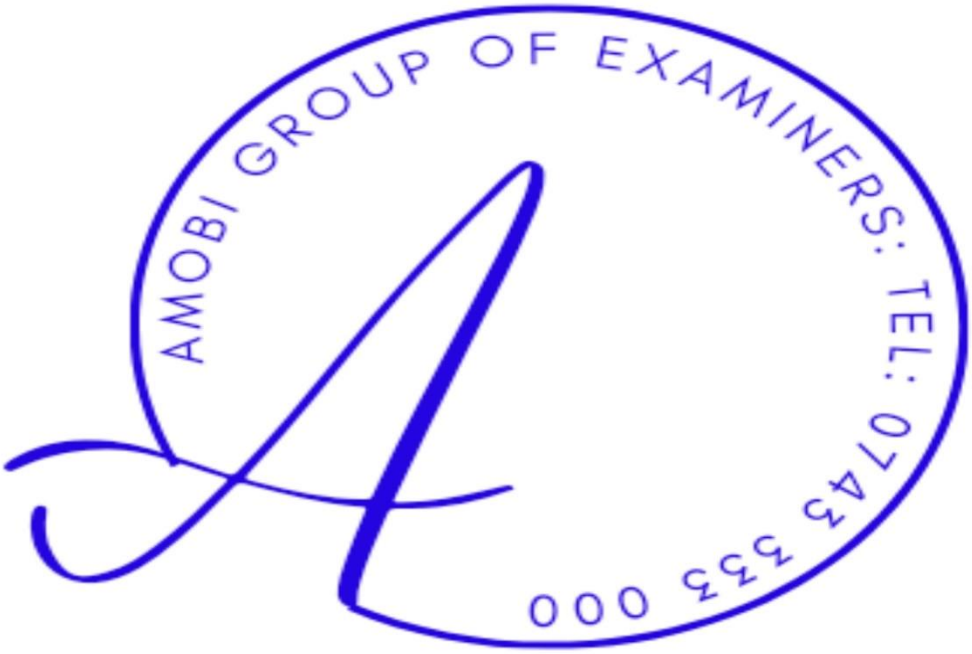
TOP K.C.S.E PREDICTION SERIES 4 EXAMS 2022 DECEMBER *(ALL SUBJECTS TESTED)*



TOP K.C.S.E PREDICTION SERIES 4 EXAMS 2022 DECEMBER

Prefer Calling Amobi Group of Examiners @

0743 333 000 OR 0706 851 439

For Marking Schemes

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

by Amobi Group of Examiners.

CALL AMOBI GROUP OF EXAMINERS @ 0743 333 000 OR 0706 851 439 TO ACQUIRE :













ORDER OF THE SUBJECS TESTED

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……

443/1
AGRICULTURE
PAPER 1
TIME 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your **name** and **index number** in the space provided.
2. **Sign** and **write the date** of examination in the space provided
3. This paper consists of three section **A, B** and **C**.
4. Answer all questions in section **A** and **B**.
5. Answer any two questions in section C
6. All the questions should be answered in the spaces provided.

EXAMINERS USE ONLY

SECTION	MAXIMUM SCORE	CANDIDATES SCORE
A	30	
B	20	
C	40	
TOTAL		

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

SECTION A 30 MKS

1. State **four** factors that one consider when selecting planting materials **(2mks)**

……

……

……

……

……

……

2. Explain the term agro-forestry as used in crop production. **(1/2)**

……

……

……

b) Name **five** sites for agro-forestry trees. **(21/2mks)**

……

……

……

……

……

……

3. State two crop production practices carried after planting to achieve optimum plant population. **(1mk)**

……

……

……

4. At what stage in the growth of beans should mechanical /weed control be avoided. **(1mk)**

……

……

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

5. Name **one** vegetative material used to propagate each of the following crops. **(2mks)**

i. Irish potatoes.....

ii. Pineapples.....

iii. Bananas.....

iv. Pyrethrum.....

6. Explain **two** ways through which temperature leads to formation of soil. **(1mk)**

.....

.....

.....

.....

.....

7. List **four** financial books that should be kept on a farm. **(2mks)**

.....

.....

.....

.....

.....

.....

8. Give **two** reasons for drying grain crops before storage. **(1mk)**

.....

.....

.....

.....

9. Give **two** sources where farmers get capital to start an enterprise. **(1mk)**

.....

.....

.....

.....

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

10. Explain how monocropping leads to a loss of soil fertility. **(1mk)**

……

……

……

11. What is oppourtunity cost? **(1mk)**

……

……

……

12. Outline **two** conditions that favours nomadic pastrolism in Kenya. **(1 mark)**

……

……

……

……

13. State **four** reasons why it is important to keep livestock health records. **(2mks).**

……

……

……

……

……

……

14. Give **four** advantages of mixed pasture. **(2mks)**.

……

……

……

……

……

15. Give **two** ways by which losses are incurred in silage. (1mk)

……

……

……

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

……
……
……

16. List **two** methods used to drain farm land. **(1mk)**

……
……
……
……

17. Give **two** varieties of carrots **(1mk)**

……
……
……
……

18. State **two** roles of water in plants. **(1 mark)**

……
……
……
……

19. Why is drainage important in water logged land? **(2mks)**

……
……
……
……

20. State two reasons why top soil layer of the soil profile should be maintained? **(2mks)**

……
……
……
……
……

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

21 Distinguish between extensive and intensive farming. **(2marks)**

……

……

……

……

SECTION B ANSWER ALL THE QUESTIONS (20MKS)

22. Sample weighing 200gm was heated in an oven at 1050C. The dry soil was weighed and the weightrecorded as 188 gm. The soil was then heated strongly after which was recorded as 180gms.

i) Calculate the percentage content of water in the initial soil sample**. (2 marks)**

ii) Why was the soil not heated strongly initially? **(1 mark)**

……

……

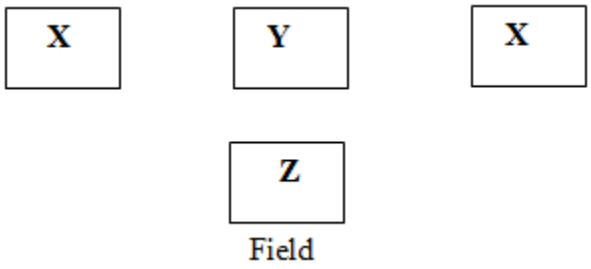
……

iii) Calculate the weight of humus in the sample. **(1 mark)**

iv) Find the percentage content of humus in the soil sample. **(2marks)**

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

23. The illustration below shows a four heap system of making compost manure. Study it and answer the questions that follow.



a) By use of arrows indicate on the diagram above how materials should be transferred from one heap to another till the material is applied in the field. **(1 mark)**

(b) State two indicators of a well decomposed manure. **(2mks)**

.....

.....

.....

.....

(c) Give reasons for

i. Adding ash. **(2mks)**

.....

.....

.....

.....

ii. Regular turning of the compost manure. **(2mks)**

.....

.....

.....

.....

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

24. Study the illustration below of a type of terrace.



(i) Name the type of terrace. **(1mk)**

……

……

(ii) Identity part labeled F. **(1mk)**

……

……

(iii) Ways in which terrace controls soil erosion. **(2mks)**

……

……

……

……

……

(iv) Disadvantages of using this type of terrace.(1mk)

……

……

……

……

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

SECTION C SELECT ANY TWO QUESTIONS (40MKS)

25a) what is solifluction? **(1mk)**

b) Explain **four** factors affecting solifluction. **(8mks)**

c) Describe the process involved in water treatment using a chemical treatment system. **(11marks)**

26a) Describe the practices that a farmer should carry out to ensure uniform germination of seeds. **(8 marks)**

b) i) Differentiate between land subdivision and land fragmentation. **(2mks)**

ii) Explain **ten** effects of fragmentation and sub-division of land. **(10 marks)**

27.a) State **five** objectives of the million scheme. **(5mks)**

b) What information should be included in field operation records.? **(8mks)**

c) Describe **seven** factors that should be considered when classifying crop pests. **(7mks)**

……

……

……

……

……

……

……

……

……

……

……

……

……

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……..……..

ADM NO: …….. SIGN: ……. DATE: ……..

443/2

AGRICULTURE

Paper 2

2 hours

Instruction to candidates.

1. Write your name and index number.

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

3. Answer all the questions in A and B and two in section C.

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

FOR EXAMINER'S USE ONLY.

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
A	1-20	30	
B	21-24	20	
C	25-27	40	
	TOTAL	90	

GRAND TOTAL.

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

SECTION A (30MKS)

Answer all the questions in this section.

1. State **four** causes of stress in poultry. **(2mks).**

……

……

……

……

……

……

2. State **four** factors that determine the amount of feed an animal consumes **(2mks)**

……

……

……

……

……

3. State **four** advantages of artificial calf feeding. **(2mks)**

……

……

……

……

……

……

4. Name **two** methods of service in livestock breeding **(1mk)**

……

……

……

5.Name **two** species of camel. **(1mk)**

……

……

……

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

……

……

6. State **four** functions of vitamins in livestock body **(2mks)**

……

……

……

……

……

……

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

(a) Cockerel-

……

……

(b) Broiler-

……

……

(c) Ewe-

……

……

(d) Kid—

……

……

8. List **two** main parts of a farm building. **(1mk).**

……

……

……

9. State **two** reasons why lubrication or greasing of farm machines is important **(1mk).**

……

……

……

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

……

……

10. Give **two** reasons for seasoning timber before it is used for construction. **(1mk).**

……

……

……

……

11. **State** the functional difference between a drenching gun and a bolus gun. **(1mk).**

……

……

……

12. Name **four** tools which a farmer uses for dehorning cattle. **(2mks).**

……

……

……

……

……

……

13. List **two** reasons why bees are fed with syrup **(1mk).**

……

……

……

……

14. Differentiate between inbreeding and outbreeding **(1mk).**

……

……

……

……

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

15. Identify **four** abnormalities which can be identified in eggs through candling **(2mks).**

……

……

……

……

16. Name **two** dual purpose breeds of sheep **(1mk).**

……

……

……

……

17. State **four** factors which influences the rate of respiration in farm animals **(2mks).**

……

……

……

……

……

……

18. Mention **four** preventive measures farmers uses to control diseases in animals **(2mks).**

……

……

……

……

……

……

19. State **four** harmful effects of lice in sheep. **(2mks).**

……

……

……

……

……

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

……

……

20. Name **two** examples of two host ticks. **(1mks).**

……

……

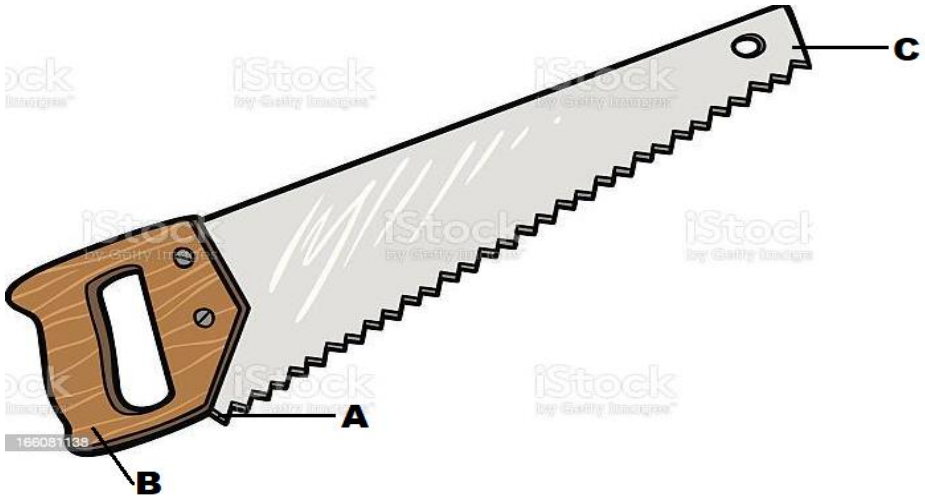
……

……

SECTION B (20MKS)

Answer all the questions in this section.

21. Study the diagram below and answer the questions that follows.



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

……

……

(b).**Name** the parts labeled **(3mks)**

A ……

B ……

C ……

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

c. State **two** maintenance practices of the tool above **(2mks)**

……

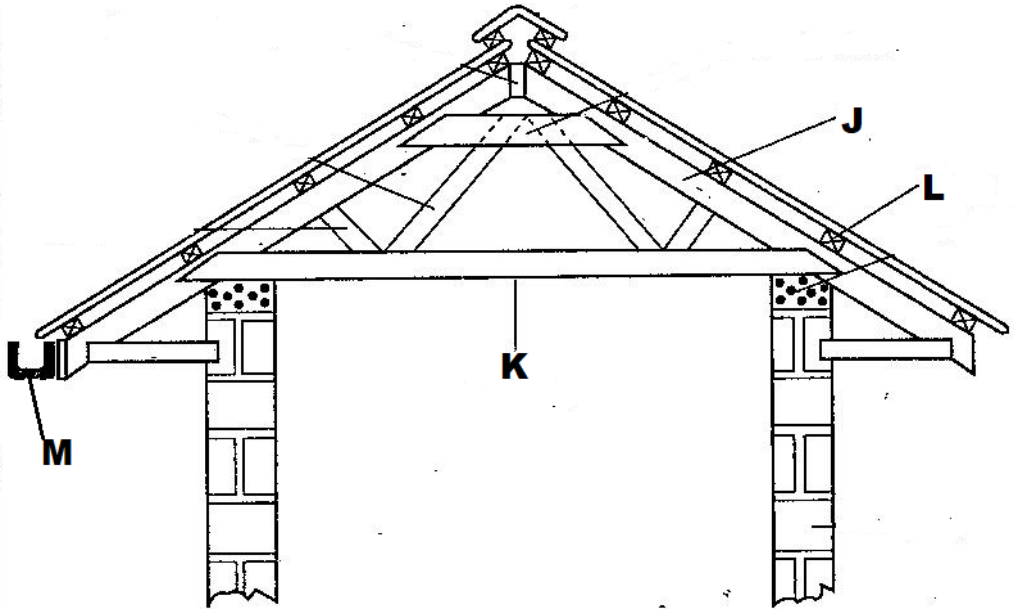
……

……

……

d. Using Pearson's square method, **compute** a 200 kg ration with 20% DCP from oats which contains 10% DCP and sim sim seedcake containing 60%DCP **(3mks).**

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



(a). Identify the parts labeled **(2mks)**

J ……

K ……

L ……

M ……

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

(b) State **one** use of the part labelled L. **(1mk)**

……

……

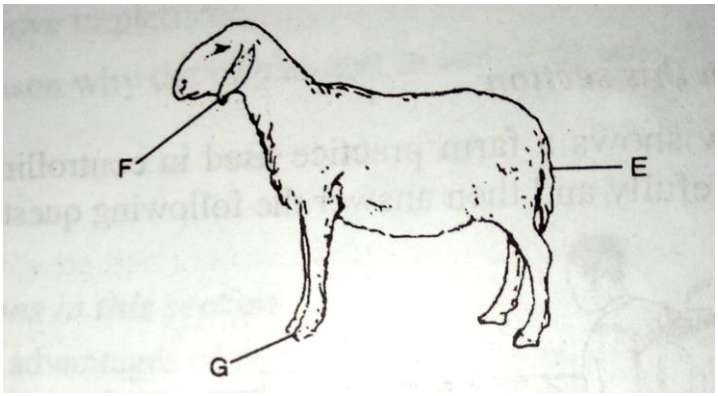
……

(c) State **one** reason why it is important to have the structure labelled M at the edge of the roofing materials. **(1mk)**

……

……

23. Below is an illustration of a sheep with parts marked E, F and G.



(a)**State** the operations that are carried out on the parts labelled **(2mks)**

E ……

G ……

(b)State **two** reasons for carrying out the operation identified in E **(2mks).**

……

……

……

……

(c) At **what** age should the operation stated in E be carried out. **(1mk)**

……

……

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

(d). State **two** methods of carrying out the operation named in E. **(2mks)**

……

……

……

……

SECTION C (40MKS)

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

24. (a) Give **nine** reasons why the battery cage system of rearing poultry is popular for used by large scale poultry farmers. (**9mks)**

(b). Describe **five** management practices carried out on a fish pond. **(5mks).**

(c). Describe **six** symptoms observed on a calf heavily infested with internal parasites **(6mks).**

25.(a) State **six** advantages of animal power over tractor power in seedbed preparation. **(6mks).**

(b) Explain **nine** factors to consider in siting farm structures **(9mks).**

(c) State **five** importance's of farm buildings. **(5mks).**

26.(a) Name **two** causes of pneumonia in livestock. **(2mks)**

(b) State **four** predisposing factors of pneumonia disease in livestock **(4mks).**

(c). Describe **four** types of stores that can be found on a farm. **(8mks).**

(d). State **six** differences between Petrol and diesel tractor engines. **(6mks).**

……

……

……

……

……

……

……

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……..

BIOLOGY PAPER 1

231/1

TIME: 2HOURS

Instructions candidate.

1. Answer all the questions in this paper in the spaces provided.
2. This paper consists of 11 printed pages. Candidate should check the question paper to ensure that all pages are printed as indicated and that no question is missing.
3. Candidate should answer the question in correct English.

For examiner use only.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

18	19	20	21	22	23	24	25	26	27	28	29

Total Score	**Candidate's Score**
80	

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

1. Identify the characteristics of living organisms shown by the following; **(2marks)**

a) Bursting of the sporangium in *Rhizopous*.

.....

.....

b) A cheetah chasing after a gazelle.

.....

.....

2. Define the following terms as used in biology;

i. Entomology**.** **(1mark)**

.....

.....

ii. Histology. **(1mark)**

.....

.....

3. State **three** significance of Osmosis to plant nutrition. **(3marks)**

.....

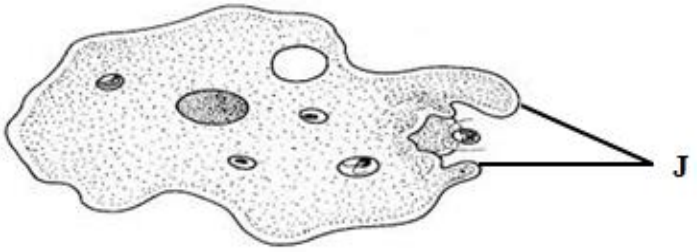
.....

.....

.....

.....

4. The diagram below represents amoeba. Study it and answer the questions that follow;



a) Name the respiratory surface found in the above organism. **(1mark)**

.....

.....

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

b) i. Identify the structures labeled **J**. **(1mark)**

……

……

ii. State **two** functions of the structure named in (b) (i) above. **(2marks)**

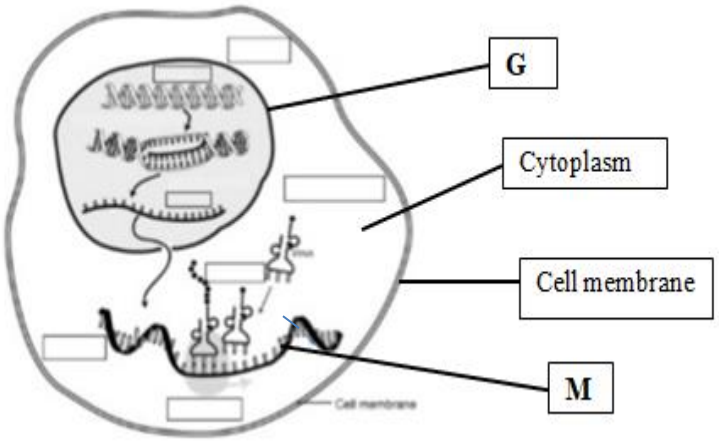
……

……

……

……

5. Below is a diagram of a mammalian cell. Study it and answer the questions that follow.



a) Identify the structures labeled; **(2marks)**

G. ……..

M. ……..

b) State the function of the structure labeled **M**. **(1mark)**

……

……

……

6. Give **two** roles of the colon in human digestive system. **(2marks)**

……

……

……

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

……

……

7. Distinguish between dentition and dental formula**.** **(2marks)**

……

……

……

……

8. Name a carbohydrate that is abundance in the following;

a. Ripe fruits. **(1mark)**

……..

b. Blood of vertebrates. **(1mark)**

……

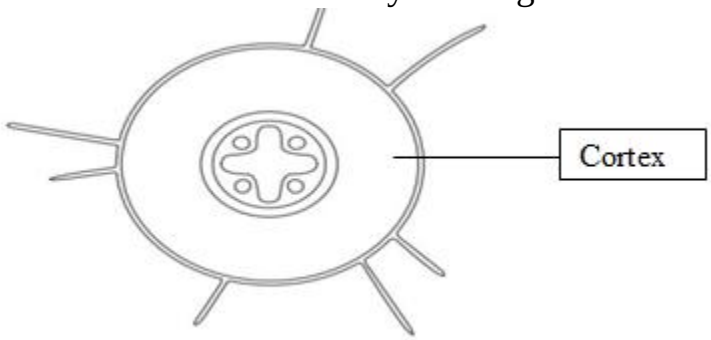
9. Apart from photosynthesis identify one other function of chloroplast in plants**.** **(1mark)**

……

……

……

10. Below is a transverse section of a root. Study the diagram and answer the question that follows.



a) Identify the class from which the section was obtained**.** **(1mark)**

……

……

b) Give a reason for your answer in (a) above**.** **(1mark)**

……

……

……

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

c) State **one** adaptation of endodermis to its function. **(1mark)**

……

……

……

d) Name **two** tissues found in the cortex. **(2marks)**

……

……

……

……

11. Distinguish between Guttation and transpiration. **(2marks)**

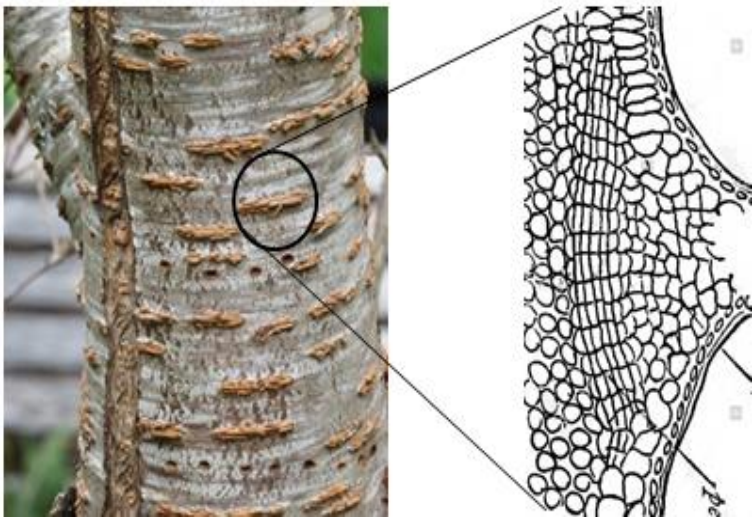
……

……

……

……

12. During a field study, students from Kenya high school found a woody plant as illustrated below.



a) Identify the above structure**.** **(1mark)**

……

……

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

b) Give **two** adaptations of the structure named in (a) above**.** **(2marks)**

……

……

……

……

c) Where is the above structure located in halophytes? **(1mark)**

……

……

13. State **two** structural differences between a cell wall and a cell membrane. **(2marks)**

……

……

……

……

14. a) Identify the cells that secrete the following along the alimentary canal.

i)Hydrochloric acid**.** **(1mark)**

……

……

ii) Rennin. **(1mark)**

……

……

b. State **two** significance of smooth muscles in the digestive system. **(2marks)**

……

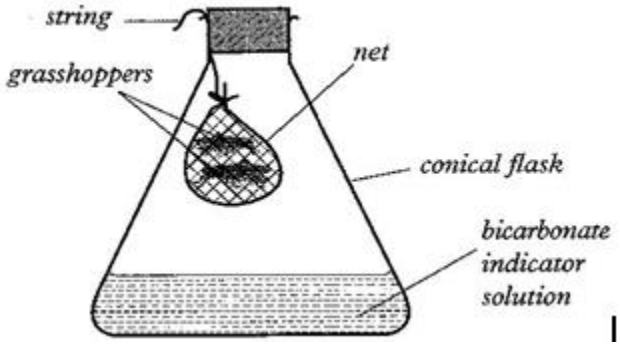
……

……

……

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

15. During an investigation of a certain metabolic reaction, students set up the apparatus as shown below.



a. Identify the physiological process being investigated. **(1mark)**

.....

.....

b. Account for the observation made in the conical flask after 30 minutes. **(2marks)**

.....

.....

.....

.....

16. a) State **three** ways in which human skin protects the body against bacterial infection. **(3marks)**

.....

.....

.....

.....

.....

b, Name the protein found in the Malpighian layer of the skin and state its function.

Name. ..... **(1mark)**

Function. **(1mark)**

.....

.....

.....

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

17. A student mixed a sample of urine from a person with Benedict's solution and heated, the colour changed to orange.

a) What did the student conclude on the health status of the person? **(1mark)**

.....

.....

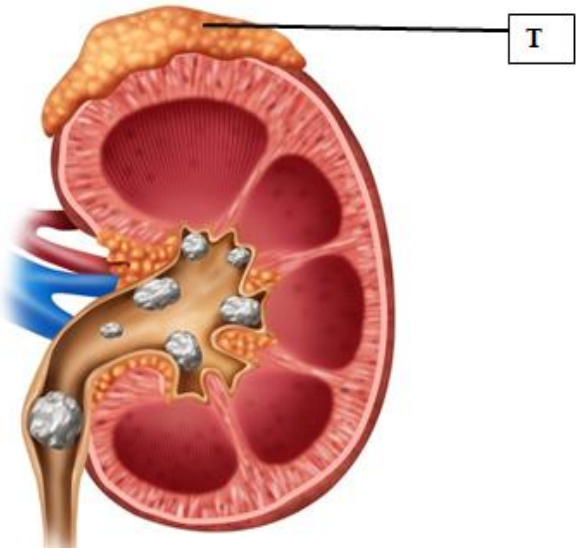
b) Which organ in the person may not be functioning properly? **(1mark)**

.....

.....

.....

18. An investigation was carried out on a mammalian kidney.



i. Name the structure labeled **T**. **(1mark)**

.....

.....

ii. What is the function of the structure named in (i) above in the kidney. **(1mark)**

.....

.....

.....

.....

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

iii. Identify the disease shown in the kidney above. **(1mark)**

……

……

19. State the importance of Saprophytic fungi in an ecosystem. **(1mark)**

……

……

……

20. List **two** assumptions made when using Capture-recapture as a method of estimating population. **(2marks)**

……

……

……

……

21. Give **two** reasons why Pteridophytes are considered more advanced than Bryophytes. **(2marks)**

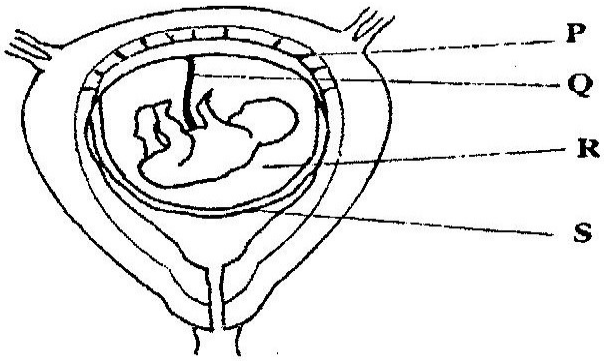
……

……

……

……

22. Study the diagram below and answer the following questions.



a) State the function of the part labeled **Q.** **(2marks)**

……

……

……

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

……

……

……

b) State the role of the part labeled **R**. **(1mark)**

……

……

……

c) Identify a hormone produced by part labeled **P**. **(1mark)**

……

……

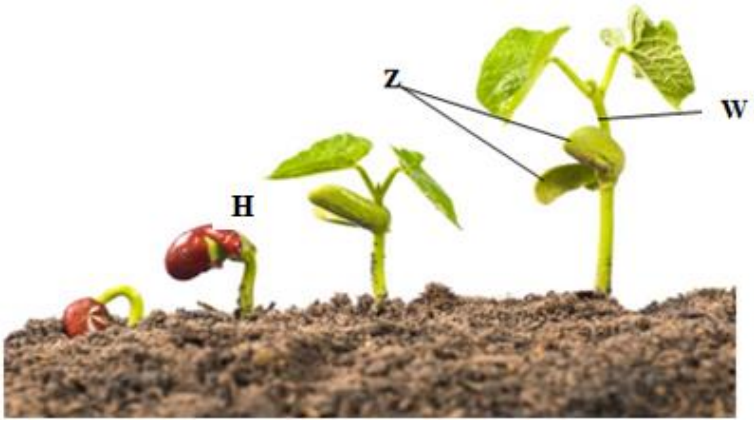
23. Give the function of Prolactin in female reproductive cycle. **(1mark)**

……

……

……

24. Below is a photograph illustrating a germinating seedling.



a) Identify the type of germination**.** **(1mark)**

……

……

b) Give **two** functions of the structure labeled **Z**? **(2marks)**

……

……

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

.....

.....

.....

.....

c) What the name given to the part labeled **W**? **(1mark)**

.....

.....

d) Explain how seedling H responds to light causing it to straighten. **(2marks)**

.....

.....

.....

.....

25. a) Define vestigial structures? **(1mark)**

.....

.....

.....

b) State **two** examples of vestigial structures in man**.** **(2marks)**

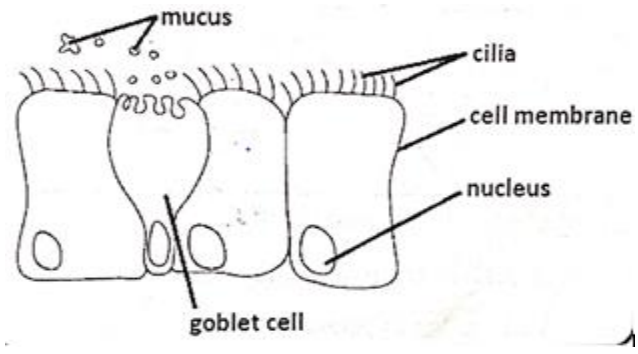
.....

.....

.....

.....

26. The figure below shows some cells from parts of mammalian respiratory tract.



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

a. Identify the part of the respiratory tract where the cells were obtained from. **(1mark)**

.....

.....

b. Explain the role of**:** **(2marks)**

i. The mucus

.....

.....

ii. The cilia.

.....

.....

27. Mycorrhiza is a symbiotic association between two organisms. Name the two organisms that make this association**.** **(2marks)**

.....

.....

.....

.....

28. State the significance of diffusion in the following;

a. Pollination**.** **(1mark)**

.....

.....

.....

b. Skeletal muscle cell**.** **(1mark)**

.....

.....

.....

29. Explain the significance of the following;

a) The cardiac muscle is myogenic. **(1mark)**

.....

.....

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

……

……

b) The left ventricle of a mammalian heart is more muscular than right ventricle. **(1mark)**

……

……

……

c) Most of carbon (IV) oxide is not dissolved in the blood plasma. **(1mark)**

……

……

……

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

231/2

BIOLOGY PAPER 2

THEORY

TIME: 2 HOURS

INSTRUCTIN TO CANDIDATES

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

(ii) Sign and write the date of examination in the spaces provided above.

(iii) This paper consists of two sections **A** and **B**.

(iv) Answer ***all*** the questions in Section ***A*** in the spaces provided.

(v) In section **B** answer questions **6 (compulsory)** and either question **7** or **8** in the spaces. provided.

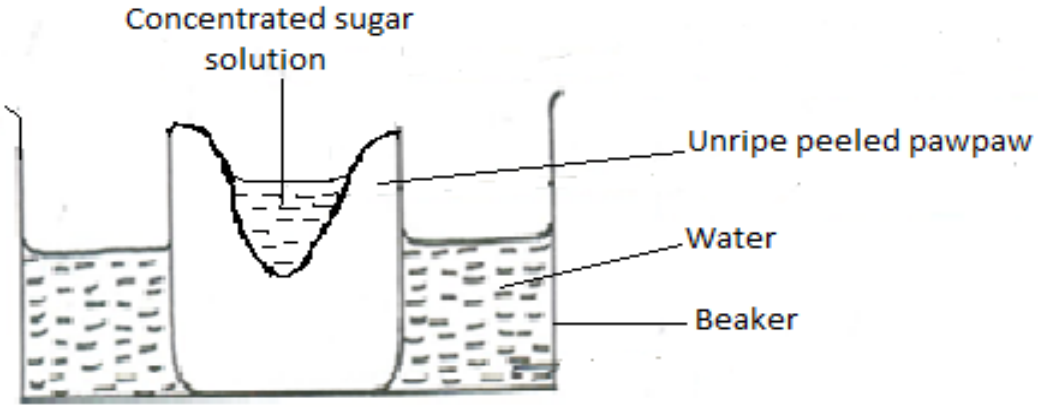
For examiner's use only

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	TOTAL	**80**	

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

SECTION A (40MKS)

1. A group of students set up an experiment to investigate a certain physiological process. The set up was as shown in the diagram below.



After some time, the students observed that the level of sugar solution had risen.

(a) What physiological process was being investigated? **(1mk)**

……

……

(b) Account for the rise in the level of sugar solution in this experiment. **(4mks)**

……

……

……

……

……

……

(c) (i) State the results the students would obtain if they repeated the experiment using a piece of boiled pawpaw. **(1mk)**

……

……

(ii) Give a reason for your answer in (c) (i) above. **(2mks)**

……

……

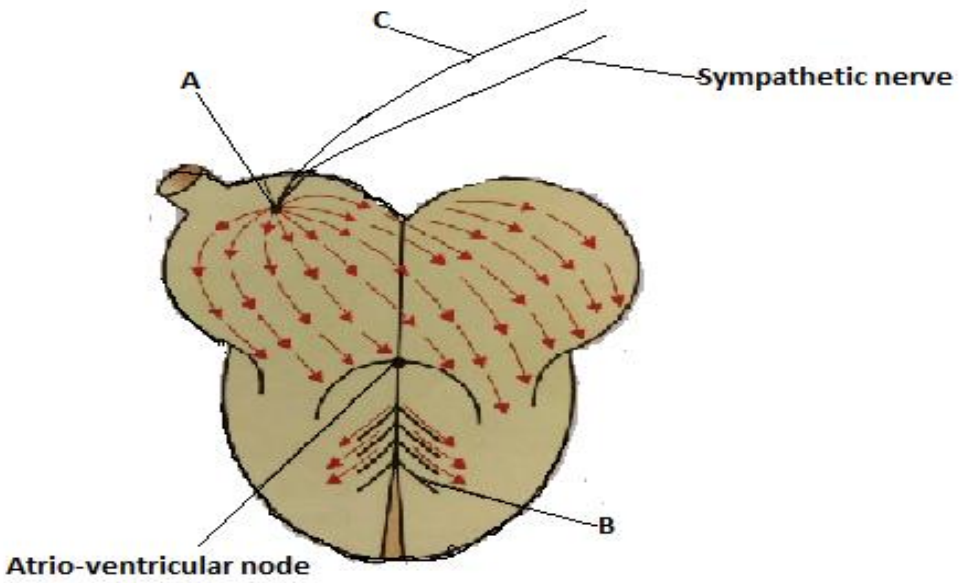
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

.....

.....

.....

2. Use the diagram below to answer the questions that follow.



(a) (i) Name the parts labelled **A**, **B** and **C**. **(3mks)**

A .....

B .....

C .....

(b) State the function of the part labelled **C.** **(1mk)**

.....

.....

.....

(c) Explain the difference between pulmonary circulation and systemic circulation. **(2mks)**

.....

.....

.....

.....

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

(d) What is the advantage of having a double circulatory system over a single circulatory system**?** **(2mks)**

.....

.....

.....

.....

3. In an investigation, a variety of pea plants grown from seeds with smooth coats were crossed with plants grown from seeds with wrinkled coats. All the seeds obtained in the first filial (F1) generation had smooth seed coats.

