of the tower is 28^0. Calculate the height of the tower, correct to one decimal place. **(3mks)**

14. The capacity of a giant model of a bottle is 4,050 litres. The actual bottle has a volume 1,200 cm^3 and a height of 18 cm. Calculate the height of the model bottle in metres. **(3mks)**

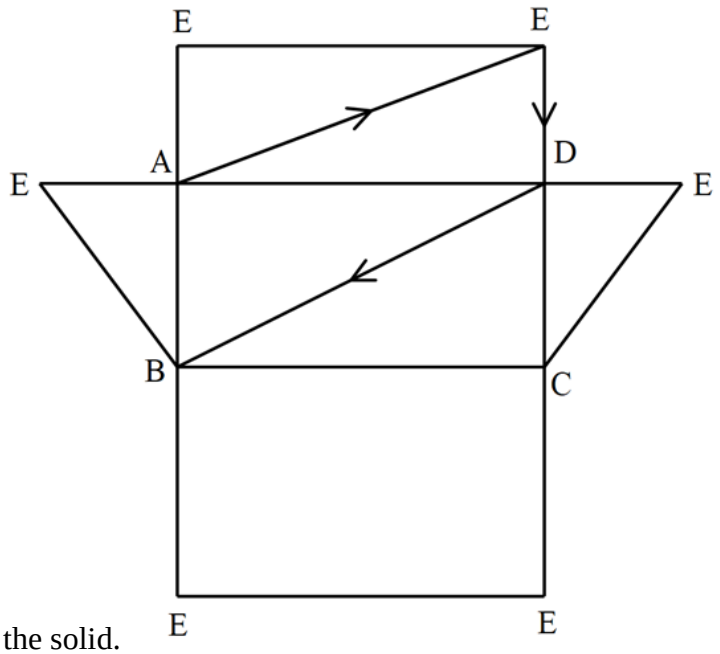
15. A tourist from the United Kingdom arrived in Kenya with 5,000 Great Britain Pounds (GBP) and exchanged the money through an agent at a 1.5% commission. While in Kenya, she spent Ksh. 285,760 on travelling and accommodation. She converted the remaining amount into United States Dollars (USD). All the exchanges were done using the rate below.

Currency	Buying (Ksh)	Selling (Ksh)
1 GBP	183.20	184.50
1 USD	145.20	146.90

Calculate the amount of money she received to the nearest USD. **(3mks)**

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16. The figure below shows the net of a triangular prism ABCDEF. A path is traced from A to B through E and D as shown.



(a) Sketch and label the solid. **(2mks)**

(b) On the solid, show the path. **(1mk)**

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SECTION II (50 Marks)

*Answer any **five** questions in this section*

17. ABCD is a rectangle with A as the point $(-4, 2)$

(a) Given that AB is parallel to the line $2y - x = -2$, find the equation of AB in the form $y = mx + c$ where m and c are constants. **(3mks)**

(b) Find the equation of line AD in the form $ax + by = c$, where a, b and c are integral. **(3mks)**

(c) Determine the coordinates of C and D given that $C(4, 1)$ **(4mks)**

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18. Three partners: Awino, Braxton and Cate contributed Ksh. 750,000, Ksh. 600,000 and Ksh. 900,000 respectively to start a business of a minibus plying Kisumu – Bondo route. The minibus carries 33 passengers each paying Ksh. 300. The minibus makes two round trips each day and always full. Each day Ksh. 10,500 is used to cover operational costs and wages

(a) Calculate their net profit per day. **(2mks)**

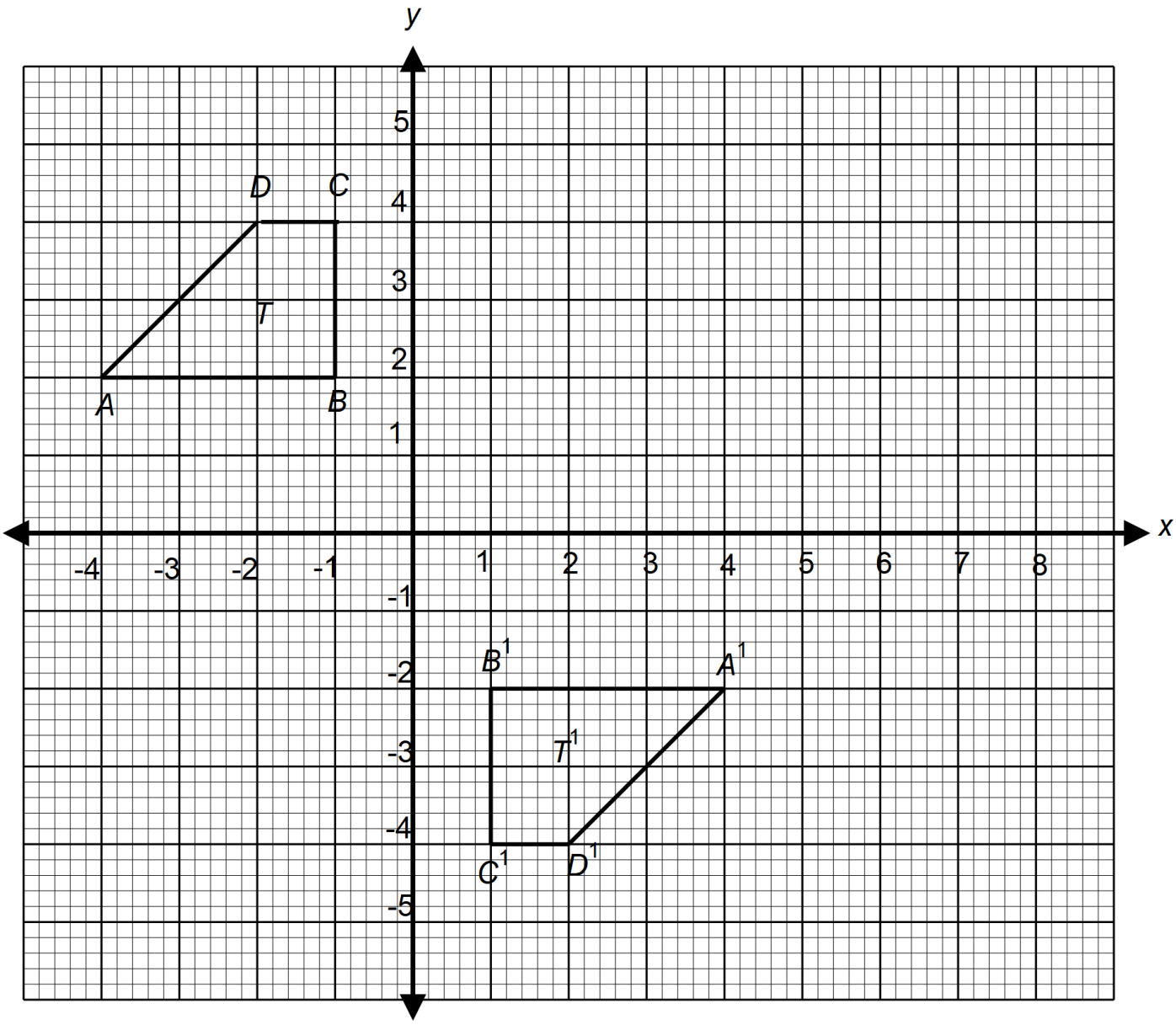
(b) The matatu works for 25 days per month and is serviced every month at a cost of Ksh. 15,000. Calculate their monthly profit for the month of September. **(1mk)**

(c) The three partners agreed to save 40% of the profit, share 24% equally and the rest in the ratio of their contribution. Calculate Braxton's share in the month of November. **(4mks)**

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(d) The minibus developed mechanical problems and they decided to sell it through a dealer who charged a commission of 4% on selling price. Each partner received Ksh. 625,000 from the dealer after he had taken his commission. Determine the price at which the dealer sold the minibus. **(3mks)**

19. On the grid below, T′ is the image of T under a transformation **P**.



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(a) Describe fully two transformations described by **P**. **(4mks)**

(b) T′′ is the image of T′ under a reflection along the line $x + y = 4$.

(i) On the same axes, draw T′′ **(2mks)**

(ii) State the coordinates of T′′ **(1mk)**

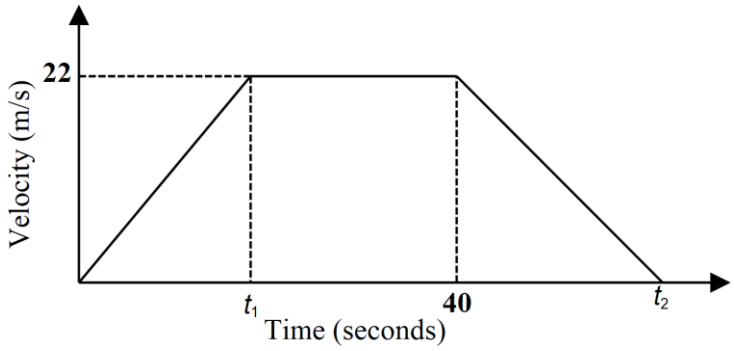
(c) T′′′ is the image of T′′ under a translation described by the vector $\begin{pmatrix} -10 \\ -5 \end{pmatrix}$. Draw T′′′ and state its coordinates.

(2mks)

(d) Name the type of congruence between T′′ and T′′′. **(1mk)**

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20. (a)The figure below shows a velocity-time graph of a particle. The particle starts from rest and accelerates at $2\frac{3}{4}$ m/s^2 for t_1 seconds until it attains a velocity of 22 m/s. It then maintains this velocity up to the 40^{th} second. Breaks are applied bringing it uniformly to rest after t_2. The particle covers 847 metres before it comes to rest.



Find:

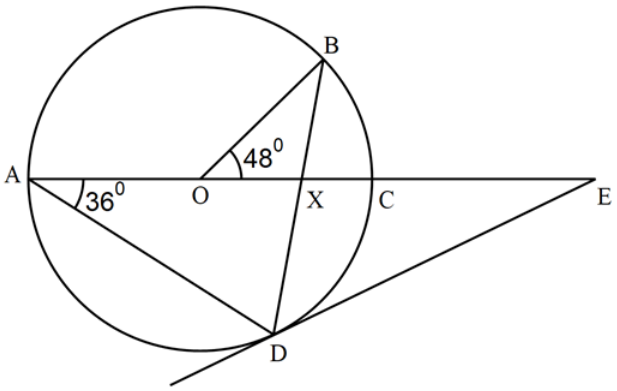
(i) The value of t_1; **(2mks)**

(ii) The deceleration time **(4mks)**

(b) The distance between two trains T_1 and T_2 travelling towards the same direction is 100 metres. T_1 is 60 metres long and travels at 80 km/h while T_2 is 140 metres long and travels at 60 km/h. Find the time in seconds it takes T_1 to completely overtake T_2. **(4mks)**

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21. In the figure below, O is the centre of the circle. A, B, C and D are points on the circumference of the circle. A, O, X and C are points on a straight line. DE is a tangent to the circle at D. angle BOC=48^0 and angle CAD = 36^0



(a) Determine the sizes of the following angles:

(i) OBD **(2mks)**

(ii) CED **(2mks)**

(b) Calculate the radius of the circle given that AB = 7.6 cm, correct to one decimal place. **(3mks)**

(c) Given that X divides AC in the ratio 3:4, ED = 12.9 cm and EC = 7.8 cm, calculate the length of XC correct to one decimal place. **(3mks)**

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22. A sector of an angle is 108^0 is cut from a circle of radius 21 cm. It is folded to form a cone

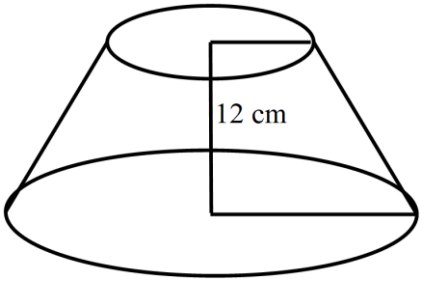
Calculate to 1 decimal place:$\left(\text{use } \pi = \frac{22}{7}\right)$:

(a) the curved surface area of the cone; **(2mks)**

(b) the base radius of the cone; **(2mks)**

(c) the vertical height of the cone; **(2mks)**

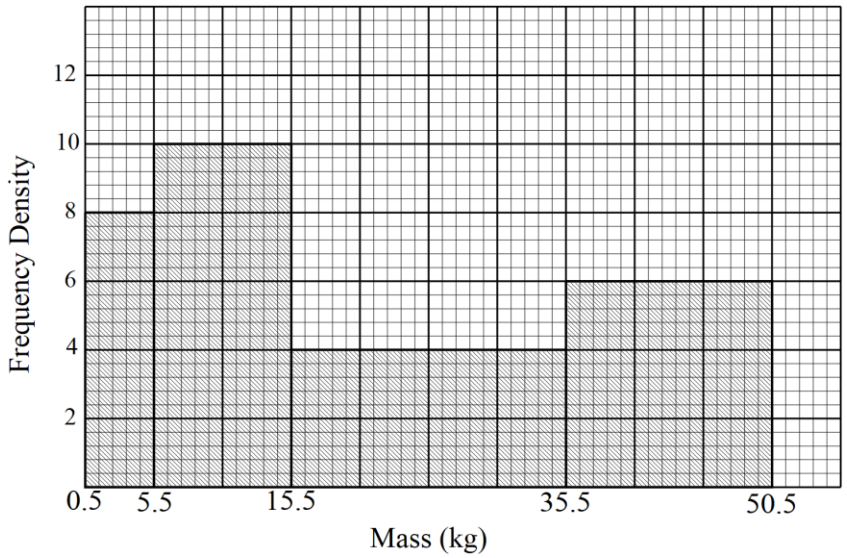
(d) A cone is chopped off this cone horizontally from the apex to form a frustum of height 12 cm as shown in the figure below.



Calculate the volume of frustum formed. **(4mks)**

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23. The diagram below shows a histogram representing the mass in kilograms of 31 people in a medical camp.



(a) Prepare a frequency distribution table for the data. **(3mks)**

(b) From the table in (a) above, calculate the;

(i) mean mass; **(3mks)**

(ii) median mass. **(3mks)**

(c) How many people had a mass of 40 kg and above? **(1mk)**

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24. Four towns, A, B, C and D are such that B is 102 km on a bearing of 122^0 from A. C is 94 km on a bearing of $N62^0E$ from B. D is on a bearing of 073^0 from A and $N24^0W$ from C.

(a) Using a scale of 1 cm for 20 km, draw a scale diagram to represent the relative positions of the towns. **(4mks)**

(b) Use the scale drawing in (a) above to determine:

(i) the distance from A to D; **(2mks)**

(ii) the bearing of B from D. **(1mk)**

(c)A police headquarter is to be constructed such that it is equidistant from towns A, B and D.

(i) Locate the position of P **(2mks)**

(ii) Measure the distance from P to C. **(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
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NAME: ……..……

SHOOOL: ……..……

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

Term 3

MATHEMATICS PP2 (Alternative A)

FORM THREE (3)

INSTRUCTIONS TO CANDIDATES

(a) Write your name, admission number, school and class in the spaces provided at the top of this page.

(b) Sign and write the date of the examination in the spaces provided above.

(c) This paper consists of **two** sections: **Section I** and **Section II.**

(d) Answer **ALL** questions in **Section I** and **any five** questions from **Section II.**

(e) Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.

(f) Marks may be given for correct working even if the answer is wrong.

(g) Non-programmable silent electronic calculators and KNEC Mathematical Tables may be used.

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

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SECTION I

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

SECTION II

17	18	19	20	21	22	23	24	Total	Grand Total	

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SECTION I (50 Marks)

*Answer **all** the questions in this section*

1. Find the roots to the equation $2x^2 + 5x - 7 = 0$ by completing square method. **(3mks)**

2. A rectangular hockey field measures 90 metres long by 55 metres wide. The dimensions are measured to the nearest 2 metres and 1 metre respectively. Calculate the exact maximum percentage error in the perimeter of the field. **(3mks)**

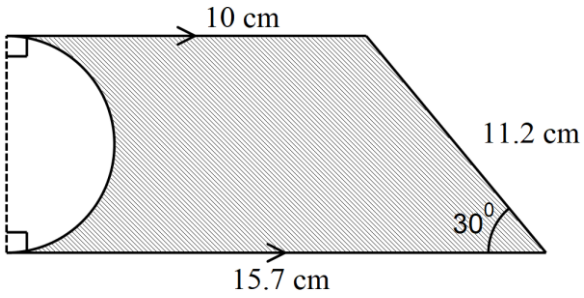
3. Given that $\sin(3x - 60)^0 + 2\cos(3x - 60)^0 = \cos(3x - 60)^0$, solve for x for $0^0 \leq x \leq 270^0$ **(3mks)**

4. Find the third proportional to $\sqrt{5}$, $\sqrt{10}$, leaving your answer in a simplified form. Do not use a calculator or mathematical tables. **(3mks)**

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5. Wambugu invested a sum of money in a financial institution that paid a compound interest at the rates of 6% and 7% respectively for the first two years. At the end of the second year, Wambugu withdrew Ksh. 1701 300. Determine the amount of money that he invested in the institution. **(3mks)**

6. The figure below shows the cross-section of a concrete beacon used in metal fabrication with the dimensions as shown (not drawn to scale).