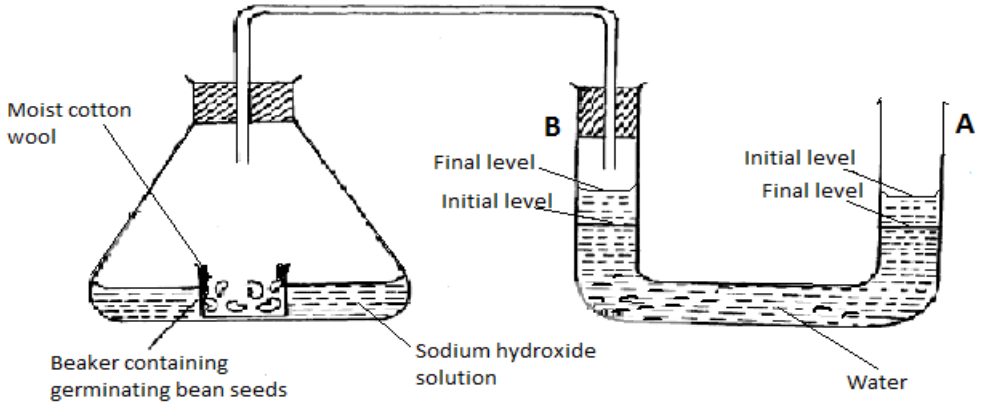
(a) Using letter **R** to represent the gene for smooth seed coat, work out the genotypes of the F1generation. Show your working. **(3mks)**

(b) If F1 generation was selfed, determine the phenotypic ratio of the second filial (F2) generation. Show your working. **(4mks)**

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

(c) If the total number of seeds in the F2 generation was 14640, calculate the number of seeds with wrinkled coats. Show your working**.** **(1mk)**

4. The apparatus below was set up by a student to find out the changes in gases during germination of bean seeds. Study it and answer the questions that follow.



(a) After 48 hours the level of water in U-tube **A** had dropped and rose in **B** as indicated above. Explain this observation. **(3mks)**

.....

.....

.....

.....

.....

(b) The equation below shows the process that takes place in mammalian muscles.

$$2C_{51}H_{98}O_6 + 145O_2 \longrightarrow 102CO_2 + 98H_2O + \text{Energy}$$

(i) Calculate the respiratory quotient from the equation above**.** **(2mks)**

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

(ii) Identify the substrate being respired from the equation above. **(1mk)**

.....

.....

(iii) Explain why it is difficult to calculate the respiratory quotient in plants. **(2mks)**

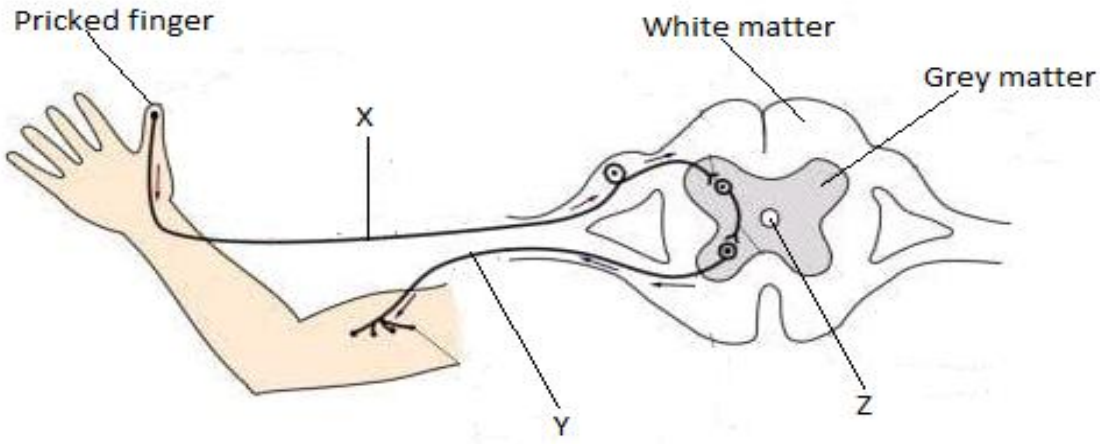
.....

.....

.....

.....

5. The diagram below illustrates the components of a simple reflex that takes place when a person's finger is accidentally pricked by a sharp pin.



(a) Name the neurones labelled **X** and **Y**. **(2mks)**

X.....

Y.....

(c) State **one** function of the fluid found in the part labelled **Z**. **(1mk)**

.....

.....

(c) Explain how the above simple reflex action takes place. **(5mks)**

.....

.....

.....

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

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

SECTON B (40 MKS)

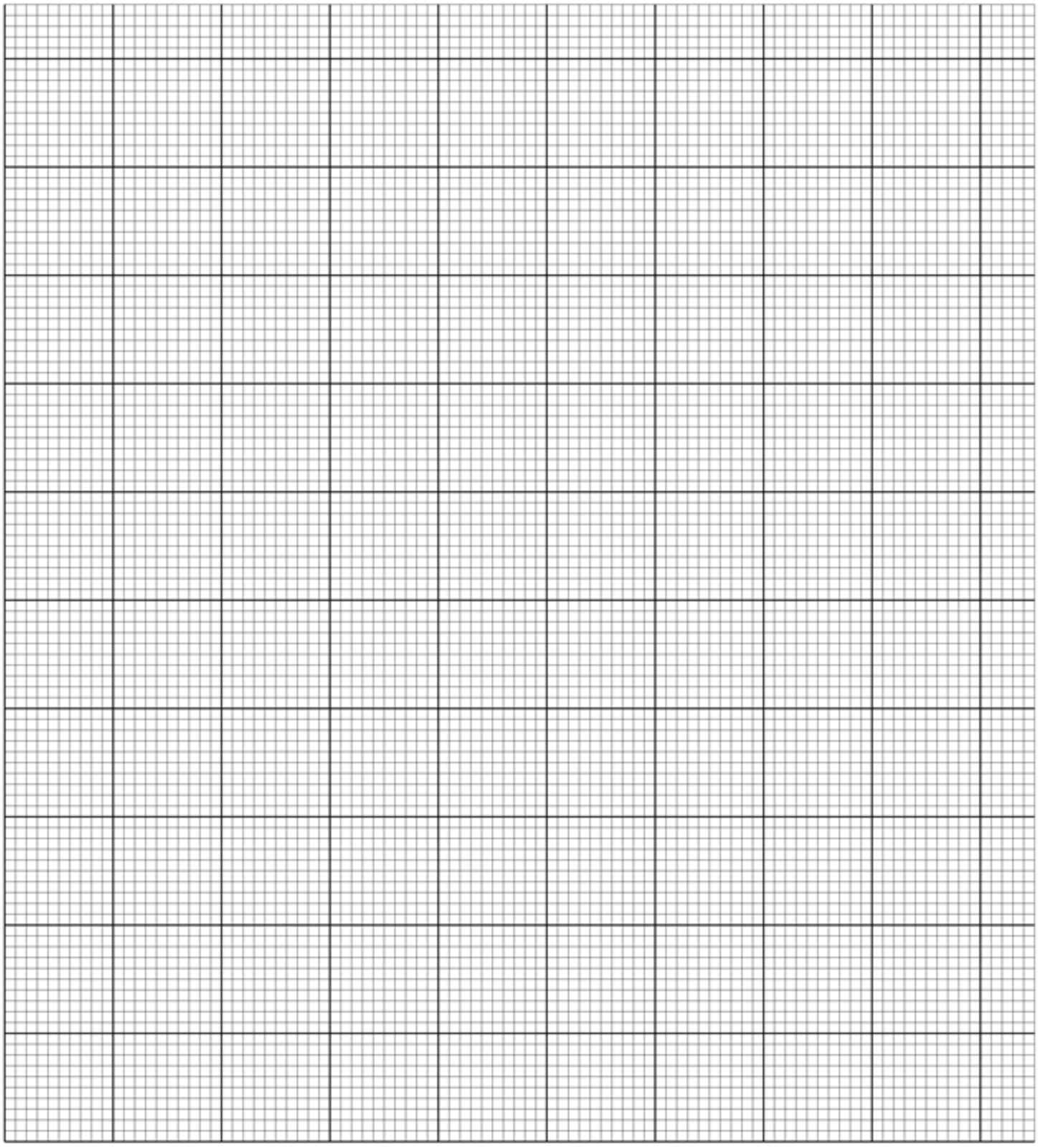
Answer question 6 (compulsory) and either question 7 or 8 in the spaces provided.

6. In a population growth, two species of flour beetles, *Tribulum confusum* and *Tribulum casteanum* were grown in a box with unlimited supply of flour (food). The box was kept at 24^0C and 30% relative humidity. The beetles were counted at certain intervals and the results tabulated as shown below.

No. of days after introduction		0	10	50	60	80	100	120	140	180	200
No. of beetles present in the box.	*T. confusum*	20	20	300	800	1330	1440	1620	1600	1620	1600
	T. casteanum	20	20	300	430	500	400	150	60	20	10

(a) Using the same axis, draw graphs of number of beetles in the box against time**.** **(8mks)**

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



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

(b) How many beetles were present on the 76th day? **(2mks)**

(i) *T. confusum*.....

(ii) *T. casteanum*.....

(c) Account for the shape of *T. confusum* curve between day 1 and 180. **(5mks)**

.....

.....

.....

.....

.....

.....

.....

.....

(d) (i) What happens to *T. casteanum* between day 80 and 160**?** **(1mk)**

.....

.....

(ii) What biological phenomenon is represented by observation in (d) (i) above? **(1mk)**

.....

.....

(e) State any **three** factors that determine the distribution of animals in their habitat. **(3mks)**

.....

.....

.....

.....

.....

7. (a) Explain how the human ileum is adapted to its function**.** **(10mks)**

(b) Explain the role of the liver in regulation of blood sugar. **(10mks)**

8. (a) Explain the economic importance of fungi**.** **(9mks)**

(b) Describe the adaptations of flowers to insect pollination. **(11mks)**

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

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

NAME: ……..…

SCHOOL: ……...……..

ADM NO: …….. SIGN: ……. DATE: ……...

231/3

Biology Paper 3

Practical

Time: $1^{3}/_{4}$ Hours

Instructions to Candidates

(a) Write your **name, index number** and **school** in the spaces provided above.
(b) **Sign** and write the **date** of examination in the spaces provided above.
(c) Answer all the questions in the spaces provided.
(d) You are required to spend the first **15** minutes of the **1¾** hours allowed for
(e) this paper reading the whole paper carefully before commencing your work.
(f) This paper has **three** questions.
(g) Students should check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.
(h) Candidates should answer the questions in English.

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	**18**	
2	**12**	
3	**10**	
Total Score	**40**	

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

1. You are provided with a piece of Irish potato tuber, sodium hydroxide solution, a scalpel, a test tube, hydrochloric acid, iodine solution, hydrogen peroxide and a measuring cylinder.

(a) Using the scalpel provided, peel the potato and cut five equal cubes each $1cm^3$. Label them C1, C2, C3, C4 and C5.

(i) Cut C1 into many tiny pieces and put them into a test tube. Add 2ml of iodine solution. Observe and record your observations. **(1 mark)**

Observations. .....

(ii) Allow the set-up to stand for 30 minutes. Observe and record your observations. **(1 mark)**

Observations.....

(iii) Account for your observations in (i) and (ii) above. **(2 marks)**

.....

.....

.....

.....

.....

(b) (i) Put 5ml of hydrogen peroxide solution into the measuring cylinder provided. Put cube C2 into the measuring cylinder and record the volume of foam produced after two minutes.

Volume ..... cm^3 **(1 mark)**

(ii) Empty the measuring cylinder and clean it. Cut C3 into smaller pieces and put them into a fresh 5ml hydrogen peroxide solution in the measuring cylinder. Record the volume of foam produced after two minutes. **(1 mark)**

Volume cm3

(iii) Account for the difference in volume of foam produced by cube C3 and cube C2 above. **(4 marks)**

.....

.....

.....

.....

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

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

(c) (i) Put 5ml hydrogen peroxide solution into a clean measuring cylinder. Add 1ml of the hydrochloric acid provided into the measuring cylinder and place cube C4 inside.
Record your observations after two minutes. **(1 mark)**

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

(ii) Empty the measuring cylinder and clean it. Put 5ml hydrogen peroxide solution into the measuring cylinder and add 1ml of sodium hydroxide solution provided. Place cube C5 inside and record your observations after two minutes. **(1mark)**

.....
.....

(iii)Account for the difference in observations made in (c)(i) and (ii) above. **(4 marks)**

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

(d) Explain the importance of the enzyme responsible for the observations above in the tissues of living organisms. **(2 marks)**

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

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

2. You are provided with specimens **H** and **K**. Observe the specimens keenly.

(a) State two functions of specimen **K**. **(2 marks)**

.....

.....

.....

.....

(b) Name the division and class to which specimen **H** belongs.

Division..... **(1 mark)**

Reason **(1 mark)**

.....

.....

Class ..... **(1 mark)**

Reasons **(2 marks)**

.....

.....

.....

.....

(c) State **three** adaptations of specimen **K** for maximum photosynthesis. **(3marks)**

.....

.....

.....

.....

.....

(d) Explain **two** ways in which specimen **H** is adapted for survival in its habitat. **(2 marks)**

.....

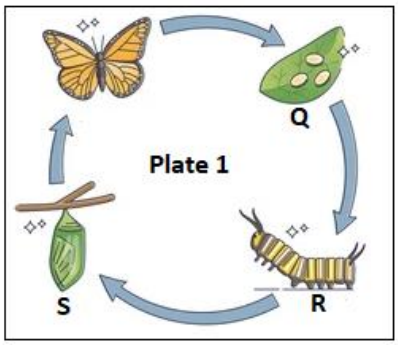
.....

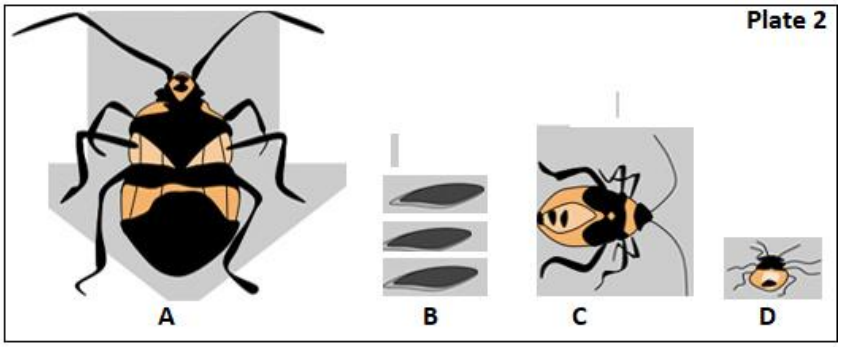
.....

.....

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

3. Study the photographs below representing certain processes in insects. Use them to answer the questions that follow.





(a) With reasons, name the type of the process represented by plates 1 and 2. (2 marks)

Plate	Name	Reason
1		
2		

(b) Name stages Q, R and D. **(3 marks)**

Q .....

R .....

D .....

(c) Give an advantage of the process in plate 1 over the process in plate 2. **(1 mark)**

.....

.....

.....

(d) Arrange stages A, B, C and D in their correct sequence. **(1 mark)**

.....

.....

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

(e) State **two** differences in the biological activities between the developmental sages R and S.

(2 marks)

……

……

……

……

……

(f) Insects are the most populous and widespread in phylum Arthropoda. Give a reason to explain this observation. **(1 mark)**

……

……

……

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

Instructions to Candidates

(a) Write your name in the spaces provided above.
(b) Sign and write the date of the examination in the spaces provided above
(c) Answer all the questions
(d) All answers must be written in the spaces provided in this booklet
(e) This paper consists of **10** printed pages
(f) Candidates should check the question paper to ascertain that all pages are printed as indicated and no questions are missing.

For Examiner's use only

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

Question	14	15	16	17	18	19	20	21	22	23	24	25
Marks												

TOTAL MARKS

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

1. Outline 4 skills that an individual would develop when learning business studies. **(4mks)**

……

……

……

……

……

……

2. Kenya usually hosts international sporting events such as world cross country championship. Highlight 4 business opportunities that arise out of such events. **(4mks)**

……

……

……

……

……

……

3. Outline 4 characteristics of public goods. **(4mks)**

……

……

……

……

……

……

4. Highlight 4 reasons why businesses should observe ethical practices. **(4mks)**

……

……

……

……

……

……

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

5. Outline 4 circumstances that would make an office manager to replace an existing machine with modern one. **(4mks)**

.....

.....

.....

.....

.....

.....

6. Outline 4 measures that may be taken to conserve forests in Kenya. **(4mks)**

.....

.....

.....

.....

.....

.....

7. State 4 similarities between a bill of exchange and a promissory note. **(4mks)**

.....

.....

.....

.....

.....

.....

8.John and Peter bought a Nissan matatu worth sh. 3,000,000. John paid sh. 2,000,000 and Peter sh. 1,000,000. They insured the matatu for a comprehensive cover for shs 2,500,000. Later the matatu was involved in an accident to a loss of sh 1,500,000. How much were they compensated and give a reason in support of your answer? (4 marks)

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

9. Outline 4 benefits that accrue to the government as a result of privatization of public enterprises. (**4mks)**

……
……
……
……
……
……

10. State 4 types of complaints that a consumer organization may receive from consumers. **(4mks)**

……
……
……
……
……
……

11. On 1st October 2021, Sambu bought goods on credit quoted at sh 240,000. Terms of sale were: 20% trade discount, and 10% cash discount if payment was made on 29th October 2021. Calculate the amount paid if payment was made on 26th October 2021. **(4mks)**

12. Give 4 reasons why countries are opting for electric trains instead of diesel engine trains. **(4mks)**

……

……

……

……

……

……

13. Outline 4 benefits of using the internet for office communication. **(4mks)**

……

……

……

……

……

……

14. State 4 characteristics of assets. **(4mks)**

……

……

……

……

……

……

15. Outline 4 circumstances under which a firm would be located near the market. **(4mks)**

……

……

……

……

……

……

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

16. State 4 causes of negative shift in demand curve. **(4mks)**

……

……

……

……

……

……

17. Mention 4 features of a market. **(4mks)**

……

……

……

……

……

……

18. Using a (+) for increase, (-) for decrease and (0) for no effect, indicate the effects of the following transactions on Assets, Liabilities, Capital and the balance sheet totals. **(4 marks)**

Description	Assets	Liabilities	Capital	Balance sheet totals
a) Bought goods worth shs 5000 on credit				
b) Sold goods worth shs7000 for shs 8000 Cash				
c) The Proprietor took goods worth shs 2000 for personal use				
d) The Proprietor donated personal motor vehicle worth shs 500,000 to the business				

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

19. State 4 reasons why most companies have adopted the use of roadshows to promote their products. **(4mks)**

.....

.....

.....

.....

.....

.....

20. Give 4 reasons for the increased use of mobile phones in banking. (4mks)

.....

.....

.....

.....

.....

.....

21. State 4 negative effects of long chain of distribution to the buyer. (4mks)

.....

.....

.....

.....

.....

.....

22. Given the statements in the table below, indicate the type of entry to be made in the relevant ledger accounts. **(4mks)**

	Statement	Type of entry
i)	An increase in revenue	
ii)	A decrease in asset	
iii)	An increase in an expense	
iv)	A decrease in a liability	

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

23. State 4 activities that take place in a warehouse.(4mks)

a)

b)

c)

d)

24. Highlight 4 challenges that cooperative societies in Kenya face. **(4mks)**

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

25. The following information relates to Nyeri Enterprise for the period ended 31st December 2020

Sales	sh 1,000,000	
Opening stock	sh 100,000	
Closing stock	25% of cost of sales	
Gross profit margin	20%	**(4mks)**

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

Calculate:

i)Gross profit

ii) Cost of sales

iii) Purchases

iv) Rate of stock turnover

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……..

ADM NO: …….. SIGN: ……. DATE: ……...……

565/2

BUSINESS STUDIES

PAPER 2

TIME: 2 ½ HOURS.

INSTRUCTIONS TO CANDIDATES

(a) Write your name and admission number.

(b) Sign and write the date of the examination.

*(c) This paper consists of **six** questions.*

*(d) Answer **any five** questions.*

(e) Candidates should answer questions in English.

Question	Maximum score	Candidate's score
	20	
	20	
	20	
	20	
	20	

Total Score

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

QUESTIONS

1 a). Explain five factors that may promote entrepreneurship in Kenya. **(10mks)**

b). Country X has been experiencing low national income. Explain five possible reasons that may have contributed to this situation. **(10mks)**

2.a). Explain five circumstances under which goods may be transported by use of container. **(10mks)**

b). On 1st September 2015, Miriam had sh 55,000 in hand and sh. 250,000 in bank. During the month the following transactions took place.

Sep 2: Cash sales banked sh 35,260

Sep 3: Bought ribbons in cash sh 4,500

Sep 8: Paid Wangila, a creditor sh 94,000 by cheque in full settlement of his account after deduction 6% cash discount.

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

Sep 15:Paid salaries of sh 34,000 in cash

Sep 25: Withdrew sh 50,000 from bank for office use.

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

Sept 30: Deposited all the cash into the bank except sh 13,700

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

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

3.a). Explain five challenges that may be experienced by a country whose population is made up of large proportion of young people.

b). Explain five limitations of using a trial balance as a proof that book keeping has been carried out without errors.

4.a). Explain five reasons for government involvement in business activities.

b). The following Trial Balance was extracted from the books of Mwangi Traders on 31st December, 2005.

Trial Balance
As at 31st December, 2005

	Dr (sh).	Cr (sh)
Purchases	70,000	
Carriage Outwards	4,000	
Stock 1/1/2005	12,500	
Sales		95,000
Fixed Assets	82,000	
Creditors		8,500
Debtors	10,500	
Salaries	14,000	
Bank Overdraft		7,500
Returns	1,500	
Cash In Hand	2,500	
General expenses	5,200	
Capital		88,800
	202,200	202,200

Additional Information

i). Closing stock was valued sh 6,500

ii). Salary outstanding was sh 2,800

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

Prepare the following

i). Trading profit and loss account for the period ended 31st December, 2005**. (6mks)**

ii). Balance sheet as at 31st December, 2005. **(4mks)**

5.a). Outline five circumstances under which an insured person may not be compensated in the event of loss. **(10mks)**

b). Explain five non-tax internal sources of revenue to the government. **(10mks)**

6. a). Explain five roles of commercial banks in the development of a country's economy.

b). Explain five differences between private limited companies and public limited companies.

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……...

SCHOOL: ……..

ADM NO: …….. SIGN: ……. DATE: ……...

233/1

Chemistry

Theory

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. Answer all the questions in the spaces provided in the questions paper.
4. Mathematical tables and silent electronic calculators may be used.
5. All working must be shown where necessary.

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
	80	

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

1. The element **Y** is represented by $^{27}_{13}$**Y.**

a) What does letter **Y** represent? **(1 mark)**

.....

.....

b) What name and symbol is given to the superscript and what does it represent? **(1 mark)**

.....

.....

2. Element W (not the actual symbol) belongs to period 3 and group VI of the periodic table. Write the formula of its most stable ion. **(1 mark)**

.....

.....

3. An alkanol has the following composition by mass: Hydrogen 13.5%, Oxygen 21.6% and Carbon 64.9%)

a. Determine the empirical formula of the alkanol. (C=12, H=1, O=16) **(2 marks)**

b. Given that the empirical formula and the molecular formula of the alkanol are the same, draw the structure of the alkanol. **(1 mark)**

4. With the help of an equation, show how chlorine water bleaches **(1 mark)**

.....

.....

.....

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

5. The table below gives the ionization energies of group I elements.

Element	I	II	III	IV
Ionization energy (kJ/mole)	94	418	519	576

Arrange the elements in order of reactivity starting with the most reactive **(1 mark)**

.....

.....

6. Oxygen and Sulphur belong to group VI of the periodic table. Explain why there is a big difference in their melting points (melting point of Oxygen is -216^{o}C while that of Sulphuris 114^{o}C **(2 marks)**

7. Heated iron can react with both Chlorine gas and hydrogen chloride gas. Write an equation for each reaction **(2 marks)**

.....

.....

.....

8. Distinguish between a covalent bond and a co-ordinate bond **(2 marks)**

.....

.....

.....

.....

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

9. Draw a dot (**.**) and cross (X) diagram of an Oxygen molecule (O_2) given that oxygen has an atomic number of 8. **(2 marks)**

10. a) Differentiate between a strong acid and a concentrated acid **(2 marks)**

.....

.....

.....

.....

b). Identify the acid in the forward reaction given by the equation below. Explain **(2 marks)**

$HSO_4^-{}_{(aq)} + H_2O_{(i)} \rightleftharpoons H_2SO_{4\,(aq)} + OH^-{}_{(aq)}$

Acid.....

Reason

.....

.....

11. Describe how a sample of Lead (II) chloride can be prepared in the laboratory starting with Lead metal. (3 marks)

.....

.....

.....

.....

.....

.....

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

12. The table below gives information on four elements represented by the letters K, L, M and N. Study it and answer the questions that follow. The letters do not represent the actual symbol of the elements.

Element	Electron Arrangement	Atomic Radius (nm)	Ionic Radius
K	2.8.2	0.136	0.065
L	2.8.7	0.099	0.181
M	2.8.8.1	0.203	0.133
N	2.8.8.2	0.174	0.099

a) Which two elements have similar chemical properties? Explain **(2 marks)**

.....

.....

.....

.....

b) What is the most likely formula of the oxide of L**?** **(1 mark)**

.....

.....

.....

c) Which element is a non-metal? **(1 mark)**

.....

.....

.....

13. a) Define a binary electrolyte. **(1 mark)**

.....

.....

.....

.....

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

b) Solid Lead (II) Iodide does not conduct electricity, but fused Lead (II) Iodide does. Explain. **(2 marks)**

.....

.....

.....

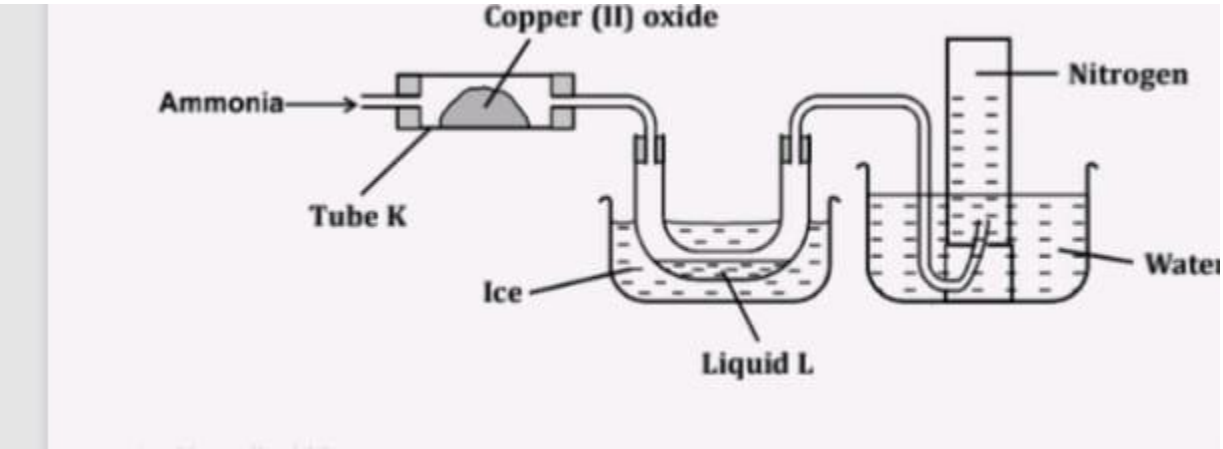
.....

14. Write a half equation for what is formed at the cathode in the reaction above. **(1 mark)**

.....

.....

15. The diagram below shows a setup that can be used to obtain nitrogen gas in an experiment.



a) Name liquid L **(1 mark)**

.....

.....

b) What observation would be made in tube K after heating for some time? **(1 mark)**

.....

.....

c) Write an equation for the reaction that took place in tube K **(1 mark)**

.....

.....

.....

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

16. $60cm^3$ of Oxygen gas diffused through a porous partition in 50 seconds. How long would it take $60cm^3$ of Sulphur (IV) Oxide gas to diffuse through the same partition under the same conditions? (S=32, O=16) **(2 marks)**

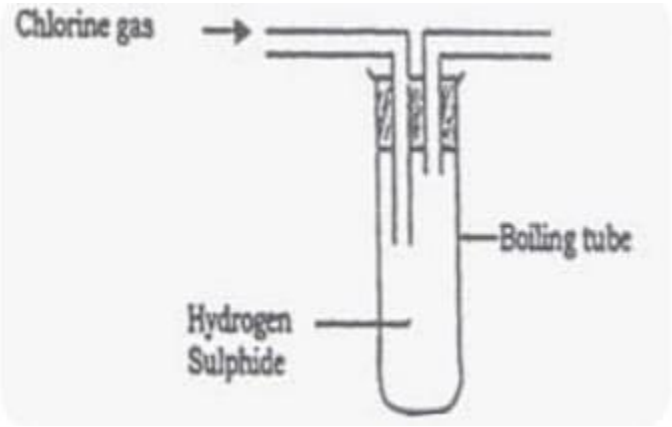
17. $30cm^3$ of 0.06M Sodium Hydroxide reacted with $25cm^3$ of a dibasic acid $HOOC(CH_2)_xCOOH$ containing 4g/litre. Calculate the value of X .
(C=12, H=1 O=16, Na=23). **(3 marks)**

18. Water from a town in Kenya is suspected to contain sulphate. Describe how the presence of sulphate ions in the water can be tested. **(2 marks)**

……
……
……
……

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

19. The figure below was set up by a student to investigate the reaction between chlorine gas and hydrogen sulphide gas.



a) Write an equation for the reaction that took place in the flask. **(1mark)**

.....

.....

b) What observation was made in the flask? **(1 mark)**

.....

.....

.....

c) What precaution should be taken when carrying out the experiment? **(1 mark)**

.....

.....

.....

20. Describe how Sulphur is extracted by the frasch process **(2 marks)**

.....

.....

.....

.....

.....

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

21. a) State Gay Lussac's law (1 mark)

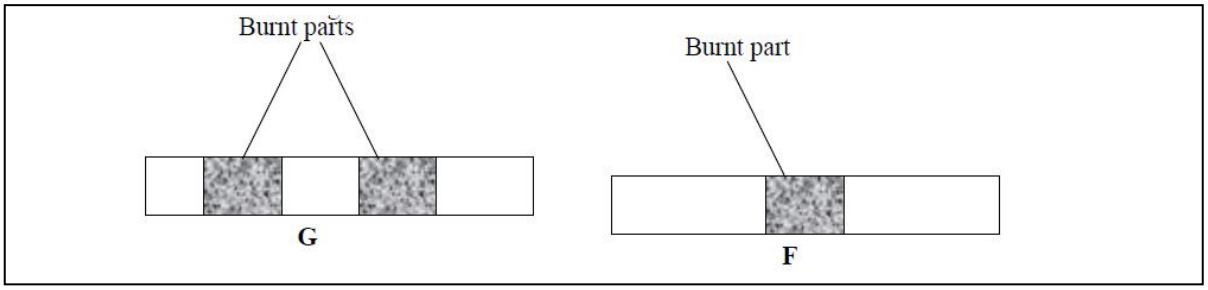
……

……

……

b) 250cm^3 of Ammonia reacted with 350cm^3 of Oxygen gas to form 200cm^3 of Nitrogen (II) Oxide and 300cm^3 of steam. 50cm^3 of Oxygen remained unreacted. Determine the equation for the reaction**.** **(2 marks)**

22. Wooden splints F and G were placed in different zones of a Bunsen burner flame. The diagram below gives the observations that were made.



i)Explain the difference between F and G. **(2 marks)**

……

……

……

……

ii) Name the type of flame that was used in the above experiment. **(1 mark)**

……

……

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

23. 1g of potassium carbonate was placed in two different tubes. 2M sulphuric (VI) acid was added into one test of the tubes and in the other test tube 2M ethanoic acid was added. Explain the observations that were made**.** **(3 marks).**

.....

.....

.....

.....

.....

24. Draw a set up of apparatus to show how dry sulphur (IV) oxide can be prepared in the laboratory starting with dilute hydrochloric acid**.** **(3 marks)**

25. Give the formula of the polymer formed from the following monomers.

i) $H_2N - R - NH_2$ and $HOOC - R - COOH$ **(1 mark)**

.....

.....

ii) Name the type of polymerization shown in (i) above **(1 mark)**

.....

.....

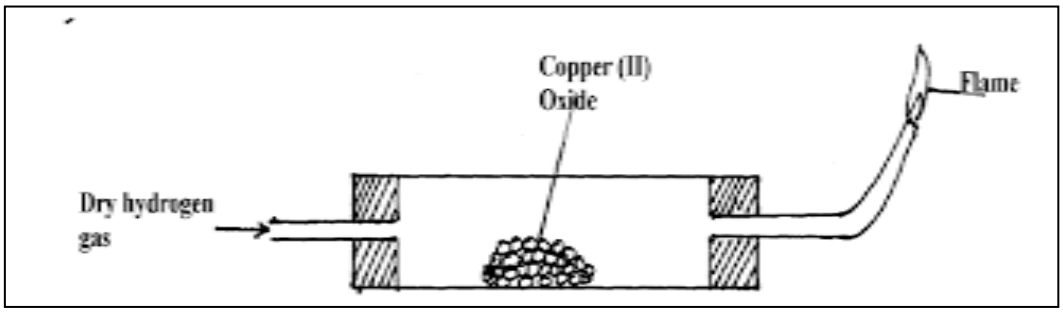
iii) What substance is lost during the polymerization named above**? (1 mark)**

.....

.....

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

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



i)Why is it necessary to pass hydrogen through the tube before lighting the hydrogen gas? **(1 mark)**

.....

.....

ii) After reduction is complete, the apparatus is allowed to cool while hydrogen is still passed over the reduced oxide. Explain **(1 mark)**

.....

.....

.....

iii) Name another gas that can be used to reduce the metal oxide other than hydrogen. **(1 mark)**

.....

.....

27. The table below shows solubility of two salts A and B at different temperatures.

Temp (^{0}C)	Salt	0	10	20	30	40	50
Solubility (g/100g H_2O)	A	3.0	5.0	7.4	10.0	14.0	19.0
	B	15.0	17.0	20.7	28.7	29.9	33.3

i)If both A and B were present in 100 cm^3 of a saturated solution at 50^0 C. What would be the total mass of crystals formed if the solution is cooled to 20^0 C. **(2 marks)**

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

ii) Solubility of gases decreases as the temperature increases. Explain. **(1 mark)**

iii) A certain salt C dissolves with absorption of heat from the surroundings. How would its solubility change with an increase in temperature? Explain. **(2 marks)**

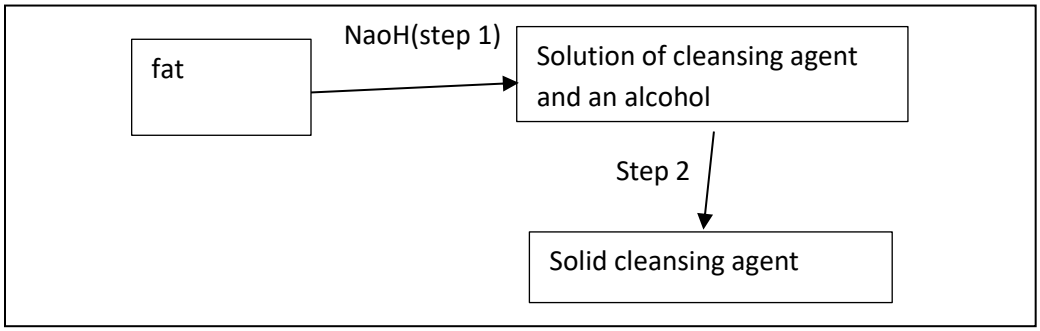
.....

.....

.....

.....

28. The scheme below was used to prepare a cleansing agent. Study it and answer the questions that follow:



i)Name the category of cleansing agent prepared by the method above. **(1 mark)**

.....

.....

ii) Name one chemical substance added in step 2. **(1 mark)**

.....

.....

iii) What is the purpose of adding the chemical substance named in ii) above **(1 mark)**

.....

.....

.....

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

iv) Name another suitable substance to be used in step 1. **(1 mark)**

.....

.....

29. Melting and boiling points of Hexanoic acid is higher than hexan-1-ol. Explain. **(1 mark)**

.....

.....

.....