Calculate the area of the cross-section. **(4mks)**

7. Make p the subject of the formula **(3mks)**

$$x = \frac{p}{\sqrt{2w - p^2}}$$

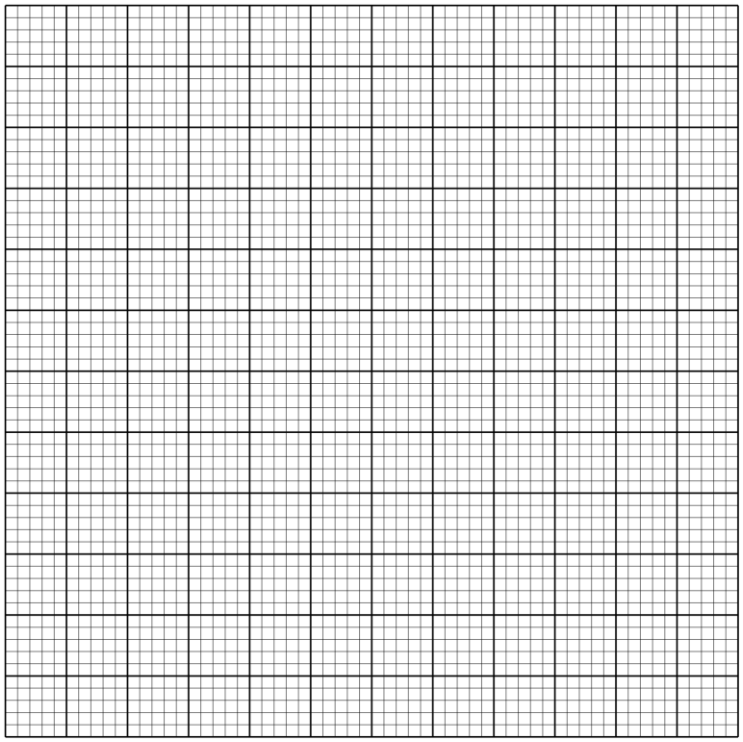
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8. Point T is the midpoint of a straight line AB. Given that the coordinates of A and T are $(1, -1, 1)$ and $\left(2, 0, 1\frac{1}{2}\right)$ respectively, find the coordinates of B. **(3mks)**

9. The binomial $\left(x - \frac{b}{x^2}\right)^6$ is expanded in ascending powers of b and the independent term of x is 735, find the value of b. **(3mks)**

10. The points B and C with coordinates $(5, 5)$ and $(-3, -1)$ respectively are the ends of the diameter of a circle centre A.

(a) On the grid provided below, draw the circle. **(2mks)**



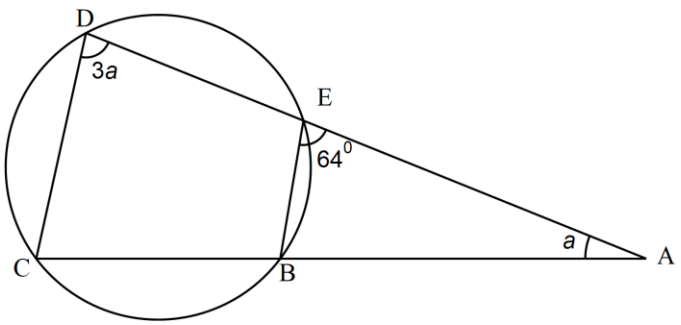
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(b) determine the equation of the circle, expressing it in the form $x^2 + y^2 + ax + by + c = 0$ where a, b and c are integral values. **(2mks)**

11. Sarah and Rehema working together can complete a piece of work in 6 days while Sarah working alone can complete the work in 10 days. The two worked together for 3 days and Sarah withdrew. Find the time taken by Rehema to complete the remaining work. **(3mks)**

12. In order to make a nutrients' rich porridge flour, millet and cassava are mixed in the ratio 3:2. One kilogram of millet costs Ksh. 275 while one kilogram of cassava costs Ksh 250. The miller intends to make a profit of Ksh 35 per kilogram of the mixture after offering a 20% discount on the marked price. Determine the marked price of one kilogram of the mixture. **(3mks)**

13. In the figure below, B, C, D and E are vertices of a circle. Angle $\text{CDE} = 3a^0$, angle $\text{AEB} = 64^0$ and angle $\text{BAE} = a^0$



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Giving reasons, calculate the value of a. **(3mks)**

14. A game of hockey is played in 4 quarters of 15 minutes each. There are two breaks of 3 minutes at the end of the first quarter and a 5 minutes break at half time. A further 7 minutes is allowed for stoppages. If the games started at 2005 hours, at what time does it end in 12 – hour clock system? **(3mks)**

15. Given that $\mathbf{A} = \begin{pmatrix} 3 & 2 \\ -1 & 3 \end{pmatrix}$,

(a) find a matrix **B** such that $\mathbf{AB} = \mathbf{I}$. **(1mk)**

(b) hence determine the point where the lines $3x + 2y = 10$ and $3y - x = 4$ intersect. **(2mks)**

16. Solve for x in the equation $(\log_{10} x)^2 = 3 - \log_{10} x^2$. **(3mks)**

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SECTION II (50 Marks)

*Answer any **five** questions in this section*

17. Income tax rates for the month of July 2023 were charged as follows:

Taxable Income (Ksh per month)	Tax Rate (%)
1 – 15 000	10
15 001 – 27 000	15
27 001 – 39 000	20
39 001 – 51 000	25
51 001 and above	30

In that month, Amillo earned as follows: basic salary – Ksh 36 540, house allowance Ksh 15 000, medical allowance – Ksh 3 080 and a non-taxable leave allowance of Ksh 8 880. Amillo was also entitled to a personal relief of Ksh 1 065 per month and also pays an insurance premium of Ksh 2 400 per month of which he has a relief of 3% of the premium paid per month.

Calculate

(a) Amillo's taxable income per month in Kenya shillings. **(2mks)**

(b) Amillo's PAYE for the month of July 2023 **(5mks)**

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(c) In August the same year, Amillo received an increment of 5% of his basic salary while the allowances remained the same. Calculate the percentage change in the tax paid by the employer in August 2023

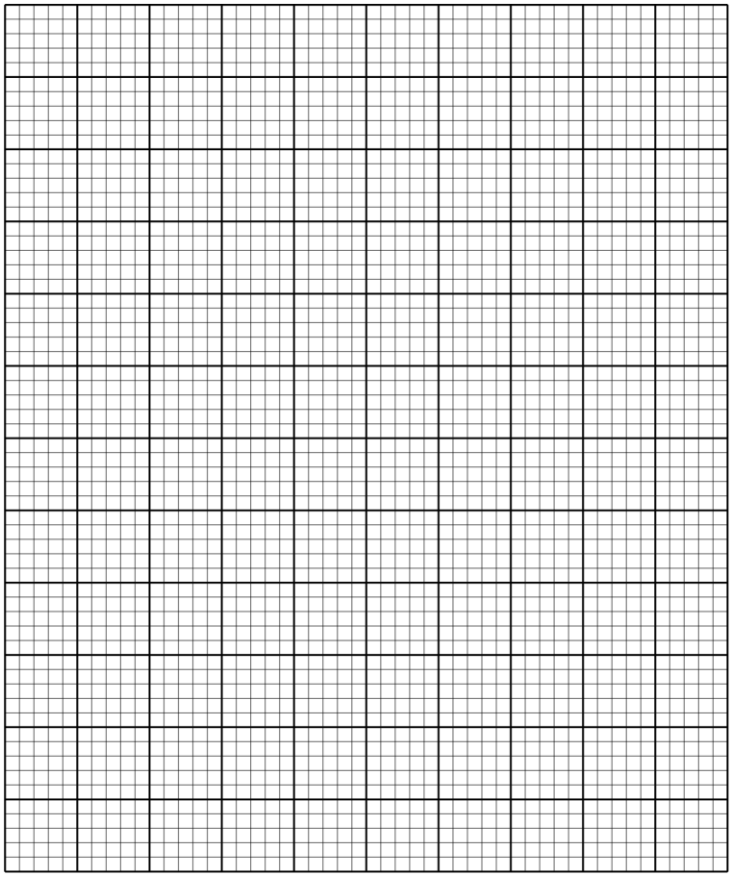
(3mks)

18. A cubic equation is given by $y = x^3 + 3x^2 - 6x - 8$.

(a) Complete the table below for the equation for $-5 \leq x \leq 2$. **(2mks)**

x	-5	-4	-3	-2	-1	0	1	2	3
y	-28			8			-10		

(b) On the grid provided, draw the graph of $y = x^3 + 3x^2 - 6x - 8$ for $-5 \leq x \leq 3$. **(3mks)**

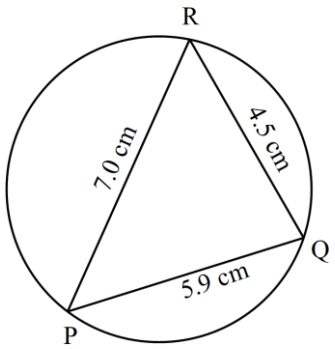


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(c) By drawing a suitable straight line on the graph, solve the equation $x^3 + 3x^2 - 11x - 13 = 0$ **(3mks)**