30. Classify the following processes as chemical changes or physical changes. **(2 marks)**

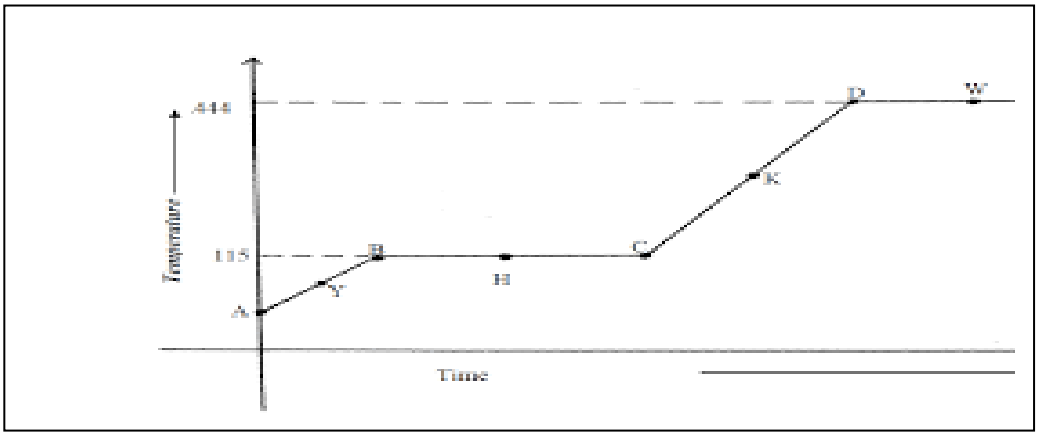
i)Neutralization .....

ii) Sublimation.....

iii) Fractional distillation.....

iv) Displacement .....

31. Study the heating curve below and answer the questions that follow:



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

i) What physical changes occur at H and W? **(1 mark)**

.....

.....

.....

ii) Explain what happens to the melting point if sodium chloride is added to this substance. **(1 mark)**

.....

.....

.....

iii) Give the names of the intermolecular forces of attraction in the segments: **(1 mark)**

a) AB .....

b) CD.....

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……..

233/2

CHEMISTRY

Paper 2

2 hours

INSTRUCTIONS TO CANDIDATES:

- *Write your **name** and **index** on the spaces provided above*
- *Answer **all** the questions in the spaces provided.*
- *All working **must** be clearly shown where necessary.*
- *Mathematical tables, Electronic calculators may be used.*

For Examiners Use Only

Question	Maximum score	Candidate's score
1	13	
2	13	
3	12	
4	09	
5	13	
6	10	
7	10	
Total	**80**	

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

1. (a) The grid below show part of the periodic table.(The letter do not represent the actual Symbols. Use it to answer the questions that follow.

T								**Q**
				S		**R**	**K**	
A	**J**		**Y**		**U**		**L**	
W							**M**	**B**
	C						**N**	
P								

(i)Select the most reactive non-metal. **(1mk)**

.....

.....

(ii)Select an elements that forms a divalent cation. **(1mk)**

.....

.....

.....

(iii)Element **Z** has atomic number 14. Show its position in the grid. **(1mk)**

(iv)How do the atomic radii of **U** and **J** compare? **(2mks)**

.....

.....

.....

.....

(v)How do electrical conductivity of **A** and **Y** compare? **(2mks)**

.....

.....

.....

.....

.....

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

(vi)How does the boiling point of elements **K, L** and **M** vary? Explain **(2mks)**

……

……

……

……

(b) The table below gives information on four elements by letters V, X, E and G. Study it and answer the questions that follow. The letters do not represent the actual symbols of the elements.

Element	**Electron arrangement**	**Atomic radius**	**Ionic radius**
V	**2:8:2**	**0.136**	**0.065**
X	**2:8:7**	**0.099**	**0.181**
E	**2:8:8:1**	**0.203**	**0.133**
G	**2:8:8:2**	**0.174**	**0.099**

(a) Which two elements have similar properties? Explain. **(2mks)**

……

……

……

……

(b) Which element is a non-metal? Explain. **(1mk)**

……

……

……

(c) Which one of the elements is the strongest reducing agent. **(1mk)**

……

……

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

2. (a) Petrol is a mixture of several alkane molecules ranging from pentane (C_5H_{12}) to decane ($C_{10}H_{22}$). Name the process by which petrol is obtained from crude oil. **(1mk)**

.....

.....

(b) A decane molecule derived from petrol is cracked into hydrocarbon with equal number of carbon atoms in each molecule.

(i) What is cracking? **(1mk)**

.....

.....

(ii) State **two** conditions necessary for the above process. **(2mks)**

.....

.....

.....

.....

(iii) Write an equation for the cracking of decane molecule. **(1mk)**

.....

.....

.....

(iv) Draw and name **two** isomers of molecule with lower molecular mass obtained from cracking of decane as shown in b(iii) above. **(2mks)**

(v) How would you distinguish the products formed by cracking as shown in b(iii) in the laboratory. **(2mks)**

.....

.....

.....

.....

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

(c) Name the class to which the following cleansing agents belong.

(i) $R\text{-}COONa^+$ **(1mk)**

……

……

(ii) R- $O\text{-}SO_3Na$ **(1mk)**

……

……

(d) Which cleaning agent above is not environmental friendly? Explain. **(2mks)**

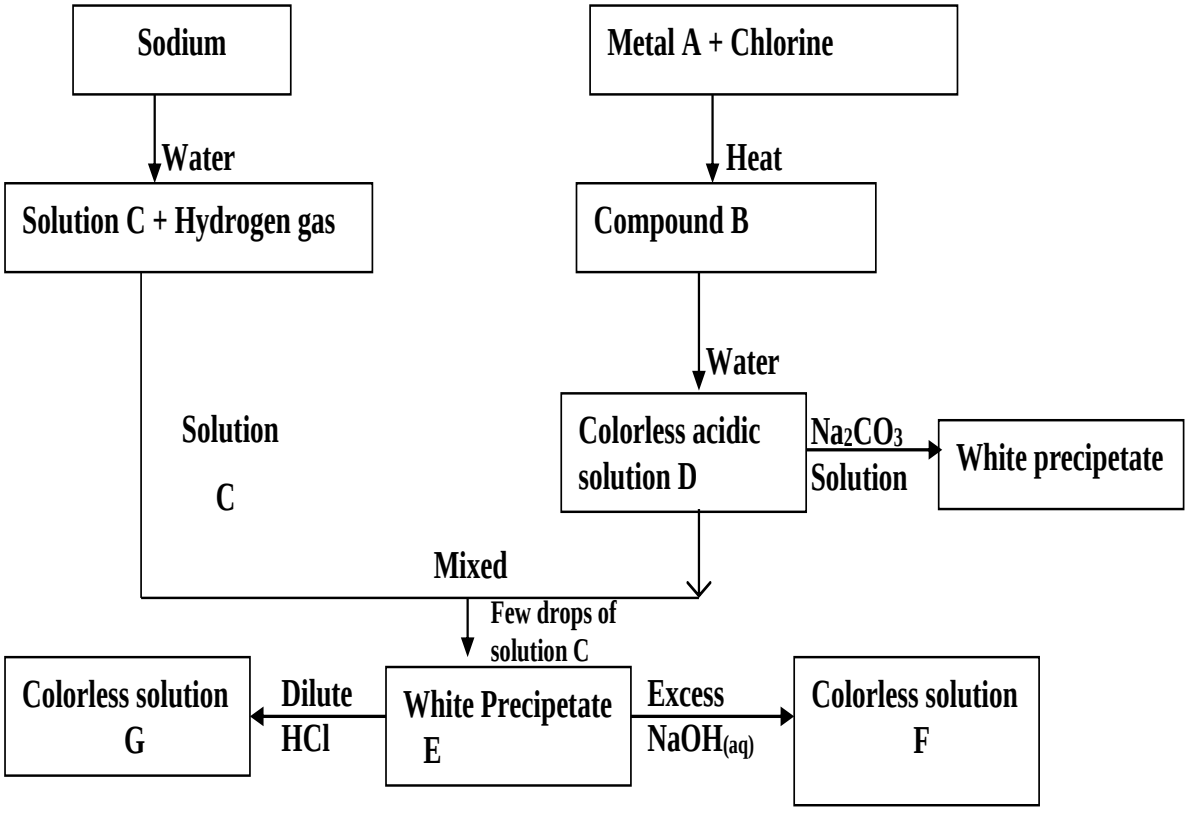
……

……

……

……

3. Study the flow diagram below and use it to answer the questions that follow.



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

(a) Give the name and formula of the following.

(i) White precipitate **E**

Name…….. **(½ mk)**

Formula……. **(½ mk)**

(ii) Colourless solution F

Name …….. **(1mk)**

Formula…….. **(1mk)**

(b) What property is exhibited by white precipitate E when it reacts with Sodium hydroxide and HCl acid. **(1mk)**

……

……

(c) Write an ionic equation for the reaction between white precipitate E and excess sodium hydroxide solution. **(1mk)**

……

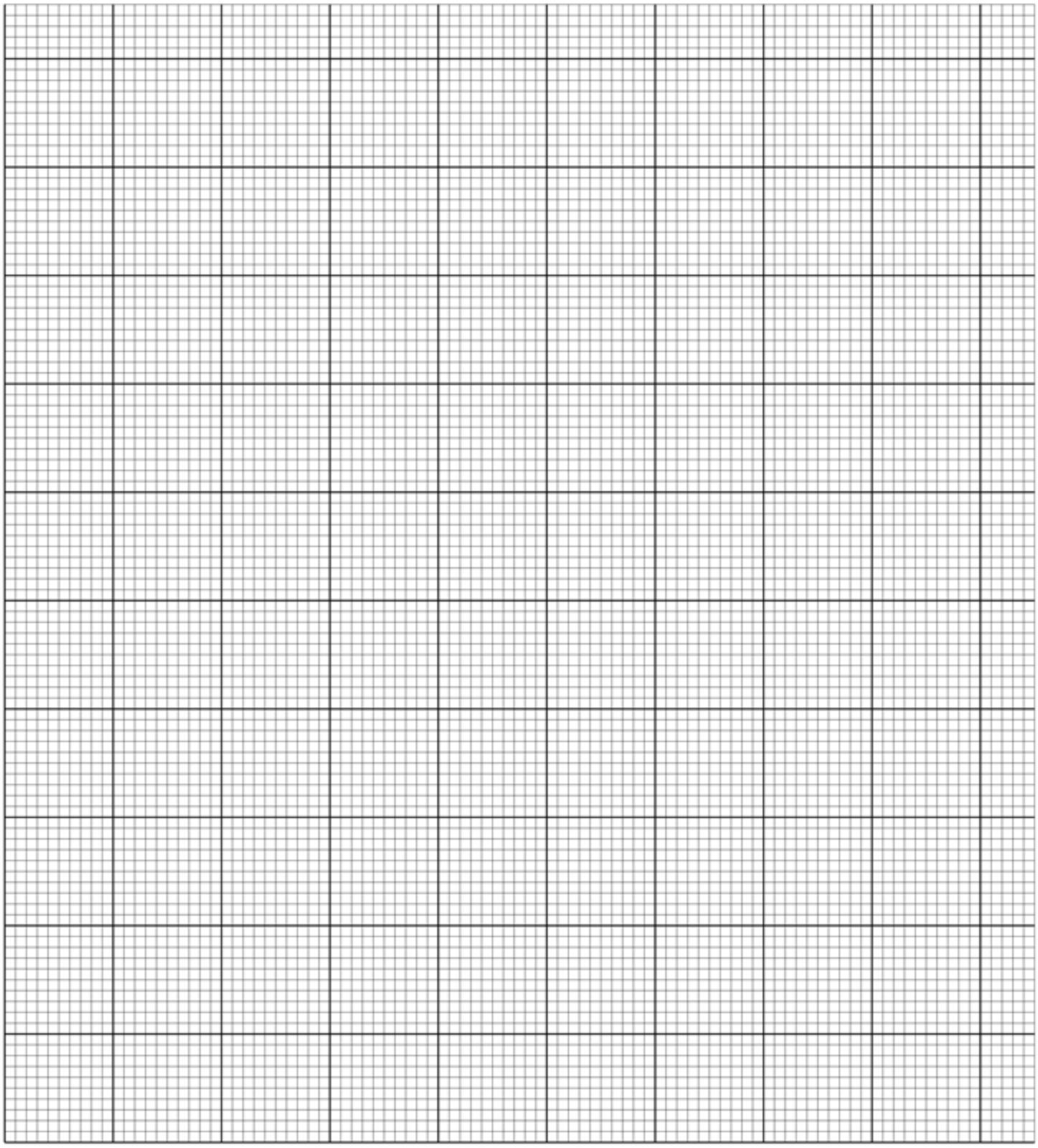
……

(d) The information below gives the solubilities (In g/100g of water) of substances X and Y at various temperatures

Temperature		0	20	40	60	80	100
Solubility g/100g of water	X	10	15	26	40	63	100
	Y	30	34	37	40	44	48

(i) Plot a graph of solubility against temperature for the two salts X and y on the same axis. **(4mks)**

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



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

(i) From the graph state:

I The solubility of X at 50°C **(1mk)**

……

……

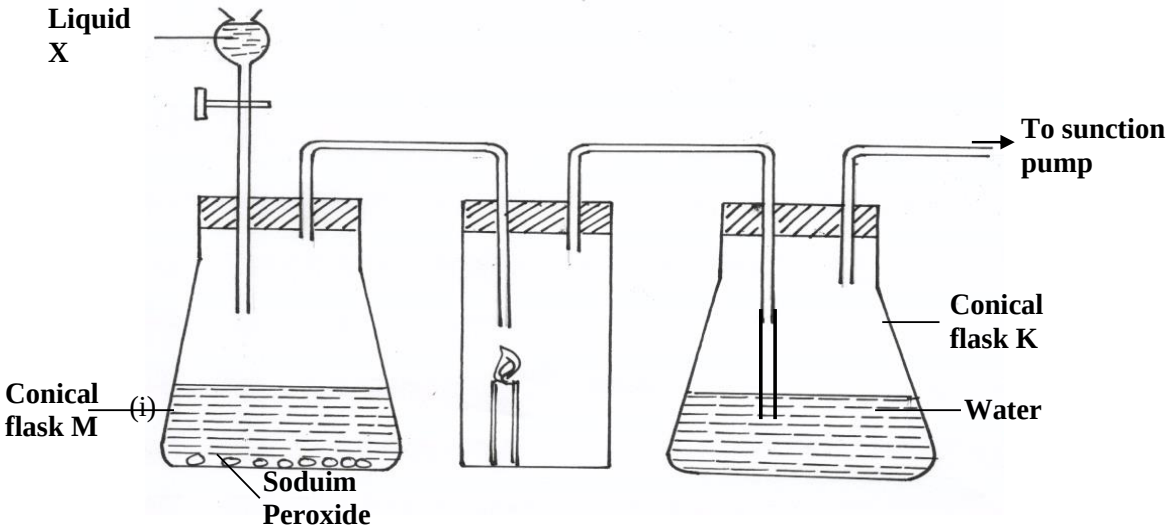
II The temperature at which solubility of Y is 36g/100g of water. **(1mk)**

……

……

III Calculate the mass of crystals of substance X which will deposit when a solution containing 50g of X in 100g of water initially at 80°C is cooled to a temperature of 30°C **(1mk)**

4. The diagram below shows a set – up that was used to prepare oxygen gas and passing it over a burning candle. The experiment was allowed to run for some time.



(i) Name liquid **X** **(1mk)**

……

……

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

(ii) Suggest the PH of the solution in conical flask **K**. **(1mk)**

……

……

(iii)Write an equation for the reaction taking place in the conical flask M. **(1mk)**

……

……

(b) During the extraction of sodium metal from sodium chloride in the Down's cell, calcium chloride is added

(i) Explain why it is necessary to add Calcium chloride **(1mk)**

……

……

……

(ii) Explain why sodium metal is not used in making the overhead electric cables yet it is a conductor of electricity **(1mk)**

……

……

……

(c) (i) Describe a simple chemical test that can be used to distinguish carbon (IV) oxide and Carbon(II) oxide gases. **(1mk)**

……

……

……

(ii) Give **one** use of carbon (II) Oxide **(1mk)**

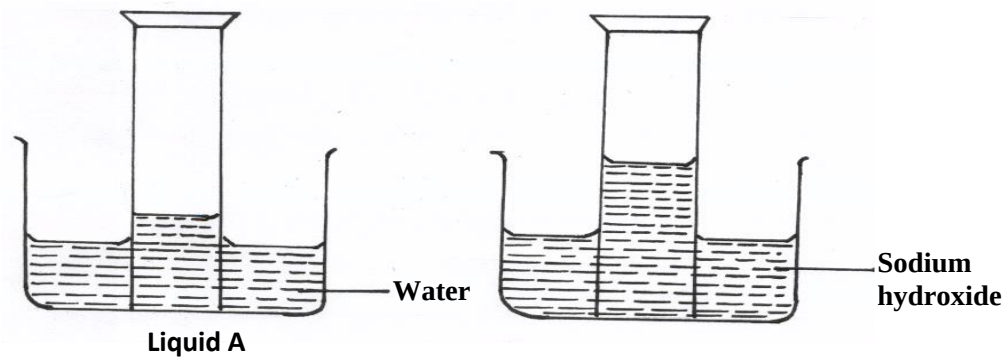
……

……

……

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

(d) A form two student inverted a gas jar full of carbon (IV) oxide over water and sodium hydroxide solution separately as shown below



Explain the observations made. (2mks)

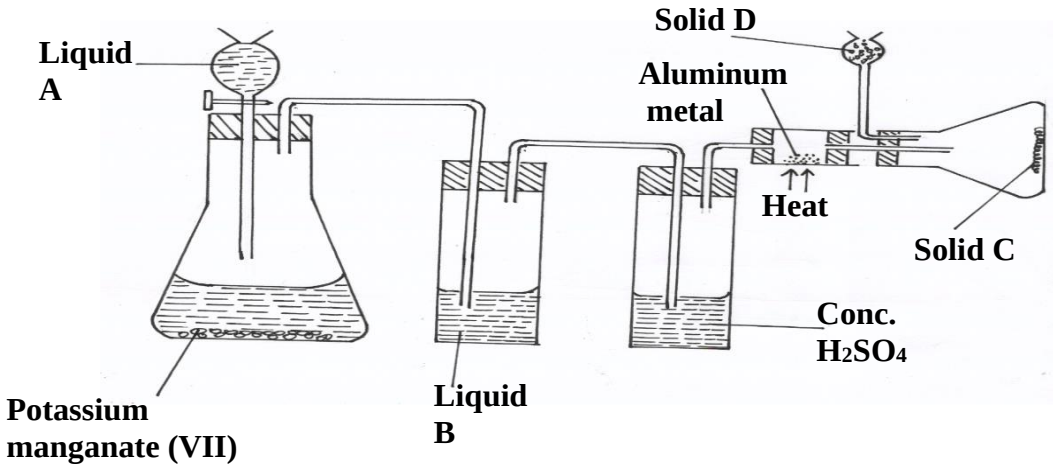
……

……

……

……

5. (a) Study the diagram below and use it to answer the questions that follow.



(i) Name liquids **A** and **B**

A…… **(1mk)**

B…… **(1mk)**

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

(ii) Suggest a suitable reagent that can be used as solid **D** **(1mk)**

.....

.....

(iii) State the role of Solid **D** **(1mk)**

.....

.....

.....

(iv) Write a balanced chemical equation for the reaction in the conical flask **(1mk)**

.....

.....

.....

(v) Explain why solid C collects further away from the heated aluminium metals. **(1mk)**

.....

.....

.....

(vi) In the combustion tube above, 0.675g of aluminium metal reacted completely with 1800cm^3 of chlorine gas at room temperature. Determine the molecular formula of Solid C, given that its relative formula mass is 267 (Al= 27.0, Cl= 35.5 molar gas volume at r.t.p = 24.0 litres) **(3mks)**

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

(b) The reaction between hot concentrated sodium hydroxide and chlorine gas produces Sodium Chlorate (V) as one of the products

(i) Write the equation for the reaction. **(1mk)**

.....

.....

(ii) Give **one** use of sodium chlorate.(V) **(1mk)**

.....

.....

(c) Explain the difference between bleaching by chlorine and bleaching by sulphuric (IV)oxide gases. **(2mks)**

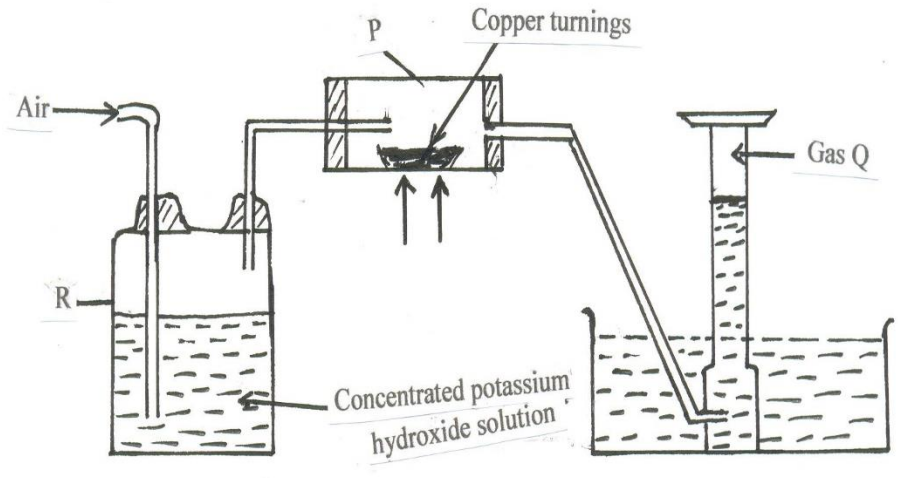
.....

.....

.....

.....

6. A. Study the diagram below that is used to prepare a gas Q.



(i) (a) What component of air is eliminated in wash bottle labelled R? **(1 mark)**

.....

.....

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

(b) Write the reaction equation for the reaction that eliminates the component of air in a(i) above. **(1 mark)**

.....

.....

.....

(ii) What component of air is removed in hard glass tube labelled P? **(1 mark)**

.....

.....

(iii) Identify gas Q. **(1 mark)**

B. In an experiment 1.54g of nitrogen reacted with 3.53g of oxygen to form a compound.

N = 14, O = 16

(i) Calculate the moles of nitrogen and oxygen that reacted. **(2 marks)**

(ii) Determine the simplest formula of the compound formed between nitrogen and oxygen. **(2 marks)**

(iii) Commend on the melting and boiling points of the compound in B(ii) above, explain. **(2 marks)**

.....

.....

.....

.....

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

7. In the preparation of Copper carbonate, copper was burnt in air and the product collected. Dilute sulphuric acid was added and the mixture filtered and cooled. Sodium carbonate was added to the filtrate and the content filtered. The residue was washed and dried to give a white powder.

a) Give the chemical name of the product formed when magnesium burns in air **(1mk)**

.....

.....

b) Write a chemical equation for the formation of product. **(1mk)**

.....

.....

c) (i) Name filtrate collected after sodium carbonate was added **(1mk)**

.....

.....

(ii) Name the white powder. **(1mk)**

.....

.....

d) Write chemical equation for the reaction between product in (a) and acid. **(1mk)**

.....

.....

e) Write an ionic equation to show the formation of the white powder **(1mk)**

.....

.....

f) Write an equation to show what happened when white powder is strongly heated. **(1mk)**

.....

.....

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

g) Using a diagram, describe how a salt can be obtained from the filtrate in c(i) above **(3mks)**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……...……..

ADM NO: …….. SIGN: ……. DATE: ……...……

233/3

CHEMISTRY PRACTICAL

Paper 3

TIME: *2 ¼* **HOURS**

INSTRUCTIONS TO CANDIDATES:

- Answer all the questions in the spaces provided in the question paper.
- You are **NOT** allowed to start working within the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you read the question paper and make sure you have all the chemicals and apparatus that you may need.
- All working **MUST** be clearly shown.
- Mathematical tables and silent scientific calculators may be used.
- Candidates should check to ascertain that all papers are printed as indicated and that no questions are Missing

For Examiner's Use Only:

Question	Maximum score	Candidate's score	Examiner's initials
1	14		
2	10		
3	10		
4	06		
Total Score	40		

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

1. You are provided with:

- Solution A_1, potassium iodate solution
- Solution A_2, acidified sodium hydrogen sulphite solution
- Solution A_3 starch indicator
- Distilled water in a wash bottle.
- Stop watch / stop clock

You are required to find out the effect of concentration of potassium iodate A_1 on the rate of reaction with acidified sodium hydrogen sulphite A_2.

Note: the end point of reaction of potassium iodate with acidified sodium hydrogen sulphite is indicated in the formation of a blue coloured complex using starch indicator.

Procedure 1:

(a) Using a 10 cm^3 measuring cylinder to pour 5 cm^3 of aqueous sodium hydrogen sulphite into the conical flask.

(b) Use another 10 cm^3 of measuring cylinder to pour 5 cm^3 of starch solution into the same conical flask.

(c) Using a burette pour 15 cm^3 of distilled water into the same beaker.

(d) Using a burette pour 20 cm^3 of aqueous potassium iodate into the beaker and immediately start the stop watch.

(e) Swirl the mixture in the conical / flask and continue to swirl until a sudden blue colour change is seen.

(f) Stop the stop-watch and record time taken seconds for the sudden blue colour change to appear.

(g) Rinse the beaker with water.

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

Experiment 2:

(h) Repeat procedure 1 using 17 cm^3 of distilled water and 18 cm^3 of aqueous potassium iodate.

(i) Repeat procedure 1 using 21 cm^3 of distilled water and 14cm^3 of aqueous potassium iodate.

(j) Repeat experiment 1 using 23 cm^3 of distilled water and 12 cm^3 of aqueous potassium iodate.

(k) Repeat experiment 1 using 25 cm^3 of distilled water and 10 cm^3 of aqueous potassium iodate.

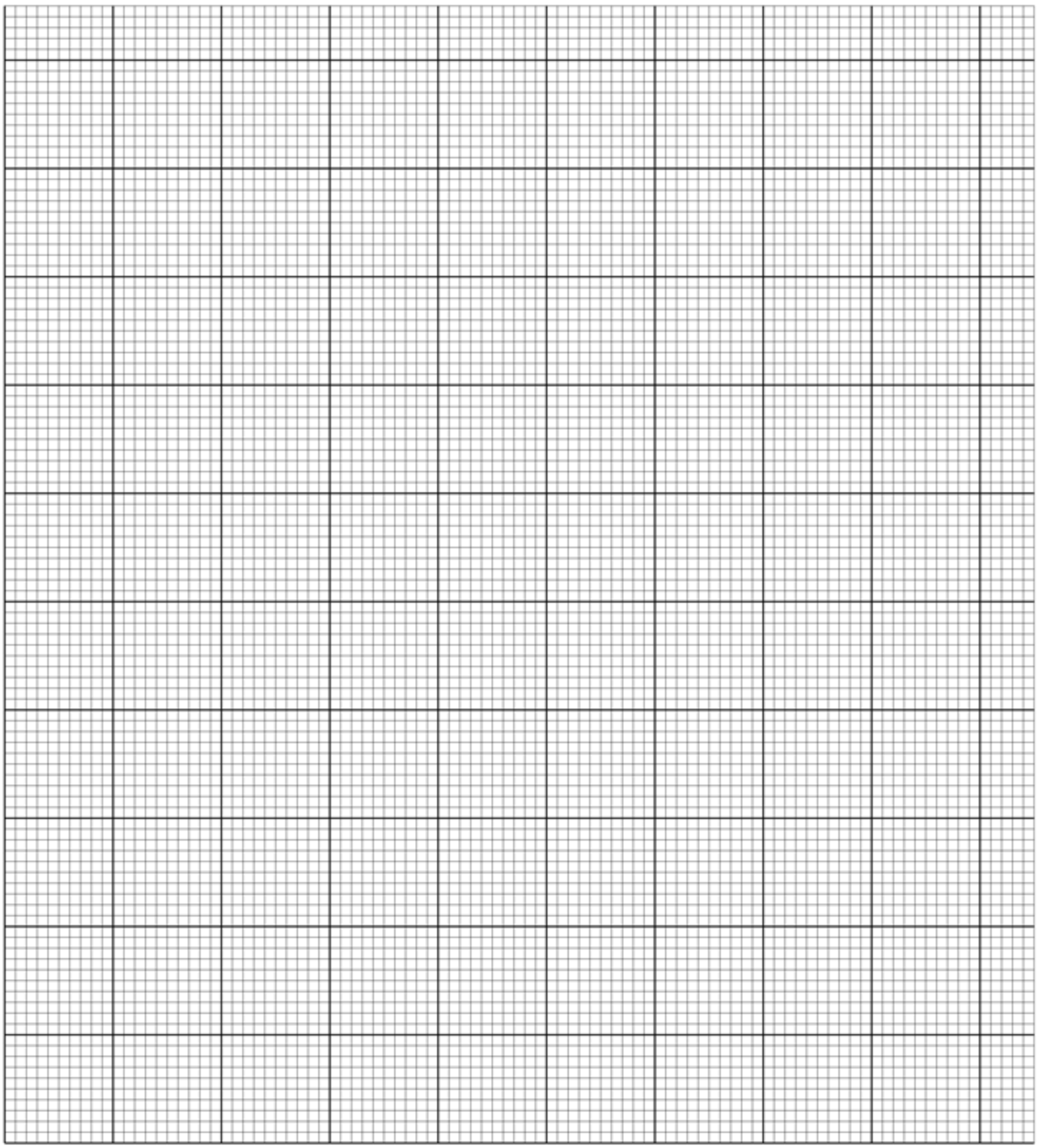
(a) Complete the table below.

Table I **(4 marks)**

Experiment	1	2	3	4	5
Volume of Sodium hydrogen sulphite (Na HSO_3) used	5	5	5	5	5
Volume of distilled water used (cm^3)	15	17	21	23	25
Volume of potassium iodate (KIO_3 (aq) used in cm^3	20	18	14	12	10
Time taken to change colour (secs)					

(b) On the grid below plot a graph of time taken (secs) for the colour change (vertical axis) against volume of aqueous potassium iodate used (cm^3). **(3 marks)**

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



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

(c) (i) From your graph determine the time taken for the blue colour to appear if 16 cm^3 of aqueous potassium iodate was used.

(Show clearly on the graph how you worked out your answer). **(1 mark)**

(ii) Calculate the volume of distilled water required if 16 cm^3 of aqueous potassium iodate was used. **(1 mark)**

(d) On the graph sketch the graph that could be expected if the above experiment s were done at a higher temperature. Explain. **(1 mark)**

(e) Calculate the concentration of potassium iodate solution in moles per litre in the final reaction mixture in the experiment 1. **(2 marks)**

(f) How does the concentration of potassium iodate solution A_1, affect its rate of reaction with acidified sodium hydrogen sulphite A_2? Explain your answer. **(2 marks)**

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

2. You are provided with:

- Solution B, which is 0.05M acidified potassium manganate (VII) solution ($KMnO_4$).
- Solution C, containing 5.0g/l of a dibasic acid, $H_2A.2H_2O$

You are required to:

- Determine the concentration of dibasic acid H_2X, solution C and then the formula mass of X.

Procedure II

1. Fill the burette with solution B.

2. Using a clean pipette, place 25 cm^3 of solution C into a clean conical flask. Heat this solution to about 70^0C.

3. Titrate using solution B until a permanent pink colour just appears. Shake thoroughly during titration.

4. Record the reading in table I below.

5. Repeat the titration one more time to complete the table below.

(a) Complete the table I below.

Table I **(3 marks)**

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

(b) Determine the average volume of solution B used. **(1 mark)**

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

(c) Calculate:

(i) The number of moles of manganate (VII) ions in the average volume of solution B used above. **(1 mark)**

(ii) Given that 2 moles of manganate (VII) ions react with 5 moles of dibasic acid $H_2X.2H_2O$. Calculate the number of moles of the dibasic acid $H_2X.2H_2O$ in the 25 cm^5 of solution C. **(2 marks)**

(iii) The concentration of solution C in moles per litre. **(1 mark)**

(iv) Calculate the formula mass of X in the dibasic acid $H_2A.2H_2O$ (H = 1, O = 16) **(2 marks)**

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

3. You are provided with solution Q. Carry out the tests below. Write your observations and inferences in the spaces provided.

Place about 2 cm^3 of the solution in five separate test-tubes.

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

Observations	**Inferences**
(1 mark)	**(1 mark)**

(b) To the second portion, add aqueous ammonia dropwise until in excess.

Observations	**Inferences**
(1 mark)	**(1 mark)**

(c) To the third portion, add 3 drops of dilute hydrochloric acid.

Observations	**Inferences**
(1 mark)	**(1 mark)**

(d) To the fourth portion, add 3 drops of barium nitrate solution.

Observations	**Inferences**
(1 mark)	**(1 mark)**

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

(e) To the last portion, add 3 drops of lead (II) nitrate solution then warm the mixture.

Observations	**Inferences**
(1 mark)	**(1 mark)**

4. You are provided with solid **R**. Carry out the tests below. Write your observations and inferences in the spaces provided.

i). Place one third of solid R on a metallic spatula. Burn it in non-luminous flame of the Bunsen burner.

Observations	**Inference**
(½ mark)	**(½ mark)**

ii). Place the remaining solid in a test-tube. Add about 6 cm^3 of distilled water and shake the mixture well. Retain the solution for the next procedure.

Observations	**Inference**
(½ mark)	**(½ mark)**

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

(I) In another 2 cm^3, add 2 drops of acidified potassium manganate (VII).

Observations	**Inferences**
(1 mark)	**(1 mark)**

(II) To about $1cm^3$, add 3 drops of acidified potassium dichromate (VI) and warm.

Observations	**Inference**
(½ mark)	**(½ mark)**

(III) To about 2 cm^3 of the solution, add 1g of solid D; sodium hydrogen carbonate.

Observations	**Inference**
(½ mark)	**(½ mark)**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……..…..

ADM NO: …….. SIGN: ……. DATE: ……..…

451/1
COMPUTER STUDIES
Paper 1
2 ½ hours
Instructions to Candidates

a) *Write your name and admission number in the spaces provided at the top of this page.*
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** questions in section **A.***
e) *Answer question **16** and any other **THREE** questions from section **B.***
f) *All answers should be written in the spaces provided on the question paper.*
g) ***This paper consists of 13 printed pages***
h) ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing***

For Official Use Only

SECTION	*QUESTION*	*SCORE*
A	*1 - 15*	
B	*16*	
	TOTAL	

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

SECTION A (40 marks)

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

1) Describe the following **input/output** terms as used in computer systems. Give an example for each **(3marks)**

a) Read

.....

.....

.....

b) Write

.....

.....

.....

2) Using relevant examples distinguish between a formula and function. **(3marks)**

.....

.....

.....

.....

.....

3) A publisher intends to use a desktop publishing programme to create a publication which is to have many graphics. State three ways in which the graphics may be acquired for this purpose. **(3 marks)**

.....

.....

.....

.....

.....

.....

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

4. The management of an organisation intends to purchase a printer. State three factors that they should consider during the purchase **(3 marks)**

.....

.....

.....

.....

.....

.....

5. State three reasons why it is important to define data types of fields in a database correctly. **(3 marks)**

.....

.....

.....

.....

.....

6. An engineering company requires a computer system to design roads and bridges. **(2 marks)**
Explain one suitable choice for:

(i) output device;

.....

.....

(ii) software.

.....

.....

7. State three circumstances under which the use of wireless communication would be preferred in data communication. **(3 marks)**

.....

.....

.....

.....

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

.....

.....

8. Headache, back and neck pain may result from the use of computers. State how each of them can be minimized **(2 marks)**

(a)Headache

.....

.....

(b) Back & Neck Pain

.....

.....

9. Explain the importance of each of the following in word processing:

(i) tab stops; **(2 marks)**

.....

.....

.....

(ii) Section breaks. **(2 marks)**

.....

.....

.....

10. State three problems associated with using e-mail technology for communication **(3 marks)**

.....

.....

.....

.....

11. State two ways in which each of the following can be prevented

(a) Software errors **(1 mark)**

.....

.....

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

(b) Computer fraud **(1 mark)**

.....

.....

12. Differentiate between analogue data and digital data as used in computers **(2 marks)**

.....

.....

.....

.....

13. State four properties that an operating system displays about a file **(2 marks)**

.....

.....

.....

.....

.....

14. State the functions of each of the following keys on the computer keyboard **(2 marks)**

(a) backspace;

.....

.....

.....

(b) insert (ins)

.....

.....

.....

15. Give three file organization methods in a computer **(3 marks)**

.....

.....

.....

.....

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

SECTION B (60 Marks)

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

16.(a) State three ways in which a programmer can make program code easy to fol1ow **(3 marks)**

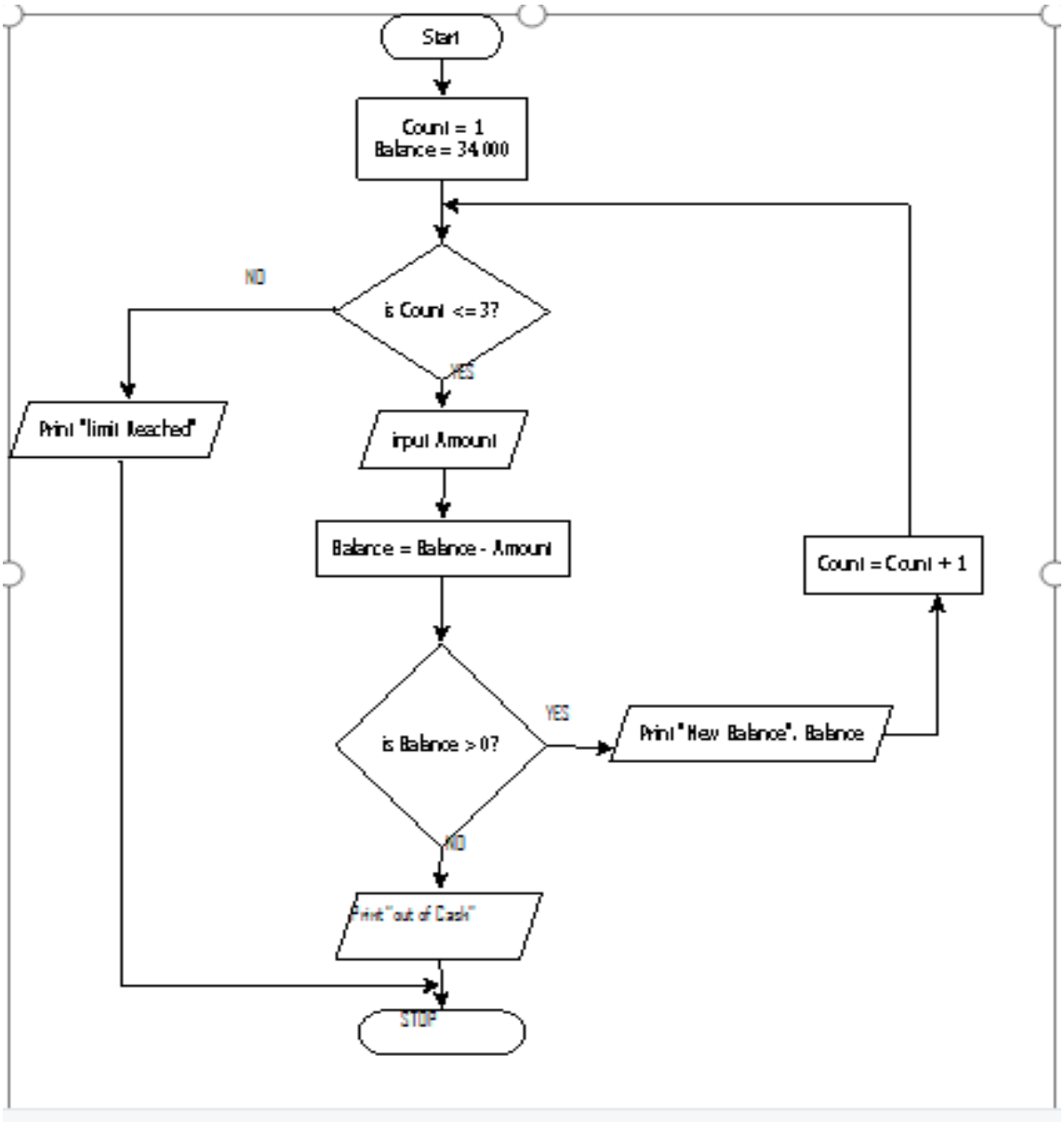
.....

.....

.....

.....

(b) Study the flowchart below and use it to answer the questions that follows;



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

(i) State the output of the above program flowchart for the inputs given below **(3 Marks)**

Amount = 15,000, 14,000 and 23,000 respectively

(ii) State the purpose of the flowchart **(1 Mark)**

……

……

……

(iii) Write a pseudocode for the flowchart in question (16. c) above **(8 Marks)**

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

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

17. (a) Interpret each of the following spreadsheet formula:

(i) = countif(A2:A9, ">=E7") **(2 marks)**

.....

.....

.....

.....

(ii) =sumif(B2 :B10, "WP", D3 :D11) **(2 marks)**

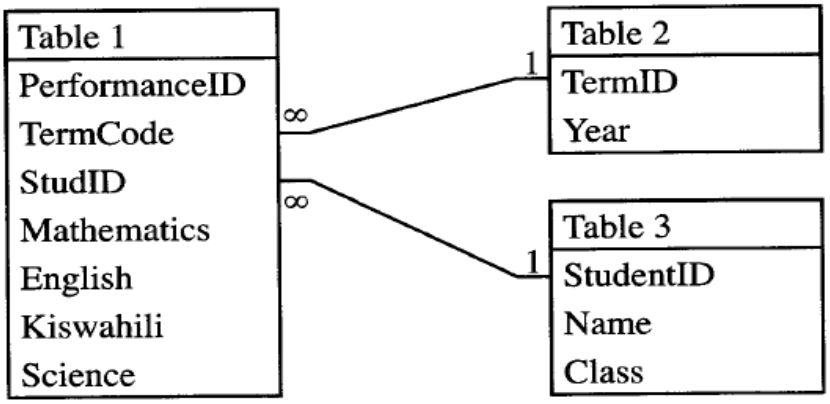
.....

.....

.....

.....

(b) The figure below shows relationships between tables in a database.



Identify two primary and two foreign keys used in the relationship. **(4 marks)**

.....

.....

.....

.....

.....

.....

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

(c)(i) Convert the hexadecimal number $C7D_{16}$ to its equivalent decimal number **(2 Marks)**

(ii) Using the twos compliment and 8-bit notation subtract 27 from 12 leaving your answer in binary notation **(5 Marks)**

18. (a) Explain three circumstances under which observation method may be preferred during data collection **(6 marks)**

.....

.....

.....

.....

.....

.....

.....

.....

(b) Describe each of the following types of maintenance

(i) Perfective; **(2 marks)**

.....

.....

.....

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

.....

.....

(ii) Corrective; **(2 marks)**

.....

.....

.....

.....

(iii) Adaptive. **(2 marks)**

.....

.....

.....

.....

(c) Name three approaches that may be used to replace an old system with a new computerized system **(3 marks)**

.....

.....

.....

.....

19. (a) With the aid of a diagram, describe the time sharing mode in computer data processing **(5 marks)**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

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

(b) A company's management has opted to use computers to process data. State four factors that the management needs to consider when selecting the company data processing mode. **(4 marks)**

.....

.....

.....

.....

.....

.....

.....

(c) Describe each of the following validation checks as used in data processing

(i) Preserve check **(2 marks)**

.....

.....

.....

.....

(ii) Data type check **(2 marks)**

.....

.....

.....

.....

(iii) Check digit **(2 marks)**

.....

.....

.....

.....

20. (a)State the function of each of the following

(a) Network Interface Card **(1 mark)**

.....

.....

.....

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

(b) Modem **(1 mark)**

.....

.....

(c) Repeater **(1 mark)**

.....

.....

(d) Crimping tool **(1 mark)**

.....

.....

(b) State any two reasons why the fibre optic cable is preferred for data transmission over the other cables **(2 marks)**

.....

.....

.....

.....

(c) State three functions of networking operating systems other than providing network security. **(3 marks)**

.....

.....

.....

.....

(d) A company has three branches X, Y and Z where X is the headquarter. The local area network (LAN) at X is directly connected to the LAN at Y and directly to the LAN at Z. Explain two benefits of having the LAN at Y also directly connected to the LAN at Z. **(4 marks)**

.....

.....

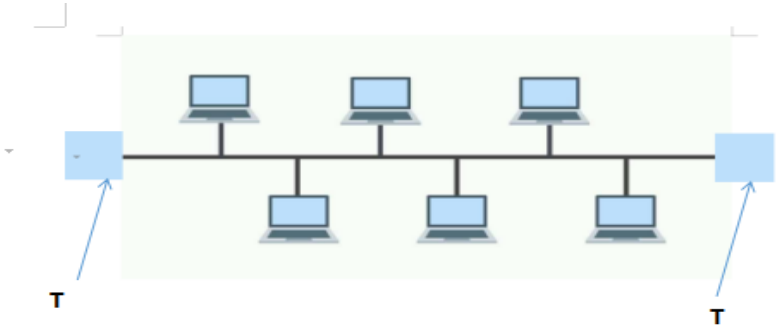
.....

.....

.....

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

(e) The figure below shows a network topology . use it to answer the questions that follows:



(i) What is the name of the topology? **(1 mark)**

.....

.....

(ii) What is the work of the part labelled T. **(1 mark)**

.....

.....

.....

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……...

SCHOOL: ……....…….

ADM NO: …….. SIGN: ……. DATE: ……..

451/2

COMPUTER STUDIES

Paper 2

(PRACTICAL)

Instructions to Candidates

(a) *Indicate your name and index number at the top right corner of each printout.*
(b) *Write your name and index number on the CD-RW storage medium provided*
(c) *Write the name and version of the software used for each question attempted in the answer sheet.*
(d) *Answer both questions*
(e) *All questions carry equal marks*
(f) *Passwords should not be used while saving in the CD-RW storage medium provided.*
(g) *All answers must be saved in your CD-RW storage medium provided*
(h) *Make a printout of the answers on the answer sheets provided.*
(i) *Arrange your printouts and staple them together.*
(j) *Hand in all the* ***printouts*** *and the CD- RW* ***storage medium*** *used.*
(k) ***Candidates should check the question paper to ascertain that all the printed pages are printed as indicated and no questions are missing***.

QUESTION	MAX. MARKS	CANDIDATE' S SCORE
1	50	
2	50	
	TOTAL SCORE	

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

QUESTION 1 - SPREADSHEET

A Company in Mombasa sells computer spare parts to its customers. The Company wishes to work out the pay details for its employees.

EMPLOYEE NAME	YEARS WORKED	BASIC PAY [KSHS]	DEPARTMENT	SALES [KSHS]	HOURS OF OVERTIME
RUKENYA KWENA	5	24,000	ADMIN	16,000	10
BILLY LUCAS	13	28,000	SALES	25,000	11
LILIAN OKOTH	7	17,000	MARKETING	22,000	12
EVANS ONDIEKI	11	18,000	SALES	12,000	15
GEOFFREY MUTUMA	15	26,000	ACCOUNTS	11,000	22
HUMPHREY LOKI	10	25,000	ADMIN	30,000	12
CEDRIC MUKUI	11	19,000	SALES	35,000	33
FREDRICK CHEGE	15	25,000	MARKETTING	14,000	14
OSMAN HUSSEIN	14	23,000	ADMIN	25,000	0
JEREMY NYAMU	18	27,000	ACCOUNT	14,000	7

(a) Using the information above, design a spreadsheet and enter the given data as it appears. Give it the title "COMPANY PAYMENTS". Save the workbook file as **COMPANY1(14marks)**

(b) (i) Copy the data into Sheet 2 and rename it as **COMPANY2** and use it to answer the questions that follow **(2 marks)**

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

(ii) Calculate the total sales and total mileage giving them an appropriate label **(2marks)**

(iii) Rotate the column headings to 45° **(2 marks)**

(iv) The employee's sales commission is calculated as 12% of the employee's sales. Input this commission rate in cell C20 and label it appropriately. Bold the label and change its font to size 16 (**4marks)**

(v) Insert a new column labeled '**Sales commission**' between 'sales' and 'hours of overtime'. **(2marks)**

(vi) Create a formulae to give the amount of sales commission for each employee by making references to sales commission cell. **(3marks)**

(c) (i) Convert the basic pay and sales to two decimal places. **(2marks)**

(ii) Use a function in a new column labeled REMARK to put the remark 'EXCELLENT' for only those employees whose sales is greater than 22,000, 'GOOD' those employees whose sales are between 15000 to 21999 otherwise the remark should be 'LOW SALES. **(6marks)**

(iii) Apply both outline and inside double line border to the worksheet portion with data **(3marks)**

(d) Overtime payment is done by multiplying 5% of sales with the hours worked. Use a formula to calculate the overtime pay for each of the employees in a new column labeled "OVERTIME PAY" **(2marks)**

(e) Use a function to compute the Total payment of each employee. It should be summation of Basic pay, Sales Commission and Overtime pay. Give it the heading TOTAL PAYMENT. Save the changes. **(2marks)**

(f) Use an appropriate subtotals function to show how much TOTAL PAYMENT the company gives to employees in each department **(4marks)**

(g) Print **COMPANY1, COMPANY2** and **all the formulas used in company2. (3marks)**

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

QUESTION 2 - DATABASES

Assuming that you have been approached by an automobile Showroom company to help manage their vehicles database whose details are given below:

(a) Create database named **Magari** **(2marks)**

Car Make	RegNo	Type	Year	Value	Owner ID	Owner Name
Toyota	KBD 949U	Coupe	2010	1,200,000	M0001	Faith N.
Nissan	KCT 149E	Wagon	2014	2,500,000	M0002	Jacob W.
Izuzu	KDD 977W	Troupe	2016	4,500,000	M0003	Dan C.
Toyota	KBA 241V	Troupe	2009	900,000	M0002	Jacob W.
Toyota	KBD 049X	Coupe	2010	1,150,000	M0004	Rachael R.
Nissan	KCV 518C	Saloon	2012	1,700,000	M0004	Rachel R.
Subaru	KCY 123Z	Saloon	2014	2,100,000	M0001	Faith N.

(b) Design two Tables named **Cars** and **Owners** to be used to hold the above data. Assign appropriate primary keys for each table. Prepare appropriate input masks to help validate both RegNo and Owner ID field entries **(18marks)**

(c) Create a relationship between the tables. **(2marks)**

(d) Create forms named "**CarDetails**" with a heading and "**OwnerDetails**". Use them to add car details and owner details records respectfully. **(4marks)**

(e) Insert the record below having the following respective details. **(4marks)**

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

Volkswagen	KCV 321D	Beatle	2012	1,325,000	0002	Jacob W.

(f) Add a column into the car table labeled "Date of Service", and add the following dates. Save the changes made. **(4marks)**

Date of Service	**OwnerID**
20/092021	M0001
21/10/2021	M0002
10/10/2021	M0003
11/10/2021	M0002
19/11/2021	M0004
21/10/2021	M0004
22/11/2021	M0001

(g) Create a query that retrieves a list of cars and their owners to be serviced on 21/10/2021 or on 22/11/2021. Name it **Service Query.** **(5marks)**

(h) Create a tabular report named **NumbOfCars** displaying the cars and their owners; indicating the number of cars each owner has; sort the records with Name in ascending order. **(6marks)**

(i) Create a report named **TotalValue Report** that computes and displays the total value of the cars owned by each owner. **(5marks)**

(j) Print

(i) The two tables

(ii) The query

(iii) The two reports

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……

313|1 – CHRISTIAN RELIGIOUS EDUCATION

Paper1

2 hours 30 min

Instructions to candidate

- Write your name and admission number in the spaces provided.
- Sign and write the date of examination in the spaces provided
- This paper consists of six questions.
- Answer any five questions in the answer sheet provided.
- Each question carries 20 marks.
- This paper consists of 2 printed pages
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.
- Candidates should answer the questions in English.

QUESTION	1	2	3	4	5	6
MARKS						
TOTAL						

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

1a) Explain the relationship between human beings and the environment in Genesis 1 and 2. **(7mks)**

b) State six biblical teachings on the origin of sin according to Genesis 3. **(6 marks)**

c) Identify seven causes of evil in the society today. **(7 marks)**

2a) Describe the events which took place during the covenant ceremony at Mount Sinai. (Exodus 24:1-8) **(6 marks)**

b) Outline the conditions given by God to the Israelites during the renewal of the Sinai covenant.**6mks**

c) State eight ways in which Christians show respect to God in Kenya today. **(8 marks)**

3a) Identify six activities of King Jeroboam which led to the spread of idolatry in Israel.**(6 marks)**

b) Give seven reasons why Prophet Elijah faced danger and hostility as a prophet of God in Israel. **(7 marks)**

c) What are the challenges facing church leaders in their work in the society today. **(7 marks)**

4a) State six ways in which Prophets in the Old Testament communicated Gods message to the people. **(6 marks)**

b) Identify seven ways in which the rich oppressed the poor during the time of Prophet Amos. **(7mks)**

c) Give reasons why christians find it difficult to help the needy in Kenya today. **(7 marks)**

5a) State the measures taken by Nehemiah to enable him complete the rebuilding of the wall of Jerusalem. **(7 marks)**

b) Outline the stages followed during the renewal of the covenant at the time of Nehemiah.**(6 marks)**

c) State seven ways in which the church helps to bring back members who have fallen from their faith. **(7 marks)**

6a) Describe the rituals performed during the birth of a baby in traditional African communities.**7mrks**

b) Give reasons why the birth of a baby brings joy in traditional African communities. **(7 marks)**

c) State six factors that have affected naming rites in traditional African communities **(6 marks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……...

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……...

313/2 CHRISTIAN RELIGIOUS EDUCATION PAPER 2

Time: 2 ½ hours

INSTRUCTIONS TO CANDIDATE

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

b. Sign and write the date of examination in the spaces provided

c. This paper consists of six questions

d. Answer any five questions in the spaces provided at the end

e. Each question carries 20 marks

FOR EXAMINER'S USE ONLY

QUESTION	1	2	3	4	5	6
MARKS						
TOTAL						

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

1.(a) Outline the Deutro-isaiah's prophecy concerning the Messiah Isaiah 53,61:1-2 **(6 marks)**

(b) Give *four* differences between the Magnificat and the Benedictus **(8 marks)**

(c) State ways in which Christians show gratitude to God **(6 marks)**

2.(a) Outline the teachings of John the Baptist **(7 marks)**

(b) Describe the incident when Jesus was rejected at Nazareth (Luke 4:14-30) **(7 marks)**

(c) How should respond to opposition in evangelistic work? **(6 marks)**

3.(a) Narrate the healing of the Garasene demoniac (Luke 8:26-39) **(7marks)**

(b) Identify ***seven*** lessons from the healing of the demon possessed man **(7marks)**

(c) How do Christians demonstrate their love for God? **(6marks)**

4.(a) Relate St. Paul's teachings on the unity of believers as demonstrated in the image of the vine and the Branches. (John 15:1-10**)** **(6marks)**

(b) Identify ***four*** causes of disunity in the early and their solutions offered by Paul **(8marks)**

(c) State ***five*** factors that bind members together in a local church in Kenya today. **(6 marks)**

5.(a) Identify ***eight*** irresponsible sexual behaviour condemned by Christians **(8marks)**

(b) Assess the effects of HIV/AIDS on the society at large **(7marks)**

(c) What Christian principles may help the youth lead a responsible sexual behaviour **(7 marks)**

6.(a) Give the Christian teachings about work **(7marks)**

(b) Highlight factors that influence the choice of a career **(7 marks)**

(c) Give ***six*** advantages of active leisure **(6marks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..……..

ADM NO: …….. SIGN: ……. DATE: ……

101/1

ENGLISH

PAPER 1

(Functional Writing, Cloze Test

An Oral Skills)

TIME: 2 HOURS.

INSTRUCTIONS TO CANDIDATES

- Write your name and admission number in the spaces provided.
- Answer **ALL** the questions in this question paper.
- All your answers must be written in the spaces provided in this question paper.
- This paper consists of **8** printed pages.
- Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

For Examiners Use Only

Question	Maximum Score	Candidates Score
1	20	
2	10	
3	30	
Total Score	60	

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

Q1. FUNCTIONAL WRITING (20 MKS)

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. The Club Patron and an invited speaker also attended. During the meeting the following issues were discussed: A visit to the Bomas of Kenya, clib'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)**

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

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

Q2. CLOZE TEST (10MKS)

FILL IN THE BLANKS WITH THE MOST APPROPRIATE WORD.

Wolves and domestic dogs share the (1) _____ basic anatomy, physiological and patterns of behavior; they are (2) _____ generally long bodied, large eared and strong-jawed and possess highly developed (3) _____ of sight, hearing and smell. Most of the differences such (4) _____ colour patterns and the domestic dog's (5) _____ to carry its tail erect or tightly (6) _____ are a result of deliberate breeding by humans. Barking, once confused the picture for it was widely believed. (7) _____ Grey wolves did not bark. But detailed (8) _____ of wolves in the wild have revealed that (9) _____ their hunting and territorial patrolling, they do not bark when (10) _____ their dens.

Q3. ORAL SKILLS (30 MKS)

a). Read the narrative below and then answer the questions that follow. (8mks)

once upon a time there lived a man called Kiundu. At one time it happened that two of the neighbouring villagesf were each going to eat an elder's cow. Since Kiundu because of his central position was acceptable in both villages he decided that he would have a share of both cows. On the day appointed Kiundu woke up very early picked up his should er bad, fly whisk and three legged stool and made off to the first village. There he found the elders tying the cow ready to kill and helped them to tie it. He then excused himself and went on to th next village. Here he found that the cow had already been killed and that they were busy skinning it. He started talking to the elders, but his conscience told him that the other cow would be ready for sharing shortly. So he excused himself and ran back there. To his surprise and disappointment, he met people carrying their pieces of meat and he was told that nothing had been saved for him. On hearing this unpleasant news, he doubled back to the other

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

village, hoping against hope. But as fate and luck would have it, he just arrived on the scene to see the last man disappear with his red chunk of meat round the corner.

To this day we have a saying in Kimeru, 'You will be lost in the mddle like Kiundu.'

i). How would the narrator capture the audience's attention at the beginning of this story? **(2mks)**

.....

.....

.....

.....

ii). Explain two non-verbal cues that you would use to render this story interesting. **(2mks)**

.....

.....

.....

.....

.....

iii). How would you tell that your audience is fully involved in the performance of this story?**(2mks)**

.....

.....

.....

.....

.....

iv). State how you would say last paragraph of this narrative to effectively pass the **moral** intended. **(2mks)**

.....

.....

.....

.....

.....

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

b). Supply another word that is pronounced the same as the ones below. **(5mks)**

i). Fair - .....

ii). Whale -.....

iii). Mourn - .....

iv). Bow - .....

v). Blew - .....

c). You have been sent to a neighbouring school to participate in a group discussion. Explain ways in which you would best benefit from the discussion. **(4mks)**

.....

.....

.....

.....

.....

.....

.....

.....

d). 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). Ione Loan Lorn .....

v). Cell Sell Sale .....

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

e). Imagine you are a member of a committee that has been appointed to interview shortlisted candidates for the post of a store keeper in your company. **(4mks)**

i). What four things would you do during the interview to ensure the success of the interview.

……
……
……
……
……

f). Indicate the intonation that would be presume in each of the following words**.** **(4mks)**

i). He is a blessed farmer, isn't he **.....**

ii). Come over here? **.....**

iii). Do you love music in English or your own language?**.....**

iv). Which is your favourite subject?**.....**

v). What a wonderful performance**.....**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……..

ADM NO: …….. SIGN: ……. DATE: ……...……

101/2

ENGLISH

Paper 2

(Comprehension, literary Appreciation and Grammar)

2 ½ hours

Instructions

a) All questions in this paper are compulsory.

b) Answer ALL questions in the spaces provided.

For Official use only

Question	Maximum Score	Candidate's Score
1	20	
2	25	
3	20	
4	15	
TOTAL	80	

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

1. Read the following passage and answer the questions that follow. 20 mks

Poor generation Z. Amid a time of cultural tumult, today's teens, inheritors of our future challenges, are ever our cultural curiosity. Every few days another article lending another attempt at cultural anthropology of our wayward Tiktok generation pops up. Combed through with a needle-toothed comb, dissected under a mega-zoom, and surveyed through X-ray glasses, one wouldn't blame them for feeling a bit, eh, under the microscope.

Our collective observations are but an introductory point for subsequent hand-wringing about a generational apocalypse. And there's a lot to be nervous about, at least if the studies and the articles are to be believed: According to various pieces, Gen-Z's are addicted to social media, with short attention spans and severe screen addictions. They're addicted to the dopamine rush from the click-click-click and **instantaneous gratification**. As such, their sleep schedules are messed up and they're sacrificing their social lives for a near perpetual screen-induced zombie-like addictive paralysis.

Thanks to a 24/7-tech-based existence, Gen-Z's don't hang out with their friends. They aren't forming relationships. And, as such, they're afraid of growing up. They're so depressed they're committing suicide in massive numbers. They're more tolerant photogenically but they're the most fragile ideological generation ever recorded. Burrowed behind the safety of their screens, they feel hopeless about their prospects, and as such are the most politically radical generation on record. They feel **disenfranchised** from society even more than their millennial predecessors, and are less trusting and more fearful. They cling to each other for a sense of moral direction, and reject the lessons of their parents. Having never faced "real" hardship, they have a tendency to make mountains out of molehills with a general inability to distinguish things that are truly important from those they merely wish were important. The list goes on. Generation Z are the guinea pigs showing us both the opportunities and the pitfalls in our social media-based new world order. They're the first ones whose entire existence has been **awash** in

this new reality. Their struggles are easier to put in context once you imagine yourself in a body in which the 24/7 social media dopamine world has never not been the order of the day. While Facebook stresses everybody out, it's made abundantly less destructive on the fibers of one's consciousness when you're old enough to remember a time when you could step away and breathe the fresh air. That isn't an option for the Gen-Z's.

Not only does the eternal social media landscape and rat race for instantaneous approval they eternally face breed competitiveness and insecurity – these are reported on extensively – but, perhaps more importantly, it has cultivated an endless relentlessness of interactivity that almost paradoxically has offered them very little sense of agency, autonomy, or ownership in the world. This is an entirely different kind of public square from what we've known in the past. Reddit, for instance, one of the favorite Gen-Z playgrounds, is amazing, connected, fun, and **egalitarian**. With no barrier to entry, anyone can engage on anything, and the scoring of anyone's opinion is governed only by whether their peers agree with it. It truly is a portal to the world, and it's fun to seek the approval of one's peers. But it doesn't build the tactile confidence that used to derive from taking one's place in a public square that carried with it a higher barrier to entry and a greater burden of consequence. There's nothing quite like waiting your turn to finally get your moment in the spotlight, putting your reputation on the line, stepping up to the microphone, grabbing the sides of the podium, looking directly into the eyes of your audience, speaking calmly and confidently to them with confidence and gravitas, and owning the room to warm smiles, constructive disagreement, authentic learning, and healthy dialogue.

This new egalitarian ease of the internet has drowned out the processes that used to give people their sense of mission, purpose, and accomplishment in life, and it's made it so the rest of us have no idea who to listen to. When everything is accessible, nothing is, because the kinds of efforts it would take to get noticed in the past no longer offer a value-add. And when everybody has a voice, nobody does, because, well, most voices aren't really worth listening to. When the

entire world is easy, quick, egalitarian, and faceless, and when reward comes not from a sense of genuine accomplishment but from instantaneous dopamine-fueled peer approval, it also runs the risk of being soulless and leaving people wandering the wilderness for their sense of personal obligation or practical achievement. It leaves many Gen-Z's feeling like they don't have a voice, and like they can't break in in a more meaningful way. All of the things that are harming their prospects are a natural follow-on.

Questions

a) Why are Gen-Z referred to as a cultural curiosity? **2mks**

.....

.....

.....

.....

b) Is there a need to worry about Gen-Z according to the passage? **3mks**

.....

.....

.....

.....

.....

c) Why are Gen-Z referred to as guinea pigs? **3mks**

.....

.....

.....

.....

.....

d) Identify an instance of the use of <u>parenthesis.</u> **1mk**

.....

.....

.....

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

e) What is the tone of the passage? **3mks**

.....

.....

.....

.....

.....

f) Explain the paradox in the last paragraph? **2mks**

.....

.....

.....

.....

.....

g) In note form, state the effects of technology on Gen-Z's interaction with society. **3mks**

.....

.....

.....

.....

.....

h) Explain the meaning of the following words as used in the passage: **3mks**

i)egalitarian

.....

.....

ii) disenfranchised

.....

.....

iii) awash

.....

.....

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

2. Read the excerpt below and then respond to the questions that follow.

“What do you mean?” he asked, suddenly sitting up. “I hope you don’t imply that our culture comes second. Do you?

" Not really, my husband," she said ruefully, beating a hasty retreat. " Our culture is everything and it rules our lives."

" Good," he said authoritatively. " Now listen, you must immediately start counselling the girls to Understand their roles as potential wives of the men of Nasila. Prepare them to appreciate and accept their future responsibilities as mothers and home builders.

" I'll do that, my husband," she said quietly.

" One other thing," he said evenly. " I'll ask Simiren to request the young teacher called Parmuat, who is of our clan and therefore a brother to the girls, to find time to teach them a few home truths. After that we shall call enkamuratani to play her part before we give them away.

Those were the words, whose utterance she so dreaded.

And once uttered, she knew, the words instantly because an inviolable edict. Now that he had spoken, the pain was already harrowing and the torment in her heart Unbearable. She was torn between her love for her daughters and her dutiful role of a faithful and obedient wife of Ole Kaelo.

But in her culture there was no room for dissent, especially if the subject was in conformity with the culture. Who would side with her if she were to oppose the cultural rituals?

Her only ally would be the woman the elders of Nasila contemptuously called entangoroi or the wasp. Those who honoured her called her Emakererei, for she was said to have attended Makerere University in Uganda, where she obtained her degree in veterinary science. Mama Milanoi knew her well. Her actual names were Minik ene Nkoitoi. Outside Nasila, she was respected and honoured. At thirty, she was already managing an expansive government sheep

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

ranch reputed to hold hundreds of thousands of sheep, about one hundred kilometers away from Nasila. Under her were hundreds of employees who worked at the ranch.

Questions

a) " I'll ask Simiren to request the young teacher called Parmuat, who is of our clan and therefore a brother to the girls…" mention the clan and the sub clan that Parmuat belongs to. **(2mks)**

……

……

……

……

b) "What do you mean?" he asked, suddenly sitting up. "I hope you don't imply that our culture comes second. Do you?" What has triggered this reaction from Ole Kaelo? **(2mks)**

……

……

……

……

c) Discuss the significance of the dialogue between Mama Milanoi and Ole Kaelo? **(4mks)**

……

……

……

……

……

……

……

d) Identify two people who have influenced Ole Kaelo to initiate his daughters and how. **(4mks)**

……

……

……

……

……
……
……

e) Ole Kaelo appoints Parmuat to educate the girls about their culture. What is the reaction of each of the daughters? **(4mks)**

……
……
……
……
……
……
……

f) "Her only ally would be the woman the elders of Nasila contemptuously called entangoroi or the wasp" From elsewhere in the text explain why Emakererei was hated. **(2mks)**

……
……
……
……
……

g) Other than dialogue, comment on any other style used in the excerpt. **(2mks)**

……
……
……
……

h) Discuss any social concern evident in this excerpt. **(2mks)**

……
……
……
……
……

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

i)Comment on the character of Mama Milanoi as brought out in the excerpt**. (2mks)**

……

……

……

……

……

j) " I'll do that, my husband," she said quietly. (rewrite in reported speech) **(1mk)**

……

……

……

3. Read the following poem and answer the questions that follow 20mks

MY FATHER BEGAN AS A GOD

My father began as a god,
full of heroic tales
of days when he was young.
His laws were as immutable
as if brought down from Sinai,
which indeed he thought they were.

He fearlessly lifted me to heaven
by a mere swing to his shoulder,
and made me a godling
by seating me astride
our milch-cow's back, and, too
upon the great white gobbler
of which others went in constant fear.

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

Strange then how he shrank and shrank
until by my time of adolescence
he had become a foolish small old man
with silly and outmoded views
of life and of morality.

Stranger still
that as I became older
his faults and his intolerances
scaled away into the past,
revealing virtues
such as honesty, generosity, integrity.

Strangest of all
how the deeper he **recedes** into the grave
the more I see myself
as just one more of all the little men
who creep through life
no knee-high to this long-dead god.

(By Ian Mudie)

a) Who is the persona in the poem? **2mks**

……
……
……
……

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

b) What is the poem about? **4mks**

……

……

……

……

……

……

c) Comment on the suitability of the title of the poem. **2mks**

……

……

……

d) What is the attitude of the persona towards his father? **3mks**

……

……

……

……

……

e) Identify any three stylistic devices used in the poem. **6mks**

……

……

……

……

……

……

……

……

f) Why do you think the persona feels that his father has shrunk? **2mks**

……

……

……

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

.....

.....

g) Give the antonym of the word <u>recedes</u> as used in the poem. **1mk**

.....

.....

4. Grammar (15mks)

a) Rewrite the following sentences according to the instructions given after each. Do not change the meaning. **(3mks)**

i)Sharleen said the young girls had stolen her macaroons. (Rewrite beginning with: Sharleen…)

.....

.....

.....

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

.....

.....

.....

iii) She wondered what her daughters knew about F.G.M. (identify by underlining the noun clause in the given sentence)

.....

.....

.....

b) Filling in the blanks with the correct form of the word given in bracket. (3mks)

i)Women in most societies strive to fight against ..... cultures. (patriarchy)

ii) The issue was ..... by prejudices. (devil)

iii) She ran into an old ..... at the bank. (acquaint)

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

c) Fill in the blank spaces using the most appropriate pronoun. (3mks)

i)Between you and ..... who is wiser. (1, me)

ii) It was..... that reported the matter to the area chief. (her, she)

iii) The teacher sent James and ..... to the library. (me,1)

d) Complete the following sentences with the most appropriate phrase to complete the idiom. (3mks)

i)Getting fired turned out to be a blessing .....

ii) After some reflection, he decided to bite.....

iii) I go out for walks once.....

e) **Fill in the blank spaces in each of the following sentences with the most appropriate preposition. (3mks)**

(i) The president will preside ..... the function.

(ii) The exercise was conducted in accordance ..... the regulations.

(iii) inoculation gives protection ..... infection.

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..

SCHOOL: ……...……...…

ADM NO: …….. SIGN: ……. DATE: ……..…

101/3

ENGLISH

PAPER 3

CREATIVE COMPOSITION AND ESSAYS BASED ON SET TEXTS

Time: 2 hour 30 minutes

Kenya Certificate of Secondary Education

Instructions to candidates

- Write your name and index number in the spaces provided
- Answer three questions only
- Each essay must not exceed 450 words

QUESTION	Maximum Score	Candidates Score
1	20	
2	20	
3	20	
Total Score		

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

1. Imaginative composition (compulsory) 20 marks

Either

a) Write a composition beginning with: *"The events of the previous day filled me with anxiety…"*

Or

b) Write a story to illustrate the saying that: "*Hurry hurry has no blessings"*

2. Compulsory set text

A Doll's House by John Steinbeck

The society in *A Doll's House* is portrayed as one that inhibits personal freedom. Show the truth of this statement using Nora. **(20 Marks)**

3. Optional set texts

Answer any one of the following three questions

Either

a. Novel

***The Pearl* by John Steinbeck**

Juana is the pillar of strength for her family. Show the validity of this statement using illustrations from *The Pearl* by John Steinbeck.

Or **(20 Marks)**

The Short Story

***Memories we lost* by Chris Wanjala(Ed.)**

Drawing illustrations from *Window Seat* by Benjamin Branoff, show the truthfulness in the observation that "Travellers are sometimes subjected to pathetic travelling conditions on most of the Kenyan roads." **(20mks)**

Or

Drama

***Inheritance* by David Mulwa**

Closely referring to David Mulwa's text *Inheritance*, illustrate how most citizens in most African countries suffer because of the behaviour of their leaders. (20 mks)

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……...……

SCHOOL: ……...……..…..