(d) Determine the x −intercepts for the curve in (b) above. **(2mks)**

19. The figure below shows a triangle PQR with a circle circumscribed to it. PQ = 5.9 cm, QR = 4.5 cm and PR = 7.0 cm.



(e) Calculate the size of angle QPR, correct to the nearest degree; **(3mks)**

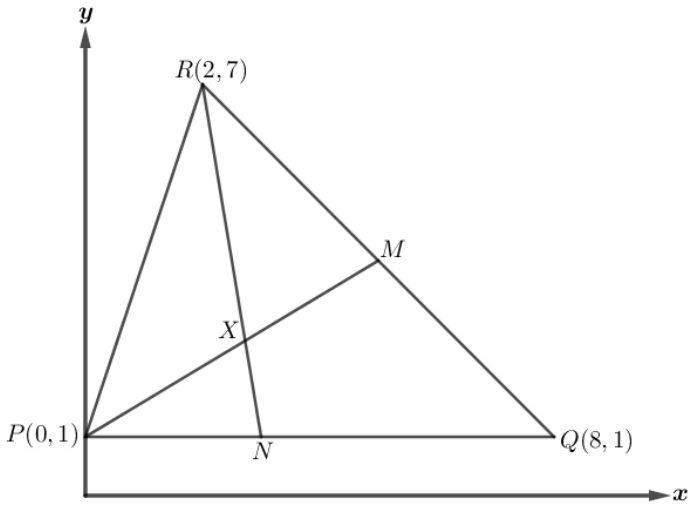
(f) Calculate the area of triangle PQR correct to 2 decimal places; **(2mks)**

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(g) Calculate the radius of the circle, correct to 1 decimal place; **(2mks)**

(h) Hence, find the area of the circle outside the triangle to 4 significant figures. **(3mks)**

20. Triangle PQR with coordinates $P(0,1)$, $Q(8,1)$ and $R(2,7)$. M is the midpoint of RQ and N divides PQ such that $PN:PQ = 3:5$. PM and RN intersect at X



(a) Find;

(i) vector **PM**; **(2mks)**

(ii) vector **RN**. **(2mks)**

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(b) Given that $\mathbf{PX} = s\mathbf{PM}$ and $\mathbf{RX} = t\mathbf{RN}$,

(i) express **QX** in two different ways , **(2mks)**

(ii) hence find the values of s and t. **(3mks)**

(c) determine the ratio in which **N** divides **RX**. **(1mk)**

21. A hockey coach has 5 white corks, 4 orange corks and some luminous green corks in bag for drills during practice. The balls are similar in shape and size.

(a) If the probability of picking a luminous green ball is 0.25, find the total number of balls in the bag. **(3mks)**

(b) Three corks are picked at random, one after the other without replacement and their colour noted. find the probability that the three balls are of:

(i) the same colour **(2mks)**

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(ii) different colours **(2mks)**

(c) The probability of Jack winning a game of pool is $\frac{2}{3}$. If he plays the game until he wins, find his probability of winning the game in either the third or the fourth attempt. **(3mks)**

22. Mr. Ng'ate is a consultant with Mitsumi Computer Garages. At the end of the first month, his basic salary w as Ksh 88 400 and his monthly basic salary during the last month of the contract was Ksh 117800. By the end of the contract, he had earned a total salary of Ksh 824800. Given that the annual increment rate was constant. Calculate:

(a) the period that the contracted lasted; **(3mks)**

(b) his monthly increment; **(3mks)**

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(c) Mr. Ng'ate's contract was extended after the period in (a) for a further four months. In this extension, his monthly basic salary was increased by 4% every month. Determine the total salary that he earned by the end of the year. Give your answer to the nearest Ksh. 1 **(4mks)**

23. A cylindrical water reservoir is served with three pumps: P, Q and R. Pump P can fill the empty reservoir in 5 hours while pump Q can fill the same reservoir in 10 hours. When full, pump Q can drain the reservoir in 3 hours.

(a) One day, the reservoir was empty and pumps P and Q opened at 8.45 a.m. At 11.15 a.m, pump P developed an electrical fault. Pump Q continued operating alone till the reservoir was full. Find the time of the day that the reservoir was completely filled. **(4mks)**

(b) On another day, the reservoir was halfway filled with water. Pumps P and R were then opened at the same time. How long did it take to completely drain the reservoir? **(3mks)**

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(c) The reservoir's dimensions are; base diameter 14 metres and height 12.5 metres. The water in (b) above is filled in a water tanker of capacity 12 000 litres. How many trips does the tanker make to drain the reservoir? **(3mks)**

24. Use a ruler and a pair of compasses only in this question

(a) Construct a triangle PQR such that PQ $= 6.0$ cm, $\angle$QPR $= 30^0$ and PR $= 8$ cm. **(3mks)**

(b) Locate a point S such that:

- S and Q are on either side of PR;
- QS $= 8$ cm;
- PS $=$ SR. **(3mks)**

(c)(i) Construct a line through R and parallel to QS to intersect line PQ produced at T. **(3mks)**

(ii) Measure TR. **(1mk)**

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

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SHOOOL: ……..……

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

Term 3

PHYSICS PAPER 1

FORM THREE (3)

Time: 2 Hours

Instructions to candidates

- This paper consists of two sections ***A*** and ***B***.
- Answer **all** the questions in the two sections in the spaces provided after each question
- All working **must** be clearly shown.
- Electronic calculators, mathematical tables may be used.
- All numerical answers **should be expressed** in the **decimal** notations.
- You may use:
  - ‘gravitational acceleration, g, as $10m/s^2$
  - Density of water = $1000kg/m^3$

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SECTION	QUESTION	MAX MARKS	CANDIDATE’S SCORE
A	1 – 12	25	
	13	13	
	14	11	
	15	10	
	16	11	
	17	10	
	TOTAL	80	

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

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SECTION A (25 Marks)

1.Water form small spherical droplets on a waxed glass surface but spreads on a clean glass surface. Explain **(2mks)**

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2.The Vernier scale below shows the diameter of a marble.

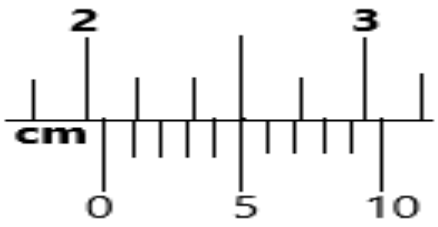


Figure 1

The marble is then completely immersed in the measuring cylinder partly filled with water to the level, A as shown in figure 2.

a) Determine the diameter of the marble **(1mk)**

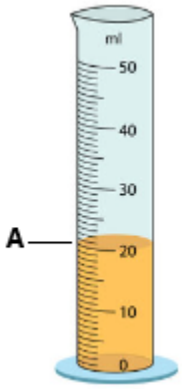


Figure 2

b) Calculate the volume of the marble and indicate as B, on the figure 2, the new level of water after the marble is immersed fully in the water **(3mks)**

(leave answer to the nearest whole number)

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3.Explain how you would test for the presence of a vacuum in a simple mercury barometer **(2mks)**

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4.State the kinetic theory of matter **(1mk)**

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5.Salted food cooks faster than unsalted food. Explain **(2mks)**

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6.Study figure 3, below. The ammonia gas and acid gas diffuse and react to form a white deposit on the walls of the glass tube at room temperature.

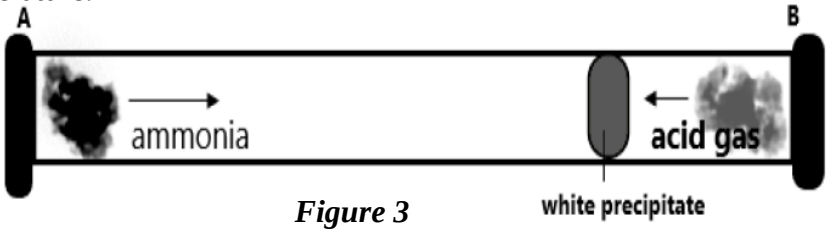


Figure 3

Explain the observation if the same experiment is done above room temperature **(2mks)**

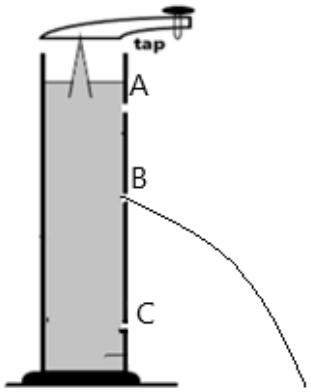
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7.Water pours into a tall measuring cylinder with similar holes drilled on the sides as shown in below.



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a) Complete the diagram to show jets at A and C **(2mks)**

b) The water is now replaced with kerosene, indicate on the diagram the change on jet C.

(density of kerosene = $0.8g/cm^3$) **(1mk)**

Figure 4

8.Explain why fish can survive under water when the surface is already frozen. **(1mk)**

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……

9.Figure 5 shows three identical springs each of spring constant 4.5N/m and negligible weight are used to support a load as shown. Determine the total extension of the system. **(2mks)**

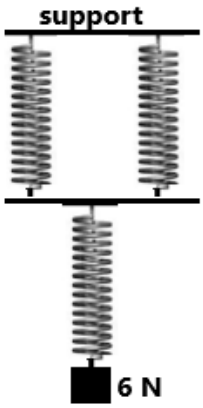


Figure 5

10. A ball is thrown from the top of a cliff 20m high with a horizontal velocity of $10ms^{-1}$. Calculate the distance from the foot of the cliff to where the ball strikes the ground. **(2mks)**

11. A body of mass **M** is allowed to slide down an inclined plane. State **two** factors that affect its final velocity at the bottom of the inclined plane. **(2mks)**

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12. Explain two advantages of mercury over alcohol as a thermometric liquid. **(2mks)**

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SECTION B (55 Marks)

13. State the pressure law **(1mk)**

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b) Figure 6 shows a set up that may be used to verify Pressure law.