ADM NO: …….. SIGN: ……. DATE: ……..……

312/1

GEOGRAPHY

Paper 1

Time: 2¾ hours

INSTRUCTIONS TO STUDENTS

- *This paper has **two** sections **A** and **B***
- *Answer **ALL** the questions in section **A**. In section **B** answer questions **6** and any other **TWO** questions.*

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

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

SECTION A

*Answer **all** the questions in this section.*

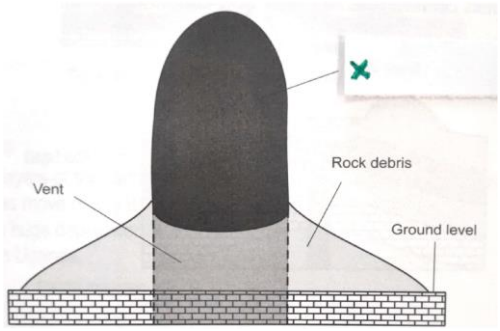
1. (a) State **three** reasons why it is important to study Geography. **(3 marks)**

(b) What is the relationship between Geography and Agriculture? **(2 marks)**

2. (a) What is weather forecasting? **(2 marks)**

(b) List **three** elements of weather. **(3 marks)**

3. Study the diagram below and use it to answer questions (a) and (b) below:



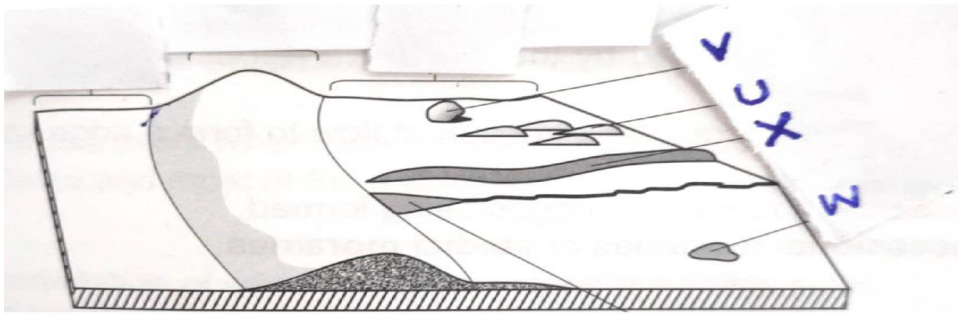
(a) Identify the feature marked **X.** **(1 mark)**

(b) Describe how the feature is formed. **(4 marks)**

4. (a) What is karst landscape? **(2 marks)**

(b) State **three** factors that influence the occurrence of underground water. **(3 marks)**

5. The diagram below shows lowland glaciated features. Study the diagram and answer questions (a) and (b).



(a) What is an outwash plain? **(2 marks)**

(b) Name the features marked **U**, **V** and **W**. **(3 marks)**

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

SECTION B

*Answer question **6** and any other **TWO** questions from this section.*

6. Study the map of Nyeri **1:50000** (sheet **120/4**) provided and answer the following questions

(a) (i) Name the ***two*** districts in the northern part of the map extract. **(2 marks)**

(ii) Give the latitudinal extent of they are covered by the map. **(2 marks)**

(iii) According to the marginal information provided in the map, what is the magnetic variation of the area when the map was drawn. **(2 marks)**

(iv) Calculate the area of Nyeri forest on the map. Give your answer in square kilometres. **(2marks)**

(b) Describe drainage of the area covered by the map. **(5 marks)**

(c) Citing evidence from the map, explain ***three*** factors that favours the growing of coffee in Nyeri area. **(6 marks)**

(c) Explain **three** factors that have influenced settlement in the area covered by the map. **(6marks)**

7. (a) (i) Differentiate between rocks and minerals. **(2 marks)**

(ii) Describe the following characteristics of minerals.

- Color. **(2 marks)**
- Hardness. **(2 marks)**

(b) (i) What are igneous rocks? **(2 marks)**

(ii) State ***three*** differences between plutonic and volcanic rocks. **(3 marks)**

(c) Describe the formation of the following rocks.

(i) Mechanically formed sedimentary rocks. **(3 marks)**

(ii) Chemically formed sedimentary rocks. **(3 marks)**

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

(d)(i) Identify the missing type of rocks. **(3 marks)**

Original rock	Metamorphic rock
Limestone	(i)
(ii)	Graphite
Granite	(iii)

(ii) Suppose you were to carry out a field study on rocks at the Kenyan coast. State ***two*** reasons as to why you would ask for permission from the school administration. **(2marks)**

(iii) What reasons would you give for the widespread of sedimentary rocks at the coastal plain? **(3marks)**

8. (a) (i) Name ***three*** types of river erosion **(3 marks)**

(ii) Describe the following river erosional presses.

- Abrasion **(4 marks)**
- Solution **(3 marks)**

(b) (i) What is river rejuvenation (2 marks)

(ii) Identify ***three*** features that result from river rejuvenation. (3 marks)

(c) (i) Name ***two*** types of submerged highland coasts. (2 marks)

(ii) State ***two*** factors influencing deposition by ocean waters. (2 marks)

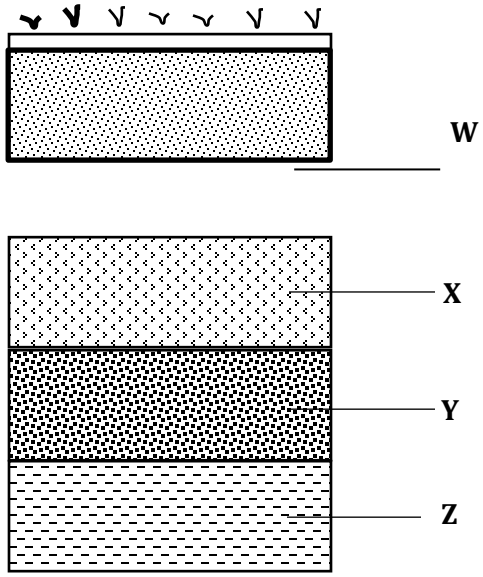
(d) Explain ***three*** significance of oceans to human activities. (6 marks)

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

9. (a) (i) Differentiate between soil texture and soil structure. **(2 marks)**

(ii) Apart from living organisms, name ***four*** other components of soil. **(4 marks)**

(b) The diagram below shows different layers of soil. Use it to answer questions (b) (i), (ii) and (ii)



(i) Name the soil layers **X ,Y** and **Z** **(3 marks)**

(ii) Give ***two*** main processes of soil formation which takes place in horizon W. **(2 marks)**

(iii) State ***four*** characteristics of soil in horizon X. **(2 marks)**

(c) Explain how the following farming practices may result to loss of soil fertility

(i) Continuous irrigation. **(2 marks)**

(ii) Over grazing. **(2 marks)**

(iii) Over cultivation. **(2 marks)**

(d) Explain ways in which natural vegetation may prevent soil from erosion. **(4 marks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……

312/2

GEOGRAPHY

PAPER 2

TIME: 2¾ HOURS

INSTRUCTIONS TO CANDIDATES

- This paper has **two** sections: **A** and **B.**
- Answer **all** the questions in section **A**.
- Answer question **6** and any other **two** questions from Section **B**.
- Each question in section B must be answered in separate foolscaps.
- This paper consists of **6** printed pages.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

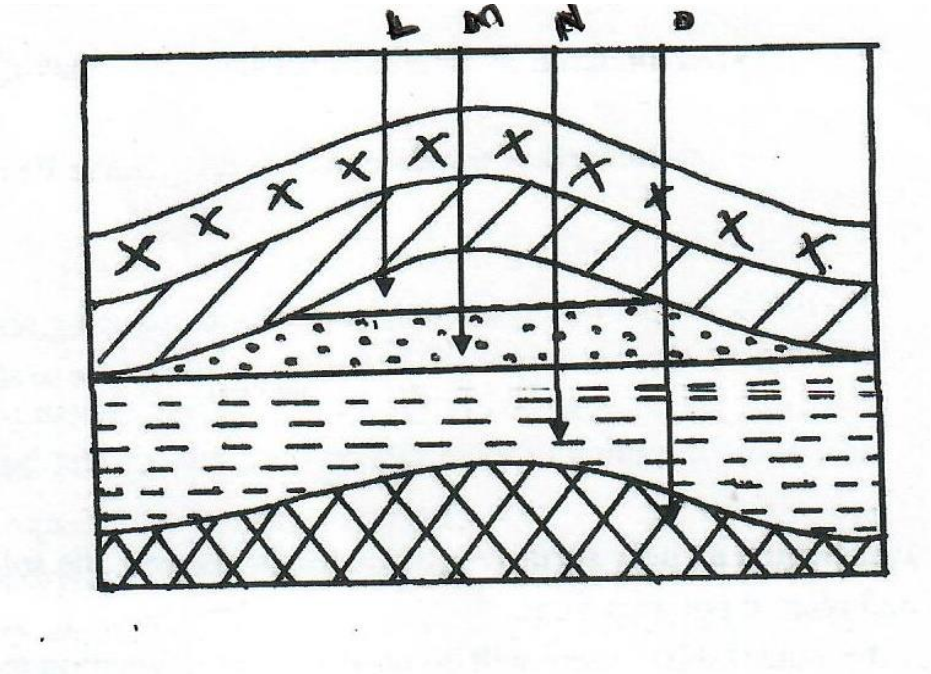
Section	Questions	Candidate's Score	Maximum Score
A	1 – 5		25
B	6		25
			25
			25
	Total Score		100

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

1. a) What is Human Environment? **(2 mks)**

b) Identify <u>three</u> areas of study under Human Environment. **(3 mks)**

2. a) The diagram below shows the occurrence of petroleum in the earth's crust.



Name the substances labelled L, M and N. **(3 mks)**

b) Give <u>two</u> by-products obtained when crude oil is refined. **(2 mks)**

3. a) State <u>three</u> environmental conditions which favour commercial beef farming in Kenya. **(3 mks)**

b) Name <u>two</u> exotic breeds of cattle reared in commercial ranches in Kenya. **(2 mks)**

4. a) Give <u>two</u> reasons why wildlife conservation is encouraged in Kenya. **(2 mks)**

b) Apart from national parks, outline three other ways in which wildlife is conserved in Kenya. **(3 mks)**

5.a) Name <u>two</u> polders that were created in Zulderzee project. **(2 mks)**

b) State <u>three</u> ways in which the salinity of the polders is reduced in the Netherlands. **(3 mks)**

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

SECTION B -

Instructions: Answer question six (6) and any other two questions from this Section.

6. The data below represents crop exports from Kenya between 1995 and 1998. Use it to answer the questions that follow: -

Crops/Year	1995	1998
Maize	224	286
Coffee	168	310
Tea	320	368
Others	200	461
Total	**912**	**1,445**

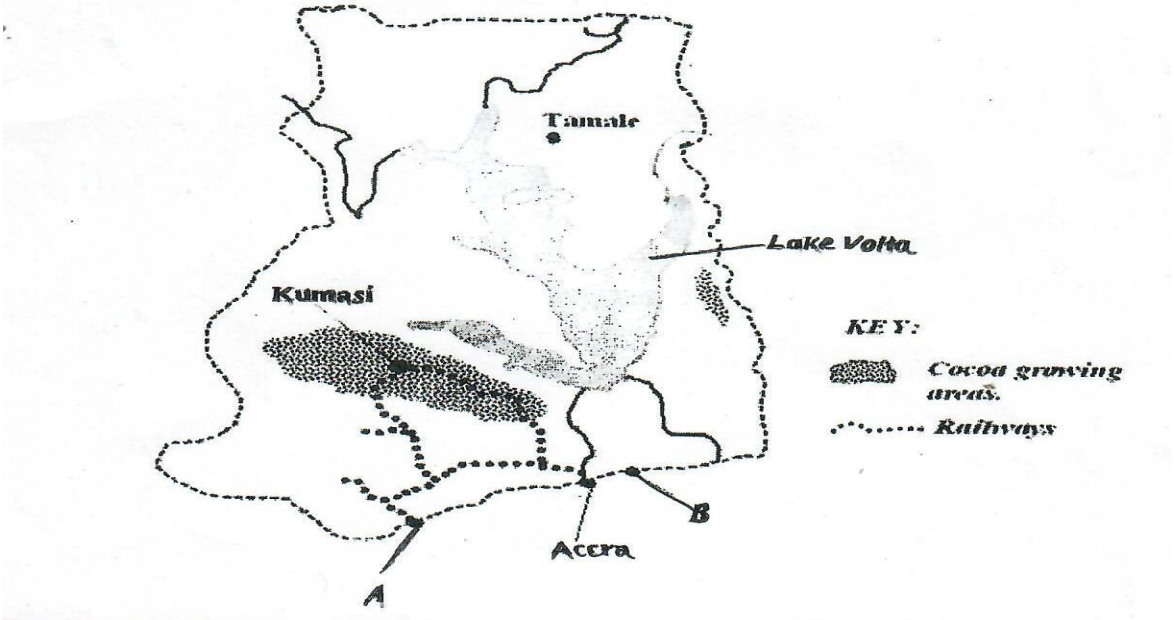
a) Using a scale of 1 cm represents 10 units, prepare proportional divided circle from the data above using the square root method. **(9 mks)**

b. i) Name two varieties of coffee grown in Kenya. **(2 mks)**

ii) State three reasons why Brazil leads in the production of coffee. **(3 mks)**

c) Discuss the processing of sugarcane after harvesting. **(6 mks)**

d. i) The map below represents cocoa growing areas in Ghana. Identify the towns marked A and B. **(2 mks)**



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

ii) Give the reasons for each of the following stages in the processing of Oil palm. **(3 mks)**

- Steaming
- Stripping
- Pulping

7. a.i)Apart from Coniferous forest, name two other types of natural forests. **(2 mks)**

ii)State two characteristics of Coniferous forests. **(2 mks)**

b) Explain four factors that favour the exploitation of softwoods in Canada. **(8 mks)**

c) i)List any four indigenous softwood tree species that grow on the Kenya highlands.**(4 mks)**

ii)State three problems facing forestry in Kenya. **(3 mks)**

d)Your class intends to carry out, field study on forestry in Karura Forest. **(3 mks)**

i) List three objectives of your study. **(3 mks)**

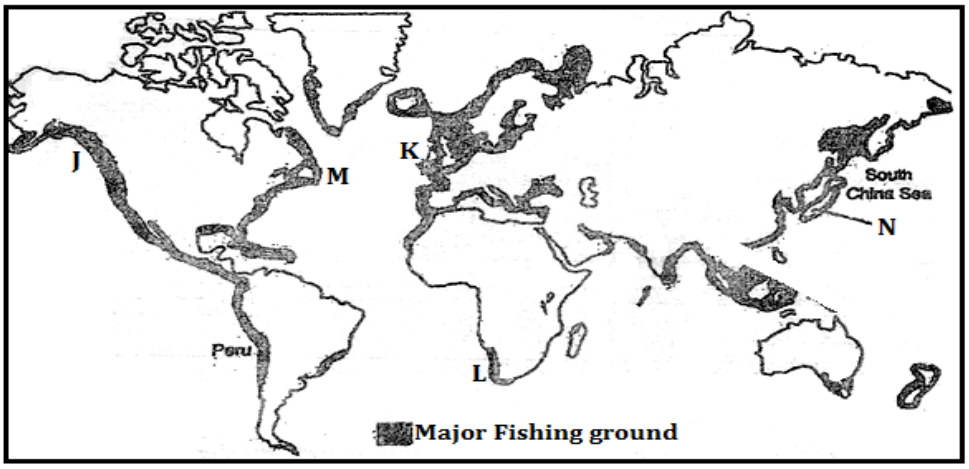
ii) List three types of sampling techniques used during filestury. **(3 mks)**

8.a. i) Name any two types of fishing. **(2 mks)**

ii) What is fish farming? **(2 mks)**

b) Describe harpooning as a method of fishing. **(4 mks)**

c)The map below shows the major fishing grounds of the world. Use it to answer questions (i) and (ii).



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

i)Name the fishing grounds labeled J, K, and M. **(3mks)**

(ii) Explain **three** physical factors that have favoured fishing along the grounds marked N. **(6mks)**

(d) Explain **four** measures being fronted by the Kenya government to reduce overfishing in Lake Victoria. **(8 marks)**

9. (a) Identify **three** sources of non- renewable energy. **(3 mks)**

b) State **thre**e advantages of biomass as a source of energy. **(2 mks)**

c) Apart from the HEP projects in Kenya and Uganda, name three other HEP projects in Africa. **(3 mks)**

d i) What is energy crisis? **(2 mks)**

ii) Explain **four** ways in which energy crisis has impacted on developing countries. **(8 mks)**

e) You are planning to carry out a field study on hydro- electricity production in the Kenyan seven folks dam.

i) State **two** types of hypotheses you would use for the study **.** **(2mks)**

ii) What are possible follow-up activities that you will be involved in after the study? **(3 mks)**

iii) Give two reasons why you would require a route map. **(2mks)**

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

10. The table below shows the population of a country in Western Europe in '000's. Use it to answer Part a – c.

Age Group	Male	Female
0 – 9	460	455
10 – 19	447	449
20 – 29	630	632
30 – 39	635	639
40 – 49	610	615
50 – 59	541	563
60 – 69	470	468
70 – 79	460	459
80+	451	453

a) Using a scale of 1 cm to represent 100,000 people, draw a population pyramid from the above data. **(10 mks)**

b) Give <u>five</u> characteristics of the above population structure shown by the pyramid. **(5 mks)**

c) Explain <u>three</u> problems likely to be experienced due to the population trend in the above country. **(6 mks)**

ii) State <u>four</u> causes of urban-urban migration. **(4 mks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……..

311/1

HISTORY AND GOVERNMENT

PAPER 1

311//1

TIME: 2½ hours

INSTRUCTIONS TO THE CANDIDATES

1. This paper consist of **three** sections; **A, B** and **C**
2. Answer **All** the questions in section **A, three** questions from section **B** and **two** questions from section **C**
3. This paper has **twenty four** questions. The candidate should ascertain that all the questions are printed.
4. All questions must be answered in the answer booklet provided.

FOR EXAMINERS USE ONLY

SECTIONA (25 MARKS)	SECTION B (45 MARKS)				SECTION C (30MARKS)		
QUESTIONS 1-17	18	19	20	21	22	23	24

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

SECTION A 25 MARK

Answer all questions in this section

1. Name two periods in the study of history **(2 mark)**

2. What was the original homeland of the River-Lake Nilotes found in Kenya? **(1 mark)**

3. Give the name of the council of elders among the Mijikenda? **(1 mark)**

4. What was the importance of the monsoon winds during the Indian Ocean trade? **(1 mark)**

5. State one political duty that was conducted by the Christian Missionaries in Kenya **(1 mark)**

6. Define dual citizenship **(1 mark)**

7. Identify two social responsibilities of a Kenyan Citizen **(2 marks)**

8. Name two symbols of National Unity **(2 marks)**

9. Give two economic causes of conflicts in Kenya today **(2 marks)**

10. State the main reason for convening the second Lancaster House Conference of 1962.**(1 mark)**

11. Identify two categories of the rights of a child **(2 marks)**

12. Name two leaders who led the Mijikenda resistance **(2 marks)**

13. Name two Education Commissions that were formed in Kenya during the colonial period **(2 marks)**

14. Which organization was formed by the Africans who were elected to the Legislative Council in Kenya in 1957 **(1 mark)**

15. Name the body responsible for conducting elections in Kenya **(1 mark**)

16. Identify the National philosophy that was adopted by president Daniel Arap Moi in 1978**(1mrk)**

17. Name two types of elections in Kenya **(2 marks)**

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

SECTION B: 45 MARKS

*Answer any **THREE** questions from this section in the booklet provided*

18. (a) State five reasons for the migration of the Bantu (5 marks)

(b) Explain five impacts of the migration and settlement of the Highland Nilotes in Kenya during the pre-colonial period **(10 marks)**

19. (a) Identify five historical sources of information on East African Coast **(5 marks)**

(b) Explain five positive impacts of the Portuguese rule along the Kenyan Coast **(10 marks)**

20. **(a)** State five reasons why the Nandi were able to resist the British for a long time **(5 marks)**

(b) Explain five reasons why armed resistance failed in Kenya **(10 marks)**

21. (a) State five common characteristics of early political organizations in Kenya **(5 marks)**

(b) Explain five results of the MAU MAU rebellion **(10 marks)**

SECTION C: 30 MARKS

*Answer any **TWO** questions from this section in the booklet provided*

22. (a) Identify three value of a good Kenyan citizen **(3 marks)**

(b) Explain six factors that promote National Unity in Kenya **(12 marks)**

23. (a) Name three organs of National Security in Kenya **(3 marks)**

(b) Explain six challenges facing correctional services in Kenya **(12 marks)**

24. (a) State three principles of devolved government in Kenya**(3marks)**

(b) Explain six challenges facing county government. **(12 marks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..…

SCHOOL: ……....……....

ADM NO: …….. SIGN: ……. DATE: ……..……

311/2

HISTORY AND GOVERNMENT

Paper 2

Duration: 2 hours 30 Minutes

Instructions to students

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

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

(c) Answers must be written in the spaces provided after Question 24.

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

(e) Candidates should answer the questions in English.

For Examiners Use Only

Section	Question	Maximum Score	Candidates Score
A	1-17	25	
B	18-21	45	
C	22-24	30	
Total Score		**100**	

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

SECTION A (25mks)

Answer all the questions in this section.

1. Mention **one** disadvantages of electronic records as a source of history. **(1mark)**

2. Give the **main** reason why early agriculture developed in Egypt. **(1mark)**

3. State **two** problems faced by traders using barter system**.** **(2marks)**

4. Identify the **main** role of the Berbers during the Trans-Saharan trade**.** **(1 mark)**

5 Name **one** metal that was used as currency in pre-colonial Africa. **(1 mark)**

6 Give **one** advantage of using pipeline over vehicles in transporting oil. **(1mark)**

7. Identify **two** negative effects of television. **(2marks)**

8. State the **main** contribution of Dr. Christian Bernard in the field of medicine. **(1mark)**

9. Identify **two** official appointed by the Kabaka to assist him in administration of Buganda in the 19th Century. **(2marks)**

10. Give **two** economic reasons which made European countries to scramble for colonies in Africa **(2marks)**

11. Identify **two** communes that were established in Senegal by the French. **(2 marks)**

12. State **two** functions of Emirs in Northern Nigeria during colonial era. **(2marks)**

13. Name **one** country in Africa that was never colonized **(1 mark)**

14. Identify two races that colonized South Africa. **(2 marks)**

15. Name the country which was blamed for the outbreak of World War 1. **(1 mark)**

16. Highlight two reasons why Schliffen plan failed during the First World War **(2marks)**

17. State the immediate cause of World War 1. **(1mark)**

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

SECTION B (45 MARKS)

Answer any three questions in this section

18.(a) Give three reasons why hunting of wild animals was mainly a group activity during the Stone Age period. **(3mks)**

(b) Explain six benefits of settling in villages during the late Stone Age period. **(12mks)**

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

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

20. (a) Outline three European activities in Africa during the 19th century. **(3mks)**

(b) Explain six results of the collaboration between the Baganda and the British during the process Of colonization. **(12mks**)

21. (a) State five roles which were played by Kwame Nkrumah during the struggle for Independence in Ghana. **(5mks)**

b) Explain five factors which were responsible for the growth of African nationalism in South Africa. (10mks)

SECTION C (30 MARKS)

Answer any two questions in this section

22. (a). Give three functions of Lukiiko in the Kingdom of the Buganda during the pre-colonial period. **(3mks)**

(b). Discuss six factors that led to the growth of the Asante Empire by the 19th Century **(12mks)**

23.(a). Name the communes that were established by the French Senegal during the colonial period. **(3mks)**

(b). Describe the structure of the British colonial administration in Northern Nigeria. **(12mks)**

24. a). State three permanent members of the league nations council. **(3mks)**

b). Explain six reason why the league of Nations failed to maintain world peace. **(12mks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……..……..…..

ADM NO: …….. SIGN: ……. DATE: ……..……

441/1

HOMESCIENCE

Paper 1

(THEORY)

2 ½ hours

INSTRUCTIONS TO CANDIDATES:

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

This paper consists of ***three*** Sections: ***A***, ***B*** and ***C***

Answer all the questions in Sections ***A*** and ***B.***

Answer ***anytwo*** questions from Section ***C***

All answers must be written in ENGLISH

FOR EXAMINER'S USE ONLY

Section	***Question***	***Maximum***	***Score***
A	1-21	40	
B	22	20	
C	23	20	
	24	20	
	25	20	
	Total score	100	

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

SECTION A – 40 MARKS

INSTRUCTIONS: Answer ALL the questions in the spaces provided

1. Outline three ways in which a cook can infect food with germs. **3mks**

.....

.....

.....

.....

.....

2. State two points to note when using paraffin as a fuel. **2mks**

.....

.....

.....

.....

3. Mention two ways of providing variety in meal planning and management. **2mks**

.....

.....

.....

.....

4. Analyze two effect of heat on vitamin C. **2mks**

.....

.....

.....

.....

.....

5. Identify two ways of controlling bed bugs in a home. **1mk**

.....

.....

.....

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

……

……

6. Differentiate between active immunizations and passive immunization. **2mks**

……

……

……

……

7. State two factors that determine the type of media to use when advertising. **2mks**

……

……

……

……

8. List any two ways of finishing wood **2mks**

……

……

……

……

9. Name two stain removal agents used in removing a banana sap stain from your t-shirt **2mks**

……

……

……

……

10. Mention two possible causes of stitches looping when sewing with a sewing machine **2mks**

……

……

……

……

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

11. Give two examples of stitches used to neaten raw edges **1mk**

……

……

……

……

12. Suggest two ways of managing foreign body in the ear **2mks**

……

……

……

……

13. Mention two dangers that arise from misuse of cosmetics **2mks**

……

……

……

……

14. Mention two disadvantages of steaming food **2mks**

……

……

……

……

15. Mention two points on prevention and control of round worms **2mks**

……

……

……

……

16. Define the term consumer Education **1mk**

……

……

……

……

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

17. State two factors that affect a budget **2mks**

……

……

……

……

18. Mention two points to observe when using disinfectants during laundry. **2mks**

……

……

……

……

19. Fasteners are mainly functional on garments. Give two examples **1mk**

……

……

……

20. State two qualities of a well-made seam **2mks**

……

……

……

……

21 State three disadvantages of cash buying **3mks**

……

……

……

……

……

……

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

SECTION B – 20 MARKS

INSTRUCTIONS: This question is compulsory. Write your answers in the spaces provided after the question

22. Your parents are recovering from an attack of covid 19 and you are assisting them with house chores

(a) Explain the procedure for thorough cleaning a neglected and blocked stainless steel kitchen sink**.** **8mks**

b) Outline the method you will use to clean a white washable cotton mask you had used the previous day. **7mks**

c) Describe the procedure of cleaning a kitchen counter made of plain wood **5mks**

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

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

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

SECTION C– 40 MARKS

INSTRUCTIONS: Answer any TWO questions from this section. Write your answers in the spaces provided after the questions

23. **a)** Discuss five reasons for sufficient ventilation in a sickroom **10mks**

b) Give four uses of eggs in cookery **4mks**

c) Briefly explain six points to consider when choosing an ironing board**.** **6mks**

24. **a)** Explain three ways of avoiding food wastage in the kitchen. **6mks**

b) State four ways of preventing cholera outbreak **4mks**

c) Explain four ways of fulfilling the physical needs of an expectant mothers **8mks**

d) Differentiate between print and electronic media advertising **2mks**

25. a) Briefly explain five points to consider when planning and serving meals for children **5mks**

b) Explain the procedure of working gathers by hand on the waist of a skirt. Use well labelled diagrams to illustrate. **10mk**

c) Briefly explain five reasons for using soft furnishings in the home **5mks**

.....

.....

.....

.....

.....

.....

.....

.....

.....

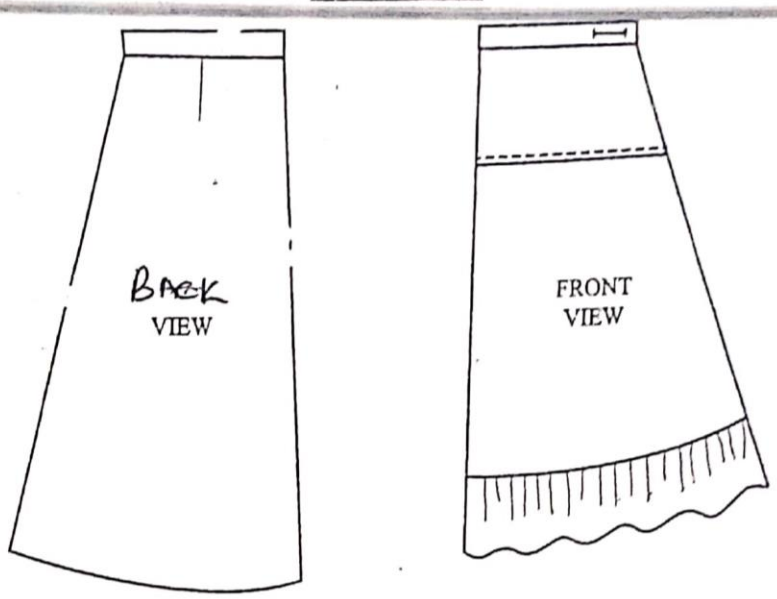
.....

.....

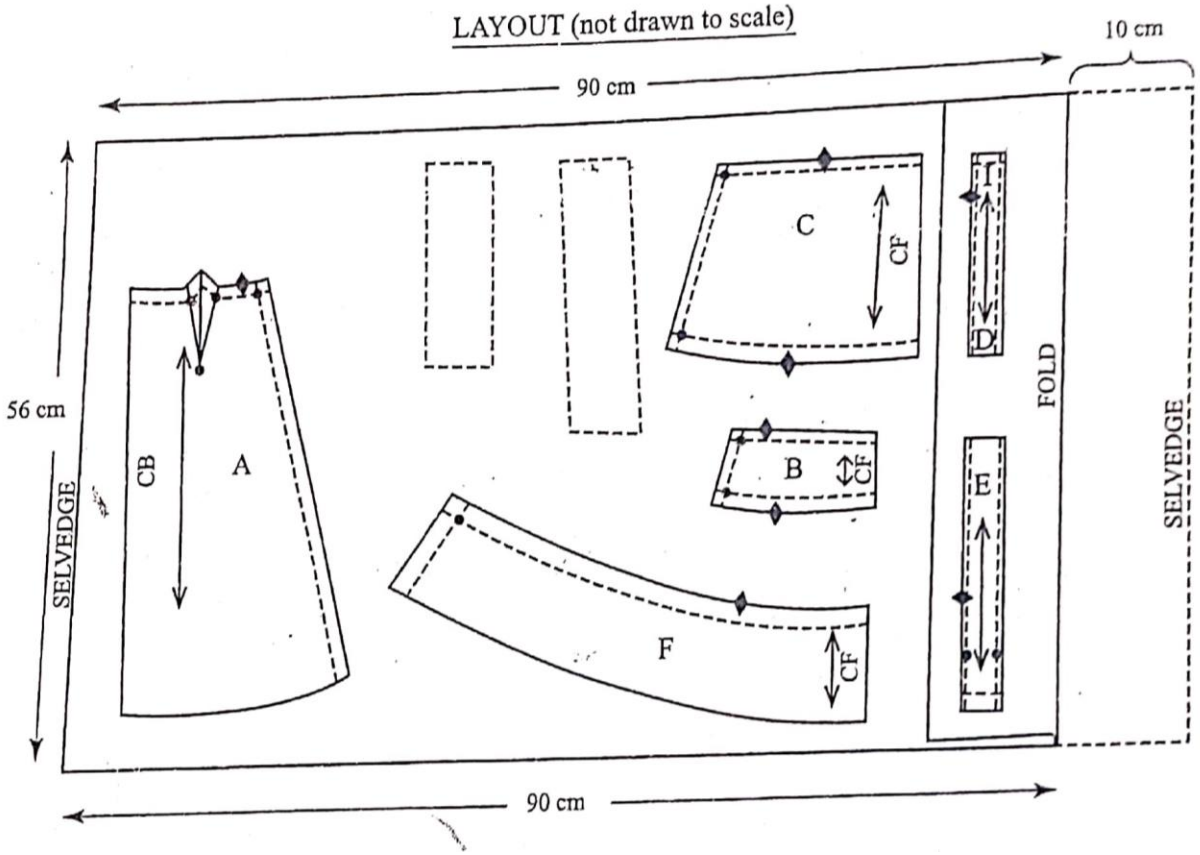
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

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

SKIRT VIEWS

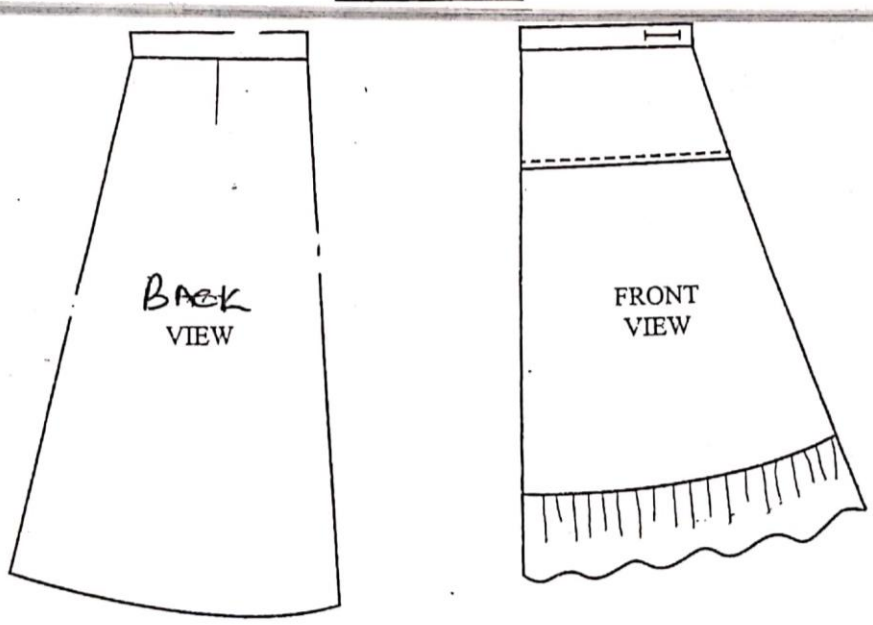


LAYOUT (not drawn to scale)

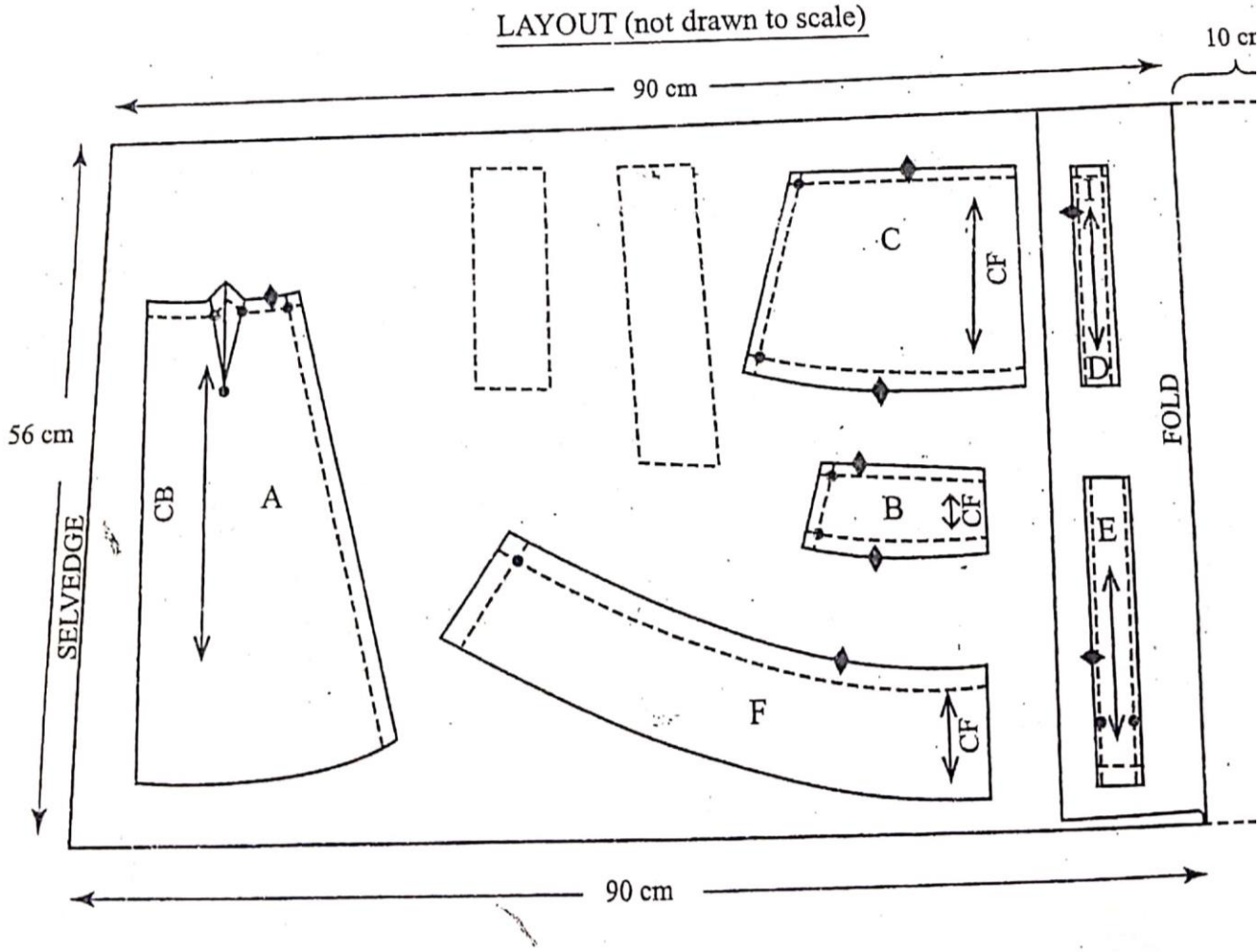


Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

SKIRT VIEWS



LAYOUT (not drawn to scale)



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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……...……

SCHOOL: ……....……....

ADM NO: …….. SIGN: ……. DATE: ……..

441/2
HOME SCIENCE PRACTICAL
Paper 2
(CLOTHING CONSTRUCTION)

INSTRUCTIONS TO CANDIDATES

a) This paper consists of 3 printed pages
b) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
c) Candidates must use machine stitches appropriately in the construction of the garment
d) **Hand stitches** used instead of machine stitches will not be marked
e) **Hand stitches** will only be allowed for the making of **hemming** and **tacking stitches**.
f) Candidates should answer the questions in English.

GIRL'S SKIRT

A pattern of a girl's skirt is provided. You are required to study the sketches, instructions and layout carefully before you begin the test.

MATERIALS PROVIDED

1. Pattern pieces

A. – Skirt back

B. – Yoke (front)

C. – Lower skirt (front)

D. - Front waistband

E. – back waistband

F. - frill

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

2. Plain lightweight cotton fabric 56cm long by 90cm wide.

3. Sewing thread to match the fabric.

4. One large envelope.

THE TEST

Using the materials provided, cut out and make the **left half** of the girl's skirt to show the following processes:

a) Cutting out **(14mks)**

b) Making of the dart at the back skirt **(6 ½ mks)**

c) Joining of the yoke front to the lower skirt front using an overlaid seam. **Do not trim. Neaten half the seam using loop stitches.** **(12mks)**

d) Attaching of the frill to the lower skirt front using a plain seam. Leave the gathering stitches and do not trim the seam allowance. **(11mks)**

e) Making of the skirt side seam from the yoke to the hemline using an open seam. **(7mks)**

f) Attaching of the front and back waistbands and holding them in place using tacking stitches. **(21mks)**

g) Making of the worked buttonhole. **(12mks)**

OMIT

The management of the skirt hem.

Overall presentation (6 ½ mks)

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, pins and loose threads from your work. Fold your work neatly and place it in the envelope provided**. Do not put scraps of fabric in the Envelope**. **Do not seal the envelope.**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……

441/3

HOMESCIENCE

Paper 3

(FOOD AND NUTRITION)

Time: 1 Hour 45 Minutes

PLANNING SESSION: 30 Minutes

PRACTICAL TEST SESSION: 1HR 15Min

INSTRUCTIONS TO CANDIDATES

1. Read the test carefully
2. Write your name and index number on every sheet of paper used
3. Text books and recipes may be used during planning sessions as reference materials
4. You will be expected to keep to your order of during the practical session
5. You are only allowed to take your reference materials at the end of the planning session
6. You are not allowed to bring additional notes to the practical session

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

THE TEST

Your classmate will be coming to spend the night at your place over the weekend. Using the ingredients listed below, prepare, cook and serve a one course meal for both of you. Include a refreshing drink.

Ingredients

- Green grams/ chicken / liver / beans
- Tomatoes
- Carrots
- Fruits in season
- Red / yellow /green pepper
- Arrow roots / wheat flour / green bananas
- Fat/oil
- Sugar
- Onion
- Salt

spices

Planning session

For each task listed below, use separate sheets of paper and make duplicate copies using carbon paper then proceed as follows:

1. Identify the dishes and write down the recipes
2. Make a list of equipment and materials you will require
3. Write down your order of work.

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……...……

SCHOOL: ……...……..……...

ADM NO: …….. SIGN: ……. DATE: ……...

ISLAMIC RELIGIOUS EDUCATION (314/1)

PAPER ONE

2½ Hour

Instructions to the Candidates:

1. Write your details in the spaces provided above.

2. Answer ANY FIVE QUESTIONS in the working place provided.

3. This paper consist of two printed pages. Check and confirm.

4. All answers should be in English

For Examiner's Use Only

Question	1	2	3	4	5	6	**Total marks**
Student's Score							

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

1. a. Discuss the importance the preserving the Quran. **(8marks)**

b. Outline **six** benefits of ***tarjamatu***l Quran. **(6marks)**

c. What are the limitations of translating the Quran? **(6marks)**

2. a. Identify the social teachings of ***Suratul Hujuraat***. **(8marks)**

b. Differentiate between ***Mus'haf*** Abubakar (r.a) and ***Mus'haf*** used today. **(6marks)**

c. Highlight the factors that enabled the process of standardization of the Quran. **(6marks)**

3.a. The Prophet (p.b.u.h) said, "…spread for me even if it's one verse…"

In the light of this hadith, explain ways in which Muslims help spread sunnah. **(8marks)**

b. Outline the significance of Hadith in the life of a Muslim . **(6marks)**

c. Describe the nature of Hadith in the second period. **(6marks)**

4. **a.** Explain the significance in the belief in ***tawheed***. **(6marks)**

b.Discuss the impact of shirk in the community. **(8marks)**

c.Identify **six** roles of prophets of Allah (s.w). **(6marks)**

5 a.Outline the qualities of a ***kadhi***. **(8marks)**

b. Highlight the conditions for use of Ijma as a source of ***shariah .*** **(6marks)**

c. Discuss any **six** factors that would hinder the application of Islamic Law in Kenya. **(6marks)**

6. a. Distinguish between sin and crime according to Islam. **(8marks)**

b. Identify the correct order of the obligatory acts of Haj. **(6marks)**

c. Outline **six** conditions of performance of ibadat. **(6marks)**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……..

ISLAMIC RELIGIOUS EDUCATION (314/2)

PAPER TWO

2½ Hour

Instructions to the Candidates:

a) Write your details in the spaces provided above.

b) Answer **ANY FIVE QUESTIONS** in the working place provided.

c) The learner should answer the questions in **English**.

d) This paper consist of two printed pages. Check to affirm.

For Examiner's Use Only

Question	1	2	3	4	5	6	**Total marks**
Student's Score							

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

1. a). State the basic principles of Islamic morality**.** **(7 marks)**

b). How can Muslim Youth in Kenya use social media to promote good and forbid evil. **(7 marks)**

c). Explain six effects of major sins in the society. **(6 marks)**

2. a). State the differences between Eddah for a widow and Eddah for a divorced woman. **(7 marks)**

b). Discuss how Muslims can help to curb terrorism in Kenya. **(7 marks)**

c). Explain ways through which Islam has empowered women economically. (6 marks)

3. a). Describe any seven categories of heirs and their shares. **(7 marks)**

b). State the duties of extended family members**.** **(6 marks)**

.c). Discuss the remedies for domestic violence in Kenya. (**7 marks)**

4. a). Factors that facilitated the spread of Islam in Nairobi. **(7 marks)**

b). State six causes of the battle of Hunayn. **(6 marks)**

c). State the social achievements of Prophet Muhammad (p.b.u.h) as a Prophet **(7 marks)**

5. a). State the roles played by Jumbes and Akidas in the spread of Islam. **(6 marks)**

b). Describe the incident of the first revelation of Prophet Muhammad. (saw) **(8 marks)**

c). Identify six challenges encountered by caliph Uthman (ra) that attributed to his assassination. **(6 marks)**

6. a). State the similarities between contributions of Sheikh Abdallah Al-Farsy and sheikh Al-Amin Mazrui. **(7 marks).**

b). Outline the actions considered as war crimes according to Uthman dan Fodio. **(6 marks).**

c). State any seven views of Imam Ghazal on the correct code of conduct. **(7 marks).**

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

JINA: ……..……

SHULE: ……....……..…..

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

MAAGIZO

a. Andika insha mbili. Insha ya kwanza ni ya lazima

b. Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia

c. Kila insha isipungue maneno 400

d. Kila insha ina alama 20

e. Kila insha lazima iandikwe ;kwa lugha ya Kiswahili

f.Insha zote sharti ziandikwe katika kijitabu cha majibu ulichopewa

1. Serikali ya Kenya kupitia Wizara ya Elimu imeanzisha mfumo mpya wa elimu ya Umilisi. Mwandikie mhariri wa gazeti la Darubini ukitoa maoni yako kuhusu changamoto zinazotokana na mfumo huu.

2. Utelekezaji wa mtoto wa kiume nchini ni janga kuu. Jadili

3. Tunga kisa kitakachodhihirisha maana ya methali ifuatayo.

``Mchelea mwana kulia hulia mwenyewe''

4. Anza kwa kifungu kifuatacho.

.....Hapo ndipo iliponibainikia kuwa nilikuwa nikiogelea baharini pekee kinyume na wenzangu wote.

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

JINA: ……..

SHULE: ……..……..……..

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

KIDATO CHA NNE

102/2

KARATASI YA 2

MUDA: SAA 2 ½

MAAGIZO

a) Andika Nambari yako ya usajili na darasa katika nafasi ulizoachiwa hapo juu.

b) Tia sahihi yako kishauandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu

c) Jibu maswali yote.

d) Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.

e) Majibu yote lazima yaandikwe katika lugha ya Kiswahili.

f) Karatasi hii ina kurasa 12 zilizopigwa chapa.

g) Hakikisha kuwa kurasa zote zimepigwa chapa

Kwa Matumizi ya mtahiniwa

SWALI	SWALI	UPEO	ALAMA
1	Ufahamu	15	
2	Ufupisho	15	
3	Matumizi ya lugha	40	
4	IsimuJamii	10	
JUMLA		**80**	

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

1. UFAHAMU (ALAMA 15)

***Soma kifungu kifuatacho kisha ujibu maswali yanayofuatia*.**

Nchi yetu imeraukia mawio ya machafuzi ya kisiasa baada ya shughuli za uchaguzi zilizogonga mwamba mkuu. Hili lilijiri baada ya Tume ya uchaguzi kukosa kuendeleza uchaguzi kwa njia inayostahili. Jambo hili lilizaa msukosuko wa kisiasa usiomithilishwa katika historia ya taifa letu.

Hivi sasa wakenya wanaishi kwenye kambi za watu wasio na makazi. Hiki ni kinaya kikuu kwani matukio haya yamezuka baada ya miongo minne ya uhuru. Vilio vya wakenya vimeshamiri na kupaasa sauti vikalalamikia kukosa makazi, lishe na ndoa kusambaratika. Ndoa zimevunjika baada ya'wenyeji' kuwatimua 'wageni na damu kumwagika.

Kenya imekuwa miongoni mwa mataifa yanayowapa faraja wakimbzi kutoka nchi jirani zinazokumbua na vita vya wenyewe. Vita katika Somalia vimesababishwa na koo mbali zinazopigania uongozi hali ambayo imekwamisha shughuli zote za kiuchumi.

Hali ya sasa ya Kenya imechochewa na msururu wa sababu; ukabila na tama ya uongozi zilionekana wazi katika miundo ya vyma viku vya kisiasa na katika kampeni zao. Wakenya walipiga kura kwa misingi ya kikabila upande ukitazamia mtu wao kushinda uchaguzi huo. Kwa upande mwingine , viongozi hao kutokana na tamaa ya uongozi walikuwa wamesmua kushinda uchaguzi huo kwa vyovyote vile. Leo tunavuna matunda ya siasa za ukabila na tamaa ya mamlaka.

Maelfu ya wakenya ni makimbizi nchini na katika nchi jirani ya Uganda. Wakenya hao wanahitaji msaada wa chakula na mahitaji mengine ya kimsingi. Serikali na shirika la msalaba mwekundu zimefanya juhudi kuwasaidia wahasiriwa lakini kuna tetesi kwamba ubaguzi umejipenyeza katika ugawaji wa msaada huo.

Waliopewa jukumu la kugawa msaada huo ni sharti waelewe kuwa waathiriwa ni wakenya wenzao na hawafai kubaguliwa kwa misingi ya makabila yao. Matukio kama hayastahili asilani katika taifa hili.

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

Twahitaji zao aali la viongozi wasiojitwika ubabe bali wawe watumishi wa wananchi wanastahili kutupilia mbali tamaa za kujilimbikiza mali na kung'ang'ania uongozi. Pia katiba inafaa irekebishwe. Wakenya wanastahili kuelimishwa kuhusu undugu na utaifa. Fauka ya haya masuala yanayohusiana na hatimiliki za ardhi yanafaa kutandaraukiwa kwa dhati.

a) Taja madhara manne ya ukabila. **(al.4)**

.....

.....

.....

.....

.....

.....

b) Shughuli za ugawaji wa misaada zimekumbwa na changamoto gani. **(al.2)**

.....

.....

.....

.....

c) Eleza tofauti ya chanzo cha vita nchini Somalia na Kenya**.** **(al.2)**

.....

.....

.....

.....

d) Mwandishi anatoa mapendekesho gani ya kutatua tatizo hili la ukabila. **(al.3)**

.....

.....

.....

.....

.....

.....

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

e) Eleza kinaya cha maisha ya wakenya kwa sasa. **(al.2)**

.....

.....

.....

.....

.....

f) Eleza maana ya maneno haya yalivyotumika katika kifungu cha ufahamu**.** **(al.2)**

i. Mawio.

.....

.....

.....

ii. Tandaraukiwa kwa dhati.

.....

.....

.....

2. UFUPISHO

***Soma makala haya kishaujibu maswali yanayofuata*.**

Tangu asili –na jadi nasikitika kusema kuwa tumekuwa tukiwakandamiza mabanati wetu na kuwateka bakunja ilhali wameonyesha kuwa mikono miepesi. Siku mojanilikuwa nikitembea na babu yangu mkongew tulipoliona tapo lawanawake kwambali. " Funika kombe mwanaharamu apite!" akininong'onezea, wanahusudu uwezo tu. " Kwa uchungu watu wa fikira sikuelewa yakini alichotazamia lakini hii leo nang'amua. Basi imenibidi kutupilia mbali dhana hiyo hafidhina kwani asifuye mvua aghalabu imemnyea.

Jina nzuri hung'aa gizani na bila shaka majina ya wanawake watu yameremeta kama nyota. Kwanza, wamejitolea mhanga katika nyanja za masomo. Si baba ambao wamehitimu kutoka vyio vikuu vya humu nchini na vile vile vya ughaibuni na kujipa shahada kadha wa kadha. Wamepata ujuzi wa kutosha katika maswala tatizo kama vile udaktari na uanasheria. Hivi ni

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

kumaanisha kuwa tuna madkari shupavu, basi tuwape nafasi tusiendelee kuwa nyuma mithili ya koti katika kipengele hiki muhimu cha maisha. Ni wanawake ndio, lakini mgalla muue na haki umpe!

Vile vile wanawake wenu wamejitokeza kifua mbele katika hatamu za uongozi. Mfano mwafaka katika serikali yetu, ambapo mawaziri ni wanawake. Nani asiyewafahamu, Cecily Kariuki, Racheal Omamo na Amina Mohamed? Wote wanafanya bidii za mchwa kustawi maisha ya wananchi. Ingekuwa ida na inadi kama tungewanyima viongozi hawa nafasi hizo na bila shaka jambo hili lingeathiri sana ujenzi wa taifa kwani ujuzi ndio nguzo ya kila kitu.

Kwa upande mwingine wanawake ni walezi waliomakinika.Kama tujuavyo udongo hupatilizwa ungali maji na usipoziba ufa huna budi kujenga ukuta. Nani ndio wamepokezwa jukumu mahiri la malezi? Nina zetu hujitolea kwa hali na mali kuwakuza watoto kwa tajriba zinazofaa na kuwafunza maisha ndiposa wasifunzwe na ulimwengu. Aliyemakinika atakubaliana name kuwa malezi si jambo la kufanyiwa mzaha katika harakati za ujenzi wa taifa. Na huu wajibu wote ni wa mwanamke.

Siwezi kuwasahau wanamke wanamuziki. Sote twaelewa kuwa kwa uchumi kama wetu, kutengemea kazi ya kuajiriwa ni kutaka muhali, chambilicho wahenga mchagua jembe si mkulima. Nashukuru wanadada wetu kwa kutia bidii katika uwanja wa mziki badla ya kuwa viruka njia. Kupitia kwa sauti nyororo kama kindanda wameweza kuwavutia hata watalii kuitembelea nchi yetu na kutuachia pesa za kigeni. Nawahimiza wengi kama iwezekanavyo wajaribu bahati yao…….jambo hili linajuza sana katika ujenzi wa taifa imara.

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

Katika kitengo cha spoti, waawake wamejizatiti vilivyo na kutokea wanashati kweli kweli. Wamezika katika kaburi la sahau kuwa mchezo ni uawala wa wanaume. Kwa mfano katika michezo ya Olimpiki au jimuiya ya madola timu zetu za wanawake zimefanya vyema na kurudi nyumbani na nishani chungu nzima.Kwa wale wasiohusika katika michezo ningewasihi wajikakamue kisabuni basi wasiwaonee kijicho wenzao, kwani nyote ya mwenzio usilalie mlango wazi. I wapo tutazingatia ufanisi katika michezo, taifa hili halina budi kuendeleza uchumi wake.

Kwa kukunja jamvi, ningetaka kusisitiza kuwa hata ingawa jitihada haziondoi kudura, wanawake wetu wamefanya bidii za kutosha na inafaa wapewe nafasi sawa na wanaume katika ujenzi wa taifa.
Ningewahimiza wanaume wasiwe na kinyongo dhidi ya wamawake bali chanda chema huvishwa pete. Huu ndio wito wangu na kama tujuavyo kuro hasemi uongo na mbiu ya mgambo ikilia haikosi ina jambo.

MASWALI

a) Fafanua dhima ya mwanamke kulingana na makala haya. (maneno 70-80) **(al.6)**

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

Nakala safi

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

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

.....

.....

.....

.....

.....

.....

.....

.....

b) Bila kubadilisha maana fupisha aya ya pili nay a tatu. (maneno 50- 55**)** **(al.7)**

.....

.....

.....

.....

.....

.....

.....

Nakala safi

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

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

3. MATUMIZI YA LUGHA

a) Andika maneno yanayoafiki maelezo haya**:** **(al.2)**

i. Nazali ya midomoni, kipasuo sighuna cha midomoni, kiyeyusho, irabu ya chini kati.

.....

.....

.....

ii. Kipua ghuna cha kaakaa laini, irabu ya chini kati, kimadende ghuna cha ufizi, irabu ya chini kati.

.....

.....

.....

b) Ainisha mofimu kwa kurejelea majukumu ya kisarufi katika neno hili. **(al.3)**

Alijipelekea

.....

.....

.....

.....

.....

c) Tunga sentensi ya swali ukitumia kiwakilishi nafsi ambata nafsi ya pili wingi. **(al.2)**

.....

.....

.....

.....

d) Kwa kutolea mifano, andika miundo miwili ya ngeli **ya LI-YA**. **(al.2)**

.....

.....

.....

.....

.....

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

e) Andika sentensi ifuatayo kwa udogo wingi. **(al.2)**

Mtoto mkaidi aliiba kitabu cha mwenzake.

.....

.....

.....

f) Tunga sentensi ukitumia nomino dhahania katika wakati ujao hali ya kuendelea. **(al.2)**

.....

.....

.....

.....

g) Andika katika usemi halisi mtindo wa kitamthilia. **(al.4)**

Khaemba Ouma alitaka kujua ni kwa nini Wandera Otieno alipenda Hisabati, Wandera Otieno akamweleza alipenda Hisabati kwa kuwa babake alikuwa mwalimu wa somo hilo.

.....

.....

.....

.....

.....

.....

h) Unda nomino tatu kutokana na kitenzi **safari**. **(al.3)**

.....

.....

.....

.....

.....

i)Tunga sentensi moja kutofautisha maana ya **daka** na **taka**. **(al.2)**

.....

.....

.....

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

j) Tunga sentensi mbili tofauti kuonyesha matumizi ya lama za mtajo. **(al.2)**

.....

.....

.....

.....

k) Yakinisha katika umoja. **(al.1)**

Msipofanya bidii hamtapita mtihani.

.....

.....

.....

l)Tunga sentensi ukitumia ka kuonyesha mfululizo wa matukio ya matukio ya wakati uliopita. **(al.2)**

.....

.....

.....

.....

m) Unda sentensi changamano kutokana na tungo zifuatazo: **(al.2)**

Mtoto alikuja nyumbani jana.

Mtoto ndiye huyu.

.....

.....

.....

.....

n) Jibu swali kulingana na agizo. **(al.2)**

Halima alimbebea mwalimu mzigo kwa gari. (Anza kwa yambwa tendewa)

.....

.....

.....

.....

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

o) Changanua sentensi ifuatayo kwa kielezo cha visaduku. **(al.5)**

Kile kizuri kilikuwa kikitumika ba baba Yule

.....

.....

.....

.....

.....

.....

.....

p) Tunatumia shabaha tunapofurahishwa na jambo**.....t**unapokula kiapo na yarabil**.....** **(al.2)**

q) Andika maana ya maneno yafuatayo: **(al.2)**

i. Kula kalenda

.....

.....

ii. Kula njaro.

.....

.....

4. ISIMUJAMII. **(al.10)**

Janga tandavu la korona limeathiri maisha ya kila mtu duniani, umepewa nafasi kama muuguzi kuzungumza na wanafunzi kuhusu suala hii. Andika sifa za lugha utakayotumia katika hotuba yako.

.....

.....

.....

.....

.....

.....

.....

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

JINA: ……..

SHULE: ……..……

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

102/3

KISWAHILI Karatasi ya 3

FASIHI

Muda: Saa 2 ½

MAAGIZO

Jibu maswali manne pekee.

Swali la kwanza ni la lazima

Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani; Tamthilia, Riwaya, Hadithi fupi, na Ushairi.

Usijibu maswali mawili kutoka sehemu moja.

Majibu yote yaandikwe kwa lugha ya Kiswahili

Kwa Matumizi ya Mtahini Pekee

Swali	Upeo	Alama
1	20	
	20	
	20	
	20	
	Jumla	

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

SEHEMU A: FASIHI SIMULIZI

1. LAZIMA Alama 20

(a) Taja hatua tano za kufanya utafiti **(alama 5)**

(b) Eleza kwa hoja tano, umuhimu wa kushiriki kama njia ya kukusanya data **(alama 5)**

(c) Kikundi cha Tamasha Bora kiliwasilisha maigizo katika ukumbi wa shule yenu. Fafanua kwa hoja tano sababu za uwasilishi wao kufanikiwa. **(alama 5)**

(d) Eleza msamiati ufuatao **(alama 5)**

(i) ulumbi

(ii) mbazi

(iii) lakabu

(iv) matambiko

(v) rara nafsi

SEHEMU B: TAMTHILIA

KIGOGO PAULINE KEA

Jibu swali la 2 au la 3

2. 'Wewe ni popo: Kwa ndege hupo na kwa wanyama hupo.'

a. Eleza muktadha wa dondoo hili. **(al 4)**

b. Taja na ueleze tamathali za usemi katika dondoo hili. **(al 4)**

c. Eleza sifa sita za msemaji wa maneno haya. **(al 6)**

d. Huku ukitoa mifano sita mwafaka, fafanua maudhui ya usaliti kama yalivyojitokeza katika tamthilia hii. **(al 6)**

Au

3. a. Kwa kutolea hoja kumi, onyesha matumizi ya kinaya ili kufanikisha maudhui mbalimbali katika tamthilia ya Kigogo . **(al 10)**

b. Jumuiya ya Sagamoyo inakumbwa na udhalimu chungu nzima. Thibitisha kwa hoja kumi. **(al 10)**

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

SEHEMU C: RIWAYA

ASSUMPTA MATEI: *CHOZI LA HERI*

Jibu swali la 4 au la 5

4. Eleza ufaafu wa anwani "Chozi la Heri" **(al20)**

AU

5. "Kuukata mkono niliostahili kuubusu yalinifika ya kunifika"

a) Eleza muktadha wa dondoo hili **(Alama 4)**

b) Eleza tamathali ya usemi inayoojitokeza katika dondoo hili. **(alama.2)**

c) Msiba huandamwa na msiba mwingine. Thibitisha kauli hii ukirejelea msemaji wa maneno kwenye dondoo **(alama 4)**

d) Eleza jinsi haki za watoto zimekiukwa katika riwaya ya Chozi la Heri. **(alama 10)**

SEHEMU D: HADITHI FUPI

Chokocho na Kayanda (Wah) *Tumbo Lisiloshiba na Hadithi Nyingine*

Jibu swali la 6 au la 7

Tulipokutana Tena

6. Ingawa mimi nilikuwa kitoto cha miaka mitano, nilihisi siku ile ilikuwa mbaya kwangu.

(a) Fafanua muktadha wa dondoo hili. **(alama 4)**

(b) Eleza toni ya dondoo hili. **(alama 2)**

(c) Eleza sifa sita za mzungumzaji wa kauli hii. **(alama 6)**

(d) Fafanua umuhimu wa usimulizi wa mzungumzaji katika kuijenga hadithi ya Tulipokutana Tena. **(alama 8)**

Au

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

7. Huku ukirejelea hadithi ya **Tumbo lisiloshiba** na **Shibe inatumaliza**, Fafanua madhui yaliyoonyeshwa kwenye mabano;

Tumbo lisiloshiba (ukiukaji wa haki.) **(alama 10)**

Shibe inatumaliza (ubadhirifu**)** **(alama 10)**

SEHEMU E: USHAIRI

8. Soma shairi lifuatalo kisha ujibu maswali yanayofuata.

Binadamu hatosheki, ni kiumbe chenye zani, kweli mja hapendeki
Kwa kweli haaminiki, hila ameficha ndani, la wazi ni unafiki
Ukweliwe haafiki, njama zake zi moyoni, usimwone ni rafiki,
Mtu kuwa na tamaa, akitaka kiso chake, ni hatari kama nyoka.

Wenginea watakuua, wakiona una pesa, hata zikiwa kidogo
Hizo kwao ni maua, hupupiwa zikatesa, wakizifuata nyago
Hadi kwenye wako au, pasipo hata kupesa, walakukupa kisogo
Mtu kuwa tamaa, akitaka kiso chake, ni hatari kama nyoka.

Pindi kinunua kitu, hafurahi shaitani, bali tajawa chukizo
Mtu kiwa mtukutu, tanuna mtimani, kwato ako tekelezo
Tamko lake ‘subutu’, kuondoa tumaini, na kukuliza wazo
Mtu kuwa tamaa, akitaka kiso chake, ni hatari kama nyoka.

Aliye na taraghani, taabu kuishi naye, kazi yake kujidai
Takusema faraghani, asosema kiwa naye, kupendeza maadui
Hana faida nyumbani, ni mtu akichimbaye, mradi usitumai
Mtu kuwa na tamaa, akitaka kiso chake, ni hatari kama nyoka.

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

Kwa hakika ni baka, kumkirimu mchawi, aliyejaa uchoyo
Bahati ina hadaa, kukupa alo sodawi, aibarili rowoyo
Mipangayo kwake jaa, na nia ya ustawi, huwiza kuvunja kaniyo
Mtu kuwa na tamaa, akitaka kiso chake, ni hatari kama nyoka.

Ninacho changu kilio, ninalia sanasana, kinyesi nimetupiwa
Ningetoa azinio, lakini uwezo sina, kwa mazito kuambiwa
Ama nitimue mbio, fuadinininanena, akilini nazuiwa
Mtu kuwa na tamaa, akitaka kiso chake, ni hatari kama nyoka.

Maswali

a) Jadili dhamira ya shairi hili. **(Alama 1)**

b) Eleza sababu za mtungaji kulalamika katika shairi hili. **(Alama 3)**

c) Eleza umbo la shairi hili. **(Alama 4)**

d) Andika ubeti wa tatu katika lugha nathari/ tutumbi. **(Alama 4)**

e) Taja na utoe mifano ya aina nne za tamathali za usemi zilizotumika katika shairi hili (Alama 4)

f) Toa mifano miwili tofauti ya uhuru wa kishairi katika shairi hili . **(Alamfa 2)**

g) Eleza maana ya msamiati ufuatao kama ulivyotumika katika shairi. **(Alama 2)**

i) Zani

ii) Faraghani

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

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……..……

SCHOOL: ……...……..……..

ADM NO: …….. SIGN: ……. DATE: ……..……

121/1

MATHEMATICS PAPER 1.

2 ½ Hours

Instructions to Candidates

(a) Write your name and index number in the spaces provided below
(b) Sign and write the date of examination in the spaces provided above.
(c) The paper consists of **TWO** sections: **Section I** and **Section II**.
(d) Answer **ALL** questions in **Section I** and **ONLY** five from **Section II**.
(e) All answers and working must be written on the question paper in the spaces provided below each question.
(f)Show all the steps in your calculations, giving your answers at each stage in the spaces below each question
(f) Marks may be given for correct working even if the answer is wrong.
(g) Non – programmable silent calculators and KNEC Mathematical tables may be used except where stated otherwise.

For Examiner's use only

Section I

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

Section II

17	18	19	20	21	22	23	24	Total

GRAND TOTAL

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

SECTION 1 (50 MARKS)

Answer all the questions in the space provided below each question

1. Find the equation of a straight line passing through the points A (1,-3) and B (-2, 5).Express your answer in the form ax + by = c where a, b and c are integers**.** **(3marks)**

2. Evaluate without using mathematical tables or calculator $\frac{-10\div2+6\times4-8\times5}{-5+(-12)\div3\times2}$ **(3marks)**

3. Solve for x in the equation $\frac{Cos(2x-30)^\circ}{Sin(3x+10)^\circ} = tan45^\circ$ **(3marks)**

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

4. Two taps P and Q together can fill a water tank in 6 minutes. Tap P alone takes 5 minutes longer than tap Q. How many minutes does it take tap P alone to fill the tank? **(3marks)**

5. Given that, $27^{5x-2y} = 243 \quad and \quad 81^{2x-y} = 3$, Calculate the values of x and y. **(3marks)**

6. A point P is mapped onto P' by a negative quarter turn about the origin. P' is mapped onto P'' by a translation represented by the vector $\begin{pmatrix} -2 \\ 3 \end{pmatrix}$. If P'' has coordinates (11,-5) determine the coordinates of p**.** **(3marks)**

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

7. A metallic pipe which is 21 meters long has an internal radius of 13 cm and an external radius of 15 cm. if the density of the metal is 8620 kg/ m^3, find its mass. **(3marks)**

8. Using logarithms evaluate $\sqrt[3]{\frac{82.73\times0.2943^2}{613.5}}$ **(3marks)**

9. A proper fraction is such that the denominator exceeds the numerator by 3. If 2 is subtracted from both the numerator and denominator, the fraction formed is $\frac{1}{8}$ less. Determine the original fraction. **(3 marks)**

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

10. Given that OM = 2i +3j -6k and ON = -3i + 5j +k.Find the magnitude of MN to 2 decimal places**.** **(3marks)**

11. Find the range of the integral values of x in the inequality $10 < 3(x + 2) < 35$, giving your answer in the form $a \leq x \leq b$ **(3marks)**

12. Simplify completely $\frac{2-2x}{6x^2-x-12} \div \frac{x-1}{2x-3}$ **(3marks)**

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

13. The marked price of a recliner sofa set in a furniture store was ksh 400,000.A customer bought the recliner at 10% discount. The dealer still made a profit of 20%, Calculate the amount of money the dealer paid for the recliner**.** **(3marks)**

14. Draw a line AB of length 9 cm. On one side of line AB construct the locus of a point P such that the area of triangle ABC is 13.5 cm^2.On this locus locate two positions of a point P1 and P2 such that $\angle AP1B = \angle AP2B = 90^o$

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

15. Given that the area of an image is four times the area of the object under a transformation whose matrix is $\begin{pmatrix} x & x-4 \\ x+8 & x \end{pmatrix}$, find the possible value of x. **(3 marks)**

16. Construct a triangle ABC in which AB = 5cm and AC = 8cm and $\angle ABC = 105°$. Using line AC, locate point x on AB produced such that AX: XB =3: -2 **(4marks)**

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

SECTION II (50 MARKS)

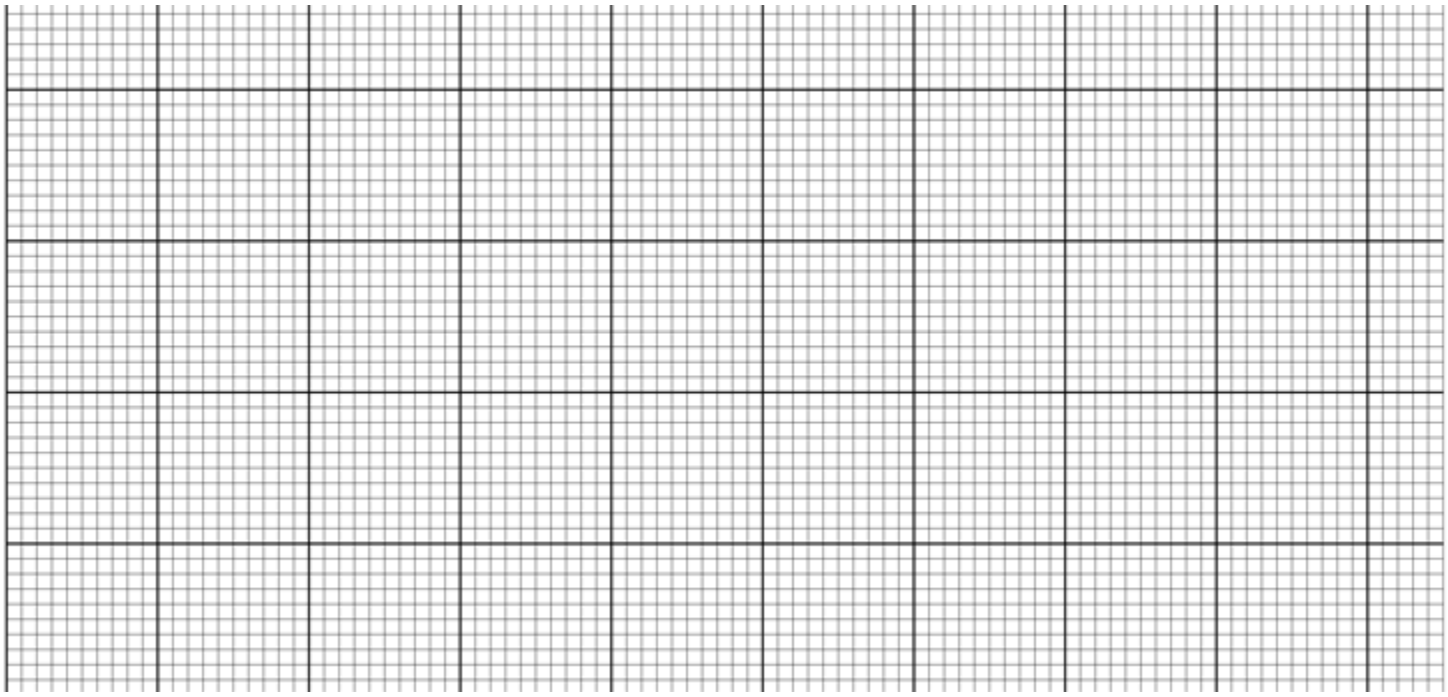
Answer only five questions in this section