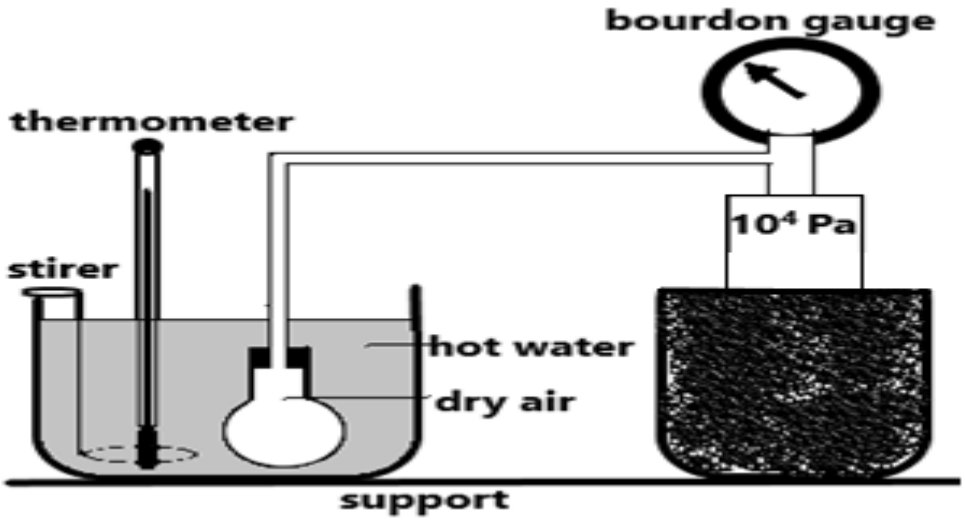


Figure 6

State the measurements that may be taken in the experiment. **(2mks)**

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c) Explain how the measurement in (i) above may be used to verify Pressure law. **(4mks)**

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d) Using kinetic theory, explain the pressure law **(2mks)**

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e) A car tyre is at an air pressure of 4.0×10^5 Pa at a temperature of 27 °C. While it is running the temperature rises to 75 °C. What is the new pressure in the tyre? (Assume the tyre does not expand) **(3mks)**

f) Explain the meaning of an 'ideal gas' **(1mk)**

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14. What is Brownian motion? **(1mk)**

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b) You are provided with the following apparatus:

- Water tap
- Magnifying glass
- Chalk-dust
- Glass slate
- Empty beaker

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Using a labeled set-up diagram, describe an experiment to show Brownian motion **(5mks)**

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c) An oil drop has a volume of $0.01mm^3$ when it is placed on the surface of some water, it spreads out to form a circular patch of area $500cm^2$. Calculate the thickness of the oil film. **(3mks)**

d) What **two** assumptions have you made in the answer c above. **(2mks)**

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15. Distinguish between inelastic and elastic collisions. **(2mks)**

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b) The diagram in Figure 7 below shows a sphere moving in a viscous liquid in a tall measuring cylinder.

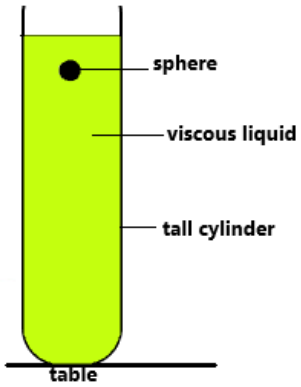


Figure 7

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Show on the diagram the forces acting on the sphere. **(3mks)**

c) Sketch a graph showing the variation of velocity with time for the sphere in figure 7 above. **(1mk)**

d) A particle A of mass M moving with an initial velocity, u, makes a head-on collision with another particle B of mass 2M, B being initially at rest. In terms of u, calculate the final velocity of A if the collision is perfectly inelastic. **(3mks)**

e) Define the term 'terminal velocity' **(1mk)**

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16. What is meant by specific latent heat of vaporization of a substance? **(1mk)**

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b) In an experiment to determine the specific latent heat of vaporization of water, steam at 100ºC was passed into water contained in a well-lagged copper calorimeter. The following measurements were made:

- Mass of calorimeter = 60g
- mass of water + calorimeter = 145g
- Final mass of calorimeter + water + condensed steam = 156g
- Final temperature of the mixture = 48ºC

[Specific heat capacity of water = $4200Jkg^{-1}K^{-1}$ and specific heat capacity of copper = $390JKg^{-1}K^{-1}$]

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Determine the:

i. Mass of condensed steam. **(2mks)**

ii. The heat gained by the water and calorimeter if the initial temperature of the calorimeter and water is 20ºC. **(3mks)**

iii. Given that, $\mathbf{L_v}$ is the specific latent heat of vaporization of steam, write an expression for the heat given out by steam. **(2mks)**

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iv. Determine the value of $\mathbf{L_v}$ above **(2mks)**

c) State the assumption made in the above experiment **(1mk)**

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17. Define pressure and state its SI unit **(2mks)**

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b) Figure 8 below shows a force pump.

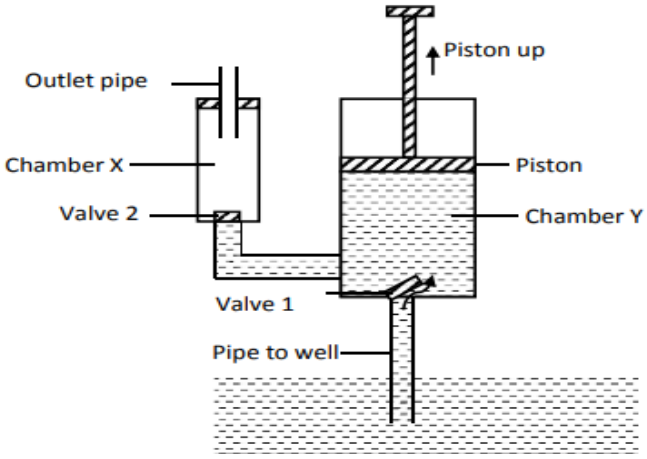


Figure 8

i. Explain why when the piston is pulled upwards valve 1 opens and valve 2 closes**.** **(2mks)**

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ii. Explain how continuous flow of water is maintained in the pump. **(2mks)**

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iii. State one advantage of force pump over lift pump. **(1mk)**

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c) Figure 9 shows parts A, B and C of a glass tube.

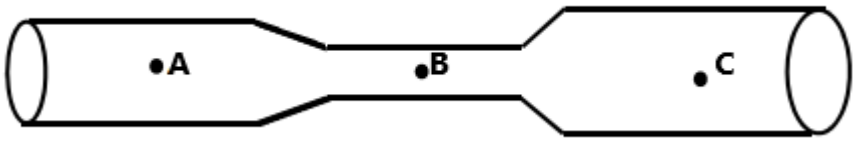


Figure 9

State with a reason the part of the tube in which the pressure will be lowest when air is blown through the tube from A towards C. **(2mks)**

d) Diffusion in gases is faster than in liquids. State one reasons why this is so. **(1mk)**

This is the last printed page.

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

Term 3

PHYSICS

PAPER 2

FORM THREE (3)

Time: 2 Hours

Instruction to Candidates

(a) Write your name, index number in the spaces provided above.

(b) Sign and write the date of examination in the spaces provided above.

(c) This paper consists of **two** sections: **A** and **B**.

(d) Answer **all** the questions in sections **A** and **B** in the spaces provided.

(e) **All** working **must** be clearly shown.

(f) Silent non-programmable electronic calculators may be used.

(g) Candidates should answer the questions in English.

For Examiners Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 – 12	25	
	13	12	
	14	12	
	15	12	
	16	9	
	17	10	
Total Score		80	

Candidate should check the questions to ascertain that all pages are printed as indicated and that no questions are missing

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SECTION A 25 MARKS

Answer all the questions in the spaces provided.

1. The figure 1 below shows a sharp pin fixed on a cap of leaf electroscope. The electroscope is highly charged and then left for some time.

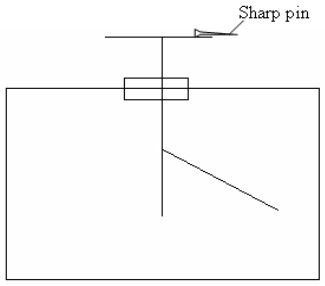


Figure 10

Explain why the leaf collapses. **(2mks)**

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2. Figure 2 below shows an ammeter used to measure current through the conductor.