17. The table below shows the weekly salary (k£) paid to workers in a school.

Salary (k£)	$50 \leq x \leq 100$	$100 \leq x \leq 150$	$150 \leq x \leq 250$	$250 \leq x \leq 350$	$350 \leq x \leq 500$
No. of Workers	25	27	30	26	24

a) Calculate the differences between the mean and the median. **(6 marks)**

b) Draw a frequency polygon to illustrate the above information. **(4marks)**

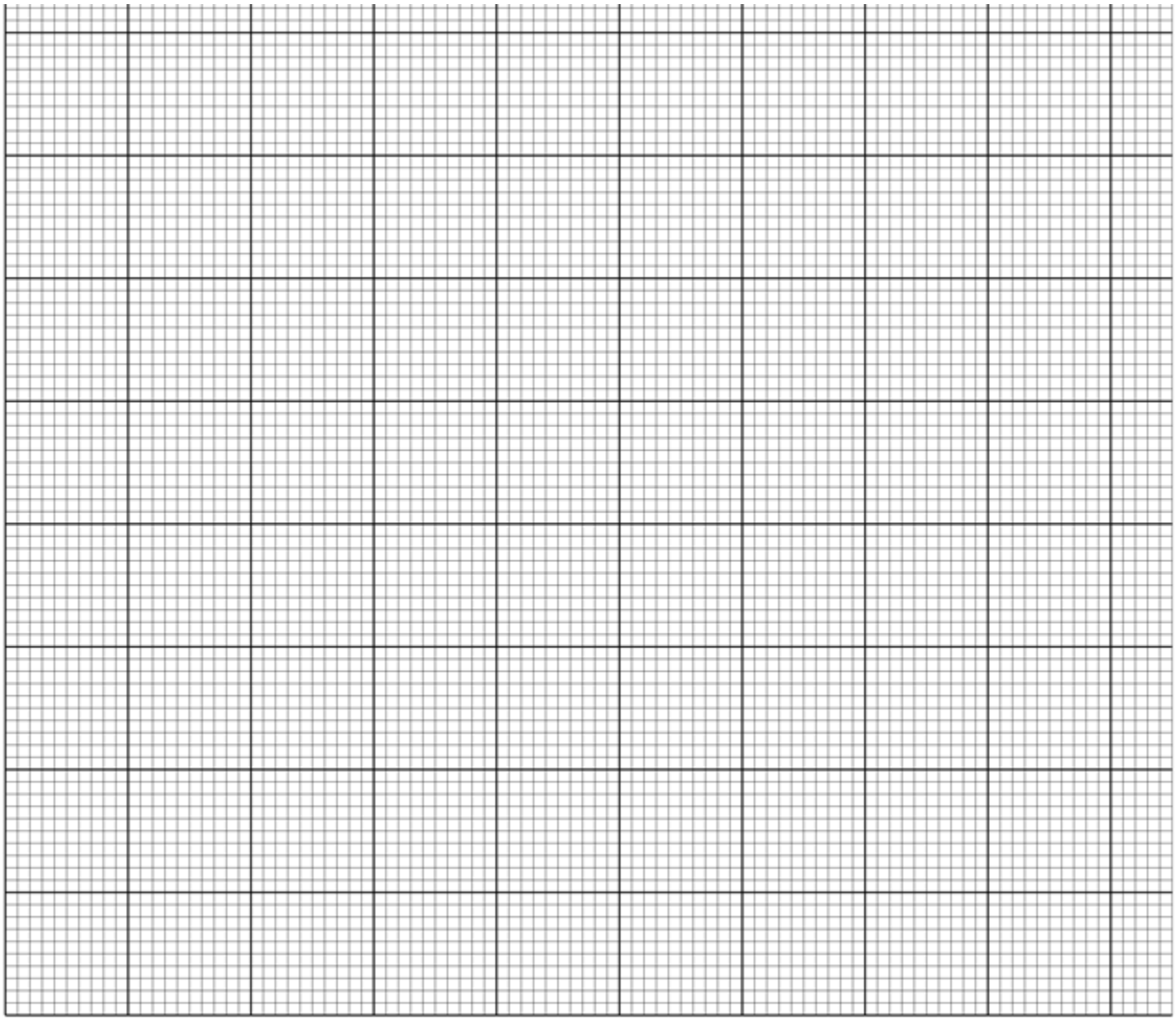


Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

18. a) Complete the table of values for the equation, $y = -2x^2 + x + 8$. **(2marks)**

x	-3	-2	-1	0	1	2	3	4
y								

b) Use the values above to draw the graph of $y = -2x^2 + x + 8$. **(3marks)**



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

(ii) $-2x^2 + 4x + 12 = 0$ **(3marks)**

19. Three towns P, Q and R are such that Q is 16 km north of P and the distance of R is 12 km from P and on a bearing of 60^{o} from Q.

a) Using a scale of 1cm to represent 4km, Make a scale drawing showing the relative positions of the three towns. **(3marks)**

b) Using the scale drawing above, find the

i) Distance of R from Q. **(1mark)**

ii) Bearing of P from Q. **(1mark)**

iii) How far town R is east of Q **(1mark)**

c) A Passenger in an aero plane after take-off from town R spotted town P at an angle of depression of 48^{o}, by means of a scale drawing determine the vertical height of the plane at town R. **(3marks)**

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

20. a) The equation of a straight line L_1 is of the form $3y + 2x = 5$. L_1 is perpendicular to L_2 and meets it at the point where $X = -2$, determine the equation of L_2 in the form y = mx+c where m and c are constants. **(5marks)**

b) L_3 is parallel to the line L_2 and passes through the point (-3,2).,find the equation of L_3, leaving your answer in its double intercept form. **(3marks)**

c) Determine the angle of inclination of L_2 to the Y-axis. **(2marks)**

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

21. The points **P, Q, R** and **S**, have position vectors **2p, 3p, r** and **3r** respectively, relative to an origin O. A point **T** divides **PS** internally in the ratio 1:6.

a) Find, in its simplest form **OT, QT** and **TR** in terms of **p** and **r**. **(6 marks)**

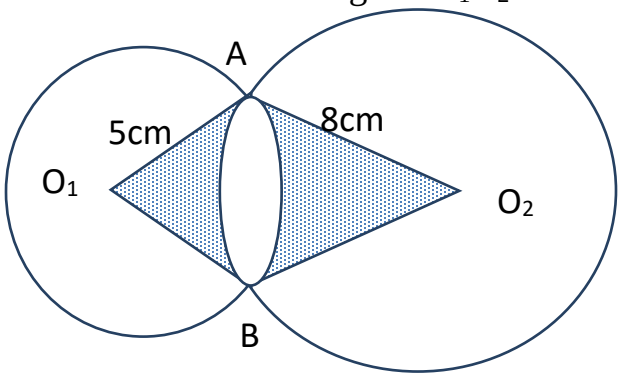
b) Show that the points **Q, T** and **R**, are collinear. **(3marks)**

c) Determine the ratio in which **T** divides **QR**. **(1mark)**

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

22. In the figure below, O_1 and O_2 are the centers of the circles whose radii are 5 cm and 8 cm respectively. The circles intersect at A and B and angle $AO_1O_2 = 64^\circ$.

Calculate the area of the:-



a) Sector

i) AO1B **(2marks)**

ii) AO2B **(3 marks)**

b) Intersecting region. **(3marks)**

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

c) The shaded region. **(2marks)**

23. a) Find the x –intercept of the curve $y = (x+2)(x-1)^2$. **(1mark).**

b) Find the gradient function of the curve $y = (x+2)(x-1)^2$ **(2marks)**

c) Find the co-ordinates of the turning point. Hence sketch the curve $y= (x+2)(x-1)^2$. **(4 marks)**

d) Calculate the exact area enclosed by the curve and the x - axis **(3marks)**

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

24. P and Q are two points on latitude 40°N.Their longitudes are 30°E and 150°W respectively. Find to one decimal place :(Take the radius of the earth = 6370km and $\pi = \frac{22}{7}$)

a) The distance in km between P and Q along the parallel of latitudes. **(2marks)**

b) The shortest distance along the earth's surface between P and Q in km**.** **(3marks)**

c) A weather forecaster reports that the center of a cyclone at (40°N, 60°W) is moving due north at 24 knots. How long will it take to reach a point (45°N, 60°W). **(2marks)**

d) A plane leaves P at 2.15 pm at a speed of 350 knots to town R (40^{o}N, 65^{o}E). Determine the time at R when the plane arrived. **(3marks)**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……...

121/2

MATHEMATICS

PAPER 2

TIME: 2 ½ HOURS

Instructions

- *Write your name, class, admission number, school, date and signature in spaces provided above.*
- *The paper contains **two** sections **I** and **II.***
- *Answer **all** questions in section **I** and **any five** questions from section **11** in the spaces provided below each question.*
- *Show all the steps in your calculations giving your answers at each stage in the spaces below each question.*
- *Non-programmable silent electronic calculator and mathematical tables may be used except where stated otherwise.*

For Examiner's Use Only

SECTION A

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

SECTION B

17	18	19	20	21	22	23	24	TOTAL

PERCENTAGE SCORE

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

SECTION I (50 MARKS)

*Answer **all** the questions from this section*

1. The expression $(1 + \frac{x}{2})$ is taken as an approximation for $\sqrt{1+x}$. Find the percentage error in doing so if x = 0.44.(Give answer correct to 2 d.p) **(3 Marks)**

2. Express the following in surd form and simplify by rationalizing the denominator.

$\frac{1}{cos60° - sin45°}$ **(3 Marks)**

3. Make q the subject of the formula **(3 Marks)**

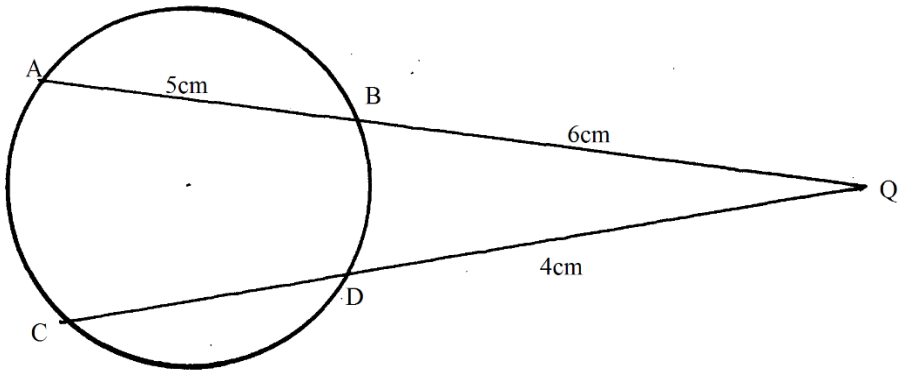
$P = \sqrt[3]{\frac{nq-m}{q}}$

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

4. The data below shows the age of 10 pupils picked at random in a primary school 6, 11, 13, 14, 8, 7, 12, 20, P and 9 if $\sum fx^2 = 1360$. Determine the value of P hence, find the standard Deviation to 3d.p **(4 Marks)**

5. The volume, V of a cylinder varies jointly as its height, (h) and the square of its radius, (r), Calculate the percentage increase in its volume (V), when radius increases by 5% and height, h increases by 10%. **(3 Marks)**

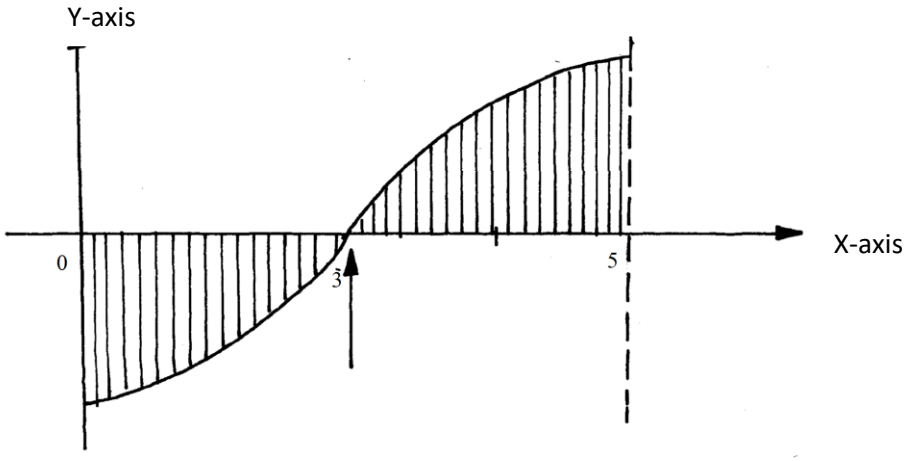
6. Chords AB and CD in the figure below intersect externally at Q. if AB = 5cm BQ = 6cm and DQ = 4cm, calculate the length of chord CD. (2 Marks)



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

7. Jane can do a piece of job in 4 days while Mary can do the same piece of work in 7 days. Mary and Jane did the job together for two days before Jane fell sick. Mary was left to complete the job. How long did it take to do the job? **(3 Marks)**

8. The sketch below represents the graph of $y=x^2-x-6$. Find the area bounded by the curve, x-axis, y-axis and the line x=5. **(3 Marks)**

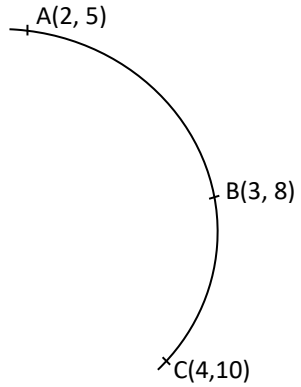


Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

9. Use matrix method to determine the co-ordinates of the point of intersection of the two lines. 3x-2y=13,

2y+x+1=0 **(3 Marks)**

10. The figure **below** shows an arc of a circle through three points A, B and C. Calculate the co-ordinates of the centre of the circle. **(4 Marks)**



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

11. A bag contains 4 white balls and 5 Red balls of similar shape and size. Two balls are picked at random without replacement. Find the probability that both balls are:

a) White **(1 Mark)**

b) Of different colour **(2 Marks)**

12. A point $P(2,-3)$ undergoes transformation represented by the matrix $\begin{pmatrix} 3 & 0 \\ 0 & 1 \end{pmatrix}$. **Find** the Co-ordinate of the image of P. **(2 Marks)**

13. Expand $(2+x)^6$ up to the fourth term. **(2 Marks)**

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

Hence use the above expansion to evaluate $(1.96)^6$ correct to 4 d.p. **(2 Marks)**

14. Find the value of x in the equation $10\sin^2 x - 7\cos x + 2 = 0$ for the range $270^\circ \leq x \leq 360^\circ$

(3 Marks)

15. Find the value of x in **(3 Marks)**

$\text{Log}(x-2) + \log(x+1) = 1 + \log 4$

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

16. The sum of two numbers is 9. The sum of the square of the number is 41. Find the numbers

(4 Marks)

SECTION II (50 MARKS)

*Answer **FIVE** questions **ONLY** from this section*

17. The table below shows the taxation rates for income earned.

Income in ksh pm	Tax rates (%)
1 – 9680	10
9681 – 18800	15
18801 – 27920	20
27921 – 37040	25
Excess over 37041	30

In that year, Mr. Hamisi paid a net tax of KSh. 5,512 per month. He gets a house allowance of KShs. 10,000, medical allowance of KShs. 2400 and acting allowance of KShs. 2820 per month. He was entitled to a monthly personal relief of KShs. 162. He has a life insurance policy for which he pays a monthly premium of KSh. 1,500 and claims a relief at a rate of 10% of the premium paid per month. The following deductions also made every month.

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

(i) N.H.I.F. KSh. 320

(ii) Co-operative society shares KSh. 6000

(iii) Union dues KSh. 200

(a) Calculate Mr. Hamisi's monthly basic salary in KSh. **(7 Marks)**

(b) Calculate his net monthly salary. **(3 Marks)**

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

18. A jet leaves town P(30°S, 26°W) at 2.00 p.m on Monday and flew due \north to town Q(50°N,26°W).

a) Calculate the distance covered by the jet in Km. (take $\prod = {}^{22}/_{7}$ and R=6370) **(3 Marks)**

b) After 35 min stoppage at town Q the jet flew due East to town R a distance of 2500 nautical miles from town Q.

Find i) the position of town R **(3 Marks)**

ii) The local time the jet landed at R if its average speed for the whole journey is 1000km/h. (Take 1nm=1.853km) **(4 Marks)**

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

19. Use a ruler and a pair of compasses only in all constructions in this question.

(a) Construct the rectangle ABCD such that AB = 7.2cm and BC = 5.6cm. **(3 Marks)**

b) Constructs on the same diagram the locus L_1 of points equidistant from A and B to meet with another locus L_2 of points equidistant from AB and BC at M. Measure the acute angle formed at M by L_1 and L_2. **(3 Marks)**

c) Construct on the same diagram the locus of point K inside the rectangle such that K is less than 3.5cm from point M. Given that point K is nearer to B than A and also nearer to BA than BC, shade the possible region where K lies. Hence calculate the area of this region. Correct to one decimal place. **(4 marks)**

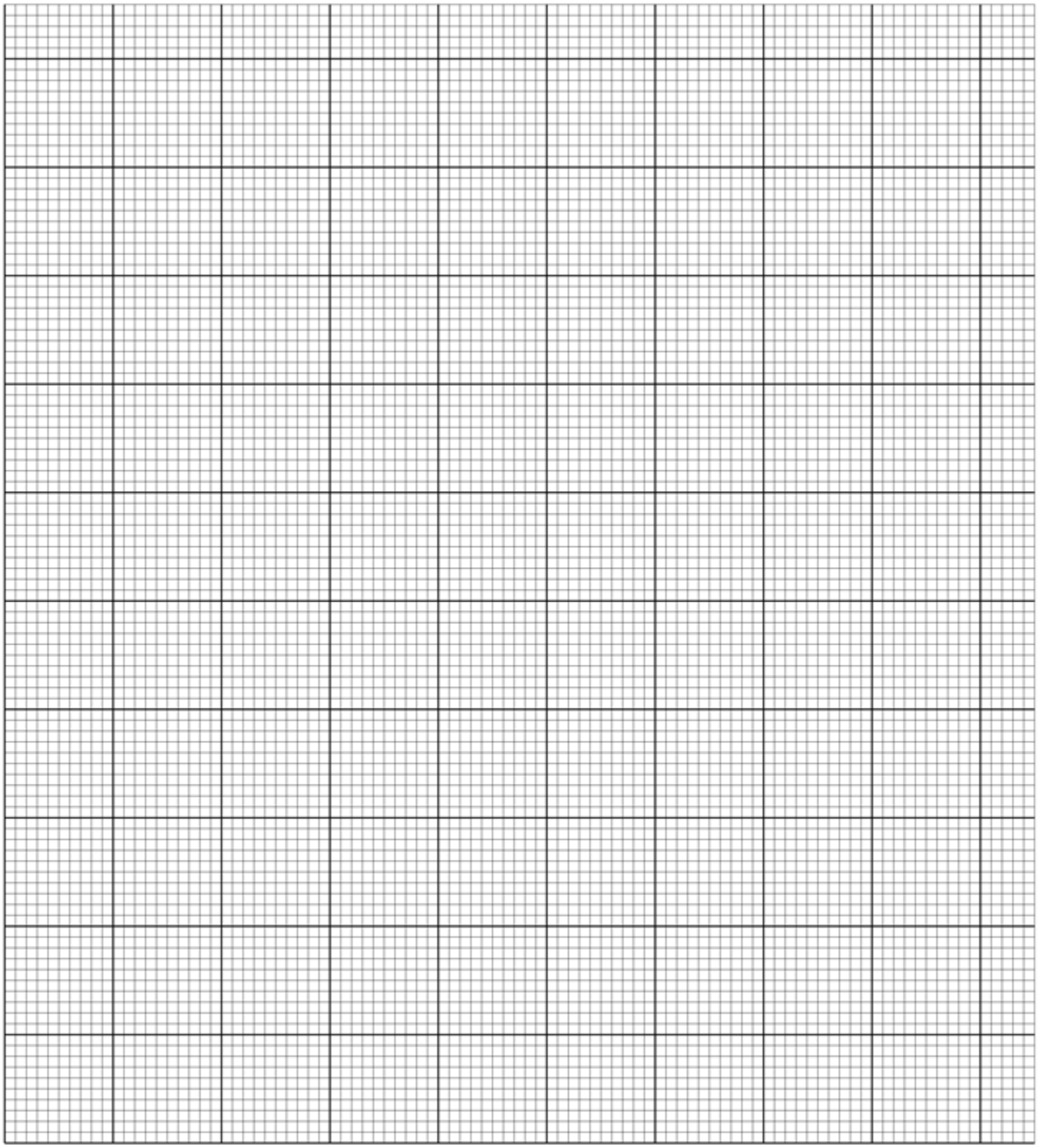
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

20. (a) The first term of a geometric progression is 36.the sum of the first three terms is 27. Calculate the common ratio and the value of the second term **(4 Marks)**

(b) The first term of an AP is 2.the first term of a geometric sequence is also 2 and its common ratio equals the common difference of the arithmetic sequence. The square of the fifth term of arithmetic sequence exceeds the third term of the geometric sequence by 2. Find the common difference and the sum of the first 50 terms of an AP. **(6 Marks)**

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

21. a) Draw triangle PQR whose vertices are P(1,1) Q(-3,2) and R(0,3) on the grid provided.**(1 Mark)**



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

b) Find the coordinates of triangle $P^1Q^1R^1$ the image of triangle PQR under the transformation whose matrix is $\begin{pmatrix} 3 & 0 \\ 1 & 1 \end{pmatrix}$. Draw triangle $P^1Q^1R^1$. **(3 Marks)**

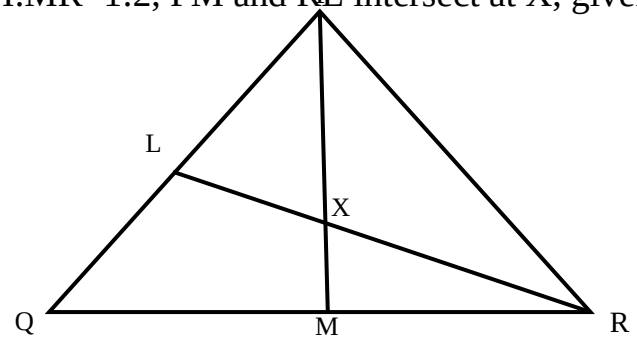
c) $P^1Q^1R^1$ is then transformed onto $P^2Q^2R^2$ by the transformation with matrix $\begin{pmatrix} \frac{2}{3} & 0 \\ \frac{-2}{3} & 2 \end{pmatrix}$

Find the coordinates of $P^2Q^2R^2$ and draw triangle $P^2Q^2R^2$ **(3 Marks)**

d) Describe fully a single transformation which maps PQR onto $P^2Q^2R^2$. Find the matrix of this transformation **(3 Marks)**

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

22. In the triangle PQR below, L and M are points on PQ and QR respectively such that PL: LQ=1:3 and QM:MR=1:2, PM and RL intersect at X, given that PQ = **b** and PR = **c**,



(a) Express the following vectors in terms of **b** and **c**

(i) **QR** **(1mark)**

(ii) **PM** **(1mark)**

(iii) **RL** **(1mark)**

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

(b) By taking **PX** = h**PM** and **RX** = k**RL** where h and k are constants find two expressions of **PX** in terms of h, k, **b** and **c**. Hence determine the values of the constant h and k.

(6marks)

(c) Determine the ratio LX: XR **(1mark)**

23. a) Complete the table below for the function $y=2x^2 + 4x -3$ **(2 Marks)**

x	-4	-3	-2	-1	0	1	2
y					-3		

b) On the grid provided, draw the graph of the function $y=2x^2 + 4x -3$ for $-4 \leq x \leq 2$ using the scale of 1cm to represent 1 unit on axis and 1cm to represent 2 units on y-axis. **(3 Marks)**

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



c) Use the graph above to:

i)Determine the roots of the equation $2x^2 + 4x - 3 = 0$ **(2 Marks)**

ii) Solve the equation $2x^2 + x - 5 = 0$ **(3 Marks)**

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

24. The acceleration of a particle, t seconds after passing a fixed point P is given by $a = 3t - 3$. Given that the velocity of the particle when $t = 2$ is 5m/s, find;

a) Its velocity when $t = 4$ seconds **(3 Marks)**

b) Its displacement at the time in (a) above **(3 Marks)**

c) The displacement during the third second **(4 Marks)**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..

ADM NO: …….. SIGN: ……. DATE: ……..…..

232/1

PHYSICS

PAPER 1 (THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO THE CANDIDATE:

(a) Write your **name** and **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) There are 14 printed pages, with 18 questions check to confirm that your paper is complete.
(e) Answer **all** the questions in sections **A** and **B** in the spaces provided.
(f) All working **must** be clearly shown in the spaces provided.
(g) Mathematical tables and electronic calculators **may be** used.

FOR EXAMINER'S USE ONLY:

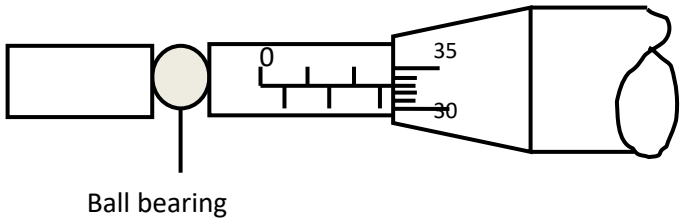
Section	Question	Maximum Score	Candidate's Score
A	1 – 12	25	
	13	08	
B	14	10	
	15	09	
	16	07	
	17	12	
	18	09	
Total Score		80	

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

SECTION A: (25 MARKS)

1. A ball bearing is held between the anvil and spindle of a micrometer screw gauge as shown in the **Figure 1** below.

Figure 1



What is the diameter of the ball bearing? **(1 mark)**

2. State two properties of a liquid that is suitable for use in a thermometer. **(2marks)**

.....

.....

.....

.....

3. In an experiment to determine the relative density of a substance using a density bottle the following measurements were taken. (Take density of water to be $1g/cm^3$)

- Mass of empty density bottle = 43.2 g
- Mass of bottle full of water = 66.4 g
- Mass of bottle filled with liquid X = 68.2g

Use the data to determine the density of the liquids. **(3marks)**

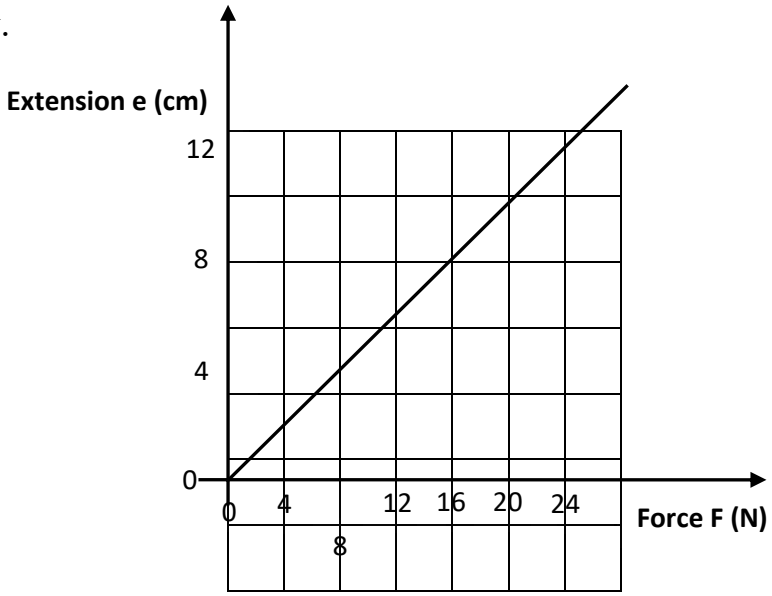
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

4. Why are gases more compressible while liquids and solids are almost incompressible? **(1mark)**

.....

.....

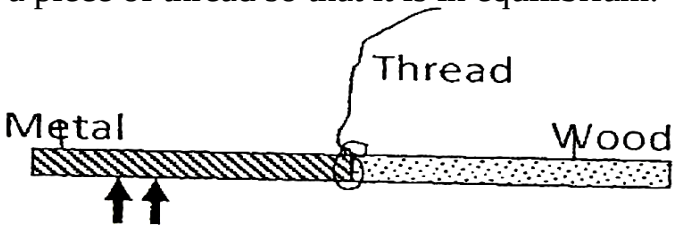
5. The graph shows variation of extension and stretching force F for a spring which obeys Hooke's law.



(i) Determine the spring constant in SI units. **(1mark)**

(ii) The energy stored when the extension is 20cm. **(2marks)**

6. The figure 2 below shows a rod made of wood on one end and metal on the other end suspended freely with a piece of thread so that it is in equilibrium.



Heat

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

The side made of metal is now heated with a Bunsen flame. State with a reason, the side to which the rod is likely to tilt. **(2 marks)**

.....

.....

.....

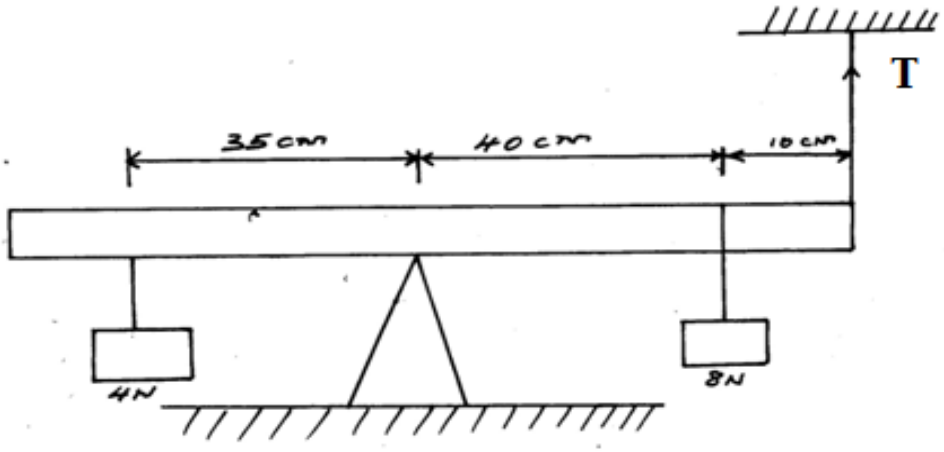
.....

7. State one factor that would increase the surface tension of pure water in a beaker of water. **(1 mark)**

.....

.....

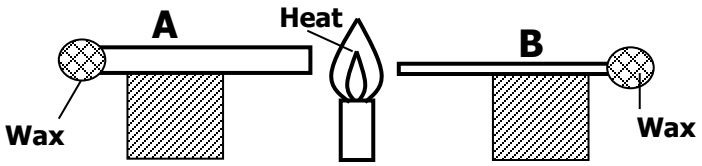
8. The figure below (figure 3) shows a uniform metal rod balanced at its Centre by different forces.



Determine the value of T. **(3 marks)**

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

9. Two rods of copper **A** and **B** of the same length but different thickness with candle wax attached to either end are heated as shown below.



State and explain the observation made. **(2 marks)**

.....

.....

.....

.....

10. Figure 4 shows a manometer attached to a gas supply. If the atmospheric pressure is 1.0336 x 10^5Pa. Calculate the pressure of the gas supply.

(Density of mercury = 13600kg/m^3) **(2 marks)**

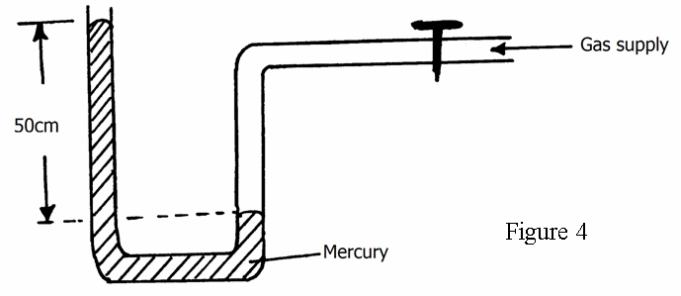


Figure 4

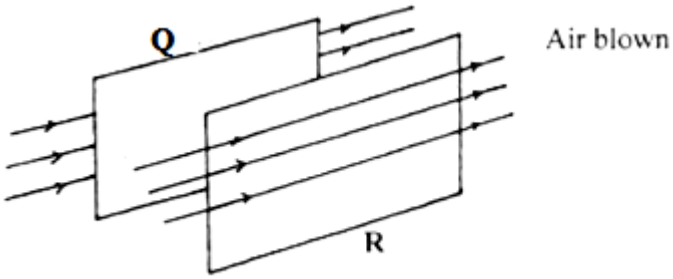
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

11. A block of wood measuring 0.8m by 0.5m by 2m floats in water. 1.2m of the block is submerged. (Density of water = 1000kg/m^3 , g=10N/kg) Determine the weight of the water displaced. **(3 marks)**

.

12. The figure 5 below shows two light sheets of paper arranged as shown.

Fig. 5



Its observed that the papers move away from each other when strong air is blown at the same time behind paper Q and in front of paper R as shown. Explain (2 marks)

.....

.....

.....

.....

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

SECTION B (55 MARKS)

13. A block and tackle is made up of three pulley wheels on top and two pulley wheels at the bottom in figure 6

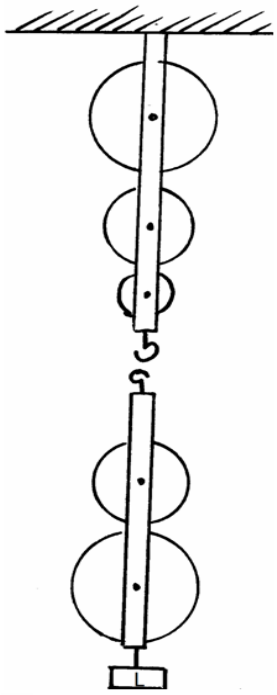


Figure 6

(a) Complete the diagram by drawing the chain which passes over the wheels and indicate where the effort is applied **(2 marks)**

(b) What is the velocity ratio (V.R) of the machine **(1 mark)**

.....

.....

(c) A load of 1120N is lifted by an effort of 250N

Determine

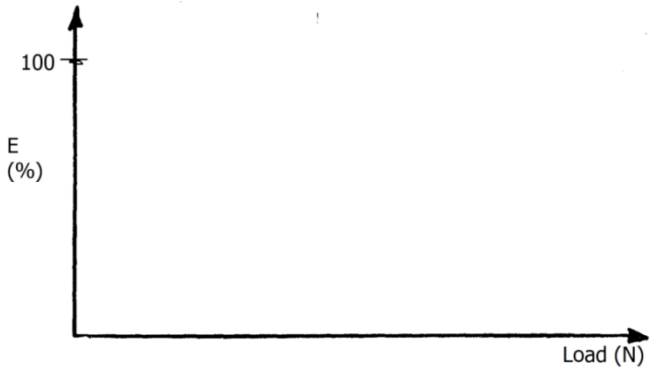
(i) The mechanical advantage (M.A) of the system **(2 mark)**

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

(ii) The efficiency, E, of the system **(2 marks)**

(e) Using the axes given below, sketch a graph of efficiency, E, against load

(1 mark)



14. (a) What is meant by the term specific latent heat of fusion of a substance? **(1 mark)**

.....

.....

.....

.....