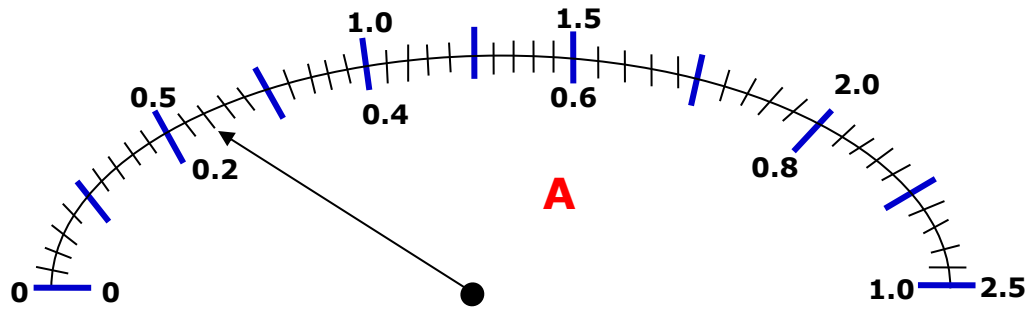


Figure 11

State the reading from the meter when the student is using the;

(i) Lower scale. **(1mk)**

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(ii) Upper scale. **(1mk)**

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3.Water waves from a given source move from a deeper to a shallow end. What effect would this have on the;

(i) Frequency. **(1mk)**

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(ii) Wavelength . **(1mk)**

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(iii) Velocity of the wave. **(1mk)**

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4.Light travels through glass of refractive index **1.5** with a speed **V**. Calculate the value of **V**. (Speed of light in air = **3.0×10^8 m/s**). **(2mks)**

5.You are provided with the following apparatus; A white screen, a meter rule and a concave mirror. Using the apparatus, describe an appropriate method of determining the focal length of the mirror. **(3mks)**

6.The figure 3 below shows a wave profile

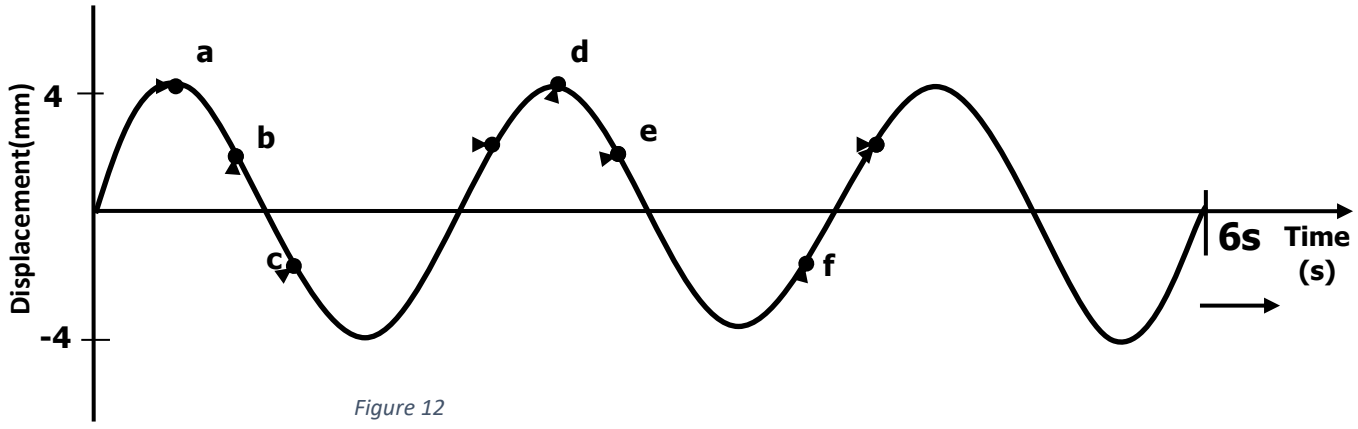


Figure 12

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Determine the frequency of the wave. **(3mks)**

7.Give a reason why a soft iron is used as a core of the coil of an electric bell. **(1mk)**

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8.Figure 4 below shows a set up by a student.

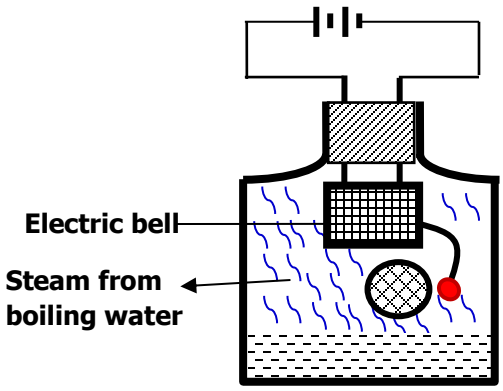


Figure 13

(i) State what happens to the sound from the bell as the bottle and its contents are cooled to 0°C. **(1mk)**

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(ii) Explain the observation you have stated in (i) above. **(2mks)**

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9.State two precautionary measures you would take to maintain the efficiency of an accumulator. **(2mks)**

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10. A ferromagnetic material is being magnetized by single stroking method. On the axes provided, sketch a graph to show how the strength of the magnet being created varies with the number of strokes. **(1mk)**

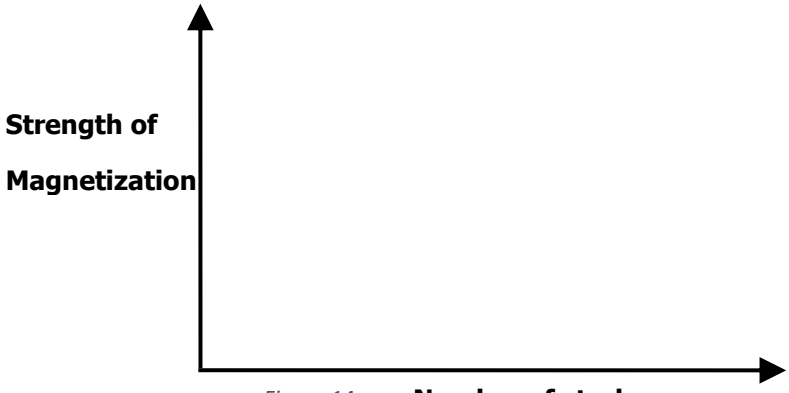


Figure 14

11. A lady standing in front a mirror sees an upright image that is of the same size as herself. State with a reason the type of the mirror she was using. **(1mk)**

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12. State two uses of a gold leaf electroscope. **(2mks)**

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SECTION B 55 MARKS

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

13. (a) State the Ohms Law. **(1mk)**

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(b) You are provided a rheostat, 2 cell, a voltmeter, an ammeter, a switch and a fixed resistor (coil of nichrome wire).

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i) Draw a circuit diagram that can be used to verify Ohms law. **(2mks)**

ii) Describe how the above set up can be used to determine Ohms law. **(4mks)**

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c) **Study** the circuit diagram below and answer the questions that follow.

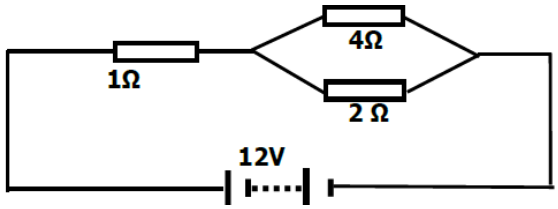


Figure 15

Calculate

(i) Determine the total resistance in the circuit. **(2mks)**

(ii) The current through the 4Ω resistor. **(3mks)**

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14. a) State Snell's law **(1mk)**

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b) A ray of light travelling from water to glass makes an angle of incident of 30^0. Find the angle of refraction in the glass. Refractive index of water= $^4/_3$. Refractive index of glass = $^3/_2$ **(3mks)**

c) State the necessary and sufficient conditions for total internal reflection to occur. **(2mks)**

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d) Figure 7 shows a vertical object O, placed in front of a convex mirror. C is the center of curvature of the mirror.

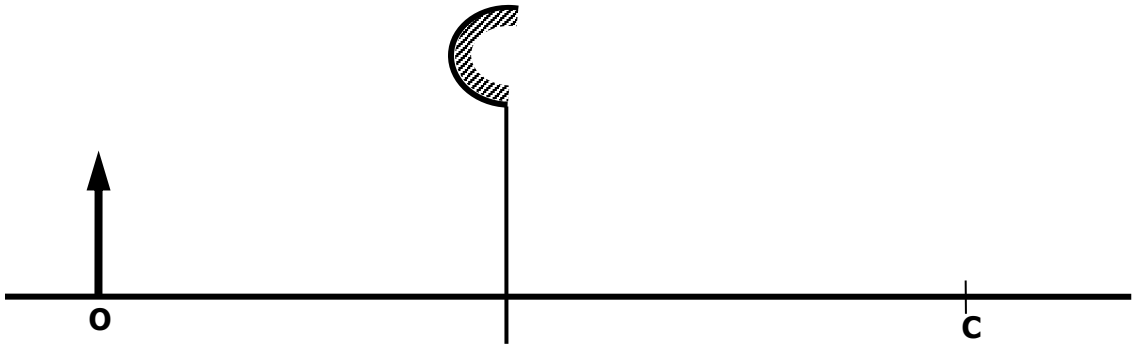


Figure 16

On the same diagram draw the appropriate rays and locate the image formed. (3mk)

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e) State the number of images formed when an object is between two plane mirrors placed parallel to each other. **(1mk)**

f) Give a reason why concave mirror is not preferred as a driving mirror**.** **(1mk)**

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15. a) The diagram on fig. 8 below shows waves generated from a tuning fork. If the wave takes 0.1 second to move from point A to B. determine the frequency of the wave. **(3mks)**

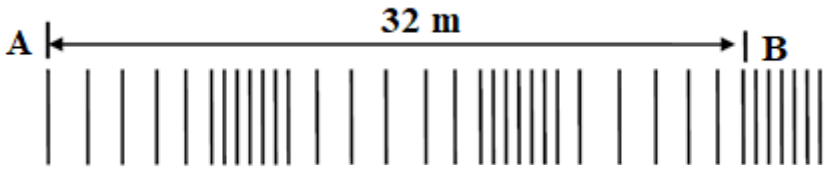


Figure 17

b) A person standing 110 m from the foot of a cliff claps his hands and hears a sound 0.75 seconds later. Find the speed of sound in air. **(3mks)**

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c) State two factors that affect the extent of diffraction**.** **(2mks)**

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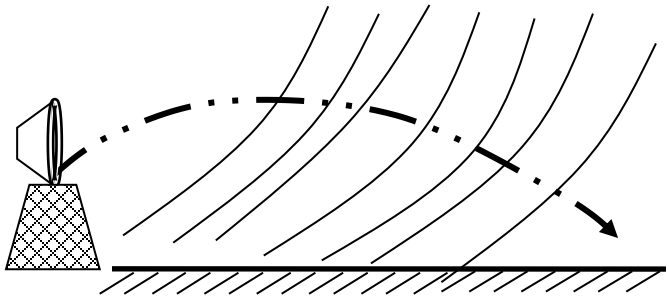
d) State the reason why the sound of thunder is always heard sometime after lighting flash is observed. **(1mk)**

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e) The figure below shows sound waves emitted by a drum struck.



Explain why the wavefronts are directed to the ground. **(2mks**)

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16.

a) State three properties of electric field lines**.** **(3mks)**

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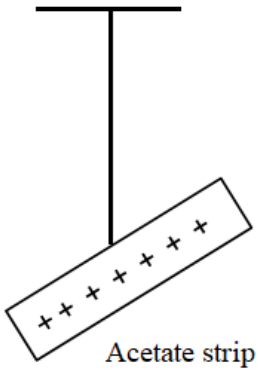
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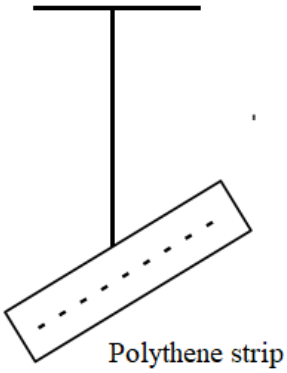
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b) The diagrams below show a positively charged acetate strip and a negatively charged polythene strip freely suspended and isolated.

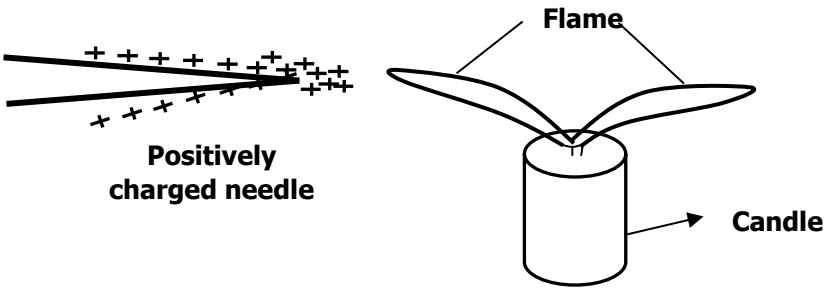




Two rods X and Y are brought up in turn to these strips. X attracts the acetate strip but repels the polythene strip. Rod Y does not repel either the acetate or the polythene. State the type of charge on rod.

X..... **(1mk)**

c) Figure below shows a highly charged needle bought near a candle flame



Explain why the flame burns in the direction shown . **(2mk)**

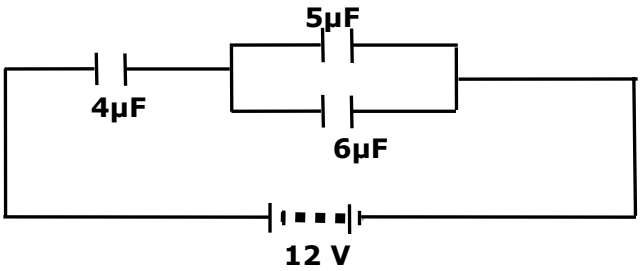
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d) The diagram below shows capacitors of **4µF**, **5µF** and **6µF** connected to 12V d.c supply



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Find

ii The effective capacitance. **(3mks)**

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ii The charge stored in the **6µF** capacitor**.** **(3mks)**

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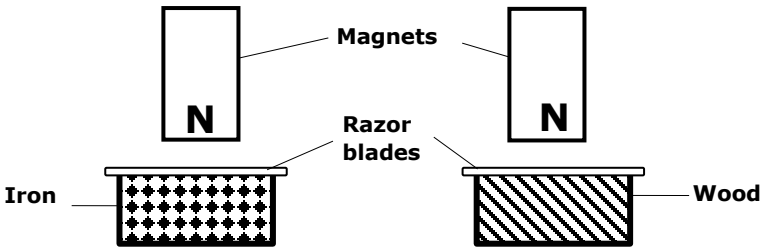
17. a) Give a reason why attraction in magnetism is not regarded as a reliable method of testing for polarity. **(1mk)**

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b) Two similar razor blades were placed on a wooden block and the other on an iron block as in the figure.



It was observed that the razor blade on the wooden block is attracted by the magnet while that on the iron block was not. Explain. **(2mks)**

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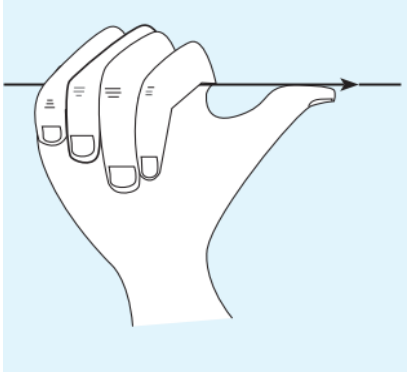
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c) The figure shows a current-carrying conductor, gripped by the right hand. State what the direction of the thumb and the other fingers indicate. **(2mks)**

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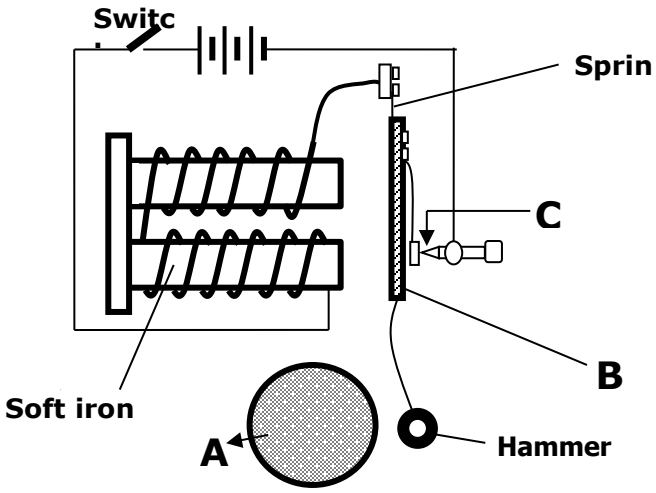


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d) The figure below shows a simple electric bell circuit



i) Name the parts labeled. **(3mks)**

I) **A** …….

II) **B** …….

iii) Explain what would happen if the armature is made of steel metal. **(1mk)**

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iv) When the switch is closed, the hammer hits the gong repeatedly. Explain why:

I) The hammer hits the gong. **(1mk)**

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#END#

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PROGRESSIVE STUDENTS FORM THREE
END TERM 3 SERIES ONE EXAMS

NAME: ……..……

SHOOOL: ……..……

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

PHYSICS PAPER 3
232/3
(PHYSICS PRACTICAL)
FORM 3
$\mathbf{2\frac{1}{2}}$ ***HOURS***

INSTRUCTIONS

- Answer all the questions in this paper
- You are supposed to spend the first 15 minutes of the $2\frac{1}{2}$ hours allowed for this paper reading the whole paper carefully before starting your work.
- Marks are given for clear record of the observations made, their suitability and accuracy and the use made of them.
- Candidates are advised to record observations as soon as they are made
- Mathematical table and electronic calculators may be used.

For Examiner's use only:

QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
1	20	
2	20	
GRAND TOTAL	40	

This paper consists of 7 printed pages

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QUESTION ONE

Apparatus:

- A 50 ml Burette (Candidate should ensure that the tip of the burette is **NOT** broken or cracked)
- About 500ml water in a beaker
- Stop watch
- Vernier calipers (can be shared)
- Stand, clamp and boss
- An empty 200ml beaker
- Funnel
- Some tissue paper

Proceed as follows:

a) Using the Vernier calipers, measure the diameter, D of the burette at the tip.

NB:

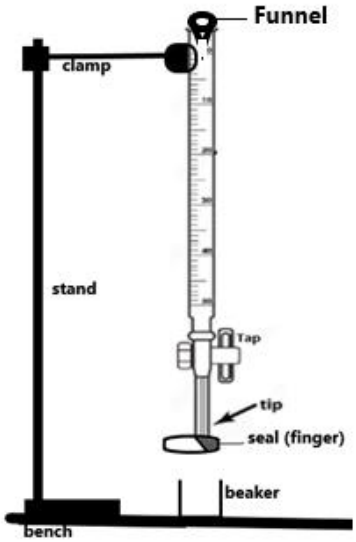
The tip of the burette is the point where liquid comes out of the burette. Care should be taken not to squeeze the tube when measuring the diameter of the tip.