(b) Water of mass 200g at a temperature of 60^{o}C is put in a well lagged copper calorimeter of mass 80g. A piece of ice at 0^{o}C and mass 20g is placed in the calorimeter and the mixture stirred gently until all the ice melts. The final temperature of the mixture is then measured (Latent heat of fusion of ice = 334000Jkg^{-1}, specific heat capacity of water = 4200Jkg^{-1}K^{-1})

Determine:

(i) The heat absorbed by the melting ice at 0^{o}C **(2 marks)**

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

(ii) The heat absorbed by the melted ice (water) to rise to temperature T **(2 marks)**

(iii) The heat lost by the warm water and the calorimeter (Specific heat capacity of the calorimeter = $900Jkg^{-1}K^{-1}$) **(2 marks)**

(iv) The final temperature T of the mixture **(3 marks)**

15. A lead shot of mass 40g is tied to a string of length 70cm. It is swung vertically at 5 revolutions per second. (Take $g=10m/s^2$)

(a) Determine;

(i) Periodic time, **(1 mark)**

(ii) Angular velocity **(2 marks)**

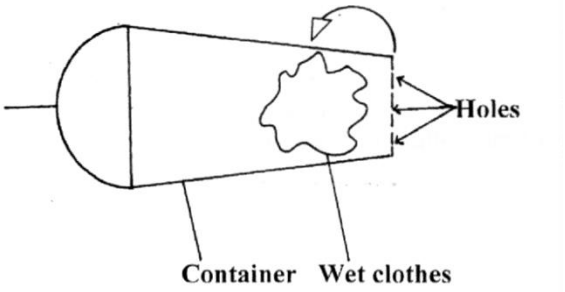
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

(iii) Linear velocity **(2 marks)**

(iv) Maximum tension in the string. **(2 marks)**

(b) The figure 7 below shows a container with small holes at the bottom in which wet clothes have been put. When the container is whirled in air at high speed as shown, it is observed that the clothes dry faster. Explain how the rotation of the container causes the clothes to dry faster. **(2 marks)**

Fig 7



.....

.....

.....

.....

16. (a) Give a reason why the inside of a helmet is lined with sponge. **(1 mark)**

.....

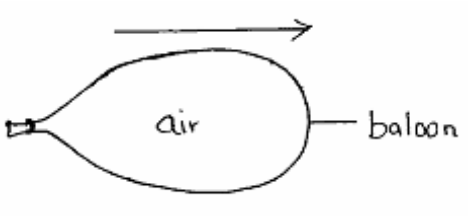
.....

.....

.....

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

(b) The figure below shows a balloon filled with air.



When the mouth is suddenly opened, the balloon moves in the direction shown above by the arrow. Explain that observation. **(2 marks)**

.....

.....

.....

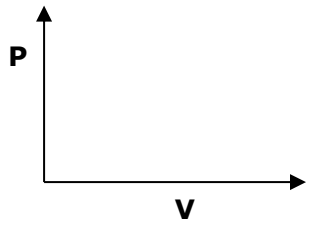
.....

(c) A rock of mass 150kg moving at 10m/s collides with a stationary rock of mass100kg. They fuse after collision. Determine the

(i) Total momentum before collision. **(2 marks)**

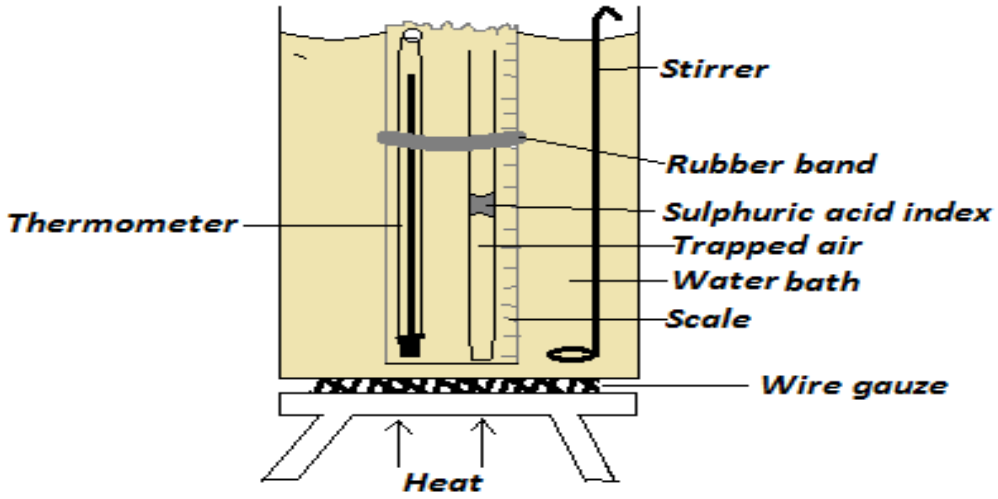
(ii) Their common velocity after collision. **(2 marks)**

17. (a) On the axis below, sketch a graph to show how the pressure of a fixed mass of a gas varies with volume at constant temperature. **(1 mark)**



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

(b) The set-up below shows an arrangement that can be used to Verify Charles' law.



(i) State any one use of sulphuric acid index in the above set up. **(1 mark)**

.....

.....

(ii) What is the use of the stirrer? **(1 mark)**

.....

.....

.....

(iii) State two measurements that should be taken in this experiment. **(2 marks)**

.....

.....

.....

.....

(iv) Describe how the set up can be used to verify Charles' law. **(4 marks)**

.....

.....

.....

.....

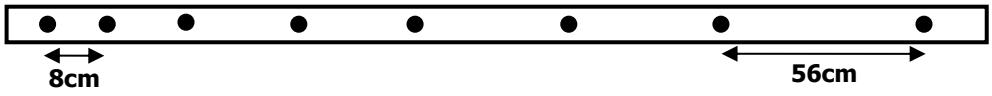
.....

.....

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

(c) The volume of a gas enclosed with a movable piston is 300 cm^3 when the temperature is 290K. Determine the temperature at which the volume of the gas increases to 355 cm^3 (Assume pressure does not change) **(3 marks)**

18. (a). The section of the tape shown below was produced when a tape running down an incline plane was attached to a **ticker-tape timer** of frequency **50Hz**.



i) Indicate above the tape the direction in which the trolley was moving. **(1 mark)**

ii) What type of current was used to operate the ticker timer? **(1 mark)**

.....

.....

.....

iii) Find the acceleration of the trolley in SI units. **(3 marks)**

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

(b). A stone is projected vertically upwards with initial velocity of 40m/s from the ground. Calculate:

i) Time taken to reach maximum height **(2 marks)**

ii) Maximum height reached **(2 marks)**

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……..…

ADM NO: …….. SIGN: ……. DATE: ……..

232/2

PHYSICS PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO THE 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** and **B** in the spaces provided.
- All working **must** be clearly shown in the spaces provided.
- Mathematical tables and electronic calculators may be used.

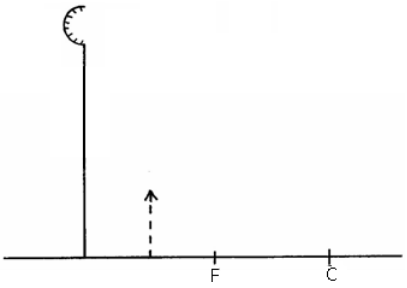
For Examiners' Use Only

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 12	25	
B	13	10	
	14	08	
	15	13	
	16	12	
	17	12	
TOTAL		**80**	

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

SECTION A (25 MARKS)

1. The diagram below shows the image formed by a convex mirror. Complete the diagram to show the position of the object. (2mks)



2. Explain why sound cannot be heard from far when one shouts in a forest. **(1mk)**

.....

.....

.....

3. The chart below shows an arrangement of different parts of the electromagnetic spectrum.

Radio	A	Visible	Ultraviolet	X-Rays	Gamma rays

Name the radiation represented by **A**. **(1mk)**

.....

.....

4. The figure below shows a magnet. Point **A** and **B** are in front of the magnet.



On the axes provided, sketch a graph showing how the magnetic field strength changes from A to B. **(2mks)**

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



5. (a)Machines at a textile industry experiences electrostatic forces at certain points. Suggest a method that can be used to reduce these forces. **(1mk)**

.....

.....

(b) A sharp point of a pin is held over a positively charged electroscope. State and explain the observation made on the electroscope. **(2mks)**

.....

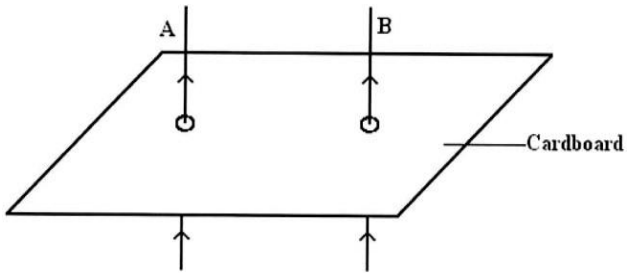
.....

.....

.....

.....

6. The figure below shows two conducting wires A and B passing through a horizontal piece of cardboard.



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

(i) Sketch the resultant magnetic field patterns when the currents of high magnitude are flowing on both wires as shown. **(1mk)**

(ii) **What** is the resulting effect of the field on the wires at the loose ends? **(1mk)**

.....

.....

.....

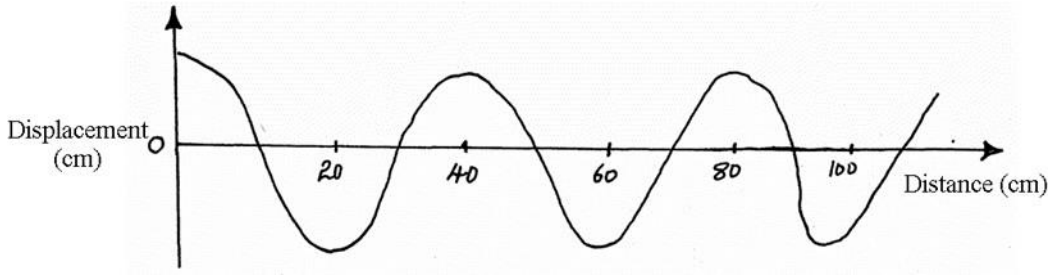
(iii) If the current in B were to be reversed, **state how** resulting would affect the wire conductors. **(1mk)**

.....

.....

.....

7. The figure shows a wave traveling along a medium.



Determine the speed of the wave if the source produces 480 vibrations per minute. **(3mks)**

8. State two things that determines the carrying capacity of an accumulator. **(2mks)**

.....

.....

.....

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

.....

.....

9. Explain why when the pinhole of a pinhole camera is enlarged, a brighter but very blurred image is seen on the screen **(2mks)**

.....

.....

.....

.....

10. Calculate the operating current of a heating element rated 3kW, 240 Volts. **(3mks)**

11. State two factors affecting resistance of a resistor. **(2mks)**

.....

.....

.....

.....

12. Distinguish between an amplitude and wavelength of a wave. **(1mk)**

.....

.....

.....

.....

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

SECTION B

13. (a)A lens forms an image four times the size of the object on the screen. The distance between the object and the screen is 60cm when the image is sharply focused.

(i) State with a reason what type of lens was used. **(2mks)**

.....

.....

.....

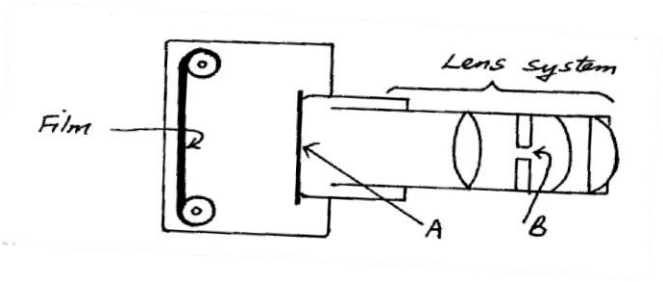
.....

(ii) Determine:

(I) The object distance. **(2mks)**

(II) The image distance. **(2mks)**

b) The figure below shows the basic parts of a simple lens camera.



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

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

.....

.....

.....

(ii) State the function of each of the parts **A** and **B**. **(2mks)**

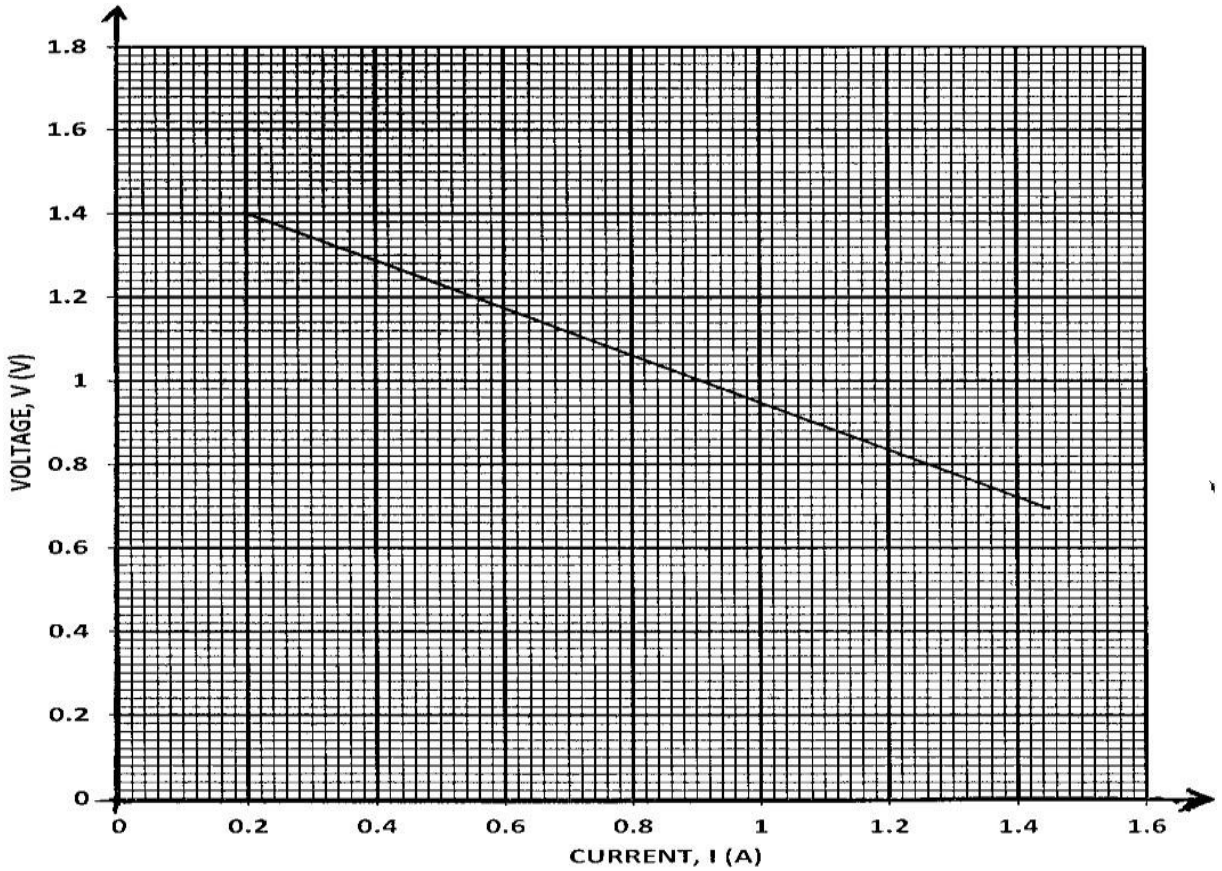
.....

.....

.....

.....

14. The graph below shows the variation of p.d (V) across the terminals of a cell and the current drawn from the cell.



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

a) Use the graph to determine:

(i) The electromotive force (e.m.f) E of the cell. **(1mk)**

(ii) The internal resistance r, of the cell given that E = V + Ir. **(3mks)**

(b) Draw a circuit diagram that may be used to obtain the values plotted in the graph. **(2mks)**

(c) Describe briefly how the circuit you have drawn may be used to carry out the experiment to obtain the values in the graph. **(2mks)**

.....

.....

.....

.....

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

15. (a) State Snell's law. **(1mk)**

.....

.....

.....

(b) A coin is placed beneath a transparent block of thickness 10cm and refractive index 1.56. Calculate the vertical displacement of the coin. **(3mks)**

(c) The speed of green light in a prism is is 1.94×10^8m/s.

(i) Determine the refractive index of the prism material.

(Speed of light in air = 3.0 □ 10^8m/s). **(2mks)**

(ii) Determine the critical angle of the prism material**.** **(2mks)**

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

(d) State **two** advantages of using optical fibre in communication. **(2mks)**

.....

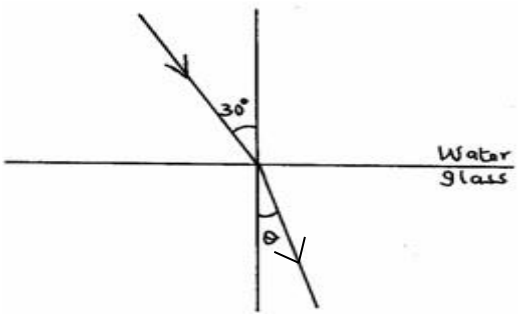
.....

.....

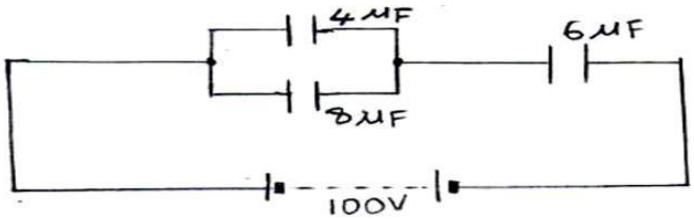
.....

.....

(e) The refractive indices of water and glass are $^{3}/_{2}$ and $^{4}/_{3}$ respectively. Find the value θ in the figure below. **(3mks)**



16. The figure shows a system of capacitors connected to 100V supply



a) Determine:

i) The effective capacitance of the circuit. **(3mks)**

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

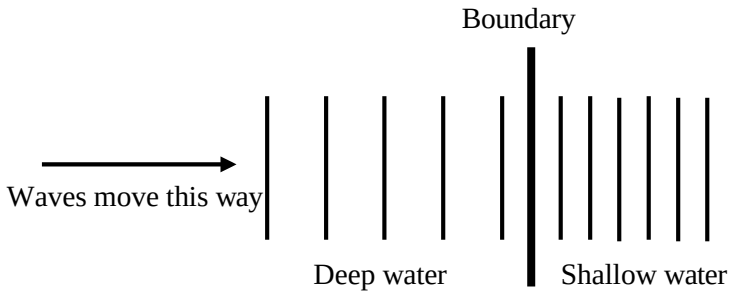
ii) The charge through the 6µF capacitor. **(3mks)**

iii) The p.d. across the 8µF capacitor. **(4mks)**

b) State **two** factors that affect the capacitance of a parallel plate capacitor. **(2mks)**

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

17. Some plane water waves were produced in a ripple tank. They pass from a region of deep water into a region of shallow water. The figure shows what the waves look like from above.



(a) State what happens at the boundary to:

(i) The frequency of the waves. **(1mk)**

.....

.....

(ii) The speed of the waves **(1mk)**

.....

.....

(iii) The wavelength of the waves **(1mk)**

.....

.....

(b) The waves have a speed of 0.12 m/s in the deep water. Wave crests are 0.08m apart in the deep water. Calculate the frequency of the source producing the waves. **(2mks)**

(c) State one difference between a stationary wave and a progressive wave. **(1mk)**

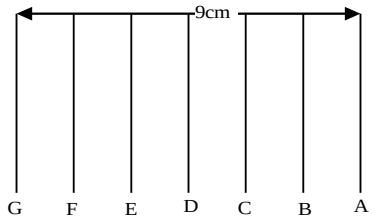
.....

.....

.....

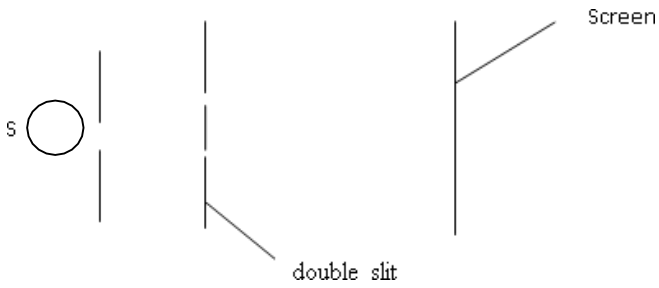
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

(d) The figure below represents crests of straight waves produced in a ripple tank.



Determine the wavelength of the waves**.** **(2mks)**

(e) In an experiment to observe interference of light waves, a double slit is placed close to the source S of light as shown in the figure below.



(i) State the function of the double slit. **(1mk)**

.....

.....

(ii) Describe what is observed on the screen. **(2mks)**

.....

.....

.....

(iii) State what is observed on the screen when the slit separation is reduced. **(1mk)**

.....

.....

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

TOP K.C.S.E PREDICTION SERIES 4 2022 DECEMBER

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……..……

232/3

PHYSICS

(Practical)

Paper 3

Time $2^1/_2$ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your **name, index number, class, date** and **signature** in the spaces provided above.

2. This paper consists of two questions **1** and **2.**

3. Answer all questions in the spaces provided.

4. Non-programmable calculators and mathematical tables may be used.

5. Show all your workings.

QUESTION	TOTAL MARKS	CANDIDATE'S SCORE
1	**20**	
2	**20**	
GRAND TOTAL	**40**	

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

QUESTION ONE

1. You are provided with the following.

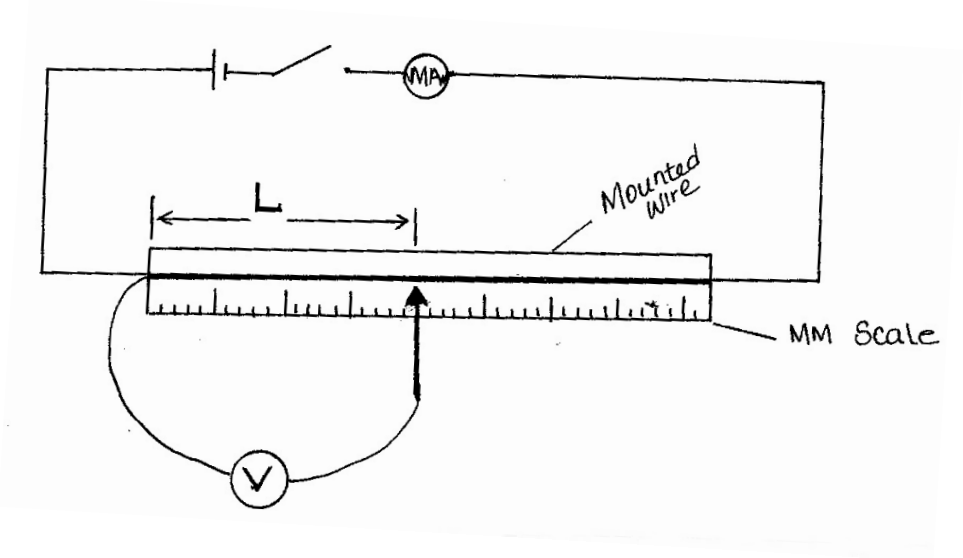
- A millammeter.
- A voltmeter.
- A wire mounted on a mm scale.
- A switch.
- A long wire with a crocodile clip at one and (crocodile clip to be used as a slider or jockey).
- A new dry cell (size D) and a cell holder.
- A micrometer screw gauge (may be shared).
- 5 connecting wires, two with crocodile clips at the end.

Proceed as follows:

(a) Measure the diameter, d of the mounted at three different points.

Average diameter d = _____mm **(1mk)**

(b) Set up the apparatus as shown in the circuit diagram in the figure **below**.



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

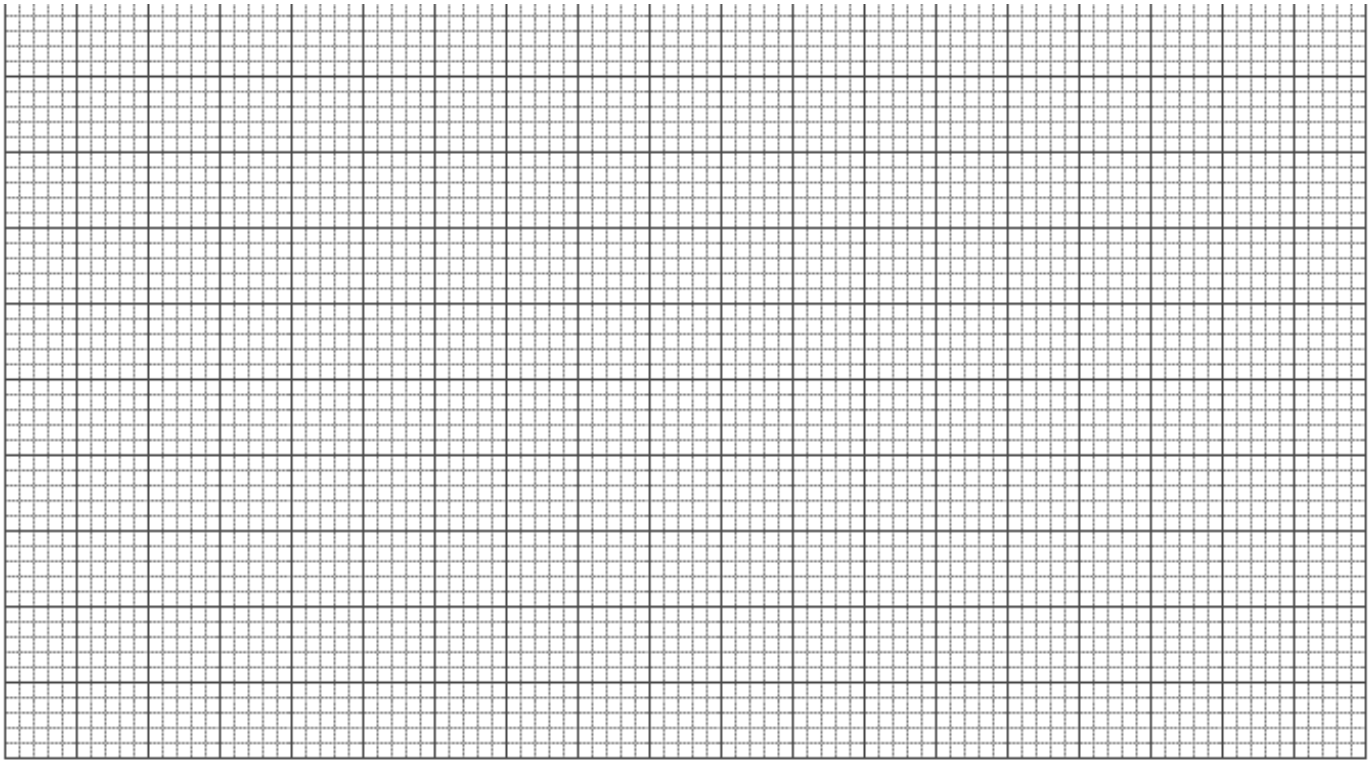
(c) Close the switch and tap the mounted wire with the crocodile clip as shown in the circuit. Ensure that both meters show positive deflection. Open the switch.

(d) Tap the wire at **L = 20cm.** Close the switch read and record in the time provided the milliammeter and voltmeter reading.

(e) Repeat the procedure in (c) for other values of L, shown in the table below and complete the table. **(8mks)**

L(cm)	L(m)	V (Volts)	I (mA)	I (Amps)	$R = V/I$
20					
30					
40					
50					
60					
80					

(f) (i) Plot the graph of R (Y-axis) against L(m). **(5mks)**



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

(ii) Determine the slope of the graph. **(3mks)**

(iii) Given that $R = PL/A$ were A is the cross-sectional area of the wire and P is a constant for the material of the wire, determine the value of the constant P. **(3mks)**

QUESTION TWO

This question has two parts A and B. Answer all the parts

PART A

You are provided with the following:

- A metre rule
- Two masses labelled A and B
- 250 ml transparent plastic beaker
- Three pieces of thread, each 30cm long.
- Stand with clamps
- Tissue paper.
- Vernier calipers (to be shared)
- 200 ml of a liquid L
- Weighing balance (to be shared)

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

Proceed as follows:

a. Take **mass A** and measure the diameter d and height h using the Vernier calipers

d=……..m

h=……..m

(1mark)

b. Determine the volume V given that $V = \pi(\frac{d}{2})^2$h

V……m³ **(1mark)**

c. Using a stand and one piece of thread, suspend the metre rule in air such that it balances horizontally. Record the position of the centre of gravity (G)

G = _____cm **(1mark)**

(NOTE: The metre rule should remain suspended at this point throughout the experiment.)

d. Set up the apparatus as shown in Figure 1 below;

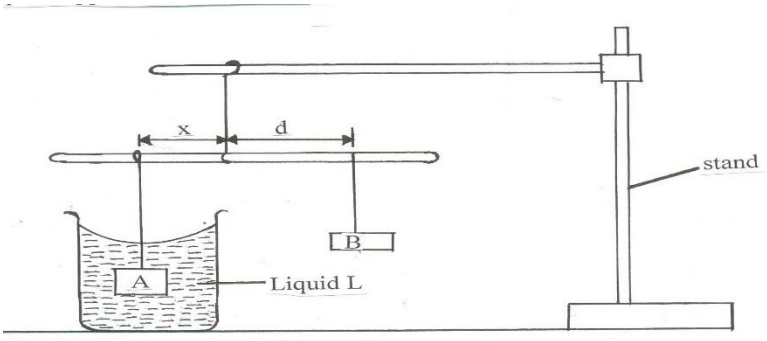


Figure 2

e. Suspend the mass A at a distance **x = 30cm** and completely immerse it in liquid L without touching the sides of the beaker.

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

f. Hang mass B and adjust its position such that the rule is balanced and measure the distance **d cm.**

g. Tabulate your results in table 1 below; **(2marks)**

$x\ (cm)$	30	35	40
$d\ (cm)$			
$\frac{d}{x}$			

h. Determine the weight of mass B in air. Given that

$g = 10\ N/Kg$

Weight in air =..... **(1mark)**

i. Using the principle of moments, determine the apparent weight **P** of mass **A** when completely immersed in liquid L.

Apparent weight P = **.....**……. **(2marks)**

j. Find the **upthrust, U** on mass A when completely immersed. **(1marks)**

Upthrust, U =.....

k. Determine the density of liquid L, given that; **(1mark)**

$\boldsymbol{\rho = \frac{Un}{V} \quad where\ n = 0.1Kg/N}$

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

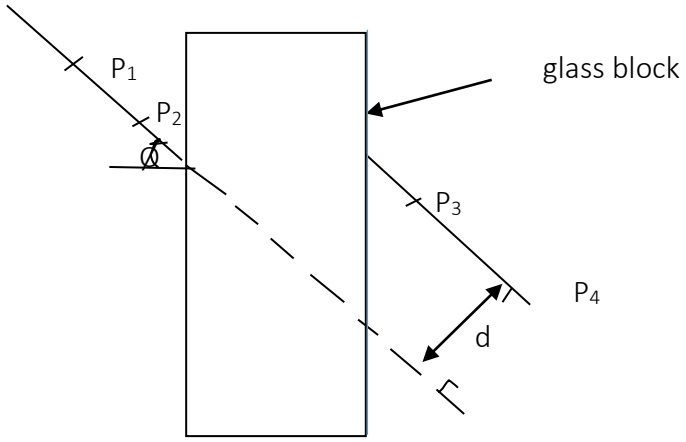
PART B

You are provided with the following

- A rectangular glass block
- Four optical pins
- A piece of soft board
- A plain sheet of paper
- 4 thumb pins

Proceed as follows:

(a) Place the plain sheet of paper on the soft board and fix it using the thumb pins provided . Place the glass block at the centre of the sheet, draw its outline. Remove the glass block .



(b) Draw a normal at a point 2cm from the end of the longer side of the block outline. This normal line will be used for the rest of the experiment. Draw a line at an angle of angle Ø=25^0 from the normal .Stick two pins p_1 and p_2 vertically on this line.

(c) By viewing through the glass from the opposite side, stick two other pins p_3 and p_4 vertically such that they are in line with the images of the first two pins. Draw a line through

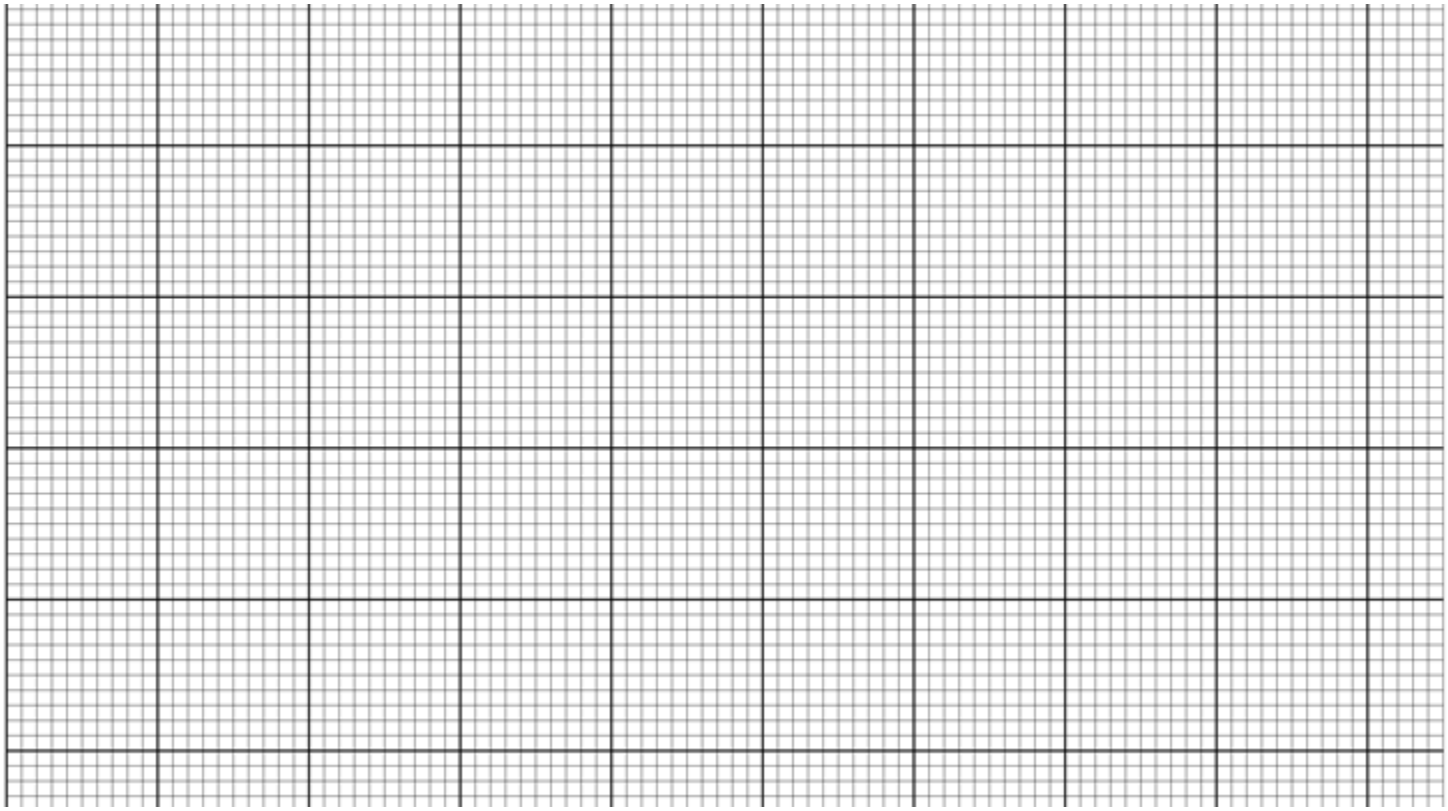
Prefer Calling Amobi Group of Examiners @ 0743 333 000 OR 0706 851 439 for Marking Schemes

the marks made by p_3 and p_4 to touch the outline. Extend the line p_1p_2 through the outline (dotted line) .Measure and record in the table the perpendicular distance d between the extended line and the line p_3 and p_4 Record this value in the table.

(d) Repeat the procedure in (g) and (h) for other values of Θ shown in the table. **(3marks)**

Θ (deg)	25	35	40	45	55	60	65
d(cm)							

(e) plot a graph of d against Θ **(5mark)**



(f) Use the graph to estimate the value of d when Θ =0 **(1mark)**

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

CALL AMOBI GROUP OF EXAMINERS @ 0743 333 000 OR 0706 851 439 TO ACQUIRE :