D = ... **(1mk)**

b) Determine the cross-section area, A of the tip of the burette, given the equation: $A = \frac{\pi D^2}{4}$.

(leave your answer in square centimeter) **(2mks)**

c) Now set-up the apparatus as shown below in **figure 1:** The tap should be completely opened (or clip removed) and the tip sealed with a finger.



NB:

Liquid should freely move through the burette without any barriers or obstacles along its path.

Figure 18

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d) Pour water into the burette until the level rises up to the '0' ml mark. Remove the seal (finger) and simultaneously start the stop-watch. When the level of the water has fallen to the 50ml mark, stop the timing. Record the time, t_o.

(The funnel maybe used while filling the burette to avoid spillage of water onto the table).

t_0 =..... **(1mk)**

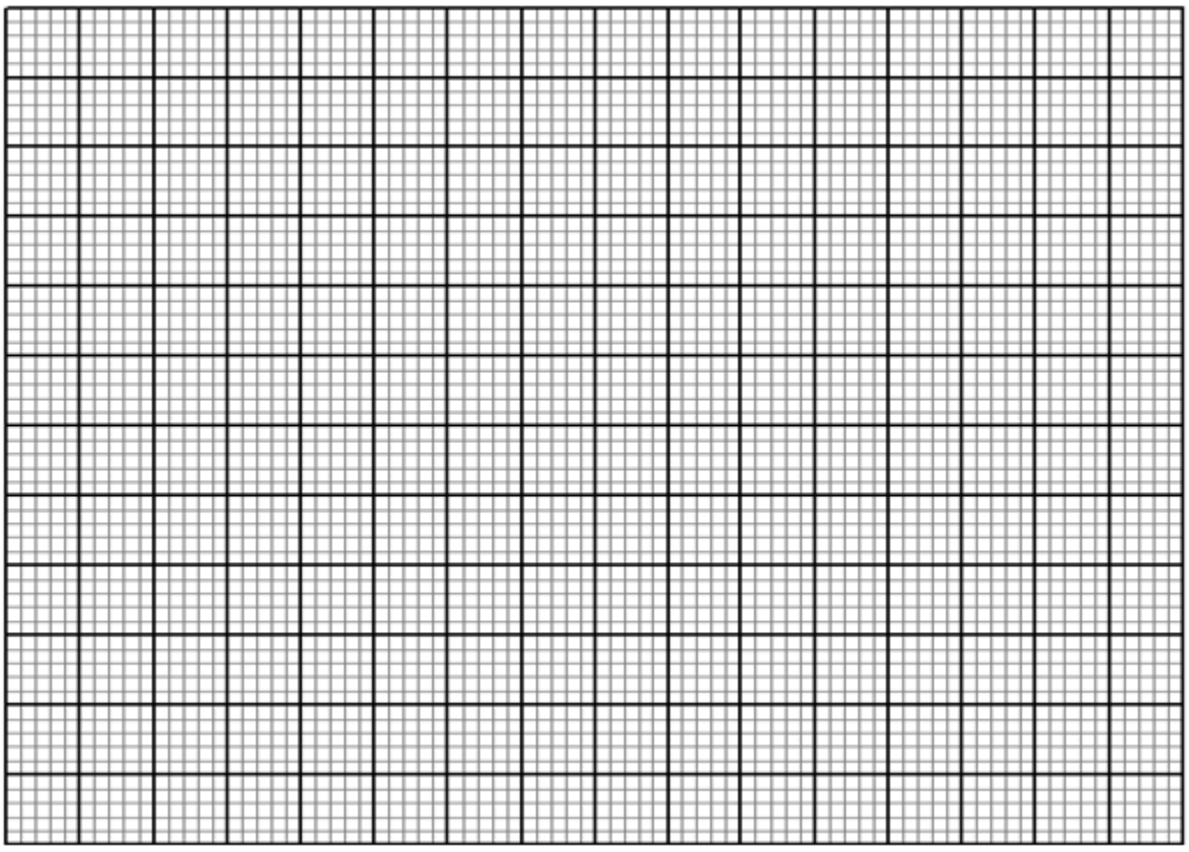
e) Now pour water into the burette (while the tip is sealed) till the level is at 5ml mark. Remove the seal (finger) and simultaneously start the stop-watch. Record (in table 1) the time, t, taken by the level of water to fall to the 50ml mark.

f) Repeat procedure, e (above) for the levels of water shown in table 1 below and complete the table. **(5mks)**

Table 1*:*

Level of water, (L)	5	10	15	20	25
Volume, V (cm^3) $\boldsymbol{V = (50 - L)}$					
Time, t (seconds)					

g) Plot a graph of volume, V against time, t **(5mks)**



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h)

i. Determine the slope, S of the graph **(3mks)**

ii. State the significance of the slope, S **(1mk)**

i) Given that: $S = (AP \times 10^0)$. Determine the value of P **(1mk)**

j) State the significance of P, in part (i) above. **(1mk)**

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QUESTION TWO

PART A

You are provided with the following:

- Vernier calipers
- Micrometer screw gauge
- Masses; 10g, two 20g, 50g
- A helical spring with pointer (7.5 cm long, diametetr = approx. 1.2 cm)
- Metre rule or half metre rule
- Stand, clamp and boss

Proceed as follows:

a) Determine the number of complete turns of the helical spring.

N = ... **(1mk)**

b) Measure the external diameter of the spring using the Vernier calipers

D = ...m **(1mk)**

c) Use the micrometer screw gauge to determine the diameter of the wire of the spring.

d = ... m **(1mk)**

Determine the value of m, given that: N = $\frac{0.4D}{dm}$ **(2mks)**

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d) Suspend the helical spring vertically alongside the clamped half metre-rule as shown in figure 2 below, so that the pointer is at L_0. (Where L_0 = 15.0 cm mark).

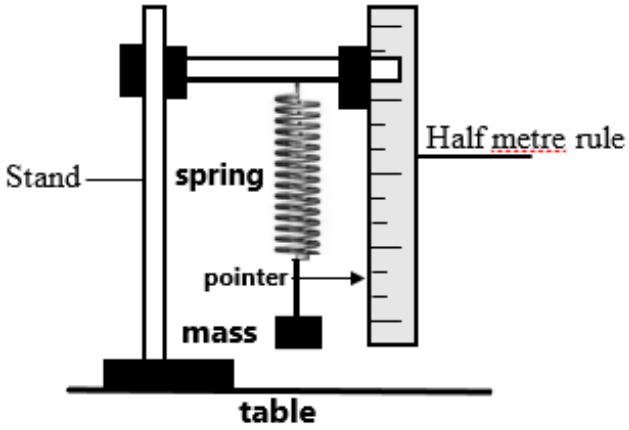


Figure 19

e) Load the spring with a mass of 20g and determine the new reading, L on the half metre rule. Record this in the table 2, below.

Calculate the extension, e = (L – L_0) due to the mass of 20g and record the value in the table 2, below. Repeat step for other masses and complete the table 2. **(5mks)**

Table 2

Mass (g)	20	30	40	50	60	70
Weight (N)						
Reading (L) (cm)						
Extension, e (cm)						
$\frac{1}{e}$ (cm^{-1})						

f) Determine A, the average value of $\frac{1}{e}$ **(1mk)**

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PART B

You are provided with the following apparatus:

- One dry cell (size D)
- A cell holder
- A voltmeter (0- 3V)
- An ammeter (0- 1A)
- Variable resistor (1.0A, 100Ω).
- Switch
- Connecting wires

Proceed as follows:

g) Connect the voltmeter across the cell and determine the voltage, E across it.

E = ... **(1mk)**

h) Now set-up the apparatus as shown in figure 3 below:

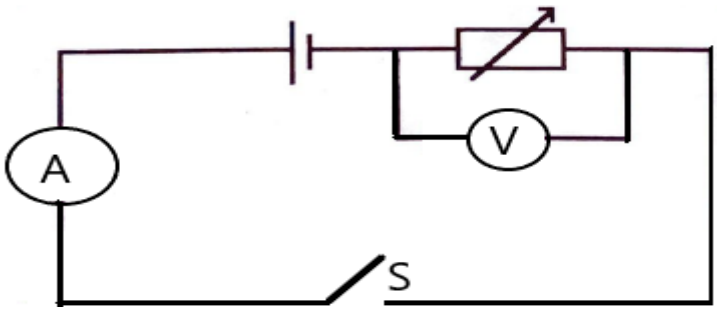


Figure 20

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i) Close the switch and adjust the variable resistor until the ammeter reads 0.2 A. Read and record the voltmeter reading in table 3 below. Repeat for the other values of current shown in table 3 and complete the table 3.

(5mks)

Table 3

I (A)	0.02	0.04	0.06	0.08
Voltage, V				
$\boldsymbol{R = \frac{V}{I}}$ (Ω)				
$\boldsymbol{\frac{1}{I}}$ (A^{-1})				

j) Determine, p and k the average values of R and $\frac{1}{I}$ respectively **(2mks)**

p =

k =

k) Calculate z, such that: $z = \frac{k}{p}$ **(1mk)**

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